CADILLAC
MOTOR CARS



AN ILLUSTRATED
BOOK DESCRIBING
IN DETAIL THE
CONSTRUCTION OF
TYPE FIFTY SEVEN
CADILLAC MOTOR CARS

CADILLAC
MOTOR CAR COMPANY
THE LARGEST PRODUCER OF HIGH GRADE MOTOR CARS IN THE WORLD
DETROIT, MICHIGAN, U.S.A.

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The Cadillac Motor Car Company and the Cadillac Car

Capital employed—more than $10,000,000.

Number of cars produced—more than 130,000.

Value of cars produced—more than $250,000,000.

Number of Eight-Cylinder cars produced—more than 51,000.

Value of Eight-Cylinder cars produced—more than $100,000,000.

Area of plants, in square feet—more than 1,500,000.

Number of employees—more than 7,000.

Number of machines used in manufacturing—more than 3,500.

Number of special tools, dies, jigs, etc.—more than 60,000.

Number of commercial tools, etc.—more than 500,000.

Number of mechanical operations on parts of Type 57 car—accurate to the one-thousandth part of an inch—more than 1,000.

Number of operations accurate to the one-half-thousandth part of an inch—more than 300.

Examples of Cadillac Initiative

FIRST motor car manufacturer to adopt the Johansson Gauge system. These gauges are accurate to the one hundred-thousandth part of an inch. They are used as master gauges to check up the snap, plug and other gauges which are used in testing and proving the accuracy in dimensions of all important parts entering into the Cadillac car.

FIRST to produce a standardized car—a car in which all parts of a kind are like all other parts of the same kind, down to the one-thousandth or the one-half-thousandth of an inch accuracy, where such limits are desirable. The Cadillac is still the most thoroughly standardized car in the world.

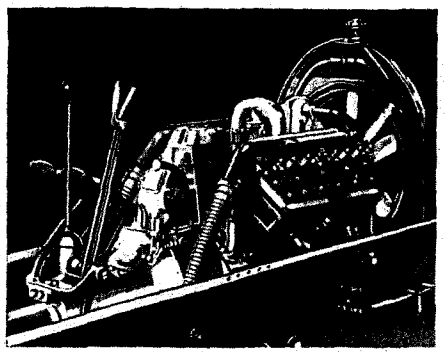
FIRST to produce a truly high-grade car at a moderate price.

FIRST to introduce an electrical system of cranking and lighting.

FIRST to develop the V-type high speed high-efficiency automobile engine.

FIRST to develop and inaugurate thermostatic control of circulating cooling medium in motor car engines.

FIRST in many developments which have been important factors in making the motor car what it is today.

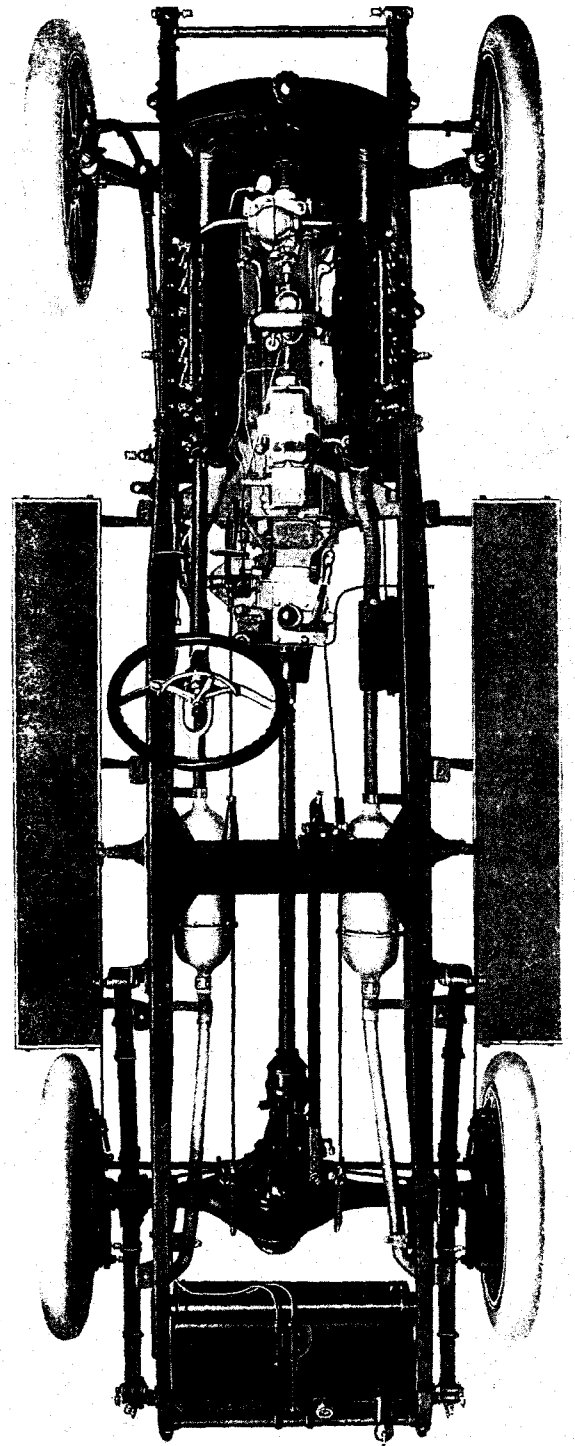


THE judgment of a Cadillac purchaser may be moulded by the testimony of a friend, the good name of the manufacturer, admiration for the substantial beauty of the car, or a convincing demonstration of its performance; many have traveled far to see with their own eyes the care and accuracy of Cadillac manufacture. An increasing number are learning that the goodness and dependability of an automobile are not general and indefinite, but the exact sum of a number of mechanical facts.

The Government is perhaps foremost in recognizing that quality is measurable by precise methods, and Government investigations preliminary to purchasing are very searching. Such details as fine metals, close limits, factors of safety and facility of adjustment command great attention.

Superficial investigation on the part of the individual is usually due to the lack of time and facilities for a thorough analysis—a condition which led to the preparation of this book. The investment of approximately one hour in its assimilation enables one to search into the technique of Cadillac construction with a thoroughness comparable to that of an investigation by the Quartermaster General's Department. The individual should be no less scrupulous in determining which car will pass muster.

Cadillac Motor Car Company
Detroit, Michigan



Plan view of Cadillac Type 57 chassis

The Engine

Eight-cylinder V-type engine has salient advantages: impulses frequent—absence of severe reaction on bearings, light reciprocating parts reducing inertia forces—high speed—practical absence of vibration—quiet operation—high power output over wide range of speed—continuous torque, overlapping power strokes—flexibility and quick acceleration—short, compact design, no engine of four or more cylinders with same displacement so short and compact—great accessibility—ninety-degree valve channel not crowded—detachable cylinder heads.

THE development of the internal combustion gasoline engine toward the goal of the perfect medium for the propulsion of the automobile has unfortunately impressed the casual observer as little more than a multiplication of cylinders. This superficial numerical aspect has obscured the real trend of progress in steps marked by the adoption of new principles. Probably the most important step in this development was the adoption in the latter part of 1914 of the eight-cylinder V-type engine as the power plant for the Cadillac car.

The eight-cylinder V-type engine had already proved its value as a standard power plant for air craft, and as a new type for automobile propulsion it was exactingly analyzed and selected because of its definite points of superiority over any other known type. Among the advantages which were recognized to accrue from increasing the number of cylinders, and which were practically realized in the Cadillac eight-cylinder engine, are the following:

1. More even turning movement, resulting from more frequent power strokes. In a four-cylinder engine turning force is being exerted on the crankshaft approximately seventy-five per cent of the time, the momentum of the rotating parts carrying it the remainder of the cycle. In the eight-cylinder engine the impulses *overlap*, so that not only is turning effort exerted on the crankshaft continuously, but for approximately fifty per cent of the time two or more cylinders are delivering power simultaneously. The result is a very flexible power plant which meets the slow speed requirements of modern city traffic without gear shifting, and which has fluent power for rapid acceleration to extreme speeds.

2. The low rate of wear and tear because of the less severe impulses and the reduction of inertia forces, resulting from the lighter reciprocating parts.

3. Higher engine speed, also made possible by the lighter reciprocating parts, and resulting in the development of a greater amount of power for the same piston displacement.

4. A greater efficiency made possible by carrying higher compression. One of the important efficiency factors is the compression pressure, which is, however, limited in practice by pre-ignition. The easier cooling of the smaller pistons of the eight-cylinder engine allows an increase in the compression pressure, without the rise in temperature from which pre-ignition results.

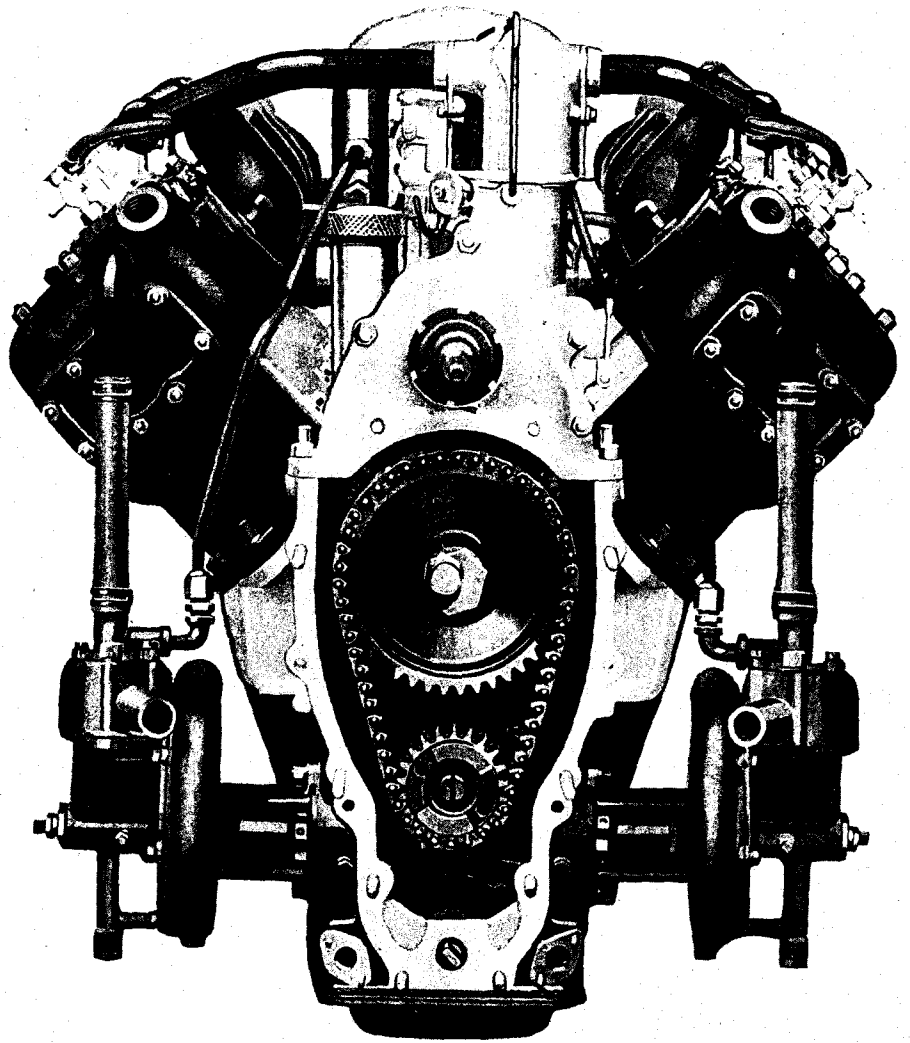
5. Shortest possible engine of any of four or more cylinders with equal stroke and piston displacement—an advantage accentuated in the Cadillac by the use of opposite rather than staggered cylinders.

6. Most simple crankshaft construction of any engine of more than four cylinders, all the throws being in one plane.

7. Cleanest valve channel of any V-type motor design, making for special accessibility of the valves, and providing room for the carburetor, motor generator and distributor without crowding. It has a ninety-degree angle, since the angle between the cylinder blocks in a V-type motor with equally spaced impulses is dictated by the number of cylinders, the angle and accessibility decreasing with an increase in the number of cylinders.

These seven outstanding advantages have been accomplished in the Cadillac eight-cylinder V-type engine with a maximum of simplicity and a minimum of parts. It is reassuring to note the complete absence of any tendency toward unnecessary mechanical complication for the sake of freshening sales arguments by the appeal of the unique.

The Type 57 is the fourth Cadillac eight-cylinder V-type engine, and with the benefit of a larger experience in the multi-cylinder field than any other American manufacturer of automobiles, the remarkable degree of refinement in design and manufacture is logical and most marked.



Front view of Cadillac V-type engine with cover plate removed, showing camshaft driving chain

The bore and stroke of the Cadillac eight-cylinder engine are 3⅛ by 5⅛ inches. The piston displacement is 314 cubic inches.

The engine design is such that very nearly maximum power is delivered over a wide range of speeds, resulting in a power curve with an unusually flat peak.

The Crankshaft

The Cadillac crankshaft appeals to the engineer's eye for mechanical beauty. A chrome nickel steel forging, finished all over, it possesses the necessary qualifications in strength, accuracy and balance.

One of the principal determinants of its rigidity and strength is the favorable relation of bearing surface to unsupported length, made possible by the eight-cylinder V-type design. The length of the crankshaft between the outer ends of the forward and rear main bearings is only twenty-six and one-sixteenth inches, nine and one-half of which comprises the three main bearings. The maximum length between bearings is only eight and one-fourth inches.

No other known type of automobile engine of four or more cylinders having equal piston displacement and stroke, will permit so short and rigid a crankshaft construction. In fact, the crankshaft design in four and eight-cylinder engines is identical in number of throws, but the smaller cylinder bore of the latter makes possible a shorter shaft. By placing the cylinders in the two cylinder blocks directly opposite each other and using the forked connecting rod design, this advantage has been realized in the fullest possible measure.

Notwithstanding the fact that the chrome nickel steel of the crankshaft has a tensile and shearing strength double that of the usual carbon steel, the shaft has been given the large diameter of one and seven-eighths inches.

The forged steel flywheel is bolted and dowel-pinned to the flange on the rear end of the crankshaft. Gear teeth, with which the starter gear meshes, are cut on its circumference. Unnecessary weight is eliminated by six holes cut in its web.

The crankshaft, the flywheel and the clutch ring, which bolts to the flywheel, are accurately balanced.

The three main bearings, on which the crankshaft is supported, are of phosphor bronze, lined with special Cadillac bearing metal. In boring the inside of the bronze bearings, the tool leaves a grooved surface which effects an intimate union between the bearing metal and the bronze backing when the former is cast.

The Connecting Rods

The connecting rods, which transform a maximum thrust of approximately one and one-fourth tons per explosion on each piston, into the power of a smoothly rotating crankshaft, are drop forged from special formula steel, and finished over their entire surface, reducing inactive weight to a minimum, and insuring uniformity.

The connecting rods from cylinder blocks on each side of the valve channel connect with the four-throw crankshaft, the bearings of each throw taking care of the ends of connecting rods from opposite cylinders. To make it possible for opposite connecting rods to use the same bushing, one rod has a forked end, the end of the straight rod from the opposite cylinder fitting within the fork arms.

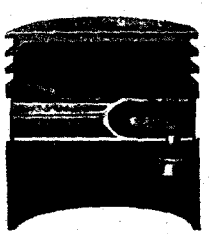
The bushing clamped in the forked rod has its bearing on the crankshaft, and the end of the straight rod has its bearing on the center portion of this bushing, upon which it oscillates. The angle of oscillation of the straight connecting rod on the bushing is only from thirty-two to thirty-three degrees. The piston end of each rod is bushed with a phosphor bronze bearing, pressed into it.

The rods have I-sections with the web of the "I" in the plane of lateral motion. Where stress can be depended upon to remain in one plane, as in the case of the connecting rod, this shape is the lightest and strongest possible.

The ratio of rod length to stroke is especially great. Obviously the thrust of a long rod is more nearly direct than that of a short one, the angle of a long connecting rod with the line of centers being less at all points in the stroke. In thus reducing angularity by the use of a long rod, the thrust against the cylinder walls is appreciably less than with a shorter connecting rod design.

The connecting rods exemplify Cadillac manufacturing precision. The machining and finishing of one pair of connecting rods and pistons involve three hundred thirty-six operations. Two dimensions are held within the limits of three ten-thousandths of an inch; four within one-half thousandth of an inch; thirty-nine within one one-thousandth of an inch; twenty-eight within two one-thousandths of an inch and more than fifty within ten one-thousandths of an inch. More than two hundred gauges and micrometers are used to insure that the pistons and connecting rods conform to the dimensions specified on the drawings.

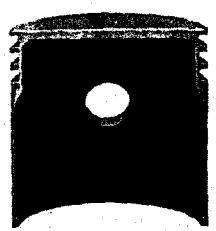
The Pistons



Sectional view of piston, showing wrist-pin

The high speed and smooth running of the Cadillac eight-cylinder V-type engine are due principally to the reduction of inertia forces accomplished by the use of lighter reciprocating parts. In the pistons especially is evidenced the elimination of unnecessary weight, made possible by the less severe impulses and smaller cylinders, which accompany the multi-cylinder design.

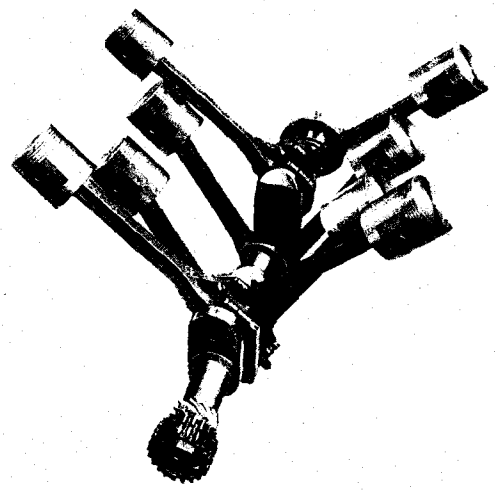
When one considers that in the modern multi-cylinder engine at high



Piston, section at right angles to wrist-pin

speed each piston travels at a tremendously high velocity and stops and starts more than eighty times per second, the relationship between speed and weight of the reciprocating parts becomes clear.

The Type 57 pistons are of unusually light design, the entire eight pistons weighing no more than two pistons of the average four-cylinder engine with equal piston displacement. It is worth noting that in effecting this remarkably light design Cadillac engineers have adhered strictly to the use of the metals which have been scientifically demonstrated to be best adapted to the requirements. Gray cast iron of Cadillac special formula is used. An interesting step is the annealing process, by which any internal strains which may have been left in the casting are relieved. The bearing surface of the pistons is ground to a limit of the one-thousandth part of an inch.



Assembly of crankshaft, pistons and connecting rods

Especially designed jigs and fixtures are used in the machining and grinding of the cylindrical surface, to insure uniformity of wall thickness.

Three concentric piston rings are carried above the wrist pin. Each ring has two small grooves cut in its circumference which entrap lubricating oil, rendering the seal against compression leakage more effective.

The wrist-pin is supported by bosses. A locking screw in one boss securely holds the wrist-pin from turning in the piston or moving longitudinally. The pin is of nickel steel, case hardened and ground to the limit of three ten-thousandths of an inch.

The Crankcase

The most striking characteristic of the Cadillac crankcase, or engine base, is its weight efficiency, with ample strength, rigidity and stability, and but a fraction of the size and weight which might be expected for an engine of the power of the Cadillac.

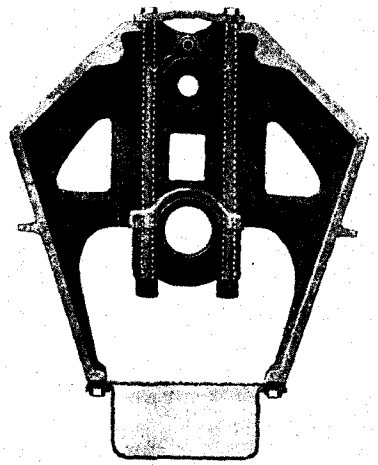
The material employed is a special copper alloy aluminum, with a strength-to-weight ratio more than twice that of an iron casting.

The design is such that "lazy weight" is reduced to a minimum, the same metal efficiently serving to resist stress and to enclose the crankshaft and camshaft.

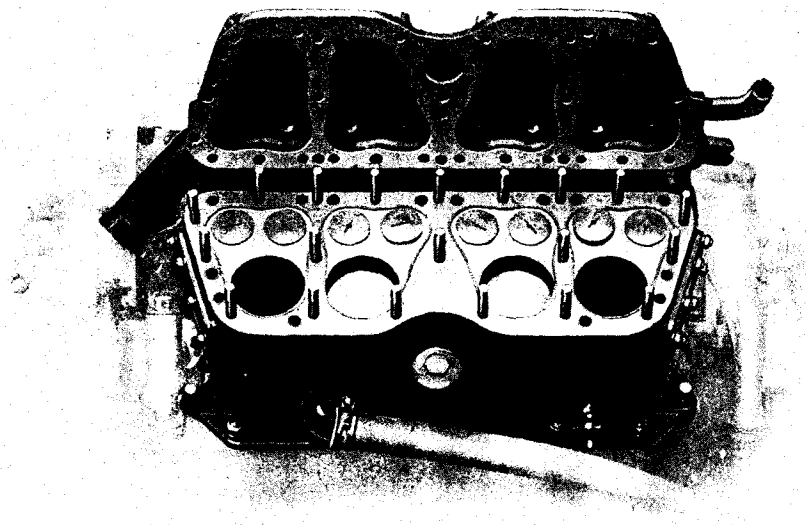
Seven ribs brace the deep walls of the crankcase and support the crankshaft and camshaft bearings. The center and rear crankshaft bearings are supported by two ribs each.

The crankshaft bearing caps are not simply bolted to the supporting ribs, but are held in place over the bearings by through-bolts, eleven inches long, which pass between the ribs to the very top of the crankcase and share with it the tensile stress imposed by both the dead and live load of the crankshaft.

The crankcase is closed at the top by the coverplate which also serves to support the valve rocker arms; at the front by a coverplate, which also acts as one point of support for the engine; and at the bottom by a pressed steel oil pan. The rear end of the crankcase is closed by a coverplate, just forward of the flywheel. Ventilation is provided by breathers attached to the underside of the cylinder blocks.



Sectional view of crankcase. The dotted lines show the eleven-inch through bolts which hold the crankshaft bearing caps



Side view of engine, showing detachable head removed from right hand cylinder block

The Cadillac engine is supported at three points—two points at the rear of the crankcase, and the ball and socket joint on the front cover plate.

The Cylinder Blocks

Cadillac cylinders are cast en bloc, in fours, with detachable heads. Both inlet and exhaust valves are on the same side of the combustion chamber—commonly known as the L-head arrangement.

Each cylinder block includes water jacketing, intake manifolds and valve spring compartments.

The construction is one of distinct merit. It is compact: the L-head arrangement permits all of the valve mechanism to be placed on the same side of the cylinder block. It is simple: the exposed water and gas connections are few. Other advantages are lightness, rigidity and accuracy of cylinder alignment.

The separately cast head members permit the accurate profiling of the combustion chambers. This results in more uniform compression, and the smoothly machined surface reduces the tendency of carbon to adhere.

Valve caps for access to the valves being unnecessary, the spark plugs are set directly in the head and surrounded immediately by the water jacketing.

The accessibility to combustion chambers and valves, made possible by the detachable head construction, is highly appreciated from the standpoint of engine service.

Casting of the cylinder heads separately renders it possible in manufacturing to have access to both ends of the cylinder bore, permitting use of the plug gauge in both ends of the cylinder. Greater accuracy is the result.

Each cylinder head is secured to the block by twenty studs. The surfaces of the block and the head are ground, and between them is a copper-covered asbestos gasket, which prevents the leakage of gas or water. Openings in the gasket permit the free passage of water from the cylinder block to the cylinder head.

A gray cast iron of Cadillac special formula gives the proper even distribution of carbon particles necessary for the glass-like surface of the cylinder walls.

The cylinder block casting itself is an ingenious piece of work, made possible by advanced foundry methods. The ends of the blocks have large openings, closed by coverplates. These openings make it possible rigidly to support the core at each end when casting, thereby insuring uniformity in the thickness of the cylinder walls.

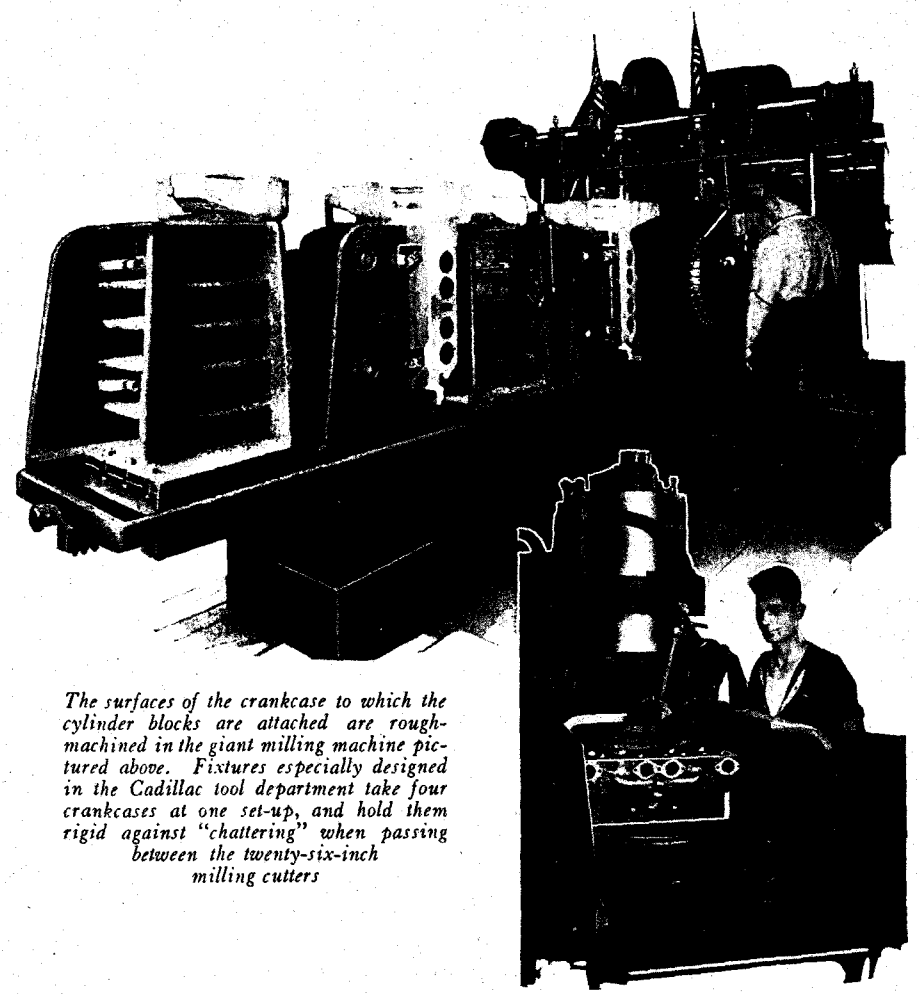
Constant precautions are taken to insure that the cored water passages are cast clean and without obstructing projections.

Both left and right blocks are cast from the same patterns, and with the exception of the water connections are interchangeable.

Each cylinder block is bolted to the aluminum crankcase with ten studs, dowel-pins insuring the accurate location of the blocks.

Cadillac Manufacturing Methods

The great intrinsic value offered in the Cadillac car is made possible in a large measure by the unusual factory equipment and efficient manufacturing methods. Here are illustrated two examples of the special machines which the Cadillac Motor Car Company has installed for the production of first quality automobiles in large numbers.



The surfaces of the crankcase to which the cylinder blocks are attached are rough-machined in the giant milling machine pictured above. Fixtures especially designed in the Cadillac tool department take four crankcases at one set-up, and hold them rigid against "chattering" when passing between the twenty-six-inch milling cutters

The nice finishing of the flat upper surface of the cylinder block, required for an air-tight and water-tight joint with the detachable head, is accomplished by an especially designed grinding machine, in which the block is held on a magnetic chuck, slowly rotating in one direction, while the abrasive wheel rapidly rotates in the opposite direction

The Valve System

The Cadillac eight-cylinder V-type design affords a simple and unusually quiet valve mechanism. The single camshaft has but eight cams, each operating two of the sixteen valves. It is positioned directly above the crankshaft, and driven from it by a silent chain. Its five bearings constitute more than one-third of its overall length.

The camshaft is a drop forging with integral cams. In order to eliminate weight, as much as is consistent with required strength, the shaft is hollowed. Each valve is actuated by a rocker arm, carrying a hardened steel roller which rides upon the cam. The rocker arms are pendant from shafts, supported from the underside of the crankcase top coverplate. They are bushed with replaceable bronze bearings.



Detail of locking device for foot of valve stem

The motion of the valve rocker arms is transmitted to hardened steel pushrods with adjustable tappets, and passed on to the valve stems.

The Cadillac poppet valves are forged from high quality tungsten steel. They are of integral design, as contrasted with the built-up construction with a separate stem.

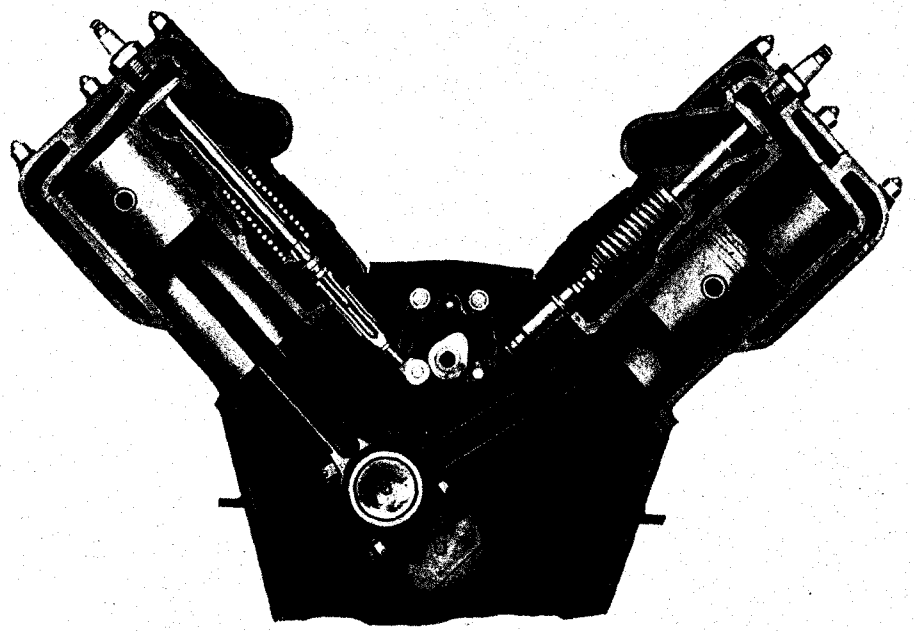
The diameter of the valve opening is approximately one and eleven-sixteenths inches.

The valve stems have their bearings in unusually long bushings, pressed into the cylinder blocks.

The valve springs are of the highest quality tempered spring steel. They exert their pressure upon valve feet which are held in place by split tapered collars, that fit into grooves cut in the lower end of the valve stems. This refinement facilitates the removal of valves or valve springs.

The valve springs and push rods are protected by four coverplates, which are readily accessible from the ninety-degree valve channel.

The valves are easily timed with the assistance of reference marks stamped on the rim of the flywheel. An indicator attached to the crankcase points to these marks, and determines whether the camshaft is in the proper position for valve-timing, also whether the crankshaft is in the proper position for ignition-timing.



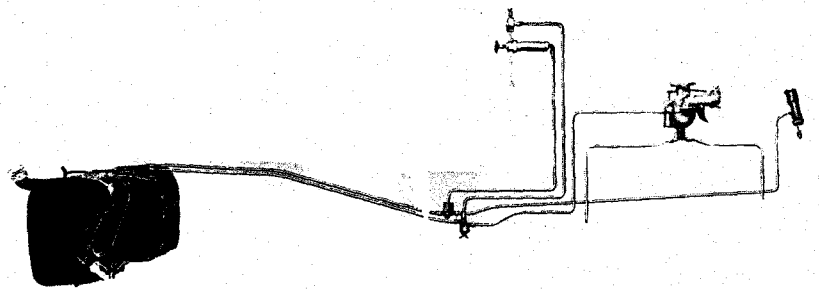
Sectional view through intake valves, showing details of valve system.

The Fuel System

Pressure feed system—positive, reliable transfer of fuel to carburetor—twenty-gallon fuel tank at rear conveniently filled—two settling chambers and three strainers for cleansing fuel supply—pressure relief valve. Carburetor of Cadillac design and manufacture—responsive to quickly varying demands of engine under wide range of loads and speeds—plunger pump for quick acceleration—integral leaning device gives practical limit of economy—water jacketed intake manifold.

FAVORABLE location of the storage tank and positive transfer of the fuel to the carburetor, at the rate required, are the principal reasons behind the adoption and continued use of the pressure feed system in Cadillac cars.

By placing the tank at the rear of the frame the supply of fuel may be more easily replenished, greater freedom of body design is possible, and the passengers are relieved of fuel odors usually attendant to the forward location of the tank.



Schematic diagram of fuel system, showing relative location of elements—tank at rear and carburetor between cylinder blocks

The ready flow of fuel to the carburetor is positively assured by a pressure on the contents of the tank of between one and two pounds per square inch *above* atmospheric pressure. There is no dependence upon pressures *below* atmospheric, or upon an auxiliary tank.

The air pressure which forces the gasoline from the tank to the carburetor is furnished by an air compressor, supported on the front coverplate of the engine, and driven by an eccentric on the camshaft.

A pressure relief valve attached to the left sidebar and connected in the air line between the pump and the tank prevents the pressure from rising above a predetermined point. This precaution is especially appreciated by users of gasoline made from natural gas, commonly known as "casing-head" gasoline.

An auxiliary air pump and a gauge which indicates the pressure in the gasoline line are located on the instrument board.

The tank is of terne-plate steel, and rectangular in section. Its interior is trisected by two baffle partitions, which minimize splashing of the contents.

The tank is filled conveniently through a large inlet, covered by a filler cap, which may be easily applied and removed by hand. A thumbscrew of convenient size at the top of the cap easily makes possible an air-tight joint.

Ample touring radius is assured by a tank of twenty gallons capacity (seventeen Imperial gallons). The contents are indicated on the dial of a float-operated gauge at the top of the tank. At night the dial is illuminated by light from a special lens in the tail lamp.

Thorough cleansing of the fuel affords maximum protection against the admission of impurities or water into the carburetor. This is especially appreciated when one is at the mercy of the roadside fuel station. Two settling chambers, one at the bottom of the gasoline tank and the other in the gasoline line just below the front floor boards, remove the water and heavier particles, which separate from the fuel by gravity. Any remaining impurities are caught by three strainers: one at the point where the gasoline

leaves the tank; a second in the settling chamber in the gasoline line; and a third where the gasoline enters the carburetor.

The piping of the gasoline system is annealed seamless copper tubing. Fibre clamping blocks for holding the piping aid in the prevention of injury from road vibration.

The Carburetor

In its design, the Cadillac carburetor has been properly considered as functionally an integral part of the power plant, and not, as in many cases, in the nature of an accessory. It is designed by Cadillac engineers to meet every requirement of the Cadillac eight-cylinder V-type engine, and is manufactured in the Cadillac factory.

Engine flexibility is due not only to the continuous torque made possible by the eight-cylinder design, but to the quick responsiveness of the carburetor in supplying the correct fuel mixture for varying loads and speeds.

The use of fuel in the Cadillac carburetor is surprisingly efficient, the practical limit of economy being *in-built* as an element of the design rather than left to so-called "compensators," "vaporizers," and "gas-savers," to be attached by the owner. Eight cylinders do not mean fuel extravagance.

The carburetor is located in the channel between the cylinder blocks, and its general construction follows the float-feed, single-jet type, but with a number of exclusive features.

The float bowl is directly under and concentric with the mixing chamber. With this construction the float maintains the fuel in the spraying nozzle at the proper level, no matter at what angle the car is driven. In other words, steep gradients or high crowned roads do not change the height of the fuel in the spraying nozzle, and consequently the mixture is not affected by these causes, as it is liable to be when the float bowl is located at one side of the mixing chamber.

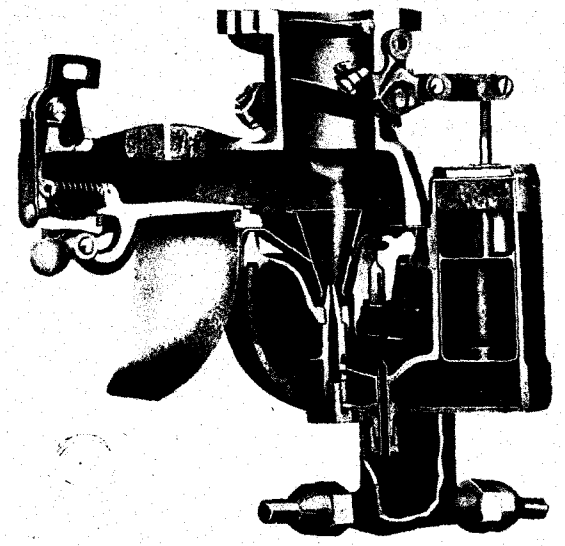
The float itself is of cork, and ring-shaped, encircling the spraying nozzle. The float is pivoted at one side of the bowl, the needle valve being located so as to give the proper leverage for the positive closing of the valve when gasoline reaches the predetermined level.

The primary air intake is an oblong-shaped opening in the side, from which the current of air is deflected to the bottom of the funnel-form strangle-tube. The Venturi effect of the latter gives the inrushing air the high velocity necessary to atomize the fuel and thoroughly charge the air with fuel particles.

The auxiliary air supply, by which the correct mixture is automatically maintained at all speeds and throttle openings, is controlled by a leather-seated swing valve, governed by an adjustable spring, under light tension.

The attainment of the desired mixture is further assisted by the automatic leaning device. It is the operation of this device which escapes the rich period to which many carburetors are subject and to overcome which numerous makes of accessory fixtures are intended. This is effected in the following manner:

Attached to the right hand end of the throttle shaft is a shutter which covers a slot in the side of the carburetor body, whenever the throttle is opened to the point where the mixture tends to become rich. When this slot is covered, a passage is formed from the mixing chamber to the carburetor bowl, resulting in lowering the atmospheric pressure in the latter, and causing less fuel to be forced through the spraying nozzle. An adjusting screw is



Sectional view of carburetor, showing throttle pump, concentric float chamber, swinging air valve and automatic throttle

provided for regulating the opening of this passage, and thereby the proportion of fuel in the mixture when the port is open.

Enrichment of the mixture, to facilitate starting, is accomplished by increasing the tension of the auxiliary air valve spring. This is controlled by a small lever on the right hand side of the steering column.

The requirement for a mixture of additional richness at the moment of acceleration is met by a plunger pump, operated from the throttle shaft, forcing the necessary extra fuel through the spraying nozzle. When the throttle is opened slowly this device has no effect on the amount of fuel fed into the mixing chamber, but when the accelerator pedal is depressed quickly the pump operates in the manner described. The same result is sometimes sought in other carburetors by using a larger spraying nozzle opening. Although this tends to admit sufficient fuel at the moment of acceleration, it provides too large an opening for other conditions.

The throttle valve is of the butterfly type, and may be operated by either the accelerator pedal or the throttle lever on the steering wheel.

An auxiliary throttle, automatically controlled by a light spring, is placed just above the main throttle. This serves to prevent the fluttering of the auxiliary air valve sometimes noticed when a car is running slowly with the throttle wide open.

Ample heat for vaporization of the fuel is supplied through a jacket on the intake header, by water piped from the cylinder blocks. In addition, heated water partly surrounds the intake manifolds cast in the cylinder blocks.

In the event of accidental flooding of the carburetor bowl due to pumping the accelerator or other causes, the surplus liquid is caught in a small pocket under the carburetor and safely drained away from the engine.

The Ignition System

Cadillac-Delco high tension system—functionally and structurally simple; five elements besides source of current—two sets of timer contact points add to life of points—automatic spark advance—high grade insulating materials, well protected wiring. Net result, reliability.

WHEN the correct fuel mixture has been attained much has been accomplished, but no matter how precise the results of carburetion, power cannot be developed unless the mixture in the cylinders is ignited without fail and at the proper instant. For this reason no other part of the automobile has been the subject of so much research, and none has so bewildered and mystified the driver of a car in which its full importance has been, perhaps, underestimated by the manufacturer.

The Cadillac engine has a single ignition system of the Delco high tension type, a simple, high grade and reliable design embodying the following elements:

A source of current—the generator, or, at low speeds, the storage battery.

An ignition timer, which interrupts the low tension current at the proper instant to produce a spark in the high tension circuit.

An induction coil, transforming the primary current of six volts into one of sufficient voltage to jump between the points of the spark plugs.

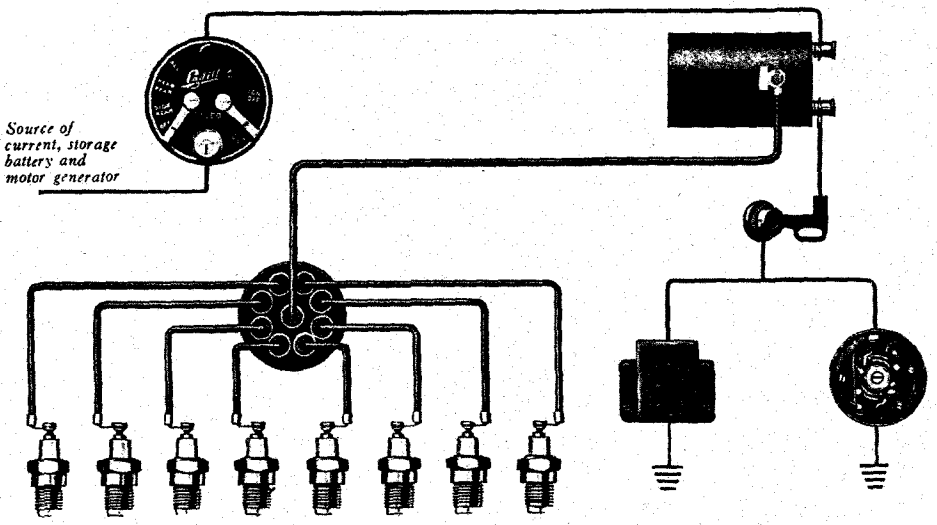
A condenser, which assists the induction coil to raise the voltage, and which protects the contact points of the ignition timer against burning.

A high tension distributor, which directs the distribution of the high tension current to the spark plugs in the respective cylinders.

A resistance unit, which protects the ignition coil and timer contacts from injury should the ignition circuit remain closed for any considerable length of time with the engine not running.

Structurally, the ignition timer, the distributor, the condenser and the resistance unit constitute a single assembly, which is bolted to the rear of the fanshaft housing.

The ignition timer, which is driven by a vertical shaft through spiral gears from the fanshaft, has two sets of contact points. These share between them the current which would otherwise pass through one. The tendency to spark and corrode the points is ordinarily proportional to the amount of current passing through them. Thus, the use



Elements of ignition system, showing its simplicity

of two sets greatly adds to the life of each. The condenser, which is contained in a waterproof casing at the side of the distributor housing, further protects the contacts against the corrosive action of sparking, and utilizes the tendency to spark to intensify the transformer effect of the induction coil. The induction coil is carried under the cowl on the rear side of the dash.

The primary current is interrupted by the timer contacts four times for each revolution of the engine, producing at each break of the primary current a high tension current, which is directed by the distributor to spark plugs in the respective cylinders. The distributor is located directly above the timer, and on the same shaft. It consists of a head or cap of insulating material, carrying one contact in the center, with eight additional contacts placed at equal distances from each other about the center. A rotor, locked to the shaft, maintains constant communication with the center contact, and carries a button which consecutively slides over the eight contacts in the cap.

The firing order of the cylinders is as follows:

FRONT ④ ② ⑥ ⑧
① ⑦ ③ ⑤

One of the many steps taken by the Cadillac to make driving entirely pleasurable, free from constant attention to details, is the automatic spark advance, which relieves the operator of practically all spark lever manipulation. A ring type centrifugal governor is a part of the timer assembly. The ring changes its angle with the speed of the engine, advancing or retarding the position of the timer cam relative to its driving shaft.

The wiring of a car, if not thoroughly protected, even beyond all apparent need, will prove a source of constant annoyance and expense through current leakage. The wiring, which, in the Cadillac, carries the high tension current to the spark plugs, is housed in copper tube conduits, with black nickel finish. The ignition cables are visible only at points of connection to the spark plugs. Cores of the cables are concentrically stranded copper wires, tinned, and built up with a wall of extra grade insulating rubber, to the diameter of three-eighths of an inch.

It should contribute greatly to the peace of mind of any Cadillac owner to know that as much engineering skill is directed to the electrical system and wiring as to the other parts of the car, and that the material is the best obtainable.

The Cooling System

Water forced circulation system—uniform temperature control under all conditions of load and climate, two water pumps, valves regulated by Sylphon thermostats—condensing device conserves alcohol in anti-freezing solution—chain-driven fan—tube and plate type radiator—dependable and automatic system, requiring little attention.

THE temperature of the Cadillac engine is maintained at the point of maximum efficiency and smooth running by water forced circulation, thermostatically controlled. The cooling system is thus considered not alone with respect to the prevention of over-heating but with a view to obtaining uniformity of temperature for all conditions. Cooling efficiency and reliability have been a determining factor in the sale of many Cadillac cars.

The water jackets are cast integral with the cylinder blocks, and with the detachable heads. The construction provides for an unrestricted waterway around the combustion chambers and valves, as well as the expansion space of the cylinders. Removable plates at the ends of the cylinder blocks permit the flushing out of the passages for any possible sediment.

Circulation of water through the radiator and water jackets is maintained by two centrifugal pumps, one for each block of cylinders, located at the front end of the engine.

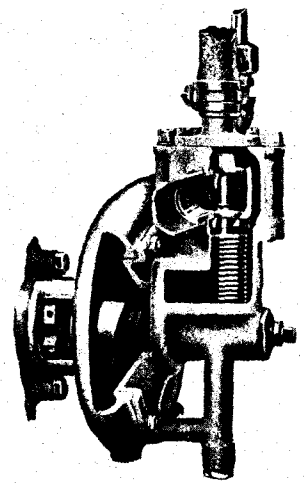
The impellers are connected by a cross shaft, driven from the crankshaft by helical gears just forward of the front main bearing. The flow of water in the jackets follows the natural convection currents. The hottest water, which surrounds the combustion chambers in the head, is thus the first to be removed to the radiator, and cooled.

The uniformity of temperature, the outstanding advantage of the Cadillac forced circulation system, is effected by valves opened and closed by Sylphon thermostats. This simple but effective method was developed for motor car cooling and first employed by the Cadillac Company.

A balanced valve and a thermostatic member are housed and mounted on each pump. The thermostat itself, is a bellows-like container, partly filled with a liquid which, when heated, is transformed into a gas. The resulting pressure elongates the thermostat, forcing the valve from its seat.

Connections to the thermostat housings allow the pumps to draw water from the radiator, the cylinder blocks and the water jacket on the carburetor intake manifold.

When the engine is cold, the thermostat valves are closed, and the supply from the radiator is cut off. The water then is circulated only through the water jackets of the cylinder heads, and intake manifold. Because of the fact that the amount of water to be heated is relatively small, the temperature of the cylinders and intake manifold quickly rises to the point at which the engine operates best.



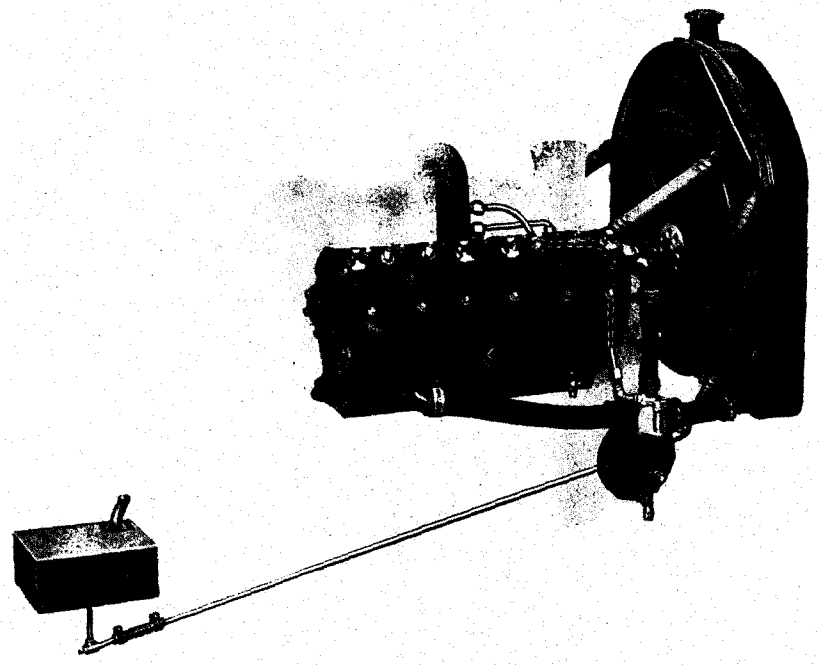
Water pump assembly, showing pump impeller and thermostat

As soon as the temperature of the water in the water jackets reaches the predetermined point, the thermostats force open the valves and allow only sufficient cooled water from the radiator to enter to keep the temperature down to the predetermined point.

Chilling of the engine by cold air from underneath is prevented by the long splash pan, which extends from the radiator the entire length of the engine.

The copper tubular and plate radiator embodies but four elements—the upper and lower tanks, the vertical tubes, and the horizontal plates. The construction is such that there is a positive metallic connection between each tube and each plate, insuring the rapid conduction of heat away from the tubes. A deflector in the upper tank of the radiator distributes the entering heated water uniformly over the tubes.

The suspension of the radiator includes two heavy spiral springs, to absorb any strains which might be transmitted from the frame. The strainers at the radiator outlets are accessible for cleaning without removing the radiator. Openings in the radiator casing just below the horizontal splash shield allow the convenient removal of plugs in the bottom tank. In cars in which it is necessary to remove the radiator to clean these strainers, owners are inclined to let them go without cleaning, a condition which may result in engine overheating.



Cooling system—condenser at left

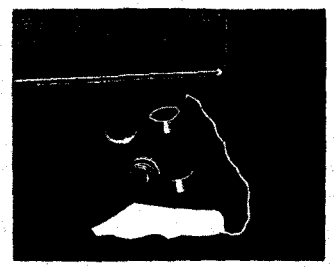
A six-bladed fan, to increase the volume of air between the tubes and plates, is driven at engine speed from the camshaft, by a silent chain. A friction clutch, under spring tension, allows the fan to slip at high speeds.

The capacity of the system is approximately five and one-fourth gallons.

A condensing device, protected by patent rights, renders it possible to use with safety the inexpensive alcohol solution as an anti-freezing cooling medium. A condenser of simple construction is attached to the frame, and is connected by a tube to the overflow which runs from the upper tank of the radiator.

Alcohol vapor driven out of the solution by heat, as well as any water vapor, is restored to liquid form in the condenser. When the radiator cools, the vacuum produced by the contraction of its contents automatically causes surplus liquid in the condenser to return under atmospheric pressure to the radiator.

Another result, a by-product, but nevertheless appreciated, is the conservation of the contents of the cooling system when simply water is used. It is not an unusual occurrence for condenser-equipped Cadillacs to be driven very long distances in warm weather and under heavy loads without appreciable diminution of the water supply.



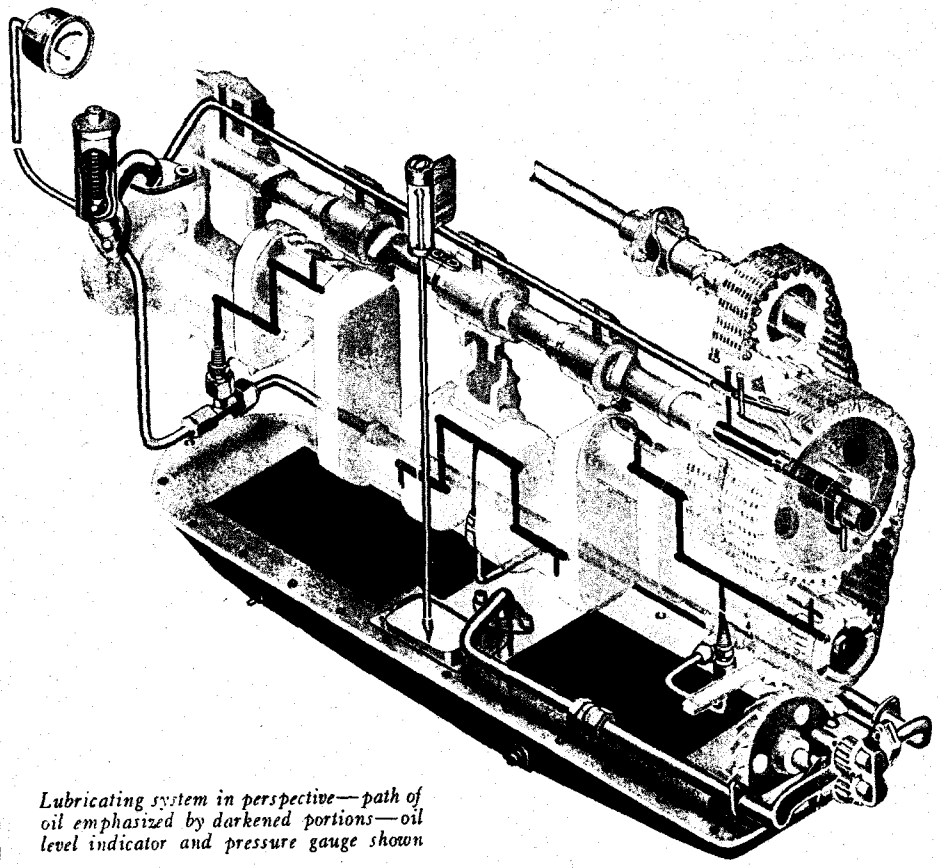
Radiator splash shield cut-away, showing ease with which water strainers may be removed and cleaned

The Engine Lubricating System

Pressure circulating system preserves fine bearing surfaces of Cadillac engine—friction loss small—gear pump—oil ducts in crankshaft—automatic pressure regulation—pressure and supply conveniently determined.

THE engine is lubricated by the pressure circulating system, employing a gear pump. As contrasted with delivering oil in measured quantities at the bare rate of consumption, the principle is that of a continuous circulation between the moving surfaces in contact.

The oil supply is carried in the pressed steel reservoir, which closes the under side of the crankcase. Baffle plates divide the reservoir space into three compartments to prevent splashing. Protection against congealing of the oil in winter weather is afforded by the splash pan under the engine, which prevents currents of cold air from striking the oil pan.



Lubricating system in perspective—path of oil emphasized by darkened portions—oil level indicator and pressure gauge shown

The gear pump is driven from the water pump shaft through helical gears. The pump draws its supply from the central and deepest compartment of the oil pan, insuring that the suction pipe is immersed in oil, regardless of the angle of the car.

The oil is forced by the pump to a manifold fitting, which runs the length of the crankcase, above the oil pan, and at the left. Leads to each of the main bearings from this manifold circulate oil to all crankshaft bearings.

Oil passages drilled through the crankshaft conduct the oil from the main bearings to the connecting rod bearings. Oil forced from the connecting rod bearings is thrown by centrifugal force onto the cylinder walls and pistons, lubricating both the cylinders and wristpins.

The pressure under which the oil is forced to the main and connecting rod bearings is controlled by pressure regulator, located just behind the right hand block of cylinders. This regulation prevents the oil pressure from becoming excessive at high engine speeds, a condition which would cause oil to be thrown onto the cylinder walls in unnecessary quantities. It also insures positive lubrication at low speeds.

A gauge on the instrument board, connected to the pressure regulator housing, indicates the oil pressure.

The regulator itself consists of a ball valve, under spring tension, which opens and allows oil to pass the valve when a predetermined pressure is reached. Oil thus overflowing is forced into a manifold, above and parallel to the camshaft, and is a source of supply for the camshaft bearings, the front end chains and the gasoline system air pump. A by-pass permits the flow of oil to these parts at low engine speeds, before a pressure sufficient to open the valve is reached.

The five camshaft bearings receive oil through ducts leading from the overflow tube. From the front bearing to the gasoline system air pump, the oil is conducted through the hollow camshaft. The front end of the manifold tube is provided with two nozzles which deliver oil to the front end chains through holes in the rim and flange of the double sprocket on the camshaft. Lubrication is also supplied to the camshaft driving chain through a hole in the crankshaft sprocket. This hole connects with an oil duct in the crankshaft.

The helical gear which drives the water pump shaft receives lubrication through a hole in the gear connecting with the duct in the center of the crankshaft.

The valve rocker arms are lubricated by oil entrained in cup-like depressions at their upper ends. Ports in the crankcase are provided to allow oil vapor to enter the valve compartments for valve stem lubrication.

All oil drains back into the reservoir through a fine wire gauze, interposed between the crankcase and the reservoir space.

Oil may be added conveniently through a filling well in the housing enclosing the fanshaft driving chain, accessible by raising the right hood panel. The well is provided with a strainer, and closed with a threaded cap.

An oil level gauge, operated in a simple and positive manner by a float, indicates the amount of oil in the reservoir. The capacity is one and one-half gallons. The dial of the indicator is fastened to the top coverplate of the crankcase, at the right of the carburetor.

A drain plug at the right-hand side of the reservoir permits convenient emptying of the contents when it is necessary to change the oil or clean the lubricating system.

The Exhaust System

Separate exhaust system for each block of cylinders—effectual silencing without power reduction.

EACH block of four cylinders has its individual exhaust system, insuring the rapid conduction of the spent gases away from the cylinders.

The hot gases released by the exhaust valves enter the exhaust manifolds, one of which is bolted to each cylinder block, and pass through asbestos-covered pipes to the mufflers.

The two mufflers, one suspended from each sidebar, effectively silence the explosions of the eight cylinders. Through a patented design, back pressure is reduced to a minimum. Their construction is such that they may be easily disassembled.

Tail pipes conduct the exhaust gases from the mufflers to the extreme rear of the car.

The Starting and Lighting System

Single unit system, generating and starting functions combined—Cadillac-Delco manufacture—electrical cranking introduced by Cadillac; unequalled experience in field. Long life storage battery with extra heavy plates—Cadillac-Exide. Manually controlled tilting headlamp reflectors conforming with non-glare requirements—complete illuminating system with conveniently located lamps—single wire system—circuit breakers, no fuses to be replaced—vibrating motor type horn, button at top of steering column.

THE Cadillac-Delco starting and lighting system is the result of six years of effective cooperation between the Dayton Engineering Laboratories Company and the Cadillac. The single unit principle, with which they pioneered the practical application of electricity to the cranking of the automobile engine, is continued in the Type Fifty-seven as the most efficient type, lending itself most readily to compact design.

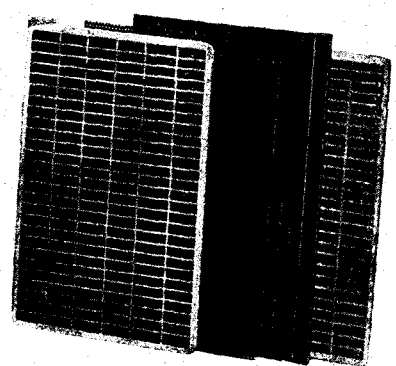
The elements of the starting system include a source of current supply—a generator; a means for storing the current generated—a storage battery; and a method of applying the current to crank the engine—a motor. The motor and generator functions are combined in one unit—a motor-generator.

A single wiring system connects the different elements, the return current being grounded through the frame. The principal components of the motor-generator are an armature and a field. There are two windings on the armature and two on the field; one on the armature and one on the field are connected so as to form a shunt-wound generator, which provides the current for charging the battery and for the lighting, ignition and horn circuits; and the other windings are connected so as to form a series wound motor, which furnishes power for cranking the engine.

As a generator, the armature is driven at engine speed by an extension of the fan-shaft, which, in turn, is driven through a silent chain from the camshaft, at the front of the engine. Thus driven, it delivers current for charging the six-volt battery. The necessary regulation to control the maximum current is accomplished by a third or auxiliary brush on the generator commutator. The position of the third brush is such that the maximum charging rate is delivered at average driving speeds.

When acting as a motor, the sole function of the motor-generator is to crank the engine. The armature is then geared to the flywheel by idler gears, which are meshed upon pressing the conveniently located starter button. The gear ratio between the armature shaft and the crankshaft is approximately twenty-five to one, the crankshaft being rotated at a rate of from eighty to ninety revolutions per minute under normal conditions. The hub of the larger idler gear contains an overrunning clutch, which prevents the armature from being driven at an excessively high speed the instant after the engine is running under its own power, and before the starter button is released.

The starter button also breaks the circuit between the generator windings and the storage battery, and completes the motor circuit by lowering the motor brushes onto the commutator. Meshing of the starter gears is facilitated by the slow rotation of the armature of the motor-generator, which begins as soon as the ignition lever on the switch is turned to the "on" position.



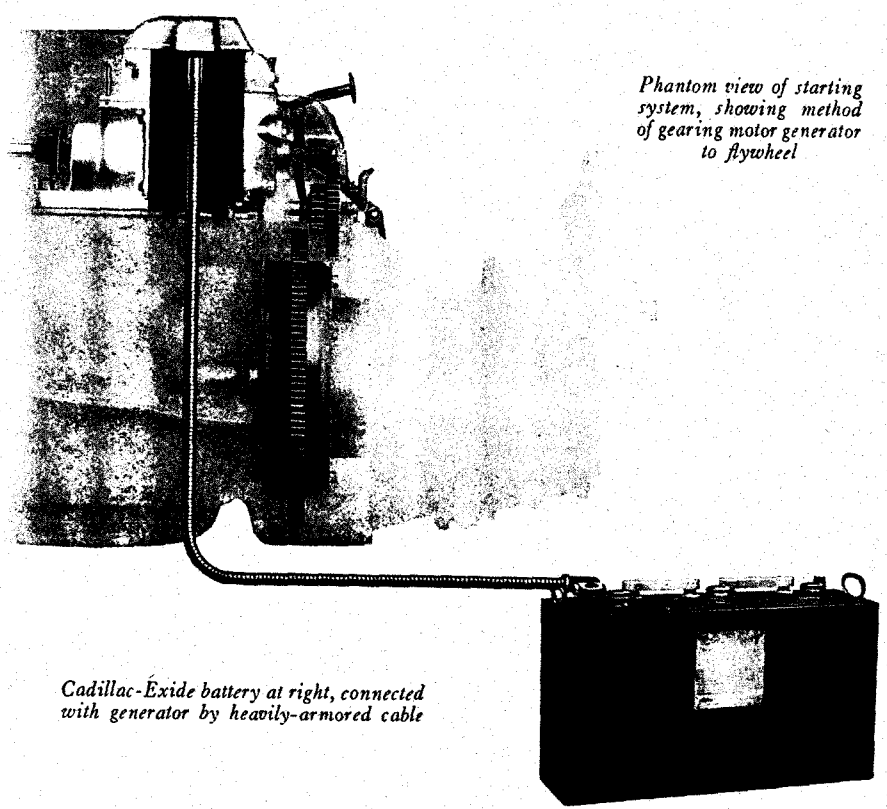
Positive and negative plates of storage battery, with perforated rubber and grooved wood separators

The Storage Battery

The requirements for a storage battery which will give reliable and uninterrupted service and long life, and which has an overload capacity enabling it to perform without strain the sudden and severe task repeatedly imposed upon it in cranking an engine, are met in the Cadillac-Exide battery with a competence unique in the storage battery field.

The storage battery, which has been regarded by many motorists as the weakest link in the electrical system, a vital but often undependable element, is, in the Cadillac, the equal of any other part of the car. It is exclusively Cadillac, and to the best belief of the Cadillac Company, its quality cannot be duplicated, particularly in length of service.

It consists of three cells, each giving approximately two volts. They are connected in series, producing a total voltage of approximately six. Each cell contains six positive and seven negative plates, filled with special lead oxide composition, immersed in an



Phantom view of starting system, showing method of gearing motor generator to flywheel

Cadillac-Exide battery at right, connected with generator by heavily-armored cable

electrolyte of sulphuric acid solution. The use of heavier plates than those ordinarily found in automobile storage battery service is the principal factor in the longevity of the Cadillac battery. The use of both wood and rubber separators between the plates, an unusual practice, further assures long and dependable service.

The containers are of a flexible hard rubber composition, rendering them practically unbreakable in use They are sealed at the top. The wood battery box is reinforced by two lateral through-bolts.

A filling vent at the top of each cell is sealed by a plug, which may be conveniently removed for adding distilled water.

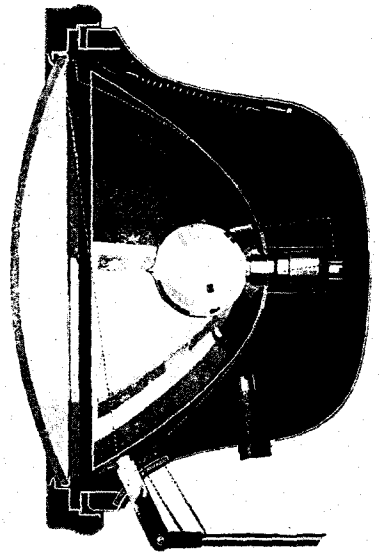
The capacity of the battery is approximately one hundred thirty ampere-hours, at the normal rate of discharge.

It is mounted just below the dust shield on the left hand side of the car. Although out of sight, it is easily accessible through a removable section of the dust shield.

The Tilting Headlamp Reflectors

One of the prima facie advantages of the Cadillac lighting system is the control of the headlamp rays by the means of tilting reflectors.

The devices commonly employed to meet non-glare requirements make use of one or another of the following principles: Reducing the amount of light at its source,



Section view of headlamp—dotted lines show tilted position of reflector, which is pivoted on trunnions

diffusion or spreading of the pencil rays, or deflection of the pencil rays below the level at which glare is objectionable.

Deflection of the pencil rays below the level at which they are objectionable intensifies the illumination of the road directly in front of the car but renders distant objects less distinct, particularly those in the upper part of the field of vision. The first result is an advantage at the moment when passing a vehicle going in the opposite direction, but the second is not desirable on the open road, where highway signs and overhanging obstructions must be easily visible. Prismatic shaped lenses, which employ this principle, are, therefore, not altogether satisfactory, except just for the short time an on-coming vehicle is approaching.

The Cadillac device makes use of the advantage of the third principle, but eliminates the disadvantage of having the rays permanently deflected. The reflectors in the headlamps are pivoted so that they may be tilted, and are controlled by a lever on the steering column. When the road is clear and the illumination of the distant road is desired, the reflectors direct the light straight ahead. When a vehicle traveling in the opposite direction approaches, by simply raising a small lever on the steering column the reflectors are tilted down, deflecting the rays below the level of vision of the occupants of the approaching car, and increasing the illumination directly in front of the car, where it is most needed.

In a few states the law specifies that at no time shall there be any glaring rays higher than forty-two inches above the road at a point seventy-five feet ahead of the car. When in the tilted position, the Cadillac head lamps conform to this requirement.

In the judgment of engineering authorities this device, standard equipment on the Cadillac, provides the most practical and satisfactory solution of the non-glare problem.

A supplemental advantage, resulting from the tilting of the reflectors, is the illumination of the road immediately in front of the car when rounding a sharp curve or commencing the descent of a hill.

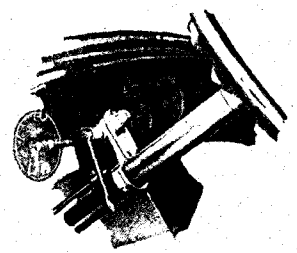
The Lights and Horn

A single wiring system supplies current to the lights, one side of each lamp socket being grounded.

The headlamps, sidelamps, tail and speedometer lamps are controlled by a single lever on the ignition and lighting switch on the instrument board. The tail and speedometer lamps are connected in series, conveniently enabling the operator to tell from the speedometer lamp whether or not the tail lamp is lighted.

The clock lamp is operated by a separate push button on the combination switch. The socket for the portable lamp is located within convenient reach, just back of the instrument board. Touring car and phaeton tonneau lamps with integral switches are located on the curb-side of the tonneau, in such a position as to illuminate the door opening and step. The enclosed car interiors are illuminated by combinations of dome and quarter lamps, according to models.

The horn, of the vibrator motor type, is mounted on the left hand side of the car just back of the front fender. Current for its operation is controlled by a button at the top of the steering column. The button is sensitive and certain in making contact, either lateral or downward pressure producing the signal. The switch which closes the circuit is directly beneath the horn button, and entirely enclosed within the steering column.



Lever on steering column for operating tilting headlamp reflectors

Protection is afforded to the ignition, lighting and horn circuits by circuit breakers, which have well known and distinct advantages over fuses, which are commonly used. Two of these are mounted on the inner face of the dash. The one protecting the horn, portable lamp and tonneau lamp circuits is known as a lock-out circuit breaker. In case of a "ground" in any of these circuits the breaker opens and remains open until the "ground" is removed. The ignition and remaining lamp circuits are protected by a vibrating circuit breaker which produces a vibrating sound, should a "ground" occur in any of these circuits.

A Weston ammeter indicates the rate of charge or discharge of the storage battery.

The Power Transmission System

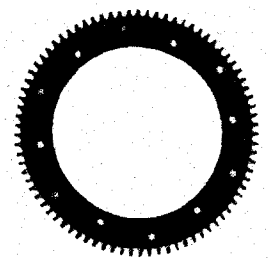
Multiple-disc dry plate clutch—nine plain discs, eight discs faced with friction fabric—eighty-one gear teeth on periphery of driving discs instead of keys and key-ways—light pressure release, smooth and gradual engagement. Selective gearset, sliding gears, three speeds and reverse—center control, lever within easy reach from steering wheel, main shaft revolves on annular ball bearings, countershaft on Hyatt flexible roller bearings—quiet and easy shifting. Timken full-floating rear axle—helical bevel gears—bearings and gears completely adjustable.

THE driver of a Cadillac car is seldom conscious of the mechanism by which the power of the engine is made applicable in tractive effort at the rear wheels. Easy clutch operation and infrequent and smooth gear shifting absolve his mind from any annoying thought of the process.

The principal elements of the power transmission are:—a multiple-disc, dry plate clutch; a sliding gear gearset of the selective type; a tubular propeller shaft with two universal joints; and a Timken full-floating rear axle. Clutch and transmission form a unit with the power plant.

The Clutch

The clutch has seventeen steel plates: nine plain driven discs and eight driving discs faced on both sides with an asbestos friction fabric. The advantage of attaching the friction material to the driving discs rather than the driven discs, is that unnecessary and undesirable weight is thereby avoided in the latter, thus decreasing their tendency to spin under their own momentum when the clutch is disengaged.



One of the eight clutch driving discs—eighty-one driving teeth

The periphery of each driving disc is serrated in the form of gear teeth, of ten pitch, which mesh with similar teeth on the inner surface of the clutch driving ring, bolted to the flywheel. The effect produced by this method of driving the clutch is that of eighty-one driving keys and as many keyways, greatly reducing the load on each key.

A coil spring under three hundred pounds compression, within the clutch hub, to which the driven discs are keyed, furnishes the pressure for forcing driving and driven discs tightly together. Release is effected by pressure on the clutch pedal, the leverage being compounded so as to produce the desired result with an ease unfamiliar to the average motorist. The thrust, by which the spring is compressed when the clutch is disengaged, is taken by a ball thrust bearing.

The Gearset

The Cadillac selective gearset provides for three speeds forward and one reverse. The gears and shafts are chrome nickel steel forgings, heat-treated. The gears are accurately machined to the proper tooth forms, and the ends of the teeth are backed off, permitting easy and quiet gear-shifting.

The meshing of the gears is controlled by a centrally located control lever. The ball handle, conveniently fitting the palm of the hand, describes the familiar H as it is moved

in the selection of the various gears. The lower end of the lever moves one or the other of two sliding shafts, to which are fastened the shifter forks, operating the shipper gears. High gear, or direct drive, is obtained by the engagement of gear teeth on the end of the clutch shaft with teeth cut internally on the high and intermediate shipper gear. This locks the main shaft of the transmission to the shaft to which the clutch is attached.

The clutch shaft and main transmission shaft revolve on ball bearings. To allow differential motion between the clutch shaft and the transmission shaft, when other than direct drive is in use, the front end of the transmission shaft revolves on a Hyatt flexible roller bearing, housed in the rear end of the clutch shaft.

The countershaft revolves on two flexible Hyatt roller bearings on a stationary tubular shaft.

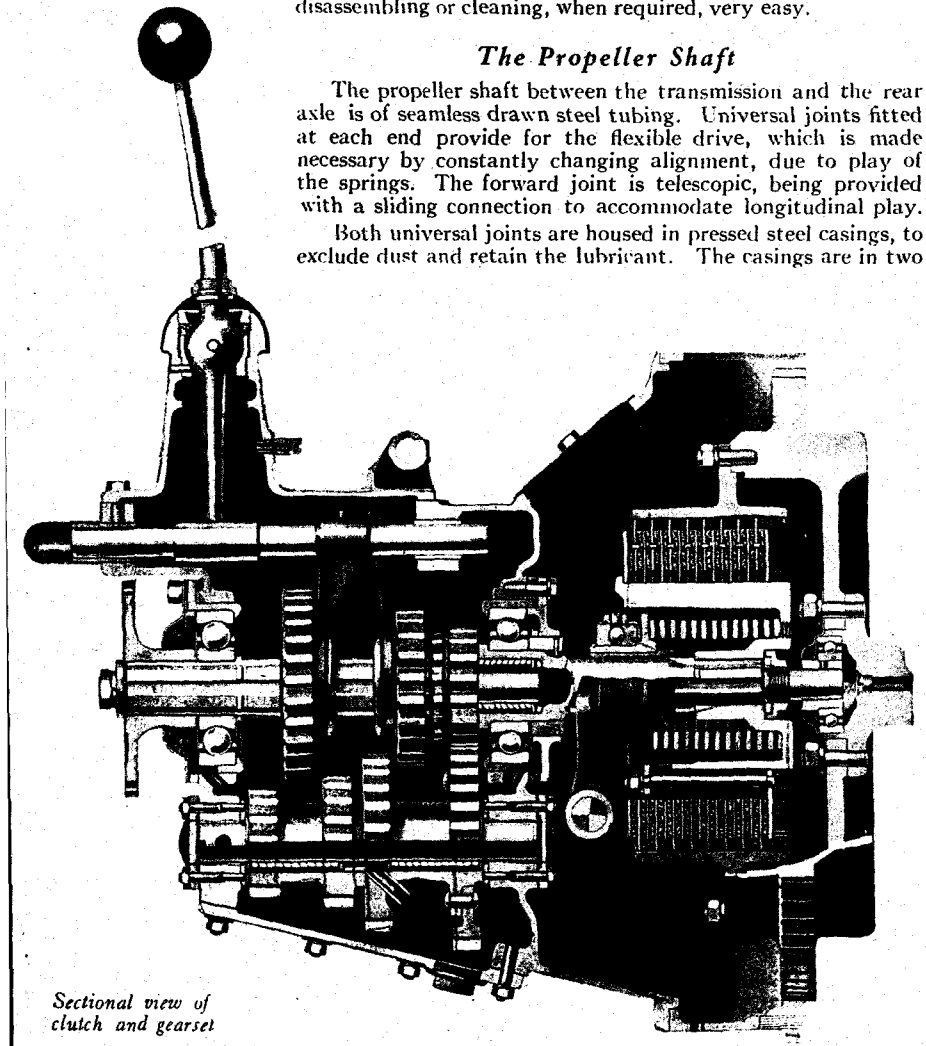
Positive lubrication for the countershaft roller bearings is uniquely provided by the rotation of a metal spoon on the intermediate gear, impelling the lubricant through a tube to the bearings.

The aluminum case not only supports the various members, but forms a protective housing for the gearset, and a reservoir for the lubricant. It is flared at the front end, where it encloses the clutch, and is bolted rigidly to the crankcase, forming the unit power plant. The bottom of the case is removable, rendering disassembling or cleaning, when required, very easy.

The Propeller Shaft

The propeller shaft between the transmission and the rear axle is of seamless drawn steel tubing. Universal joints fitted at each end provide for the flexible drive, which is made necessary by constantly changing alignment, due to play of the springs. The forward joint is telescopic, being provided with a sliding connection to accommodate longitudinal play.

Both universal joints are housed in pressed steel casings, to exclude dust and retain the lubricant. The casings are in two



Sectional view of clutch and gearset

parts, the outer caps being forced by springs against the spherical surfaces of the inner casings. These springs compensate automatically for wear on the flax packing between the caps and casings.

The Rear Axle

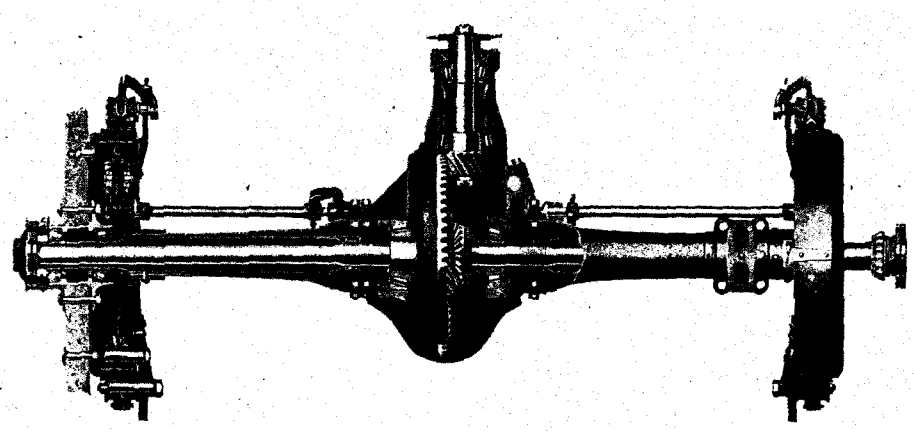
The Timken rear axle carries the weight of the car independently of its transmission of power to the rear wheels, a construction usually designated as full-floating. The load is taken by the pressed steel, tube-shaped housing, trussed bridge-like by a tension member underneath. Into the ends of this pressing, chrome nickel steel sleeves are riveted and welded. The wheel bearings are mounted upon these sleeves.

The transmission of power and the gear reduction are accomplished by the helical bevel gear and pinion, and the two live axle shafts.

The helical bevel gears insure a degree of quietness impossible with straight-tooth gears. They are cut and fitted to each other in the Cadillac factory. The pinion is keyed to a tapered end on a rotating shaft, carried by a pair of Timken taper roller bearings. The pinion bearings are mounted in threaded sleeves, which allow the pinion to be moved backward or forward for adjustment. The driven gear is riveted to a carrier which rotates on the Timken taper roller bearings at each end. The carrier also houses the differential, which is of the bevel gear type.

Both gear and pinion bearings are mounted in a carrier, which forms the front cover of the rear axle housing, and which is bolted to it. All bearings are adjustable.

The two shafts, which drive the wheels from the differential, are chrome nickel steel, with the integral driving clutches at the outer ends. The clutches consist of six



Full-floating rear axle with helical bevel driving gears and adjustable taper roller bearings

lugs machined on the outer ends of the shafts, fitting into corresponding slots machined in the hubs of the rear wheels.

A spring locking ring in an annular groove prevents lateral motion between each wheel hub and the driving lugs.

The axle housing acts as a reservoir for the lubricant when closed by the rear cover-plate, which is provided with a removable plug.

The spring seats, by which the load of the car is carried on the rear axle, are free to oscillate on the axle housing.

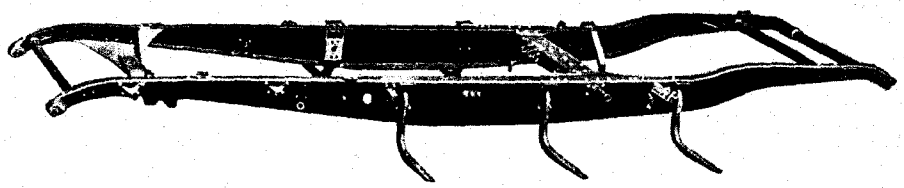
The torque is absorbed, not by the springs, but by a sturdy torque arm fastened to the central cross member of the frame.

The Frame and Running Gear

Channel-section sidebars of eight-inch maximum depth—five cross members, three tubular members have splined ends; wheels built for safety—large spokes—right angle felloe band, positive locking-on device. Chrome nickel steel front axle—Timken adjustable roller bearings for spindles and wheels.

CADILLAC engineers have not been content only to allow an ample factor of safety in the frame. They have designed a foundation on the basis of rigidity. Anyone familiar with building construction will appreciate that greater strength is required when it is desired to avoid or limit deflections than when simply taking precaution against breakage.

The sidebars are of channel section throughout, with the greatest depth at the center, where the stress is most severe. The center portion has the unusual depth of eight



Frame with five cross members and side bars with maximum depth of eight inches

inches. There is a gradual reduction in the section from the center toward each end, with a moderate kick-up at the rear.

The sidebars are rigidly tied together by five cross members:—a central cross member of channel section; the cross member for the front engine support; and three additional cross members of steel tubing. The central cross member, to which the forward end of the torsion arm is attached, is riveted securely to the sidebars by both web and flanges, the joints at the sidebars being reinforced by gusset plates.

The tubular cross members are located, one between the front outriggers, another just forward of the gasoline tank, and the third at the extreme rear end of the frame. It is axiomatic among engineers that a tubular member is the lightest possible for resisting torsional and indeterminate bending strains. The difficulty of anchoring a tubular brace at its ends has been overcome in the Cadillac construction by the use of brackets, into which the splined ends of the cross tubes are pressed. This rigidity-giving application of splined joints will be recognized as unique in frame construction, and highly advantageous.

The holes in the sidebars for the brackets and other attachments are drilled on giant multiple-spindle drill presses, with fixtures which insure correct location.

The length of the wheelbase is one hundred twenty-five inches on all models except the five limousine models, on which it is one hundred thirty-two inches. A chassis of one hundred forty-five inch wheelbase is built for semi-commercial purposes.

The Wheels

Safety will impress the purchaser or prospective purchaser as the primary consideration in the design and construction of Cadillac wheels.

They are of the artillery type, with ten spokes in each front wheel and twelve in each rear wheel. The best selected hickory, thoroughly seasoned, composes the spokes and felloes.

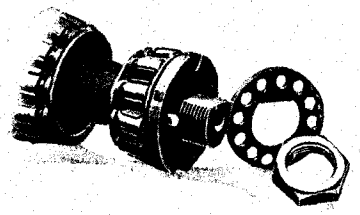
The spokes are of especially large elliptical section, being one and one-fourth by one and three-fourths inches at the smallest point, which is at the felloe.

The gracefully curved surface of the wood parts not only gives the wheels a pleasing appearance, but renders the finish less damageable than in the case of angular edges.

The felloe is shod with a steel band, sherardized to prevent rust. Instead of a simple hoop covering the periphery, the felloe band is of a stout right angle section, covering also the outer side surface of the felloe, and serving as a substantial reinforcement.

Each hub comprises two pressed steel flanges, the inner flange being integral with the hub core. Bolts through the wood spider at each joint between the abutting ends of the spokes hold the flanges firmly in place. The wheels revolve upon adjustable Timken roller bearings.

The consideration of safety has been given unusual attention in the device used for locking on the front wheels. An adjusting nut for the bearings carries a stud which keys it to a lockwasher. This lockwasher has a D-shaped hole, which fits the spindle and positively prevents the turning of the adjusting nut. A locknut holds the lockwasher firmly against the adjusting nut.



Locking-on device for front wheel

The Front Axle

The front axle is a one-piece drop forging of chrome nickel steel. It is of I-beam section, heavily ribbed at the yoked ends, where the spindles are pivoted.

The spindles are also drop forgings of chrome nickel steel. They taper toward the outer end, where the strain is least. Next to the knuckle, where the cantilever action brings the most severe strain, the spindle has an especially large section.

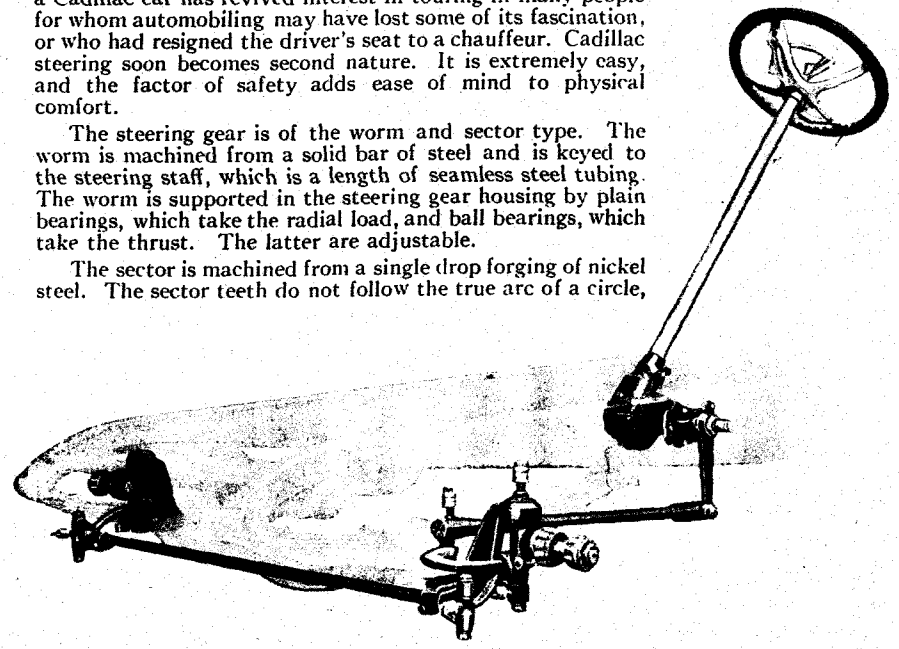
The Steering System

Worm and sector gear type—spindles turn on Timken taper roller bearings—caster effect in pivoting of spindles—chrome nickel and special alloy steels—unusual factor of safety evidenced in dimensions—hinged steering wheel.

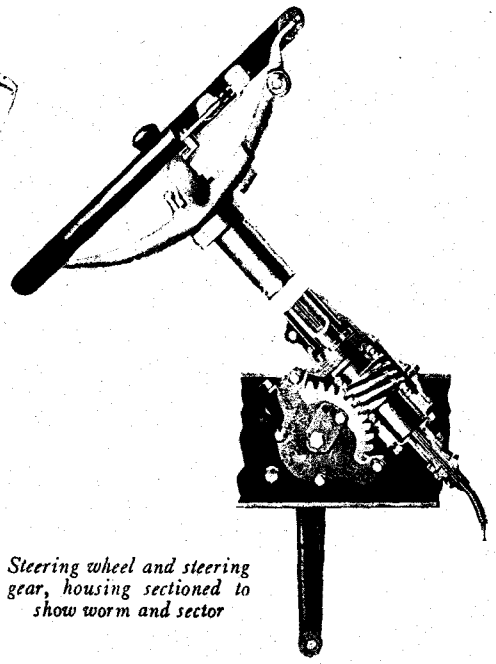
THE first surprise of driving a Cadillac is the unusual pliancy with which it is manœuvered in traffic; the second comes after the first day of continuous touring, when the operator finds himself unexpectedly unfatigued. The acquisition of a Cadillac car has revived interest in touring in many people for whom automobiling may have lost some of its fascination, or who had resigned the driver's seat to a chauffeur. Cadillac steering soon becomes second nature. It is extremely easy, and the factor of safety adds ease of mind to physical comfort.

The steering gear is of the worm and sector type. The worm is machined from a solid bar of steel and is keyed to the steering staff, which is a length of seamless steel tubing. The worm is supported in the steering gear housing by plain bearings, which take the radial load, and ball bearings, which take the thrust. The latter are adjustable.

The sector is machined from a single drop forging of nickel steel. The sector teeth do not follow the true arc of a circle,



Steering system, showing connections and parallel rod



Steering wheel and steering gear, housing sectioned to show worm and sector

the center teeth being at a slightly greater radius than those at the ends: the center teeth perform the greater service, inasmuch as the car is normally in an approximate straight-ahead position. Adjustment of the position of the sector relative to the worm may be readily made by turning the long, eccentric bushing, in which the shaft of the sector has its bearing.

The sector shaft has the unusual diameter of one and three-eighths inches, and bearing length of more than five inches. End play may be taken up by an adjustment on the inner coverplate of the housing.

The steering gear housing is bolted to the web of the sidebar. In addition to supporting the worm and sector, it serves as a container for steering gear lubricant.

The sector shaft is tapered and serrated at the outer end to receive the steering arm, which carries at its lower end the ball for the rear joint of the steering connecting rod. This ball is not forged integrally with the arm; for safety, the construction is that of a separate ball anchored in a tapered socket; forged separately this part is given a fibre structure of more uniform texture.

The tubular steering connecting rod, between the steering gear arm and the front axle, has a ball and socket joint at each end. One half of each bronze socket is fixed, and the other half is held in position by a coil spring, which automatically compensates for wear.

The spindle arms are of generous dimensions, an exercise of more caution, perhaps, than necessary. They are forged of chrome nickel steel, and as a check on their correct composition and heat treatment, a small nipple is forged on the arms, later to be removed and examined.

The tubular parallel rod is located in front of the axle, and is threaded at each end into the yokes which receive the steering arms, permitting adjustment for aligning the front wheels.

The safety and ease with which the Cadillac is steered is due in no small measure to the use of Timken roller bearings at the upper end of the spindles.

A slight caster effect, in which the reaction of the road on the front wheels automatically tends to keep them in the straight-ahead position, contributes further to the ease and safety of steering.

The steering wheel is eighteen inches in diameter. It has an aluminum spider, with a wood rim, corrugated on its inner surface.

The spider is hinged to the hub forging, allowing it to drop downward, facilitating entrance or exit at either side. A latch, which may be released by two finger grips, holds the wheel rigidly in position for use. This arrangement has been a distinctive feature of the Cadillac for several years.

The steering radius is twenty-one feet, six inches to the right, and twenty-three feet, two inches to the left.



Showing steps in the manufacture of the worm and sector. The worm is machined from a single piece of bar stock, and the sector from a drop forging of nickel steel

The Braking System

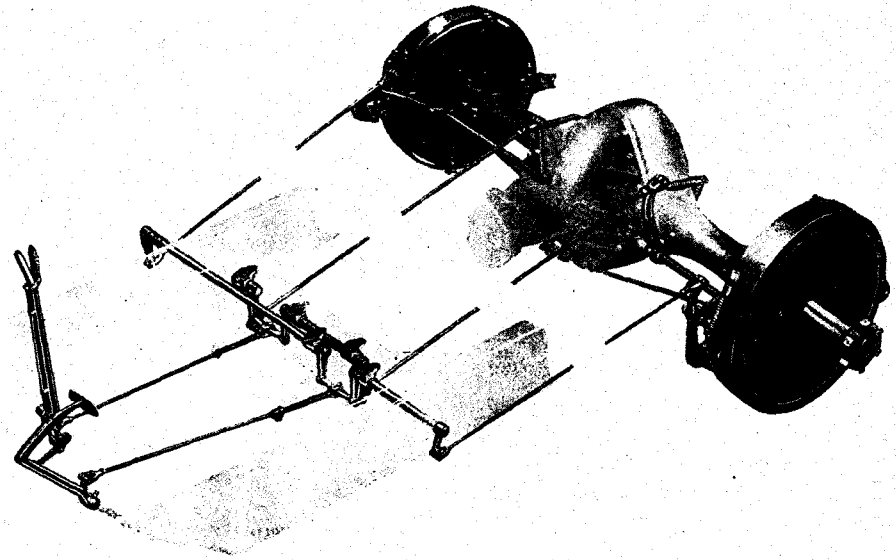
Two independent sets of brakes—foot brakes externally contracting, hand brakes internally expanding—both systems equalized, seventeen-inch brake drums—five hundred square inches of braking surface.

CADILLAC braking should be considered as a phase of control rather than simply a means of bringing the car to a stop. Either hand or foot brakes may be applied easily with sufficient pressure to lock both wheels, but this characteristic in no way compromises the smoothness with which the car decelerates when the brakes are lightly applied.

There are in the Cadillac, two independent sets of brakes. The foot, or service brakes, actuate friction bands contracting on the external surface of a brake drum bolted to each rear wheel. The hand brakes expand within the drums.

Connections to both systems equalize the tension on the brake pull rods, so that the drums are gripped with practically the same pressure. One of the principal benefits of this arrangement is in reducing the tendency to skid on slippery roads. The equalizing rocker shafts are located under the central cross member of the frame, and are journaled in self-lubricating bushings. The pull rods actuating the external brakes are outside of the frame, and connect the equalizing rocker shafts directly to the levers on the brake bands.

Replaceable heat-resisting friction material, reinforced with bronze wire, is used as brake band lining. The pressed steel brake drums are seventeen inches in diameter, and two and one-half inches wide. The total braking surface is more than five hundred square inches.



Braking system—two sets of brakes with independent connections—equalizers under central cross member

Adjustments are provided for setting the clearance of bands on the drums. The internal brakes may be adjusted through triangular openings in the brake drums, without removing the wheels.

Proper balance of leverage and retracting springs renders the brakes unusually easy of application. Both clutch and brake pedals are adjustable for length, to accommodate different drivers.

The Spring System

Semi-elliptical three-quarter platform at rear, semi-elliptical at front—extreme precautions against spring breakage. Comfort and durability.

THE design of automobile springs requires not only the selection of the correct principle, but its judicious application to the loads to be carried. The comfort of riding on Cadillac springs is appreciated by the experienced motorist as uniquely characteristic, just as the three-quarter platform construction is a distinguishing Cadillac mark to the eye of the man on the street.



Semi-elliptic spring construction in front and three-quarter platform suspension at rear

The front springs are semi-elliptical, and three semi-elliptical units, arranged on the platform principle, comprise the rear suspension system. The combined length of all five units is more than nineteen feet.

Unusual precautions have been taken against spring breakage. The spring leaves are silico-manganese steel, heat treated to give maximum life in service. The length of the springs, and the width and thickness of the plates composing the spring leaves have been accurately determined by a careful consideration of the work to be done, and the deflections required. Among the various tests is that for spring life, in which springs periodically taken from stock are completely deflected hundreds of thousands of times.

Another precaution against breakage is the machining of the inside surfaces of spring perches and clamping blocks to the normal curvature of the springs.

The spring eyes are lined with phosphor bronze bushings, bearing on shackle bolts with the unusually large diameter of three-fourths of an inch. The shackles, in which these bolts are journaled, have uncommonly large bearing surfaces.

The shackles, which permit the free elongation of the springs, are steel forgings. The connections at the rear ends of the rear side springs permit a universality of action between these and the rear cross spring.

The Coach and Top Work

Applying to Open Cars

THE Cadillac Company maintains an extensive plant with facilities for body design and manufacture—construction, upholstering, painting and finishing, and top work.

Cadillac open bodies have a pressed steel shell fitted over a rigid framework of pressed steel and wood members. Separate stampings, acetylene-welded together, form the body shell of open bodies.

The open cars are upholstered in hand-buffed, long grained black leather, laid in plaits.

\+ + + +

The main weight of the top is supported by the rear bows, which pivot at a common point. The front portion, when extended, is held by the windshield standards in ball and socket joints, making unnecessary the use of straps.

The material is black Pantosote, with the side quarters lined, covering the extension bow sockets and joints.

The rear curtain is of the gypsy type. Its three-panel window enables the driver to obtain an unusually free view at the rear. The side curtains are carried in pockets

on the bows at the extreme front and rear, and when in position are not in the nature of shades, but of windows, more than three-fourths of their area being transparent. They are tagged to facilitate attaching. The lower edges are faced with felt to prevent any possible marring of the body finish. Brackets, which may be quickly attached without the aid of screws, bolts or tools, swing the curtains with the doors, and make it unnecessary to detach the curtains in entering or leaving the car. The dust envelope, which protects the top when lowered, is held by small straps at the sides.

\+ + + +

The front floor board comprises two sections, divided on a line through the change gear lever and the hand brake lever, facilitating the removal and replacement of the sections. Small handles at each end of one section add to the convenience.

The angle of the toe board conforms to the natural angle of the foot of the average driver.

Two openings closed by removable covers are located in the tonneau floor of the touring car and phaeton, greatly facilitating the lubrication of parts underneath.

\+ + + +

The windshield is of the rain vision, lower ventilating type. The glass is in two sections, each section securely held in a frame pivoted to the windshield standards. Each section may be held at any angle to produce the desired effects for rain protection and ventilation. The windshield standards are anchored securely to the body in taper sockets, without outside braces. The forward end of the top is held by the windshield standards. A rubber dam between the lower glass and the cowl, and extending up the sides of the glass practically to its points of support, is a much appreciated precaution against rain leakage.

\+ + + +

The fenders are stiffened with two wires on each side, contributing materially to their strength.

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Each door in the open cars has two rubber bumpers, to soften the action of the door, and to prevent rattling. The upper bumper is of a new dovetail design, serving also, when the door is closed, to relieve the hinges of strain.

Body Styles

Cadillac coach-builders have provided ten styles of bodies from which Cadillac purchasers may choose, as follows:—Seven-Passenger Touring Car—Four-Passenger Phaeton—Two-Passenger Roadster (with rumble seat for two)—Four-Passenger Convertible Victoria—Five-Passenger Brougham—Seven-Passenger Limousine—Seven-Passenger Imperial—Seven-Passenger Landaulet—Seven-Passenger Town Limousine—Seven-Passenger Town Landaulet.

Standard Equipment

Cadillac one man top. Rear curtain of the gypsy type with three-panel window. Side curtains, with more than three-fourths of area transparent. Brackets, quickly attached without aid of screws, bolts or tools, allow side curtains to swing with doors. Dust envelope for top.

Windshield of rain vision, lower ventilating type; (Additional outward swinging rain vision windshield on certain enclosed cars.) Rubber dam between lower glass of windshield and cowl.

Full lamp equipment, especially designed for Cadillac cars. Head and side lamps black enameled and nickel-trimmed; tonneau lamp; portable lamp, (dome and quarter lamps on enclosed cars).

Headlamps equipped with tilting reflectors to deflect light rays and prevent glare; controlled by lever on steering column.

Eight day clock of Waltham manufacture, illuminated by special lamp.

Speedometer with figures legible from tonneau, and convenient trip reset.

Gasoline gauge. Electric horn. Power air compressor for tires. Foot rest. Robe hanger. License tag holders.

Tire carrier accommodating two spare tires, except on victoria, which carries spare tires in rear compartment.

Tool box with locks; complete tool equipment, including tire repair kit; smaller tools pocketed in convenient kit in lower part of left front door on open body types.

Universal key which serves locks on combination switch, tool box and tire carrier.

Specifications in Brief

ENGINE—Eight-cylinder V-type, high speed, high efficiency. Engine and transmission built in unit, three-point suspension. Cylinders cast in two blocks of four cylinders each, with water jackets and combustion chambers integral; detachable heads. 3⅛-inch bore by 5⅛-inch stroke. Piston displacement 314 cubic inches. Crankcase, aluminum, copper alloy. Tungsten steel valves. Valve mechanism enclosed. Three bearing crankshaft 1⅞-inch diameter of chrome nickel alloy steel, special heat treated. Main and connecting rod bearings of liberal dimensions, Cadillac special bearing metal, with bronze reinforcement. Single camshaft, five bearings. Camshaft and generator shaft driven by silent chains from crankshaft.

HORSEPOWER—N. A. C. C. rating 31.25.

COOLING—Water, forced circulation. Jackets cast integral with cylinders, liberal water circulating space. Two centrifugal pumps, one for each block of cylinders, insuring proper water distribution. Radiator, Cadillac tubular and plate type. Fan attached to generator shaft, driven by silent chain. Water temperature regulated by Sylphon thermostats. Radiator condenser, conserving alcohol in anti-freezing solution.

IGNITION—Cadillac Delco, improved system. Current supplied by generator, and storage battery. Automatic spark advance.

LUBRICATION—Automatic pressure feed by gear pump. Oil forced to crankshaft and connecting rod bearings.

CRANKING DEVICE—Cadillac Delco, improved, patented.

STORAGE BATTERY—Exide manufacture, designed especially for Cadillac; heavy plates.

CARBURETOR—Cadillac, designed especially for this engine, insuring uniform gas distribution and maximum efficiency. Auxiliary air control to facilitate starting. Integral leaning device. Intake pipe, hot water jacketed.

CLUTCH—Multiple disc, dry plate type; seventeen high carbon steel plates, 7¾ inches diameter; plates driven by flywheel are faced with wire mesh asbestos. Exceptionally soft and velvety in operation

TRANSMISSION—Aluminum case. Selective type sliding gear, three speeds forward and reverse. Chrome nickel steel gears and shafts.

AXLES—Rear, Cadillac Timken full floating type; Timken bearings; special alloy steel live axle shafts. Spiral type bevel driving gears, ground with accuracy. Front axle, drop forged, special alloy steel, I-beam section with integral yokes and spring perches; drop forged tie rod ends and steering spindles, the latter fitted with Timken bearings at the upper ends.

DRIVE—Tubular shaft. Two universal joints, the forward telescopic, each enclosed in housing and running in lubricant.

BRAKES—One internal and one external brake direct on wheels, 17-inch x 2½-inch drums. Exceptionally easy of operation. Both equipped with equalizers.

STEERING GEAR—Cadillac patented worm and worm gear sector type, adjustable, with ball thrust bearings. 18-inch steering wheel with corrugated walnut rim, aluminum spider. Steering wheel hinged to swing downward, facilitating entrance to front seats.

FRAME—Channel section, carbon steel, maximum depth, 8 inches; width 30 inches in front, 33 inches in rear; 3 tubular cross members.

WHEELS—Wood, artillery type, running on Timken bearings, fitted with demountable rims for straight side tires. Special large hub flanges and substantial spokes.

TIRES—35 inches x 5 inches (or 895 x 135 m/m at extra charge) except Roadster 34 inches by 4½ inches. Non-skid on rear wheels. Tire equipment subject to change on cars shipped outside the U. S. A.

WHEELBASE—Touring Car, Phaeton, Roadster, Victoria and Brougham, 125 inches. Limousine, Imperial, Landaulet, Town Limousine and Town Landaulet, 132 inches.

TREAD—56 inches.

SPRINGS—Front, semi-elliptic, 42 inches long by 2 inches wide; rear three-quarter platform; sides 54 inches long by 2 inches wide. Rear cross, 39½ inches long by 2 inches wide.

CONTROL—Center control. Gear change lever and hand brake in center, set well forward yet within easy reach. Service brake, foot lever. Clutch, foot lever. Throttle accelerator, pedal button with foot rest. Throttle and spark levers at steering wheel. Throttle auxiliary air control, hand lever on steering column.

FUEL SYSTEM—Twenty-gallon tank with gauge, at rear of chassis. Fuel forced by air pressure to carburetor.

FINISH—Open cars, Cadillac blue, black trimmings. Closed cars, Calumet green, black trimmings.

UPHOLSTERING—Open cars, English long grain hand-buffed black leather, laid in plaits. Enclosed cars, high quality selected cloth fabrics in variety.

RUNNING BOARDS—Linoleum covered, with metal binding.

Prices on automobiles and parts are positively net F. O. B. Detroit.

No allowance will be made for any part of standard equipment if ordered omitted.

NOTE—The Cadillac Motor Car Company reserves the right to make changes or improvements at any time without incurring any obligations to install same on cars previously sold.

CADILLAC MOTOR CAR COMPANY

DETROIT, MICHIGAN

EVANS-WINTER-HEBB DETROIT

1918-1919

Cadillac Eight

MANUAL

of

CARE AND OPERATION

TYPE 57

Cadillac Motor Car Co.

Detroit, Michigan, U. S. A.

THIRD EDITION

Form 1930 2M 2-15 F. B. P. Co.

PACKER'S TICKET

CADILLAC MOTOR CAR CO.

ALL PARTS FOR SHIPMENT MUST BE LISTED HEREON BY THIS PACKER'S TICKET

Sales No. _____ *Date* _____

Shipped to _____

City _____ *State* _____

Number Wanted	LIST OF TOOL EQUIPMENT FOR TYPE 57 CARS—STANDARD	CHECK	SYMBOL No.
1	*Pliers		B825
1	Cold Chisel, 6-inch		3921
1	File and Handle, 6-inch		3922
1	*Screw Driver (Small)		3923
1	*Bicycle Wrench		3929
1	*Monkey Wrench		3936
1	*Screw Driver (Large)		6753
1	Octagonal Punch		6754
1	*Spark Plug Gasket		8819
1	Jack Handle		9979½
1	Hammer, 12 oz.		13594
1	Brace and Socket Wrench for Kelsey Universal Demountable Rims		14903
1	Tire Tool (Tongs) for Kelsey Universal Demountable Rims		16052
1	*Spark Plug		19865
1	Auto Jack		19874
1	*Wrench for Headless Set Screw		19982
1	Handy Lamp		21814
1	Starting Crank		22872
1	Wrench for Spark Plug and Air Cock		30222
2	Wrench for Adjusting Outside Brakes		30223
1	Rubber Rain Strip for Windshield (Open Cars)		32040
1	Tool Bag (Small)		32813
1	*Wrench for Distributor (Plain)		33352
1	*Wrench for Distributor (With Gauges)		33353
1	Wrench for Hub Cap		34011
1	Wrench for Water Pump		37070
1	Oil Gun		37646
1	Hose and Gauge for Tire Air Pump		37669
1	Tool Bag (Large)		37672
1	Manual		
1	Chart		

19-8-19

Type 57

Cadillac

Eight



MANUAL

of

CARE AND OPERATION

PRICE, 25 CENTS

A Manual is packed in the tool kit of each car. If lost, a duplicate will be mailed on receipt of the price. When ordering be sure to specify Type 57 Cadillac Manual and the engine number of your car

Cadillac Motor Car Co.

Detroit, Michigan, U. S. A.

THIRD EDITION

THE USER'S RESPONSIBILITY

The information, advice and instruction contained in this Manual are published because the user of a motor car needs them. But if the user fails to heed the advice given, the loss is not wholly his but partly ours as well.

The Cadillac car in the hands of an operator who will give it the reasonable consideration to which it is entitled, and which every car requires, will run as smoothly and as quietly as is possible for any motor car to run. No car will give more satisfaction nor will any car stand more abuse. But no car can be expected to stand continual abuse without resenting it sooner or later.

We want Cadillac cars to render unfailing service and satisfaction. They are built for that purpose but the user must do his part after the car comes into his possession. We furnish a car that is capable of rendering the best of service and we furnish the instructions which will guide the user toward obtaining that service. But if he persists in ignoring these instructions and in substituting his own ideas there is no one but himself upon whom he can rightfully place the responsibility for any difficulties which may result.

There is a wealth of information, advice and instruction contained in this Manual. There is much that the owner may never have to use, but it is here to be used in the event that it is needed. There is other information which a user cannot get along without, no matter how much he may think he knows, nor how much previous automobile experience he may have had.

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LICENSE DATA

The following information may be found useful in making license application:

No. of cylinders.....8 Piston displacement.....314 cu. in.
Cylinder bore.....3½ in. Stroke .....5½ in.

Horsepower (S. A. E. rating) 31.25

Engine number:

The engine number is stamped on the crankcase just back of the right hand block of cylinders and also on the aluminum casting directly back of the fan hub. The engine number of each Type 57 car begins with the figures "57."

Wheelbase:

Seven-Passenger, Phaeton, Roadster, Victoria, and Brougham.125 in.
Limousine, Imperial, Landaulet, Town Limousine, Town Landaulet .....132 in.
Long chassis .....145 in.
Tread ..... 56 in.

Part I

OPERATION AND GENERAL CARE

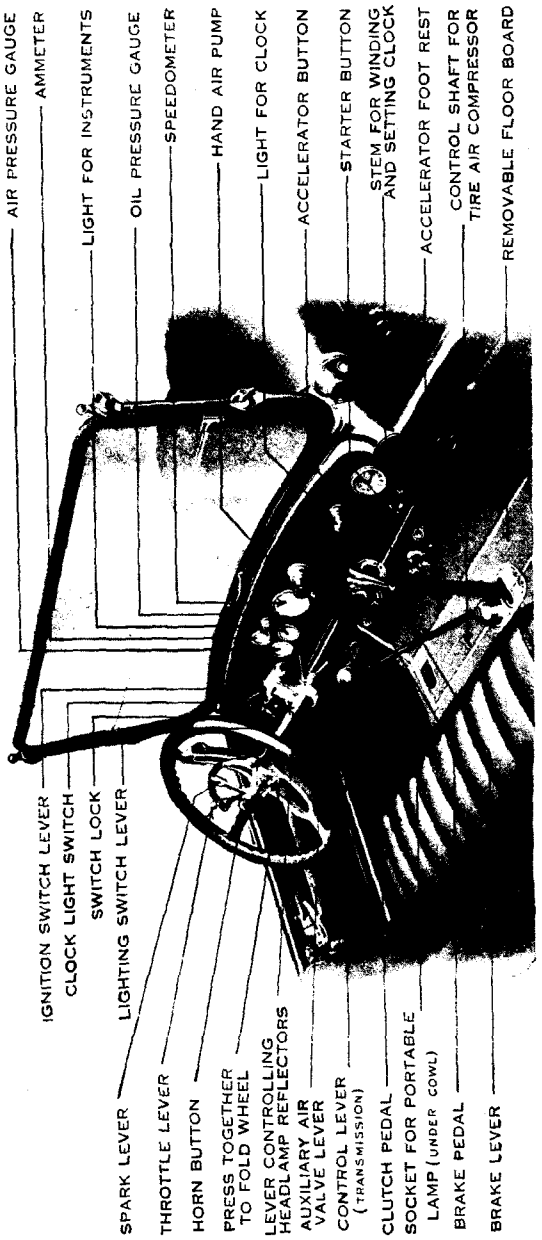


Fig. 1. Instruments, Control Levers and Pedals on Standard Seven Passenger Car.

DRIVING AND CARING FOR A MOTOR CAR

Driving an automobile does not mean simply starting, steering and stopping. To drive an automobile properly requires an understanding of the principles involved and the exercise of intelligence and judgment.

We believe that we are safe in saying that, with well designed and correctly built automobiles, 95 per cent. of so-called troubles are directly traceable to lack of lubrication, abuse, carelessness, a lack of understanding of the principles involved and improper handling generally.

Some drivers seem to think that so long as the car "goes" that is all there is to it. It is not.

To begin with, the driver should study the construction of his car and thoroughly acquaint himself with its mechanism, the functions of its various parts and the "why" of everything connected with it. If he understands these he is better able to realize why certain things must be done and why certain other things must not be done, if he is to obtain the most satisfactory results, the greatest efficiency and the greatest economy, together with durability and long life of the engine and car. Remember that the difference between a comprehensive understanding of your automobile and the superficial knowledge possessed by many drivers is the difference between having troubles and not having them.

The old adage, "A stitch in time saves nine," applies with special significance to the motor car. Intelligent care and proper attention will often correct a *needed adjustment or lubricate a part that is becoming dry, but which, if neglected,* may cause serious and possibly expensive damage.

On the other hand is frequently found the user who is constantly tinkering with his car when there is no necessity for it. Avoid both extremes. If, after seeing that all parts are properly lubricated and that all bolts, nuts and screws are tight, your car is running well, let it alone. Many users drive their Cadillacs for months without finding an adjustment necessary. If adjustment seems necessary and you are not sufficiently acquainted with the construction of the car to know what adjustment is necessary or how to make it, *don't experiment* but take the car to a Cadillac service station.

The most important thing in the care of an automobile is its proper lubrication. It will be readily understood that where one part moves or works upon another, there is always more or less friction and these parts must be oiled more or less frequently. Part Two of this Manual gives detailed instructions regarding lubricating. Be sure to read and observe them carefully.

Care is also necessary to see that all nuts, bolts and screws about the car are kept properly tightened. Most important parts subject to wear are, wherever possible, provided with adjustments for taking up such wear and these should be inspected occasionally and receive attention whenever required.

By far the greater portion of "automobile troubles" is the result of negligence and carelessness, while the reasonable care to which any piece of machinery is entitled will insure long life and satisfactory service.

PLACING CAR IN RUNNING CONDITION

Before cars are shipped from the factory the gasoline tank and the cooling system are drained. When the car is received and before it is placed in use, the supply of gasoline and water must be replenished. During freezing weather the cooling system should be filled with an anti-freezing solution instead of water. (See under "Anti-Freezing Solution," page 32.)

The car should also be thoroughly lubricated in accordance with the instructions contained in this Manual. (See under "Lubrication," page 35.)

Filling Cooling System

Fill the cooling system with clean water during warm weather and with a suitable anti-freezing solution during freezing weather. (See under "Anti-Freezing Solution, page 32.)

To fill the cooling system, replace the drain plugs "H," Fig. 40, in the water pumps, close the drain cocks "K" in the cylinder blocks and turn the shafts "L" so that the indicators on the ends of the shafts point up. The shafts may be turned in either direction.

Then remove the filler cap "W" from the top of the radiator and fill the cooling system. Replace the filler cap and screw it down firmly. *This is important.* (See under "Condenser," page 55.)

After the cooling system is filled, turn the shafts "L" on the water pumps so that the indicators on the ends of the shafts point down.

To fill the radiator condenser, which is attached to the right hand side of the frame, take out the removable floor board just forward of the control lever and replace the drain plug "R," Fig. 40, in the pipe leading from the bottom of the condenser. Then remove the filler cap "V" at the top of the condenser and fill the condenser one-half full, using the same liquid as in the radiator. Replace the condenser filler cap making sure that the vent hole in the side of the cap is open.

Caution:—Do not use water in the cooling system during freezing weather. Use a good anti-freezing solution. Water will freeze even though the engine be run continuously.

Filling Gasoline Tank

The gasoline tank is at the rear of the car. (See Fig. 36.) The filler cap may be removed after loosening the thumb screw on the top of the cap.

Gasoline should be strained through a wire cloth of very fine mesh before it is poured into the tank. If dirt or water is allowed to enter the gasoline system it may cause great annoyance by getting under the carburetor inlet needle and causing the carburetor to flood.

After filling the tank, screw on the filler cap and carefully tighten the thumb screw. This is necessary to prevent leakage of the pressure by which the gasoline is forced to the carburetor.

GENERAL OPERATION

STARTING THE ENGINE

Be sure that the transmission control lever is in neutral position and that the hand brake is set. (See Fig. 1.)

Note the pressure of air in the gasoline tank. (This is indicated by the gasoline pressure gauge on the instrument board.) If the pressure is less than one pound, it should be increased to that pressure by means of the hand air pump. After the engine is started the pressure is automatically maintained.

Place the spark lever in the driving range on the sector (in extremely cold weather place the spark lever at the extreme right on the sector), and the throttle lever about two inches from the extreme left. (See note below.) Move the ignition switch lever down, thereby switching on ignition. Then push down on the starter button. This will bring the starter into operation and will cause the engine to "turn over." (See below under "Caution.")

In cool weather, also in warm weather, if the engine has been standing for some time, pull back the auxiliary air valve lever before you press the starter button.

As soon as the engine fires and commences to run under its own power, which should be in a few seconds, remove your foot from the starter button.

If the auxiliary air valve lever is pulled back when starting the engine, it should be pushed forward about one-half the way immediately the engine starts, and all the way forward as soon as the engine is warm enough to permit doing so.

If the engine does not start in thirty seconds, do not continue to crank, but look for the cause. You may have forgotten to turn on the switch, or maybe you have no gasoline, or there may not be sufficient air pressure in the gasoline tank to force gasoline to the carburetor. No matter how sure you feel, look and see. Bear in mind that the starter will crank the engine only. Ignition and gas must be present to make it run.

Additional suggestions for starting the engine in cold weather will be found on page 31 under "Cold Weather Suggestions."

Note:—If you crank the engine by hand always place the spark lever at the extreme left on the sector. If this caution is not observed a "back kick" may occur, resulting in injury to the person cranking.

Caution

The action which causes the engine to "turn over" is produced by a gear of the electric motor sliding into mesh with teeth on the flywheel; similar to the meshing of the gear teeth in the transmission. When pushing down on the starter button to throw these gears into mesh, if it should happen that they are in just such positions that the ends of the teeth of the starter gear come against the ends of the teeth on the flywheel instead of the teeth of one sliding between the teeth of the other, do not force them. Simply remove your foot from the starter button and again push down on the button. In the meantime the gears will probably have changed their relative positions sufficiently to allow the teeth to mesh.

Do not press the starter button while the engine is running.

GEAR SHIFTING

As the Cadillac transmission is of the selective type, the operator may shift from any gear to any other gear without "going through" a third. It must be borne in mind, however, that the clutch must be released before the gears can be shifted. The clutch pedal is the left pedal.

Referring to Figure 2, the ball at the top of the transmission control or gear shifting lever is shown at "N" in the neutral position, "L" in the low gear position, at "I" in the intermediate gear position, at "H" in the high gear position and at "R" in the reverse gear position.

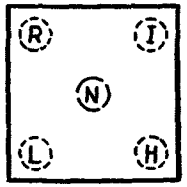


Fig. 2.
Control Lever Positions.

Starting the Car

To start the car, push forward on the left pedal which is the clutch pedal, thereby releasing the main engine clutch. Then disengage the hand brake by means of the hand lever—still holding forward on the clutch pedal. If the car is standing on a grade it will be necessary to hold it with the foot brake until ready to start. Next place the control lever in the low gear position. (Fig. 3.)

To do so, move the lever as far as possible to the left and then pull it back as far as it will go. Then open the throttle slightly by means of the accelerator pedal or the throttle lever at the steering wheel, and engage the main clutch gradually by allowing your foot to come towards you.

If it should so happen that the transmission gears which mesh to make low gear are in just such positions that the ends of the teeth of one gear come against the ends of the teeth of the other gear instead of the teeth of one sliding between the teeth of the other, do not force them, but place the transmission control lever back in the neutral position, engage the clutch by allowing the clutch pedal to come all the way towards you, again release the clutch and again attempt to shift into low gear as above directed.

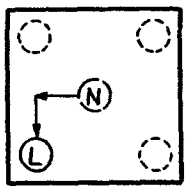


Fig. 3.
Neutral to Low Gear.

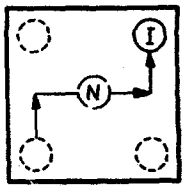


Fig. 4.
Low Gear to Intermediate Gear.

After the car is under way on low gear, release the clutch and shift the control lever into the intermediate gear position. (Fig. 4.) To do this move the lever back to the neutral position, then to the right and push it forward as far as it will go. Then engage the clutch. In shifting from low to intermediate gear, it is advisable to pause for a moment in the neutral position before shifting into intermediate, if you notice a tendency of the gears to clash.

After the car is under way on the intermediate gear, release the clutch and shift to the high gear position. (Fig. 5.) To do this simply pull the control lever straight back from the intermediate gear position. Then engage the clutch.

Reversing

If you desire to start the car backward, release the clutch and place the lever in the reverse gear position. (Fig. 6.) To do this from the neutral position, move the control lever to the left and push it forward as far as it will go. The throttle should then be opened slightly and the clutch allowed to engage slowly as directed when starting on low gear.

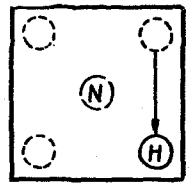


Fig. 5.
Intermediate Gear to High Gear.

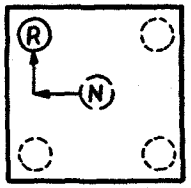


Fig. 6.
Neutral to Reverse Gear.

Shifting into Lower Gear

If, when ascending steep grades or pulling through soft mud roads or deep sand, the speed of the car is reduced until the engine labors, release the clutch and shift the control lever into the intermediate gear position. To do this push the control lever forward as far as it will go. Then engage the clutch. It is best to allow the car to slow down before making the shift and then after releasing the clutch to shift the lever quickly.

An experienced driver may find it more satisfactory to shift from the high gear position to the intermediate gear position in the following manner:

Release the clutch, place the control lever in the neutral position, engage the clutch at the same time slightly accelerating the engine; then release the clutch again and *instantly* shift the control lever into the intermediate gear position. Engage the clutch.

This entire change may be made in less time than it takes to read these instructions by one who becomes familiar with the method. Shifting in this manner may be accomplished satisfactorily at a higher speed than is allowable when the control lever is shifted directly into the intermediate gear position in the usual manner. However, it is not recommended that the operator shift from high to intermediate gear in this manner until he has had considerable experience in making this shift in the ordinary way.

Stopping the Car

First close the throttle and then release the engine clutch by pushing forward on the left pedal. Next shift the transmission control lever to the neutral position. The clutch may then be allowed to re-engage. Then stop the car by pushing forward on the right pedal which applies the foot brake. After the car has been brought to a stop by the foot brake, apply the hand brake by means of the hand brake lever.

Don'ts for Transmission Operation

Do not attempt to shift from neutral to any gear, or from one gear to another gear without first releasing the clutch.

Do not attempt to shift from the reverse gear to any other gear when the car is moving.

Do not attempt to shift from any forward gear to the reverse gear when the car is moving.

Do not attempt to shift from the high gear to the low gear when the car is moving.

Do not shift from the low to the high gear. This is mechanically possible but is not advisable.

Do not attempt to shift from the intermediate gear to the low gear when the car is moving, unless it is moving very slowly. Ordinarily it is best to stop the car altogether before shifting from the intermediate gear to the low gear.

Do not attempt to shift from the high gear to the intermediate gear when the car is running at a high rate of speed. Allow the car to slow down before shifting gears.

Do not drive with your foot resting on the clutch pedal. The operation of the clutch has purposely been made extremely easy and even a slight pressure may release it sufficiently to cause it to slip.

Do not engage the main clutch suddenly. This causes excessive strain on the entire driving mechanism. Always allow the clutch to engage gradually.

STOPPING THE ENGINE

After stopping the car and applying the hand brake, move the ignition switch lever to the horizontal position and at the same time pull back the auxiliary air valve lever. Pulling back the auxiliary air valve lever when stopping the engine "enriches" the mixture which is drawn into the cylinders and makes it easier to start the engine the next time.

OPERATION OF ENGINE

General Principle

The production of power by the Cadillac engine may be described briefly as follows:

Gasoline is forced by air pressure from the tank to the carburetor. The carburetor is the instrument by the action of which gasoline is mixed with air in the proper proportion forming an explosive vapor or gas. The gas thus formed is drawn through the intake pipe and through the inlet valves into the cylinders of the engine where it is compressed and ignited by electric sparks, the pressure of the resulting explosions producing the power.

The quantity of gas supplied to the engine is regulated by a throttle valve at the carburetor which is operated by means of the throttle lever at the steering wheel (the throttle lever is the longer of the two), or by the accelerator button at the right of the brake pedal.

The Four-Cycle Engine

The Cadillac engine is of the four-cycle type, that is, there are four movements or strokes of each piston and two revolutions of the flywheel to complete each power producing cycle. The four strokes of the cycle each have a different function and follow one another in the same order as follows:

Suction Stroke. The suction stroke commences with the piston at its highest point in the cylinder and with the inlet and exhaust valves closed. Immediately the piston starts to descend the inlet valve opens and through this valve a charge of gas from the carburetor is drawn into the space above the piston.

Compression Stroke. As the piston starts upward again after completing the suction stroke, the inlet valve closes. As there is then no escape for the gas in the cylinder it is compressed, the maximum compression being reached when the piston is at the top of its stroke.

Power Stroke. At the completion of the compression stroke, the spark takes place at the spark plug, igniting the compressed charge of gas. The heat resulting from the rapid combustion causes the pressure of the confined gas to rise almost instantaneously to several times its pressure before the explosion. This pressure exerted on the piston forces down the piston and produces the impulse which is transmitted by the connecting rod to the crankshaft, causing it to rotate.

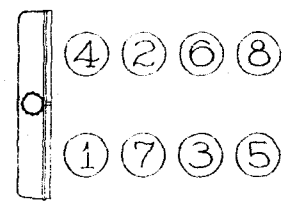


Fig. 7. Firing Order.

Exhaust Stroke. Just before the piston reaches the end of the power stroke, the exhaust valve opens. It remains open as the piston travels upward again on the exhaust stroke, driving the burned gas out from the cylinders. By the time the piston has reached its highest point it has forced out the burned gas and the exhaust valve closes. Having completed the four strokes, the piston is now ready to draw in a new charge and to repeat the cycle.

The same cycle of events takes place in all of the cylinders but no two pistons are at the same point in the cycle at the same time. In the Cadillac Eight Cylinder V-Type engine, the impulses in the eight cylinders are so timed that a power stroke is begun every quarter turn of the crankshaft. In other words, the crankshaft receives four overlapping impulses every revolution. The order in which the impulses take place is shown in Fig. 7.

Automatic Spark Control

When each piston is at its highest position in the cylinder is, of course, the time when the charge is at its greatest compression, or, in other words, when the gas is "jammed in the tightest." Ignition occurring exactly at this instant produces a much more forceful explosion than if it occurred at a time when the charge was not so tightly compressed.

If the charge were ignited the instant the contact is made in the ignition timer, regardless of the speed of the engine, the spark could be set permanently in one position and would not require changing. But a certain amount of time elapses from the instant the circuit is closed at the ignition timer until the charge is ignited in the cylinder. While this time is but the merest fracton of a second, in fact, almost infinitesimal, yet it is time just the same and must be taken into account when dealing with such a rapidly acting mechanism as an automobile engine.

The lapse of time required to ignite the charge is always the same regardless of the speed of the engine and pistons. You will realize that when the engine is running, say 3000 R. P. M., the pistons are traveling many times as fast as they do when it is running only 300 R. P. M. and that when the engine is running 3000 R. P. M. it is necessary to start the ignition process earlier.

In the Cadillac this is accomplished by means of a ring governor located directly under the ignition timer. (See Fig. 50.) As the speed of the engine increases, the ring in the governor assumes a position more nearly horizonal, forcing the timer contact cam slightly ahead on the shaft by which it is driven. This causes the timer contact points to break earlier, thereby starting the ignition process earlier in relation to the positions of the pistons. When the engine slows down, the ring in the governor assumes a position more nearly vertical, forcing the contact cam back on the shaft by which it is driven, causing the contact points to break later and thereby starting the ignition process later in the strokes of the pistons.

Manual Spark Control

The automatic control takes care of the spark position for all ordinary driving. A spark lever is provided, however, by which the ignition timing may be still further advanced or retarded. The spark lever is the shorter lever just above the steering wheel.

Ordinarily the spark lever should be carried in that portion of the sector marked "Driving Range." To get the best results, however, the spark lever should be retarded further for extremely low speeds and advanced further for extremely high speeds. The car should be driven at all times with the greatest possible spark advance which the speed of the engine will permit.

Advancing the spark too far for a given engine speed will usually cause a slight pounding noise, which is sometimes not noticed by the beginner as it is usually but slight, owing to the substantial character of the crankshaft and bearings.

When starting the engine, place the spark lever in the "Driving Range" on the sector except during extremely cold weather when it should be placed at the extreme right or in the fully advanced position. If the engine should be cranked by hand, the spark lever should be placed at the extreme left on the sector or in the fully retarded position. If this caution is not observed a "back kick" may occur, probably resulting in injury to the person cranking.

DRIVING SUGGESTIONS

Rules of the Road

Road and traffic laws vary greatly in different localities. It is, therefore, impossible to set down a complete list of rules which may be followed in all parts of the country. The following are some of the rules which are practically universal in all parts of the United States.

In meeting a vehicle going in the opposite direction *pass to the right.*

In passing a vehicle going in the same direction *pass to the left.*

Always stop with the right hand side of the car next to the curb. If it is necessary to turn around to do this it should be done.

Never turn around or turn off onto another road without making absolutely sure that there is no other vehicle directly behind you.

Never enter upon street car tracks without making sure that there is no car directly behind you—*no matter how sure you feel, look and see.*

Do not cross street car or steam railroad tracks without making sure that it is absolutely safe to do so.

In crowded traffic do not apply the brakes suddenly unless it is absolutely necessary. It may be that the vehicle following you cannot stop as quickly as you can. If this is the case a collision is sure to result.

On wet asphalt streets or slippery roads do not apply the brakes suddenly unless it is absolutely necessary. If the brakes are applied suddenly under these conditions disastrous skidding is apt to occur.

In crowded traffic it is a good plan to signal cars at the rear, before turning, slowing down or stopping.

It is a good plan to slow down in passing vehicles going in the opposite direction.

One of the most essential things to remember is that you should *never "take a chance."* You will find that the more experienced drivers never permit themselves to take a chance.

Coasting

To coast on the level, close the throttle and then release the main engine clutch by pushing forward on the left pedal.

When descending grades a good method is to close the throttle and, with the clutch engaged, allow the engine to do the holding back as much as possible. This saves much wear on the brake band lining.

When descending steep grades, the resistance offered by allowing the car to drive the engine when "high gear" or "direct drive" is engaged is usually sufficient to control the speed. When the engine does not offer sufficient resistance the speed may be further checked by applying the foot brake.

When it is necessary to descend a very steep grade it is best to engage the intermediate or possibly the low speed gears *before commencing the descent,* and if the resistance of the engine thus obtained is not sufficient, supplement it by the foot brake. Bear in mind that the more the resistance of the engine is used in coasting the longer the brake band linings will wear and the brakes retain their adjustment.

The principle of this method will be understood when you realize that the same combination of gearing which changes the ratio between the engine shaft and the rear axle, which makes it easier for the engine to drive the car, will, when the car is compelled to drive the engine, have exactly the opposite effect, which is the case when the above method is used in descending a hill.

Don'ts for General Operation

Don't run the car at sustained high speed when it is new.

Don't put oil in the engine without first straining it through cheese cloth or fine wire mesh and making sure that it is free from dirt and lint.

Don't allow the clutch to engage suddenly.

Don't prime the carburetor too much.

Don't attempt to shift from neutral to any gear, or from one gear to another gear without first releasing the clutch.

Don't attempt to shift from the reverse gear to any other gear when the car is moving.

Don't attempt to shift from any forward gear to the reverse gear when the car is moving.

Don't attempt to shift from the high gear to the low gear when the car is moving.

Don't attempt to shift from the intermediate gear to the low gear when the car is moving, unless it is moving very slowly. Ordinarily it is best to stop the car altogether before shifting from the intermediate gear to the low gear.

Don't push the starter button when the engine is running.

Don't turn the steering gear when the car is standing. This is not only unnecessary but is also bad practice.

Don't fail to investigate any unusual sound which may develop in the car. The car should be inspected at the service station of a Cadillac distributor or dealer.

Don't neglect to inspect the level of the acid in the storage battery every 1,000 miles.

Don't turn corners at high speed.

Don't neglect to keep the cooling system filled with water and with a good anti-freezing solution in cold weather.

Don't drive fast or attempt to stop suddenly on wet pavements.

Don't attempt to start the engine with the switch turned off, without air pressure or without gasoline in the tank.

Don't fill the lubricating system in the engine only and neglect to lubricate all other parts of the car.

Don't neglect the lubrication of any part of the car.

Don't neglect to keep the tires properly inflated.

Don't race the engine when it is not driving the car. There is no worse abuse.

BODY AND TOP

Care of Finish

The best materials are used in finishing Cadillac cars. These are applied in the most expert manner. In spite of these facts, it cannot be expected that the finish will stand up unless it is given proper attention.

The finish of an automobile requires more careful and frequent attention when the car is new than when it is older and the varnish is harder.

You should be particularly careful to keep mud from the body and hood of the car while new. Have the car washed immediately in case mud spatters on it.

The following instructions should be followed very carefully when the car is washed:

Always use clean water. Never use water containing alkali. In parts of the country where the regular water supply consists of "alkali" water, rain water should be used for washing the finish.

Never use water colder than forty degrees or warmer than sixty degrees. If a hose is used in washing, never have a greater pressure than will carry the water six inches beyond the end of the hose. Water under greater pressure will drive the grit and dirt into the varnish.

A soft, Rock Island natural sheep's wool sponge is the best for washing the body and hood of the car. Begin at the top of the body panels and thoroughly wet the surface all over with water from the sponge. Continue until the accumulation of road dirt softens up and gives way.

Use clean water continually, and plenty of it. Go over the surface with plenty of water two or three times until the surface is perfectly clean.

Do not wash the hood while it is hot. The effect is the same as washing it with hot water. Unless the hood is allowed to cool before washing the luster will soon disappear.

Dry off with a clean soft chamois. Do not rub the finish or use hand pressure more than sufficient to dry off the water. The water evaporates quickly and leaves the finish in good condition.

Wash the car frequently, especially when it is new, as often, in fact, as the car returns from the road with a soiled appearance. This practice in the case of a new car, heightens the brilliancy of the finish, hardens it, keeps it from spotting and adds greatly to the general appearance of the car.

Do not wash the glass of the windshield or the glass of the enclosed cars with preparations which may contain harmful ingredients. Use only cleaning compounds which are known to have no destructive effect on the highly polished surface of the glass.

Seat Cushions

The easiest and best way to replace a seat cushion is to first place the front side of the cushion against the retaining strip on the seat and then to force the rear end of the cushion into place.

Body Bolts

As the body bolts become more firmly seated after the car has been operated, it is a good plan to tighten all of the body bolts at the end of the first 1000 miles of travel.

TOP AND SIDE CURTAINS

Folding Top

Unbutton the rear curtains "A," Fig. 8, from the bows and also from the top of the body. Fold the curtains in smoothly against the back curtain. Open the top rest clamps "B."

Release the front end of the top from the windshield standards by loosening the clamps at "C." After the top is released tighten the clamps again to prevent them from rattling.

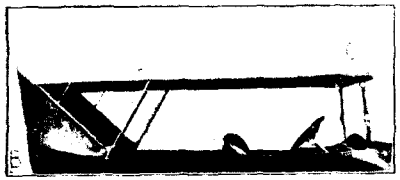


Fig. 8. Top in Raised Position.

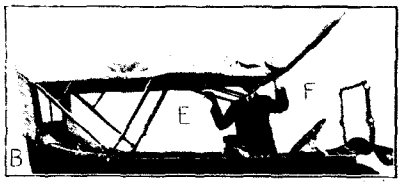


Fig. 9. Top Partially Folded, First Position.



Fig. 10. Top Partially Folded, Second Position.

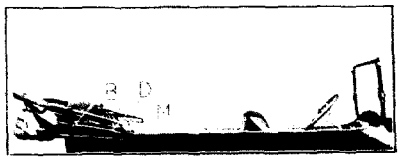


Fig. 11. Top Folded.



Fig. 12. Top Partially Raised, First Position.

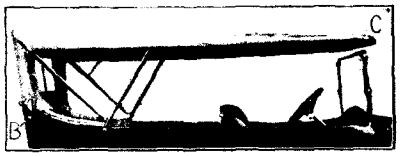


Fig. 13. Top Partially Raised, Second Position.

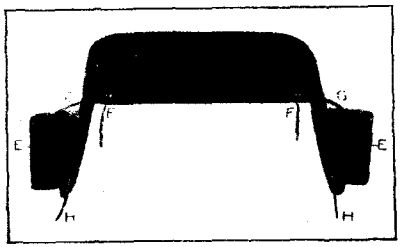


Fig. 14. Dust Hood.

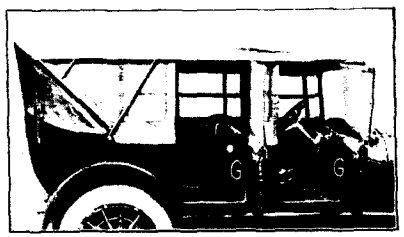


Fig. 15. Side Curtains in Place.

"Break down" the joints at each side of the horizontal bow by pushing up with one hand on the bow at "F," Fig. 9, and pulling down with the other hand at "E." Fold the front part of the top back until it closes as shown in Fig. 10. Insert the pins on the sockets of the center bow in the holes at "D."

Carefully lower the top into the top rests, being careful to tuck the material between the bows so that it rests smoothly and is not pinched. (See Fig. 11.) Then close and lock the top rest clamps "B."

Unfold and open up the dust hood (Fig. 14) so that the flaps, "E" are at the top. Draw the hood on over the folded top and tuck the flaps down between the bows and the body, taking care not to scratch the body. Be careful to draw the hood up evenly on both sides. Loop the straps "F" on the under side of the dust hood around the lower bow on each side, draw them tight and buckle. Pass the straps "G" through the top rest clamps "B," Fig. 11. Pass the straps "H" through the loops on the nuts "M" on the top supports just back of the rear doors. Button the snap fasteners on the lower edges of the flaps under the bows.

Raising Top

Unbutton the fasteners along the lower edges of the parts of the dust hood protecting the bows at the sides. Unbuckle all the dust hood straps and carefully pull off the dust hood from the rear.

Open the top rest clamps "B," Fig. 11, and release the pins from the holes at "D."

Then, standing behind the car as shown in Fig. 12, push up and forward on the rear bow. The top should then assume the position shown in Fig. 13. Pull down the front end of the top until the ball on each windshield standard is well into the socket attached to the top bow and tighten the clamps "C."

Place the rear curtain "A," Fig. 8, in position and button the fasteners on the body and also on the rear bows. Close and lock the top rest clamps "B."

Lubrication of Top Joints

It may be found, after use, that the joints of the top require lubrication. When lubricating the joints you should be very careful not to get oil on the top material and not to put too much oil on the joints, which will afterwards run out onto the top material. Wipe the joints off carefully after lubricating.

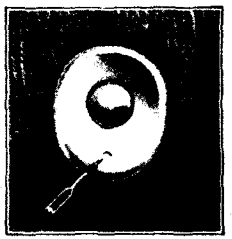


Fig. 16. Curtain Fastener.

Side Curtains

The front curtains are carried in the top just back of the windshield and the remainder of the curtains at the extreme rear part of the top. Each section of the curtains is tagged to indicate where it belongs.

Removable supporting rods are provided for the doors to carry the side curtains when the doors are opened. The supports are attached without screws or bolts, simply by inserting them in the brackets at "G," Fig. 15.

The curtains are fastened in place with fasteners of two kinds. One of these is the usual "glove fastener" type, which snaps on and off. The other type of fastener becomes locked on three sides when snapped into place and must be lifted on the side which is not locked in order to release it. This side is indicated by a small projection on the fastener as shown by the arrow in Fig. 16. This type of fastener cannot be released by lifting it at any other side.

Before the curtains are stowed away they should be dry and clean.

WINDSHIELD POSITIONS

For Inclement Weather

The normal position of the windshield for inclement weather is with the upper and lower sections closed and with the removable rubber strip between the glasses. If, as the result of rain or snow on the windshield glass, it becomes impossible to see through it, the upper section may be tilted out at an angle. This is known as the "rain vision" position. The driver may then look between the sections of the shield, at the same time being protected to some extent from the rain and snow. The clamping nuts at the top of the windshield standards must be loosened before the upper section can be tilted and should be tightened after it is in the desired position to hold it in place.

For Ventilation

There is a row of rectangular slots through the cowl just back of the windshield. When ventilation in the driver's compartment is desired, the lower section of the windshield should be tilted *in* at a slight angle so that the lower edge is just back of the ventilating slots in the cowl. If it is desired, the lower section may be tilted in at a greater angle. The clamping nuts half way up the windshield standards must be loosened before the lower section can be tilted and should be tightened after it is in the desired position.

If more ventilation is desired the upper section of the shield may be tilted toward the driver so as to deflect a current of air directly into the compartment.

SPEEDOMETER AND CLOCK

Speedometer

The speedometer on the instrument board registers on its three dials the rate at which the car is traveling, the total number of miles traveled by the car and a trip reading which may be reset to zero. The total mileage dial cannot be reset.

Do not under any circumstances attempt to lubricate the speedometer head. Any parts of the speedometer head requiring lubrication were amply supplied with lubricant before they were assembled. Do not, however, neglect the grease cup on the instrument end of the driving cable. (See under "Grease Cups," page 43.)

A repair man should never be allowed to attempt to adjust or repair the speedometer head. Repairs or adjustments are impossible without a special calibrating machine. The guarantee on the speedometer head does not hold good if the head is disassembled or tampered with.

If the speedometer head is removed for any reason, handle it with the same care that you would a fine watch. The speedometer head may very easily be damaged by rough handling.

If a new glass is necessary, or repairs or adjustments, remove the speedometer head, pack it carefully, and return it to the makers or one of their service stations or branches.

Clock

The clock is set and wound exactly as a stem winding watch. When setting or winding the clock use reasonable care.

With reasonable care the clock will stand the hard usage automobile service gives and to meet which the clock is constructed.

TIRES

Guarantee

The tires used on Cadillac automobiles are guaranteed by their respective makers. In case of claims, tires should be sent to the factory or any of the branches of the makers (not to us), transportation charges prepaid.

CARE OF TIRES

Each tire maker publishes a booklet with instructions for care and repair of tires and every motorist should provide himself with one of these and thoroughly familiarize himself with the contents. We give here suggestions that apply to pneumatic tires in general.

Probably 75% of so-called "tire trouble" is the result of misuse. In the following we have illustrated some of the more common causes of tire breakdown.

Result of Improperly Adjusted Tire Chains

Fig. 17 illustrates a tire which has been badly damaged through the use of tire chains which were improperly adjusted or fastened to the spokes holding the chains tightly in one place. You will note that the tread is cut through to the fabric, and in fact loosened up and torn badly in many places.

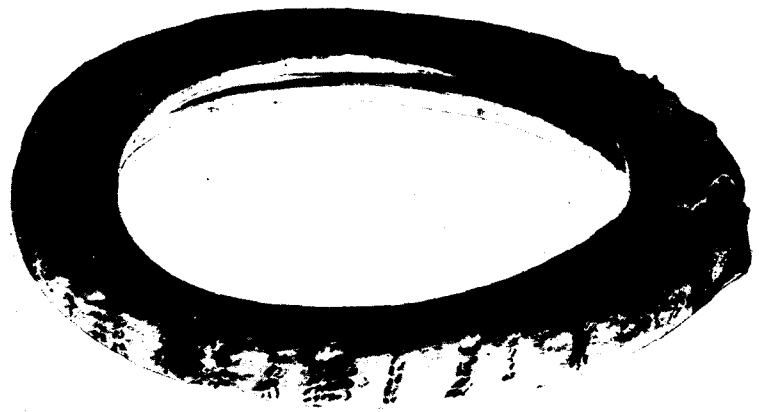


Fig. 17. Result of Improperly Adjusted Tire Chains.

The least injury results when chains are loosely applied, and have play enough to work themselves around the tire, distributing the chain on all points alike. Probably the greatest amount of injury comes from using chains unnecessarily on paved streets.

Neglect of Small Cuts

Fig. 18 illustrates a tire damaged from the neglect of two small cuts extending to the fabric. (Note the two prominent "bumps," which show plainly.)



Fig. 18. Result of Small Tire Cuts Which Were Neglected.

If cuts extending to the fabric are neglected, fabric deterioration and blistering of the tread is bound to result.

It is unnecessary to remove a tire to treat a small cut of this nature. Tire companies furnish a plastic compound for filling cuts, thus preventing moisture and dirt from getting to the fabric.

Result of Improperly Aligned Front Wheels

Fig. 19 shows the result of running a car with the front wheels out of alignment. This usually affects both tires similarly, although sometimes one tire only is affected. An improper adjustment of the parallel rod in front of the axle, or a bent steering arm is responsible for this condition. Unless the wheels are kept in proper alignment, the tread of the front tires will wear away in a remarkably short time.



Fig. 19. Result of Improperly Aligned Front Wheels.

If the front wheels are badly enough out of alignment, the entire tread of both front wheels may be worn off in less than 100 miles. If the wheels are only slightly out of alignment, the result is the same, although the wearing off is slower. (See under "Alignment of Front Wheels," page 88.)

Result of Sudden Application of Brakes

You will note from Fig. 20 that the tread and several plies of fabric have been worn or rather scraped off at one place. This has been brought about by sudden application of the brakes, which resulted in sliding the wheels. It is remarkable how soon a tire will give away from this severe treatment.



Fig. 20. Result of Suddenly Applying Brakes.

Result of Under Inflation

Fig. 21 shows the most common result of under-inflation. The lower the pressure in the tire the more the tire flattens out under load. This flattening causes the side walls of the tire to bend more sharply as the wheel revolves. The final result of this is the breaking of the fabric in the side walls as shown in the illustration. There are unquestionably more tires ruined from under-inflation than from any other cause.

Different makes and types of tires require a different air pressure. Instructions issued by the various makers should be followed.

Additional Suggestions

The tires are constructed for the purpose of carrying up to certain maximum loads and no more. Owners should realize, therefore, that overloading a car beyond the intended carrying capacity is sure to materially shorten the life of the tires.

Do not turn corners or run over sharp obstructions, like car tracks, at a high rate of speed. Such practice is sure to strain or possibly break the fabric, with the result that the further life of the tires will be limited. Remember that most tire troubles are the result of abuse more than use.

Avoid scraping the tires against the curb and running in ruts. This kind of wear scrapes off the rubber side wall and exposes the fabric to dirt and moisture which soon starts to rot the threads.

In turning in a narrow street, avoid striking the curb.

If a tire goes flat, see that the valve is not leaking. A little moisture on the tip will show bubbles if the air is escaping.

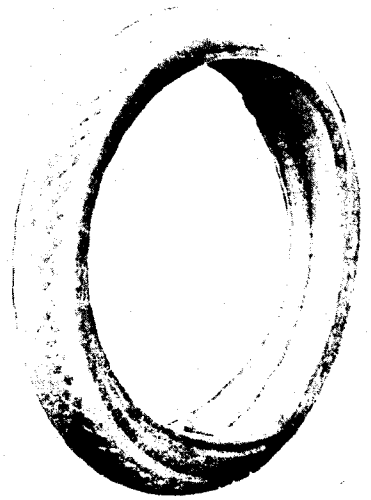


Fig. 21. Result of Insufficient Inflation of Tire.

In case of puncture, the car should be stopped at once and the tube repaired or replaced, or the tire replaced by the extra one. The tire should also be examined carefully and the cause of the puncture ascertained and the nail, glass or whatever it may be, should be extracted. Before replacing the tire on the rim, examine the inside of the casing to see that the cause of the puncture is not still protruding, because it would, if allowed to remain, continue to cut the inner tube. It is also advisable to look over the outside of the tires frequently and take out any pieces of glass or other particles which may have become imbedded in the casing.

Don't run in ruts or car tracks; the sides of a tire will soon wear out under such treatment. Avoid large stones or other obstructions in the road. To hit one of these may break the fabric even though no external injury be visible.

Experience has taught the careful driver to carry one or more spare tubes, as a cemented roadside repair will not always hold, especially in warm weather, as the heat generated in the tire may loosen the patch. When touring, a spare casing should always be carried.

The garage floor should be kept free from oil or gasoline. The tires on a car left standing on a grease-covered floor deteriorate quickly, the natural enemies of tires being oil and gasoline. These destroy the nature of the rubber, rendering it soft, so that it cuts and wears away quickly.

Tires that show wear on one side from use on rutty roads or from other causes may be turned around, thereby lengthening the life of the tire.

Spare tubes should be kept lightly inflated. This keeps them in good condition and prolongs their life. They should not be stored in a greasy tool box under any circumstances.

If the car is not used during the winter, it is better to remove the tires from the rims, keeping casings and tubes in a fairly warm atmosphere away from the light. It will be better to slightly inflate the tubes, as that keeps them very nearly in the position in which they will be used later on.

If the tires are not removed and the car is stored in a light place, it will be well to cover the tires to protect them from the strong light, which has a deteriorating effect on rubber.

The greatest injury that can be done to tires on a car stored for the winter is to allow the weight of the car to rest on the tires. The car should be blocked up, so that no weight is borne by the tires, and the tires should then be deflated partially. This will relieve the tires of all strain, so that in the spring they should be practically no worse for the winter's storage.

TIRE HOLDER

The tire holder is designed to carry two standard size tires inflated on rims.

To remove the tire with rim, remove the lock and then unscrew the clamp as far as it will go. Move the bottom of the tire back until it is entirely free from the holder. The tire then may be removed by slightly lifting it straight up.

To put a tire on the holder proceed in the reverse manner.

Care should be used not to allow the inner tire to strike the body of the car when removing or replacing it.

TIRE AIR COMPRESSOR

Operation and Use

The air compressor for the tires is bolted to the left hand side of the transmission case. It is driven by a sliding gear which meshes with the reverse idler gear. The sliding gear is thrown into or out of mesh with the transmission gear by a shaft extending up through the front floor boards at the left of the transmission control lever, and just back of the brake pedal. (See Fig. 1.) The head of this shaft has a screw-driver slot which permits the shaft to be turned easily.

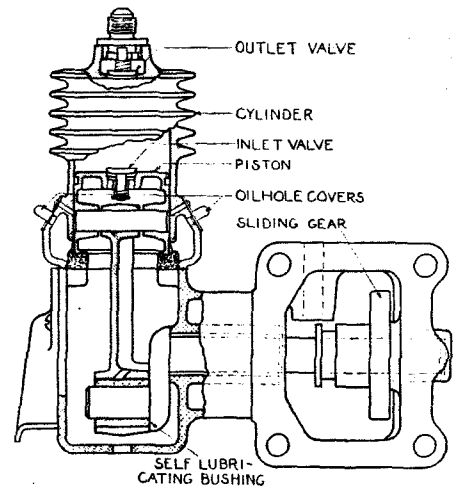


Fig. 22. Tire Air Compressor, Sectional View.

To use the compressor, first attach the air hose to the air connection . (See Note.) Then connect the other end of the hose to the valve of the tire to be inflated. Do not connect the hose to the tire first or the air will escape from the tire before the pump end is connected. Then bring the compressor into operation proceeding as follows:

First, either stop the engine or release the clutch and hold the clutch pedal down until you are sure that the transmission gears have ceased to rotate, then, with the engine not running or with the clutch pedal still held down, turn the slotted head of the shaft in a clockwise direction as far as it will go. This will throw the sliding gear into mesh with the reverse idler gear.

Then start the engine, or in case the engine is running, engage the main clutch, first being sure that the transmission control lever is in the neutral position.

The engine should be run at a speed between 900 and 1100 revolutions per minute when the compressor is in operation. (If the third brush on the motor generator is properly adjusted, the correct speed of the engine may be determined by noting the ammeter on the instrument board. When the engine is running between 900 and 1100 revolutions per minute the ammeter should indicate a charging current of 16 to 18 amperes with all lights switched off.) Do not race the engine when inflating tires.

Do not turn the slotted head of the shaft to mesh the compressor gear when the engine is running and the clutch engaged. If this is attempted it will probably result in stripping the compressor driving gear.

To throw the compressor driving gear out of mesh, turn the slotted head of the control shaft in a counter-clockwise direction.

Note:—The connection for the air hose is in the tool box of cars fitted with the dust shield tool box, and in the left hand dust shield just back of the battery box cover on cars in which the tool box is under the front seat.

Lubrication

The compressor piston is lubricated through two oil holes—one in front of the compressor cylinder and one just behind. Each oil hole is protected by a small sliding cover.

Apply engine oil at these points every 1000 miles, or oftener if the pump is used frequently. (See Fig. 22.)

DEMOUNTABLE RIMS

Demounting Rim with Tire

Jack up the axle until the wheel is free from the ground. Then remove the valve cap; loosen the eight clamp nuts, with the brace wrench furnished with the tool kit, and turn each clamp to the left until it strikes the stop pin in the felloe band. Turn the wheel so that the valve is at the top and pull the bottom of the rim towards you until it clears the wheel. The rim with tire can then be removed by lifting it straight up. (Fig. 23.)

Mounting Rim with Tire

If the rim you are mounting has no split clamping ring, take the one from the rim you have removed. Turn the wheel so that the hole for the valve stem is at the top. Hold the rim so that the valve stem is at the top and so that the rim joint latch and the clamping ring are towards you. Insert the valve stem in the valve stem hole in the wheel and then push the bottom of the rim into place. (Fig. 24.)



Fig. 23.
Demounting Rim from Wheel.



Fig. 24.
Mounting Rim on Wheel.

Turn each clamp to its original position and turn the clamping ring so that the split in the ring comes directly under one of the clamps. Tighten each clamp slightly. Then continue around the wheel, tightening each clamp firmly. Screw on the valve cap.

If the rim does not run true, mark the part that runs "out" from the face of the wheel. Then slightly loosen the clamps diametrically opposite this part and tighten the clamps at the marked part. Proceed in this manner until the rim does run true.

Removing Tire from Rim

The tire may be removed without removing the rim from the wheel.

Deflate the tire. Then open the lock with the pointed end of the tire tool or with a screw-driver.

Raise one end of the ring with the tool as shown (Fig. 25) until the lug is clear of the slot in the rim.



Fig. 25. Removing Tire from Rim, First Position.



Fig. 26. Removing Tire from Rim, Second Position.

Raise the end of the ring further and force the lug out over the edge of the rim. (Fig. 26.)

Start at the end of the ring, which is out of the groove, and remove the entire ring from the rim. (Fig. 27.) (See note.)

Turn the wheel until the valve stem is at the top, and pull the lower part of the tire towards you until it is clear of the rim. The tire may then be removed from the rim by lifting it straight up.

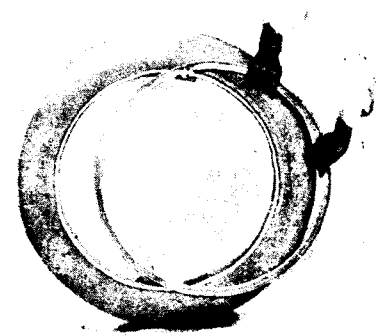


Fig. 27. Removing Tire from Rim, Third Position.

Note—In removing the ring from the rim, care should be taken to avoid opening the ring beyond its elastic limit. When the ring is free from the rim the ends of the ring should overlap from ½ to 1½ inches, which it will not do if it has been stretched in removal.

If the ends of the ring do not overlap they should be closed together before replacing. If this is not done there is a possibility of the lock failing to properly engage the lugs on the ends of the ring, which might later be the cause of an accident.

Caution—Do not attempt to remove a tire from a demountable rim without first completely deflating the tire. Serious personal injury may result if this is attempted.

Placing Tire on Rim

If the demountable rim is on the wheel, jack up the axle and turn the wheel until the hole for the valve is at the top.

Hold the tire so that the valve stem is at the top and insert the valve stem in the valve stem hole in the rim and wheel. Then push the bottom of the tire into place.



Fig. 28. Placing Tire on Rim, First Position.



Fig. 29. Placing Tire on Rim, Second Position.

Insert one end of the locking ring in the slot in the rim. Then with the tool as a lever, force the tire back far enough to allow the ring to go on easily. (Fig. 28.)

Starting at the end of the ring which is inserted in the slot in the rim, force the remainder of the ring into place by using the tire tool as pliers. (Fig. 29.)



Fig. 30. Placing Tire on Rim, Third Position.



Fig. 31. Placing Tire on Rim, Fourth Position.

Insert the flat end of the tool between the rim and the ring, and turn the tool up edgewise. (Fig. 30.) This will lift the loose end of the ring and force it into place.

Draw the ends of the locking ring together with the tool. (Fig. 31.) Then swing the lock into place.

Then inflate the tire. (See under "Tire Air Compressor," page 27.)

If the demountable rim is not attached to a wheel, lay the rim with the tire flat on the ground when removing or replacing a tire.

COLD WEATHER SUGGESTIONS

STARTING THE ENGINE

Use of Throttle Pump as Primer

In *extremely* cold weather, if the engine is not started in 15 or 20 seconds, remove your foot from the starter button. This will stop the cranking operation. Now open and close the throttle once or twice with the hand throttle or the foot accelerator. *Do not* open and close the throttle more than twice.

Opening and closing the throttle operates the throttle pump on the carburetor. This raises the level of the gasoline in the carburetor, thereby priming it. If the throttle is opened and closed more than twice, gasoline is forced out of the carburetor.

Position of Spark Lever

Except in extremely cold weather, the spark lever should be placed in the position marked "driving range" when starting. In extremely cold weather, it should be fully advanced when starting. (If the engine is to be cranked by hand, the spark lever should be placed at the extreme left on the sector.)

It is the practice of some drivers to place the spark lever at the extreme left on the sector when starting the engine. While this is the proper position for the spark lever if the engine be hand cranked, there is no reason for retarding the spark when the engine is electrically cranked and starting is facilitated if the spark lever is advanced to the "driving range." In extremely cold weather there is no reason why the spark lever cannot be placed in the fully advanced position if the engine be electrically cranked and a quicker start is assured if this is done. The following will explain why it is possible to fully advance the spark lever at such times:

The mixture in a cold engine does not burn as rapidly, nor is there so much energy in it, as when the engine is warmer and the fuel is better vaporized. When the engine is cold a large percentage of the heat of each explosion is instantly dissipated by reason of the cold combustion chambers and cylinder walls, the result being that an explosion which in a hot engine would occur early enough and have energy enough to produce a "spark knock" or "back kick," occurs so much later and is so much less intense, that neither of these results is produced.

It is best to have the spark lever in the fully advanced position for cold weather starting for the following reasons:

As explained before, a cold mixture ignites much more slowly than a hot mixture. A cold, slow-burning mixture, if ignited on top dead center on account of the spark being in the retarded position, may burn through the power stroke, through the exhaust stroke and may be still burning in the combustion chamber when the inlet valve is opened to draw in another charge. When this happens, the flame sets fire to the incoming charge, igniting the mixture in the intake pipe and carburetor, producing a "pop back" in the carburetor. The possibility of this happening is very much less if ignition is started earlier by placing the spark lever in the fully advanced position.

Position of Throttle Lever

In winter weather the throttle lever should be open about two inches on the sector for starting. Many drivers make a practice of opening the throttle wide or nearly so immediately the engine is started and after shifting the transmission into gear. The full suction of each piston through the carburetor under these conditions causes the auxiliary air valve in the carburetor to open wide, allowing a large volume of cold air to rush into the carburetor.

The proportion of air to gasoline drawn in under these conditions is practically the same as when the engine is hotter, but as only a portion of the gasoline drawn in is vaporized, and as only the vaporized portion burns, the proportion of air to gasoline burned is greater than when the engine is warmer, thus producing a 'lean" mixture. A "lean" mixture is slow burning, whether it is warm or hot, and a cold "lean" mixture is particularly slow burning. Thus if the throttle is opened suddenly before the engine is thoroughly warm, the cold "lean" mixture resulting, burns so slowly that a "pop back" in the carburetor is almost sure to occur.

Use of Starter Button

In extremely cold weather, when the car has been standing long enough to become thoroughly chilled, it is a good plan to release the clutch before pressing down the starter button and to hold the clutch pedal down during the cranking operation.

If the clutch is engaged during the cranking operation the starter turns the jackshaft in the transmission in addition to cranking the engine. While at ordinary temperatures the additional energy thus required is almost negligible, in extremely cold weather the lubricant in the transmission may offer enough resistance to the gears to increase considerably the demand upon the battery during the cranking operation. It is obvious that with the clutch in the released position while the starter button is pushed down, less work is done by the starter and the battery charge is conserved.

ANTI-FREEZING SOLUTION

The radiator condenser makes it possible to use with safety an anti-freezing solution of denatured or wood alcohol and water. Do not use a solution containing calcium chloride as this is injurious to the metal parts of the cooling system.

The capacity of the cooling system is five and one-quarter gallons. The condenser should contain an additional three quarts, making a total of six gallons.

The following are the freezing temperatures of denatured alcohol and water solutions of various proportions.

Denatured Alcohol (% by volume)	Water (% by volume)	Freezing Temperature (degrees Fahr.)	Specific Gravity (Hydrometer reading)
20%	80%	+13°	.974
30%	70%	— 3°	.964
40%	60%	—20°	.953
50%	50%	—34°	.936

It is a good plan occasionally to draw out a sample of the solution in the radiator and to test its specific gravity with a hydrometer graduated between the limits of the above table.

Caution:—Do not use water in the cooling system during freezing weather. Use a good anti-freezing solution. Water will freeze even though the engine be run continuously.

ADDITIONAL SUGGESTIONS

Starting in Intermediate or High Gear

The car should not be started in intermediate or high gear. Start the car in low gear.

Starting in intermediate or high gear should not be done at any time, but this is particularly unfair to a cold engine, as it necessitates a further opening of the throttle than is necessary when starting on low gear, with the probability of a "pop back" in the carburetor.

Cold Test of Engine Oil

Be careful to use an oil having a low cold test. In other words, use an oil which flows freely at low temperature. (See under "Lubricants," page 37.)

Frequent Changing of Oil

Water may accumulate in the crank case of the engine during cold weather as a result of condensation. It is necessary, therefore, to drain the oil frequently and replace it by clean, fresh engine oil. (See under "Replace Oil Frequently During Cold Weather," page 40.) If water is allowed to accumulate in the crank case, serious damage to the engine may result.

Strainers in Gasoline System

It may be found necessary to remove the strainers in the gasoline line more frequently during cold weather in order to prevent an accumulation of water at these points which would freeze and prevent the gasoline from going to the carburetor. (See under "Settling Chambers and Strainers," page 51.)

WINTER STORAGE

Engine

To prepare the engine for winter storage proceed as follows: Start the engine, cover the radiator and run the engine until it is hot. (See under "Personal Danger in Running Engine in Closed Garage," page 52.) The engine should be run at a speed which will show an ammeter reading of about 10 with all lights switched off. It usually requires from two to ten minutes to heat up the engine.

After the engine is hot and with the engine still running, inject one to two tablespoonfuls of clean, fresh engine oil into the carburetor through the primary air inlet. (See Fig. 38.) The oil gun may be used for this purpose.

Then immediately shut the gasoline valve at the tank. Let the engine run until the gasoline in the carburetor is used and the engine stops. Then turn off the switch.

Open the relief cocks on all the cylinders to relieve compression. Then close the cocks.

If the engine is started again repeat the series of operations given in paragraphs one, two, three and four.

Drain the cooling system. You will find complete instructions in this book under "Draining the Cooling System," page 57.

Storage Battery (*see under "Preparing Battery for Winter Storage," page 81.*)

Tires

During winter storage it is best to remove the tires from the rims and keep the casings and tubes in a fairly warm atmosphere away from the light. It is best to inflate the tubes slightly after the tires have been removed to keep the tires in the position in which they are when inflated on the rim.

If the tires are not removed from the car, and the car is stored in a light place, it is best to cover the tires to protect them from strong light, which has a deteriorating effect on rubber.

The greatest injury that can be done to tires when the car is stored for the winter is to allow the weight of the car to rest on them. If the tires are not removed the car should be blocked up so that no weight is borne by the tires and the tires partly deflated.

Body and Top

It is best to put the top up and cover the entire car to protect it from dust.

Taking Car Out of Storage

When the car is taken out of storage the following instructions should be followed carefully in starting the engine:

Remove the spark plugs and with the oil gun inject one or two tablespoonfuls of clean, fresh engine oil into each cylinder.

Replace the spark plugs. Turn the engine over a few revolutions either with the starter or with the hand crank with ignition switched off. This will tend to distribute the oil over the cylinder walls.

Turn on the gasoline at the tank and start the engine in the usual manner.

Immediately the engine starts, inject one or two tablespoonfuls of clean, fresh engine oil into the carburetor through the primary air inlet.

Part II

LUBRICATION

IMPORTANCE OF LUBRICATION

There is no one thing which is the primary cause of more trouble and the cause of more expense in maintenance to the mechanism of an automobile than insufficient lubrication.

All moving parts of the Cadillac car are manufactured with an unusual degree of accuracy and the parts are carefully assembled. In order to maintain the splendid running qualities of the car it becomes necessary systematically to introduce suitable lubricants between all surfaces which move in contact with one another.

The special object of this chapter is to point out the places in the Cadillac which require oiling. While it is manifestly impossible to give exact instructions in every instance as to just how frequently each individual point should be oiled or exactly how much lubricant should be applied we give this approximately, based on average use.

It should be borne in mind constantly that where one part moves upon or in contact with another friction is created. Friction means wear, and the wear will be of the metal itself unless there is oil, and oil is much cheaper than metal. The use of too much oil is better than too little, but just enough is best.

Proper lubrication not only largely prevents the wearing of the parts, but it makes the car run more easily, consequently with less expense for fuel and makes its operation easier in every way.

The oiling diagram shown in this chapter indicates the more important points which require attention. But do not stop at these. Notice the numerous little places where there are moving parts, such as the yokes on the ends of various brake rod connections, etc. A few drops of oil on these occasionally will make them work more smoothly.

Oil holes sometimes become stopped up with dirt or grease. When they do, clean them out and be careful not to overlook them. Also be careful not to allow dirt or grit to get into any bearings.

Judicious lubrication is one of the greatest essentials to the satisfactory running and the long life of the motor car. Therefore, lubricate, and lubricate judiciously.

LUBRICANTS

There are many grades of oils. There are none too good. Naturally, we have experimented a great deal with numerous lubricants to determine which are best adapted for the various parts of the Cadillac car. It is not always an easy matter for users to obtain suitable lubricants. The constant demand made upon us by Cadillac dealers and Cadillac users has induced us to provide suitable lubricants which may be obtained from Cadillac dealers.

Cadillac Motor Oil

Cadillac Motor Oil is recommended and may be used both summer and winter. In the absence of Cadillac Motor Oil, Mobiloil A, Monogram Medium, or Amalie Non-Carbon Oil may be used during summer weather and Mobiloil Arctic Oil during winter weather.

The oil used should be a filtered one and not an acid or alkali treated oil. It should be refined from Pennsylvania crude or its equivalent.

We cannot hold ourselves responsible for damage resulting from the use of oil not suited to the Cadillac engine.

Engine oil should be strained through cheese cloth or fine mesh wire cloth before using.

Cadillac Rear Axle and Transmission Lubricant

Cadillac Real Axle and Transmission Lubricant is recommended for the rear axle and transmission. In its absence we recommend a mixture of steam cylinder oil and a small amount of cup grease mixed to such a consistency that the mixture flows easily at temperatures from 60° to 70° Fahrenheit.

Cadillac Cup Grease

Cadillac Cup Grease is recommended for use in the grease cups. In its absence we recommend a neutral grease of medium consistency, made from an animal oil base.

Cadillac Wheel Bearing Grease

Cadillac Wheel Bearing Grease is recommended for the wheel bearings. In its absence we recommend neutral grease of vaseline consistency (soft), made from an animal oil base. Do not use a heavy grease for wheel bearings as it will roll away from the path of the rollers and will not return.

ENGINE LUBRICATION

Lubricating System

The lubrication of Cadillac eight-cylinder engines is by oil under pressure. A supply of oil is carried in the oil pan "A," Fig. 32. Oil is drawn from the oil pan by the oil pump "C" through the pipe "B" and forced to the main bearings "E," "F" and "G," through the supply pipe "D."

The pressure of the oil is regulated by an overflow valve or pressure regulator "M," containing a valve under spring tension. When the pressure is reached for which the valve is set, the valve is forced open and the oil overflows past the valve. A small hole drilled in the regulator housing allows oil to by-pass the valve when the valve is seated. Oil flowing through the by-pass and oil forced past the valve is carried to the camshaft bearings and power pressure pump in the gasoline system through the pipe "R" above and parallel to the camshaft. The forward end of this pipe is fitted with two nozzles from which oil flows into the camshaft sprockets and to the chains through holes drilled in the camshaft sprockets.

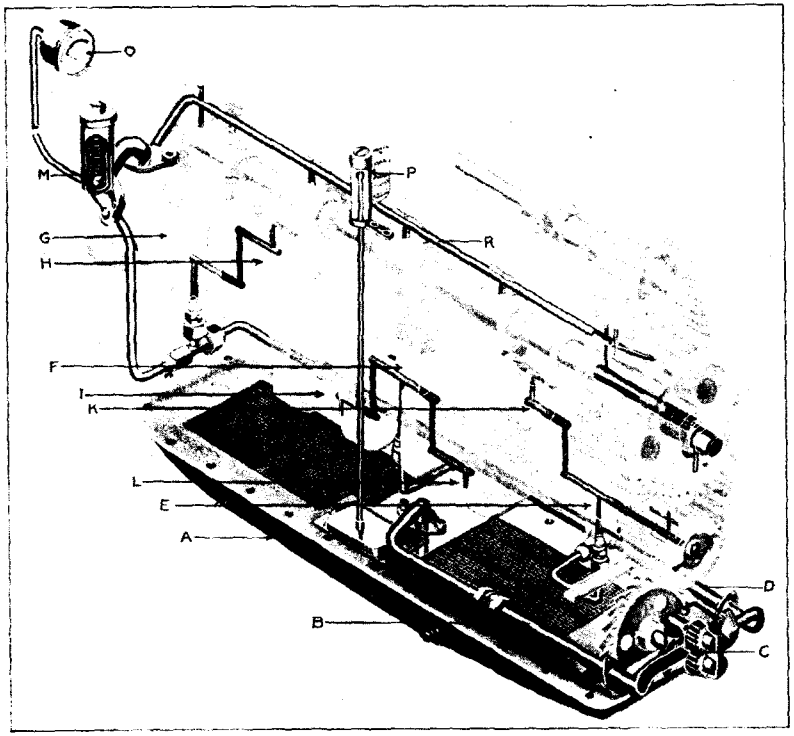


Fig. 32. Engine Lubricating System.

The connecting rod bearings, "H," "I," "K" and "L," on the crank shaft, are lubricated by oil from the main bearings forced through holes drilled in the crank shaft. The hole drilled in the forward end of the crankshaft communicates with a hole drilled in the crankshaft sprocket through which oil is supplied to the camshaft chain. The cylinders are lubricated by oil thrown from the lower ends of the connecting rods.

There is one gauge and one indicator in the lubricating system. The pressure gauge "O" is located on the instrument board and indicates the pressure of the oil. The indicator "P" is attached to the upper cover of the crank case near the carburetor and indicates the level of the oil in the oil pan "A."

Filling Lubricating System

It is of the utmost importance that oil be free from dirt and lint and that it be of a suitable quality. (See under "Lubricants").

A filling hole is provided on the tanshaft housing just forward of the distributor.

Whenever the oil level indicator between the cylinder blocks reaches the line marked "Fill," oil should be added.

Do not risk running the engine after the oil level indicator has dropped down to the line marked "Fill."

If the oil level indicator should point to "Empty," the engine should be stopped immediately and supplied with oil.

There is an oil level plug in the right hand side of the oil pan shown in Fig. 33. If the oil level gauge on the engine should become inoperative from any cause or fail to register correctly, remove the oil level plug before starting to add oil, then add oil as above directed until it just starts to flow from the hole left by the removal of the plug. Then replace the plug and filling cap.

Note—If, on removing the level plug, oil flows from the hole for a few seconds, do not assume that the oil in the pan is up to the proper level. The level plug is at the lower end of a short standpipe which usually remains full of oil after the level of the oil in the oil pan has fallen below the upper end of the standpipe. The only way to be sure that the oil is up to the proper level is to allow the one or two teaspoonfuls of oil which has accumulated in the standpipe to drain off and then to add oil until it starts to flow from the hole.



Fig. 33. Oil Filler, Pressure Regulator, Level Plug and Drain Plug.

When adding oil with the level plug removed, the oil level indicator should register "Full" when the oil just starts to flow from the hole left by removing the plug. The oil pan then contains approximately one and one-half gallons of oil.

Replace Oil in Engine

At the end of each 500 miles of travel, remove the drain plug located at the right side of the oil pan and drain out all of the oil. Then replace the drain plug and add sufficient fresh oil to bring the level of the oil up to the proper height. (See below under "Replace Oil Frequently During Cold Weather.")

At the end of the first 1000 miles of travel and at the end of every 4000 miles of travel thereafter, drain the oil pan and refill it with a mixture consisting of three quarts of kerosene oil and one quart of engine oil. The mixture must be entirely free from dirt and lint. Then run the engine at a speed of between 600 and 1000 R. P. M. for about one minute. Then drain the oil pan, remove it and the screen from the engine and thoroughly clean the oil pan and screen. Fill the oil pan to the proper height with clean, fresh engine oil after replacing it.

It is a good plan to clean the overflow valve and valve seat, as well as the housing in which they are contained, after forcing the mixture of kerosene and engine oil through the lubricating system. It is also important to make sure that the small by-pass hole is clean and free from any obstruction. A clean cloth, free from lint, should be used in cleaning the overflow valve. The housing, containing the overflow valve (pressure regulator), is located at the side of the crankcase just back of the right hand block of cylinders.

Replace Oil Frequently During Cold Weather

The mileages given at which the oil should be drained and the oil pan and screen removed are those at which the work should be done during summer weather.

During cold weather a certain amount of water may accumulate in the crankcase of the engine as a result of condensation. The water thus formed either freezes, preventing the pump from drawing oil, or mixes with the oil, forming a thick substance which the pump cannot draw. It is necessary, therefore, during cold weather to drain the oil pan and clean the oil pan and screen much more frequently than during warm weather.

The frequency with which it is necessary to do this work during cold weather depends very largely upon the manner in which the car is driven. In cases where the car is driven short distances only and frequent stops are made so that the engine base and the oil in the oil pan remain cold it will be found necessary to drain the oil pan and clean the oil pan and screen much more frequently than in cases where the car is driven for longer distances with fewer stops, so that the engine base becomes thoroughly warmed.

The car that is constantly making very short trips in cold weather should have the oil drained every 350 miles or once a week and the oil pan and screen cleaned once a month.

Unless the oil is drained out and the oil pan and screen are cleaned frequently enough in cold weather, serious damage to the engine may result, particularly on cars in short trip service.

Oil Pressure

Oil is fed under pressure to the main and connecting rod bearings of the engine. To prevent the pressure of the oil from rising too high, a spring controlled overflow valve known as a pressure regulator is provided. The pressure regulator is set when the car is assembled and requires no further attention except that it may be necessary occasionally to remove the valve from the regulator and clean the valve and its seat, as well as the by-pass hole.

The amount of pressure indicated by the pressure gauge on the instrument board varies with the speed and temperature of the engine and the viscosity of the oil. When the engine is warm and supplied with fresh Cadillac Motor Oil or oil of approximately the same viscosity, the pressure as indicated by the gauge should be from five to seven pounds when the engine is idling. (When idling the engine should run at approximately 300 revolutions per minute, if the screw "B," Fig. 37, is properly adjusted.) At higher speeds a higher pressure should be indicated and at lower speeds, a lower pressure. Before the engine has become warm, higher pressures will be indicated at given speeds. In other words, maximum pressures will be indicated at given speeds when the engine is cold and the oil is fresh; minimum pressures, when the engine is hot and the oil becomes thin from use.

Practically all engine lubricating oils become less viscous from use even under normal conditions. Running the engine too long with the auxiliary air control lever pulled back will cause the oil to be thinned more rapidly, due to the condensation of gasoline from the rich mixture.

Caution

If after starting the engine it is found that the oil pressure gauge does not register pressure, stop the engine immediately and prime the oil pump. This may be done by disconnecting, at its upper end, the oil pipe running from the engine around the right hand side of the dash, and forcing clean engine oil into the pipe with the oil gun furnished in the tool kit. Connect the pipe and tighten the union before starting the engine.

Do not continue to run the engine if, as a result of low viscosity of the oil, or other cause, pressure is not indicated on the gauge when the engine is running. *(See under "Replace Oil in Engine," page 40.)*

Lubrication Chart

A lubrication chart is supplied with the tool kit. The chart is intended to be hung in the garage as a reminder.

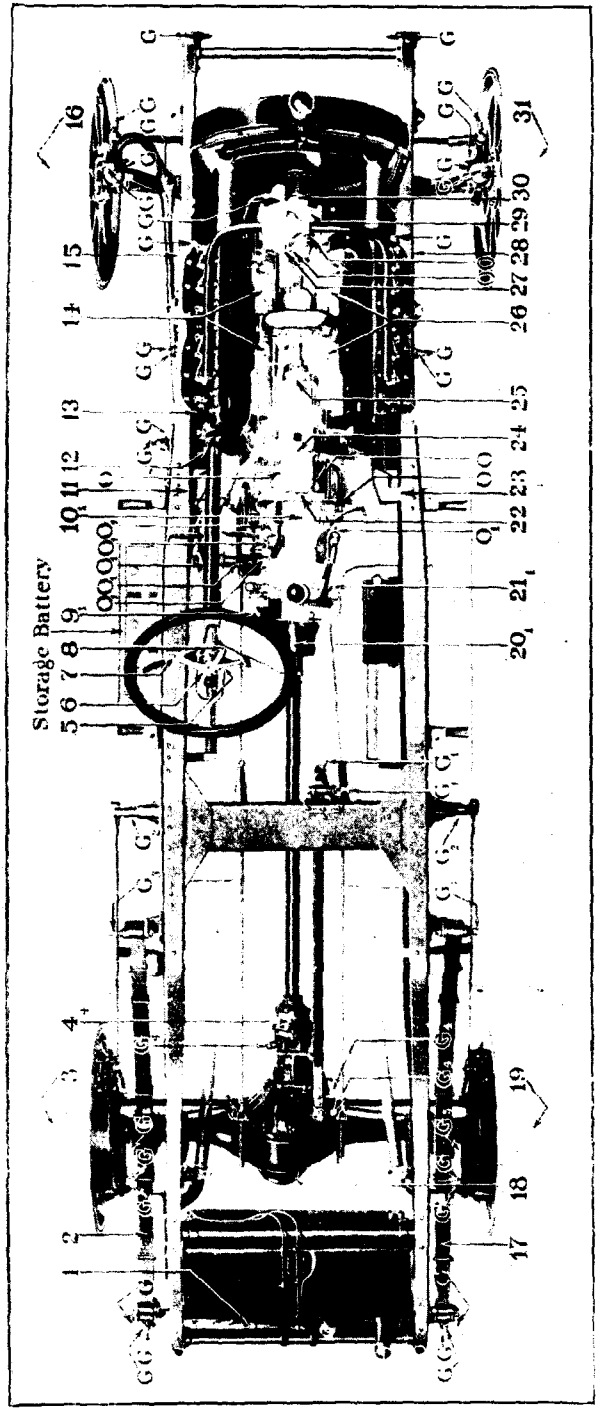


Fig. 34. General Lubrication Diagram.

Each "G" Indicates a Grease Cup. Each "O" Indicates An Oiling Point at Which Engine Oil Should Be Applied.

Each Number Indicates a Lubricating Point for Which Instructions Are Given Under "General Lubrication."

Accessibility: The small figures at the right of and below the numbers and letters on the above diagram refer to the following notes as to the accessibility of the lubricating points.

1. *These are lubricating points which are accessible after removing the floor boards forward of the front seat.*
2. *These grease cups lubricate the foot brake rocker shafts. They are provided with extensions which bring the grease cups within reach from under the running boards.*
3. *These grease cups lubricate the bearings at the front ends of the rear side springs. The grease cups are accessible after opening the small doors in the dash shields just forward of the rear fenders.*
4. *These lubricating points are accessible through hand holes in the rear floor on all cars except the Roadster and Victoria. (On the Phaeton one of the hand holes is under the rear seat cushion.)*
5. *These grease cups lubricate the rear spring seats on the rear axle and are underneath the springs just back of the axle.*

GENERAL LUBRICATION

EVERY 150 MILES

Engine: 29

The engine should be supplied with oil as often as required. Add oil until it just starts to flow from the hole left by removing the level plug in the right hand side of the oil pan. The oil level indicator under the carburetor is for the purpose of indicating when the supply is low and when a sufficient amount has been added. (See under "Filling Lubricating System," page 39.) As a rule oil should be added about every 150 miles of travel. (See under "Replace Oil in Engine," page 40.)

EVERY 500 MILES

Grease Cups: G

Turn down grease cups "G" and the grease cup on the instrument end of the speedometer cable every 500 miles.

Starter Gear Shaft: 22

The shaft on which the starter idler gears revolve is provided at its rear end with an elbow connection which fits the oil gun furnished in the tool kit. Cadillac Rear Axle and Transmission Lubricant should be injected at this point every 500 miles.

There is a small cover plate on the front floor boards, the removal of which renders the connection accessible without removing the floor boards. It is necessary to remove the screw plug in the elbow before the oil gun can be connected.

Oil Hole for Fan Bearing: 30

The fan is driven by a spring and is free to oscillate slightly on the fan shaft. The hole through which the bearing at the fan hub is lubricated is just back and at the base of the flange on the fan shaft against which the spring presses. A few drops of engine oil should be applied every 500 miles. It may be necessary to crank the engine in order to bring the oil hole to the top.

Springs: 1, 2, 15, 17, 28

It is recommended that the springs be lubricated once every 500 to 1000 miles by painting the edges and ends of the spring leaves with cylinder oil. A small, stiff brush should be used. After applying the oil to the springs, the car should not be washed until it has been driven some distance to allow the lubricant to work in between the leaves.

Replace Oil in Engine

Replace the oil in the engine at the end of each 500 miles of travel. (See under "Replace Oil in Engine" and "Replace Oil Frequently During Cold Weather," page 40.)

EVERY 1000 MILES

Oil Cups and Oil Holes: O

A few drops of engine oil should be applied at points "O" every 1000 miles.

Drive Shaft and Universal Joints: 4, 20

Fill the forward and rear universal joints on the drive shaft with No. 1½ cup grease every 1000 miles. A special connection to fit these places is furnished with the oil gun which is a part of the tool kit.

The forward universal joint is covered with a cylindrical shield to prevent grease from being thrown on the floor boards. To fill the joint, it is necessary first to detach this shield from the transmission case and to slide it back over the drive shaft. This may be done after loosening the two screws which hold the shield to the transmission case and turning the shield through a small angle in a counter-clockwise direction. If the filling plug does not appear at the top it will be necessary to move the car until it does. The filling plug may be removed by unscrewing it.

The filling plug in the rear universal joint is accessible through a hand hole in the rear floor on all cars except the Roadster and Victoria.

Bearings on Armature: 24, 25

These are oil cups for the lubrication of the bearings on the armature shaft. A few drops of engine oil should be applied every one thousand miles.

The oil cup "24," which lubricates the rear bearing, is under the front part of the floor boards but on the Seven Passenger, Phaeton, Roadster and Victoria it may be reached from in front of the dash when the hood is raised. On the enclosed cars, with the exception of the Victoria, it is more convenient to remove the aluminum cover plate on the front part of the floor boards.

Oil Holes in Steering Wheel Hub: 5, 6

One of these oil holes is above the steering wheel and the other is accessible after folding the steering wheel. A few drops of engine oil should be applied at each point every 1000 miles.

Rear Engine Supports: 11, 23

There is a slight movement between the side bars of the frame and the rear engine supports when the car is traveling over rough roads. It is necessary, therefore, to apply lubricant at these points.

There is an oil hole with a felt wick in each engine support where it is bolted to the side bar of the frame. Engine oil should be applied at these points every 1000 miles or oftener if found necessary.

Tire Air Compressor: 9

The compressor piston is lubricated through two oil holes—one in front of the compressor cylinder and one just behind. Each oil hole is protected by a small sliding cover.

Apply engine oil at these points every 1000 miles, or oftener if the pump is used frequently. (See Fig. 22.)

Clutch Thrust Ball Race: 10

The clutch thrust ball race is accessible after removing the front floor boards and the cover plate shown at 10. If necessary, reach in and turn the ball race to bring the screw plug to the top. Remove the plug and inject Cadillac Rear Axle and Transmission Lubricant every 1000 miles. A special connection to fit this place is furnished with the oil gun which is a part of the tool kit.

Clean Lubricating System and Replace Oil

At the end of the first 1000 miles of travel and at the end of every 4000 miles of travel thereafter, drain the oil pan and clean the lubricating system with kerosene. Then remove the oil pan and clean the pan and screen. Replace the oil pan and refill it to the proper level with clean engine oil. (See under "Replace Oil in Engine" and "Replace Oil Frequently During Cold Weather," page 40.)

Water in Storage Battery

Every one thousand miles or oftener inspect the level of the acid in the storage battery and add *distilled* water if the level is low. (See under "Adding Water to Storage Battery," page 78.)

The storage battery is carried in a compartment in the left hand dust shield. The cover of this compartment forms a part of the dust shield and may be removed after unscrewing the two nickel plated screws with a screw-driver.

EVERY 2000 MILES

Transmission: 21

The transmission case should always contain sufficient lubricant to bring it up to the level of the filling hole in the right hand side of the case. It should be inspected every 2000 miles and lubricant added if necessary. Cadillac Rear Axle and Transmission Lubricant is recommended for this purpose.

Rear Axle: 18

The rear axle should contain enough lubricant to bring it up to the level of the filling hole in the rear cover plate. It should be inspected every 2000 miles and lubricant added if necessary. Cadillac Rear Axle and Transmission Lubricant is recommended for this purpose.

Timer and Distributor: 27

Every 2000 miles of travel remove the small breather by unscrewing it and pack cup grease around the gears by which the timer and distributor are driven.

Lubrication of Valve Stems: 14, 26

It is a good practice to apply engine oil to the valve stems and the cam slides every 2,000 miles. This may be done by lifting the valve compartment covers and inserting the spout of the oil gun.

EVERY 3000 MILES

Wheels: 3, 16, 19, 31

Every 3000 miles or every six months, if the car is driven but little, all the wheels should be removed, the bearings thoroughly washed and cleaned in either gasoline or kerosene and the bearings examined to determine whether any foreign substances have gotten into them that might damage them. The bearings should be thoroughly lubricated with a thin grease. Cadillac Wheel Bearing Grease is recommended for this purpose. Do not use heavy grease, as it will roll away from the path of the rolls and will not return. Then the wheels should be replaced and adjusted as per instructions on this subject.

There is an oil cup in the hub of each rear wheel. Inject some engine oil here whenever you are oiling the car. Wipe the dirt from the cups first so that it will not get into the bearings.

Steering Gear: 12, 13

The internal mechanism of the steering gear should be lubricated about every 3000 miles. This can be done by removing the screw plugs at "R" and "G," Fig. 57. The hole at "R" is tapped to fit the nozzle of the oil gun. Cadillac Rear Axle and Transmission Lubricant mixed with two or three per cent. of flake graphite is a good lubricant for this part.

EVERY 4000 MILES

Clean Lubricating System and Replace Oil

At the end of every 4000 miles of travel drain the oil pan and clean the lubricating system with kerosene. Then remove the oil pan and clean the pan and screen. Replace the oil pan and refill it to the proper height with clean, fresh engine oil. (See under "Replace Oil In Engine" and "Replace Oil Frequently During Cold Weather," page 40.)

Transmission: 21

At the end of every 4000 miles of travel drain all of the lubricant from the transmission and refill with clean, fresh lubricant to the level of the filling hole in the right hand side of the case. Cadillac Rear Axle and Transmission Lubricant is recommended for this purpose.

Rear Axle: 18

At the end of every 4000 miles of travel drain all of the lubricant from the rear axle and refill it with enough clean, fresh lubricant to bring it up to the level of the filling hole. Cadillac Rear Axle and Transmission Lubricant is recommended for this purpose.

EVERY 5000 MILES

Gabriel Snubbers (attached to frame over rear axle)

Every 5000 miles remove and lubricate the snubbers in accordance with the instructions given under "Lubrication of Gabriel Snubbers," page 98.

ADDITIONAL

Spark and Throttle Levers: 7, 8

The plungers in the spark and throttle levers should be lubricated occasionally. If the spark and throttle levers stick, rub a little oil on the sector where the friction shoes come in contact with it.

In addition to the places specially mentioned, note carefully and oil all of the small connections and joints throughout the car, such as the various brake rod connections and joints in the brake mechanism. The joints of the internal brakes may be lubricated after removing the small cover "F," Fig. 62, on each brake drum. Care should be taken not to apply too much oil to the internal brake joints as it may get on the brake band linings and impair the efficiency of the brakes.

Remember that wherever one part moves in contact with another, the ease of movement will be assisted and wear will be reduced to the minimum by lubrication.

CARBON DEPOSIT

A rapid formation of carbon in the cylinders of the engine may be the result of using an oil of inferior quality, or not suited to the engine, or to the addition of too much oil to the oil pan.

When the accumulation of carbon becomes great enough it will cause the engine to pound and lose power. The pounding is usually first noticed when the throttle is opened for hill climbing, pulling through sand or mud or quick acceleration.

When the accumulation of carbon becomes great enough to cause the engine to pound it should be removed. The cylinder heads are removable to facilitate access to the combustion chambers for scraping out carbon. (See under "Removable Cylinder Heads," page 59.)

The spark plug cores should be kept clean. A good method of cleaning them is to wash them in alcohol.

Carbon deposited on the spark plug cores forms a path which offers less resistance to the high tension current than the gap between the points of the spark plugs. The current following the path of least resistance does not jump between the points, the result being that the engine misses fire. This condition is usually first noticed when the throttle is opened for hill climbing, or acceleration. Under these conditions the compression of the gas through which the spark must jump is greater than at other times. A spark which will jump in the neighborhood of .38" in the open air will jump no more than 1/16" through gas under compression.

Part III

ADJUSTMENTS

GASOLINE SYSTEM

General Principle

The supply of gasoline is carried in a tank at the rear of the car and is forced to the carburetor by an air pressure of from one to two pounds. A valve is provided by which the gasoline may be shut off at the tank. (See Fig. 36.) The handle of the valve is just at the left of the gasoline gauge. A float controlled needle valve in the carburetor maintains the gasoline at the proper level in the carburetor bowl.

The pressure is indicated by a gauge on the instrument board. A hand pump on the instrument board is provided by which pressure for starting may be obtained when the car has been standing long enough to make this necessary. When the engine is running the pressure is automatically maintained by a pump on the engine driven by an eccentric on the front end of the cam shaft.

The pipe extending almost to the bottom of the gasoline tank is a continuation of the gasoline line. The air line simply enters the gasoline tank at the top and does not extend into the gasoline.

Filling the Gasoline Tank (*see under this heading on page 10.*)

Settling Chambers and Strainers

There are two settling chambers in the gasoline system, one at the under side of the gasoline tank and the other attached to the left hand side of the frame of the car just under the front floor boards.

There is a drain plug at the bottom of each of these settling chambers. Every one thousand miles or oftener the plug in the settling chamber under the floor boards should be removed and the plug in the settling chamber underneath the gasoline tank should be unscrewed several turns, to drain the settling chambers of any dirt or water which has accumulated.

Before unscrewing either of the plugs the gasoline system should be relieved of all air pressure by removing the gasoline filler cap on the tank.

There are two strainers in the gasoline system which require cleaning periodically—one at the point where the gasoline feed pipe is attached to the carburetor, and the other attached to the drain plug in the settling chamber under the front floor boards. (See Fig. 36.)

The strainers should be removed and cleaned every one thousand miles or oftener. Shut off the gasoline at the tank before removing either strainer. In cold weather it may be found necessary to remove the strainers more frequently in order to prevent an accumulation of water at these points which would freeze and prevent gasoline from flowing to the carburetor.

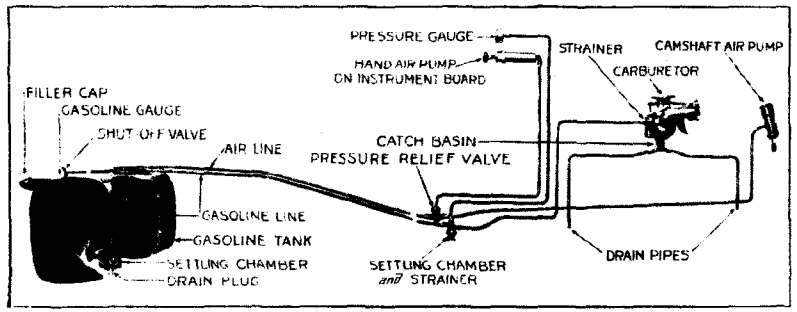
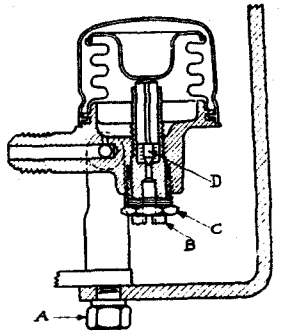


Fig. 36. Gasoline System.

Pressure Relief Valve

A pressure relief valve is connected in the air line of the gasoline system for the purpose of preventing excessive pressure. It is attached to the left hand side of the frame under the front floor boards and is adjusted to release if a pressure of four pounds should be reached. As the pump at the front of the engine is designed to furnish a pressure of considerably less than four pounds it is evident that the relief valve is not intended to release under normal conditions. The relief valve is intended to operate only in case higher pressures result from the use of gasoline such as "casing-head" gasoline, containing highly evaporative fractions.



Sectional View of Air Pressure Relief Valve.

The relief valve is properly adjusted when the car is assembled and it should require no further attention. However, if at any time the pressure gauge on the instrument board should show a pressure of more than four pounds the relief valve should be readjusted. Or if it is found impossible to maintain sufficient pressure to insure flow of fuel to the carburetor, this condition may indicate need for readjustment of the relief valve.

As low pressure may also be caused by leakage of air at the gasoline tank filler cap or at the piping connections, or by the presence of dirt on the needle valve "D" or its seat, do not readjust the relief valve without making certain that the low pressure is due to the valve releasing and not to these other causes.

To readjust the pressure relief valve remove the cap screw "A" by which the relief valve is attached to the side bar and spring the piping so that access may be had to the nut "C" and screw "B" underneath the relief valve. Loosen the hexagonal gland nut "C." Then turn the hollow, slotted screw "B" in the clockwise direction if the pressure at which the valve releases is too low; or in the counter-clockwise direction if the valve releases at too high a pressure. Tighten the gland nut "C."

Check the results of the adjustment by raising the pressure with the hand pump. (Less pumping will be required if the tank is full or nearly so.) If it is found possible to raise the pressure above four pounds on the gauge, or if the maximum pressure obtainable is less than four pounds, the adjusting screw "B" should be adjusted again.

After the adjustment has been correctly made, make sure that the gland nut "C" is tight.

CARBURETOR

Adjustment of Carburetor

The carburetor should not be tampered with unless it needs adjustment. Good carburetor action cannot be expected until the engine is thoroughly warmed up. This is particularly true during cold weather. Imperfect carburetor action while the engine is cold does not indicate that the carburetor requires adjustment and carburetor adjustment should not be made under these conditions.

Before changing any of the carburetor adjustments be sure it is the carburetor which requires attention. It is possible that the ignition system requires adjustment.

Before making any carburetor adjustments be sure that the points on the spark plugs are .028 inches apart, that the spark plug cores are clean, that the timer is properly set and that the timer contact points are clean and in proper adjustment. In fact, see that the entire ignition system in is good working order.

When it is certain that the carburetor requires adjusting, proceed as follows:

Method of Adjustment

Open the throttle about two inches on the sector at the steering wheel. Place the spark lever in the "Driving Range" on the sector and start the engine. If the engine is cranked by hand the spark lever should be placed at the extreme left on the sector.

Run the engine until the water jacket on the intake pipe is hot.

Move the spark lever to the extreme left on the sector and the throttle lever to a position which leaves the throttle in the carburetor slightly open. Adjust the air valve screw "A," Fig. 37, to a point which produces the highest engine speed. Turning the screw "A" in a clockwise direction increases the proportion of gasoline to air in the mixture and vice versa.

Close the throttle (move it to the extreme left on the sector) and adjust the throttle stop screw "B" to a point which causes the engine to run at a speed of about 300 revolutions per minute. The spark lever should be at the extreme left on the sector when this adjustment is made.

With the spark and throttle levers at the extreme left on the sector, adjust the air valve screw "A" to a point which produces the highest engine speed.

Open the throttle until the shutter attached to the right hand end of the throttle shaft *just* covers the slot in the carburetor body. Then adjust the screw "G" to a point which produces the highest engine speed or to a point where the engine slows down slightly from a lean mixture. Turning the screw "G" in a clockwise direction increases the proportion of gasoline to air in the mixture and vice versa.

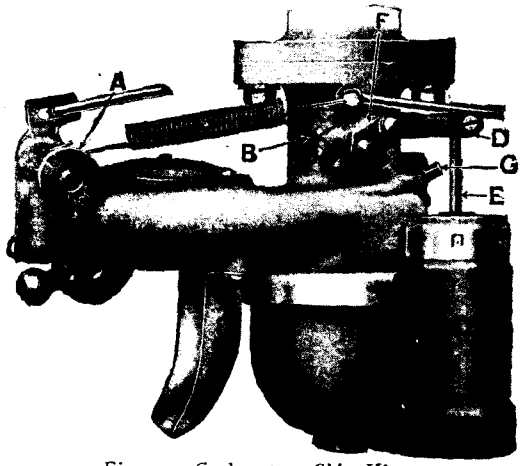


Fig. 37. Carburetor, Side View.

During very cold weather when a slightly richer mixture is desirable it may be found best to turn the adjusting screw "G" further in a clockwise direction.

Personal Danger of Running Engine in Closed Garage

Carbon monoxide, a deadly poisonous gas, is present in the exhaust of gasoline engines. Increasing the proportion of gasoline to air in the mixture fed to the engine, in other words, enriching it, increases the amount of carbon monoxide given off at the exhaust pipe.

Because of the presence of carbon monoxide it is very dangerous to run the engine for any length of time while the car is in a small, closed garage. If the doors and windows are open the danger is very much lessened, but it is far safer, particularly if an adjustment of the carburetor is being made, to run the car into the open.

Serious personal injury may be caused by the presence of carbon monoxide in a garage if the percentage of it in the air is greater than a very small fraction of one per cent. Unconsciousness may result without warning. It is reported that no indication of danger is given by personal discomfiture until too late. Deaths resulting from the presence of carbon monoxide in garages have been reported.

Leaning Device

A leaning device, sometimes called a "gas-saver," is provided which may be adjusted to cause, for ordinary driving speeds, a mixture in which the proportion of gasoline to air is cut down. The mixture is not affected by the leaning device at the closed or nearly closed position of the throttle, or at the open or nearly open position.

The leaning device is adjusted at "G," Fig. 37. When the adjusting screw "G" is screwed in as far as it will go the leaning device has no influence on the mixture at any throttle position.

The leaning device consists of a shutter, attached to the right hand end of the throttle shaft, which covers a slot in the carburetor body when the throttle is opened slightly, again uncovering the slot when the throttle is opened wide or nearly so. A hole is drilled through the carburetor body from the mixing chamber to the slot and another hole is drilled from the carburetor bowl to the slot.

When the slot is covered by the shutter a passage is formed from the mixing chamber to the carburetor bowl. The partial vacuum in the mixing chamber causes a lowering of the atmospheric pressure in the carburetor bowl resulting in less gasoline being fed through the spray nozzle. When the shutter uncovers the slot the partial vacuum in the mixing chamber has no effect on the atmospheric pressure in the carburetor bowl and the amount of gasoline fed through the spray nozzle is not affected.

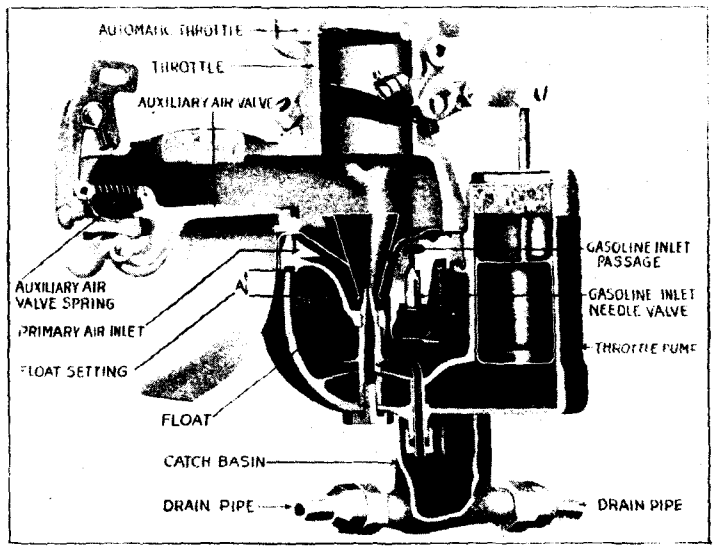


Fig. 38. Carburetor, Sectional View.

Setting of Carburetor Float

After the carburetor has been in use for some time, there may be a slight amount of wear at the point of the inlet needle and its seat. If this should occur, the height of the gasoline in the carburetor bowl will rise.

To determine if the float is properly set, remove the carburetor from the engine, and the bowl from the carburetor. Raise the float until the inlet needle valve is just closed. The dimension "A," Fig. 38, should then be one-half inch.

The setting may be corrected by bending slightly the arm to which the float is attached.

Throttle Pump

The object of the throttle pump is to force gasoline through the spraying nozzle when the throttle is opened quickly for acceleration. When the throttle is opened slowly the throttle pump has practically no effect on the amount of gasoline passing through the spraying nozzle.

The cylinder "C," Fig. 37, on the carburetor bowl contains a plunger which is operated by the throttle by means of the connecting rod "E."

When the throttle is opened the plunger is forced into the gasoline in the carburetor bowl. The plunger is drawn out of the gasoline when the throttle is closed.

The rod "E" is adjusted at the factory and should require no further adjustment. If the adjustment is changed the rod should be readjusted so that its upper end is flush with the upper face of the arm "D."

Automatic Throttle

The carburetor is equipped with an automatic throttle, Fig. 38, controlled by a spring. Its purpose is to prevent pulsations of air in the intake manifold from causing the air valve to flutter when the engine is running slowly with the throttle fully opened. The automatic throttle is adjusted when the carburetor is assembled and requires no further attention.

COOLING SYSTEM

The cooling system is of the water forced circulation type. The circulation through each cylinder block is independent of the circulation through the other, two separate pumps being provided. The pumps, which are of the centrifugal type, are located at the front end of the crank case on each side and are driven from the crank shaft through helical gears.

The temperature of the liquid circulated by these pumps is under thermostatic control, the purpose of which is to permit water circulated through the water jackets on the cylinders and carburetor intake manifold to warm up to the temperature at which the engine operates best very soon after the engine is started and to prevent the temperature dropping below this point while the engine is running.

Thermostatic Control

A housing containing a Sylphon thermostat and a valve controlled by the thermostat, are located on the cover of each water pump.

The thermostat "A," Fig. 39, is accordion shaped. It contains a liquid which is driven into gas when heated. The resulting pressure elongates the thermostat, forcing the valve "B" from its seat. A drop in temperature changes the gas back to a liquid, reducing the pressure in the thermostat and allowing it to contract, thereby bringing the valve "B" back to its seat.

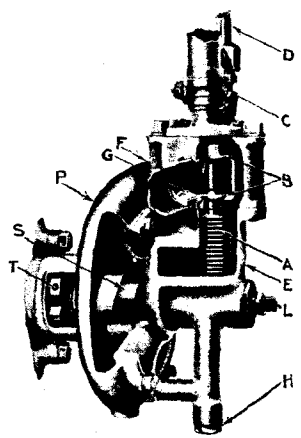


Fig. 39. Water Pump, Sectional View.

When the temperature of the water in the water jackets on the cylinders and intake manifold is below a predetermined point the valve "B" is held tightly closed by the thermostat. When the temperature of the water tends to rise above the predetermined point, the valve "B" is forced open by the thermostat, permitting the water pump "P" to draw water from the radiator.

Provision is made for forcing the valves operated by the thermostats from their seats. This is necessary to drain the radiator.

There is a horizontal shaft "L" extending from the cover of each water pump. There is an indicator on the end of each of these shafts. By turning the shafts until the indicators point directly up, the valves operated by the thermostats are forced and held from their seats. By turning the shafts until the indicators point down, as shown in Fig. 39, the valves are returned to their seats and the thermostatic control is again brought into operation.

Path of Circulation

When the engine is first started and is cold the valves operated by the thermostats are held tightly on their seats. This prevents the water pumps from drawing water from the radiator. Under these conditions the water is circulated as follows:

From the water pump "P," Figs. 39 and 40, through the hose "F" to the water jackets on the cylinders. From the water jackets on the cylinders some of the water returns to the pump "P" through the hose "C" and the thermostat housing "E." The remainder is carried by a small pipe "N" to the water jacket around the intake manifold and from the intake manifold to the pump "P" through the pipe "D" and the thermostat housing "E."

After the engine has become warm and the thermostats have forced from their seats the valves between the pumps and radiator the circulation is as follows:

Water is drawn from the radiator through the hose "G" and forced to the water jackets on the cylinders through the hose "F." From the water jackets the water returns to the radiator through the hose "M" connecting the cylinder block and radiator.

Water is still forced to the water jacket on the intake manifold through the small pipe "N" and from the intake manifold to the pump "P," through the pipe "D" and the thermostat housing "E." Some of the water still flows back to the pump through the hose "C" and the thermostat housing "E."

As the temperature of the water returning to the pump through the pipe "D," hose "C" and thermostat housing "E," rises or falls, the thermostat expands or contracts, opening or closing the valve, thereby admitting a larger or smaller amount of cooled water from the radiator.

Condenser

A condenser, the purpose of which is to prevent the loss of the cooling medium by evaporation, when an alcohol solution is used, is attached to the right hand side of the frame just beneath the front floor boards. A pipe "S," Fig. 40, connected to the overflow tube of the radiator leads to the condenser.

The action of the condenser is as follows: The vapor given off from the liquid in the radiator when it is heated passes through the overflow tube to the condenser. As it passes into the liquid in the condenser the vapor is condensed.

When the engine has stopped, the cooling of the radiator and its contents results in the contraction and condensation of the vapor left in the upper part of the radiator. The vacuum thus caused allows the atmospheric pressure in the condenser to force condensed vapor back into the radiator in liquid form.

The proper operation of the condenser requires an air tight joint at the radiator filler cap. To make it possible to screw down and tighten the cap without injury to the rubber gasket, two metal washers are interposed between the head of the cap and the gasket. It is important that nothing be installed on the radiator filler cap which causes a leak at the cap or which makes necessary the elimination of the steel washers or cutting a hole through the rubber gasket.

Filling the Cooling System

Fill the cooling system with clean water, during warm weather, and with a suitable anti-freezing solution during freezing weather. (See under "Anti-Freezing Solution," page 32.)

To fill the cooling system after it has been drained, replace the drain plugs "H," Fig. 40, in the water pumps, close the drain cocks "K" in the cylinder blocks and turn the shafts "L" on the water pumps so that the indicators on the ends of the shafts point up. The shafts may be turned in either direction.

Then remove the filler cap "W" from the top of the radiator and fill the cooling system. Replace the filler cap and *screw it down firmly.* This is necessary, to insure the proper operation of the condenser.

After the cooling system is filled, turn the shafts "L" on the water pumps so that the indicators on the ends of the shafts point down. These indicators should point up when filling or draining the cooling system and down at all other times.

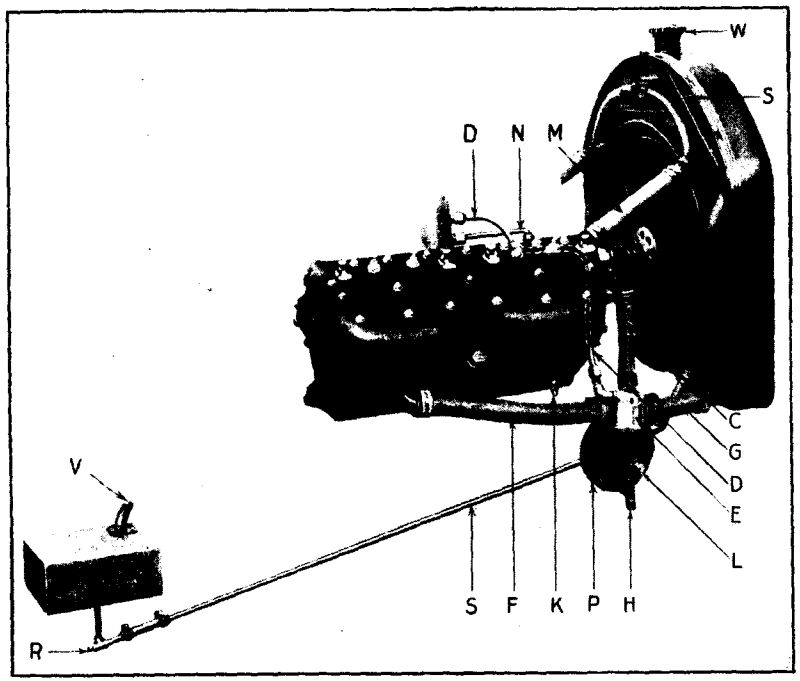


Fig. 40. Cooling System, Showing Path of Circulation.

The cooling system should be kept full or nearly so. When it is necessary to add only a small amount of liquid to bring up the level, it is not necessary to turn the shafts "L" on the water pumps, but simply to remove the radiator filler cap.

When the cooling system is cold, the condenser should be one-half full of the same liquid as used in the radiator. To add liquid to the condenser, take up the removable floor board and remove the filler cap "V" at the top of the condenser. Any excess liquid which may accumulate in the condenser should be drained off at "R," Fig. 40, and poured back into the radiator.

Draining the Cooling System

To drain the cooling system, remove the drain plugs "H" from the water pumps and turn the shafts "L" on the water pumps so that the indicators on the ends of the shafts point up. The shafts "L" may be turned in either direction. Then open the drain cocks "K" in the cylinder blocks.

To drain the condenser remove the drain plug "R" in the pipe leading from the bottom of the condenser.

Cleaning the Cooling System

The cooling system should be drained and flushed out every two or three months. This may be done in the following manner:

Run the engine with the radiator covered until the liquid in the cooling system is boiling hot. Then turn the shafts "L" on the water pumps so that the indicators on the ends of the shafts point up.

Shut off the engine and immediately remove the drain plugs "H" from the water pumps and open the drain cocks "K" in the cylinder blocks. (Bear in mind in removing the drain plugs "H" that the liquid is scalding hot.) Remove the drain plug "R" in the pipe leading from the bottom of the condenser.

If an alcohol anti-freezing solution is drawn off part of it may be used again if the sediment is allowed to settle. In case it is used again its specific gravity should be tested with an hydrometer, after it has thoroughly cooled.

When the liquid has drained off, replace the drain plugs "H," close the drain cocks "K" and fill the cooling system with clean, hot water. Then repeat the operations outlined above.

If in draining the second time, the water is very dirty, it may be desirable to repeat the flushing operation a third time, using a solution of sal-soda. If the sal-soda solution is used, be sure that it is drained out and the cooling system flushed again with clear water.

The sal-soda solution should not be allowed to get on the finish of the hood or radiator.

During freezing weather be sure to refill with a suitable anti-freezing solution.

Water Pump Packing Glands

If leaks should appear at the water pump packing glands, remove the splash shield under the engine and turn the packing gland nuts "T," Fig. 39. To tighten, turn the gland nuts in the direction in which the wheels turn when the car moves backward. As one gland nut has a right hand thread and the other a left hand thread, both are turned in the same direction to tighten. Tighten the gland nuts only sufficiently to prevent leaks. A spring locking device at the rear of each pump engages the notches in the gland nut and prevents the gland nut from turning of its own accord. In tightening a gland nut turn it a whole number of notches so that when the nut is screwed up as far as desired the locking device will rest in one of the notches.

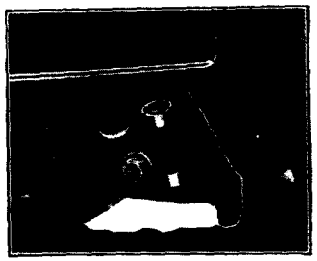
If a water pump gland requires repacking remove the pump from the engine and remove the gland nut by unscrewing it in the direction opposite to that in tightening it. Remove the gland and renew the packing. Then replace the gland and tighten the gland nut. Replace the water pump and splash shield.

We strongly urge that only Cadillac packing be used. This may be obtained from any Cadillac distributor or dealer.

Strainers

There are two strainers in the cooling system, one in each radiator outlet. They should be removed and cleaned at the end of the first 500 miles of travel and every 2,000 miles thereafter. If sediment is allowed to accumulate at these points the circulation of water is interfered with or prevented and, as a result, the engine may overheat and pound.

The location of the strainers is illustrated in the figure in which the radiator splash shield is cut away to show the removal of the left hand strainer. The strainer may be withdrawn after simply unscrewing the plug.



Showing Left Hand Strainer Removed.

Adjustment of Thermostat Valves

The thermostat valve "B," Fig 39, is screwed onto the threaded stem of the thermostatic member "A" and is held in place by a slotted nut in the center of the valve. The valve is adjusted when the car is assembled and no further attention should be required. In the event that the adjustment has been altered, proceed as follows in making a readjustment:

Drain the cooling system. (See page 57.) Disconnect the hose "C" and the pipe "D" at the pump. Remove the four small screws in the cap to which the hose and pipe were attached and remove the cap.

Turn the shaft "L" so that the indicator on the end of the shaft points in a *horizontal* direction. With a screw-driver loosen the slotted adjusting nut in the center of the valve. Then adjust the valve until it just seats without placing any tension on the thermostatic member "A." Hold the valve in this position and tighten the slotted adjusting nut.

Replace the cap and connect the hose "C" and the pipe "D." Turn the shaft "L" so that the indicator points up and fill the cooling system. After filling the cooling system turn the indicator down regardless of weather conditions.

ENGINE ADJUSTMENTS

CRANKSHAFT BEARINGS

If a good grade of lubricating oil is used, if the oil is replaced and the oil pan removed and cleaned out at frequent intervals as recommended in this book under "Replace Oil in Engine," page 40, the crankshaft bearings should give many thousands of miles of use without attention. If, as a result of improper lubrication or long use, the bearings require adjustment, these instructions should be followed carefully.

Adjustment of Connecting Rods

The connecting rods to which the pistons in the left hand block of cylinders are attached are forked at their lower ends. Bronze backed babbitt lined bushings clamped in these rods have their bearings on the crank shaft.

The connecting rods to which the pistons in the right hand block of cylinders are attached have single lower ends and have their bearing on the outer surface of the bushings clamped in the forked rods.

The caps at the lower ends of the single connecting rods are adjustable. Liners varying in thickness from .002 to .006 of an inch are placed between the caps and the rods when the engine is assembled. To readjust, remove these liners and substitute thinner ones of the proper thickness. To get the best results, these bearings should have from .0025 to .0035 play.

CAUTION:—Do not under any condition adjust these bearings closer than .0025, as this amount of clearance is necessary to allow for the greater expansion of the bronze backed bushings than the steel connecting rods when the engine is heated.

The bronze backed bushings in the forked connecting rods are not adjustable. If, as the result of long use or improper lubrication, these bushings have too much play on the crank shaft, they should be replaced by new ones.

Adjustment of Main Crankshaft Bearings

There are three main crankshaft bearings. These bearings are provided with liners which are clamped between the crank case and the bearing caps.

To tighten a main bearing, proceed as follows: Remove the oil feed pipe connecting the bearing cap with the oil manifold. Remove the aluminum bearing cap with the lower half of the bearing and the liners.

Replace the liners with liners which are less in thickness by an amount equal to the amount of "take-up" necessary. Liners can be obtained varying in thickness by .001 of an inch. Each liner is stamped indicating its thickness.

Carefully reduce the upper edges of the lower half of the bearing *just enough* to allow the aluminum bearing cap to clamp the new liners. This work must be done very accurately, as clearance between the halves of the bearing will cause an oil leak which may prove disastrous to the bearing.

Thoroughly clean the bearing, bearing cap and liners and oil the bearing surface before replacing.

In replacing the bearing cap tighten the bearing nuts firmly and lock with cotter pins. Also make sure that the union nuts on the oil pipe are tightened sufficiently to prevent leakage.

The upper edges of the lower half of the bearing may be reduced by rubbing the bearing on a piece of fine emery cloth stretched tightly over a flat, machined, iron surface.

If more than one bearing is removed at a time care should be taken not to mix the liners, as they may not all be the same thickness.

REMOVABLE CYLINDER HEADS

The cylinder heads are detachable, facilitating access to the valves and combustion chambers.

To remove a cylinder head, first drain the cooling system (see page 57), and disconnect the water outlet hoses from the connections at the front end. Disconnect the ignition wires at the spark plugs, and remove the ignition conduit brackets from the cylinder head. Unscrew and remove the nuts on the studs holding the head to the cylinder block. Remove the cylinder head and the gasket, being careful not to injure the latter.

Before replacing the cylinder head see that there is no carbon or gritty substance in the cylinders or around the valves. Clean the surfaces on the cylinder block and removable head which contact with the gasket and make sure that the gasket is in good condition. If care is taken in handling the gasket in removing it, it should be possible to use the same gasket again. If there is any question as to the condition of the gasket, it should be replaced by a new one.

Place the gasket in position. Carefully put the cylinder head on over the studs. In screwing down the nuts, it is best to begin with the center nut in the middle row and work towards the ends, taking alternate nuts on each side of the center. Then do the same with the nuts in the inner row and finally with those in the outer row. All of the nuts should be tightened lightly at first and then, starting again at the center, they should be drawn down firmly.

TIMING MARKS ON FLYWHEEL

The flywheel marks (see Fig. 41) are arranged in four groups, each group consisting of the following marks in order:

"IN|S"—"Inlet setting"

"IG|A"—"Ignition advance"

"C"—"Center"

"EX|S"—"Exhaust setting"

Each group of marks refers to two cylinders, the numbers of which are stamped one on each side of the "C" in that group.

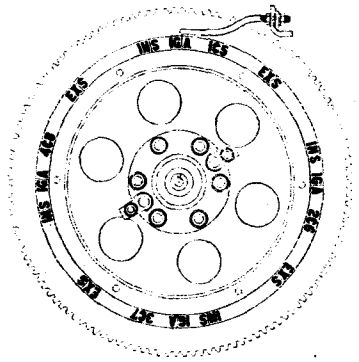


Fig. 41. Flywheel, Showing Timing Marks.

Complete instructions for using the "inlet setting" and "exhaust setting" marks are given below under "Positions of Cams for Adjustment of Cam Slides." The ignition timing is explained fully under "Timing Ignition," page 74.

ENGINE VALVES

Positions of Cams for Adjustment of Cam Slides

In poppet valve gasoline engines it is necessary for a cam roll to be on the circular surface of the cam when the cam slide operated by that cam is being adjusted. The shape of the circular portion of the cams in the Cadillac eight-cylinder engine is such that it is not sufficient for a cam roll simply to be on the circular surface of the cam. The cam roll must be on a certain small arc of the circular surface of the cam when the cam slide is being adjusted.

As no two cams on the cam shaft are in the same position at the same time, it is necessary before adjusting each cam slide to place the corresponding cam in the proper position by cranking the engine by hand as described below. The cam slides cannot be properly adjusted with the cams in any but the correct positions.

Placing Cam in Position

To place a cam in position for properly adjusting the cam slide proceed as follows:

Open the compression relief cocks on the cylinder blocks and with the ignition switched off crank the engine slowly by hand in the direction in which it runs until the piston in the cylinder in which the valve is located is at the end of the compression stroke, or in other words, on firing center. This may be determined by placing a finger over the compression relief cock while cranking the engine. When the piston is exactly on firing center the pointer attached to the crank case will then be directly over the mark on the flywheel indicating "center" for that cylinder.

Inlet Valve. If the valve operated by the cam slide is an inlet valve, select the first "IN|S" to the left of the center mark and mark it with a piece of chalk.

Crank the engine further by hand in the direction in which it runs until that "IN|S" is directly under the pointer. It will be necessary to crank the engine nearly a complete revolution.

The cam is then in the correct position for adjusting the cam slide operating that inlet valve. (See under "Adjustment of Cam Slide.")

Exhaust Valve. If the valve operated by the cam slide is an exhaust valve, after cranking the engine to the proper firing center, select the first "EX|S" to the right of the center mark and mark it with a piece of chalk.

Crank the engine further by hand in the direction in which it runs until this "EX|S" is under the pointer.

Then crank the engine further one complete revolution until this "EX|S" is again directly under the pointer.

The cam is then in the correct position for adjusting the cam slide operating that exhaust valve. (See under "Adjustment of Cam Slide.")

Adjustment of Cam Slide

When the cam is in the proper position (see under "Positions of Cams for Adjustment of Cam Slides"), the clearance between the end of the valve stem "A," Fig. 42, and the adjusting screw "B" in the cam slide "D" should be from .002 to .003 of an inch when the engine is cold.

To adjust a cam slide, loosen the locking nut "C" and turn the adjusting screw "B." Turning the adjusting screw "B" to the left (screwing it out) decreases the clearance between the end of the valve stem and the head of the adjusting screw; turning the screw to the right (screwing it down) increases the clearance. Tighten the locking nut "C" when the proper clearance has been obtained, taking care that in so doing the adjustment of the screw "B" is not disturbed.

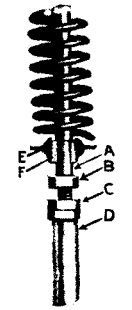


Fig. 42. Cam Slide and Adjusting Nuts.

Grinding Valves

The valves are carefully ground when the engine is assembled and should not soon require further attention.

When it has been determined that a valve requires regrinding, proceed as follows:

Remove the cylinder head (see under "Removable Cylinder Heads"), and remove the valve cover plate from the cylinder block.

Force up the washer "E," Fig. 42, and then remove the split locking collar "F." Then remove the valve, being careful to mark it in case more than one valve is taken out at a time, so that it can be replaced as originally assembled.

It is a good plan to wrap soft string around the stem of the valve near the head. This will tend to prevent the grinding compound getting into the valve guide.

In the absence of a good prepared grinding compound, make a paste of powdered glass or flour of emery, mixed with thin oil.

Place the grinding compound on that portion of the valve which bears on the valve seat. Then replace the valve, and with a screw driver or other suitable tool, rotate it back and forth about one-third revolution, with only a slight pressure on the tool. Lift the valve occasionally and turn it to a new position. Continue the grinding operation until the valve and its seat show perfect bearing.

Then thoroughly wash the valve, the valve chamber and the valve guide with gasoline. Be very careful to leave none of the grinding compound in any part of the cylinder, as it will cause serious damage if it works into the cylinder bore or other parts of the engine; also remove the string from the valve stem. Replace the valve.

When all of the valves requiring it have been ground, replace the cylinder head and re-time the valves that have been ground. (See under "Adjustment of Cam Slide," page 61.) Re-timing is necessary, as the amount of clearance between the valve and the adjusting screw in the cam slide is necessarily reduced during the grinding operation.

ENGINE CHAINS

The camshaft is driven from the crankshaft and the fanshaft is driven from the camshaft by silent chain drive. A double sprocket is keyed to the front end of the camshaft. The camshaft driving chain meshes with the front half of this double sprocket and with a sprocket on the crankshaft. The rear half of the double camshaft sprocket drives the fanshaft driving chain.

To examine or remove either chain, it is first necessary to remove the front cover plate of the engine. To do this proceed as follows:

Removing Front Cover Plate

Remove the headlights and the radiator.

Remove the fan.

Disconnect the oil pump elbows from the crankcase.

Remove the cap from front engine support.

Remove the splash shield under the engine.

Remove the bolts connecting the exhaust pipes to the manifolds on the engine.

Block the car so it will not roll on the floor.

Carefully jack up the front end of the engine.

Disconnect the pipe at the air pump.

Remove the cap screws holding the front cover plate to the crankcase of the engine.

Draw the threaded dowel pins.

Remove the front cover.

Removing Camshaft Driving Chain

To remove the camshaft driving chain cut off the riveted head of one of the seat pins on the camshaft driving chain and remove the seat pin and rocker pin.

Removing Fanshaft Driving Chain

To remove the fanshaft driving chain the camshaft chain must first be removed. (See above.)

Cut off the riveted head of one of the seat pins on the fanshaft driving chain and remove the seat pin and rocker pin.

Remove the fanshaft driving chain.

Replacing Fanshaft Driving Chain

Place the chain on the fanshaft and camshaft driving sprockets with the arrows, which are stamped on the outside links, pointing in the direction in which the chain is to run. If the chain is so placed on the sprockets that it runs in the opposite direction, *it will very quickly destroy itself.*

Bring the ends of the chain together, preferably on the larger sprocket. Insert pins and rivet. (See under "Riveting Chains," page 64.)

It is unnecessary when installing a fanshaft driving chain to pay any attention to the relative positions of the sprockets upon which the chain operates, but the ignition must be re-timed after both chains have been replaced. (See under "Timing Ignition," page 74.)

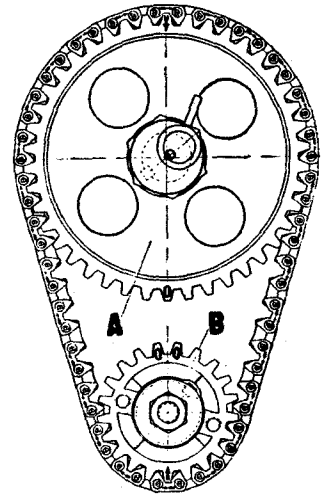


Fig. 43. Crankshaft and Camshaft Sprockets and Chain.

Replacing Camshaft Driving Chain

If the fanshaft driving chain has been removed, it will be necessary to replace it before replacing the camshaft driving chain. (See above under "Replacing Fanshaft Driving Chain.")

In replacing the camshaft driving chain care must be used to see that the chain is so placed on the sprockets that the valve timing is correct.

One tooth of the camshaft driven sprocket "A," Fig. 43, is marked with an arrow and the tooth diametrically opposite with an "O." A tooth on the crankshaft sprocket "B" has a similar arrow upon it and the two teeth opposite each have an "O" mark.

Turn the camshaft and crankshaft to bring the sprockets into the positions shown (Fig. 43). The arrows on the two sprockets must point towards each other and the tooth of the camshaft sprocket marked "O" must be directly opposite the space between the two similarly marked teeth on the crankshaft sprocket.

Without turning either of the sprockets, place the chain on the sprockets with the arrows, which are stamped on the outside links, pointing in the direction in which the chain is to run. If the chain is so placed on the sprockets that it runs in the opposite direction, *it will very quickly destroy itself.*

Bring the ends of the chain together, preferably on the larger sprocket. Insert pins and rivet. (See below.)

Riveting Chains

Each joint of the chain contains two pins, as shown in Fig. 44; a seat pin "A," which is ribbed, and a rocker pin "B," which is plain. If a chain is removed, be very sure in replacing it that the joint pins are inserted as shown.

Bring the ends of the chains together on the larger sprockets. (See under "Replacing Camshaft Driving Chain" and "Replacing Fanshaft Driving Chain," page 63.) Insert the rocker pin and a used or extra seat pin to align the links. Clamp the new seat pin in a vise and rivet the small washer "C" on one end.

Force the used seat pin out by inserting the new seat pin. Insert the new seat pin from the rear. In doing so be careful not to force out the rocker pin. Be sure to recover the used seat pin so that it will not get into the mechanism of the engine.

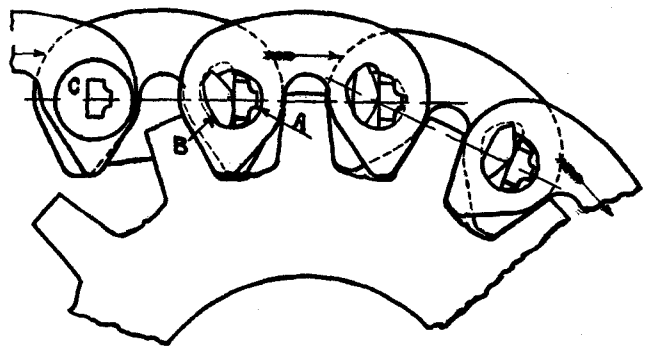


Fig. 44. Correct Positions of Rocker and Seat Pins in Riveting Chains.

After the new seat pin is in place turn the engine so that the connection is mid-way between the sprockets. Then insert a riveting block between the crank case wall and the inner end of the seat pin to be riveted, place the small washer on the end of the seat pin and carefully peen over the end of the pin. Remove the riveting block.

If, in installing a chain the rocker pin is inserted backwards it will cause a knock on the small sprocket which will quickly destroy the chain. It is absolutely essential that the joint pins be assembled correctly if the chain is to live and give quiet and satisfactory service.

CADILLAC-DELCO ELECTRICAL SYSTEM

Single Wire System

The Cadillac-Delco system is the single wire, single unit system. One side of the motor generator, storage battery, lamps, horn and ignition apparatus is connected to some part of the frame of the car or the engine. The other connections are made with copper wires or cables.

MOTOR GENERATOR

The motor generator serves both as a generator of current and as an electric motor for cranking the engine when starting. The principal elements of the motor generator are an armature and a field. There are two windings on the armature and two in the field—one on the armature and one on the field are used when the motor generator is used as a generator and the other windings when it is used as a motor.

Generator

The motor generator, when acting as a generator, is driven at engine speeds by the fan shaft which in turn is driven by a silent chain from the cam shaft at the front end of the engine. Thus driven, it delivers electrical energy for charging the storage battery and for operating the lights, ignition apparatus and horn. To prevent the voltage of the current generated from rising too high when the engine is running at high speeds, the third brush system of current regulation is employed.

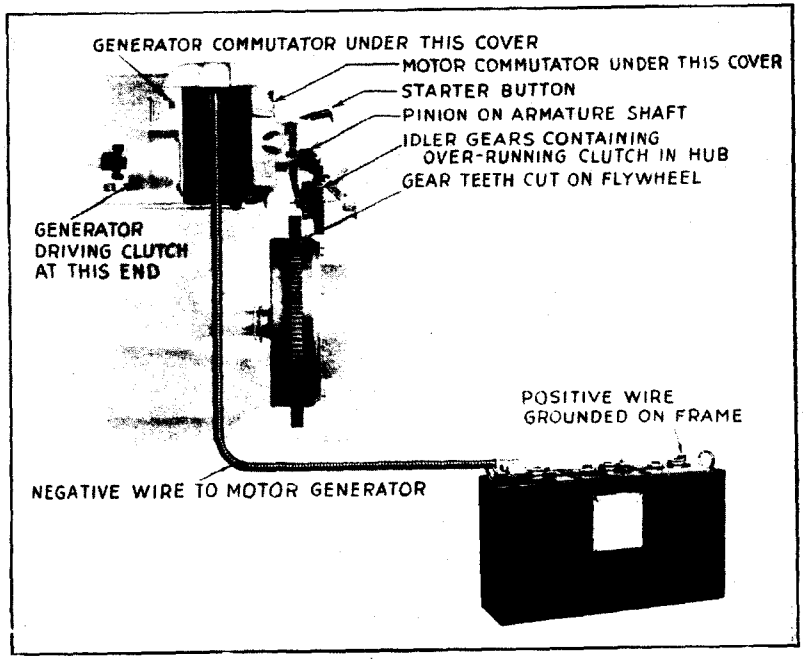


Fig. 45. Motor Generator and Starting Mechanism.

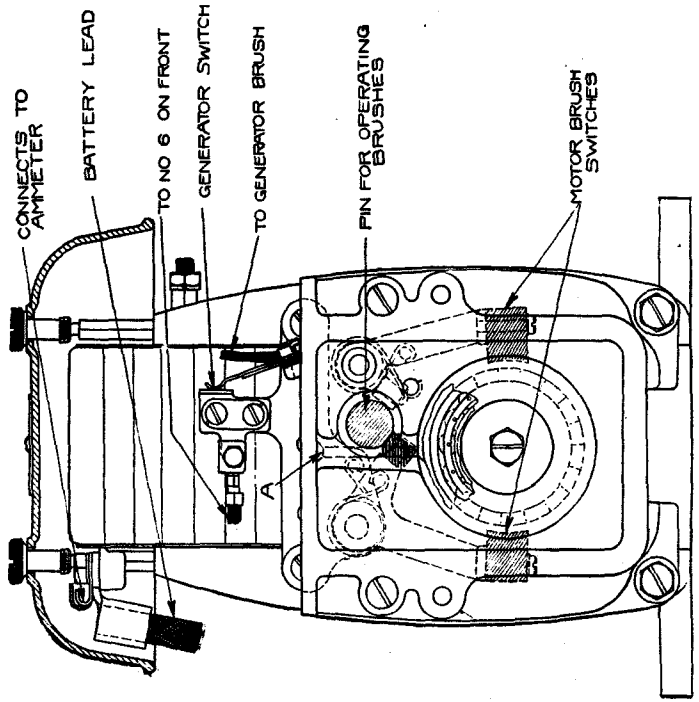


Fig. 47. Motor Generator, Rear View.

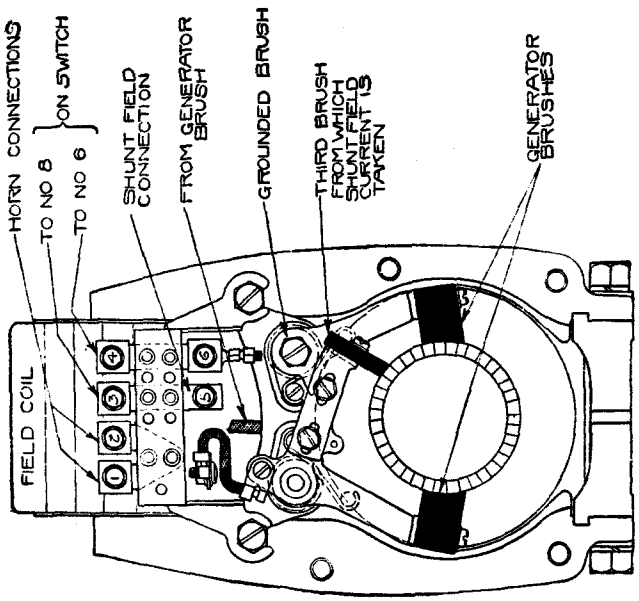


Fig. 46. Motor Generator, Front View.

Motor

When acting as a motor the sole function of the motor generator is to crank the engine. In starting, the first thing the operator does is to push down the ignition lever on the combination switch. This closes the ignition circuit and the circuit between the storage battery and the generator windings on the motor generator causing the armature to revolve slowly.

A ratchet clutch in the front end of the generator allows the armature to rotate ahead of the driving shaft. The clicking noise that is heard when the ignition switch is turned on comes from this clutch.

Next the operator pushes down the starter button. The first movement causes the starter gears to mesh with the teeth on the flywheel. The probability of the ends of the teeth striking and failing to mesh is overcome by the slow rotation of the armature which began as soon as the ignition was turned on.

As the starter button is pushed further down the circuit between the storage battery and the generator windings of the motor generator is broken. Upon the last movement of the starter button the circuit is closed between the storage battery and the motor windings on the motor generator causing it to act as a powerful electric motor which rapidly cranks the engine.

As the gear ratio between the armature shaft and the crank shaft is approximately 25 to 1 the armature would be driven at an excessively high rate of speed after starting the engine and before the operator let the starter button back if it were not for an over-running clutch in the hub of the idler gears between the flywheel and the armature shaft. The electric motor cranks the engine through this clutch but after the engine has started and begins to run faster than the electric motor, the clutch slips.

When the starter button is let up, as soon as the engine is running under its own power, the first movement of the button breaks the circuit between the electric motor and the storage battery, a further movement causes the starter gears to slide out of mesh and the final movement completes the circuit between the generator and the storage battery, which was broken when the starter button was pushed down. The engine running and the circuit being closed between the storage battery and the generator windings of the motor generator, the generation of current begins.

Commutators

Do not under any condition put oil of any kind on the commutators of the motor generator.

LIGHTING SYSTEM

Lighting Switch

All of the lamps are controlled from the instrument board with the exception of the tonneau lamp on the Seven-Passenger and Phaeton and the dome and quarter lights on enclosed cars. The left hand lever on the combination switch makes the necessary connections for the head lamps, side lamps, speedometer lamp and tail lamp. A switch button at the top of the combination switch controls the clock lamp on the instrument board. To turn on this light pull out on the switch button. To extinguish the light, push in.

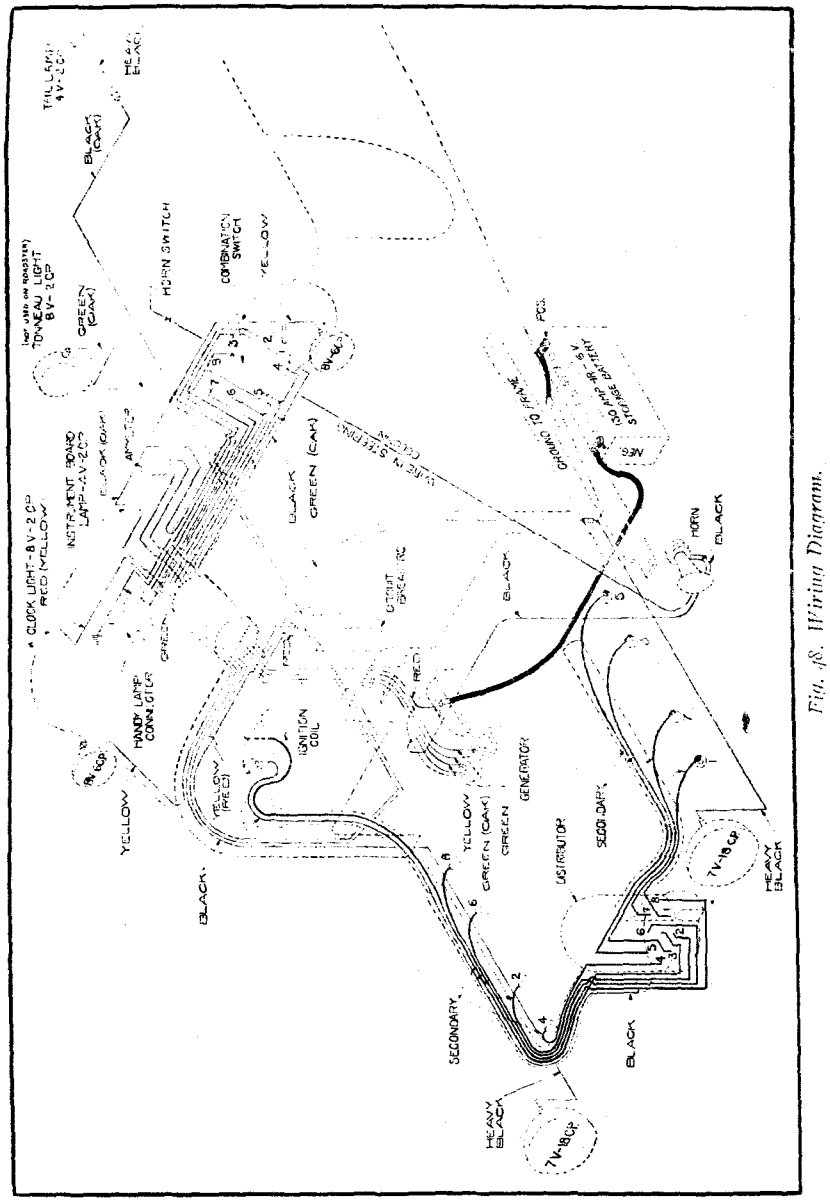


Fig. 8. Wiring Diagram.

Tilting Head Lamp Reflectors

Traffic regulations in most localities now include some requirements as to the control of glaring rays from automobile head lamps. The customary rule is that there shall be no glare when meeting vehicles going in the opposite direction or when driving through towns.

The devices commonly employed to meet these requirements make use of one or another of the following principles: Reducing the amount of light at its source, diffusion or spreading of the pencil rays, deflection of the pencil rays below the level at which glare is objectionable.

Reducing the amount of light as is done by dimmers has the obvious disadvantage of placing the road in semi-darkness just at the time when the maximum illumination is needed. Diffusion of the rays, as by lenses, may conform to the requirements of the law but the rays are so spread out that the illumination of the road any considerable distance ahead of the car is insufficient for satisfactory driving.

Deflection of the pencil rays below the level at which they are objectionable intensifies the illumination of the road directly in front of the car but renders distant objects less distinct, particularly those in the upper part of the field of vision. The first result is an advantage at the moment when passing a vehicle going in the opposite direction but the second is not desirable on the open road where highway signs and overhanging obstructions must be easily visible. Prismatic shaped lenses, which employ this principle, are, therefore, not altogether satisfactory except just for the short time an oncoming vehicle is approaching.

A device is employed in the Cadillac which makes use of the advantage of the third principle but which eliminates the disadvantage of having the rays permanently deflected. The reflectors in the head lamps are pivoted so that they may be tilted, and are controlled by a lever on the steering column. When the road is clear and the illumination of the distant road is desired, the reflectors direct the light straight ahead. When a vehicle traveling in the opposite direction approaches, by simply raising the lever on the steering column the reflectors are tilted down, deflecting the rays below the level of the occupants of the approaching car and increasing the illumination directly in front of the car where it is most needed.

In a few states the law specifies that at no time shall there be any glaring rays higher than 42 inches above the road at a point 75 feet ahead of the car. When in the tilted position, the Cadillac head lamps conform to this requirement.

The head lamp reflector control is adjusted when the car is assembled and should require no further attention.

Focusing Headlamps

The adjustment for focusing the headlamp bulbs is near the top of the lamps and is accessible after removing the lamp door.

To make the adjustment, run the car head on towards, and at right angles to, a high fence or building, and stop when within from fifteen to twenty feet from it. Then with the tilting reflector in the straight ahead position, change the adjustment until the bulb is in the proper position.

If in turning the screw to the right, the rays of light appear to spread out, it indicates that the bulb is too far back in the reflector and that it should be brought forward. To do this, turn the adjusting screw to the left until the proper rays are shown.

If the adjusting screw be turned to the left and the rays appear to spread out, it indicates that the bulb is too far forward and it should be brought back. To do this, turn the adjusting screw to the right until the proper rays are shown.

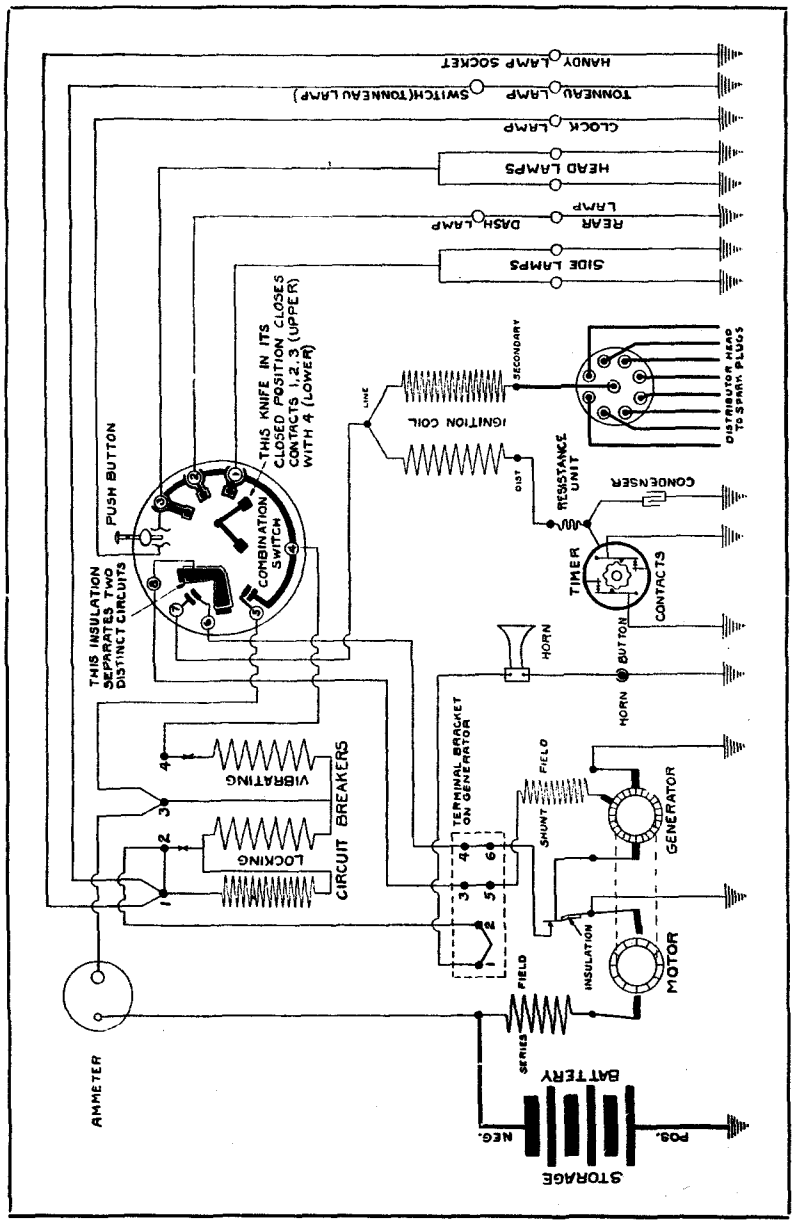


Fig. 49. Circuit Diagram.

Cleaning Reflectors

The reflectors in the head and side lamps are plated with pure silver. In polishing extreme care must be used in selecting materials which will not scratch the silver.

Powdered dry rouge and a chamois skin are recommended. If the reflectors are tarnished, moisten the rouge with alcohol, and apply with the chamois. Then polish with a dry chamois and rouge.

The chamois should be soft and must be kept free from dust. Do not use the chamois for any other purpose.

Socket for Portable Lamp

A socket for the portable lamp is attached to the back of the instrument board just to the right of the hand air pump.

Lamp Bulbs

It is recommended that bulbs for the lamps be purchased from a Cadillac dealer. In any event bulbs should be used which have the correct voltage and candle power rating. The following is a table of voltage and candle power for the lamps in the lighting system:

Lamps	*Voltage*	*Candle Power*
Head	7	18
Side	8	6
Speedometer	4	2
Tail	4	2
Clock	8	2
Tonneau	8	2
Portable	8	6
Dome, enclosed cars	8	6
Quarter, enclosed cars	8	2

IGNITION SYSTEM

The ignition system embodies the following elements: A source of current, the generator, or at low speeds, the storage battery; an ignition timer, which interrupts the low tension current at the proper instant to produce a spark in the high tension circuit; an induction coil, transforming the primary current of six volts into one of sufficient voltage to jump between the points of the spark plugs; a condenser, which assists the induction coil to raise the voltage, and which protects the contact points of the ignition timer from burning; and a high tension distributor which directs the distribution of the high tension current to the spark plugs in the respective cylinders.

Ignition Switch

The current for ignition is controlled by means of the right hand lever on the combination switch on the instrument board. This lever also controls the generator circuit as explained under "Motor Generator" on page 67.

Distributor and Timer

The distributor and timer, Fig. 50, are carried on the fanshaft housing and are driven by the fanshaft through spiral gears.

The distributor consists of a cap or stationary head of insulating material and a rotor of the same material which turns with the timer shaft. The distributor head carries one contact in the center and eight additional contacts placed at equal distances about the center. (Only two of these contacts are shown in Fig. 50.) The center contact is connected to the high tension terminal on the ignition coil. The eight remaining contacts are connected to the spark plugs in the cylinders. The center contact is provided with a spring plunger which is in constant communication with a plate on the rotor. This plate carries at its outer end a contact button. As the rotor revolves, the contact button slides over the eight outer contacts in the distributor head, consecutively completing the high tension circuit to each of the spark plugs from the ignition coil.

The timer, by which the low tension current is interrupted at the proper time to produce the spark, is beneath the rotor. An eight lobed cam "B," Fig. 51, on the timer shaft, operates two contact arms "C" and "D." As the cam revolves, these arms alternately complete and break the primary circuit. The cam is held in place by the lock screw "A."

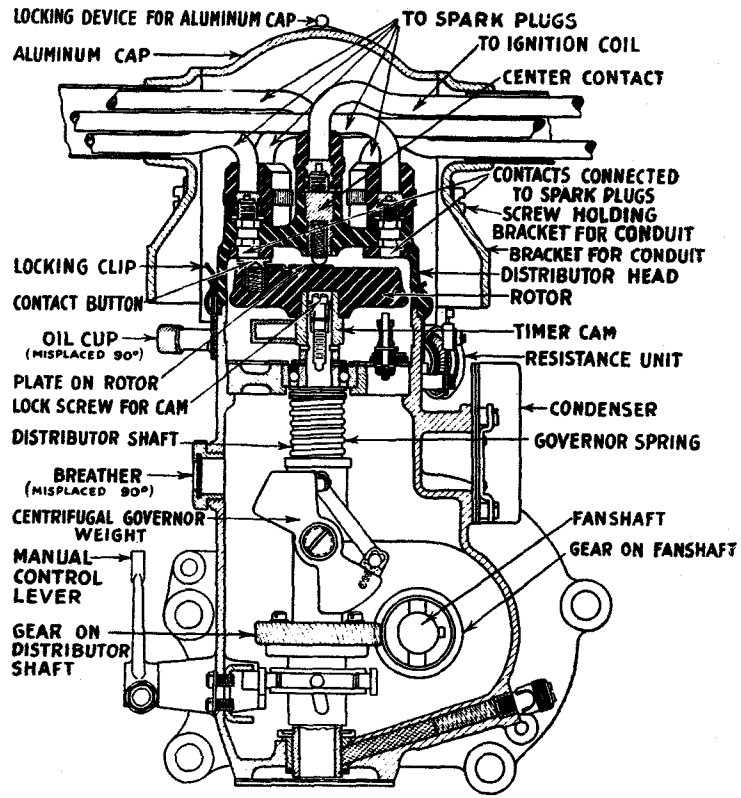


Fig. 50. Distributor and Timer, Sectional View.

Two sets of timer contact points are provided. The object is to distribute over two sets the current which would otherwise pass through one. This greatly lessens wear and burning of the points.

The spark timing is automatically controlled by a centrifugal governor which advances or retards the position of the timer cam relative to the driving shaft, as the engine speed increases or decreases. (See under "Automatic Spark Control," page 16.) A spark lever at the steering wheel is provided, however, by which the timing may be still further advanced or retarded. This spark lever is connected to the manual control lever at the left of the distributor housing.

Cleaning Rotor Button Track

If the track in the distributor head, against which the rotor button presses, requires cleaning, do not use sandpaper or emery cloth. Clean with a piece of cloth moistened with vaseline, then polish with a dry cloth.

Adjustment of Timer Contact Points

The distributor head is protected by an aluminum cap, to which are attached the conduits which carry the high tension wires to the spark plugs and ignition coil and the low tension wire from the ignition coil to the resistance unit. The timer contact points are accessible after removing the aluminum cap, the distributor head and the rotor. To do this proceed as follows:

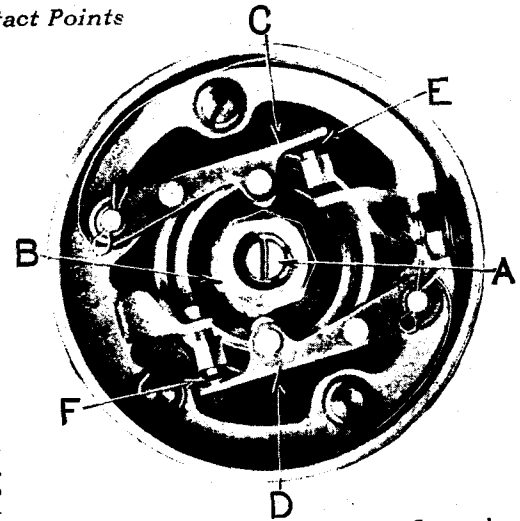


Fig. 51. Timer Contacts, Distributor Cap and Rotor Removed.

Remove the screws holding the conduit brackets to the aluminum cap. Move the locking device on top of the cap to one side and remove the cap. Press back the finger of the clip on the left side of the distributor head and rotate the head until both clips are opposite the flat places on the head. Then lift the head straight up. Remove the rotor by carefully lifting it straight up. The contact points are then accessible, appearing as shown in Fig. 51.

Method of Adjustment

To set the contact points proceed as follows:

Crank the engine by hand until the contact arms "D" and "C" are directly on top of lobes of the cam "B." Then adjust the contact points at "E" and "F" so that they stand twenty thousandths of an inch apart. Both sets of contact points should be adjusted exactly alike.

Do not file or grind the contact points. To clean the points remove them and simply rub them over an oil stone two or three times. Then replace and adjust, following instructions given.

It is a good plan after adjusting the timer contact points to check the ignition timing. See under "Timing Ignition," page 74.

Timing Ignition

Unless the timer contact points are in proper adjustment they should be re-adjusted before proceeding to time the ignition.

To time the ignition proceed as follows:

Move the spark lever to the extreme left on the sector; open the compression relief cocks on the cylinder blocks, and crank the engine by hand until the piston in No. 1 cylinder is on firing center. (No. 1 cylinder is the one nearest the radiator in the left hand block of cylinders.)

Next remove the distributor cap and head; also the rotor, and loosen the lock screw "A" just enough to allow the cam "B" to be turned by hand after the rotor is fitted. (The lock screw should not be loosened enough to allow the cam to turn on the shaft when the engine is cranked by hand.)

Then replace the rotor and turn it by hand until the distributor brush in the rotor is directly under the terminal marked No. 1 on the distributor cover.

Replace the distributor cover, and move the spark lever to the extreme right on the sector.

Then switch on ignition; hold the high tension wire to the spark plug in No. 1 cylinder about one-eighth of an inch away from the cylinder casting and crank the engine slowly by hand in the direction in which it runs. Stop cranking immediately a spark occurs between the wire and the casting. (It will be necessary to crank the engine nearly two complete revolutions before the spark occurs.)

If the cam "B" is properly set a spark will occur when a point on the flywheel one and twenty-one thirty-seconds inches in advance of the center line for No. 1 cylinder is directly under the pointer attached to the crank case of the engine. This point for each cylinder is marked on the flywheel by the letters "IG|A." (See Fig. 41.)

If the spark occurs before this, rotate the cam "B" slightly in a counter clockwise direction to correct the adjustment. If the spark occurs later than this, rotate the cam slightly in a clockwise direction.

After the adjustment has been properly made, lock the cam securely to the distributor shaft by the lock screw "A."

After locking the adjustment it is a good plan to check the timing by fully retarding the spark lever; in other words moving it to the extreme left on the sector, holding the high tension wire to the spark plug in No. 1 cylinder about one-eighth of an inch away from the cylinder casting, and again cranking the engine slowly by hand in the direction in which it runs, stopping immediately a spark occurs.

If the ignition is properly set the spark will occur under these conditions when the center line on the flywheel for No. 1 cylinder is directly under the pointer attached to the crankcase, or has passed the pointer.

Caution—Do not set the ignition so that the spark occurs before center with the spark lever at the extreme left on the sector.

Resistance Unit

The resistance unit is a coil of resistance wire wound on a porcelain spool as shown in Fig. 50. Under ordinary conditions it remains cool and offers little resistance to the passage of current. If for any reason the ignition circuit remains closed for any considerable length of time with the engine not running, the current passing through the coil heats the resistance wire, increasing its resistance to a point where very little current passes, and insuring against a waste of current from the battery and damage to the ignition coil and timer contacts.

Ignition Condenser

The purpose of the condenser in the ignition system is to protect the timer contact points against the corrosive action of sparking and to utilize the tendency to spark to build up a higher voltage in the high tension circuit than would otherwise be obtained.

The ignition condenser is mounted on the right hand side of the distributor housing in a waterproof casing. (See Fig. 50.) It consists of layers of tinfoil separated by sheets of paraffin paper. Alternate layers of tinfoil are connected to opposite terminals. The current does not pass through the condenser and on test the terminals should show open circuit.

There are no adjustments in connection with the condenser and it requires no attention.

Ignition Coil

The ignition coil serves to transform the low voltage current in the primary circuit to a current of high voltage in the secondary circuit. The coil consists of a primary winding of coarse wire wound around an iron core in comparatively few turns, and a secondary winding of many turns of fine wire, also the necessary insulation and terminals for wiring connections.

The ignition coil is mounted on the inner face of the dash and should require no attention except occasional inspections to insure that there are good connections between the wires and terminals.

Spark Plugs

Spark plugs should be kept clean. When carbon or soot is permitted to collect on them, it causes a short circuiting of the current and prevents the proper ignition of the charge in the cylinder. A good method of cleaning plugs is to wash them in alcohol.

In order to get the best results the points on the spark plug should be .028 of an inch apart. If the points are too close together, the engine will miss under a light load and when idling. If the points are too far apart, it will miss under heavy loads, and when the throttle is opened quickly for acceleration.

CIRCUIT BREAKERS

The circuit breakers are mounted on the inner face of the dash. These are protective devices which take the place of fuses.

The circuit breakers prevent the discharging of the storage battery, damage to the wiring to the horn, lights and the ignition apparatus, or to any of these parts in case any of the circuits to or in these parts become grounded.

As long as only a normal amount of current is used for horn, lights and ignition the circuit breakers will not open. In the event of a ground, an abnormally heavy current is conducted through one of the circuit breakers thus producing strong magnetism which attracts the armature and opens the contact. This cuts the flow of current.

The circuit breaker protecting the horn, handy lamp and tonneau lamp circuit is known as a lockout circuit breaker. In case of a ground in any of these circuits, the breaker opens and remains open until the ground is removed.

The circuit to the ignition apparatus and remainder of the lights is protected by a vibrating circuit breaker. In case of a ground in any of the circuits protected by the vibrating circuit breaker, the breaker will start to vibrate and will continue to vibrate until the ground is removed.

GENERATION OF CURRENT

Ammeter

When the car is standing with lights turned on, the ammeter, which is located on the instrument board, indicates on the "Discharge" side of the dial the amount of current being drawn from the storage battery for this purpose. When the ignition switch is turned on the ammeter indicates, in addition, the current used in slowly rotating the armature of the motor generator. When the starter button is pushed down current is no longer required for slowly rotating the armature of the motor generator. The ammeter then indicates only the current used for the ignition and lights (if turned on). The ammeter does not indicate the amount of current used in the cranking operation.

Before the engine is running fast enough to generate sufficient current to equal the current demand, the ammeter indicates on the "Discharge" side the amount of current being drawn from the storage battery. When the engine has attained a speed sufficient to generate current to more than equal the demand, the ammeter indicates on the "Charge" side the excess current which passes to the storage battery and recharges it.

Ordinarily, with all lights switched off, sufficient current is generated to start recharging the battery when the car is operated in high gear at speeds between four and six miles per hour and, of course, at much lower speeds when the car is operated in low or intermediate gear. With all lights turned on sufficient current is generated to take care of the requirements at a speed of ten to fifteen miles per hour and at speeds greater than this the surplus current passes through the storage battery and recharges it. In other words, the ammeter indicates the rate at which the storage battery is being charged or discharged.

To determine the total output of the generator turn off all the lights and add the amount of current used for ignition, i. e., two to three amperes, to the ammeter reading.

Current Regulation

The generating capacity of the generator is regulated by means of a third brush on the generator commutator. (See Fig. 46.) The position of this brush relative to the other two generator brushes determines the maximum output of the generator, the length of the brush arm being adjustable. The brush arm is properly adjusted when the car is assembled and should not require readjustment unless its position is altered. To determine whether readjustment is necessary proceed as follows:

Start the engine in the usual manner. With all the lights turned off slowly increase the speed of the engine by means of the hand throttle lever, meanwhile observing the hand of the ammeter on the instrument board. (*Do not race the engine.* There is no worse abuse and it is unnecessary in this adjustment to run the engine faster than 1500 revolutions per minute.) The current indicated by the ammeter will increase with the speed of the engine to a point between 950 and 1200 revolutions per minute, and will then decrease. If the amount of current indicated by the ammeter at the maximum point is greater than 18 amperes, stop the engine and readjust the third brush as follows:

Remove the generator front end top cover. Loosen the two screws which hold together the two parts of the third brush arm and shorten the brush arm. After moving the third brush to an approximately correct position, press the brush down so that it makes even contact with the commutator, and hold it down while tightening the screws in the brush arm. The purpose of this is to have the curvature of the end of the brush conform as closely as possible to that of the commutator.

After setting the third brush, sand it in with a strip of No. 00 (fine) sandpaper slightly wider than the brush. Pass one end of the strip of sandpaper down between the right hand side of the front casing of the generator and the pin on which the third brush arm pivots, then over to the left and between the third brush and the commutator. The sand side of the sandpaper should be up. Then pressing down firmly on the third brush, draw the sandpaper from under the brush by pulling on the free end of the sandpaper. Repeat this operation until there is even contact between the brush and commutator. Usually five or six times will be sufficient.

Start the engine. Again slowly accelerate the engine and check the maximum current. If it is still greater than 18 amperes, reset the third brush and sand it in again.

If the maximum current indicated by the ammeter is less than 18 amperes and the specific gravity of the battery repeatedly shows that the battery is not being properly charged, lengthen the brush arm. Do not, however, lengthen the brush arm unless the condition of the battery makes it necessary and under no circumstances adjust it so that the ammeter indicates a maximum current of more than 18 amperes with all lights turned off. A greater amount of current may result in serious injury to the motor generator.

STORAGE BATTERY

General Description

The storage battery consists of three cells, each containing thirteen plates—six positive and seven negative—contained in a wooden box, which is carried in a compartment in the left hand dust shield. The cover of this compartment forms a part of the dust shield and may be removed after unscrewing the two nickel-plated screws with a screw-driver.

The battery is designed especially for the Cadillac-Delco electrical cranking, lighting and ignition system and is made by the Electric Storage Battery Co. of Philadelphia, Pa., whose products for the trade are known as "Exide" batteries.

The specific gravity of the acid solution in the battery is an indication of the state of charge of the battery. (See under "Hydrometer Syringe.") In a fully charged battery the specific gravity should be from 1.270 to 1.290. If the specific gravity registers from 1.150 to 1.170 it indicates that the battery is practically discharged. A battery discharged below a specific gravity of 1.150 will not crank the engine nor will it burn the lights to full candlepower when the engine is not running.

Caution—Never run the engine with the storage battery disconnected or while it is off the car. Very serious damage to the motor generator may result from such action. Do not remove the motor generator or attempt any adjustment of the circuit breakers or remove any of the wires to the circuit breakers, without first disconnecting the storage battery.

Adding Water to Storage Battery

The acid solution in the battery must always cover the plates and the level of the acid solution should be kept even with the bottom of the filling tubes. Water should be added frequently enough to keep the level up to this point. *Do not add acid.* Ordinarily water should be added every 1,000 miles. but it should be added more frequently if found necessary. Usually it will require only a teaspoonful or so of water; in hot weather it may require more Be sure to replace and tighten the filling plugs after adding water.

To remove a filling plug, turn it as far as possible in the counter-clockwise direction, then lift it straight up. To replace, hold it so that the large arrow is perpendicular to the center line of the car, set the plug in place and turn it in the clockwise direction until tight.

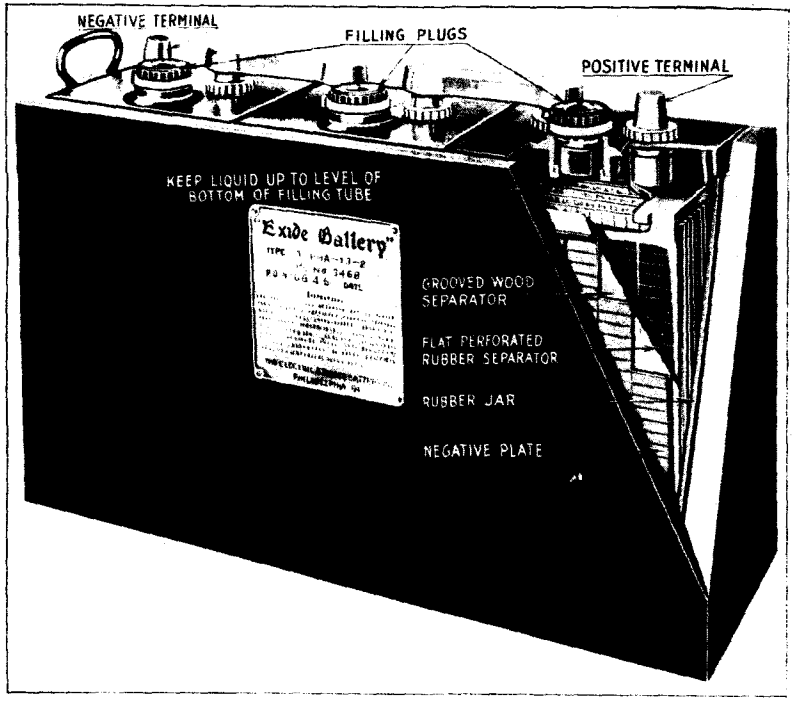


Fig. 52. Storage Battery, Sectional View.

If a plug is left out or is loose, the acid solution will escape from the cell, especially when the battery is being charged. If a plug is lost or broken, you should obtain a new one and install it as soon as possible.

If one cell regularly requires more water than the others, thus lowering the specific gravity of the acid solution in that cell, a leaky jar is indicated. Even a very slow leak will in time result in the loss of all the acid solution in the cell. A leaky jar should immediately be replaced by a new one.

The water for filling the battery must be pure. Distilled water, melted artificial ice or fresh rain water are suitable for this purpose. If rain water is used, it should not be allowed to come in contact with any metal. It should not be caught from a metal roof or in a metal receptacle.

Never keep the water in a metal container, such as a metal bucket or can. It is best to get a bottle of distilled water from a druggist or from an ice plant. A quart will last a long time. The whole point is to keep metal particles out of the battery. Spring water, well water or hydrant water from iron pipes generally contains iron and other metals in solution, which will ultimately cause trouble if used.

Replacing Acid Lost by Spilling

If any of the acid solution has been spilled or has leaked from a cell, replace the loss with freshly mixed solution and follow with an overcharge by running the engine for several hours or by charging the battery from an outside source. (See Fig. 54. Also see under "Personal Danger in Running Engine in Closed Garage," page 52.)

The specific gravity of the acid solution used for replacing the loss should be the same as that of an adiacent cell. This can be determined by the use of an hydrometer syringe (Fig. 53).

The acid solution may be prepared by mixing chemically pure sulphuric acid, which has a specific gravity of 1.840, and distilled water. The proportion for an acid solution having a specific gravity of 1.280 is one part of chemically pure acid and three parts (by volume) of distilled water. *The acid must always be poured slowly into the water. Do not pour the water into the chemically pure acid.*

If, after mixing the acid solution as described above, a solution of a lower specific gravity is desired, it may be prepared by adding additional water to the mixture. But do not under any conditions pour water into the chemically pure acid.

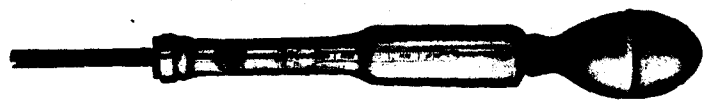


Fig. 53. Hydrometer Syringe.

A glass, earthenware or other acid-proof vessel, should be used for mixing. After mixing, the acid solution should be allowed to cool thoroughly before using.

Hydrometer Syringe

An hydrometer is an instrument for testing the specific gravity of a liquid. An hydrometer syringe is an hydrometer specially designed for convenience in testing the specific gravity of the acid solution in storage batteries. Hydrometer syringes are not a part of the electrical system but can be purchased from any "Exide" service station.

The hydrometer syringe, Fig. 53, is shipped unassembled, and to assemble, hold the glass barrel, to which is attached the rubber bulb, in a horizontal position, and insert the hydrometer stem end first. Wet the soft rubber plug which is attached to the hard rubber pipette (nozzle) and force the rubber plug, grooved end first, into the end of the glass barrel as far as it will go, or until it strikes the shoulder of the barrel. It is important not to force the pipette too much in making this attachment, as the end of the pipette must not extend beyond the base of the grooves of the rubber plug; otherwise the flow of the liquid will be retarded in emptying the hydrometer syringe.

After removing the filling plug from the cover of the cell, compress the rubber bulb of the syringe and insert the pipette in the solution of the cell to be tested. Holding the instrument as nearly vertical as possible, gradually lessen the pressure on the bulb until acid solution rising in the barrel causes the hydrometer to float. In general, only enough acid solution should be drawn to float the hydrometer free of the bottom by about one-half to three quarters of an inch. The specific gravity reading is taken on the hydrometer at the surface of the acid solution in the glass barrel.

If the acid solution is below the top of the plates, or so low that enough cannot be drawn into the barrel to allow of a proper reading of the hydrometer, fill the cell to the proper level (see Fig. 52) by adding pure water, then do not take a reading until the water has been thoroughly mixed with the acid solution. This can be accomplished by running the engine for several hours.

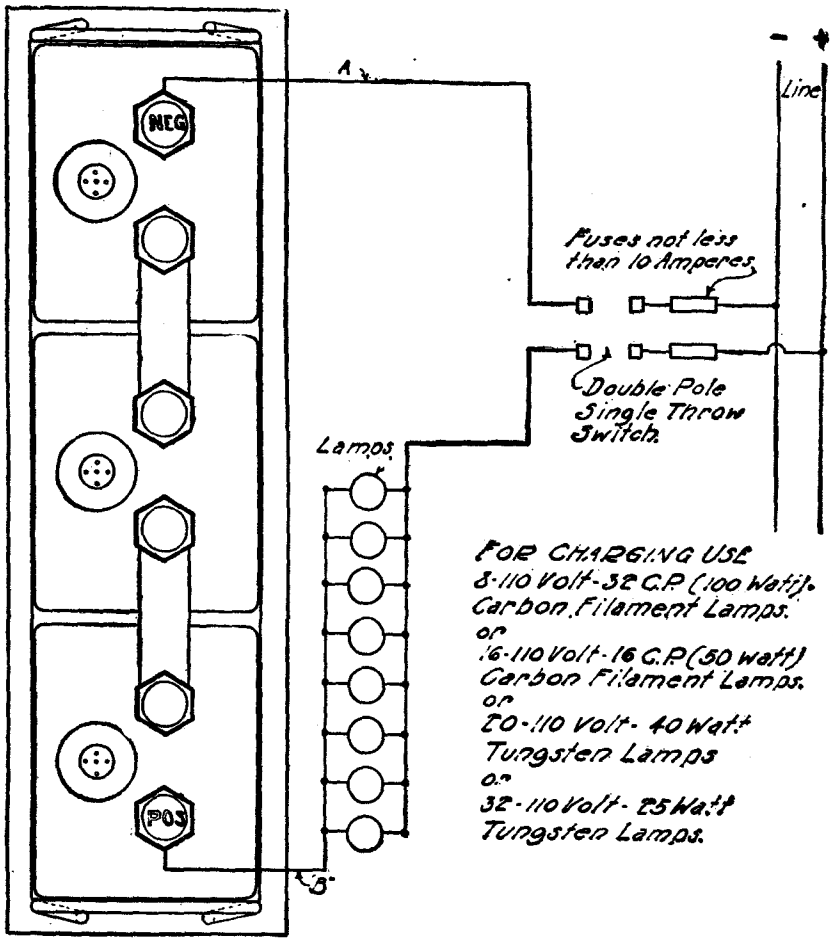


Fig. 54. Diagram of Connections for Charging Battery from 110 Volt D. C. Circuit.

Charging from an Outside Source

It is necessary that the charging be done with *direct current.* The simplest method when there is 110 or 120 volt direct current available, is to connect eight 110 volt, 32 candlepower, 100 watt carbon lamps in parallel with each other and in series with the battery to be charged, this combination giving approximately the proper charging rate—8 amperes. The positive terminal of the battery must be connected to the positive side of the charging circuit and the negative terminal to the negative side. *Very serious injury to the battery will result if connected in the reverse direction.* The terminals of the battery are stamped "Pos." and "Neg."

To determine the polarity of the charging circuit, if a suitable voltmeter is not at hand, dip the ends of the two wires "A" and "B" (Fig. 54) into a glass of water in which a teaspoonful of salt has been dissolved, care being taken to keep the wires at least an inch apart. When the current is turned on, fine bubbles of gas will be given off from the negative wire.

The diagram (Fig. 54) illustrates just how the connection should be made. The charge should be continued until all the cells have been "gassing" or bubbling freely for five hours, and there is no further rise in the voltage of the battery or specific gravity of the acid solution over the same period. A battery in good condition in a discharged state will require about ten hours of re-charging. If it has stood in a discharged condition for several weeks, it will require from twenty-five to fifty hours' charging—all depending upon the condition of the battery and the length of time it has stood discharged.

If only alternating current is available, a current rectifier must be used. Consult your city electrician regarding this matter.

Caution:—Never run the engine with the storage battery disconnected, or while it is off the car. Very serious damage to the motor generator may result from such action.

Preparing Battery for Winter Storage

When the car is stored for the winter the level of the acid solution should be even with the bottom of the filling tubes. (See under "Adding Water to Storage Battery," page 78.) If water is added it should be added just before the last time the car is used so that it will be thoroughly mixed with the acid solution. When the car is stored, the specific gravity of the acid solution should register from 1.270 to 1.290. In this condition there is no danger of the acid solution freezing. The specific gravity of water is 1.000 and water freezes at 32 degrees F. above zero.

Unless the battery is fully charged or nearly so it is probable that the acid solution in the battery will freeze and cause extensive damage.

The following is a table of the freezing temperatures of sulphuric acid and water solutions of specific gravities from 1.050 to 1.300.

Specific Gravity (Hydrometer Reading)	Freezing Temperature (Degrees Fahr.)
1.050	+27°
1.100	+18°
1.150	+ 5°
1.164	0°
1.200	—17°
1.250	—61°
1.275 to 1.300	—90°

The battery should be charged every two months during the "out of service" period, either by running the engine or charging from an outside source (Fig. 54). If either of the above is impossible, and there is no garage equipped for charging batteries to which it may be conveniently sent, the battery may be allowed to stand without charging during the winter, provided the specific gravity of the acid solution registers from 1.270 to 1.290 at the time the car is laid up. Much better results and longer life from the battery will be obtained by giving the periodic charges.

The wires of the battery should be disconnected during the "out of service" period, as a slight leak in the wiring will discharge the battery.

Placing Battery in Service Again

Before putting the battery into service again, inspect it and add water, if necessary. In placing the battery on the car, care should be taken not to tighten the hold down bolts too tight. If the battery has not been kept charged during the winter, it will be advisable to give it a fifty-hour charge at a four-ampere rate from an outside source before putting it into service again. Make sure that the terminals are free from corrosion and that good connections of the wires are made.

The corrosion, which is a greenish deposit, can be removed from the bolts and terminals by placing them in a solution of water and bicarbonate of soda (cooking soda).

The corrosion can be removed from the posts by saturating a piece of cloth with the solution and wiping them off. Do not allow any of the solution to get into the cells of the battery.

After the parts are free from corrosion they should be washed in warm water, and a light coat of heavy grease or vaseline applied.

If the battery has received periodic charges, it will not be necessary to give it any special attention other than to fill it to the proper height with distilled water. After the car has been driven for a number of hours, read the specific gravity of the acid solution with the hydrometer syringe. It should register from 1.270 to 1.290 if the battery is fully charged.

Sediment

The sediment which gradually accumulates in the bottom of the jars, should be removed before it reaches the bottom of the plates, as it is very harmful to the battery. The need of cleaning may be determined by inspection. Its necessity is indicated by lack of capacity, excessive evaporation of the acid solution and excessive heating when charging. When a battery requires removal of sediment, better results follow if the work is done at a place where they are thoroughly familiar with storage battery practice. If a battery is in need of cleaning or repairs, it is best to communicate with a Cadillac dealer or with the nearest Exide Depot, who will advise you where to ship the battery. *Do not ship batteries without receiving instructions.*

Exide Depots and Sales Offices

The Electric Storage Battery Company, whose general offices and works are at Alleghany Avenue and 19th Street, Philadelphia, Pa., has service stations in towns of any considerable size where battery repair work is done, as well as sales offices and Exide battery depots in a number of the larger cities of the country where complete assembled batteries and repair parts are carried in stock. For the location of the nearest Exide depot or service station write the local Cadillac dealer or, if preferred, the Electric Storage Battery Company, at Philadelphia.

TRANSMISSION AND CLUTCH

TRANSMISSION

General Construction

The transmission is the selective type of sliding gear. It provides for three speeds forward, and one reverse. The gear changes are accomplished by the movement of a hand lever at the driver's right.

The teeth of the driving gear "F" (Fig. 55) are cut on the large end of the clutch shaft "P" which revolves on the annular ball bearings "Y" and "N" and which turns with the crankshaft of the engine when the clutch is engaged, at which time the bearing "N" is inoperative. The gear "F" is in constant mesh with the countershaft gear "W." The countershaft gears "W," "U," "T" and "R" revolve together on two Hyatt high-duty, flexible roller bearings "S" on a stationary shaft. The roller bearings "S" are lubricated by oil forced through the tube "V," which revolves with the gear "U."

The main transmission shaft "B," which is coupled to the forward universal joint, is splined and carries the two sliding gears "A" and "C." The shaft "B" is supported by an annular ball bearing "Q" at the rear end and at the front end by a roller bearing "Z," which is housed in the rear end of the clutch shaft "P."

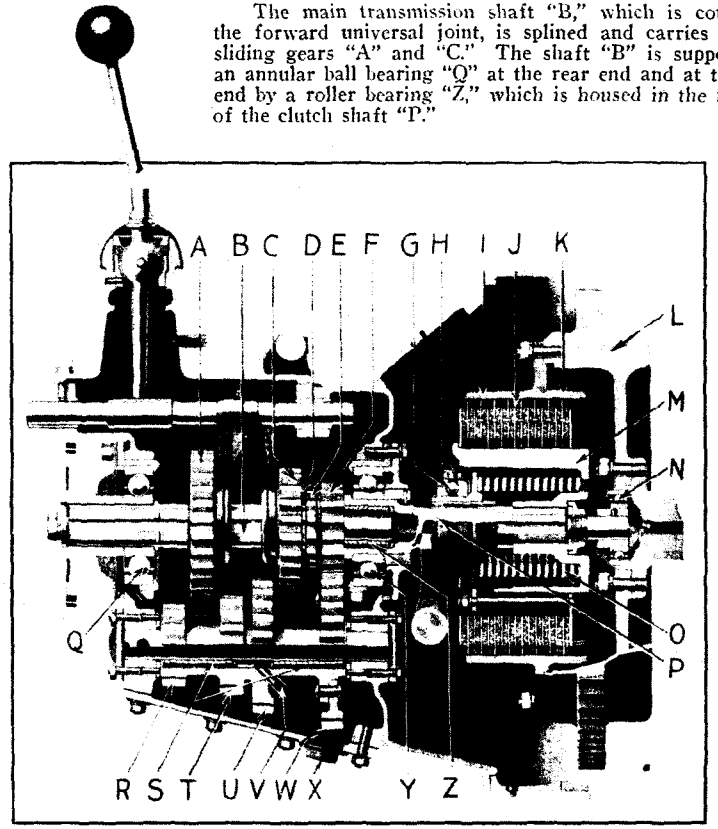


Fig. 55. Transmission and Clutch, Sectional View.

Operation

The transmission control lever accomplishes the gear changes by moving the sliding gears "A" and "C." Fig. 55 shows these gears not in mesh with other gears, or in other words in the "neutral" position. The "neutral" position of the control lever is shown in Fig. 2. In "neutral" position the car is not driven even though the clutch be engaged.

Low gear is obtained by shifting the control lever into the position shown in Fig. 3. This movement of the lever slides the gear "A" forward from the position shown in Fig. 55, bringing it into mesh with the countershaft gear "T."

Intermediate gear is obtained by moving the transmission control lever as shown in Fig. 4. The first half of this movement slides the gear "A" towards the rear, returning it to the "neutral" position and leaving it in that position. The second half slides the gear "C" towards the rear from the neutral position, causing it to mesh with the countershaft gear "U."

High gear is obtained by moving the transmission control lever straight back from intermediate gear position as shown in Fig. 5. This slides the gear "C" forward out of mesh with the gear "U" and interlocks the internal teeth "D" on this gear "C" with the teeth "E" on the end of the clutch shaft "P." The clutch shaft "P" and splined shaft "B" then revolve as a unit on the annular ball bearings "Q" and "Y" and the drive is "direct."

It is necessary before each shifting of the gears to release the clutch, moving the control lever while the clutch pedal is held down. The necessity for this may be explained in the following manner. In meshing gears by sliding the teeth of one between the teeth of the other it is necessary that one of the gears be free to rotate at the same peripheral speed as the other. Only after the teeth are fully in mesh should the clutch be re-engaged.

If the gears to be meshed are both revolving at the same peripheral speed the meshing operation will be practically noiseless. The more closely this ideal condition is approached the more quietly may gear shifting be accomplished. This explains why it is advisable to pause for an instant in the neutral position when shifting from "low" to "intermediate." It also explains why the method given on page 13 for shifting from "high" to "intermediate," if followed, will result in a practically noiseless shift.

When stopping the car the control lever must always be shifted into the neutral position.

Lubrication

Keep sufficient lubricant in the transmission case to bring the level up to the filling hole in the right hand side of the case. When the lubricant is up to the level of the filling hole the transmission case contains approximately two quarts. The best lubricant for the transmission is Cadillac Rear Axle and Transmission Lubricant. In its absence we recommend a mixture of steam cylinder oil and a small amount of cup grease mixed to such a consistency that the mixture flows easily at temperatures from 60° to 70° Fahrenheit.

CLUTCH

General Description

The main clutch is of the multiple disc dry plate type. The eight driving discs "I," Fig. 55, are covered on both sides with a friction material, composed largely of asbestos, and are driven by gear teeth in the clutch ring "K" which is bolted to the engine flywheel "L."

The nine driven discs "J" are not covered. These discs are carried on the clutch hub "M" and drive it through six keys on the hub. The clutch hub is keyed to the transmission shaft "P."

When the clutch is engaged by allowing the clutch pedal to come towards you, the spring "O" forces all of the discs together. The resulting friction between the discs "I" and "J" drives the transmission shaft "P" and the car, when the transmission control lever is in other than the neutral position.

There are no adjustments on the clutch proper. The clutch pedal should be adjusted occasionally to compensate for wear on the facings of the clutch discs. This adjustment is explained below under "Adjustment of Clutch Pedal Clearance."

There is but one point on the clutch for lubrication. This is the clutch release ball race "G." Instructions for lubricating this part will be found under "General Lubrication" on page 45.

Adjustment of Clutch Pedal Clearance

After the car has been run for some time it may be found that the facings on the clutch discs have become compressed or worn to some extent and that consequently the clutch pedal strikes the stop screw before the clutch is fully engaged. When this condition exists a readjustment may be made as follows:

Remove the pin "N," Fig. 56, and unscrew the yoke "P," which is threaded on the rod "O," so that when the pin "N" is replaced the clutch pedal has a movement back and forth of one and one-quarter inches without starting to release the clutch. Secure the pin "N" with a cotter pin and tighten the lock nut "V."

Adjustment of Clutch Pedal Stop

The clutch pedal stop screw "S" is adjusted when the car is assembled and requires no further attention. When in proper adjustment the stop screw "S" should hold the pedal arm "U" so that the distance "T" is approximately one-half inch on the Seven-Passenger, Roadster, Phaeton and Victoria and approximately one-quarter inch on all enclosed cars except the Victoria. If the adjustment has been changed, it may be readjusted in the following manner:

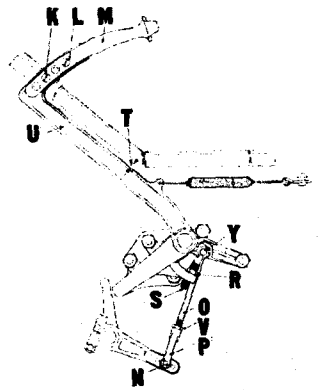


Fig. 56. Clutch Control.

Remove the pin "N" from the yoke "P," loosen the lock nut "R" and adjust the stop screw "S" so that the pedal arm "U" is held the required distance from the under side of the toe board at "T" when the pin "Y" is against the stop screw. Tighten the lock nut "R."

Then adjust the yoke "P" so that when the pin "N" is replaced the clutch pedal has a movement back and forth of one and one-quarter inches without starting to release the clutch. Secure the pin "N" with a cotter pin and tighten the lock nut "V."

Adjustment of Length of Clutch Pedal

The clutch pedal is made in two parts slidingly adjustable to accommodate different drivers.

To change the length of the clutch pedal remove the bolts "K" and "L," Fig. 56, and slide the forked piece "M" in the desired direction. Do not pull "M" out so far that it is possible to put in only one bolt; two bolts are required properly to hold the parts.

There are four possible positions in this adjustment, Fig. 56 showing the extreme shortened position.

The brake pedal may be lengthened or shortened in the same manner.

STEERING GEAR

Adjustment of Worm Thrust Bearings

To take up the end play in the worm "K," Fig. 57, remove the plug "B," Fig. 58, and loosen the jamb nuts "J," and lock screws "A." Then with a screw-driver or something else suitable, screw down the adjusting collar "L," Fig. 57, which can be seen through the hole from which the plug "B," Fig. 58, was removed, until the proper adjustment is made.

Lock screws "A" are positioned in the steering gear housing so that when one is directly over a slot in the adjusting collar the other is between two slots. Therefore after adjusting the collar it will be necessary to select the proper screw for locking the adjustment. Both lock screws should be held from turning by locking the jamb nuts.

Adjustment of Worm and Sector

The second adjustment is for taking up wear on the teeth of the worm "K" and sector "W," Fig. 57. The sector "W" has its bearing in an eccentric steel bushing and should wear occur, it may be taken up by turning this bushing so that it throws the sector towards the worm.

To do this proceed as follows: First turn the steering wheel so that the front wheels point straight ahead. Remove the locking screw "C," Fig. 58. As the bushing is assembled at the factory it is necessary to move the arm "D" down to tighten the adjustment.

If the wear on the teeth of the worm and sector is very great, it will be necessary to remove the steering arm "F" and to place the arm "D" in a different position on the hexagonal end of the eccentric bushing in order to bring the arm "D" in position so that it can be locked by the screw "C."

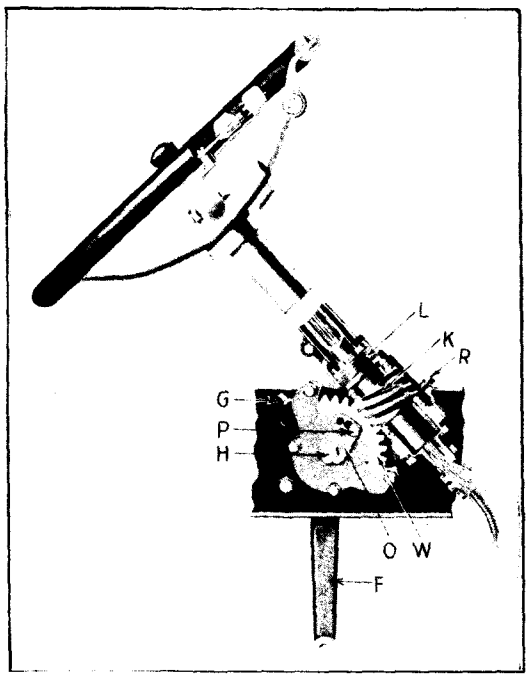


Fig. 57. Steering Gear, Sectional View.

After the adjustment is made properly be sure that the lock screw "C" is replaced and properly tightened.

Adjustment of Sector Shaft

An adjustment is provided on the inner face of the steering gear housing for taking up end-play in the sector shaft.

To make this adjustment remove the locking arm "O," Fig. 57, and turn the adjusting screw in until the proper adjustment is made, after which the locking arm "O" should be replaced and the lock screw "P," replaced and tightened.

Caution—Do not turn the steering gear when the car is standing. This is not only unnecessary but is also bad practice.

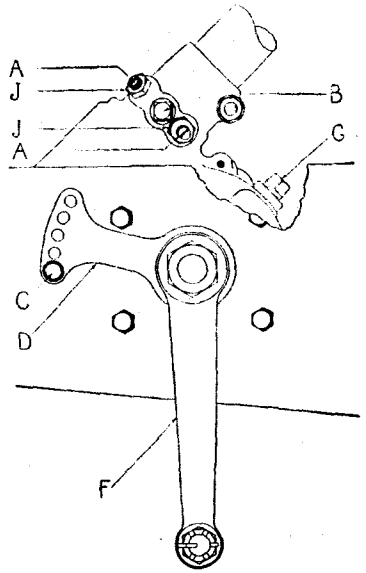


Fig. 58. Steering Gear Housing and Arm.

Lubrication

The internal mechanism of the steering gear may be lubricated at "R" and "G," Fig. 57, after taking out the screw plugs. The hole at "R" is tapped to fit the nozzle of the oil gun. Cadillac Rear Axle and Transmission Lubricant, mixed with about two or three per cent of flake graphite is a good lubricant for this part.

CAUTION IN ADJUSTING TIMKEN BEARINGS

When adjusting Timken Bearings, great care must be exercised not to get them tight. These bearings will revolve even when adjusted very tightly, but that condition is sure to prove disastrous. They should be adjusted so that a very slight amount of play or looseness may be discerned.

If, after a bearing has been adjusted to a point that is apparently correct, the locking device cannot be placed in position without changing the adjustment, it is far better to *loosen* the adjustment until it can be secured with the locking device than to *tighten* the bearing adjustment.

WHEELS

Lubrication

Both the front and rear wheels should be removed every three or four thousand miles or at least every six months, the bearings examined and carefully lubricated with light grease. Cadillac Wheel Bearing Grease is recommended for this purpose. A few drops of lubricating oil should be put in occasionally through the oil holes in the rear wheels.

FRONT WHEELS

Removing Front Wheel

Jack up the axle until the wheel is free from the ground.

Remove the hub cap by unscrewing it.

Remove the lock nut "I," Fig. 59.

Remove the washer "K."

Remove the adjusting nut "L."

The wheel may now be removed.

In removing the right front wheel remove the speedometer driver "A," Fig. 65, after removing the hub cap.

Before replacing the wheel see that the bearings are clean and that they are filled with light grease. Be sure that the grease is free from dirt and grit.

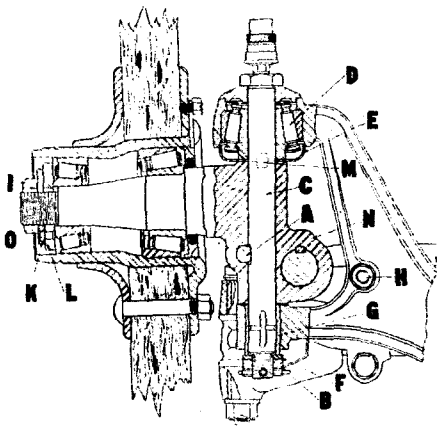


Fig. 59. Front Left Spindle and Hub, Showing Bearings.

Replacing Front Wheel and Adjusting Bearings

In replacing the wheel adjust the nut "L" very carefully. (See under "Caution in Adjusting Timken Bearings," page 87.) Replace washer "K" being sure that one of the holes in the washer fits over the stud "O." Replace the lock nut "I" and tighten carefully.

The thread on the right hand spindle is a right hand thread; the thread on the left hand spindle is a left hand thread. Therefore, in tightening the adjusting and lock nuts, "I" and "L," they should be turned in the same direction in which the wheels turn when the car moves forward.

It is better to adjust Timken bearings a little too loose than tight. If, after the adjustment is apparently correct a hole in the washer "K" is not directly over the stud "O" it is best to loosen the adjustment rather than to tighten it.

Alignment of Front Wheels

The ideal condition is to have the front wheels parallel to each other on horizontal lines passing diametrically through their centers. Under no condition should the wheels toe out. It is permissible to have them toe in, providing they do not toe in more than 3/8 of an inch in the diameter of the wheel. (See "Result of Improperly Aligned Front Wheels," page 24.)

Jack up the front axle until both wheels are clear of the floor and true up the demountable rims. (See under "Mounting Rim With Tire," page 28.)

Move the steering wheel to bring the left front wheel "A," Fig. 60, parallel with the frame "B." This may be determined by taking measurements "C" from the rim of the wheel to the frame.

Tie a string to a rear spoke of each front wheel directly back of the center of the wheel. Carry the strings inward between the spokes, back around the tires and then forward to points "D" as shown. Use strings that will extend exactly twelve feet in front of the tires. Bring the strings in until they *just touch* the forward edges of the tires at "E." The strings must be slightly above or below the hubs so as to clear them.

If the wheels are parallel, the distances "F" and "G" between the strings will be the same at points just ahead of the tires and at points at the ends of the strings.

Under no condition should the wheels toe in more than enough to allow the twelve foot strings to converge more than 1¼ inches, that is, so that dimension "G" is not more than 1½ inches less than dimension "F."

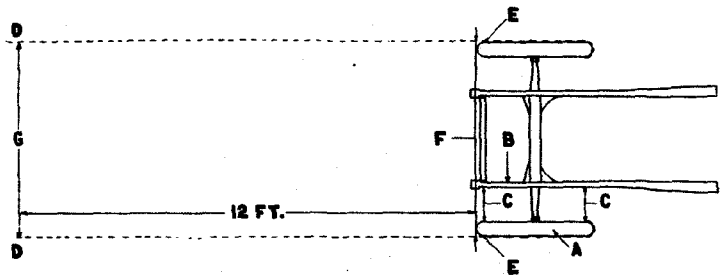


Fig. 60. Diagram Showing Method of Aligning Front Wheels.

Adjustment is provided in the parallel rod for aligning the front wheels. If adjustment is necessary and the left front wheel is disturbed, care should be taken to have this wheel parallel with the frame before readjusting the strings and taking measurements "F" and "G."

The front wheels camber about 1½ inches, that is, the measurement between the wheels at the top should be approximately 1½ inches greater than the corresponding measurement diametrically opposite at the bottom of the wheels.

REAR WHEELS

Removing Rear Wheel

Remove the lubricator "A," Fig. 61.

Remove the hub cap "B" by unscrewing it.

Remove the spring locking ring "K."

Withdraw the axle shaft "C."

Jack up the axle so that the wheel will clear the floor.

Remove the lock nut "D," the washer "E" and the adjusting nut "F."

The wheel can then be taken off.

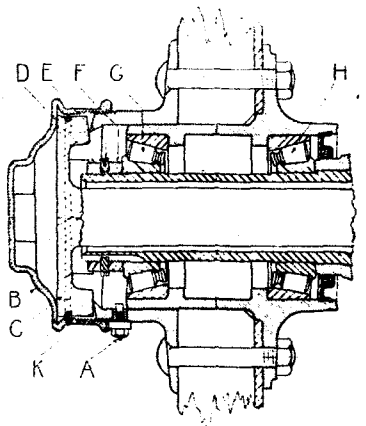


Fig. 61. Sectional View of Rear Hub, Showing Bearings.

Replacing Rear Wheel and Adjusting Bearings

Before putting the wheel on again see that the bearings "G" and "H" are clean and filled with light grease which is free from dirt and grit.

In putting the wheel on again set the adjusting nut "F" very carefully. (See under "Caution in Adjusting Timken Bearings.") Place the washer "E" in position, and tighten the lock nut "D."

BRAKES

General Construction

There are two pairs of brakes. The regular service brakes, which are operated by the right pedal, contract upon the outside of the drums. The hand brakes, operated by a hand lever, expand within the drums.

Connections from the right pedal and hand lever are made through equalizing bars so that each drum will be gripped with practically the same pressure. While these equalizing bars compensate for a certain amount of inequality in the tension, it is desirable to adjust the brakes as nearly alike as possible.

The brake band linings can be renewed when necessary.

If the brake band linings become too dry and grip the drums too suddenly, apply a very small amount of a mixture of graphite and oil.

When the brake band linings are wet and muddy they are less effective than at other times. Hence more care must be exercised in driving at such times.

The brakes and all parts relating thereto should be examined and tested occasionally to be sure that they are in serviceable condition.

The joints and all working parts should be oiled occasionally to avoid any possibility of the parts rusting and sticking together. The internal brake joints are accessible after removing the small covers "F," Fig. 62, from the brake drums. Care should be taken not to apply too much oil to the internal brake joints, as it may get on the brake band linings and impair the efficiency of the brakes.

If the brakes are in good condition, either pair will offer sufficient resistance to lock and slide the wheels, but doing this is bad practice excepting in case of emergency, as it is very injurious to the tires.

The brake band linings should not be allowed to drag on the drums when released, as that will cause unnecessary wear.

The length of the brake pedal is adjustable to accommodate different drivers. To adjust it, see "Adjustment of Length of Clutch Pedal," page 85.

It is necessary that the rear wheel bearings be in proper adjustment before an adjustment of the brakes is made.

Do not attempt to adjust the brakes by the pull rods, as that will not properly compensate for wear on the linings.

FOOT BRAKES

(External Contracting)

Ordinary Adjustment

Provision is made in each brake for its adjustment. Do not attempt to adjust the brakes by the pull rods. The brakes cannot be properly adjusted in this manner. To adjust each foot brake, proceed as follows:

Remove the cotter pin in the adjusting screw "A," Fig. 62, and turn the screw "A" until that part of the brake band lining opposite the screw just clears the drum. Adjust the two nuts "B" on the yoke bolt so that the lower part of the brake band lining just clears the drum.

Then adjust the nut "C" on the upper end of the yoke bolt so that the lever "D" is brought into the position shown in Fig. 62 when the brake is fully applied—i. e., so that the lower edge of the pin "T" and the upper edge of the pin "S" are tangent to an imaginary horizontal line shown at "X."

Adjustment of Stop Screws

The position of the stop screw "E," Fig. 63, is adjusted when the car is assembled and requires no further attention unless its adjustment is altered. Adjustment for wear on the lining should be made as described above by the nuts "A," "B" and "C," Fig. 62; the stop screw "E" should not be adjusted to compensate for wear. If the stop screw "E" should be moved from its original position, it may be readjusted in the following manner:

First adjust the brake as explained above so that the lever "D," Fig. 62, is in the correct position when fully applied. Then release the brake. Remove the pin "A" in the yoke "B," Fig. 63, loosen the clamping screw "C" and push the stop "G" forward out of the way. Then adjust the stop screw "E" and the nuts "B," Fig. 62, so that the upper and lower parts of the brake band lining clear the drum by 1/32 of an inch.

Then pull the rod "H," Fig. 63, as far forward as it will go without moving the rods "K" and "L." Holding the rod "H" in this position, push the stop "G" down against the bracket "F" and tighten the clamping screw "C." Then adjust the yoke "B" so that when the pin "A" is replaced the brake pedal arm "U" is held 3/8 of an inch away from the under side of the toe board.

After the adjustments are completed, be sure to lock all adjusting screws and nuts and to insert and spread all cotter pins.

HAND BRAKES

(Internal Expanding)

Ordinary Adjustment

Provision is made in each brake for its adjustment. Do not attempt to adjust the brakes by the pull rods. The brakes cannot be properly adjusted in this manner. To adjust each hand brake proceed as follows:

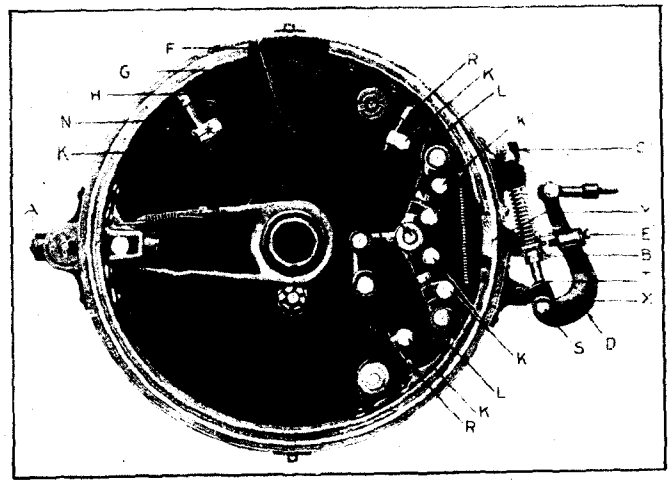


Fig. 62. Internal and External Brakes.

Place a jack under the rear axle housing and raise the axle so that the wheel can be turned by hand. Remove the cover "F," Fig. 62; this may be done by loosening the lock nut "G" and turning the bolt to the left about one-quarter of a turn, which releases the clamping bar "H."

Rotate the wheel until the opening gives access to the screw "J." Turn the screw "J" until that part of the brake band lining opposite the screw just clears the drum.

Rotate the wheel and through the opening loosen the seven locking screws "K." Then turn the two adjusting screws "L," which have right-hand threads on one end and left-hand threads on the other, so that when the brake is fully applied the center of the pin "M" stands 3 3/16 inches to 3¼ inches away from the inside of the brake drum at "Y." The screws "L" should be turned equally and in the same direction.

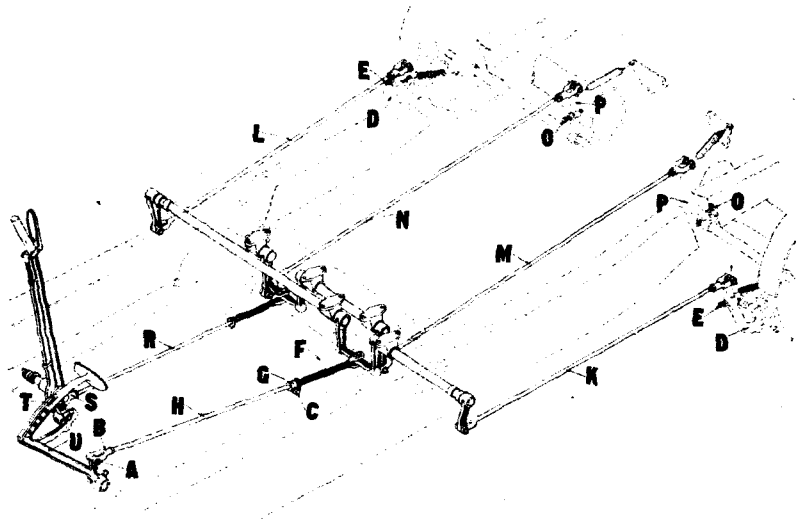


Fig. 63. Brake Rods.

Release the brakes and adjust the stop screws "R" so that the upper and lower parts of the brake band lining are equidistant from the brake drum. Adjust the stop screw "N" so that the head of the screw just touches the inside of the brake band. Tighten the seven locking screws "K" and replace the cover "F."

Adjustment of Stop Screws

The stop screw "O," Fig. 63, is adjusted when the car is assembled, and requires no further attention unless its adjustment is altered. Adjustment for wear on the linings should be made as described above by the screws "J," "L" and "R," Fig. 62; the stop screw "O" should not be adjusted to compensate for wear. If the original adjustment of the stop screw "O" has been altered, it may be readjusted in the following manner:

First adjust the brake as described above by the screws "J" and "L," Fig. 62, but screw the stop screws "R" and "N" away from the brake band.

Then remove the pin "T" in the yoke "S," Fig. 63, and adjust the stop screw "O" so that when the brake is released the center of the pin "M," Fig. 62, stands 3 9/16 inches away from the inside of the brake drum.

Adjust the stop screws "R" so that the upper and lower parts of the brake band are equidistant from the brake drum. Adjust the stop screw "N" so that the head of the screw just touches the inside of the brake band. Tighten the seven locking screws "K" and replace the cover "F."

Then adjust the yoke "S," Fig. 63, so that when the pin "T" is replaced the upper end of the handle on the hand brake lever may be moved back one and one-quarter inches from its extreme forward position without moving the rods "M" and "N."

After the adjustments are completed, be sure to lock all adjusting screws and nuts and to insert and spread all cotter pins.

UNIVERSAL JOINTS ON DRIVE SHAFT

The tubular drive shaft that transmits the power of the engine from the transmission to the rear axle is fitted with a Spicer universal joint at each end.

The purpose of the joints is to provide a flexible drive which is made necessary by the constantly changing alignment due to the play of the springs.

The general arrangement of the joints is shown in Fig. 64. The joints differ only in that the forward joint "B," which is attached to the transmission shaft, is provided with a sliding connection or slip sleeve "C," while the rear joint is welded to the drive shaft. A sliding connection is necessary to take care of the endwise motion of the drive shaft due to variation in the distance between the transmission and the rear axle caused by the action of the springs.

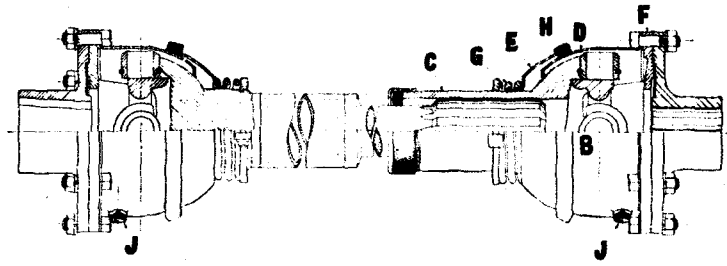


Fig. 64. Drive Shaft and Universal Joints.

The joints are protected by an inner housing "D" and an outer housing "E," both of pressed steel. The inner housing is bolted to the flange "F" and the outer housing fits over the end of the inner housing and is held in place and kept tight by means of a spring "G." The felt washer "H" is for the purpose of preventing grease from working out and dirt from getting in.

The joints are lubricated by grease contained in the housings. Filling holes "J" are provided. (See page 44 under "General Lubrication.")

As the construction of the joints is such that adjustments are unnecessary, no adjustments are provided.

If for any reason the drive shaft is dis-assembled, care should be taken in assembling it to have the "O" on the splined end of the shaft correspond with the "O" on the sleeve of the forward universal joint.

FRONT AXLE

Adjustment of Stop Screws

The stop screws "H," Fig. 59, at each end of the axle are for the purpose of limiting the angle at which the front wheels can be turned. The stop screw at the left end of the axle is for the purpose of limiting the angle at which the wheels can be turned to the right. The stop screw at the right end of the axle is for the purpose of limiting the angle at which the wheels can be turned to the left.

Removing and Replacing Spindle

The illustration shows the construction of the front wheel hubs and bearings; the spindle bolts and the upper and lower bearings for the spindles.

The spindle bolt "C" is forced into the spindle "N" and is held from rotating in the spindle by the taper pin "A."

To remove a spindle, first jack up the axle until the wheel is clear of the floor. Remove the wheel. (See under "Removing Front Wheel," page 88.) Then remove the adjusting nut "B," drive out the taper pin "A" and drive out the spindle bolt "C."

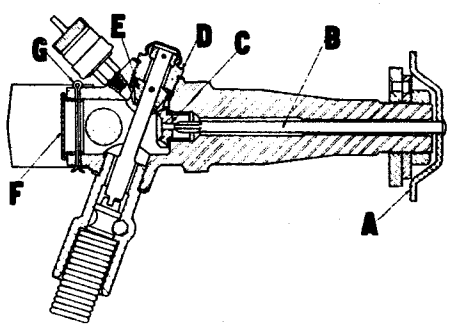


Fig. 65. Front Right Spindle and Speedometer Driving Gears.

To replace a spindle proceed as follows: Place the bearing "D," the retainer "E" and the key "M" in position in the axle yoke. Place the spindle in position and carefully drive in the spindle bolt "C," being careful that it is so turned that the flat place on it will be in the correct position to receive the taper pin "A" when driven in. Drive in the taper pin "A." Replace the adjusting nut "B" and adjust properly.

Adjustment of Spindle Bearing

The bushing "G" is pressed into the axle forging. If there is too much end play in the bearing "D" draw up on the adjusting nut "B," pulling the bushing "G" up against the under side of the spindle. Then back off the adjusting nut "B" just enough to free the adjustment. (See under "Caution in Adjusting Timken Bearings," page 87.)

Speedometer Drive Gears in Right Spindle

The flexible shaft to the speedometer is driven from the hub on the right-hand front wheel through the driver "A," Fig. 65, the shaft "B" and the gears "C" and "E."

To remove these parts from the spindle, proceed as follows:

Remove hub cap from the wheel.

Pull out driver "A."

Unscrew nut "D" and remove.

The gear "E" and the shaft to which it is attached will come out with the nut "D."

Remove the cotter pin "G."

Remove the cap "F."

The gear "C" may then be removed.

The parts may be assembled in the reverse order.

REAR AXLE

General Construction

The rear axle is of the full floating type. The wheels rotate on the axle housing. The axle shafts do not carry the weight of the car, but simply transmit the power from the differential to rotate the wheels.

Lubrication

The level of the lubricant in the differential housing should be kept up to the filling hole in the rear cover plate. When the level of the lubricant is up to the filling hole the housing contains approximately three quarts. The best lubricant for the rear axle is Cadillac Rear Axle and Transmission Lubricant. In its absence, we recommend a mixture of steam cylinder oil and a small amount of cup grease mixed to such a consistency that the mixture flows easily at temperatures from 60° to 70° Fahrenheit.

Adjustment of Gear and Pinion Bearings

In the design of the axle provision is made for adjusting the pinion and gear so that the teeth may be correctly meshed, and for locking all the adjusting nuts securely in position.

The large bevel gear "A," Fig. 66, on the gear mount "B," and the bevel pinion "C" on the driving shaft "D," are correctly meshed when the car is assembled, but after it has been in use for several thousand miles it may be found that the bearings "E" and "F," which take the end thrust of the gears, have become more permanently seated, causing end play in the pinion shaft "D" and side play in the gear mount "B." When this condition exists, bearings "E" and "F" should be readjusted.

If undue end play exists in the pinion shaft "D," the bearing "E" should be adjusted as follows:

Loosen the two long clamping bolts on the pinion barrel and remove the cover plate giving access to the adjusting nuts "I" and "K." (See Note.) Hold the adjusting nut "I" from turning and turn up the adjusting nut "K" as far as possible without making the bearing "E" too tight. (See under "Caution in Adjusting Timken Bearings," page 87.) After the adjustment has been made replace the cover plate over the opening and tighten the clamping bolts.

NOTE:—The cover plate is at the top of the pinion barrel on some of the Type 57 axles. If the cover plate is at the top it is necessary to entirely remove the two long clamping bolts before the cover can be removed.

If, after removing the rear cover plate "L," undue side play is found in the gear mount "B," the bearing "F" should be adjusted as follows:

Move the key "M" entirely out of the slots in the adjusting nut "N," loosen the cap screws holding the cap "O" and turn the adjusting nut "N" as far as possible without making the bearings too tight. (See under "Caution in Adjusting Timken Bearings," page 87.) After the adjustment has been made, make sure that the key "M" is replaced in one of the slots in adjusting nut "N" and that the cap screws holding the cap "O" are tightened and locked.

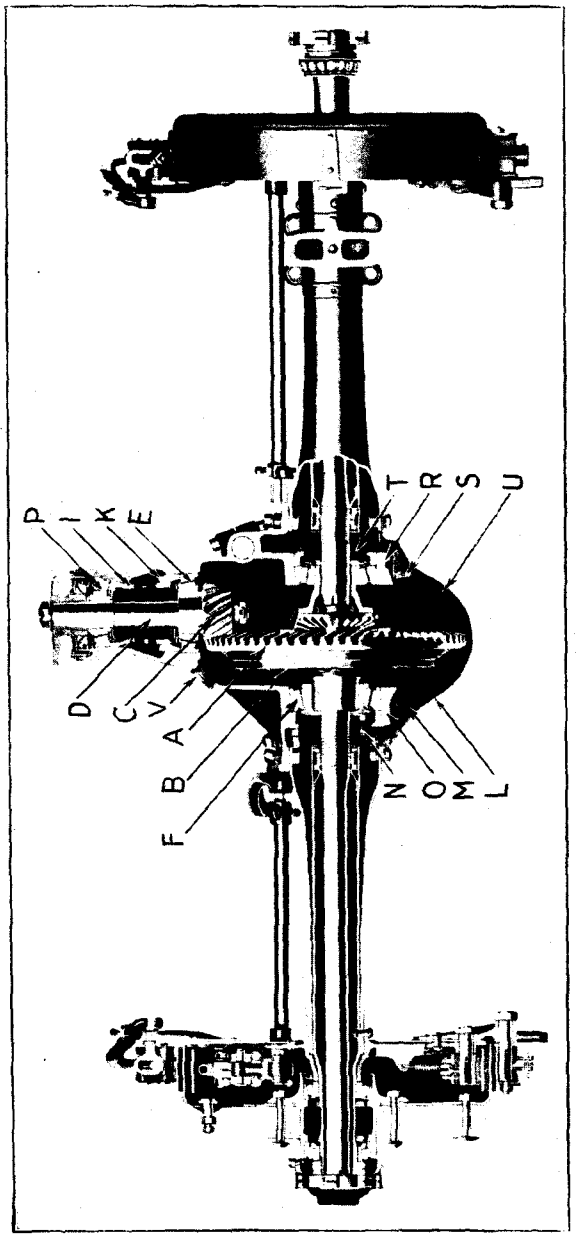


Fig. 66. Rear Axle, Sectional View.

Adjustment of Gears for Proper Meshing

If, after adjusting the bearings "E" and "F," Fig. 66, it is found necessary to move the pinion "C" endwise or the bevel gear "A" sidewise in order to bring the gears into proper mesh, it must first be determined whether it is necessary to move the pinion, the large bevel gear, or both, and in which direction the gear or gears must be moved.

Bevel gears should be so adjusted that the large ends of the teeth of one gear are practically flush with the large ends of the teeth of the other gear, which can be determined by removing the peep-hole cover "V." Extreme care must be used in adjusting, as the tooth forms of the most accurately cut gears may be easily ruined by running them when not properly meshed.

In order to adjust the gears to the best advantage a crank should be attached to the forward end of the pinion shaft "D" so that the gears can be turned by hand and the adjustment tried until positions are found for the gears where they run smoothly and do not bind at any point.

If the bearings "E" and "P" on the drive shaft "D" are in proper adjustment, and if it is found necessary to move the pinion "C" endwise, proceed as follows:

Loosen the clamping bolts on the axle housing and the cover plate covering the adjustment hole. (See Note.) Move the adjusting nuts "I" and "K" *together*, moving the pinion in either direction as required. If the adjusting nuts "I" and "K" are moved in the same direction and exactly together, the relative adjustment of the bearings "P" and "E" will not be altered.

NOTE:—The cover plate is at the top of the pinion barrel on some of the Type 57 axles. If the cover plate is at the top it is necessary to entirely remove the two long clamping bolts before the cover can be removed.

When the proper position for the pinion has been found, replace the cover plate over the opening and tighten the clamping bolts.

If it is found necessary to move the large bevel gear sidewise, proceed as follows:

First loosen the bolts holding caps "O" and "R." Then move the keys "M" and "S" out of the slots in the adjusting nuts "N" and "T." The adjusting nuts "N" and "T" can now be turned, moving the gear mount with the gear in either direction as required. Be careful not to adjust the bearings too tight. (See under "Caution in Adjusting Timken Bearings," page 87.)

After the correct position for the large driving gear has been found be sure that the keys "M" and "S" are replaced in the slots in the adjusting nuts "N" and "T" and that the bolts holding the caps "O" and "R" are tightened and locked.

Replace the cover "L," and fill with Cadillac Rear Axle and Transmission Lubricant, bringing the level up to the top of the filling hole "U."

STRAIGHTENING BENT PARTS

Modern automobile construction demands the use of the highest grades of alloy steels. A great advantage of alloy steels is that by properly heating and cooling and re-heating such steels great strength and durability are obtained. However, heat treatment must be given with full and accurate knowledge of the contents of the steel, which cannot be obtained in the ordinary repair shop. Therefore, if any part is heated outside of this factory for the purpose of straightening or for other purposes, the part at once loses the advantage which the original heat treatment gave it.

SPRINGS

Spring Clips

As a matter of life insurance for the springs, it is well to tighten all clip nuts at the end of the first 1,000 miles of travel and at the end of every 2,000 miles of travel thereafter.

Lubrication of Spring Leaves

When springs are not lubricated water works its way in between the leaves and causes them to rust, often to such an extent that they become almost like solid pieces. This causes them to lose much of their spring action.

It is recommended that the springs be lubricated once every 500 to 1,000 miles by painting the edges and ends of the spring leaves with cylinder oil. A small, stiff brush should be used. After applying the oil to the springs the car should not be washed until it has been driven some distance to allow the lubricant to work in between the leaves.

It is also a good plan about once a year to have all the springs taken apart, the surfaces thoroughly cleaned and coated with a thick mixture of oil and graphite.

Adjustment of Snubbers

The snubbers should be readjusted after the first 500 to 800 miles of travel. Further adjustment should not soon be necessary.

When the snubbers are adjusted there should be no passengers in the car, the radiator and gasoline tank should be full, the top up and there should be two spare tires in the tire holder. If no spare tires are carried it is best to have a light weight person sit in the middle of the rear seat during the adjustment.

To adjust the snubbers, pull the belt out of the housing as far as possible. Then allow two inches of the belt to return into the housing and insert a wedge between the belt and the housing to prevent more of the belt from being drawn in.

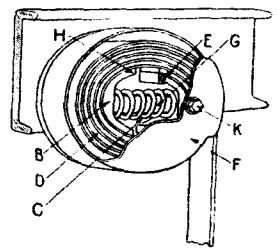


Fig. 67. Gabriel Snubber.

Remove the clamp on the belt at the axle and adjust the length of the belt so that all slack is taken out between the snubber housing and the axle. Replace the clamp, cut off the surplus belt and remove the wedge.

Lubrication of Snubbers

Every 5,000 miles it is recommended that the snubbers be disassembled and lubricated with graphite grease in accordance with the following instructions:

Disconnect the snubber belt from the axle. Unscrew the cap screws which fasten the snubber base to the side bar of the frame and remove the snubber.

Clamp the base casting in a vise. Unscrew the cap screw "K," Fig. 67, on the snubber cover or housing "F" and remove the housing. Unwind the coils of the belt "D" and remove the sleeve casting "B" and the spring "C." Thoroughly lubricate the plunger "G," which slides in the sleeve "B." Lubricate the face of the casting "B" where it slides on the base casting. Replace the sleeve "B," making sure that the long arm "H" is opposite the end of the snubber belt where it is riveted at "E." Pack the coil spring "C" well with the grease.

Do not lubricate any surfaces which contact with the snubber belt except to place a small amount of grease on the rivets at "E" where the belt is fastened to the base casting.

Coil the belt "D" four and a quarter times around the base casting "A" and the sleeve "B" and work the coils a few times to make sure the coil spring compresses properly. Replace the cover "F" and the screw "K."

Bolt the snubber to the side bar and adjust it in accordance with the instructions given under "Adjustment of Snubbers."

REPAIR PARTS

Ordering New Parts

With more than a hundred thousand Cadillac automobiles in use it is obviously impractical for us to deal directly with each Cadillac owner. We cannot open accounts with or sell at a discount to any except regular distributors with whom we make annual contracts.

To avoid unnecessary delay and useless correspondence new parts should, where possible, be ordered from the distributor or dealer from whom the car was purchased or from the nearest Cadillac distributor or dealer, who is generally in a position to know what is desired and to supply it from his stock. If he cannot do so, he can order it for you.

Where, however, conditions are such as in our judgment to warrant it, we will fill orders for parts at current list prices, f. o. b. factory, provided the order is accompanied by cash. In ordering, send us the engine number and type of the car with an accurate description of the part desired, preferably accompanied by a sketch with dimensions. If this cannot be done, return the part properly tagged, transportation charges prepaid. (See below under "Returning Parts.") Otherwise we cannot promise prompt service or fill the order intelligently.

Our responsibility in all cases ceases with delivery to the transportation company.

Returning Parts

In the event that parts are returned to the factory, the transportation charges must be prepaid or the parts will not be accepted. They should be properly tagged with the name of the owner and the engine number of the car, and a letter should be sent giving complete instructions regarding the disposition of the parts.

Tires, Speedometers and Clocks

In cases of repairs to tires, speedometers or clocks correspondence should be opened directly with the manufacturers or one of their branches. If necessary the parts should be sent to them. Transportation charges should be prepaid.

Type 57

Cadillac Eight

MANUAL

of

CARE AND OPERATION

PRICE, 25 CENTS

A Manual is packed in the tool kit of each car. If lost, a duplicate will be mailed on receipt of the price. When ordering be sure to specify Type 57 Cadillac Manual and the engine number of your car

Cadillac Motor Car Co.

Detroit, Michigan, U. S. A.

FIRST EDITION

THE USER'S RESPONSIBILITY

The information, advice and instruction contained in this Manual are published because the user of a motor car needs them. But if the user fails to heed the advice given, the loss is not wholly his but partly ours as well.

The Cadillac car in the hands of an operator who will give it the reasonable consideration to which it is entitled, and which every car requires, will run as smoothly and as quietly as is possible for any motor car to run. No car will give more satisfaction nor will any car stand more abuse. But no car can be expected to stand continual abuse without resenting it sooner or later.

We want Cadillac cars to render unfailing service and satisfaction. They are built for that purpose but the user must do his part after the car comes into his possession. We furnish a car that is capable of rendering the best of service and we furnish the instructions which will guide the user toward obtaining that service. But if he persists in ignoring these instructions and in substituting his own ideas there is no one but himself upon whom he can rightfully place the responsibility for any difficulties which may result.

There is a wealth of information, advice and instruction contained in this Manual. There is much that the owner may never have to use, but it is here to be used in the event that it is needed. There is other information which a user cannot get along without, no matter how much he may think he knows, nor how much previous automobile experience he may have had.

Read carefully the following portions of this book:

Driving and Caring for a Motor Car 9
Placing Car in Running Condition 10
General Operation 11-18
Care of Finish 19
Top and Side Curtains 20-21
Tires 23-26
Tire Air Compressor 27
Demounting Rim with Tire 28
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ENGINE NUMBER

On the Type 57 the engine number is stamped on the crankcase of the engine just back of the right hand block of cylinders and on the fan shaft housing. The engine number of each Type 57 car begins with the figures "57."

Part I

OPERATION

AND

GENERAL CARE

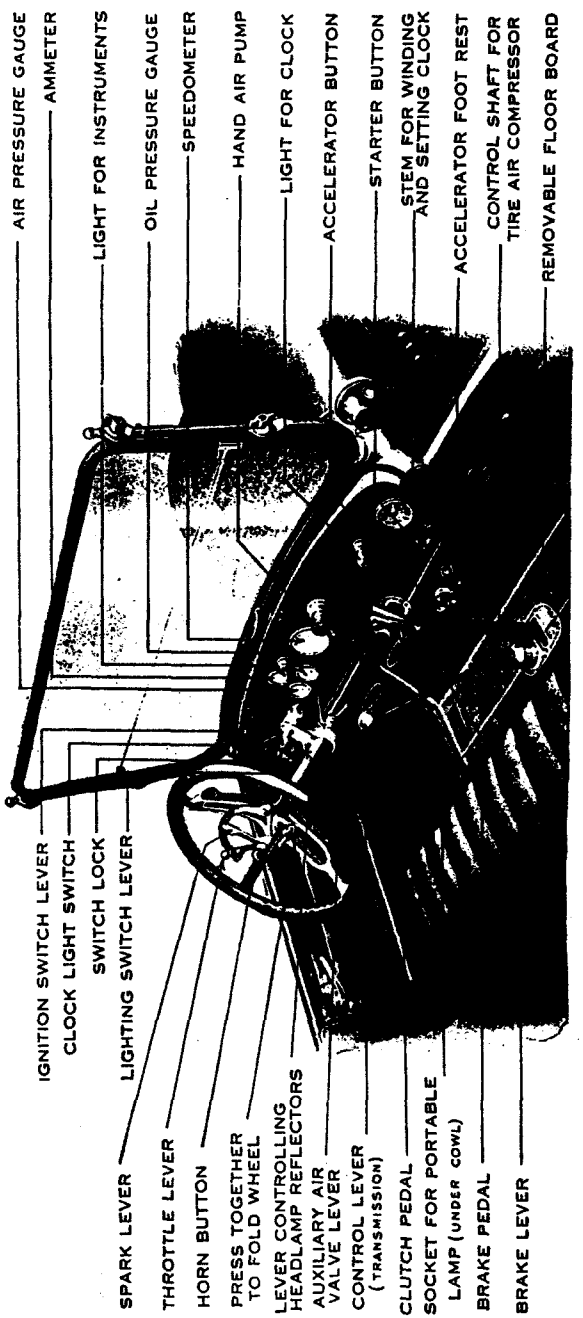


Fig. 1. Instruments, Control Levers and Pedals on Standard Seven Passenger Car.

DRIVING AND CARING FOR A MOTOR CAR

Driving an automobile does not mean simply starting, steering, applying the brakes and stopping. Pushing a wheelbarrow is one thing. Driving a more or less intricate piece of mechanism like an automobile necessarily is, to some extent, and doing it right, is quite another. To drive an automobile properly requires an understanding of the principles involved and the exercise of some intelligence and judgment.

We believe that we are safe in saying that, with well designed and correctly built automobiles, 95 per cent. of so-called troubles are directly traceable to lack of lubrication, abuse, carelessness, a lack of understanding of the principles involved and improper handling generally.

Some drivers seem to think that so long as the car "goes" that is all there is to it. It is not.

To begin with, the driver should study the construction of his car and thoroughly acquaint himself with its mechanism, the functions of its various parts and the "why" of everything connected with it. If he understands these he is better able to realize why certain things must be done and why certain other things must not be done, if he is to obtain the most satisfactory results, the greatest efficiency and the greatest economy, together with durability and long life of the engine and car. Remember that the difference between a comprehensive understanding of your automobile and the superficial knowledge possessed by many drivers is the difference between having troubles and not having them.

The old adage, "A stitch in time saves nine," applies with special significance to the motor car. Intelligent care and proper attention will often correct a needed adjustment or lubricate a part that is becoming dry, but which, if neglected, may cause serious and possibly expensive damage.

On the other hand is frequently found the user who is constantly tinkering with his car when there is no necessity for it. Avoid both extremes. If, after seeing that all parts are properly lubricated and that all bolts, nuts and screws are tight, your car is running well, let it alone. Many users drive their Cadillacs for months without finding an adjustment necessary. If adjustment seems necessary and you are not sufficiently acquainted with the construction of the car to know what adjustment is necessary or how to make it, *don't experiment* but take the car to a Cadillac service station.

The most important thing in the care of an automobile is its proper lubrication. It will be readily understood that where one part moves or works upon another, there is always more or less friction and these parts must be oiled more or less frequently. Part Two of this Manual gives detailed instructions regarding lubricating. Be sure to read and observe them carefully.

Care is also necessary to see that all nuts, bolts and screws about the car are kept properly tightened. Most important parts subject to wear are, wherever possible, provided with adjustments for taking up such wear and these should be inspected occasionally and receive attention whenever required.

By far the greater portion of "automobile troubles" is the result of negligence and carelessness, while the reasonable care to which any piece of machinery is entitled will insure long life and satisfactory service.

PLACING CAR IN RUNNING CONDITION

Before cars are shipped from the factory the gasoline tank and the cooling system are drained. When the car is received and before it is placed in use, the supply of gasoline and water must be replenished. During freezing weather the cooling system should be filled with an anti-freezing solution instead of water. (See under "Anti-Freezing Solution," page 32.)

The car should also be thoroughly lubricated in accordance with the instructions contained in this Manual. (See under "Lubrication," page 35.)

Filling Cooling System

Fill the cooling system with clean water during warm weather and with a suitable anti-freezing solution during freezing weather. (See under "Anti-Freezing Solution, page 32.)

To fill the cooling system, replace the drain plugs "H," Fig. 40, in the water pumps, close the drain cocks "K" in the cylinder blocks and turn the shafts "L" so that the indicators on the ends of the shafts point up. The shafts may be turned in either direction.

Then remove the filler cap "W" from the top of the radiator and fill the cooling system. Replace the filler cap and screw it down firmly. *This is important.* (See under "Condenser," page 55.)

After the cooling system is filled, turn the shafts "L" on the water pumps so that the indicators on the ends of the shafts point down.

To fill the radiator condenser, which is attached to the right hand side of the frame, take out the removable floor board just forward of the control lever and replace the drain plug "R," Fig. 40, in the pipe leading from the bottom of the condenser. Then remove the filler cap "V" at the top of the condenser and fill the condenser one-half full, using the same liquid as in the radiator. Replace the condenser filler cap making sure that the vent hole in the side of the cap is open.

Caution:—Do not use water in the cooling system during freezing weather. Use a good anti-freezing solution. Water will freeze even though the engine be run continuously.

Filling Gasoline Tank

The gasoline tank is at the rear of the car. (See Fig. 36.) The filler cap may be removed after loosening the thumb screw on the top of the cap.

Gasoline should be strained through a wire cloth of very fine mesh before it is poured into the tank. If dirt or water is allowed to enter the gasoline system it may cause great annoyance by getting under the carburetor inlet needle and causing the carburetor to flood.

After filling the tank, screw on the filler cap and carefully tighten the thumb screw. This is necessary to prevent leakage of the pressure by which the gasoline is forced to the carburetor.

GENERAL OPERATION

STARTING THE ENGINE

Be sure that the transmission control lever is in neutral position and that the hand brake is set. (See Fig. 1.)

Note the pressure of air in the gasoline tank. (This is indicated by the gasoline pressure gauge on the instrument board.) If the pressure is less than one pound, it should be increased to that pressure by means of the hand air pump. After the engine is started the pressure is automatically maintained.

Place the spark lever in the driving range on the sector (in extremely cold weather place the spark lever at the extreme right on the sector), and the throttle lever about two inches from the extreme left. (See note below.) Move the ignition switch lever down, thereby switching on ignition. Then push down on the starter button. This will bring the starter into operation and will cause the engine to "turn over." (See below under "Caution.")

In cool weather, also in warm weather, if the engine has been standing for some time, pull back the auxiliary air valve lever before you press the starter button.

As soon as the engine fires and commences to run under its own power, which should be in a few seconds, remove your foot from the starter button.

If the auxiliary air valve lever is pulled back when starting the engine, it should be pushed forward about one-half the way immediately the engine starts, and all the way forward as soon as the engine is warm enough to permit doing so.

If the engine does not start in thirty seconds, do not continue to crank, but look for the cause. You may have forgotten to turn on the switch, or maybe you have no gasoline, or there may not be sufficient air pressure in the gasoline tank to force gasoline to the carburetor. No matter how sure you feel, look and see. Bear in mind that the starter will crank the engine only. Ignition and gas must be present to make it run.

Additional suggestions for starting the engine in cold weather will be found on page 31 under "Cold Weather Suggestions."

Note:—If you crank the engine by hand always place the spark lever at the extreme left on the sector. If this caution is not observed a "back kick" may occur, resulting in injury to the person cranking.

Caution

The action which causes the engine to "turn over" is produced by a gear of the electric motor sliding into mesh with teeth on the flywheel; similar to the meshing of the gear teeth in the transmission. When pushing down on the starter button to throw these gears into mesh, if it should happen that they are in just such positions that the ends of the teeth of the starter gear come against the ends of the teeth on the flywheel instead of the teeth of one sliding between the teeth of the other, do not force them. Simply remove your foot from the starter button and again push down on the button. In the meantime the gears will probably have changed their relative positions sufficiently to allow the teeth to mesh.

Do not press the starter button while the engine in running.

GEAR SHIFTING

As the Cadillac transmission is of the selective type, the operator may shift from any gear to any other gear without "going through" a third. It must be borne in mind, however, that the clutch must be released before the gears can be shifted. The clutch pedal is the left pedal.

Referring to Figure 2, the ball at the top of the transmission control or gear shifting lever is shown at "N" in the neutral position, "L" in the low gear position, at "I" in the intermediate gear position, at "H" in the high gear position and at "R" in the reverse gear position.

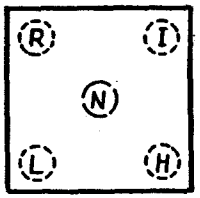


Fig. 2.
Control Lever Positions.

Starting the Car

To start the car, push forward on the left pedal which is the clutch pedal, thereby releasing the main engine clutch. Then disengage the hand brake by means of the hand lever—still holding forward on the clutch pedal. If the car is standing on a grade it will be necessary to hold it with the foot brake until ready to start. Next place the control lever in the low gear position. (Fig. 3.)

To do so, move the lever as far as possible to the left and then pull it back as far as it will go. Then open the throttle slightly by means of the accelerator pedal or the throttle lever at the steering wheel, and engage the main clutch gradually by allowing your foot to come towards you.

If it should so happen that the transmission gears which mesh to make low gear are in just such positions that the ends of the teeth of one gear come against the ends of the teeth of the other gear instead of the teeth of one sliding between the teeth of the other, do not force them, but place the transmission control lever back in the neutral position, engage the clutch by allowing the clutch pedal to come all the way towards you, again release the clutch and again attempt to shift into low gear as above directed.

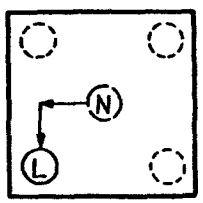


Fig. 3.
Neutral to Low Gear.

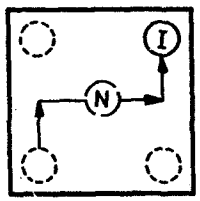


Fig. 4.
Low Gear to Intermediate Gear.

After the car is under way on low gear, release the clutch and shift the control lever into the intermediate gear position. (Fig. 4.) To do this move the lever back to the neutral position, then to the right and push it forward as far as it will go. Then engage the clutch. In shifting from low to intermediate gear, it is advisable to pause for a moment in the neutral position before shifting into intermediate, if you notice a tendency of the gears to clash.

After the car is under way on the intermediate gear, release the clutch and shift to the high gear position. (Fig. 5.) To do this simply pull the control lever straight back from the intermediate gear position. Then engage the clutch.

Reversing

If you desire to start the car backward, release the clutch and place the lever in the reverse gear position. (Fig. 6.) To do this from the neutral position, move the control lever to the left and push it forward as far as it will go. The throttle should then be opened slightly and the clutch allowed to engage slowly as directed when starting on low gear.

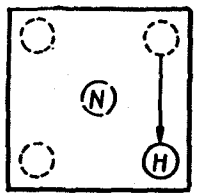


Fig. 5.
Intermediate Gear to High Gear.

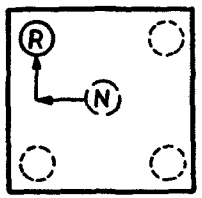


Fig. 6.
Neutral to Reverse Gear.

Shifting into Lower Gear

If, when ascending steep grades or pulling through soft mud roads or deep sand, the speed of the car is reduced until the engine labors, release the clutch and shift the control lever into the intermediate gear position. To do this push the control lever forward as far as it will go. Then engage the clutch. It is best to allow the car to slow down before making the shift and then after releasing the clutch to shift the lever quickly.

An experienced driver may find it more satisfactory to shift from the high gear position to the intermediate gear position in the following manner:

Release the clutch, place the control lever in the neutral position, engage the clutch at the same time slightly accelerating the engine; then release the clutch again and *instantly* shift the control lever into the intermediate gear position. Engage the clutch.

This entire change may be made in less time than it takes to read these instructions by one who becomes familiar with the method. Shifting in this manner may be accomplished satisfactorily at a higher speed than is allowable when the control lever is shifted directly into the intermediate gear position in the usual manner. However, it is not recommended that the operator shift from high to intermediate gear in this manner until he has had considerable experience in making this shift in the ordinary way.

Stopping the Car

First close the throttle and then release the engine clutch by pushing forward on the left pedal. Next shift the transmission control lever to the neutral position. The clutch may then be allowed to re-engage. Then stop the car by pushing forward on the right pedal which applies the foot brake. After the car has been brought to a stop by the foot brake, apply the hand brake by means of the hand brake lever.

Don'ts for Transmission Operation

Do not attempt to shift from neutral to any gear, or from one gear to another gear without first releasing the clutch.

Do not attempt to shift from the reverse gear to any other gear when the car is moving.

Do not attempt to shift from any forward gear to the reverse gear when the car is moving.

Do not attempt to shift from the high gear to the low gear when the car is moving.

Do not shift from the low to the high gear. This is mechanically possible but is not advisable.

Do not attempt to shift from the intermediate gear to the low gear when the car is moving, unless it is moving very slowly. Ordinarily it is best to stop the car altogether before shifting from the intermediate gear to the low gear.

Do not attempt to shift from the high gear to the intermediate gear when the car is running at a high rate of speed. Allow the car to slow down before shifting gears.

Do not drive with your foot resting on the clutch pedal. The operation of the clutch has purposely been made extremely easy and even a slight pressure may release it sufficiently to cause it to slip.

Do not engage the main clutch suddenly. This causes excessive strain on the entire driving mechanism. Always allow the clutch to engage gradually.

STOPPING THE ENGINE

After stopping the car and applying the hand brake, move the ignition switch lever to the horizontal position and at the same time pull back the auxiliary air valve lever. Pulling back the auxiliary air valve lever when stopping the engine "enriches" the mixture which is drawn into the cylinders and makes it easier to start the engine the next time.

OPERATION OF ENGINE

General Principle

The production of power by the Cadillac engine may be described briefly as follows:

Gasoline is forced by air pressure from the tank to the carburetor. The carburetor is the instrument by the action of which gasoline is mixed with air in the proper proportion forming an explosive vapor or gas. The gas thus formed is drawn through the intake pipe and through the inlet valves into the cylinders of the engine where it is compressed and ignited by electric sparks, the pressure of the resulting explosions producing the power.

The quantity of gas supplied to the engine is regulated by a throttle valve at the carburetor which is operated by means of the throttle lever at the steering wheel (the throttle lever is the longer of the two), or by the accelerator button at the right of the brake pedal.

The Four-Cycle Engine

The Cadillac engine is of the four-cycle type, that is, there are four movements or strokes of each piston and two revolutions of the flywheel to complete each power producing cycle. The four strokes of the cycle each have a different function and follow one another in the same order as follows:

Suction Stroke. The suction stroke commences with the piston at its highest point in the cylinder and with the inlet and exhaust valves closed. Immediately the piston starts to descend the inlet valve opens and through this valve a charge of gas from the carburetor is drawn into the space above the piston.

Compression Stroke. As the piston starts upward again after completing the suction stroke, the inlet valve closes. As there is then no escape for the gas in the cylinder it is compressed, the maximum compression being reached when the piston is at the top of its stroke.

Power Stroke. At the completion of the compression stroke, the spark takes place at the spark plug, igniting the compressed charge of gas. The heat resulting from the rapid combustion causes the pressure of the confined gas to rise almost instantaneously to several times its pressure before the explosion. This pressure exerted on the piston forces down the piston and produces the impulse which is transmitted by the connecting rod to the crankshaft, causing it to rotate.

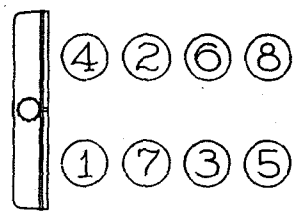


Fig. 7. Firing Order.

Exhaust Stroke. Just before the piston reaches the end of the power stroke, the exhaust valve opens. It remains open as the piston travels upward again on the exhaust stroke, driving the burned gas out from the cylinders. By the time the piston has reached its highest point it has forced out the burned gas and the exhaust valve closes. Having completed the four strokes, the piston is now ready to draw in a new charge and to repeat the cycle.

The same cycle of events takes place in all of the cylinders but no two pistons are at the same point in the cycle at the same time. In the Cadillac Eight Cylinder V-Type engine, the impulses in the eight cylinders are so timed that a power stroke is begun every quarter turn of the crankshaft. In other words, the crankshaft receives four overlapping impulses every revolution. The order in which the impulses take place is shown in Fig. 7.

Automatic Spark Control

When each piston is at its highest position in the cylinder is, of course, the time when the charge is at its greatest compression, or, in other words, when the gas is "jammed in the tightest." Ignition occurring exactly at this instant produces a much more forceful explosion than if it occurred at a time when the charge was not so tightly compressed.

If the charge were ignited the instant the contact is made in the ignition timer, regardless of the speed of the engine, the spark could be set permanently in one position and would not require changing. But a certain amount of time elapses from the instant the circuit is closed at the ignition timer until the charge is ignited in the cylinder. While this time is but the merest fracton of a second, in fact, almost infinitesimal, yet it is time just the same and must be taken into account when dealing with such a rapidly acting mechanism as an automobile engine.

The lapse of time required to ignite the charge is always the same regardless of the speed of the engine and pistons. You will realize that when the engine is running, say 3000 R. P. M., the pistons are traveling many times as fast as they do when it is running only 300 R. P. M. and that when the engine is running 3000 R. P. M. it is necessary to start the ignition process earlier.

In the Cadillac this is accomplished by means of a ring governor located directly under the ignition timer. (See Fig. 50.) As the speed of the engine increases, the ring in the governor assumes a position more nearly horizonal, forcing the timer contact cam slightly ahead on the shaft by which it is driven. This causes the timer contact points to break earlier, thereby starting the ignition process earlier in relation to the positions of the pistons. When the engine slows down, the ring in the governor assumes a position more nearly vertical, forcing the contact cam back on the shaft by which it is driven, causing the contact points to break later and thereby starting the ignition process later in the strokes of the pistons.

Manual Spark Control

The automatic control takes care of the spark position for all ordinary driving. A spark lever is provided, however, by which the ignition timing may be still further advanced or retarded. The spark lever is the shorter lever just above the steering wheel.

Ordinarily the spark lever should be carried in that portion of the sector marked "Driving Range." To get the best results, however, the spark lever should be retarded further for extremely low speeds and advanced further for extremely high speeds. The car should be driven at all times with the greatest possible spark advance which the speed of the engine will permit.

Advancing the spark too far for a given engine speed will usually cause a slight pounding noise, which is sometimes not noticed by the beginner as it is usually but slight, owing to the substantial character of the crankshaft and bearings.

When starting the engine, place the spark lever in the "Driving Range" on the sector except during extremely cold weather when it should be placed at the extreme right or in the fully advanced position. If the engine should be cranked by hand, the spark lever should be placed at the extreme left on the sector or in the fully retarded position. If this caution is not observed a "back kick" may occur, probably resulting in injury to the person cranking.

DRIVING SUGGESTIONS

Rules of the Road

Road and traffic laws vary greatly in different localities. It is, therefore, impossible to set down a complete list of rules which may be followed in all parts of the country. The following are some of the rules which are practically universal in all parts of the United States.

In meeting a vehicle going in the opposite direction *pass to the right.*

In passing a vehicle going in the same direction *pass to the left.*

Always stop with the right hand side of the car next to the curb. If it is necessary to turn around to do this it should be done.

Never turn around or turn off onto another road without making absolutely sure that there is no other vehicle directly behind you.

Never enter upon street car tracks without making sure that there is no car directly behind you—*no matter how sure you feel, look and see.*

Do not cross street car or steam railroad tracks without making sure that it is absolutely safe to do so.

In crowded traffic do not apply the brakes suddenly unless it is absolutely necessary. It may be that the vehicle following you cannot stop as quickly as you can. If this is the case a collision is sure to result.

On wet asphalt streets or slippery roads do not apply the brakes suddenly unless it is absolutely necessary. If the brakes are applied suddenly under these conditions disastrous skidding is apt to occur.

In crowded traffic it is a good plan to signal cars at the rear, before turning, slowing down or stopping.

It is a good plan to slow down in passing vehicles going in the opposite direction.

One of the most essential things to remember is that you should *never "take a chance."* You will find that the more experienced drivers never permit themselves to take a chance.

Coasting

To coast on the level, close the throttle and then release the main engine clutch by pushing forward on the left pedal.

When descending grades a good method is to close the throttle and allow the engine to do the holding back as much as possible. This saves much wear on the brake band lining.

When descending steep grades, the resistance offered by allowing the car to drive the engine when "high gear" or "direct drive" is engaged is usually sufficient to control the speed. When the engine does not offer sufficient resistance the speed may be further checked by applying the foot brake.

When it is necessary to descend a very steep grade it is best to engage the intermediate or possibly the low speed gears *before commencing the descent,* and if the resistance of the engine thus obtained is not sufficient, supplement it by the foot brake. Bear in mind that the more the resistance of the engine is used in coasting the longer the brake band linings will wear and the brakes retain their adjustment.

The principle of this method will be understood when you realize that the same combination of gearing which changes the ratio between the engine shaft and the rear axle, which makes it easier for the engine to drive the car, will, when the car is compelled to drive the engine, have exactly the opposite effect, which is the case when the above method is used in descending a hill.

Don'ts for General Operation

Don't run the car at sustained high speed when it is new.

Don't put oil in the engine without first straining it through cheese cloth or fine wire mesh and making sure that it is free from dirt and lint.

Don't allow the clutch to engage suddenly.

Don't prime the carburetor too much.

Don't attempt to shift from neutral to any gear, or from one gear to another gear without first releasing the clutch.

Don't attempt to shift from the reverse gear to any other gear when the car is moving.

Don't attempt to shift from any forward gear to the reverse gear when the car is moving.

Don't attempt to shift from the high gear to the low gear when the car is moving.

Don't attempt to shift from the intermediate gear to the low gear when the car is moving, unless it is moving very slowly. Ordinarily it is best to stop the car altogether before shifting from the intermediate gear to the low gear.

Don't push the starter button when the engine is running.

Don't turn the steering gear when the car is standing. This is not only unnecessary but is also bad practice.

Don't fail to investigate any unusual sound which may develop in the car. The car should be inspected at a Cadillac dealer's Service Station.

Don't neglect to inspect the level of the acid in the storage battery every 1,000 miles.

Don't turn corners at high speed.

Don't neglect to keep the cooling system filled with water and with a good anti-freezing solution in cold weather.

Don't drive fast or attempt to stop suddenly on wet pavements.

Don't attempt to start the engine with the switch turned off, without air pressure or without gasoline in the tank.

Don't fill the lubricating system in the engine only and neglect to lubricate all other parts of the car.

Don't neglect the lubrication of any part of the car.

Don't neglect to keep the tires properly inflated.

Don't race the engine when it is not driving the car. There is no worse abuse.

BODY AND TOP

Care of Finish

The best materials are used in finishing Cadillac cars. These are applied in the most expert manner. In spite of these facts, it cannot be expected that the finish will stand up unless it is given proper attention.

The finish of an automobile requires more careful and frequent attention when the car is new than when it is older and the varnish is harder.

You should be particularly careful to keep mud from the body and hood of the car while new. Have the car washed immediately in case mud spatters on it.

The following instructions should be followed very carefully when the car is washed:

Always use clean water. Never use water containing alkali. In parts of the country where the regular water supply consists of "alkali" water, rain water should be used for washing the finish.

Never use water colder than forty degrees or warmer than sixty degrees. If a hose is used in washing, never have a greater pressure than will carry the water six inches beyond the end of the hose. Water under greater pressure will drive the grit and dirt into the varnish.

A soft, Rock Island natural sheep's wool sponge is the best for washing the body and hood of the car. Begin at the top of the body panels and thoroughly wet the surface all over with water from the sponge. Continue until the accumulation of road dirt softens up and gives way.

Use clean water continually, and plenty of it. Go over the surface with plenty of water two or three times until the surface is perfectly clean.

Do not wash the hood while it is hot. The effect is the same as washing it with hot water. Unless the hood is allowed to cool before washing the luster will soon disappear.

Dry off with a clean soft chamois. Do not rub the finish or use hand pressure more than sufficient to dry off the water. The water evaporates quickly and leaves the finish in good condition.

Wash the car frequently, especially when it is new, as often, in fact, as the car returns from the road with a soiled appearance. This practice in the case of a new car, heightens the brilliancy of the finish, hardens it, keeps it from spotting and adds greatly to the general appearance of the car.

Do not wash the glass of the windshield or the glass of the enclosed cars with preparations which may contain harmful ingredients. Use only cleaning compounds which are known to have no destructive effect on the highly polished surface of the glass.

Seat Cushions

The easiest and best way to replace a seat cushion is to first place the front side of the cushion against the retaining strip on the seat and then to force the rear end of the cushion into place.

Body Bolts

As the body bolts become more firmly seated after the car has been operated, it is a good plan to tighten all of the body bolts at the end of the first 1000 miles of travel.

TOP AND SIDE CURTAINS

Folding Top

Unbutton the rear curtains "A," Fig. 8, from the bows and also from the top of the body. Fold the curtains in smoothly against the back curtain. Open the top rest clamps "B."

Release the front end of the top from the windshield standards by loosening the clamps at "C." After the top is released tighten the clamps again to prevent them from rattling.

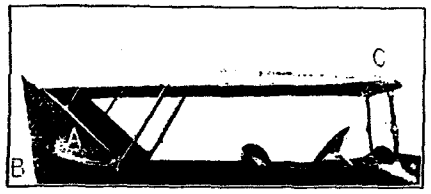


Fig. 8. Top in Raised Position.

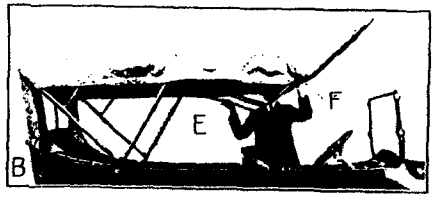


Fig. 9. Top Partially Folded, First Position.

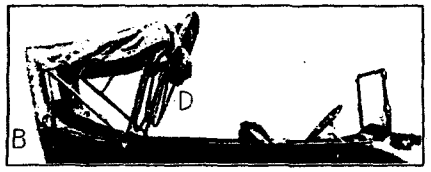


Fig. 10. Top Partially Folded, Second Position.

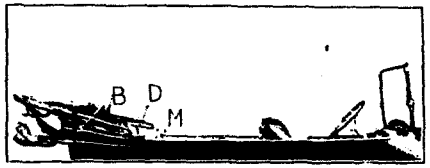


Fig. 11. Top Folded.

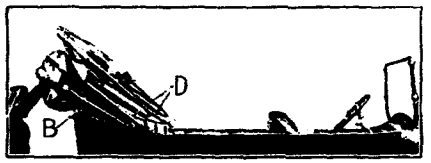


Fig. 12. Top Partially Raised, First Position.

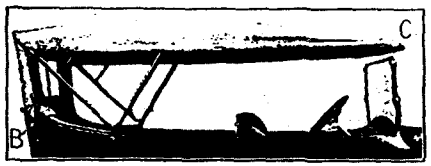
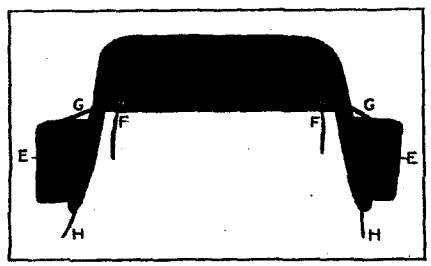
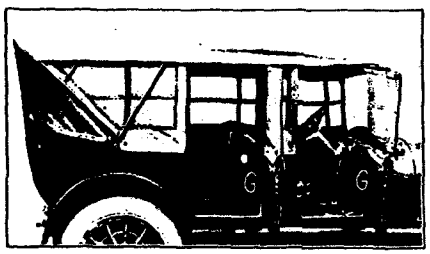


Fig. 13. Top Partially Raised, Second Position.





"Break down" the joints at each side of the horizontal bow by pushing up with one hand on the bow at "F," Fig. 9, and pulling down with the other hand at "E." Fold the front part of the top back until it closes as shown in Fig. 10. Insert the pins on the sockets of the center bow in the holes at "D."

Carefully lower the top into the top rests, being careful to tuck the material between the bows so that it rests smoothly and is not pinched. (See Fig. 11.) Then close and lock the top rest clamps "B."

Unfold and open up the dust hood (Fig. 14) so that the flaps, "E" are at the top. Draw the hood on over the folded top and tuck the flaps down between the bows and the body, *taking care not to scratch the body.* Be careful to draw the hood up evenly on both sides. Loop the straps "F" on the under side of the dust hood around the lower bow on each side, draw them tight and buckle. Pass the straps "G" through the top rest clamps "B," Fig. 11. Pass the straps "H" through the loops on the nuts "M" on the top supports just back of the rear doors. Button the snap fasteners on the lower edges of the flaps under the bows.

Raising Top

Unbutton the fasteners along the lower edges of the parts of the dust hood protecting the bows at the sides. Unbuckle all the dust hood straps and carefully pull off the dust hood from the rear.

Open the top rest clamps "B," Fig. 11, and release the pins from the holes at "D."

Then, standing behind the car as shown in Fig. 12, push up and forward on the rear bow. The top should then assume the position shown in Fig. 13. Pull down the front end of the top until the ball on each windshield standard is well into the socket attached to the top bow and tighten the clamps "C."

Place the rear curtain "A," Fig. 8, in position and button the fasteners on the body and also on the rear bows. Close and lock the top rest clamps "B."

Lubrication of Top

It may be found, after use, that the joints of the top require lubrication. When lubricating the joints you should be very careful not to get oil on the top material and not to put too much oil on the joints, which will afterwards run out onto the top material. Wipe the joints off carefully after lubricating.



Fig. 16. Curtain Fastener.

Side Curtains

The front curtains are carried in the top just back of the windshield and the remainder of the curtains at the extreme rear part of the top. Each section of the curtains is tagged to indicate where it belongs.

Removable supporting rods are provided for the doors to carry the side curtains when the doors are opened. The supports are attached without screws or bolts, simply by inserting them in the brackets at "G," Fig. 15.

The curtains are fastened in place with fasteners of two kinds. One of these is the usual "glove fastener" type, which snaps on and off. The other type of fastener becomes locked on three sides when snapped into place and must be lifted on the side which is not locked in order to release it. This side is indicated by a small projection on the fastener as shown by the arrow in Fig. 16. This type of fastener cannot be released by lifting it at any other side.

WINDSHIELD POSITIONS

For Inclement Weather

The normal position of the windshield for inclement weather is with the upper and lower sections closed and with the removable rubber strip between the glasses. If, as the result of rain or snow on the windshield glass, it becomes impossible to see through it, the upper section may be tilted out at an angle. This is known as the "rain vision" position. The driver may then look between the sections of the shield, at the same time being protected to some extent from the rain and snow. The clamping nuts at the top of the windshield standards must be loosened before the upper section can be tilted and should be tightened after it is in the desired position to hold it in place.

For Ventilation

There is a row of rectangular slots through the cowl just back of the windshield. When ventilation in the driver's compartment is desired, the lower section of the windshield should be tilted *in* at a slight angle so that the lower edge is just back of the ventilating slots in the cowl. If it is desired, the lower section may be tilted in at a greater angle. The clamping nuts half way up the windshield standards must be loosened before the lower section can be tilted and should be tightened after it is in the desired position.

If more ventilation is desired the upper section of the shield may be tilted toward the driver so as to deflect a current of air directly into the compartment.

SPEEDOMETER AND CLOCK

Speedometer

The speedometer on the instrument board registers on its three dials the rate at which the car is traveling, the total number of miles traveled by the car and a trip reading which may be reset to zero. The total mileage dial cannot be reset.

Do not under any circumstances attempt to lubricate the speedometer head. Any parts requiring lubrication were amply supplied with lubricant before they were assembled.

A repair man should never be allowed to attempt to adjust or repair the speedometer head. Repairs or adjustments are impossible without a special calibrating machine. The guarantee on the speedometer head does not hold good if the head is disassembled or tampered with.

If the speedometer head is removed for any reason, handle it with the same care that you would a fine watch. The speedometer head may very easily be damaged by rough handling.

If a new glass is necessary, or repairs or adjustments, remove the speedometer head, pack it carefully, and return it to the makers or one of their service stations or branches.

Clock

The clock is set and wound exactly as a stem winding watch. When setting or winding the clock use reasonable care.

With reasonable care the clock will stand the hard usage automobile service gives and to meet which the clock is constructed.

TIRES

Guarantee

The tires used on Cadillac automobiles are guaranteed by their respective makers. In case of claims, tires should be sent to the factory or any of the branches of the makers (not to us), transportation charges prepaid.

Each tire maker publishes a booklet with instructions for care and repair of tires and every motorist should provide himself with one of these and thoroughly familiarize himself with the contents. We give here suggestions that apply to pneumatic tires in general.

CARE OF TIRES

Probably 75% of so-called "tire trouble" is the result of misuse. "Neglected trifles" is a fair summary of the whole question. In the following we have illustrated some of the more common causes of tire breakdown.

Result of Improperly Adjusted Tire Chains

Fig. 17 illustrates a tire which has been badly damaged through the use of tire chains which were improperly adjusted or fastened to the spokes holding the chains tightly in one place. You will note that the tread is cut through to the fabric, and in fact loosened up and torn badly in many places.

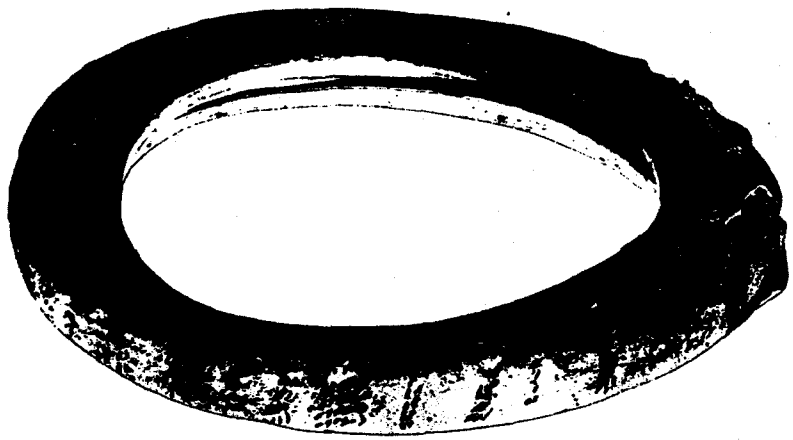


Fig. 17. Result of Improperly Adjusted Tire Chains.

The least injury results when chains are loosely applied, and have play enough to work themselves around the tire, distributing the chain on all points alike. Probably the greatest amount of injury comes from using chains unnecessarily on paved streets.

Neglect of Small Cuts

Fig. 18 illustrates a tire damaged from the neglect of two small cuts extending to the fabric. (Note the two prominent "bumps," which show plainly.)



Fig. 18. Result of Small Tire Cuts Which Were Neglected.

If cuts extending to the fabric are neglected, fabric deterioration and blistering of the tread is bound to result.

It is unnecessary to remove a tire to treat a small cut of this nature. Tire companies furnish a plastic compound for filling cuts, thus preventing moisture and dirt from getting to the fabric.

Result of Improperly Aligned Front Wheels

Fig. 19 shows the result of running a car with the front wheels out of alignment. This usually affects both tires similarly, although sometimes one tire only is affected. An improper adjustment of the parallel rod in front of the axle, or a bent steering arm is responsible for this condition. Unless the wheels are kept in proper alignment, the tread of the front tires will wear away in a remarkably short time.

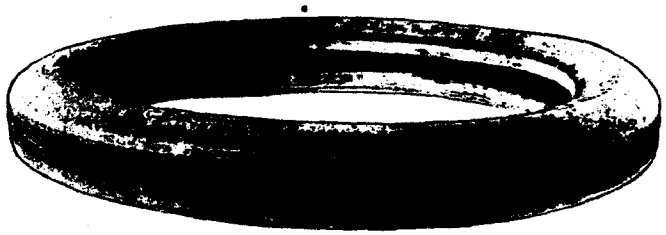


Fig. 19. Result of Improperly Aligned Front Wheels.

If the front wheels are badly enough out of alignment, the entire tread of both front wheels may be worn off in less than 100 miles. If the wheels are only slightly out of alignment, the result is the same, although the wearing off is slower. (See under "Alignment of Front Wheels," page 88.)

Result of Sudden Application of Brakes

You will note from Fig. 20 that the tread and several plies of fabric have been worn or rather scraped off at one place. This has been brought about by sudden application of the brakes, which resulted in sliding the wheels. It is remarkable how soon a tire will give away from this severe treatment.



Fig. 20. Result of Suddenly Applying Brakes.

Result of Under Inflation

Fig. 21 shows the most common result of under-inflation. The lower the pressure in the tire the more the tire flattens out under load. This flattening causes the side walls of the tire to bend more sharply as the wheel revolves. The final result of this is the breaking of the fabric in the side walls as shown in the illustration. There are unquestionably more tires ruined from under-inflation than from any other cause.

Five inch tires, which are standard on the Type 57, should be inflated to from 75 to 80 pounds pressure.

Additional Suggestions

The tires are constructed for the purpose of carrying up to certain maximum loads and no more. Owners should realize, therefore, that overloading a car beyond the intended carrying capacity is sure to materially shorten the life of the tires.

Do not turn corners or run over sharp obstructions, like car tracks, at a high rate of speed. Such practice is sure to strain or possibly break the fabric, with the result that the further life of the tires will be limited. Remember that most tire troubles are the result of abuse more than use.

Avoid scraping the tires against the curb and running in ruts. This kind of wear scrapes off the rubber side wall and exposes the fabric to dirt and moisture which soon starts to rot the threads.

If a tire goes flat, see that the valve is not leaking. A little moisture on the tip will show bubbles if the air is escaping.

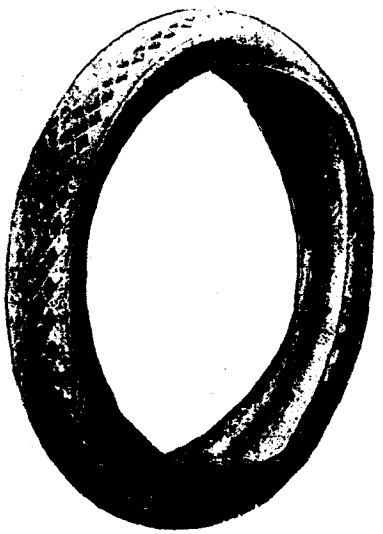


Fig. 21. Result of Insufficient Inflation of Tire.

In case of puncture, the car should be stopped at once and the tube repaired or replaced, or the tire replaced by the extra one. The tire should also be examined carefully and the cause of the puncture ascertained and the nail, glass or whatever it may be, should be extracted. Before replacing the tire on the rim, examine the inside of the casing to see that the cause of the puncture is not still protruding, because it would, if allowed to remain, continue to cut the inner tube. It is also advisable to look over the outside of the tires frequently and take out any pieces of glass or other particles which may have become imbedded in the casing.

Don't run in ruts or car tracks; the sides of a tire will soon wear out under such treatment. Avoid large stones or other obstructions in the road. To hit one of these may break the fabric even though no external injury be visible.

Experience has taught the careful driver to carry one or more spare tubes, as a cemented roadside repair will not always hold, especially in warm weather, as the heat generated in the tire may loosen the patch. When touring, a spare casing should always be carried.

The garage floor should be kept free from oil or gasoline. The tires on a car left standing on a grease-covered floor deteriorate quickly, the natural enemies of tires being oil and gasoline. These destroy the nature of the rubber, rendering it soft, so that it cuts and wears away quickly.

Tires that show wear on one side from use on rutty roads or from other causes may be turned around, thereby lengthening the life of the tire.

Spare tubes should be kept lightly inflated. This keeps them in good condition and prolongs their life. They should not be stored in a greasy tool box under any circumstances.

If the car is not used during the winter, it is better to remove the tires from the rims, keeping casings and tubes in a fairly warm atmosphere away from the light. It will be better to slightly inflate the tubes, as that keeps them very nearly in the position in which they will be used later on.

If the tires are not removed and the car is stored in a light place, it will be well to cover the tires to protect them from the strong light, which has a deteriorating effect on rubber.

The greatest injury that can be done to tires on a car stored for the winter is to allow the weight of the car to rest on the tires. The car should be blocked up, so that no weight is borne by the tires, and the tires should then be deflated partially. This will relieve the tires of all strain, so that in the spring they should be practically no worse for the winter's storage.

TIRE HOLDER

The tire holder is designed to carry two standard size tires inflated on rims.

To remove the tire with rim, remove the lock and then unscrew the clamp as far as it will go. Move the bottom of the tire back until it is entirely free from the holder. The tire then may be removed by slightly lifting it straight up.

To put a tire on the holder proceed in the reverse manner.

Care should be used not to allow the inner tire to strike the body of the car when removing or replacing it.

TIRE AIR COMPRESSOR

Operation and Use

The air compressor for the tires is bolted to the left hand side of the transmission case. It is driven by a sliding gear which meshes with the reverse idler gear. The sliding gear is thrown into or out of mesh with the transmission gear by a shaft extending up through the front floor boards at the left of the transmission control lever, and just back of the brake pedal. (See Fig. 1.) The head of this shaft has a screw-driver slot which permits the shaft to be turned easily.

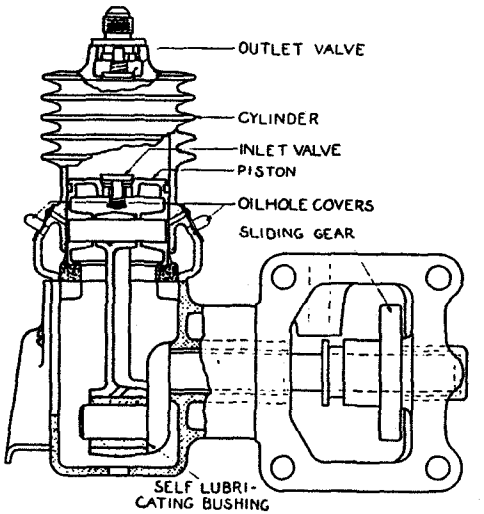


Fig. 22. Tire Air Compressor, Sectional View.

To use the compressor, first attach the air hose to the air connection in the tool box concealed in the right hand dust shield. Then connect the other end of the hose to the valve of the tire to be inflated. Do not connect the hose to the tire first or the air will escape from the tire before the pump end is connected. Then bring the compressor into operation proceeding as follows:

First, either stop the engine or release the clutch and hold the clutch pedal down until you are sure that the transmission gears have ceased to rotate, then, with the engine not running or with the clutch pedal still held down, turn the slotted head of the shaft in a clockwise direction as far as it will go. This will throw the sliding gear into mesh with the reverse idler gear.

Then start the engine, or in case the engine is running, engage the main clutch, first being sure that the transmission control lever is in the neutral position.

The engine should be run at a speed between 900 and 1100 revolutions per minute when the compressor is in operation. (If the third brush on the motor generator is properly adjusted, the correct speed of the engine may be determined by noting the ammeter on the instrument board. When the engine is running between 900 and 1100 revolutions per minute the ammeter should indicate a charging current of 16 to 18 amperes with all lights switched off.) Do not race the engine when inflating tires.

Do not turn the slotted head of the shaft to mesh the compressor gear when the engine is running and the clutch engaged. If this is attempted it will probably result in stripping the compressor driving gear.

To throw the compressor driving gear out of mesh, turn the slotted head of the control shaft in a counter-clockwise direction.

Lubrication

The compressor piston is lubricated through two oil holes—one in front of the compressor cylinder and one just behind. Each oil hole is protected by a small sliding cover.

Apply engine oil at these points every 1000 miles, or oftener if the pump is used frequently. (See Fig. 22.)

DEMOUNTABLE RIMS

Demounting Rim with Tire

Jack up the axle until the wheel is free from the ground. Then remove the valve cap; loosen the eight clamp nuts, with the brace wrench furnished with the tool kit, and turn each clamp to the left until it strikes the stop pin in the felloe band. Turn the wheel so that the valve is at the top and pull the bottom of the rim towards you until it clears the wheel. The rim with tire can then be removed by lifting it straight up. (Fig. 23.)

Mounting Rim with Tire

If the rim you are mounting has no split clamping ring, take the one from the rim you have removed. Turn the wheel so that the hole for the valve stem is at the top. Hold the rim so that the valve stem is at the top and so that the rim joint latch and the clamping ring are towards you. Insert the valve stem in the valve stem hole in the wheel and then push the bottom of the rim into place. (Fig. 24.)



Fig. 23.
Demounting Rim from Wheel.



Fig. 24.
Mounting Rim on Wheel.

Turn each clamp to its original position and turn the clamping ring so that the split in the ring comes directly under one of the clamps. Tighten each clamp slightly. Then continue around the wheel, tightening each clamp firmly. Screw on the valve cap.

If the rim does not run true, mark the part that runs "out" from the face of the wheel. Then slightly loosen the clamps diametrically opposite this part and tighten the clamps at the marked part. Proceed in this manner until the rim does run true.

Removing Tire from Rim

The tire may be removed without removing the rim from the wheel.

Deflate the tire. Then open the lock with the pointed end of the tire tool or with a screw-driver.

Raise one end of the ring with the tool as shown (Fig. 25) until the lug is clear of the slot in the rim.



Fig. 25. Removing Tire from Rim, First Position.



Fig. 26. Removing Tire from Rim, Second Position.

Raise the end of the ring further and force the lug out over the edge of the rim. (Fig. 26.)

Start at the end of the ring, which is out of the groove, and remove the entire ring from the rim. (Fig. 27.) (See note.)

Turn the wheel until the valve stem is at the top, and pull the lower part of the tire towards you until it is clear of the rim. The tire may then be removed from the rim by lifting it straight up.

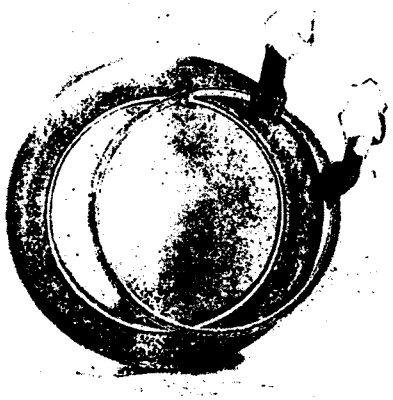


Fig. 27. Removing Tire from Rim, Third Position.

Note—In removing the ring from the rim, care should be taken to avoid opening the ring beyond its elastic limit. When the ring is free from the rim the ends of the ring should overlap from ½ to 1½ inches, which it will not do if it has been stretched in removal.

If the ends of the ring do not overlap they should be closed together before replacing. If this is not done there is a possibility of the lock failing to properly engage the lugs on the ends of the ring, which might later be the cause of an accident.

Caution—Do not attempt to remove a tire from a demountable rim without first completely deflating the tire. Serious personal injury may result if this is attempted.

Placing Tire on Rim

If the demountable rim is on the wheel, jack up the axle and turn the wheel until the hole for the valve is at the top.

Hold the tire so that the valve stem is at the top and insert the valve stem in the valve stem hole in the rim and wheel. Then push the bottom of the tire into place.



Fig. 28. Placing Tire on Rim, First Position.



Fig. 29. Placing Tire on Rim, Second Position.

Insert one end of the locking ring in the slot in the rim. Then with the tool as a lever, force the tire back far enough to allow the ring to go on easily. (Fig. 28.)

Starting at the end of the ring which is inserted in the slot in the rim, force the remainder of the ring into place by using the tire tool as pliers. (Fig. 29.)



Fig. 30. Placing Tire on Rim, Third Position.



Fig. 31. Placing Tire on Rim, Fourth Position.

Insert the flat end of the tool between the rim and the ring, and turn the tool up edgewise. (Fig. 30.) This will lift the loose end of the ring and force it into place.

Draw the ends of the locking ring together with the tool. (Fig. 31.) Then swing the lock into place.

Then inflate the tire. (See under "Tire Air Compressor," page 27.)

If the demountable rim is not attached to a wheel, lay the rim with the tire flat on the ground when removing or replacing a tire.

COLD WEATHER SUGGESTIONS

STARTING THE ENGINE

Use of Throttle Pump as Primer

In *extremely* cold weather, if the engine is not started in 15 or 20 seconds, remove your foot from the starter button. This will stop the cranking operation. Now open and close the throttle once or twice with the hand throttle or the foot accelerator. *Do not* open and close the throttle more than twice.

Opening and closing the throttle operates the throttle pump on the carburetor. This raises the level of the gasoline in the carburetor, thereby priming it. If the throttle is opened and closed more than twice, gasoline is forced out of the carburetor. If, as a result of extreme cold, it is necessary to prime the carburetor, *do not open and close the throttle more than twice.*

Position of Spark Lever

Except in extremely cold weather, the spark lever should be placed in the position marked "driving range" when starting. In extremely cold weather, it should be fully advanced when starting. (If the engine is to be cranked by hand, the spark lever should be placed at the extreme left on the sector.)

It is the practice of some drivers to place the spark lever at the extreme left on the sector when starting the engine. While this is the proper position for the spark lever if the engine be hand cranked, there is no reason for retarding the spark when the engine is electrically cranked and starting is facilitated if the spark lever is advanced to the "driving range." In extremely cold weather there is no reason why the spark lever cannot be placed in the fully advanced position if the engine be electrically cranked and a quicker start is assured if this is done. The following will explain why it is possible to fully advance the spark lever at such times:

The mixture in a cold engine does not burn as rapidly, nor is there so much energy in it, as when the engine is warmer and the fuel is better vaporized. When the engine is cold a large percentage of the heat of each explosion is instantly dissipated by reason of the cold combustion chambers and cylinder walls, the result being that an explosion which in a hot engine would occur early enough and have energy enough to produce a "spark knock" or "back kick," occurs so much later and is so much less intense, that neither of these results is produced.

It is best to have the spark lever in the fully advanced position for cold weather starting for the following reasons:

As explained before, a cold mixture ignites much more slowly than a hot mixture. A cold, slow-burning mixture, if ignited on top dead center on account of the spark being in the retarded position, may burn through the power stroke, through the exhaust stroke and may be still burning in the combustion chamber when the inlet valve is opened to draw in another charge. When this happens, the flame sets fire to the incoming charge, igniting the mixture in the intake pipe and carburetor, producing a "pop back" in the carburetor. The possibility of this happening is very much less if ignition is started earlier by placing the spark lever in the fully advanced position.

Position of Throttle Lever

In winter weather the throttle lever should be open about two inches on the sector for starting. Many drivers make a practice of opening the throttle wide or nearly so immediately the engine is started and after shifting the transmission into gear. The full suction of each piston through the carburetor under these conditions causes the auxiliary air valve in the carburetor to open wide, allowing a large volume of cold air to rush into the carburetor.

The proportion of air to gasoline drawn in under these conditions is practically the same as when the engine is hotter, but as only a portion of the gasoline drawn in is vaporized, and as only the vaporized portion burns, the proportion of air to gasoline burned is greater than when the engine is warmer, thus producing a "lean" mixture. A "lean" mixture is slow burning, whether it is warm or hot, and a cold "lean" mixture is particularly slow burning. Thus if the throttle is opened suddenly before the engine is thoroughly warm, the cold "lean" mixture resulting, burns so slowly that a "pop back" in the carburetor is almost sure to occur.

Use of Starter Button

In extremely cold weather, when the car has been standing long enough to become thoroughly chilled, it is a good plan to release the clutch before pressing down the starter button and to hold the clutch pedal down during the cranking operation.

If the clutch is engaged during the cranking operation the starter turns the jackshaft in the transmission in addition to cranking the engine. While at ordinary temperatures the additional energy thus required is almost negligible, in extremely cold weather the lubricant in the transmission may offer enough resistance to the gears to increase considerably the demand upon the battery during the cranking operation. It is obvious that with the clutch in the released position while the starter button is pushed down, less work is done by the starter and the battery charge is conserved.

ANTI-FREEZING SOLUTION

The radiator condenser makes it possible to use with safety an anti-freezing solution of denatured or wood alcohol and water. Do not use a solution containing calcium chloride as this is injurious to the metal parts of the cooling system.

The capacity of the cooling system is five and one-quarter gallons. The condenser should contain an additional three quarts, making a total of six gallons.

The following are the freezing temperatures of denatured alcohol and water solutions of various proportions.

Denatured Alcohol (% by volume)	Water (% by volume)	Freezing Temperature (degrees Fahr.)	Specific Gravity (Hydrometer reading)
20%	80%	+13°	.974
30%	70%	— 3°	.964
40%	60%	—20°	.953
50%	50%	—34°	.936

It is a good plan occasionally to draw out a sample of the solution in the radiator and to test its specific gravity with a hydrometer graduated between the limits of the above table.

Caution:—Do not use water in the cooling system during freezing weather. Use a good anti-freezing solution. Water will freeze even though the engine be run continuously.

ADDITIONAL SUGGESTIONS

Starting in Intermediate or High Gear

The car should not be started in intermediate or high gear. Start the car in low gear.

Starting in intermediate or high gear should not be done at any time, but this is particularly unfair to a cold engine, as it necessitates a further opening of the throttle than is necessary when starting on low gear, with the probability of a "pop back" in the carburetor.

Cold Test of Engine Oil

Be careful to use an oil having a low cold test. In other words, use an oil which flows freely at low temperature. (See under "Lubricants," page 37.)

Frequent Changing of Oil

Water may accumulate in the crank case of the engine during cold weather as a result of condensation. It is necessary, therefore, to drain the oil frequently and replace it by clean, fresh engine oil. (See under "Replace Oil Frequently During Cold Weather," page 40.) If water is allowed to accumulate in the crank case, serious damage to the engine may result.

Strainers in Gasoline System

It may be found necessary to remove the strainers in the gasoline line more frequently during cold weather in order to prevent an accumulation of water at these points which would freeze and prevent the gasoline from going to the carburetor. (See under "Settling Chambers and Strainers," page 51.)

WINTER STORAGE

Engine

To prepare the engine for winter storage proceed as follows: Start the engine, cover the radiator and run the engine until it is hot. (See under "Personal Danger in Running Engine in Closed Garage," page 52.) The engine should be run at a speed which will show an ammeter reading of about 10 with all lights switched off. It usually requires from two to ten minutes to heat up the engine.

After the engine is hot and with the engine still running, inject one to two tablespoonfuls of clean, fresh engine oil into the carburetor through the primary air inlet. (See Fig. 38.) The oil gun may be used for this purpose.

Then immediately shut the gasoline valve at the tank. Let the engine run until the gasoline in the carburetor is used and the engine stops. Then turn off the switch.

Open the relief cocks on all the cylinders to relieve compression. Then close the cocks.

If the engine is started again repeat the series of operations given in paragraphs one, two, three and four.

Drain the cooling system. You will find complete instructions in this book under "Draining the Cooling System," page 57.

Storage Battery

When the car is stored for the winter the level of the acid solution should be even with the bottom of the filling tubes. (See under "Adding Water to Storage Battery," page 78.) If water is added it should be added just before the last time the car is used so that it will be thoroughly mixed with the acid solution. When the car is stored, the specific gravity of the acid solution should register from 1.270 to 1.290. In this condition there is no danger of the acid solution freezing. The specific gravity of water is 1.000 and water freezes at 32 degrees F. above zero.

Unless the battery is fully charged or nearly so it is probable that the acid solution in the battery will freeze and cause extensive damage.

The battery should be charged every two months during the "out of service" period, either by running the engine or charging from an outside source (Fig. 54). If either of the above is impossible, and there is no garage equipped for charging batteries to which it may be conveniently sent, the battery may be allowed to stand without charging during the winter, provided the specific gravity of the acid solution registers from 1.270 to 1.290 at the time the car is laid up. Much better results and longer life from the battery will be obtained by giving the periodic charges.

The wires of the battery should be disconnected during the "out of service" period, as a slight leak in the wiring will discharge the battery.

Tires

During winter storage it is best to remove the tires from the rims and keep the casings and tubes in a fairly warm atmosphere away from the light. It is best to inflate the tubes slightly after the tires have been removed to keep the tires in the position in which they are when inflated on the rim.

If the tires are not removed from the car, and the car is stored in a light place, it is best to cover the tires to protect them from strong light, which has a deteriorating effect on rubber.

The greatest injury that can be done to tires when the car is stored for the winter is to allow the weight of the car to rest on them. If the tires are not removed the car should be blocked up so that no weight is borne by the tires and the tires partly deflated.

Body and Top

It is best to put the top up and cover the entire car to protect it from dust.

Taking Car Out of Storage

When the car is taken out of storage the following instructions should be followed carefully in starting the engine:

Remove the spark plugs and with the oil gun inject one or two tablespoonfuls of clean, fresh engine oil into each cylinder.

Replace the spark plugs. Turn the engine over a few revolutions either with the starter or with the hand crank with ignition switched off. This will tend to distribute the oil over the cylinder walls.

Turn on the gasoline at the tank and start the engine in the usual manner.

Immediately the engine starts, inject one or two tablespoonfuls of clean, fresh engine oil into the carburetor through the primary air inlet.

Part II

LUBRICATION

IMPORTANCE OF LUBRICATION

There is no one thing which is the primary cause of more trouble and the cause of more expense in maintenance to the mechanism of an automobile than insufficient lubrication.

All moving parts of the Cadillac car are manufactured with an unusual degree of accuracy and the parts are carefully assembled. In order to maintain the splendid running qualities of the car it becomes necessary systematically to introduce suitable lubricants between all surfaces which move in contact with one another.

The special object of this chapter is to point out the places in the Cadillac which require oiling. While it is manifestly impossible to give exact instructions in every instance as to just how frequently each individual point should be oiled or exactly how much lubricant should be applied we give this approximately, based on average use.

It should be borne in mind constantly that where one part moves upon or in contact with another friction is created. Friction means wear, and the wear will be of the metal itself unless there is oil, and oil is much cheaper than metal. The use of too much oil is better than too little, but just enough is best.

Proper lubrication not only largely prevents the wearing of the parts, but it makes the car run more easily, consequently with less expense for fuel and makes its operation easier in every way.

The oiling diagram shown in this chapter indicates the more important points which require attention. But do not stop at these. Notice the numerous little places where there are moving parts, such as the yokes on the ends of various brake rod connections, etc. A few drops of oil on these occasionally will make them work more smoothly.

Oil holes sometimes become stopped up with dirt or grease. When they do, clean them out and be careful not to overlook them. Also be careful not to allow dirt or grit to get into any bearings.

Judicious lubrication is one of the greatest essentials to the satisfactory running and the long life of the motor car. Therefore, lubricate, and lubricate judiciously.

LUBRICANTS

There are many grades of oils. There are none too good. Naturally, we have experimented a great deal with numerous lubricants to determine which are best adapted for the various parts of the Cadillac car. It is not always an easy matter for users to obtain suitable lubricants. The constant demand made upon us by Cadillac dealers and Cadillac users has induced us to provide suitable lubricants which may be obtained from Cadillac dealers.

Cadillac Motor Oil

Cadillac Motor Oil is recommended for both summer and winter use in the engine and for light oiling. In the absence of Cadillac Motor Oil we recommend a lubricant of the following specifications as suitable for use in the engine and for light oiling:

Gravity at 60° F.	not below 28° Baume
Flash test	not below 400° F.
Fire test	not below 460° F.
Viscosity:	
Tagliabue viscosimeter—	
at 70° F.	not below 240
at 100° F.	not below 130
Saybolt viscosimeter—	
at 70° F.	about 540
at 100° F.	from 220 to 240
Cold test	not above 0° F.

(The oil should circulate freely in the engine at temperatures from 15° to 20° below zero.)

The oil should be a filtered one and not an acid or alkali treated oil. It should be refined from Pennsylvania crude or its equivalent.

We cannot hold ourselves responsible for damage resulting from the use of oil not suited to the Cadillac engine.

Engine oil should be strained through cheese cloth or fine mesh wire cloth before using.

Cadillac Rear Axle and Transmission Lubricant

Cadillac Real Axle and Transmission Lubricant is recommended for the rear axle and transmission. In its absence we recommend a mixture of steam cylinder oil and a small amount of cup grease mixed to such a consistency that the mixture flows easily at temperatures from 60° to 70° Fahrenheit.

Cadillac Cup Grease

Cadillac Cup Grease is recommended for use in the grease cups. In its absence we recommend a neutral grease of medium consistency, made from an animal oil base.

Cadillac Wheel Bearing Grease

Cadillac Wheel Bearing Grease is recommended for the wheel bearings. In its absence we recommend neutral grease of vaseline consistency (soft), made from an animal oil base. Do not use a heavy grease for wheel bearings as it will roll away from the path of the rollers and will not return.

ENGINE LUBRICATION

Lubricating System

The lubrication of Cadillac eight-cylinder engines is by oil under pressure. A supply of oil is carried in the oil pan "A," Fig. 32. Oil is drawn from the oil pan by the oil pump "C" through the pipe "B" and forced to the main bearings "E," "F" and "G," through the supply pipe "D."

The pressure of the oil is regulated by an overflow valve or pressure regulator "M," containing a valve under spring tension. When the pressure is reached for which the valve is set, the valve is forced open and the oil overflows past the valve. A small hole drilled in the regulator housing allows oil to by-pass the valve when the valve is seated. Oil flowing through the by-pass and oil forced past the valve is carried to the camshaft bearings and power pressure pump in the gasoline system through the pipe "R" above and parallel to the camshaft. The forward end of this pipe is fitted with two nozzles from which oil flows into the camshaft sprockets and to the chains through holes drilled in the camshaft sprockets.

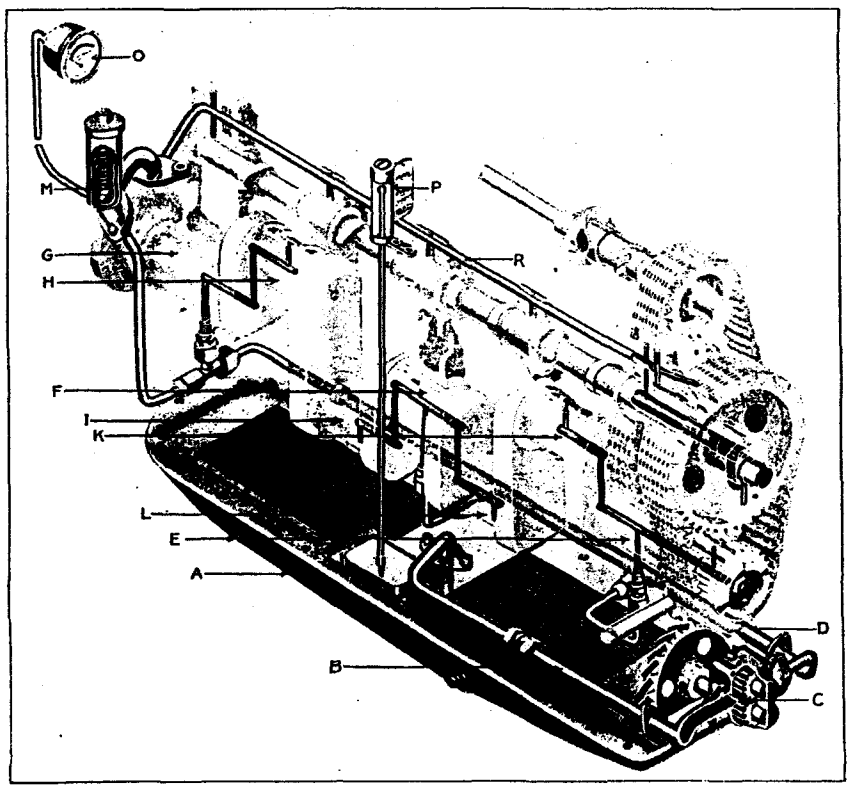


Fig. 32. Engine Lubricating System.

The connecting rod bearings, "H," "I," "K" and "L," on the crank shaft, are lubricated by oil from the main bearings forced through holes drilled in the crank shaft. The hole drilled in the forward end of the crankshaft communicates with a hole drilled in the crankshaft sprocket through which oil is supplied to the camshaft chain. The cylinders are lubricated by oil thrown from the lower ends of the connecting rods.

There is one gauge and one indicator in the lubricating system. The pressure gauge "O" is located on the instrument board and indicates the pressure of the oil. The indicator "P" is attached to the upper cover of the crank case near the carburetor and indicates the level of the oil in the oil pan "A."

Filling Lubricating System

Cadillac Motor Oil is recommended. It is of the utmost importance that the oil be free from dirt and lint, and that it be of a suitable quality.

A filling hole is provided on the fanshaft housing just forward of the distributor.

Whenever the oil level indicator between the cylinder blocks reaches the line marked "Fill," oil should be added.

Do not risk running the engine after the oil level indicator has dropped down to the line marked "Fill."

If the oil level indicator should point to "Empty," the engine should be stopped immediately and supplied with oil.

There is an oil level plug in the right hand side of the oil pan shown in Fig. 33. If the oil level gauge on the engine should become inoperative from any cause or fail to register correctly, remove the oil level plug before starting to add oil, then add oil as above directed until it just starts to flow from the hole left by the removal of the plug. Then replace the plug and filling cap.

Note—If, on removing the level plug, oil flows from the hole for a few seconds, do not assume that the oil in the pan is up to the proper level. The level plug is at the lower end of a short standpipe which usually remains full of oil after the level of the oil in the oil pan has fallen below the upper end of the standpipe. The only way to be sure that the oil is up to the proper level is to allow the one or two teaspoonfuls of oil which has accumulated in the standpipe to drain off and then to add oil until it starts to flow from the hole.

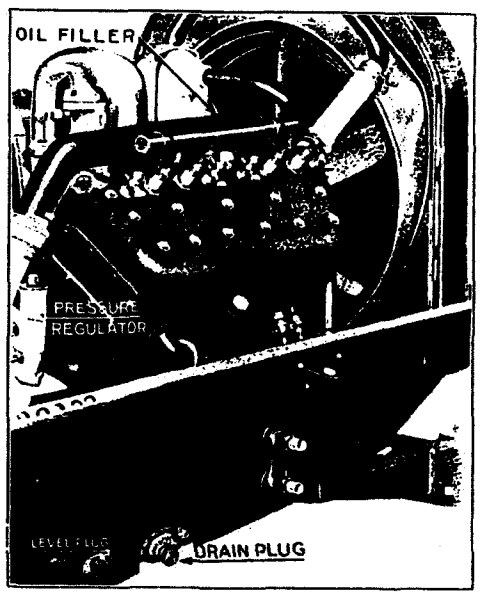


Fig. 33. Oil Filler, Pressure Regulator, Level Plug and Drain Plug.

When adding oil with the level plug removed, the oil level indicator should register "Full" when the oil just starts to flow from the hole left by removing the plug. The oil pan then contains approximately one and one-half gallons of oil.

Replace Oil in Engine

At the end of the first 500 miles of travel and at the end of each 1000 miles thereafter, remove the drain plug located at the right side of the oil pan and drain out all of the oil. Then replace the drain plug and add sufficient fresh oil to bring the level of the oil up to the proper height. (See below under "Replace Oil Frequently During Cold Weather.")

At the end of the first 1000 miles of travel and at the end of every 4000 miles of travel thereafter, drain the oil pan and refill it with a mixture consisting of three quarts of kerosene oil and one quart of engine oil. The mixture must be entirely free from dirt and lint. Then run the engine at a speed of between 600 and 1000 R. P. M. for about one minute. Then drain the oil pan, remove it and the screen from the engine and thoroughly clean the oil pan and screen. Fill the oil pan to the proper height with clean, fresh engine oil after replacing it.

It is a good plan to clean the overflow valve and valve seat, as well as the housing in which they are contained, after forcing the mixture of kerosene and engine oil through the lubricating system. It is also important to make sure that the small by-pass hole is clean and free from any obstruction. A clean cloth, free from lint, should be used in cleaning the overflow valve. The housing, containing the overflow valve (pressure regulator), is located at the side of the crankcase just back of the right hand block of cylinders.

Replace Oil Frequently During Cold Weather

The mileages given at which the oil should be drained and the oil pan and screen removed are those at which the work should be done during summer weather.

During cold weather a certain amount of water may accumulate in the crankcase of the engine as a result of condensation. The water thus formed either freezes, preventing the pump from drawing oil, or mixes with the oil, forming a thick substance which the pump cannot draw. It is necessary, therefore, during cold weather to drain the oil pan and clean the oil pan and screen much more frequently than during warm weather.

The frequency with which it is necessary to do this work during cold weather depends very largely upon the manner in which the car is driven. In cases where the car is driven short distances only and frequent stops are made so that the engine base and the oil in the oil pan remain cold it will be found necessary to drain the oil pan and clean the oil pan and screen much more frequently than in cases where the car is driven for longer distances with fewer stops, so that the engine base becomes thoroughly warmed.

The car that is constantly making very short trips in cold weather should have the oil drained every 500 miles or once a week and the oil pan and screen cleaned once a month.

Unless the oil is drained out and the oil pan and screen are cleaned frequently enough in cold weather, serious damage to the engine may result, particularly on cars in short trip service.

Oil Pressure

Oil is fed under pressure to the main and connecting rod bearings of the engine. To prevent the pressure of the oil from rising too high, a spring controlled overflow valve known as a pressure regulator is provided. The pressure regulator is set when the car is assembled and requires no further attention except that it may be necessary occasionally to remove the valve from the regulator and clean the valve and its seat, as well as the by-pass hole.

The amount of pressure indicated by the pressure gauge on the instrument board varies with the speed and temperature of the engine and the viscosity of the oil. When the engine is warm and supplied with fresh Cadillac Motor Oil or oil of approximately the same viscosity, the pressure as indicated by the gauge should be from ten to fifteen pounds when the engine is idling. At higher speeds a higher pressure should be indicated and at lower speeds, a lower pressure. Before the engine has become warm, higher pressures will be indicated at given speeds. In other words, maximum pressures will be indicated at given speeds when the engine is cold and the oil is fresh; minimum pressures, when the engine is hot and the oil becomes thin from use.

Practically all engine lubricating oils become less viscous from use even under normal conditions. Running the engine too long with the auxiliary air control lever pulled back will cause the oil to be thinned more rapidly, due to the condensation of gasoline from the rich mixture.

Caution

If after starting the engine it is found that the oil pressure gauge does not register pressure, stop the engine immediately and prime the oil pump. This may be done by disconnecting, at its upper end, the oil pipe running from the engine around the right hand side of the dash, and forcing clean engine oil into the pipe with the oil gun furnished in the tool kit. Connect the pipe and tighten the union before starting the engine.

Do not continue to run the engine if, as a result of low viscosity of the oil, or other cause, pressure is not indicated on the gauge when the engine is running. (*See under "Replace Oil in Engine," page 40.*)

Lubrication Chart

A lubrication chart is supplied with the tool kit. The chart is intended to be hung in the garage as a reminder.

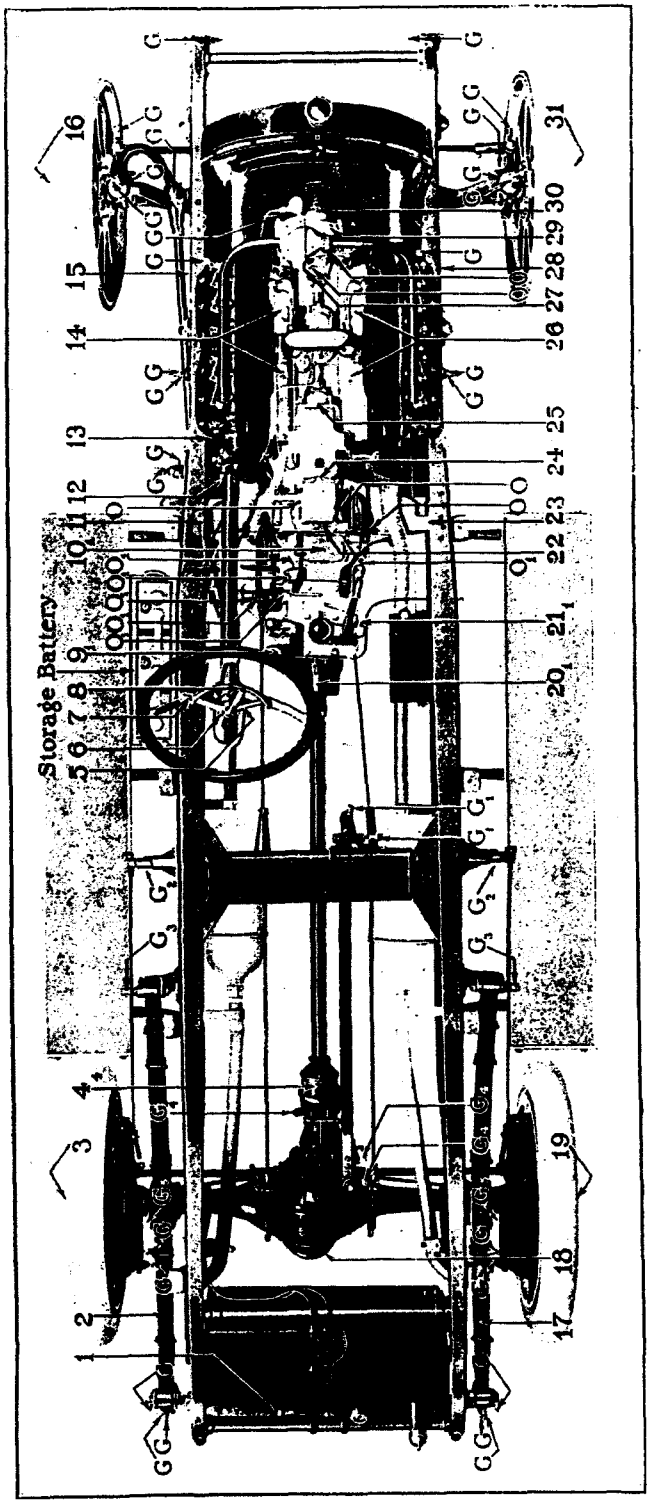


Fig. 31. General Lubrication Diagram.

Each "G" Indicates a Grease Cup. Each "O" Indicates An Oiling Point at Which Engine Oil Should Be Applied. Each Number Indicates a Lubricating Point for Which Instructions Are Given Under "General Lubrication." Accessibility: The small figures at the right of and below the numbers and letters on the above diagram refer to the following notes as to the accessibility of the lubricating points.

1. These are lubricating points which are accessible after removing the floor boards forward of the front seat.

2. These grease cups lubricate the foot brake rocker shafts. They are provided with extensions which bring the grease cups within reach from under the running boards.

3. These grease cups lubricate the bearings at the front ends of the rear side springs. The grease cups are accessible after opening the small doors in the dust shields just forward of the rear fenders.

4. These lubricating points are accessible through hand holes in the rear floor on all cars except the Roadster and Victoria. (On the Phaeton one of the hand holes is under the rear seat cushion.)

5. These grease cups lubricate the rear spring seats on the rear axle and are underneath the springs just back of the axle.

GENERAL LUBRICATION

EVERY 250 MILES

Engine: 29

The engine should be supplied with oil as often as required. Add oil until it just starts to flow from the hole left by removing the level plug in the right hand side of the oil pan. The oil level indicator under the carburetor is for the purpose of indicating when the supply is low and when a sufficient amount has been added. (See under "Filling Lubricating System," page 39.) As a rule oil should be added about every 250 miles of travel. (See under "Replace Oil in Engine," page 40.)

EVERY 500 MILES

Grease Cups: G

Turn down grease cups "G" and the grease cup on the instrument end of the speedometer cable every 500 miles.

Starter Gear Shaft: 22

The shaft on which the starter idler gears revolve is provided at its rear end with an elbow connection which fits the oil gun furnished in the tool kit. Cadillac Rear Axle and Transmission Lubricant should be injected at this point every 500 miles.

There is a small cover plate on the front floor boards, the removal of which renders the connection accessible without removing the floor boards. It is necessary to remove the screw plug in the elbow before the oil gun can be connected.

Oil Hole for Fan Bearing: 30

The fan is driven by a spring and is free to oscillate slightly on the fan shaft. The hole through which the bearing at the fan hub is lubricated is just back and at the base of the flange on the fan shaft against which the spring presses. A few drops of engine oil should be applied every 500 miles. It may be necessary to crank the engine in order to bring the oil hole to the top.

Springs: 1, 2, 15, 17, 28

It is recommended that the springs be lubricated once every 500 to 1000 miles by painting the edges and ends of the spring leaves with cylinder oil. A small, stiff brush should be used. After applying the oil to the springs, the car should not be washed until it has been driven some distance to allow the lubricant to work in between the leaves.

Replace Oil in Engine

Replace the oil in the engine at the end of the first 500 miles of travel and at the end of every 1000 miles of travel thereafter. (See under "Replace Oil in Engine" and "Replace Oil Frequently During Cold Weather," page 40.)

EVERY 1000 MILES

Oil Cups and Oil Holes: O

A few drops of engine oil should be applied at points "O" every 1000 miles.

Drive Shaft and Universal Joints: 4, 20

Fill the forward and rear universal joints on the drive shaft with No. 1½ cup grease every 1000 miles. A special connection to fit these places is furnished with the oil gun which is a part of the tool kit.

The forward universal joint is covered with a cylindrical shield to prevent grease from being thrown on the floor boards. To fill the joint, it is necessary first to detach this shield from the transmission case and to slide it back over the drive shaft. This may be done after loosening the two screws which hold the shield to the transmission case and turning the shield through a small angle in a counter-clockwise direction. If the filling plug does not appear at the top it will be necessary to move the car until it does. The filling plug may be removed by unscrewing it.

The filling plug in the rear universal joint is accessible through a hand hole in the rear floor on all cars except the Roadster and Victoria.

Bearings on Armature: 24, 25

These are oil cups for the lubrication of the bearings on the armature shaft. A few drops of engine oil should be applied every one thousand miles.

The oil cup "24," which lubricates the rear bearing, is under the front part of the floor boards but on the Seven Passenger, Phaeton, Roadster and Victoria it may be reached from in front of the dash when the hood is raised. On the enclosed cars, with the exception of the Victoria, it is more convenient to remove the aluminum cover plate on the front part of the floor boards.

Oil Holes in Steering Wheel Hub: 5, 6

One of these oil holes is above the steering wheel and the other is accessible after folding the steering wheel. A few drops of engine oil should be applied at each point every 1000 miles.

Rear Engine Supports: 11, 23

There is a slight movement between the side bars of the frame and the rear engine supports when the car is traveling over rough roads. It is necessary, therefore, to apply lubricant at these points.

There is an oil hole with a felt wick in each engine support where it is bolted to the side bar of the frame. Engine oil should be applied at these points every 1000 miles or oftener if found necessary.

Tire Air Compressor: 9

The compressor piston is lubricated through two oil holes—one in front of the compressor cylinder and one just behind. Each oil hole is protected by a small sliding cover.

Apply engine oil at these points every 1000 miles, or oftener if the pump is used frequently. (See Fig. 22.)

Clutch Thrust Ball Race: 10

The clutch thrust ball race is accessible after removing the front floor boards and the cover plate shown at 10. If necessary, reach in and turn the ball race to bring the screw plug to the top. Remove the plug and inject Cadillac Rear Axle and Transmission Lubricant every 1000 miles. A special connection to fit this place is furnished with the oil gun which is a part of the tool kit.

Replace Oil in Engine and Clean Lubricating System

Replace the oil in the engine at the end of every 1000 miles of travel. (See under "Replace Oil in Engine" and "Replace Oil Frequently During Cold Weather," page 40.)

At the End of the First 1000 Miles

At the end of the first 1000 miles of travel and at the end of every 4000 miles of travel thereafter, drain the oil pan and clean the lubricating system with kerosene. Then remove the oil pan and clean the pan and screen. Replace the oil pan and refill it to the proper level with clean engine oil. (See under "Replace Oil in Engine" and "Replace Oil Frequently During Cold Weather," page 40.)

Water in Storage Battery

Every one thousand miles or oftener inspect the level of the acid in the storage battery and add *distilled* water if the level is low. (See under "Adding Water to Storage Battery," page 78.)

The storage battery is carried in a compartment in the left hand dust shield. The cover of this compartment forms a part of the dust shield and may be removed after unscrewing the two nickel plated screws with a screw-driver.

EVERY 2000 MILES

Transmission: 21

The transmission case should always contain sufficient lubricant to bring it up to the level of the filling hole in the right hand side of the case. It should be inspected every 2000 miles and lubricant added if necessary. Cadillac Rear Axle and Transmission Lubricant is recommended for this purpose.

Rear Axle: 18

The rear axle should contain enough lubricant to bring it up to the level of the filling hole in the rear cover plate. It should be inspected every 2000 miles and lubricant added if necessary. Cadillac Rear Axle and Transmission Lubricant is recommended for this purpose.

Timer and Distributor: 27

Every 2000 miles of travel remove the small breather by unscrewing it and pack cup grease around the gears by which the timer and distributor are driven.

Lubrication of Valve Stems: 14, 26

The valve stems are lubricated by oil vapor conducted to the valve compartments through ports in the crank case and cylinder blocks. It is good practice to supply additional lubrication every 2000 miles by lifting up the edges of the valve compartment cover plates enough to insert the spout of the oil can and apply engine oil to each valve stem and cam slide.

EVERY 3000 MILES

Wheels: 3, 16, 19, 31

Every 3000 miles or every six months, if the car is driven but little, all the wheels should be removed, the bearings thoroughly washed and cleaned in either gasoline or kerosene and the bearings examined to determine whether any foreign substances have gotten into them that might damage them. The bearings should be thoroughly lubricated with a thin grease. Cadillac Wheel Bearing Grease is recommended for this purpose. Do not use heavy grease, as it will roll away from the path of the rolls and will not return. Then the wheels should be replaced and adjusted as per instructions on this subject.

There is an oil cup in the hub of each rear wheel. Inject some engine oil here whenever you are oiling the car. Wipe the dirt from the cups first so that it will not get into the bearings.

Steering Gear: 12, 13

The internal mechanism of the steering gear should be lubricated about every 3000 miles. This can be done by removing the screw plugs at "R" and "G," Fig. 57. The hole at "R" is tapped to fit the nozzle of the oil gun. Cadillac Rear Axle and Transmission Lubricant mixed with two or three per cent. of flake graphite is a good lubricant for this part.

EVERY 4000 MILES

Replace Oil in Engine and Clean Lubricating System

At the end of every 4000 miles of travel drain the oil pan and clean the lubricating system with kerosene. Then remove the oil pan and clean the pan and screen. Replace the oil pan and refill it to the proper height with clean, fresh engine oil. (See under "Replace Oil In Engine" and "Replace Oil Frequently During Cold Weather," page 40.)

Transmission: 21

At the end of every 4000 miles of travel drain all of the lubricant from the transmission and refill with clean, fresh lubricant to the level of the filling hole in the right hand side of the case. Cadillac Rear Axle and Transmission Lubricant is recommended for this purpose.

Rear Axle: 18

At the end of every 4000 miles of travel drain all of the lubricant from the rear axle and refill it with enough clean, fresh lubricant to bring it up to the level of the filling hole. Cadillac Rear Axle and Transmission Lubricant is recommended for this purpose.

EVERY 5000 MILES

Gabriel Snubbers (attached to frame over rear axle)

Every 5000 miles remove and lubricate the snubbers in accordance with the instructions given under "Lubrication of Gabriel Snubbers," page 98.

ADDITIONAL

Spark and Throttle Levers: 7, 8

The plungers in the spark and throttle levers should be lubricated occasionally. If the spark and throttle levers stick, rub a little oil on the sector where the friction shoes come in contact with it.

In addition to the places specially mentioned, note carefully and oil all of the small connections and joints throughout the car, such as the various brake rod connections and joints in the brake mechanism. The joints of the internal brakes may be lubricated after removing the small cover "F," Fig. 62, on each brake drum. Care should be taken not to apply too much oil to the internal brake joints as it may get on the brake band linings and impair the efficiency of the brakes.

Remember that wherever one part moves in contact with another, the ease of movement will be assisted and wear will be reduced to the minimum by lubrication.

CARBON DEPOSIT

A rapid formation of carbon in the cylinders of the engine may be the result of using an oil of inferior quality, or not suited to the engine, or to the addition of too much oil to the oil pan.

When the accumulation of carbon becomes great enough it will cause the engine to pound and lose power. The pounding is usually first noticed in pulling and when the throttle is open for hill climbing or acceleration.

When the accumulation of carbon becomes great enough to cause the engine to pound it should be removed. The cylinder heads of the Cadillac engine are removable to facilitate access to the combustion chambers for scraping out carbon. (See under "Removable Cylinder Heads," page 59.)

The spark plug cores should be kept clean. A good method of cleaning them is to wash them in alcohol.

Carbon deposited on the spark plug cores forms a circuit which offers less resistance to the high tension current than the gap between the spark plug points. The current therefore follows the path of least resistance instead of jumping between the points, and causes the engine to miss fire.

This is particularly true when the throttle is open for hill climbing or acceleration as under these conditions the compression of the gas, through which the spark must jump, is increased. A spark which will jump in the neighborhood of ⅛" in the open air will not jump more than 1/16" in gas under compression.

Part III

ADJUSTMENTS

GASOLINE SYSTEM

General Principle

The supply of gasoline is carried in a tank at the rear of the car and is forced to the carburetor by an air pressure of from one to two pounds. A valve is provided by which the gasoline may be shut off at the tank. (See Fig. 36.) The handle of the valve is just at the left of the gasoline gauge. A float controlled needle valve in the carburetor maintains the gasoline at the proper level in the carburetor bowl.

The pressure is indicated by a gauge on the instrument board. A hand pump on the instrument board is provided by which pressure for starting may be obtained when the car has been standing long enough to make this necessary. When the engine is running the pressure is automatically maintained by a pump on the engine driven by an eccentric on the front end of the cam shaft.

Excessive pressure in the gasoline system is prevented by a relief valve in the air line. The relief valve is properly adjusted when the car is assembled and should not require further attention.

The pipe extending almost to the bottom of the gasoline tank is a continuation of the gasoline line. The air line simply enters the gasoline tank at the top and does not extend into the gasoline.

Filling the Gasoline Tank

The gasoline tank is at the rear of the car. The filler cap may be removed after loosening the thumb screw on the top of the cap.

Gasoline should be strained through a wire cloth of very fine mesh before it is poured into the tank. If dirt or water is allowed to enter the gasoline system it may cause great annoyance by getting under the carburetor inlet needle and causing the carburetor to flood.

After filling the tank, screw on the filler cap and carefully tighten the thumb screw. This is necessary to prevent leakage of the pressure by which the gasoline is forced to the carburetor.

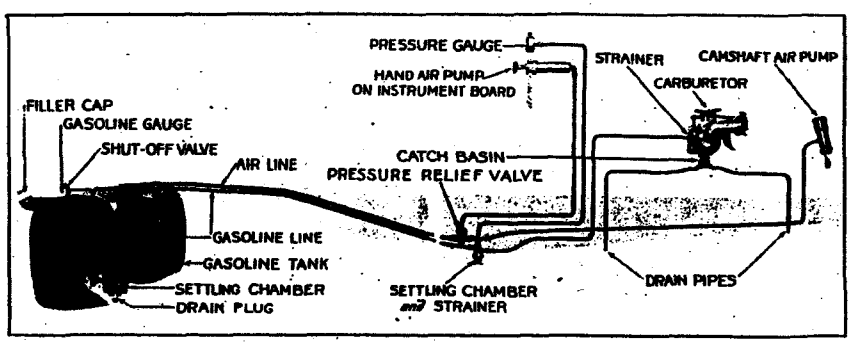


Fig. 36. Gasoline System.

Settling Chambers and Strainers

There are two settling chambers in the gasoline system, one at the under side of the gasoline tank and the other attached to the left hand side of the frame of the car just under the front floor boards.

There is a drain plug at the bottom of each of these settling chambers. Every one thousand miles or oftener the plug in the settling chamber under the floor boards should be removed and the plug in the settling chamber underneath the gasoline tank should be unscrewed several turns, to drain the settling chambers of any dirt or water which has accumulated.

Before unscrewing either of the plugs the gasoline system should be relieved of all air pressure by removing the gasoline filler cap on the tank.

There are two strainers in the gasoline system which require cleaning periodically—one at the point where the gasoline feed pipe is attached to the carburetor, and the other attached to the drain plug in the settling chamber under the front floor boards. (See Fig. 36.)

The strainers should be removed and cleaned every one thousand miles or oftener. Shut off the gasoline at the tank before removing either strainer. In cold weather it may be found necessary to remove the strainers more frequently in order to prevent an accumulation of water at these points which would freeze and prevent gasoline from flowing to the carburetor.

CARBURETOR

Adjustment of Carburetor

The carburetor should not be tampered with unless it needs adjustment. Good carburetor action cannot be expected until the motor is thoroughly warmed up. This is particularly true during cold weather. Imperfect carburetor action while the engine is cold does not indicate that the carburetor requires adjustment and carburetor adjustment should not be made under these conditions.

Before changing any of the carburetor adjustments be sure it is the carburetor which requires attention. It is possible that the ignition system requires adjustment.

Before making any carburetor adjustments be sure that the points on the spark plugs are .028 inches apart, that the spark plug cores are clean, that the timer is properly set and that the timer contact points are clean and in proper adjustment. In fact, see that the entire ignition system in is good working order.

When it is certain that the carburetor requires adjusting, proceed as follows:

Method of Adjustment

Open the throttle about two inches on the sector at the steering wheel. Place the spark lever in the "Driving Range" on the sector and start the engine. If the engine is cranked by hand the spark lever should be placed at the extreme left on the sector.

Run the engine until the water jacket on the intake pipe is hot.

Move the spark lever to the extreme left on the sector and the throttle lever to a position which leaves the throttle in the carburetor slightly open. Adjust the air valve screw "A," Fig. 37, to a point which produces the highest engine speed. Turning the screw "A" in a clockwise direction increases the proportion of gasoline to air in the mixture and vice versa.

Close the throttle (move it to the extreme left on the sector) and adjust the throttle stop screw "B" to a point which causes the engine to run at a speed of about 300 revolutions per minute. The spark lever should be at the extreme left on the sector when this adjustment is made.

With the spark and throttle levers at the extreme left on the sector, adjust the air valve screw "A" to a point which produces the highest engine speed.

Open the throttle until the shutter attached to the right hand end of the throttle shaft *just* covers the slot in the carburetor body. Then adjust the screw "G" to a point which produces the highest engine speed or to a point where the engine slows down slightly from a lean mixture. Turning the screw "G" in a clockwise direction increases the proportion of gasoline to air in the mixture and vice versa.

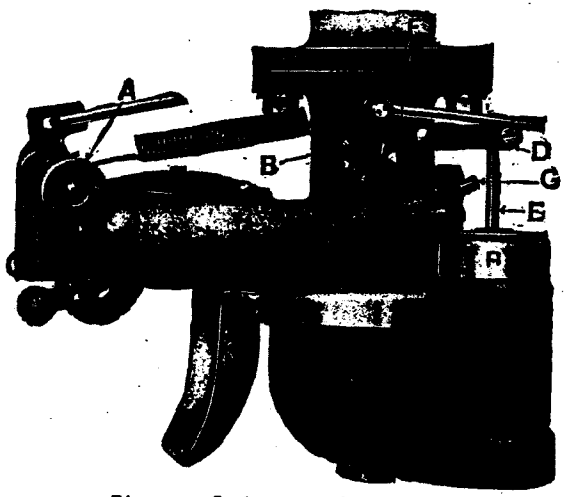


Fig. 37. Carburetor, Side View.

During very cold weather when a slightly richer mixture is desirable it may be found best to turn the adjusting screw "G" further in a clockwise direction.

Personal Danger of Running Engine in Closed Garage

Carbon monoxide, a deadly poisonous gas, is present in the exhaust of gasoline engines. Increasing the proportion of gasoline to air in the mixture fed to the engine, in other words, enriching it, increases the amount of carbon monoxide given off at the exhaust pipe.

Because of the presence of carbon monoxide it is very dangerous to run the engine for any length of time while the car is in a small, closed garage. If the doors and windows are open the danger is very much lessened, but it is far safer, particularly if an adjustment of the carburetor is being made, to run the car into the open.

Serious personal injury may be caused by the presence of carbon monoxide in a garage if the percentage of it in the air is greater than a very small fraction of one per cent. Unconsciousness may result without warning. It is reported that no indication of danger is given by personal discomfiture until too late. Deaths resulting from the presence of carbon monoxide in garages have been reported.

Leaning Device

A leaning device, sometimes called a "gas-saver," is provided which may be adjusted to cause, for ordinary driving speeds, a mixture in which the proportion of gasoline to air is cut down. The mixture is not affected by the leaning device at the closed or nearly closed position of the throttle, or at the open or nearly open position.

The leaning device is adjusted at "G," Fig. 37. When the adjusting screw "G" is screwed in as far as it will go the leaning device has no influence on the mixture at any throttle position.

The leaning device consists of a shutter, attached to the right hand end of the throttle shaft, which covers a slot in the carburetor body when the throttle is opened slightly, again uncovering the slot when the throttle is opened wide or nearly so. A hole is drilled through the carburetor body from the mixing chamber to the slot and another hole is drilled from the carburetor bowl to the slot.

When the slot is covered by the shutter a passage is formed from the mixing chamber to the carburetor bowl. The partial vacuum in the mixing chamber causes a lowering of the atmospheric pressure in the carburetor bowl resulting in less gasoline being fed through the spray nozzle. When the shutter uncovers the slot the partial vacuum in the mixing chamber has no effect on the atmospheric pressure in the carburetor bowl and the amount of gasoline fed through the spray nozzle is not affected.

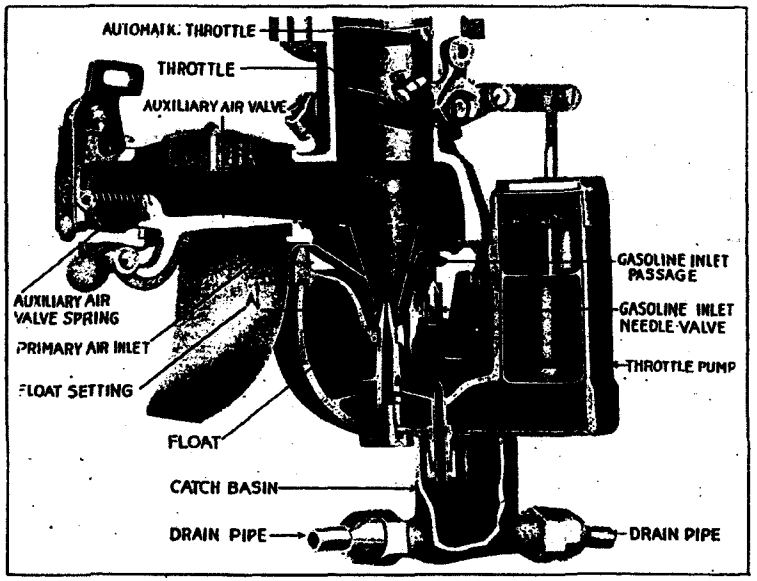


Fig. 38. Carburetor; Sectional View.

Setting of Carburetor Float

After the carburetor has been in use for some time, there may be a slight amount of wear at the point of the inlet needle and its seat. If this should occur, the height of the gasoline in the carburetor bowl will rise.

To determine if the float is properly set, remove the carburetor from the engine, and the bowl from the carburetor. Raise the float until the inlet needle valve is just closed. The dimension "A," Fig. 38, should then be one-half inch.

The setting may be corrected by bending slightly the arm to which the float is attached.

Throttle Pump

The object of the throttle pump is to force gasoline through the spraying nozzle when the throttle is opened quickly for acceleration. When the throttle is opened slowly the throttle pump has practically no effect on the amount of gasoline passing through the spraying nozzle.

The cylinder "C," Fig. 37, on the carburetor bowl contains a plunger which is operated by the throttle by means of the connecting rod "E."

When the throttle is opened the plunger is forced into the gasoline in the carburetor bowl. The plunger is drawn out of the gasoline when the throttle is closed.

The rod "E" is adjusted at the factory and should require no further adjustment. If the adjustment is changed the rod should be readjusted so that its upper end is flush with the upper face of the arm "D."

Automatic Throttle

The carburetor is equipped with an automatic throttle, Fig. 38, controlled by a spring. Its purpose is to prevent pulsations of air in the intake manifold from causing the air valve to flutter when the engine is running slowly with the throttle fully opened. The automatic throttle is adjusted when the carburetor is assembled and requires no further attention.

COOLING SYSTEM

The cooling system is of the water forced circulation type. The circulation through each cylinder block is independent of the circulation through the other, two separate pumps being provided. The pumps, which are of the centrifugal type, are located at the front end of the crank case on each side and are driven from the crank shaft through helical gears.

The temperature of the liquid circulated by these pumps is under thermostatic control, the purpose of which is to permit water circulated through the water jackets on the cylinders and carburetor intake manifold to warm up to the temperature at which the engine operates best very soon after the engine is started and to prevent the temperature dropping below this point while the engine is running.

Thermostatic Control

A housing containing a Sylphon thermostat and a valve controlled by the thermostat, are located on the cover of each water pump.

The thermostat "A," Fig. 39, is accordion shaped. It contains a liquid which is driven into gas when heated. The resulting pressure elongates the thermostat, forcing the valve "B" from its seat. A drop in temperature changes the gas back to a liquid, reducing the pressure in the thermostat and allowing it to contract, thereby bringing the valve "B" back to its seat.

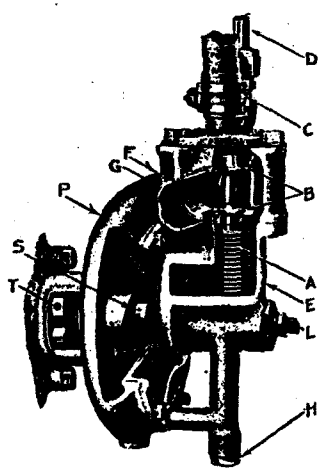


Fig. 39. Water Pump, Sectional View.

When the temperature of the water in the water jackets on the cylinders and intake manifold is below a predetermined point the valve "B" is held tightly closed by the thermostat. When the temperature of the water tends to rise above the predetermined point, the valve "B" is forced open by the thermostat, permitting the water pump "P" to draw water from the radiator.

Provision is made for forcing the valves operated by the thermostats from their seats. This is necessary to drain the radiator.

There is a horizontal shaft "L" extending from the cover of each water pump. There is an indicator on the end of each of these shafts. By turning the shafts until the indicators point directly up, the valves operated by the thermostats are forced and held from their seats. By turning the shafts until the indicators point down, as shown in Fig. 39, the valves are returned to their seats and the thermostatic control is again brought into operation.

Path of Circulation

When the engine is first started and is cold the valves operated by the thermostats are held tightly on their seats. This prevents the water pumps from drawing water from the radiator. Under these conditions the water is circulated as follows:

From the water pump "P," Figs. 39 and 40, through the hose "F" to the water jackets on the cylinders. From the water jackets on the cylinders some of the water returns to the pump "P" through the hose "C" and the thermostat housing "E." The remainder is carried by a small pipe "N" to the water jacket around the intake manifold and from the intake manifold to the pump "P" through the pipe "D" and the thermostat housing "E."

After the engine has become warm and the thermostats have forced from their seats the valves between the pumps and radiator the circulation is as follows:

Water is drawn from the radiator through the hose "G" and forced to the water jackets on the cylinders through the hose "F." From the water jackets the water returns to the radiator through the hose "M" connecting the cylinder block and radiator.

Water is still forced to the water jacket on the intake manifold through the small pipe "N" and from the intake manifold to the pump "P," through the pipe "D" and the thermostat housing "E." Some of the water still flows back to the pump through the hose "C" and the thermostat housing "E."

As the temperature of the water returning to the pump through the pipe "D," hose "C" and thermostat housing "E," rises or falls, the thermostat expands or contracts, opening or closing the valve, thereby admitting a larger or smaller amount of cooled water from the radiator.

Condenser

A condenser, the purpose of which is to prevent the loss of the cooling medium by evaporation, when an alcohol solution is used, is attached to the right hand side of the frame just beneath the front floor boards. A pipe "S," Fig. 40, connected to the overflow tube of the radiator leads to the condenser.

The action of the condenser is as follows: The vapor given off from the liquid in the radiator when it is heated passes through the overflow tube to the condenser. As it passes into the liquid in the condenser the vapor is condensed.

When the engine has stopped, the cooling of the radiator and its contents results in the contraction and condensation of the vapor left in the upper part of the radiator. The vacuum thus caused allows the atmospheric pressure in the condenser to force condensed vapor back into the radiator in liquid form.

The proper operation of the condenser requires an air tight joint at the radiator filler cap. To make it possible to screw down and tighten the cap without injury to the rubber gasket, two metal washers are interposed between the head of the cap and the gasket. It is important that nothing be installed on the radiator filler cap which causes a leak at the cap or which makes necessary the elimination of the steel washers or cutting a hole through the rubber gasket.

Filling the Cooling System

Fill the cooling system with clean water, during warm weather, and with a suitable anti-freezing solution during freezing weather. (See under "Anti-Freezing Solution," page 32.)

To fill the cooling system after it has been drained, replace the drain plugs "H," Fig. 40, in the water pumps, close the drain cocks "K" in the cylinder blocks and turn the shafts "L" on the water pumps so that the indicators on the ends of the shafts point up. The shafts may be turned in either direction.

Then remove the filler cap "W" from the top of the radiator and fill the cooling system. Replace the filler cap and *screw it down firmly.* This is necessary, to insure the proper operation of the condenser.

After the cooling system is filled, turn the shafts "L" on the water pumps so that the indicators on the ends of the shafts point down. These indicators should point up when filling or draining the cooling system and down at all other times.

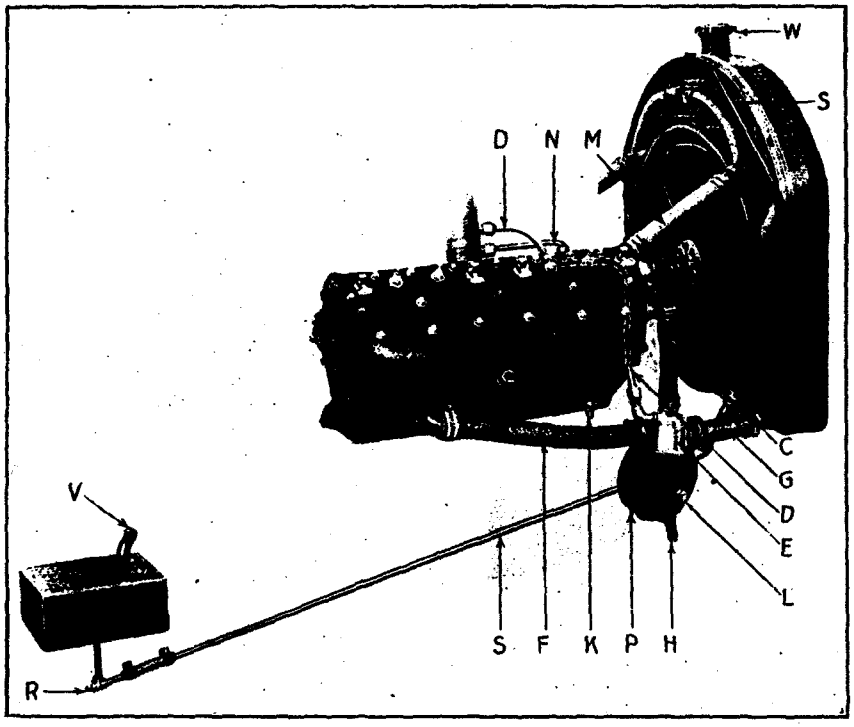


Fig. 40. Cooling System, Showing Path of Circulation.

The cooling system should be kept full or nearly so. When it is necessary to add only a small amount of liquid to bring up the level, it is not necessary to turn the shafts "L" on the water pumps, but simply to remove the radiator filler cap.

When the cooling system is cold, the condenser should be one-half full of the same liquid as used in the radiator. To add liquid to the condenser, take up the removable floor board and remove the filler cap "V" at the top of the condenser. Any excess liquid which may accumulate in the condenser should be drained off at "R," Fig. 40, and poured back into the radiator.

Draining the Cooling System

To drain the cooling system, remove the drain plugs "H" from the water pumps and turn the shafts "L" on the water pumps so that the indicators on the ends of the shafts point up. The shafts "L" may be turned in either direction. Then open the drain cocks "K" in the cylinder blocks.

To drain the condenser remove the drain plug "R" in the pipe leading from the bottom of the condenser.

Cleaning the Cooling System

The cooling system should be drained and flushed out every two or three months. This may be done in the following manner:

Run the engine with the radiator covered until the liquid in the cooling system is boiling hot. Then turn the shafts "L" on the water pumps so that the indicators on the ends of the shafts point up.

Shut off the engine and immediately remove the drain plugs "H" from the water pumps and open the drain cocks "K" in the cylinder blocks. (Bear in mind in removing the drain plugs "H" that the liquid is scalding hot.) Remove the drain plug "R" in the pipe leading from the bottom of the condenser.

If an alcohol anti-freezing solution is drawn off part of it may be used again if the sediment is allowed to settle. In case it is used again its specific gravity should be tested with an hydrometer, after it has thoroughly cooled.

When the liquid has drained off, replace the drain plugs "H," close the drain cocks "K" and fill the cooling system with clean, hot water. Then repeat the operations outlined above.

If in draining the second time, the water is very dirty, it may be desirable to repeat the flushing operation a third time, using a solution of sal-soda. If the sal-soda solution is used, be sure that it is drained out and the cooling system flushed again with clear water.

The sal-soda solution should not be allowed to get on the finish of the hood or radiator.

During freezing weather be sure to refill with a suitable anti-freezing solution.

Water Pump Packing Glands

If leaks should appear at the water pump packing glands, remove the splash shield under the engine and turn the packing gland nuts "T," Fig. 39. To tighten, turn the gland nuts in the direction in which the wheels turn when the car moves backward. As one gland nut has a right hand thread and the other a left hand thread, both are turned in the same direction to tighten. Tighten the gland nuts only sufficiently to prevent leaks. A spring locking device at the rear of each pump engages the notches in the gland nut and prevents the gland nut from turning of its own accord. In tightening a gland nut turn it a whole number of notches so that when the nut is screwed up as far as desired the locking device will rest in one of the notches.

If a water pump gland requires repacking remove the pump from the engine and remove the gland nut by unscrewing it in the direction opposite to that in tightening it. Remove the gland and renew the packing. Then replace the gland and tighten the gland nut. Replace the water pump and splash shield.

We strongly urge that only Cadillac packing be used, which may be obtained from any Cadillac dealer.

Strainers

There are two strainers in the cooling system, one in each radiator outlet. If the sediment accumulates at these points, the circulation of water in the cooling system is interfered with and as a result the engine may overheat and pound.

The strainers should be removed and cleaned at the end of the first 500 miles of travel and at the end of every 2000 miles of travel thereafter. Any sediment collecting in the outlet passages around the strainers should also be cleaned out at the same time.

The strainers are easily accessible. In the front of the radiator casing opposite each outlet, just underneath the horizontal portion of the radiator splash shield, are openings giving access to two screw plugs with hexagonal heads. After unscrewing these plugs the strainers may be withdrawn.

Adjustment of Thermostat Valves

The thermostat valve "B," Fig 39, is screwed onto the threaded stem of the thermostatic member "A" and is held in place by a slotted nut in the center of the valve. The valve is adjusted when the car is assembled and no further attention should be required. In the event that the adjustment has been altered, proceed as follows in making a readjustment:

Drain the cooling system. (See page 57.) Disconnect the hose "C" and the pipe "D" at the pump. Remove the four small screws in the cap to which the hose and pipe were attached and remove the cap.

Turn the shaft "L" so that the indicator on the end of the shaft points in a *horizontal* direction. With a screw-driver loosen the slotted adjusting nut in the center of the valve. Then adjust the valve until it just seats without placing any tension on the thermostatic member "A." Hold the valve in this position and tighten the slotted adjusting nut.

Replace the cap and connect the hose "C" and the pipe "D." Turn the shaft "L" so that the indicator points up and fill the cooling system. After filling the cooling system turn the indicator down regardless of weather conditions.

ENGINE ADJUSTMENTS

ENGINE BEARINGS

If a good grade of lubricating oil is used, if the oil is replaced and the oil pan removed and cleaned out at frequent intervals as recommended in this book under "Replace Oil in Engine," page 40, the engine bearings should give many thousands of miles of use without attention. If, as a result of improper lubrication or long use, the bearings require adjustment, these instructions should be followed carefully.

The connecting rods to which the pistons in the left hand block of cylinders are attached are forked at their lower ends. Bronze backed babbitt lined bushings clamped in these rods have their bearings on the crank shaft.

The connecting rods to which the pistons in the right hand block of cylinders are attached are straight and have their bearing on the outer surface of the bushings clamped in the forked rods.

Adjustment of Connecting Rod Bearings

The bearings at the lower ends of the straight connecting rods are adjustable. Liners varying in thickness from .002 to .006 of an inch are placed between the caps and the rods when the engine is assembled. To readjust, remove these liners and substitute thinner ones of the proper thickness. To get the best results, these bearings should have from .002 to .003 play.

CAUTION:—Do not under any condition adjust these bearings closer than .002, as this amount of clearance is necessary to allow for the greater expansion of the bronze backed bushings than the steel connecting rods when the engine is heated.

The bronze backed bushings in the forked connecting rods are not adjustable. If, as the result of long use or improper lubrication, these bushings have too much play on the crank shaft, they should be replaced by new ones.

Adjustment of Main Bearings

There are three main crankshaft bearings. These bearings are provided with liners which are clamped between the crank case and the bearing caps.

To tighten a main bearing, proceed as follows: Remove the oil feed pipe connecting the bearing cap with the oil manifold. Remove the aluminum bearing cap with the lower half of the bearing and the liners.

Replace the liners with liners which are less in thickness by an amount equal to the amount of "take-up" necessary. Liners can be obtained varying in thickness by .001 of an inch. Each liner is stamped indicating its thickness.

Carefully reduce the upper edges of the lower half of the bearing *just enough* to allow the aluminum bearing cap to clamp the new liners. This work must be done very accurately, as clearance between the halves of the bearing will cause an oil leak which may prove disastrous to the bearing.

Thoroughly clean the bearing, bearing cap and liners and oil the bearing surface before replacing.

In replacing the bearing cap tighten the bearing nuts firmly and lock with cotter pins. Also make sure that the union nuts on the oil pipe are tightened sufficiently to prevent leakage.

The upper edges of the lower half of the bearing may be reduced by rubbing the bearing on a piece of fine emery cloth stretched tightly over a flat, machined, iron surface.

If more than one bearing is removed at a time care should be taken not to mix the liners, as they may not all be the same thickness.

REMOVABLE CYLINDER HEADS

The cylinder heads on the Cadillac engine are detachable, facilitating access to the valves and combustion chambers.

To remove a cylinder head, first drain the cooling system (see page 57), and disconnect the water outlet hoses from the connections at the front end. Disconnect the ignition wires at the spark plugs, and remove the ignition conduit brackets from the cylinder head. Unscrew and remove the nuts on the studs holding the head to the cylinder block. Remove the cylinder head and the gasket, being careful not to injure the latter.

Before replacing the cylinder head see that there is no carbon or gritty substance in the cylinders or around the valves. Clean the surfaces on the cylinder block and removable head which contact with the gasket and make sure that the gasket is in good condition. If care is taken in handling the gasket in removing it, it should be possible to use the same gasket again. If there is any question as to the condition of the gasket, it should be replaced by a new one.

Place the gasket in position. Carefully put the cylinder head on over the studs. In screwing down the nuts, it is best to begin with the center nut in the middle row and work towards the ends, taking alternate nuts on each side of the center. Then do the same with the nuts in the inner row and finally with those in the outer row. All of the nuts should be tightened lightly at first and then, starting again at the center, they should be drawn down firmly.

TIMING MARKS ON FLYWHEEL

The flywheel marks (see Fig. 41) are arranged in four groups, each group consisting of the following marks in order:

"IN|S"—"Inlet setting"

"IG|A"—"Ignition advance"

"C"—"Center"

"EX|S"—"Exhaust setting"

Each group of marks refers to two cylinders, the numbers of which are stamped one on each side of the "C" in that group.

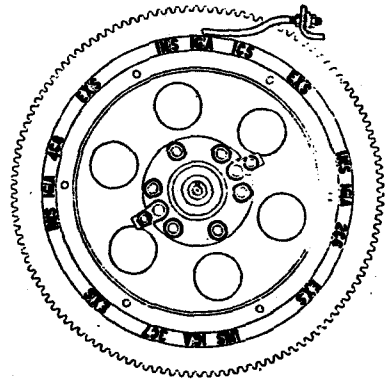


Fig. 41. Flywheel, Showing Timing Marks.

Complete instructions for using the "inlet setting" and "exhaust setting" marks are given below under "Positions of Cams for Adjustment of Cam Slides." The ignition timing is explained fully under "Timing Ignition," page 74.

ENGINE VALVES

Positions of Cams for Adjustment of Cam Slides

In poppet valve gasoline engines it is necessary for a cam roll to be on the circular surface of the cam when the cam slide operated by that cam is being adjusted. The shape of the circular portion of the cams in the Cadillac eight-cylinder engine is such that it is not sufficient for a cam roll simply to be on the circular surface of the cam. The cam roll must be on a certain small arc of the circular surface of the cam when the cam slide is being adjusted.

As no two cams on the cam shaft are in the same position at the same time, it is necessary before adjusting each cam slide to place the corresponding cam in the proper position by cranking the engine by hand as described below. The cam slides cannot be properly adjusted with the cams in any but the correct positions.

Placing Cam in Position

To place a cam in position for properly adjusting the cam slide proceed as follows:

Open the compression relief cocks on the cylinder blocks and with the ignition switched off crank the engine slowly by hand in the direction in which it runs until the piston in the cylinder in which the valve is located is at the end of the compression stroke, or in other words, on firing center. This may be determined by placing a finger over the compression relief cock while cranking the engine. When the piston is exactly on firing center the pointer attached to the crank case will then be directly over the mark on the flywheel indicating "center" for that cylinder.

Inlet Valve. If the valve operated by the cam slide is an inlet valve, select the first "IN|S" to the left of the center mark and mark it with a piece of chalk.

Crank the engine further by hand in the direction in which it runs until that "IN|S" is directly under the pointer. It will be necessary to crank the engine nearly a complete revolution.

The cam is then in the correct position for adjusting the cam slide operating that inlet valve. (See under "Adjustment of Cam Slide.")

Exhaust Valve. If the valve operated by the cam slide is an exhaust valve, after cranking the engine to the proper firing center, select the first "EX|S" to the right of the center mark and mark it with a piece of chalk.

Crank the engine further by hand in the direction in which it runs until this "EX|S" is under the pointer.

Then crank the engine further one complete revolution until this "EX|S" is again directly under the pointer.

The cam is then in the correct position for adjusting the cam slide operating that exhaust valve. (See under "Adjustment of Cam Slide.")

Adjustment of Cam Slide

When the cam is in the proper position (see under "Positions of Cams for Adjustment of Cam Slides"), the clearance between the end of the valve stem "A," Fig. 42, and the adjusting screw "B" in the cam slide "D" should be from .002 to .003 of an inch when the engine is cold.

To adjust a cam slide, loosen the locking nut "C" and turn the adjusting screw "B." Turning the adjusting screw "B" to the left (screwing it out) decreases the clearance between the end of the valve stem and the head of the adjusting screw; turning the screw to the right (screwing it down) increases the clearance. Tighten the locking nut "C" when the proper clearance has been obtained, taking care that in so doing the adjustment of the screw "B" is not disturbed.

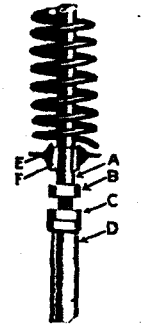


Fig. 42. Cam Slide and Adjusting Nuts.

Grinding Valves

The valves are carefully ground when the engine is assembled and should not soon require further attention.

When it has been determined that a valve requires regrinding, proceed as follows:

Remove the cylinder head (see under "Removable Cylinder Heads"), and remove the valve cover plate from the cylinder block.

Force up the washer "E," Fig. 42, and then remove the split locking collar "F." Then remove the valve, being careful to mark it in case more than one valve is taken out at a time, so that it can be replaced as originally assembled.

It is a good plan to wrap soft string around the stem of the valve near the head. This will tend to prevent the grinding compound getting into the valve guide.

In the absence of a good prepared grinding compound, make a paste of powdered glass or flour of emery, mixed with thin oil.

Place the grinding compound on that portion of the valve which bears on the valve seat. Then replace the valve, and with a screw driver or other suitable tool, rotate it back and forth about one-third revolution, with only a slight pressure on the tool. Lift the valve occasionally and turn it to a new position. Continue the grinding operation until the valve and its seat show perfect bearing.

Then thoroughly wash the valve, the valve chamber and the valve guide with gasoline. Be very careful to leave none of the grinding compound in any part of the cylinder, as it will cause serious damage if it works into the cylinder bore or other parts of the engine; also remove the string from the valve stem. Replace the valve.

When all of the valves requiring it have been ground, replace the cylinder head and re-time the valves that have been ground. (See under "Adjustment of Cam Slide," page 61.) Re-timing is necessary, as the amount of clearance between the valve and the adjusting screw in the cam slide is necessarily reduced during the grinding operation.

ENGINE CHAINS

The camshaft is driven from the crankshaft and the fanshaft is driven from the camshaft by silent chain drive. A double sprocket is keyed to the front end of the camshaft. The camshaft driving chain meshes with the front half of this double sprocket and with a sprocket on the crankshaft. The rear half of the double camshaft sprocket drives the fanshaft driving chain.

To examine or remove either chain, it is first necessary to remove the front cover plate of the engine. To do this proceed as follows:

Removing Front Cover Plate

Remove the headlights and the radiator.

Remove the fan.

Disconnect the oil pump elbows from the crankcase.

Remove the cap from front engine support.

Remove the splash shield under the engine.

Remove the bolts connecting the exhaust pipes to the manifolds on the engine.

Block the car so it will not roll on the floor.

Carefully jack up the front end of the engine.

Disconnect the pipe at the air pump.

Remove the cap screws holding the front cover plate to the crankcase of the engine.

Draw the threaded dowel pins.

Remove the front cover.

Removing Camshaft Driving Chain

To remove the camshaft driving chain cut off the riveted head of one of the seat pins on the camshaft driving chain and remove the seat pin and rocker pin.

Removing Fanshaft Driving Chain

To remove the fanshaft driving chain the camshaft chain must first be removed. (See above.)

Cut off the riveted head of one of the seat pins on the fanshaft driving chain and remove the seat pin and rocker pin.

Remove the fanshaft driving chain.

Replacing Fanshaft Driving Chain

Place the chain on the fanshaft and camshaft driving sprockets with the arrows, which are stamped on the outside links, pointing in the direction in which the chain is to run. If the chain is so placed on the sprockets that it runs in the opposite direction, *it will very quickly destroy itself.*

Bring the ends of the chain together, preferably on the larger sprocket. Insert pins and rivet. (See under "Riveting Chains," page 64.)

It is unnecessary when installing a fanshaft driving chain to pay any attention to the relative positions of the sprockets upon which the chain operates, but the ignition must be re-timed after both chains have been replaced. (See under "Timing Ignition," page 74.)

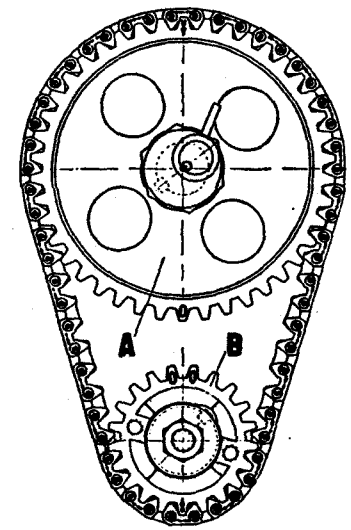


Fig. 43. Crankshaft and Camshaft Sprockets and Chain.

Replacing Camshaft Driving Chain

If the fanshaft driving chain has been removed, it will be necessary to replace it before replacing the camshaft driving chain. (See above under "Replacing Fanshaft Driving Chain.")

In replacing the camshaft driving chain care must be used to see that the chain is so placed on the sprockets that the valve timing is correct.

One tooth of the camshaft driven sprocket "A," Fig. 43, is marked with an arrow and the tooth diametrically opposite with an "O." A tooth on the crankshaft sprocket "B" has a similar arrow upon it and the two teeth opposite each have an "O" mark.

Turn the camshaft and crankshaft to bring the sprockets into the positions shown (Fig. 43). The arrows on the two sprockets must point towards each other and the tooth of the camshaft sprocket marked "O" must be directly opposite the space between the two similarly marked teeth on the crankshaft sprocket.

Without turning either of the sprockets, place the chain on the sprockets with the arrows, which are stamped on the outside links, pointing in the direction in which the chain is to run. If the chain is so placed on the sprockets that it runs in the opposite direction, *it will very quickly destroy itself.*

Bring the ends of the chain together, preferably on the larger sprocket. Insert pins and rivet. (See below.)

Riveting Chains

Each joint of the chain contains two pins, as shown in Fig. 44; a seat pin "A," which is ribbed, and a rocker pin "B," which is plain. If a chain is removed, be very sure in replacing it that the joint pins are inserted as shown.

Bring the ends of the chains together on the larger sprockets. (See under "Replacing Camshaft Driving Chain" and "Replacing Fanshaft Driving Chain," page 63.) Insert the rocker pin and a used or extra seat pin to align the links. Clamp the new seat pin in a vise and rivet the small washer "C" on one end.

Force the used seat pin out by inserting the new seat pin. Insert the new seat pin from the rear. In doing so be careful not to force out the rocker pin. Be sure to recover the used seat pin so that it will not get into the mechanism of the engine.

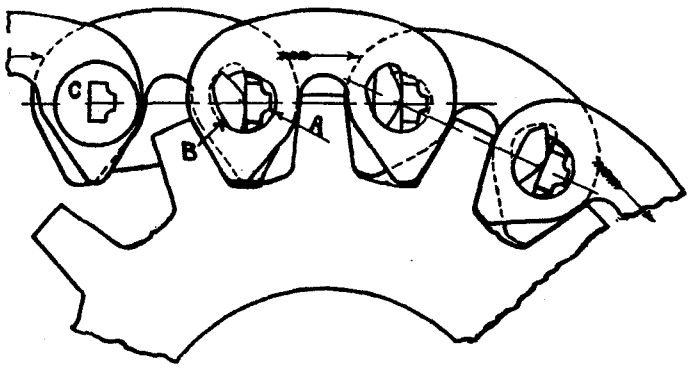


Fig. 44. Correct Positions of Rocker and Seat Pins in Riveting Chains.

After the new seat pin is in place turn the engine so that the connection is mid-way between the sprockets. Then insert a riveting block between the crank case wall and the inner end of the seat pin to be riveted, place the small washer on the end of the seat pin and carefully peen over the end of the pin. Remove the riveting block.

If, in installing a chain the rocker pin is inserted backwards it will cause a knock on the small sprocket which will quickly destroy the chain. It is absolutely essential that the joint pins be assembled correctly if the chain is to live and give quiet and satisfactory service.

CADILLAC-DELCO ELECTRICAL SYSTEM

Single Wire System

The Cadillac-Delco system is the single wire, single unit system. One side of the motor generator, storage battery, lamps, horn and ignition apparatus is connected to some part of the frame of the car or the engine. The other connections are made with copper wires or cables.

MOTOR GENERATOR

The motor generator serves both as a generator of current and as an electric motor for cranking the engine when starting. The principal elements of the motor generator are an armature and a field. There are two windings on the armature and two in the field—one on the armature and one on the field are used when the motor generator is used as a generator and the other windings when it is used as a motor.

Generator

The motor generator, when acting as a generator, is driven at engine speeds by the fan shaft which in turn is driven by a silent chain from the cam shaft at the front end of the engine. Thus driven, it delivers electrical energy for charging the storage battery and for operating the lights, ignition apparatus and horn. To prevent the voltage of the current generated from rising too high when the engine is running at high speeds, the third brush system of current regulation is employed.

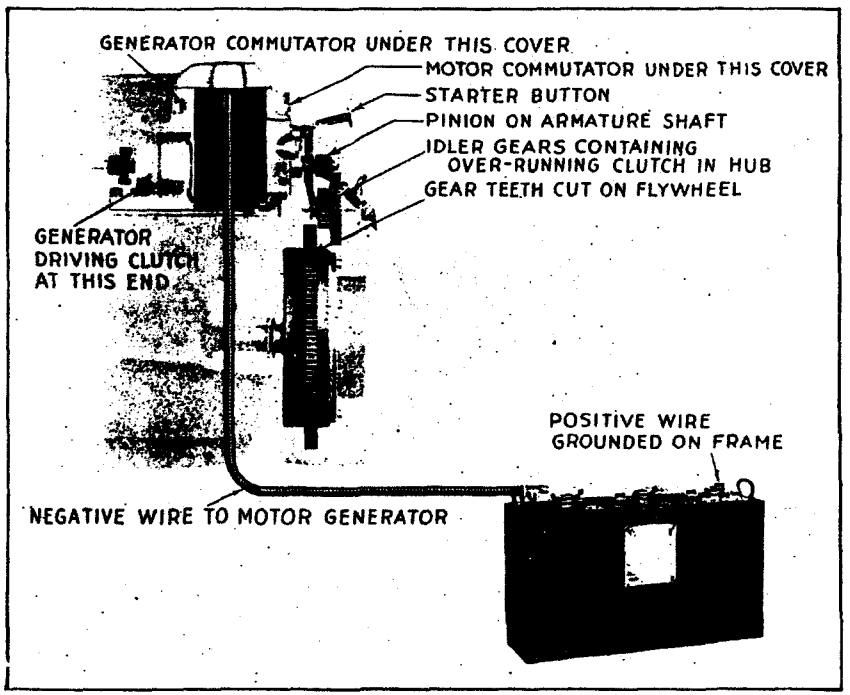


Fig. 45. Motor Generator and Starting Mechanism.

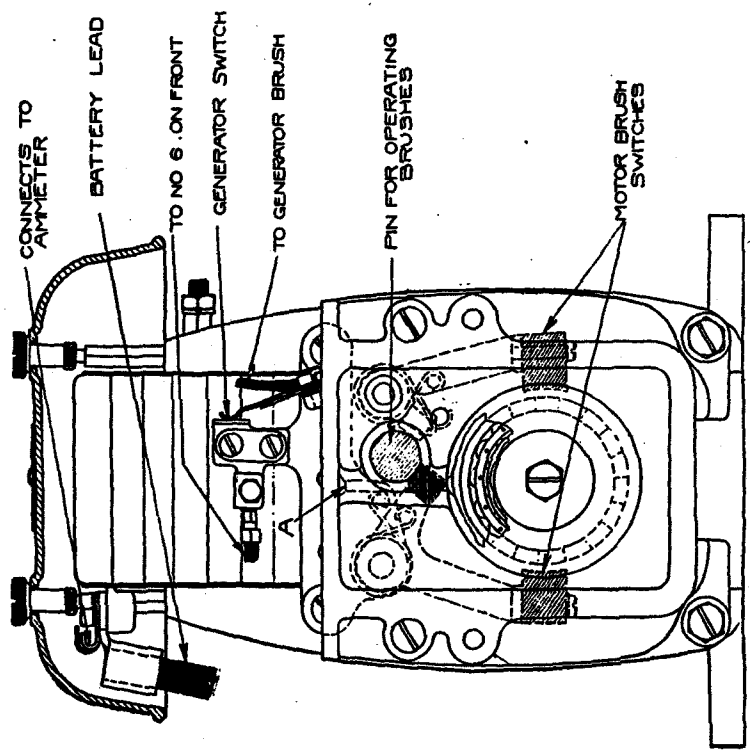


Fig. 47. Motor Generator, Rear View.

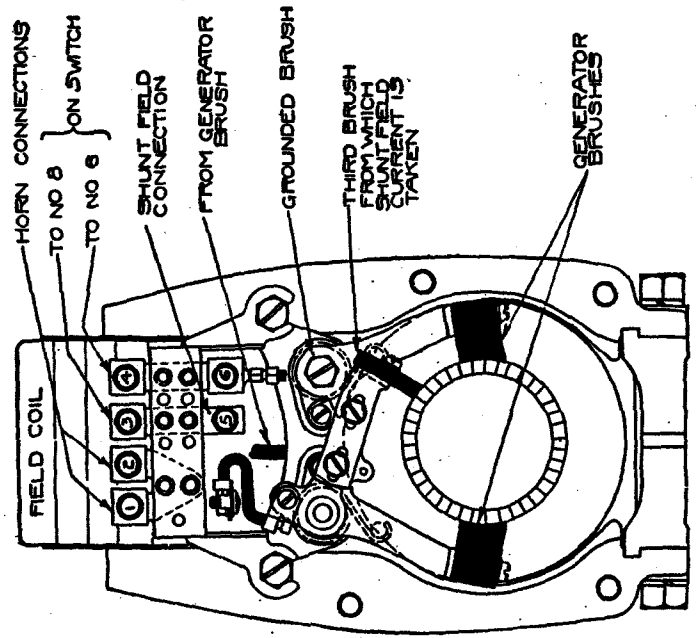


Fig. 46. Motor Generator, Front View.

Motor

When acting as a motor the sole function of the motor generator is to crank the engine. In starting, the first thing the operator does is to push down the ignition lever on the combination switch. This closes the ignition circuit and the circuit between the storage battery and the generator windings on the motor generator causing the armature to revolve slowly.

A ratchet clutch in the front end of the generator allows the armature to rotate ahead of the driving shaft. The clicking noise that is heard when the ignition switch is turned on comes from this clutch.

Next the operator pushes down the starter button. The first movement causes the starter gears to mesh with the teeth on the flywheel. The probability of the ends of the teeth striking and failing to mesh is overcome by the slow rotation of the armature which began as soon as the ignition was turned on.

As the starter button is pushed further down the circuit between the storage battery and the generator windings of the motor generator is broken. Upon the last movement of the starter button the circuit is closed between the storage battery and the motor windings on the motor generator causing it to act as a powerful electric motor which rapidly cranks the engine.

As the gear ratio between the armature shaft and the crank shaft is approximately 25 to 1 the armature would be driven at an excessively high rate of speed after starting the engine and before the operator let the starter button back if it were not for an over-running clutch in the hub of the idler gears between the flywheel and the armature shaft. The electric motor cranks the engine through this clutch but after the engine has started and begins to run faster than the electric motor, the clutch slips.

When the starter button is let up, as soon as the engine is running under its own power, the first movement of the button breaks the circuit between the electric motor and the storage battery, a further movement causes the starter gears to slide out of mesh and the final movement completes the circuit between the generator and the storage battery, which was broken when the starter button was pushed down. The engine running and the circuit being closed between the storage battery and the generator windings of the motor generator, the generation of current begins.

Commutators

Do not under any condition put oil of any kind on the commutators of the motor generator.

LIGHTING SYSTEM

Lighting Switch

All of the lamps are controlled from the instrument board with the exception of the tonneau lamp on the Seven-Passenger and Phaeton and the dome and quarter lights on enclosed cars. The left hand lever on the combination switch makes the necessary connections for the head lamps, side lamps, speedometer lamp and tail lamp. A switch button at the top of the combination switch controls the clock lamp on the instrument board. To turn on this light pull out on the switch button. To extinguish the light, push in.

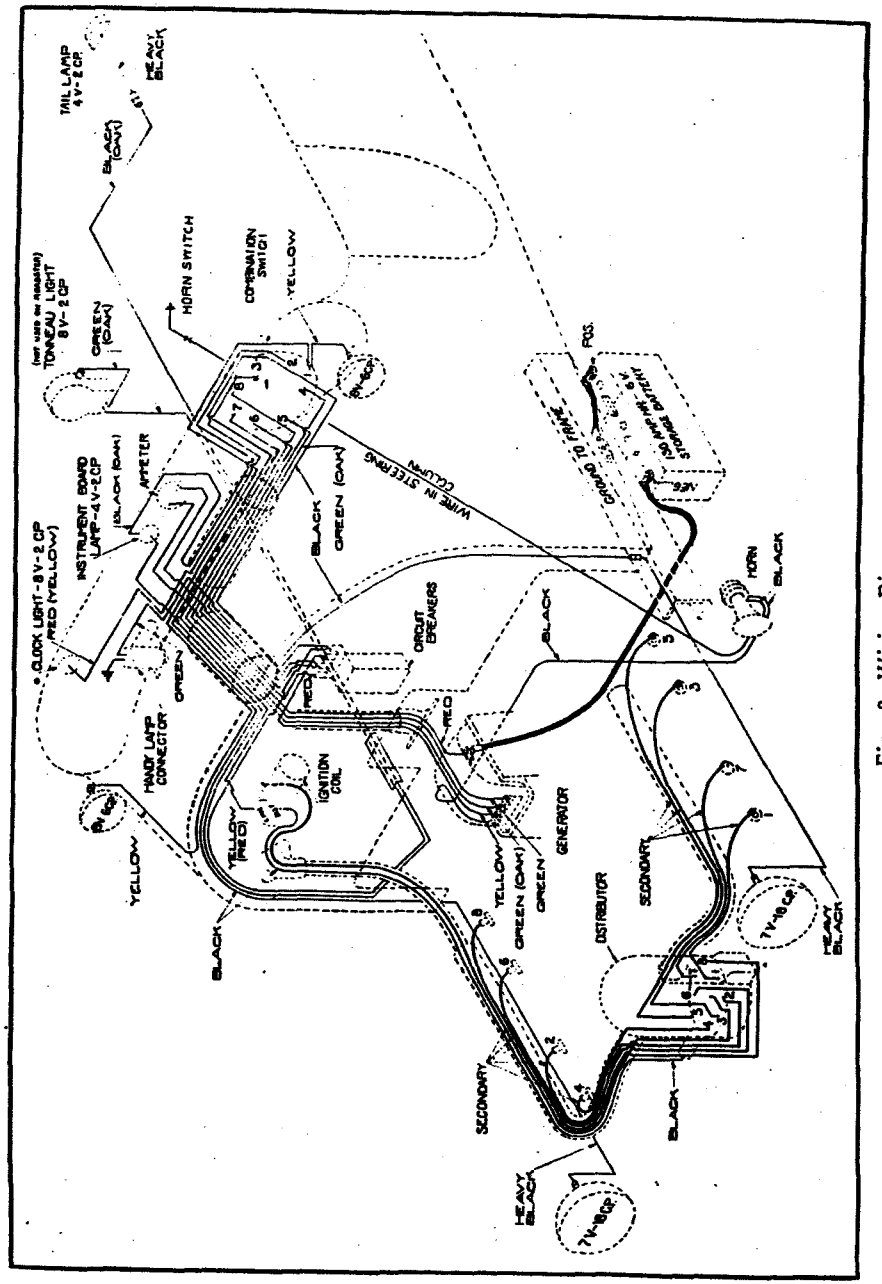


Fig. 48. Wiring Diagram.

Tilting Head Lamp Reflectors

Traffic regulations in most localities now include some requirements as to the control of glaring rays from automobile head lamps. The customary rule is that there shall be no glare when meeting vehicles going in the opposite direction or when driving through towns.

The devices commonly employed to meet these requirements make use of one or another of the following principles: Reducing the amount of light at its source, diffusion or spreading of the pencil rays, deflection of the pencil rays below the level at which glare is objectionable.

Reducing the amount of light as is done by dimmers has the obvious disadvantage of placing the road in semi-darkness just at the time when the maximum illumination is needed. Diffusion of the rays, as by lenses, may conform to the requirements of the law but the rays are so spread out that the illumination of the road any considerable distance ahead of the car is insufficient for satisfactory driving.

Deflection of the pencil rays below the level at which they are objectionable intensifies the illumination of the road directly in front of the car but renders distant objects less distinct, particularly those in the upper part of the field of vision. The first result is an advantage at the moment when passing a vehicle going in the opposite direction but the second is not desirable on the open road where highway signs and overhanging obstructions must be easily visible. Prismatic shaped lenses, which employ this principle, are, therefore, not altogether satisfactory except just for the short time an oncoming vehicle is approaching.

A device is employed in the Cadillac which makes use of the advantage of the third principle but which eliminates the disadvantage of having the rays permanently deflected. The reflectors in the head lamps are pivoted so that they may be tilted, and are controlled by a lever on the steering column. When the road is clear and the illumination of the distant road is desired, the reflectors direct the light straight ahead. When a vehicle traveling in the opposite direction approaches, by simply raising the lever on the steering column the reflectors are tilted down, deflecting the rays below the level of the occupants of the approaching car and increasing the illumination directly in front of the car where it is most needed.

In a few states the law specifies that at no time shall there be any glaring rays higher than 42 inches above the road at a point 75 feet ahead of the car. When in the tilted position, the Cadillac head lamps conform to this requirement.

The head lamp reflector control is adjusted when the car is assembled and should require no further attention.

Focusing Headlamps

The adjustment for focusing the headlamp bulbs is near the top of the lamps and is accessible after removing the lamp door.

To make the adjustment, run the car head on towards, and at right angles to, a high fence or building, and stop when within from fifteen to twenty feet from it. Then with the tilting reflector in the straight ahead position, change the adjustment until the bulb is in the proper position.

If in turning the screw to the right, the rays of light appear to spread out, it indicates that the bulb is too far back in the reflector and that it should be brought forward. To do this, turn the adjusting screw to the left until the proper rays are shown.

If the adjusting screw be turned to the left and the rays appear to spread out, it indicates that the bulb is too far forward and it should be brought back. To do this, turn the adjusting screw to the right until the proper rays are shown.

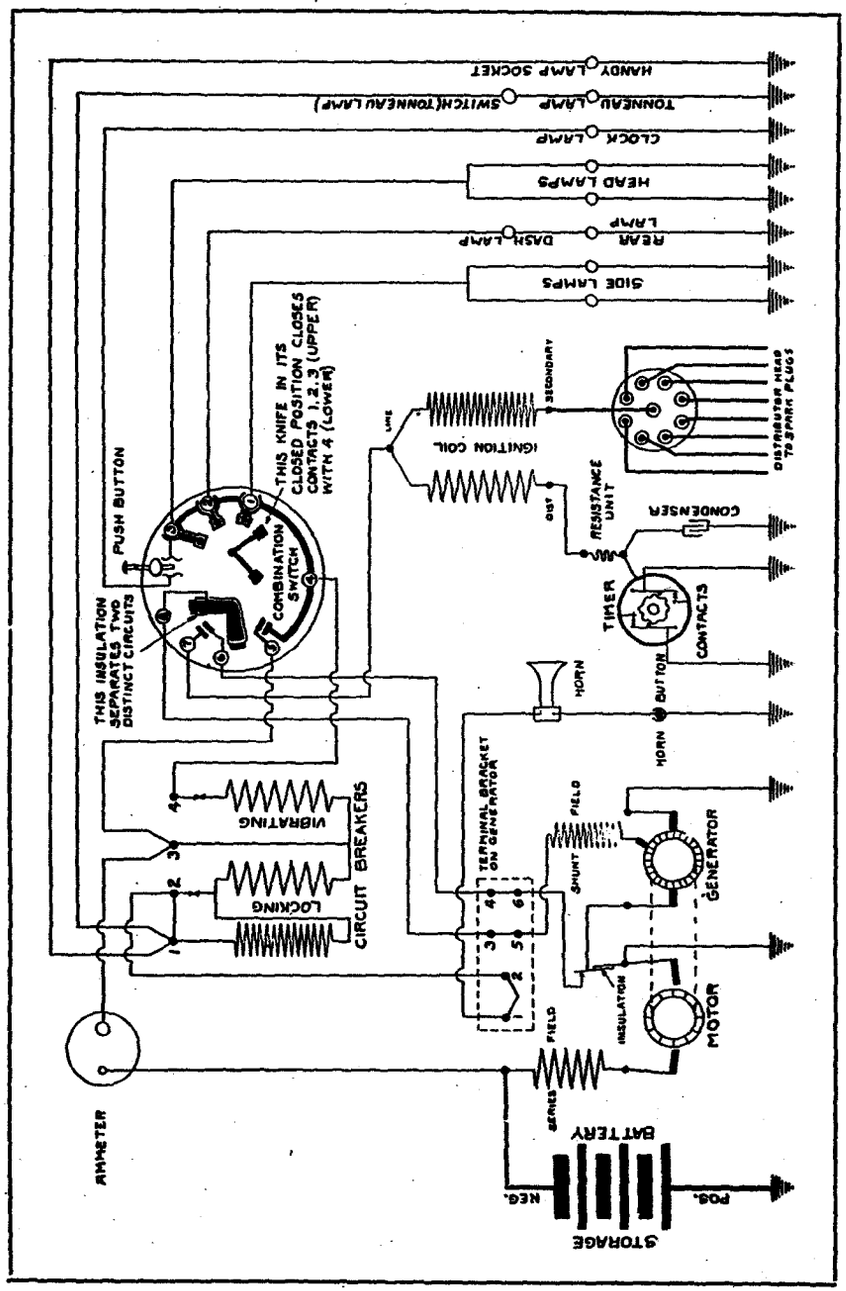


Fig. 49. Circuit Diagram.

Cleaning Reflectors

The reflectors in the head and side lamps are plated with pure silver. In polishing extreme care must be used in selecting materials which will not scratch the silver.

Powdered dry rouge and a chamois skin are recommended. If the reflectors are tarnished, moisten the rouge with alcohol, and apply with the chamois. Then polish with a dry chamois and rouge.

The chamois should be soft and must be kept free from dust. Do not use the chamois for any other purpose.

Socket for Portable Lamp

A socket for the portable lamp is attached to the back of the instrument board just to the right of the hand air pump.

Lamp Bulbs

It is recommended that bulbs for the lamps be purchased from a Cadillac dealer. In any event bulbs should be used which have the correct voltage and candle power rating. The following is a table of voltage and candle power for the lamps in the lighting system:

Lamps	*Voltage*	*Candle Power*
Head	7	18
Side	8	6
Speedometer	4	2
Tail	4	2
Clock	8	2
Tonneau	8	2
Portable	8	6
Dome, enclosed cars	8	6
Quarter, enclosed cars	8	2

IGNITION SYSTEM

The ignition system embodies the following elements: A source of current, the generator, or at low speeds, the storage battery; an ignition timer, which interrupts the low tension current at the proper instant to produce a spark in the high tension circuit; an induction coil, transforming the primary current of six volts into one of sufficient voltage to jump between the points of the spark plugs; a condenser, which assists the induction coil to raise the voltage, and which protects the contact points of the ignition timer from burning; and a high tension distributor which directs the distribution of the high tension current to the spark plugs in the respective cylinders.

Ignition Switch

The current for ignition is controlled by means of the right hand lever on the combination switch on the instrument board. This lever also controls the generator circuit as explained under "Motor Generator" on page 87.

Distributor and Timer

The distributor and timer, Fig. 50, are carried on the fanshaft housing and are driven by the fanshaft through spiral gears.

The distributor consists of a cap or stationary head of insulating material and a rotor of the same material which turns with the timer shaft. The distributor head carries one contact in the center and eight additional contacts placed at equal distances about the center. (Only two of these contacts are shown in Fig. 50.) The center contact is connected to the high tension terminal on the ignition coil. The eight remaining contacts are connected to the spark plugs in the cylinders. The center contact is provided with a spring plunger which is in constant communication with a plate on the rotor. This plate carries at its outer end a contact button. As the rotor revolves, the contact button slides over the eight outer contacts in the distributor head, consecutively completing the high tension circuit to each of the spark plugs from the ignition coil.

The timer, by which the low tension current is interrupted at the proper time to produce the spark, is beneath the rotor. An eight lobed cam "B," Fig. 51, on the timer shaft, operates two contact arms "C" and "D." As the cam revolves, these arms alternately complete and break the primary circuit. The cam is held in place by the lock screw "A."

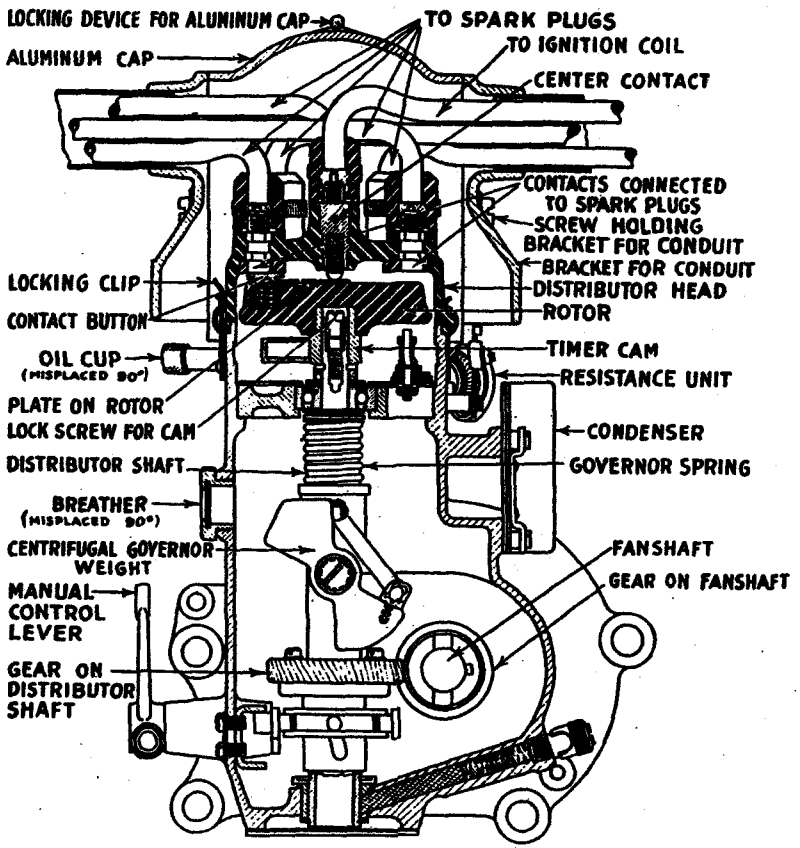


Fig. 50. Distributor and Timer, Sectional View.

Two sets of timer contact points are provided. The object is to distribute over two sets the current which would otherwise pass through one. This greatly lessens wear and burning of the points.

The spark timing is automatically controlled by a centrifugal governor which advances or retards the position of the timer cam relative to the driving shaft, as the engine speed increases or decreases. (See under "Automatic Spark Control," page 16.) A spark lever at the steering wheel is provided, however, by which the timing may be still further advanced or retarded. This spark lever is connected to the manual control lever at the left of the distributor housing.

Adjustment of Timer Contact Points

The distributor head is protected by an aluminum cap, to which are attached the conduits which carry the high tension wires to the spark plugs and ignition coil and the low tension wire from the ignition coil to the resistance unit. The timer contact points are accessible after removing the aluminum cap, the distributor head and the rotor. To do this proceed as follows:

Remove the screws holding the conduit brackets to the aluminum cap. Move the locking device on top of the cap to one side and remove the cap. Press back the finger of the clip on the left side of the distributor head and rotate the head until both clips are opposite the flat places on the head. Then lift the head straight up. Remove the rotor by carefully lifting it straight up. The contact points are then accessible, appearing as shown in Fig. 51.

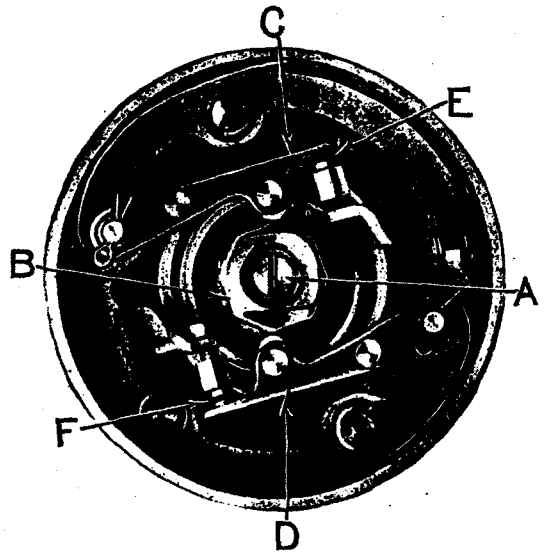


Fig. 51. Timer Contacts, Distributor Cap and Rotor Removed.

Method of Adjustment

To set the contact points proceed as follows:

Crank the engine by hand until the contact arms "D" and "C" are directly on top of lobes of the cam "B." Then adjust the contact points at "E" and "F" so that they stand twenty thousandths of an inch apart.

Both sets of contact points should be adjusted exactly alike.

Do not file or grind the contact points. To clean the points remove them and simply rub them over an oil stone two or three times. Then replace and adjust, following instructions given.

It is a good plan after adjusting the timer contact points to check the ignition timing. See under "Timing Ignition," page 74.

Timing Ignition

Unless the timer contact points are in proper adjustment they should be readjusted before proceeding to time the ignition.

To time the ignition proceed as follows:

Move the spark lever to the extreme left on the sector; open the compression relief cocks on the cylinder blocks, and crank the engine by hand until the piston in No. 1 cylinder is on firing center. (No. 1 cylinder is the one nearest the radiator in the left hand block of cylinders.)

Next remove the distributor cap and head; also the rotor, and loosen the lock screw "A" just enough to allow the cam "B" to be turned by hand after the rotor is fitted. (The lock screw should not be loosened enough to allow the cam to turn on the shaft when the engine is cranked by hand.)

Then replace the rotor and turn it by hand until the distributor brush in the rotor is directly under the terminal marked No. 1 on the distributor cover.

Replace the distributor cover, and move the spark lever to the extreme right on the sector.

Then switch on ignition; hold the high tension wire to the spark plug in No. 1 cylinder about one-eighth of an inch away from the cylinder casting and crank the engine slowly by hand in the direction in which it runs. Stop cranking immediately a spark occurs between the wire and the casting. (It will be necessary to crank the engine nearly two complete revolutions before the spark occurs.)

If the cam "B" is properly set a spark will occur when a point on the flywheel one and twenty-one thirty-seconds inches in advance of the center line for No. 1 cylinder is directly under the pointer attached to the crank case of the engine. This point for each cylinder is marked on the flywheel by the letters "IG|A." (See Fig. 41.)

If the spark occurs before this, rotate the cam "B" slightly in a counter clockwise direction to correct the adjustment. If the spark occurs later than this, rotate the cam slightly in a clockwise direction.

After the adjustment has been properly made, lock the cam securely to the distributor shaft by the lock screw "A."

After locking the adjustment it is a good plan to check the timing by fully retarding the spark lever; in other words moving it to the extreme left on the sector, holding the high tension wire to the spark plug in No. 1 cylinder about one-eighth of an inch away from the cylinder casting, and again cranking the engine slowly by hand in the direction in which it runs, stopping immediately a spark occurs.

If the ignition is properly set the spark will occur under these conditions when the center line on the flywheel for No. 1 cylinder is directly under the pointer attached to the crankcase, or has passed the pointer.

Caution—Do not set the ignition so that the spark occurs before center with the spark lever at the extreme left on the sector.

Resistance Unit

The resistance unit is a coil of resistance wire wound on a porcelain spool as shown in Fig. 50. Under ordinary conditions it remains cool and offers little resistance to the passage of current. If for any reason the ignition circuit remains closed for any considerable length of time with the engine not running, the current passing through the coil heats the resistance wire, increasing its resistance to a point where very little current passes, and insuring against a waste of current from the battery and damage to the ignition coil and timer contacts.

Ignition Condenser

The purpose of the condenser in the ignition system is to protect the timer contact points against the corrosive action of sparking and to utilize the tendency to spark to build up a higher voltage in the high tension circuit than would otherwise be obtained.

The ignition condenser is mounted on the right hand side of the distributor housing in a waterproof casing. (See Fig. 50.) It consists of layers of tinfoil separated by sheets of paraffin paper. Alternate layers of tinfoil are connected to opposite terminals. The current does not pass through the condenser and on test the terminals should show open circuit.

There are no adjustments in connection with the condenser and it requires no attention.

Ignition Coil

The ignition coil serves to transform the low voltage current in the primary circuit to a current of high voltage in the secondary circuit. The coil consists of a primary winding of coarse wire wound around an iron core in comparatively few turns, and a secondary winding of many turns of fine wire, also the necessary insulation and terminals for wiring connections.

The ignition coil is mounted on the inner face of the dash and should require no attention except occasional inspections to insure that there are good connections between the wires and terminals.

Spark Plugs

Spark plugs should be kept clean. When carbon or soot is permitted to collect on them, it causes a short circuiting of the current and prevents the proper ignition of the charge in the cylinder. A good method of cleaning plugs is to wash them in alcohol.

In order to get the best results the points on the spark plug should be .028 of an inch apart. If the points are too close together, the engine will miss under a light load and when idling. If the points are too far apart, it will miss under heavy loads, and when the throttle is opened quickly for acceleration.

CIRCUIT BREAKERS

The circuit breakers are mounted on the inner face of the dash. These are protective devices which take the place of fuses.

The circuit breakers prevent the discharging of the storage battery, damage to the wiring to the horn, lights and the ignition apparatus, or to any of these parts in case any of the circuits to or in these parts become grounded.

As long as only a normal amount of current is used for horn, lights and ignition the circuit breakers will not open. In the event of a ground, an abnormally heavy current is conducted through one of the circuit breakers thus producing strong magnetism which attracts the armature and opens the contact. This cuts the flow of current.

The circuit breaker protecting the horn, handy lamp and tonneau lamp circuit is known as a lockout circuit breaker. In case of a ground in any of these circuits, the breaker opens and remains open until the ground is removed.

The circuit to the ignition apparatus and remainder of the lights is protected by a vibrating circuit breaker. In case of a ground in any of the circuits protected by the vibrating circuit breaker, the breaker will start to vibrate and will continue to vibrate until the ground is removed.

GENERATION OF CURRENT

Ammeter

When the car is standing with lights turned on, the ammeter, which is located on the instrument board, indicates on the "Discharge" side of the dial the amount of current being drawn from the storage battery for this purpose. When the ignition switch is turned on the ammeter indicates, in addition, the current used in slowly rotating the armature of the motor generator. When the starter button is pushed down current is no longer required for slowly rotating the armature of the motor generator. The ammeter then indicates only the current used for the ignition and lights (if turned on). The ammeter does not indicate the amount of current used in the cranking operation.

Before the engine is running fast enough to generate sufficient current to equal the current demand, the ammeter indicates on the "Discharge" side the amount of current being drawn from the storage battery. When the engine has attained a speed sufficient to generate current to more than equal the demand, the ammeter indicates on the "Charge" side the excess current which passes to the storage battery and recharges it.

Ordinarily, with all lights switched off, sufficient current is generated to start recharging the battery when the car is operated in high gear at speeds between four and six miles per hour and, of course, at much lower speeds when the car is operated in low or intermediate gear. With all lights turned on sufficient current is generated to take care of the requirements at a speed of ten to fifteen miles per hour and at speeds greater than this the surplus current passes through the storage battery and recharges it. In other words, the ammeter indicates the rate at which the storage battery is being charged or discharged.

To determine the total output of the generator turn off all the lights and add the amount of current used for ignition, i. e., two to three amperes, to the ammeter reading.

Current Regulation

The generating capacity of the generator is regulated by means of a third brush on the generator commutator. (See Fig. 46.) The position of this brush relative to the other two generator brushes determines the maximum output of the generator, the length of the brush arm being adjustable. The brush arm is properly adjusted when the car is assembled and should not require readjustment unless its position is altered. To determine whether readjustment is necessary proceed as follows:

Start the engine in the usual manner. With all the lights turned off slowly increase the speed of the engine by means of the hand throttle lever, meanwhile observing the hand of the ammeter on the instrument board. (*Do not race the engine.* There is no worse abuse and it is unnecessary in this adjustment to run the engine faster than 1500 revolutions per minute.) The current indicated by the ammeter will increase with the speed of the engine to a point between 950 and 1200 revolutions per minute, and will then decrease. If the amount of current indicated by the ammeter at the maximum point is greater than 18 amperes, stop the engine and readjust the third brush as follows:

Remove the generator front end top cover. Loosen the two screws which hold together the two parts of the third brush arm and shorten the brush arm. After moving the third brush to an approximately correct position, press the brush down so that it makes even contact with the commutator, and hold it down while tightening the screws in the brush arm. The purpose of this is to have the curvature of the end of the brush conform as closely as possible to that of the commutator.

After setting the third brush, sand it in with a strip of No. 00 (fine) sandpaper slightly wider than the brush. Pass one end of the strip of sandpaper down between the right hand side of the front casing of the generator and the pin on which the third brush arm pivots, then over to the left and between the third brush and the commutator. The sand side of the sandpaper should be up. Then pressing down firmly on the third brush, draw the sandpaper from under the brush by pulling on the free end of the sandpaper. Repeat this operation until there is even contact between the brush and commutator. Usually five or six times will be sufficient.

Start the engine. Again slowly accelerate the engine and check the maximum current. If it is still greater than 18 amperes, reset the third brush and sand it in again.

If the maximum current indicated by the ammeter is less than 18 amperes and the specific gravity of the battery repeatedly shows that the battery is not being properly charged, lengthen the brush arm. Do not, however, lengthen the brush arm unless the condition of the battery makes it necessary and under no circumstances adjust it so that the ammeter indicates a maximum current of more than 18 amperes with all lights turned off. A greater amount of current may result in serious injury to the motor generator.

STORAGE BATTERY

General Description

The storage battery consists of three cells, each containing thirteen plates—six positive and seven negative—contained in a wooden box, which is carried in a compartment in the left hand dust shield. The cover of this compartment forms a part of the dust shield and may be removed after unscrewing the two nickel-plated screws with a screw-driver.

The battery is designed especially for the Cadillac-Delco electrical cranking, lighting and ignition system and is made by the Electric Storage Battery Co. of Philadelphia, Pa., whose products for the trade are known as "Exide" batteries.

The specific gravity of the acid solution in the battery is an indication of the state of charge of the battery. (See under "Hydrometer Syringe.") In a fully charged battery the specific gravity should be from 1.270 to 1.290. If the specific gravity registers from 1.150 to 1.170 it indicates that the battery is practically discharged. A battery discharged below a specific gravity of 1.150 will not crank the engine nor will it burn the lights to full candlepower when the engine is not running.

Caution—Never run the engine with the storage battery disconnected or while it is off the car. Very serious damage to the motor generator may result from such action. Do not remove the motor generator or attempt any adjustment of the circuit breakers or remove any of the wires to the circuit breakers, without first disconnecting the storage battery.

Adding Water to Storage Battery

The acid solution in the battery must always cover the plates and the level of the acid solution should be kept even with the bottom of the filling tubes. Water should be added frequently enough to keep the level up to this point. *Do not add acid.* Ordinarily water should be added every 1,000 miles, but it should be added more frequently if found necessary. Usually it will require only a teaspoonful or so of water; in hot weather it may require more Be sure to replace and tighten the filling plugs after adding water.

To remove a filling plug, turn it as far as possible in the counter-clockwise direction, then lift it straight up. To replace, hold it so that the large arrow is perpendicular to the center line of the car, set the plug in place and turn it in the clockwise direction until tight.

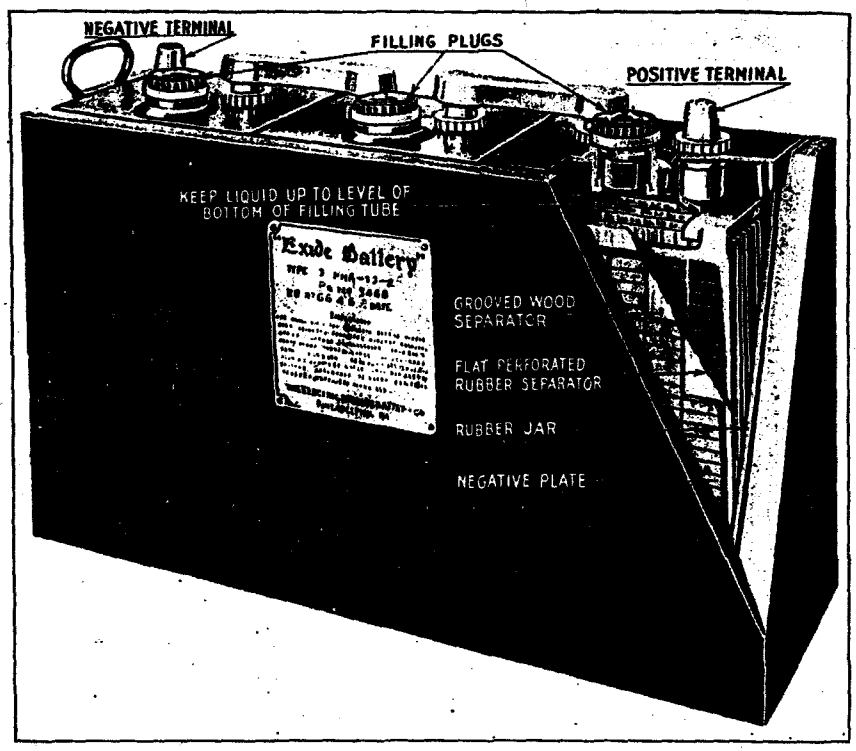


Fig. 52. Storage Battery, Sectional View.

If a plug is left out or is loose, the acid solution will escape from the cell, especially when the battery is being charged. If a plug is lost or broken, you should obtain a new one and install it as soon as possible.

If one cell regularly requires more water than the others, thus lowering the specific gravity of the acid solution in that cell, a leaky jar is indicated. Even a very slow leak will in time result in the loss of all the acid solution in the cell. A leaky jar should immediately be replaced by a new one.

The water for filling the battery must be pure. Distilled water, melted artificial ice or fresh rain water are suitable for this purpose. If rain water is used, it should not be allowed to come in contact with any metal. It should not be caught from a metal roof or in a metal receptacle.

Never keep the water in a metal container, such as a metal bucket or can. It is best to get a bottle of distilled water from a druggist or from an ice plant. A quart will last a long time. The whole point is to keep metal particles out of the battery. Spring water, well water or hydrant water from iron pipes generally contains iron and other metals in solution, which will ultimately cause trouble if used.

Replacing Acid Lost by Spilling

If any of the acid solution has been spilled or has leaked from a cell, replace the loss with freshly mixed solution and follow with an overcharge by running the engine for several hours or by charging the battery from an outside source. (See Fig. 54. Also see under "Personal Danger in Running Engine in Closed Garage," page 52.)

The specific gravity of the acid solution used for replacing the loss should be the same as that of an adjacent cell. This can be determined by the use of an hydrometer syringe (Fig. 53).

The acid solution may be prepared by mixing chemically pure sulphuric acid, which has a specific gravity of 1.840, and distilled water. The proportion for an acid solution having a specific gravity of 1.280 is one part of chemically pure acid and three parts (by volume) of distilled water. *The acid must always be poured slowly into the water. Do not pour the water into the chemically pure acid.*

If, after mixing the acid solution as described above, a solution of a lower specific gravity is desired, it may be prepared by adding additional water to the mixture. But do not under any conditions pour water into the chemically pure acid.



Fig. 53. Hydrometer Syringe.

A glass, earthenware or other acid-proof vessel, should be used for mixing. After mixing, the acid solution should be allowed to cool thoroughly before using.

Hydrometer Syringe

An hydrometer is an instrument for testing the specific gravity of a liquid. An hydrometer syringe is an hydrometer specially designed for convenience in testing the specific gravity of the acid solution in storage batteries. Hydrometer syringes are not a part of the electrical system but can be purchased from this company.

The hydrometer syringe, Fig. 53, is shipped unassembled and to assemble, hold the glass barrel, to which is attached the rubber bulb, in a horizontal position, and insert the hydrometer stem end first. Wet the soft rubber plug which is attached to the hard rubber pipette (nozzle) and force the rubber plug, grooved end first, into the end of the glass barrel as far as it will go, or until it strikes the shoulder of the barrel. It is important not to force the pipette too much in making this attachment, as the end of the pipette must not extend beyond the base of the grooves of the rubber plug; otherwise the flow of the liquid will be retarded in emptying the hydrometer syringe.

After removing the filling plug from the cover of the cell, compress the rubber bulb of the syringe and insert the pipette in the solution of the cell to be tested. Holding the instrument as nearly vertical as possible, gradually lessen the pressure on the bulb until acid solution rising in the barrel causes the hydrometer to float. In general, only enough acid solution should be drawn to float the hydrometer free of the bottom by about one-half to three quarters of an inch. The specific gravity reading is taken on the hydrometer at the surface of the acid solution in the glass barrel.

If the acid solution is below the top of the plates, or so low that enough cannot be drawn into the barrel to allow of a proper reading of the hydrometer, fill the cell to the proper level (see Fig. 52) by adding pure water, then do not take a reading until the water has been thoroughly mixed with the acid solution. This can be accomplished by running the engine for several hours.

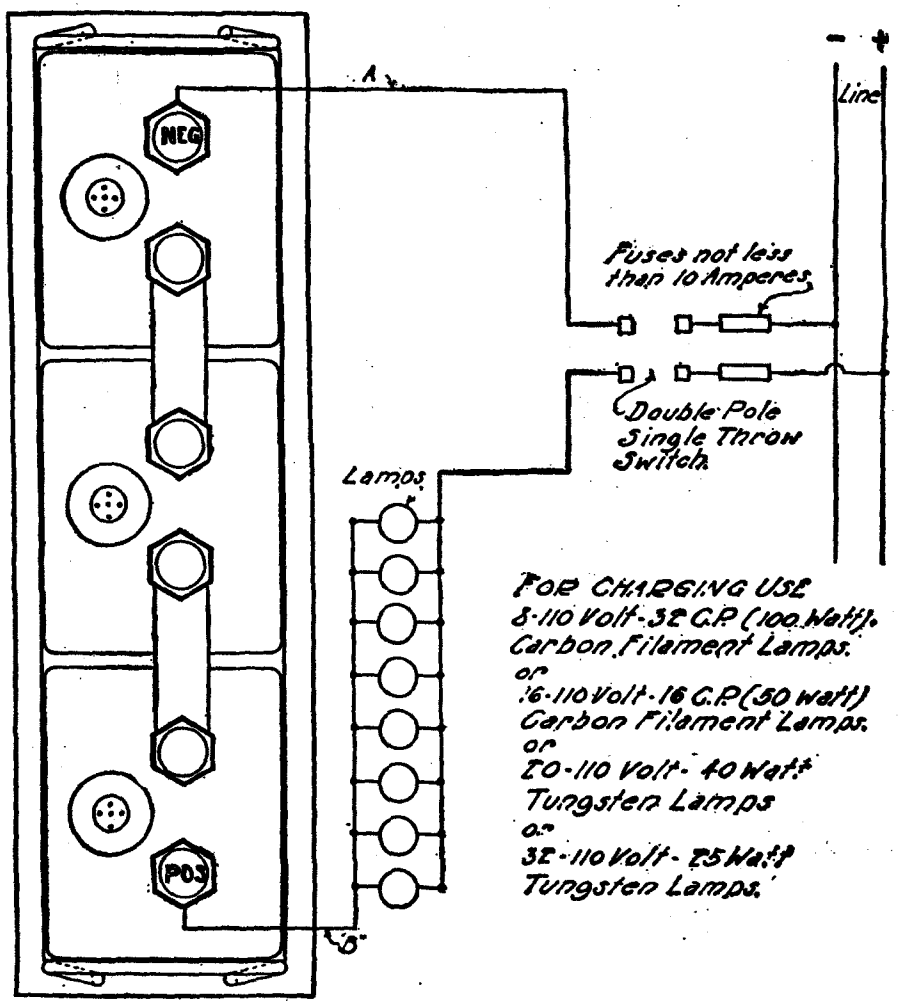


Fig. 54. Diagram of Connections for Charging Battery from 110 Volt D. C. Circuit.

Charging from an Outside Source

It is necessary that the charging be done with *direct current.* The simplest method when there is 110 or 120 volt direct current available, is to connect eight 110 volt, 32 candlepower, 100 watt carbon lamps in parallel with each other and in series with the battery to be charged, this combination giving approximately the proper charging rate—8 amperes. The positive terminal of the battery must be connected to the positive side of the charging circuit, and the negative terminal to the negative side. *Very serious injury to the battery will result if connected in the reverse direction.* The terminals of the battery are stamped "Pos." and "Neg."

To determine the polarity of the charging circuit, if a suitable voltmeter is not at hand, dip the ends of the two wires "A" and "B" (Fig. 54) into a glass of water in which a teaspoonful of salt has been dissolved, care being taken to keep the wires at least an inch apart. When the current is turned on, fine bubbles of gas will be given off from the negative wire.

The diagram (Fig. 54) illustrates just how the connection should be made. The charge should be continued until all the cells have been "gassing" or bubbling freely for five hours, and there is no further rise in the voltage of the battery or specific gravity of the acid solution over the same period. A battery in good condition in a discharged state will require about ten hours of re-charging. If it has stood in a discharged condition for several weeks, it will require from twenty-five to fifty hours' charging—all depending upon the condition of the battery and the length of time it has stood discharged.

If only alternating current is available, a current rectifier must be used. Consult your city electrician regarding this matter.

Caution:—Never run the engine with the storage battery disconnected, or while it is off the car. Very serious damage to the motor generator may result from such action.

Preparing Battery for Winter Storage

When the car is stored for the winter the level of the acid solution should be even with the bottom of the filling tubes. (See under "Adding Water to Storage Battery," page 78.) If water is added it should be added just before the last time the car is used so that it will be thoroughly mixed with the acid solution. When the car is stored, the specific gravity of the acid solution should register from 1.270 to 1.290. In this condition there is no danger of the acid solution freezing. The specific gravity of water is 1.000 and water freezes at 32 degrees F. above zero.

Unless the battery is fully charged or nearly so it is probable that the acid solution in the battery will freeze and cause extensive damage.

The following is a table of the freezing temperatures of sulphuric acid and water solutions of specific gravities from 1.050 to 1.300.

Specific Gravity (Hydrometer Reading)	Freezing Temperature (Degrees Fahr.)
1.050	+27°
1.100	+18°
1.150	+ 5°
1.164	0°
1.200	—17°
1.250	—61°
1.275 to 1.300	

The battery should be charged every two months during the "out of service" period, either by running the engine or charging from an outside source (Fig. 54). If either of the above is impossible, and there is no garage equipped for charging batteries to which it may be conveniently sent, the battery may be allowed to stand without charging during the winter, provided the specific gravity of the acid solution registers from 1.270 to 1.290 at the time the car is laid up. Much better results and longer life from the battery will be obtained by giving the periodic charges.

The wires of the battery should be disconnected during the "out of service" period, as a slight leak in the wiring will discharge the battery.

Placing Battery in Service Again

Before putting the battery into service again, inspect it and add water, if necessary. In placing the battery on the car, care should be taken not to tighten the hold down bolts too tight. If the battery has not been kept charged during the winter, it will be advisable to give it a fifty-hour charge at a four-ampere rate from an outside source before putting it into service again. Make sure that the terminals are free from corrosion and that good connections of the wires are made.

The corrosion, which is a greenish deposit, can be removed from the bolts and terminals by placing them in a solution of water and bicarbonate of soda (cooking soda).

The corrosion can be removed from the posts by saturating a piece of cloth with the solution and wiping them off. Do not allow any of the solution to get into the cells of the battery.

After the parts are free from corrosion they should be washed in warm water, and a light coat of heavy grease or vaseline applied.

If the battery has received periodic charges, it will not be necessary to give it any special attention other than to fill it to the proper height with distilled water. After the car has been driven for a number of hours, read the specific gravity of the acid solution with the hydrometer syringe. It should register from 1.270 to 1.290 if the battery is fully charged.

Sediment

The sediment which gradually accumulates in the bottom of the jars, should be removed before it reaches the bottom of the plates, as it is very harmful to the battery. The need of cleaning may be determined by inspection. Its necessity is indicated by lack of capacity, excessive evaporation of the acid solution and excessive heating when charging. When a battery requires removal of sediment, better results follow if the work is done at a place where they are thoroughly familiar with storage battery practice. If a battery is in need of cleaning or repairs, it is best to communicate with a Cadillac dealer or with the nearest Exide Depot, who will advise you where to ship the battery. *Do not ship batteries without receiving instructions.*

Exide Depots and Sales Offices

The Electric Storage Battery Company, whose general offices and works are at Alleghany Avenue and 19th Street, Philadelphia, Pa., has service stations in towns of any considerable size where battery repair work is done, as well as sales offices and Exide battery depots in a number of the larger cities of the country where complete assembled batteries and repair parts are carried in stock. For the location of the nearest Exide depot or service station write the local Cadillac dealer or, if preferred, the Electric Storage Battery Company, at Philadelphia.

TRANSMISSION AND CLUTCH

TRANSMISSION

General Construction

The transmission is the selective type of sliding gear. It provides for three speeds forward, and one reverse. The gear changes are accomplished by the movement of a hand lever at the driver's right.

The teeth of the driving gear "F" (Fig. 55) are cut on the large end of the clutch shaft "P" which revolves on the annular ball bearings "Y" and "N" and which turns with the crankshaft of the engine when the clutch is engaged, at which time the bearing "N" is inoperative. The gear "F" is in constant mesh with the countershaft gear "W." The countershaft gears "W," "U," "T" and "R" revolve together on two Hyatt high-duty, flexible roller bearings "S" on a stationary shaft. The roller bearings "S" are lubricated by oil forced through the tube "V," which revolves with the gear "U."

The main transmission shaft "B," which is coupled to the forward universal joint, is splined and carries the two sliding gears "A" and "C." The shaft "B" is supported by an annular ball bearing "Q" at the rear end and at the front end by a roller bearing "Z," which is housed in the rear end of the clutch shaft "P."

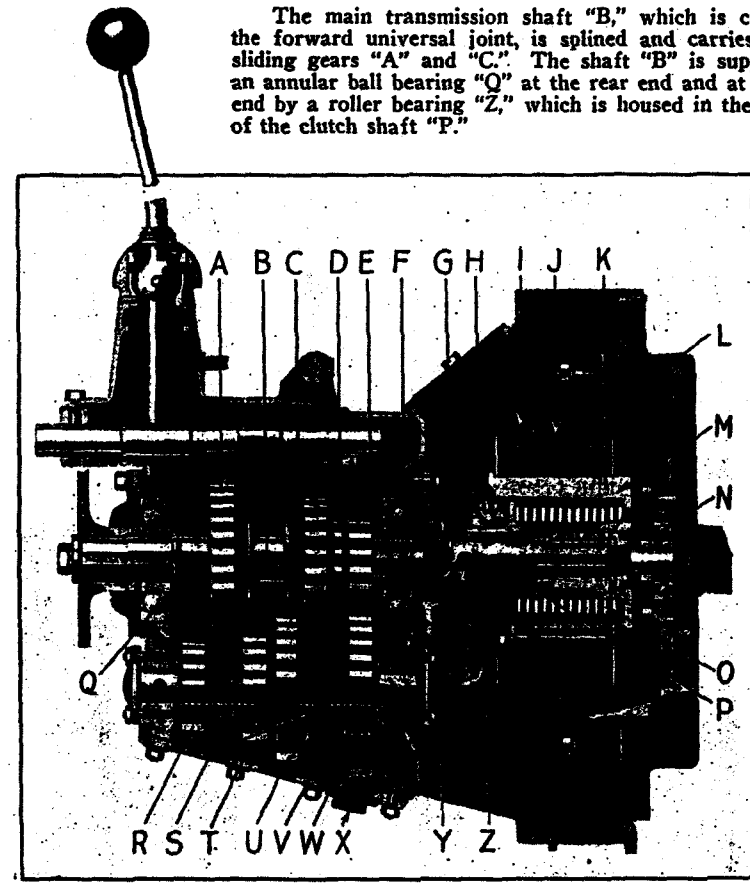


Fig. 55. Transmission and Clutch Sectional View

Operation

The transmission control lever accomplishes the gear changes by moving the sliding gears "A" and "C." Fig. 55 shows these gears not in mesh with other gears, or in other words in the "neutral" position. The "neutral" position of the control lever is shown in Fig. 2. In "neutral" position the car is not driven even though the clutch be engaged.

Low gear is obtained by shifting the control lever into the position shown in Fig. 3. This movement of the lever slides the gear "A" forward from the position shown in Fig. 55, bringing it into mesh with the countershaft gear "T."

Intermediate gear is obtained by moving the transmission control lever as shown in Fig. 4. The first half of this movement slides the gear "A" towards the rear, returning it to the "neutral" position and leaving it in that position. The second half slides the gear "C" towards the rear from the neutral position, causing it to mesh with the countershaft gear "U."

High gear is obtained by moving the transmission control lever straight back from intermediate gear position as shown in Fig. 5. This slides the gear "C" forward out of mesh with the gear "U" and interlocks the internal teeth "D" on this gear "C" with the teeth "E" on the end of the clutch shaft "P." The clutch shaft "P" and splined shaft "B" then revolve as a unit on the annular ball bearings "Q" and "Y" and the drive is "direct."

It is necessary before each shifting of the gears to release the clutch, moving the control lever while the clutch pedal is held down. The necessity for this may be explained in the following manner. In meshing gears by sliding the teeth of one between the teeth of the other it is necessary that one of the gears be free to rotate at the same peripheral speed as the other. Only after the teeth are fully in mesh should the clutch be re-engaged.

If the gears to be meshed are both revolving at the same peripheral speed the meshing operation will be practically noiseless. The more closely this ideal condition is approached the more quietly may gear shifting be accomplished. This explains why it is advisable to pause for an instant in the neutral position when shifting from "low" to "intermediate." It also explains why the method given on page 13 for shifting from "high" to "intermediate," if followed, will result in a practically noiseless shift.

When stopping the car the control lever must always be shifted into the neutral position.

Lubrication

Keep sufficient lubricant in the transmission case to bring the level up to the filling hole in the right hand side of the case. When the lubricant is up to the level of the filling hole the transmission case contains approximately two quarts. The best lubricant for the transmission is Cadillac Rear Axle and Transmission Lubricant. In its absence we recommend a mixture of steam cylinder oil and a small amount of cup grease mixed to such a consistency that the mixture flows easily at temperatures from 60° to 70° Fahrenheit.

CLUTCH

General Description

The main clutch is of the multiple disc dry plate type. The eight driving discs "I," Fig. 55, are covered on both sides with a friction material, composed largely of asbestos, and are driven by gear teeth in the clutch ring "K" which is bolted to the engine flywheel "L."

The nine driven discs "J" are not covered. These discs are carried on the clutch hub "M" and drive it through six keys on the hub. The clutch hub is keyed to the transmission shaft "P."

When the clutch is engaged by allowing the clutch pedal to come towards you, the spring "O" forces all of the discs together. The resulting friction between the discs "I" and "J" drives the transmission shaft "P" and the car, when the transmission control lever is in other than the neutral position.

There are no adjustments on the clutch proper. The clutch pedal should be adjusted occasionally to compensate for wear on the facings of the clutch discs. This adjustment is explained below under "Adjustment of Clutch Pedal Clearance."

There is but one point on the clutch for lubrication. This is the clutch release ball race "G." Instructions for lubricating this part will be found under "General Lubrication" on page 45.

Adjustment of Clutch Pedal Clearance

After the car has been run for some time it may be found that the facings on the clutch discs have become compressed or worn to some extent and that consequently the clutch pedal strikes the stop screw before the clutch is fully engaged. When this condition exists a readjustment may be made as follows:

Remove the pin "N," Fig. 56, and unscrew the yoke "P," which is threaded on the rod "O," so that when the pin "N" is replaced the clutch pedal has a movement back and forth of one and one-quarter inches without starting to release the clutch. Secure the pin "N" with a cotter pin and tighten the lock nut "V."

Adjustment of Clutch Pedal Stop

The clutch pedal stop screw "S" is adjusted when the car is assembled and requires no further attention. When in proper adjustment the stop screw "S" should hold the pedal arm "U" so that the distance "T" is about one-half inch on the Seven-Passenger, Roadster, Phaeton and Victoria and about one-quarter inch on all enclosed cars except the Victoria. If the adjustment has been changed, it may be readjusted in the following manner:

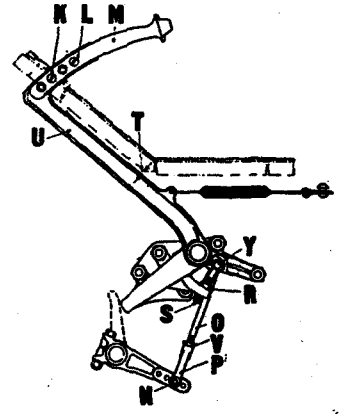


Fig. 56. Clutch Control.

Remove the pin "N" from the yoke "P," loosen the lock nut "R" and adjust the stop screw "S" so that the pedal arm "U" is held the required distance from the under side of the toe board at "T" when the pin "Y" is against the stop screw. Tighten the lock nut "R."

Then adjust the yoke "P" so that when the pin "N" is replaced the clutch pedal has a movement back and forth of one and one-quarter inches without starting to release the clutch. Secure the pin "N" with a cotter pin and tighten the lock nut "V."

Adjustment of Length of Clutch Pedal

The clutch pedal is made in two parts slidingly adjustable to accommodate different drivers.

To change the length of the clutch pedal remove the bolts "K" and "L," Fig. 56, and slide the forked piece "M" in the desired direction. Do not pull "M" out so far that it is possible to put in only one bolt; two bolts are required properly to hold the parts.

There are four possible positions in this adjustment, Fig. 56 showing the extreme shortened position.

The brake pedal may be lengthened or shortened in the same manner.

STEERING GEAR

Adjustment of Worm Thrust Bearings

To take up the end play in the worm "K," Fig. 57, remove the plug "B," Fig. 58, and loosen the jamb nuts "J," and lock screws "A." Then with a screw-driver or something else suitable, screw down the adjusting collar "L," Fig. 57, which can be seen through the hole from which the plug "B," Fig. 58, was removed, until the proper adjustment is made.

Lock screws "A" are positioned in the steering gear housing so that when one is directly over a slot in the adjusting collar the other is between two slots. Therefore after adjusting the collar it will be necessary to select the proper screw for locking the adjustment. Both lock screws should be held from turning by locking the jamb nuts.

Adjustment of Worm and Sector

The second adjustment is for taking up wear on the teeth of the worm "K" and sector "W," Fig. 57. The sector "W" has its bearing in an eccentric steel bushing and should wear occur, it may be taken up by turning this bushing so that it throws the sector towards the worm.

To do this proceed as follows: First turn the steering wheel so that the front wheels point straight ahead. Remove the locking screw "C," Fig. 58. As the bushing is assembled at the factory it is necessary to move the arm "D" down to tighten the adjustment.

If the wear on the teeth of the worm and sector is very great, it will be necessary to remove the steering arm "F" and to place the arm "D" in a different position on the hexagonal end of the eccentric bushing in order to bring the arm "D" in position so that it can be locked by the screw "C."

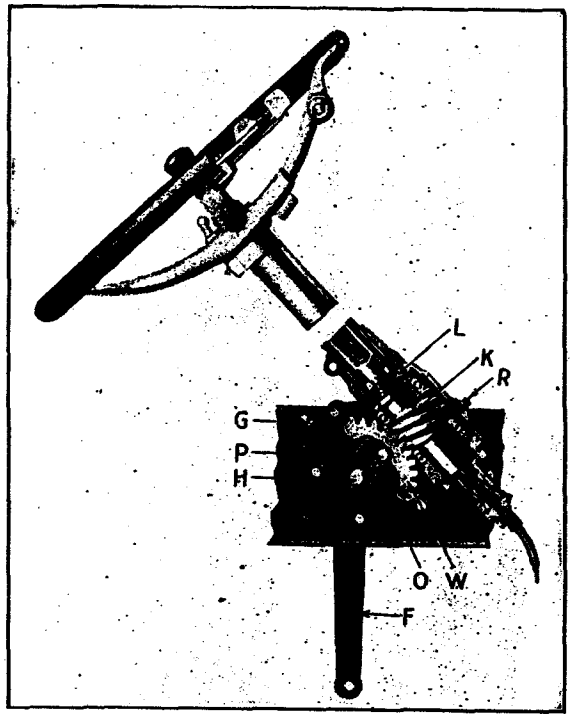


Fig. 57. Steering Gear, Sectional View.

After the adjustment is made properly be sure that the lock screw "C" is replaced and properly tightened.

Adjustment of Sector Shaft

An adjustment is provided on the inner face of the steering gear housing for taking up end-play in the sector shaft.

To make this adjustment remove the locking arm "O," Fig. 57, and turn the adjusting screw in until the proper adjustment is made, after which the locking arm "O" should be replaced and the lock screw "P," replaced and tightened.

Caution—Do not turn the steering gear when the car is standing. This is not only unnecessary but is also bad practice.

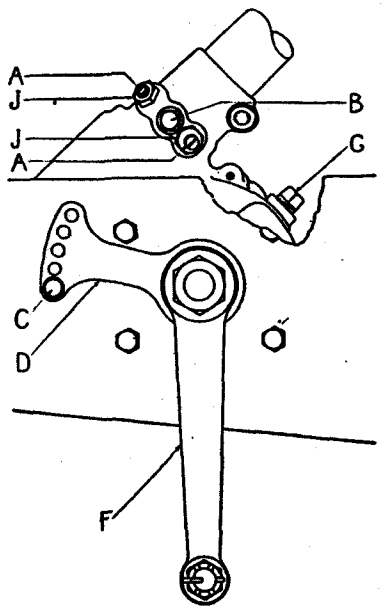


Fig. 58. Steering Gear Housing and Arm.

Lubrication

The internal mechanism of the steering gear may be lubricated at "R" and "G," Fig. 57, after taking out the screw plugs. The hole at "R" is tapped to fit the nozzle of the oil gun. Cadillac Rear Axle and Transmission Lubricant mixed with about two or three per cent of flake graphite is a good lubricant for this part.

WHEELS

Caution in Adjusting Timken Bearings

When adjusting Timken Bearings, great care must be exercised not to get them tight. These bearings will revolve even when adjusted very tightly, but that condition is sure to prove disastrous. They should be adjusted so that a very slight amount of play or looseness may be discerned.

If, after a bearing has been adjusted to a point that is apparently correct, the locking device cannot be placed in position without changing the adjustment, it is far better to *loosen* the adjustment until it can be secured with the locking device than to *tighten* the bearing adjustment.

Lubrication

Both the front and rear wheels should be removed every three or four thousand miles or at least every six months, the bearings examined and carefully lubricated with light grease. Cadillac Wheel Bearing Grease is recommended for this purpose. A few drops of lubricating oil should be put in occasionally through the oil holes in the rear wheels.

FRONT WHEELS

Removing Front Wheel

Jack up the axle until the wheel is free from the ground.

Remove the hub cap by unscrewing it.

Remove the lock nut "I," Fig. 59.

Remove the washer "K."

Remove the adjusting nut "L."

The wheel may now be removed.

In removing the right front wheel remove the speedometer driver "A," Fig. 65, after removing the hub cap.

Before replacing the wheel see that the bearings are clean and that they are filled with light grease. Be sure that the grease is free from dirt and grit.

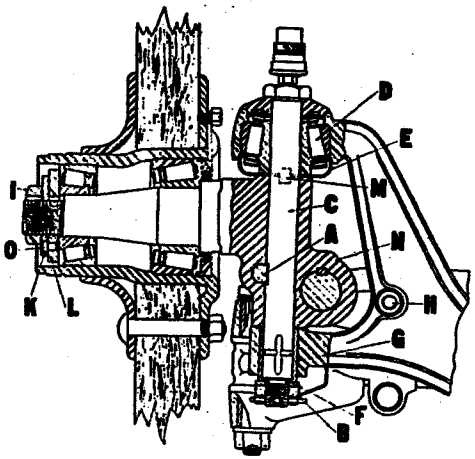


Fig. 59. Front Left Spindle and Hub, Showing Bearings.

Replacing Front Wheel and Adjusting Bearings

In replacing the wheel adjust the nut "L" very carefully. (See under "Caution in Adjusting Timken Bearings," page 87.) Replace washer "K" being sure that one of the holes in the washer fits over the stud "O." Replace the lock nut "I" and tighten carefully.

The thread on the right hand spindle is a right hand thread; the thread on the left hand spindle is a left hand thread. Therefore, in tightening the adjusting and lock nuts, "I" and "L," they should be turned in the same direction in which the wheels turn when the car moves forward.

It is better to adjust Timken bearings a little too loose than tight. If, after the adjustment is apparently correct a hole in the washer "K" is not directly over the stud "O" it is best to loosen the adjustment rather than to tighten it.

Alignment of Front Wheels

The ideal condition is to have the front wheels parallel to each other on horizontal lines passing diametrically through their centers. Under no condition should the wheels toe out. It is permissible to have them toe in, providing they do not toe in more than ⅛ of an inch in the diameter of the wheel. (See "Result of Improperly Aligned Front Wheels," page 24.)

Jack up the front axle until both wheels are clear of the floor and true up the demountable rims. (See under "Mounting Rim With Tire," page 28.)

Move the steering wheel to bring the left front wheel "A," Fig. 60, parallel with the frame "B." This may be determined by taking measurements "C" from the rim of the wheel to the frame.

Tie a string to a rear spoke of each front wheel directly back of the center of the wheel. Carry the strings inward between the spokes, back around the tires and then forward to points "D" as shown. Use strings that will extend exactly twelve feet in front of the tires. Bring the strings in until they *just touch* the forward edges of the tires at "E." The strings must be slightly above or below the hubs so as to clear them.

If the wheels are parallel, the distances "F" and "G" between the strings will be the same at points just ahead of the tires and at points at the ends of the strings.

Under no condition should the wheels toe in more than enough to allow the twelve foot strings to converge more than 1½ inches, that is, so that dimension "G" is not more than 1½ inches less than dimension "F."

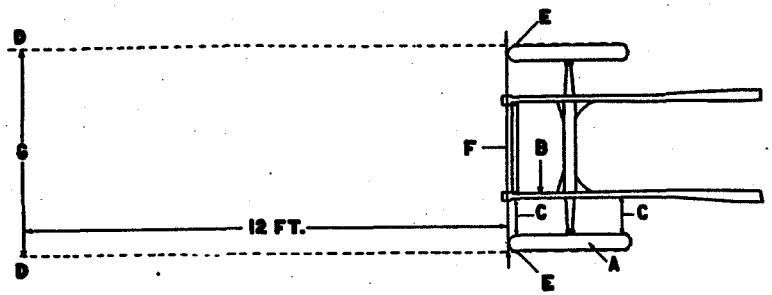


Fig. 60. Diagram Showing Method of Aligning Front Wheels.

Adjustment is provided in the parallel rod for aligning the front wheels. If adjustment is necessary and the left front wheel is disturbed, care should be taken to have this wheel parallel with the frame before readjusting the strings and taking measurements "F" and "G."

The front wheels camber about 1½ inches, that is, the measurement between the wheels at the top should be approximately 1½ inches greater than the corresponding measurement diametrically opposite at the bottom of the wheels.

REAR WHEELS

Removing Rear Wheel

Remove the lubricator "A," Fig. 61.

Remove the hub cap "B" by unscrewing it.

Remove the spring locking ring "K."

Withdraw the axle shaft "C."

Jack up the axle so that the wheel will clear the floor.

Remove the lock nut "D," the washer "E" and the adjusting nut "F."

The wheel can then be taken off.

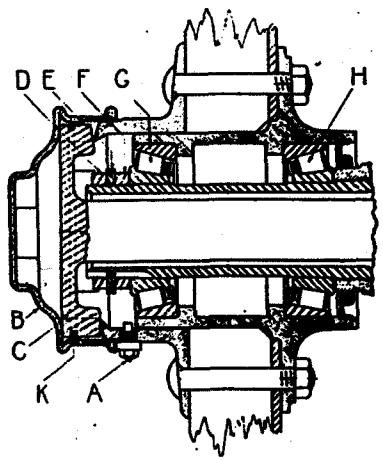


Fig. 61. Sectional View of Rear Hub, Showing Bearings.

Replacing Rear Wheel and Adjusting Bearings

Before putting the wheel on again see that the bearings "G" and "H" are clean and filled with light grease which is free from dirt and grit.

In putting the wheel on again set the adjusting nut "F" very carefully. (See under "Caution in Adjusting Timken Bearings.") Place the washer "E" in position, and tighten the lock nut "D."

BRAKES

General Construction

There are two pairs of brakes. The regular service brakes, which are operated by the right pedal, contract upon the outside of the drums. The hand brakes, operated by a hand lever, expand within the drums.

Connections from the right pedal and hand lever are made through equalizing bars so that each drum will be gripped with practically the same pressure. While these equalizing bars compensate for a certain amount of inequality in the tension, it is desirable to adjust the brakes as nearly alike as possible.

The brake band linings can be renewed when necessary.

If the brake band linings become too dry and grip the drums too suddenly, apply a very small amount of a mixture of graphite and oil.

When the brake band linings are wet and muddy they are less effective than at other times. Hence more care must be exercised in driving at such times.

The brakes and all parts relating thereto should be examined and tested occasionally to be sure that they are in serviceable condition.

The joints and all working parts should be oiled occasionally to avoid any possibility of the parts rusting and sticking together. The internal brake joints are accessible after removing the small covers "F," Fig. 62, from the brake drums. Care should be taken not to apply too much oil to the internal brake joints, as it may get on the brake band linings and impair the efficiency of the brakes.

If the brakes are in good condition, either pair will offer sufficient resistance to lock and slide the wheels, but doing this is bad practice excepting in case of emergency, as it is very injurious to the tires.

The brake band linings should not be allowed to drag on the drums when released, as that will cause unnecessary wear.

The length of the brake pedal is adjustable to accommodate different drivers. To adjust it, see "Adjustment of Length of Clutch Pedal," page 85.

It is necessary that the rear wheel bearings be in proper adjustment before an adjustment of the brakes is made.

Do not attempt to adjust the brakes by the pull rods, as that will not properly compensate for wear on the linings.

FOOT BRAKES

(External Contracting)

Ordinary Adjustment

Provision is made in each brake for its adjustment. Do not attempt to adjust the brakes by the pull rods. The brakes cannot be properly adjusted in this manner. To adjust each foot brake, proceed as follows:

Remove the cotter pin in the adjusting screw "A," Fig. 62, and turn the screw "A" until that part of the brake band lining opposite the screw just clears the drum. Adjust the two nuts "B" on the yoke bolt so that the lower part of the brake band lining just clears the drum.

Then adjust the nut "C" on the upper end of the yoke bolt so that the lever "D" is brought into the position shown in Fig. 62 when the brake is fully applied—i. e., so that the lower edge of the pin "T" and the upper edge of the pin "S" are tangent to an imaginary horizontal line shown at "X."

Adjustment of Stop Screws

The position of the stop screw "E," Fig. 63, is adjusted when the car is assembled and requires no further attention unless its adjustment is altered. Adjustment for wear on the lining should be made as described above by the nuts "A," "B" and "C," Fig. 62; the stop screw "E" should not be adjusted to compensate for wear. If the stop screw "E" should be moved from its original position, it may be readjusted in the following manner:

First adjust the brake as explained above so that the lever "D," Fig. 62, is in the correct position when fully applied. Then release the brake. Remove the pin "A" in the yoke "B," Fig. 63, loosen the clamping screw "C" and push the stop "G" forward out of the way. Then adjust the stop screw "E" and the nuts "B," Fig. 62, so that the upper and lower parts of the brake band lining clear the drum by 1/32 of an inch.

Then pull the rod "H," Fig. 63, as far forward as it will go without moving the rods "K" and "L." Holding the rod "H" in this position, push the stop "G" down against the bracket "F" and tighten the clamping screw "C." Then adjust the yoke "B" so that when the pin "A" is replaced the brake pedal arm "U" is held 3/8 of an inch away from the under side of the toe board.

After the adjustments are completed, be sure to lock all adjusting screws and nuts and to insert and spread all cotter pins.

HAND BRAKES

(Internal Expanding)

Ordinary Adjustment

Provision is made in each brake for its adjustment. Do not attempt to adjust the brakes by the pull rods. The brakes cannot be properly adjusted in this manner. To adjust each hand brake proceed as follows:

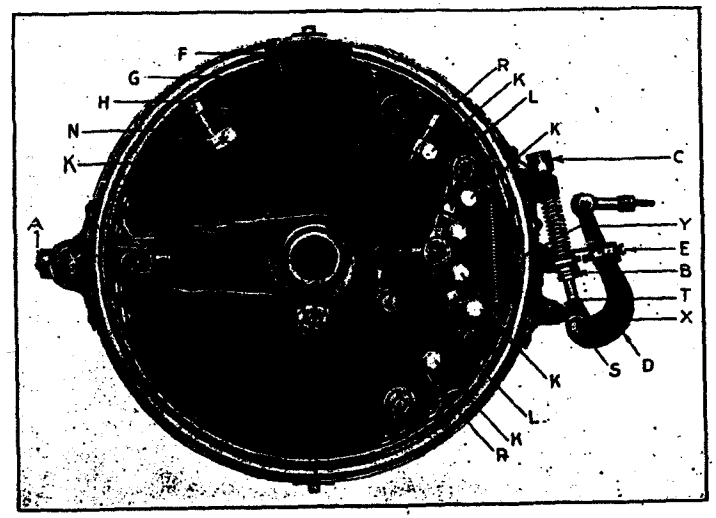


Fig. 62. Internal and External Brakes.

Place a jack under the rear axle housing and raise the axle so that the wheel can be turned by hand. Remove the cover "F," Fig. 62; this may be done by loosening the lock nut "G" and turning the bolt to the left about one-quarter of a turn, which releases the clamping bar "H."

Rotate the wheel until the opening gives access to the screw "J." Turn the screw "J" until that part of the brake band lining opposite the screw just clears the drum.

Rotate the wheel and through the opening loosen the seven locking screws "K." Then turn the two adjusting screws "L," which have right-hand threads on one end and left-hand threads on the other, so that when the brake is fully applied the center of the pin "M" stands 3 3/16 inches to 3¼ inches away from the inside of the brake drum at "Y." The screws "L" should be turned equally and in the same direction.

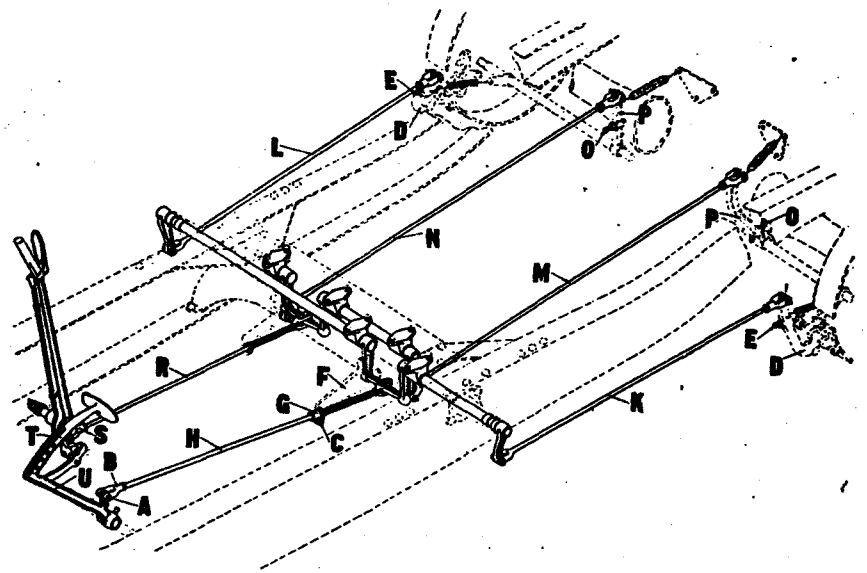


Fig. 63. Brake Rods.

Release the brakes and adjust the stop screws "R" so that the upper and lower parts of the brake band lining are equidistant from the brake drum. Adjust the stop screw "N" so that the head of the screw just touches the inside of the brake band. Tighten the seven locking screws "K" and replace the cover "F."

Adjustment of Stop Screws

The stop screw "O," Fig. 63, is adjusted when the car is assembled, and requires no further attention unless its adjustment is altered. Adjustment for wear on the linings should be made as described above by the screws "J," "L" and "R," Fig. 62; the stop screw "O" should not be adjusted to compensate for wear. If the original adjustment of the stop screw "O" has been altered, it may be readjusted in the following manner:

First adjust the brake as described above by the screws "J" and "L," Fig. 62, but screw the stop screws "R" and "N" away from the brake band.

Then remove the pin "T" in the yoke "S," Fig. 63, and adjust the stop screw "O" so that when the brake is released the center of the pin "M," Fig. 62, stands 3 9/16 inches away from the inside of the brake drum.

Adjust the stop screws "R" so that the upper and lower parts of the brake band are equidistant from the brake drum. Adjust the stop screw "N" so that the head of the screw just touches the inside of the brake band. Tighten the seven locking screws "K" and replace the cover "F."

Then adjust the yoke "S," Fig. 63, so that when the pin "T" is replaced the upper end of the handle on the hand brake lever may be moved back one and one-quarter inches from its extreme forward position without moving the rods "M" and "N."

After the adjustments are completed, be sure to lock all adjusting screws and nuts and to insert and spread all cotter pins.

UNIVERSAL JOINTS ON DRIVE SHAFT

The tubular drive shaft that transmits the power of the engine from the transmission to the rear axle is fitted with a Spicer universal joint at each end.

The purpose of the joints is to provide a flexible drive which is made necessary by the constantly changing alignment due to the play of the springs.

The general arrangement of the joints is shown in Fig. 64. The joints differ only in that the forward joint "B," which is attached to the transmission shaft, is provided with a sliding connection or slip sleeve "C," while the rear joint is welded to the drive shaft. A sliding connection is necessary to take care of the endwise motion of the drive shaft due to variation in the distance between the transmission and the rear axle caused by the action of the springs.

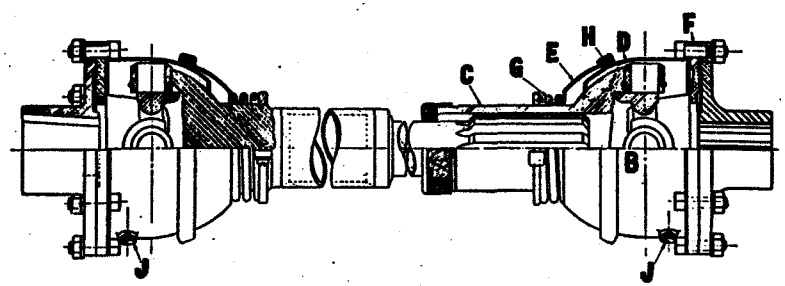


Fig. 64. Drive Shaft and Universal Joints.

The joints are protected by an inner housing "D" and an outer housing "E," both of pressed steel. The inner housing is bolted to the flange "F" and the outer housing fits over the end of the inner housing and is held in place and kept tight by means of a spring "G." The felt washer "H" is for the purpose of preventing grease from working out and dirt from getting in.

The joints are lubricated by grease contained in the housings. Filling holes "J" are provided. (See page 44 under "General Lubrication.")

As the construction of the joints is such that adjustments are unnecessary, no adjustments are provided.

If for any reason the drive shaft is dis-assembled, care should be taken in assembling it to have the "O" on the splined end of the shaft correspond with the "O" on the sleeve of the forward universal joint.

FRONT AXLE

Adjustment of Stop Screws

The stop screws "H," Fig. 59, at each end of the axle are for the purpose of limiting the angle at which the front wheels can be turned. The stop screw at the left end of the axle is for the purpose of limiting the angle at which the wheels can be turned to the right. The stop screw at the right end of the axle is for the purpose of limiting the angle at which the wheels can be turned to the left.

Removing and Replacing Spindle

The illustration shows the construction of the front wheel hubs and bearings; the spindle bolts and the upper and lower bearings for the spindles.

The spindle bolt "C" is forced into the spindle "N" and is held from rotating in the spindle by the taper pin "A."

To remove a spindle, first jack up the axle until the wheel is clear of the floor. Remove the wheel. (See under "Removing Front Wheel," page 88.) Then remove the adjusting nut "B," drive out the taper pin "A" and drive out the spindle bolt "C."

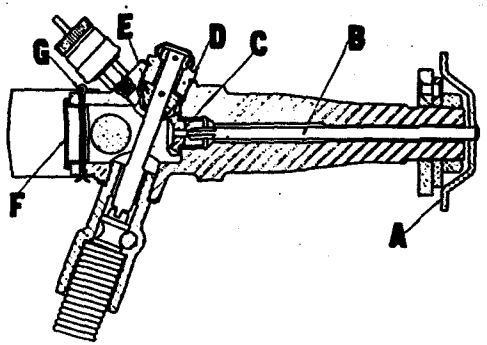


Fig. 65. Front Right Spindle and Speedometer Driving Gears.

To replace a spindle proceed as follows: Place the bearing "D," the retainer "E" and the key "M" in position in the axle yoke. Place the spindle in position and carefully drive in the spindle bolt "C," being careful that it is so turned that the flat place on it will be in the correct position to receive the taper pin "A" when driven in. Drive in the taper pin "A." Replace the adjusting nut "B" and adjust properly.

Adjustment of Spindle Bearing

The bushing "G" is pressed into the axle forging. If there is too much end play in the bearing "D" draw up on the adjusting nut "B," pulling the bushing "G" up against the under side of the spindle. Then back off the adjusting nut "B" just enough to free the adjustment. (See under "Caution in Adjusting Timken Bearings," page 87.)

Speedometer Drive Gears in Right Spindle

The flexible shaft to the speedometer is driven from the hub on the right-hand front wheel through the driver "A," Fig. 65, the shaft "B" and the gears "C" and "E."

To remove these parts from the spindle, proceed as follows:

Remove hub cap from the wheel.

Pull out driver "A."

Unscrew nut "D" and remove.

The gear "E" and the shaft to which it is attached will come out with the nut "D."

Remove the cotter pin "G."

Remove the cap "F."

The gear "C" may then be removed.

The parts may be assembled in the reverse order.

REAR AXLE

General Construction

The rear axle is of the full floating type. The wheels rotate on the axle housing. The axle shafts do not carry the weight of the car, but simply transmit the power from the differential to rotate the wheels.

Lubrication

The level of the lubricant in the differential housing should be kept up to the filling hole in the rear cover plate. When the level of the lubricant is up to the filling hole the housing contains approximately three quarts. The best lubricant for the rear axle is Cadillac Rear Axle and Transmission Lubricant. In its absence, we recommend a mixture of steam cylinder oil and a small amount of cup grease mixed to such a consistency that the mixture flows easily at temperatures from 60° to 70° Fahrenheit.

Adjustment of Gear and Pinion Bearings

In the design of the axle provision is made for adjusting the pinion and gear so that the teeth may be correctly meshed, and for locking all the adjusting nuts securely in position.

The large bevel gear "A," Fig. 66, on the gear mount "B," and the bevel pinion "C" on the driving shaft "D," are correctly meshed when the car is assembled, but after it has been in use for several thousand miles it may be found that the bearings "E" and "F," which take the end thrust of the gears, have become more permanently seated, causing end play in the pinion shaft "D" and side play in the gear mount "B." When this condition exists, bearings "E" and "F" should be readjusted.

If undue end play exists in the pinion shaft "D," the bearing "E" should be adjusted as follows:

Remove the two long clamping bolts on the pinion barrel and remove the cover plate giving access to the adjusting nuts "I" and "K." Hold the adjusting nut "I" from turning and turn up the adjusting nut "K" as far as possible without making the bearing "E" too tight. (See under "Caution in Adjusting Timken Bearings," page 87.) After the adjustment has been made replace the cover plate over the opening and tighten the clamping bolts.

If, after removing the rear cover plate "L," undue side play is found in the gear mount "B," the bearing "F" should be adjusted as follows:

Move the key "M" entirely out of the slots in the adjusting nut "N," loosen the cap screws holding the cap "O" and turn the adjusting nut "N" as far as possible without making the bearings too tight. (See under "Caution in Adjusting Timken Bearings," page 87.) After the adjustment has been made, make sure that the key "M" is replaced in one of the slots in adjusting nut "N" and that the cap screws holding the cap "O" are tightened and locked.

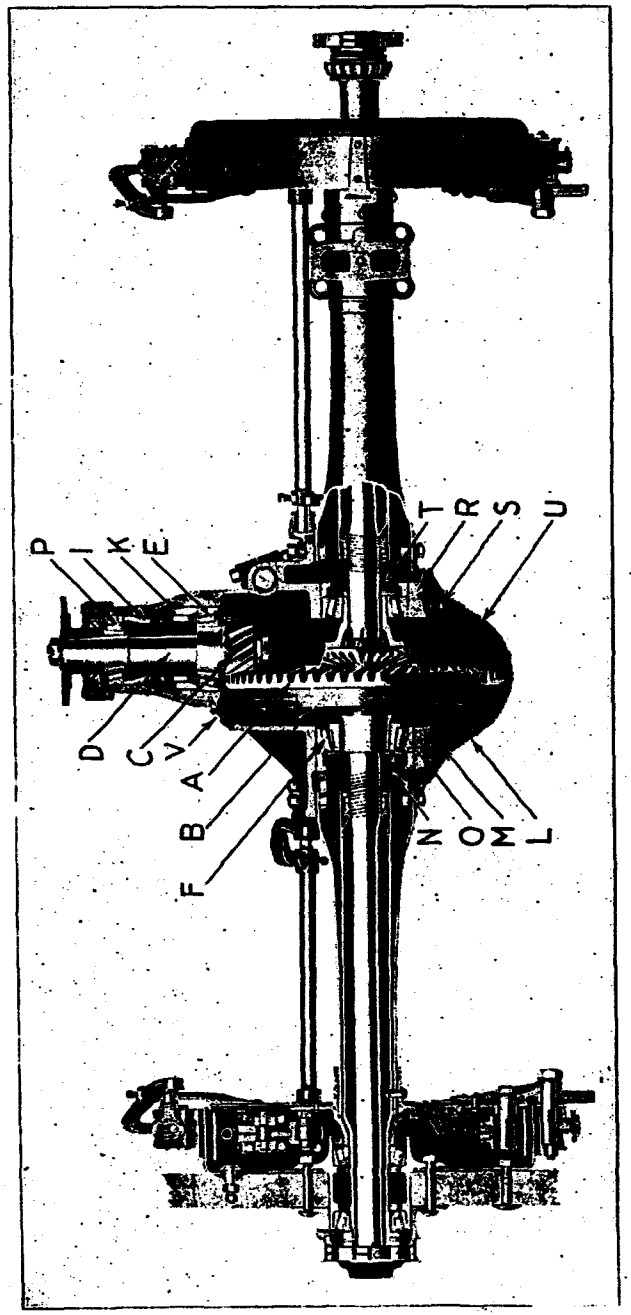


Fig. 66. Rear Axle, Sectional View.

Adjustment of Gears for Proper Meshing

If, after adjusting the bearings "E" and "F," Fig. 66, it is found necessary to move the pinion "C" endwise or the bevel gear "A" sidewise in order to bring the gears into proper mesh, it must first be determined whether it is necessary to move the pinion, the large bevel gear, or both, and in which direction the gear or gears must be moved.

Bevel gears should be so adjusted that the large ends of the teeth of one gear are practically flush with the large ends of the teeth of the other gear, which can be determined by removing the peep-hole cover "V." Extreme care must be used in adjusting, as the tooth forms of the most accurately cut gears may be easily ruined by running them when not properly meshed.

In order to adjust the gears to the best advantage a crank should be attached to the forward end of the pinion shaft "D" so that the gears can be turned by hand and the adjustment tried until positions are found for the gears where they run smoothly and do not bind at any point.

If the bearings "E" and "P" on the drive shaft "D" are in proper adjustment, and if it is found necessary to move the pinion "C" endwise, proceed as follows:

Remove the clamping bolts on the axle housing and the cover plate covering the adjustment hole. Move the adjusting nuts "I" and "K" *together*, moving the pinion in either direction as required. If the adjusting nuts "I" and "K" are moved in the same direction and exactly together, the relative adjustment of the bearings "P" and "E" will not be altered.

When the proper position for the pinion has been found, replace the cover plate over the opening and tighten the clamping bolts.

If it is found necessary to move the large bevel gear sidewise, proceed as follows:

First loosen the bolts holding caps "O" and "R." Then move the keys "M" and "S" out of the slots in the adjusting nuts "N" and "T." The adjusting nuts "N" and "T" can now be turned, moving the gear mount with the gear in either direction as required. Be careful not to adjust the bearings too tight. (See under "Caution in Adjusting Timken Bearings," page 87.)

After the correct position for the large driving gear has been found be sure that the keys "M" and "S" are replaced in the slots in the adjusting nuts "N" and "T" and that the bolts holding the caps "O" and "R" are tightened and locked.

Replace the cover "L," and fill with Cadillac Rear Axle and Transmission Lubricant, bringing the level up to the top of the filling hole "U."

STRAIGHTENING BENT PARTS

Modern automobile construction demands the use of the highest grades of alloy steels. A great advantage of alloy steels is that by properly heating and cooling and re-heating such steels great strength and durability are obtained. However, heat treatment must be given with full and accurate knowledge of the contents of the steel, which cannot be obtained in the ordinary repair shop. Therefore, if any part is heated outside of this factory for the purpose of straightening or for other purposes, the part at once loses the advantage which the original heat treatment gave it.

SPRINGS

Spring Clips

As a matter of life insurance for the springs, it is well to tighten all clip nuts at the end of the first 1,000 miles of travel and at the end of every 2,000 miles of travel thereafter.

Lubrication of Spring Leaves

When springs are not lubricated water works its way in between the leaves and causes them to rust, often to such an extent that they become almost like solid pieces. This causes them to lose much of their spring action.

It is recommended that the springs be lubricated once every 500 to 1,000 miles by painting the edges and ends of the spring leaves with cylinder oil. A small, stiff brush should be used. After applying the oil to the springs the car should not be washed until it has been driven some distance to allow the lubricant to work in between the leaves.

It is also a good plan about once a year to have all the springs taken apart, the surfaces thoroughly cleaned and coated with a thick mixture of oil and graphite.

Adjustment of Snubbers

The snubbers should be readjusted after the first 500 to 800 miles of travel. Further adjustment should not soon be necessary.

When the snubbers are adjusted there should be no passengers in the car, the radiator and gasoline tank should be full, the top up and there should be two spare tires in the tire holder. If no spare tires are carried it is best to have a light weight person sit in the middle of the rear seat during the adjustment.

To adjust the snubbers, pull the belt out of the housing as far as possible. Then allow two inches of the belt to return into the housing and insert a wedge between the belt and the housing to prevent more of the belt from being drawn in.

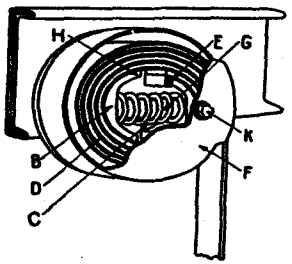


Fig. 67. Gabriel Snubber.

Remove the clamp on the belt at the axle and adjust the length of the belt so that all slack is taken out between the snubber housing and the axle. Replace the clamp, cut off the surplus belt and remove the wedge.

Lubrication of Snubbers

Every 5,000 miles it is recommended that the snubbers be disassembled and lubricated with graphite grease in accordance with the following instructions:

Disconnect the snubber belt from the axle. Unscrew the cap screws which fasten the snubber base to the side bar of the frame and remove the snubber.

Clamp the base casting in a vise. Unscrew the cap screw "K," Fig. 67, on the snubber cover or housing "F" and remove the housing. Unwind the coils of the belt "D" and remove the sleeve casting "B" and the spring "C." Thoroughly lubricate the plunger "G," which slides in the sleeve "B." Lubricate the face of the casting "B" where it slides on the base casting. Replace the sleeve "B," making sure that the long arm "H" is opposite the end of the snubber belt where it is riveted at "E." Pack the coil spring "C" well with the grease.

Do not lubricate any surfaces which contact with the snubber belt except to place a small amount of grease on the rivets at "E" where the belt is fastened to the base casting.

Coil the belt "D" four and a quarter times around the base casting "A" and the sleeve "B" and work the coils a few times to make sure the coil spring compresses properly. Replace the cover "F" and the screw "K."

Bolt the snubber to the side bar and adjust it in accordance with the instructions given under "Adjustment of Snubbers."

CADILLAC MOTOR CAR COMPANY
1918-19 Instruction books
Type 57, 6th ed.

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MANUAL

of

CARE AND OPERATION

FOR OPERATOR'S USE

TYPE 57

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Price, 25 Cents

Cadillac Motor Car Co.

Detroit, Michigan, U. S. A.

SIXTH EDITION

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Detroit, Mich.

LICENSE DATA

The following information may be found useful in making license application:

No. of cylinders	8	Piston displacement	314 cu. in.
Cylinder bore	3 1/8 in.	Stroke	5 1/8 in.

Horsepower (N. A. C. C. rating) 31.25

Engine number:

The engine number is stamped on the crank case just back of the right-hand block of cylinders, on the aluminum casting directly back of the fan and on the name plate which is attached to the forward face of the dash.

The engine number of each Type 57 car begins with the figures "57."

Wheelbase:

Seven-Passenger, Phaeton, Roadster, Victoria, and Sedan (Brougham) .. 125 in.

Limousine, Imperial, Landaulet, Town Limousine, Town Landaulet and Suburban ..... 132 in.

Long chassis ..... 145 in.

Tread (All Type 57 Cars) ..... 56 in.

STARTING THE ENGINE

1. First make certain that the transmission control lever is in the neutral position and that the hand brake is applied (see Figure 1.)

2. If the gasoline pressure gauge on the instrument board indicates a pressure of less than one pound, increase the pressure by means of the hand air pump. The handle of the pump is screwed into place. Loosen it by unscrewing it a few turns in the counter-clockwise direction. After the pressure has been brought up to at least one pound, lock the plunger in place by holding it in and turning it in the clockwise direction.

3. Place the spark lever in the "Driving Range" of the sector, except in cold winter weather, when it should be at the extreme right of the sector. If the engine should be cranked by hand, always place the spark lever at the extreme left of the sector. If this caution is not observed, a back kick will occur, resulting in personal injury.

4. In extremely cold winter weather, prime the carburetor by placing the throttle lever at the extreme left of the sector, then pushing the accelerator button down to the floor and permitting it to return. Twice repeat this operation. Do not prime the carburetor except in extremely cold winter weather.

5. Place the throttle lever approximately two inches from the extreme left of the sector.

6. In cold weather, or in warm weather if the engine has been standing for some time, pull back the auxiliary air-valve lever.

7. Switch on ignition by moving the ignition switch lever down.

8. Push down on the starter button. This will bring the starter into operation and will cause the engine to "turn over." (See under "Caution.") In extremely cold weather, when the car has been standing long enough to have become thoroughly chilled, it is a good plan to release the clutch before pressing down on the starter button, and to hold the clutch down during the cranking operation.

9. Immediately the engine commences to run under its own power, which should be in a few seconds, permit the starter button to return to the normal position. If the auxiliary air valve lever was pulled back before starting the engine, push it as far forward as possible without causing the engine to stop, or a material reduction in engine speed, as soon as the engine commences to run under its own power, and as far forward as it goes as soon as the engine is warm enough to permit it. *It is important that the lever be left back no longer than is absolutely necessary.*

If the engine does not start within thirty seconds, do not continue to operate the starter, but permit the starter pedal to return to the normal position and determine the cause for the failure of the engine to start readily. Be certain that the ignition is turned on, that there is gasoline in the tank, and sufficient pressure to force it to the carburetor. Bear in mind that the starter will crank the engine only, that ignition and gasoline must be present before it will run.

Caution

Caution:—The action which causes the engine to "turn over" is produced by a gear of the electric motor sliding into mesh with the teeth of the fly wheel. When pushing down on the starter button to throw these gears into mesh, if it should so happen that they are in just such positions that the ends of the teeth of the starter gear come against the ends of the teeth of the fly wheel, instead of the teeth of one sliding between the teeth of the other, do not force them. Simply permit the starter button to return to the normal position and then push it down again. In the meantime, the gears will probably have changed their relative positions sufficiently to allow the teeth to mesh.

Oil Pressure

Lubricating oil is fed under pressure to the main and connecting rod bearings of the engine (see under "Engine Lubrication," page 28). The pressure of the oil is indicated by the oil pressure gauge on the instrument board. (See Fig. 1.)

When the engine is not running, the hand of the oil pressure gauge should remain at zero, but immediately the engine starts and while the engine is in operation, pressure should be indicated. The pressure indicated depends upon the speed of the engine and the viscosity of the lubricating oil.

If at any time while the engine is in operation, the hand of the oil pressure gauge remains at zero, stop the engine at once and determine the cause. Serious engine trouble is the result of continuing to run the engine without oil pressure.

GEAR SHIFTING

The transmission is of the selective type. The operator may shift from any gear to any other gear without shifting through a third gear.

Caution:—Do not attempt to shift from neutral to any gear, or from one gear to any other gear without first disengaging the main engine clutch by pushing down on the clutch pedal (see Figure 1.)

Referring to Fig. 2, the ball at the top of the transmission control or gear shifting lever is shown at "N" in the neutral position, "L" in the low gear position, at "I" in the intermediate gear position, at "H" in the high gear position, and at "R" in the reverse gear position.

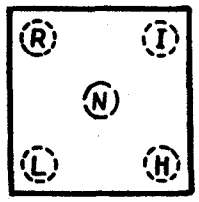

Fig. 2. Control Lever Positions.

Starting the Car

To start the car, after starting the engine, push forward on the left pedal, which is the clutch pedal, thereby releasing the main engine clutch. Then disengage the hand brake by means of the hand lever—still holding forward on the clutch pedal. (If the car is standing on a grade it will be necessary to hold it with the foot brake until ready to start.) Next shift into low gear.

To do so, move the control lever as far as possible to the left and then pull it back as far as it will go (Fig. 3.) Open the throttle slightly by means of the accelerator pedal or throttle lever and engage the main clutch gradually, by allowing the pedal to come towards you.

If it should so happen that the gears which mesh to make low gear are in just such positions that the ends of the teeth of one gear come against the ends of the teeth of the other gear instead of the teeth of one sliding between the teeth of the other, do not force them but place the transmission control lever back in the neutral position, engage the clutch by allowing the clutch pedal to come towards you, again release the clutch and shift into low gear as above directed.

THE USER'S RESPONSIBILITY

The information, advice and instruction contained in this Manual are furnished because the user of a motor car needs them. But if the user fails to heed the advice given, the loss is not wholly his but partly ours as well.

A Cadillac car in the hands of an operator who will give it the reasonable consideration to which it is entitled, and which every car requires, will run as smoothly and as quietly as is possible for any motor car to run. No car will give more satisfaction nor will any car stand more abuse. But no car can be expected to stand continued abuse without showing the results of it sooner or later.

We want Cadillac cars to render unfailing service and satisfaction. They are built for that purpose but the user must do his part after the car comes into his possession. We furnish a car that is capable of rendering the best of service and we furnish the directions which will guide the user toward obtaining that service. But if he persists in ignoring these directions and in substituting his own ideas there is no one but himself upon whom he can rightfully place the responsibility for any difficulties which may result.

DRIVING AND CARING FOR A MOTOR CAR

Driving an automobile does not mean simply starting, steering and stopping. To drive an automobile properly requires an understanding of the principles involved and the exercise of intelligence and judgment.

We believe that we are safe in saying that, with well designed and correctly built automobiles, 95 per cent of so-called "troubles" are directly traceable to lack of lubrication, abuse, carelessness, and a lack of an understanding of the principles involved.

To begin with, the driver should study the construction of his car and thoroughly acquaint himself with its mechanism, the functions of its various parts and the "why" of everything connected with it. If he understands these he is better able to realize why certain things must be done and why certain other things must not be done, if he is to obtain the most satisfactory results, the greatest efficiency and the greatest economy, together with durability and long life of the engine and car. Remember that the difference between a comprehensive understanding of your automobile and the superficial knowledge possessed by drivers is the difference between having "troubles" and not having them.

Intelligent care and proper attention will often correct a needed adjustment or lubricate a part that is becoming dry, but which, if neglected, may cause serious and possibly expensive damage.

On the other hand is frequently found the user who is constantly tinkering with his car when there is no necessity for it. Avoid both extremes. If, after seeing that all parts are properly lubricated and that all bolts, nuts and screws are tight, your car is running well, let it alone. Many users drive their Cadillacs for months without finding an adjustment necessary. If adjustment seems necessary and you are not sufficiently acquainted with the construction of the car to know what adjustment is necessary or how to make it, *don't experiment* but take the car to a Cadillac service station.

The most important thing in the care of an automobile is its proper lubrication. Part Two of this Manual gives detailed directions regarding lubricating. Be sure to read and observe them carefully.

PLACING A NEW CAR IN RUNNING CONDITION

Before cars are shipped from the factory the gasoline and cooling systems are drained. When the car is received and before it is placed in use, the supply of gasoline and water must be replenished. During freezing weather an anti-freezing solution should be used instead of water. (See under "Anti-Freezing Solution," page 22.)

The car should be lubricated thoroughly in accordance with directions contained in this Manual. (See under "Lubrication," page 25.)

Refilling the Cooling System

Fill the cooling system with water during warm weather and with a suitable anti-freezing solution during freezing weather. (See under "Anti-Freezing Solution," page 22.) To fill the cooling system, proceed as follows:

Replace the water pump drain plugs "H" (Figure 35), and close the cylinder drain cocks "K."

The points of the triangular-shaped indicators on the ends of the shafts "L" should point up. If they do not, turn the shafts to bring the points up. The shafts may be turned in either direction.

There is a drain cock "K" in each cylinder block, and a drain plug "H," and a shaft "L" in each water pump.

Remove the radiator filler cap "W" and fill the cooling system. Screw down the radiator filler cap firmly in replacing it. This is important. Turn the water pump shafts "L" so that the points of the triangular indicators point down.

To fill the radiator condenser (see under "Condenser," page 48), take out the removable floor board just forward of the transmission control lever (see Figure 1) and replace the drain plug "R." (Figure 35.) Remove the condenser filler cap "V" and fill the condenser one-half full, using the same liquid as in the radiator. Replace the filler cap, making sure that the vent hole in the side of the cap is open.

Note—On the Victoria, the condenser filler is accessible through an opening in the floor just forward of the auxiliary seat. This opening is provided with a sliding cover and is concealed by the carpet and by the seat when folded down.

Caution:—Do not use water in the cooling system during freezing weather. Use a good anti-freezing solution. Water will freeze even though the engine be run continuously.

Filling the Gasoline Tank

The gasoline tank is at the rear of the car. (See Figure 34.) The filler cap can be removed after loosening the thumb screw on the top of the cap.

Gasoline should be strained through a wire cloth of very fine mesh before it is poured into the tank. If dirt or water is allowed to enter the gasoline system it may cause great annoyance.

After filling the tank, screw on the filler cap and tighten the thumb screw. This is necessary to prevent leakage of the air pressure by which gasoline is forced to the carburetor.

Operation of a New Car

It is recommended that the operator of a new car refrain from driving it at its maximum capacity and speed until the car has been driven at least five hundred miles.

Although the parts of a Cadillac car are machined and ground with the greatest possible accuracy and fineness of finish, manufacturing processes cannot give to bearing surfaces the fine polish which results from actual operation at moderate speed and under light loads.

For this reason, it is advised that a car be driven no faster than twenty miles per hour for the first two hundred and fifty miles, and no faster than twenty-five miles per hour for the second two hundred and fifty miles.

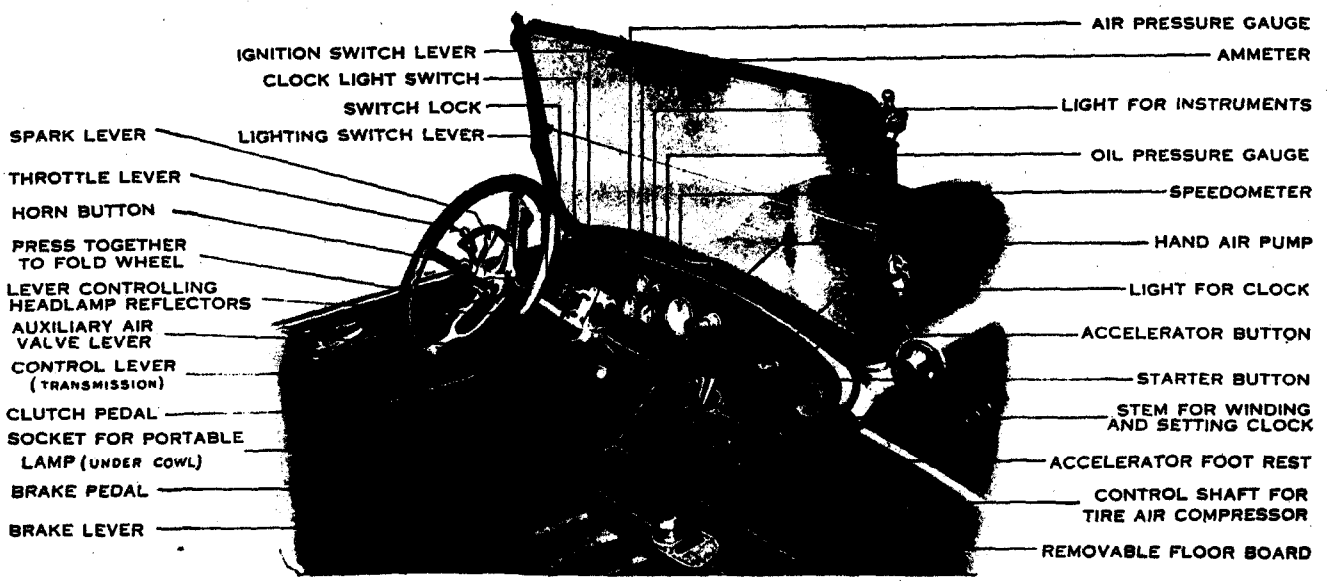

Fig. 1. Instruments, Control Levers and Pedals on Standard Seven Passenger Car.

Part I

OPERATION

After the car is under way on low gear, release the clutch and shift into intermediate gear. To do this move the control lever back to the neutral position, then to the right and push it forward as far as it will go (Fig. 4.) Then engage the clutch. In shifting from low to intermediate gear, it is advisable to pause for a moment in the neutral position if there is a tendency of the gears to clash.

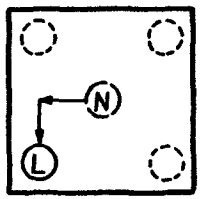

Fig. 3.
Neutral to Low Gear.

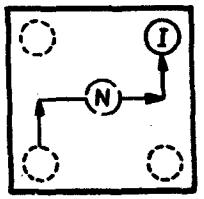

Fig. 4.
Low Gear to Intermediate Gear.

After the car is under way on the intermediate gear, shift into high gear. To do this, simply release the clutch and then pull the control lever straight back (Fig. 5.) Then engage the clutch.

With the Cadillac eight-cylinder engine it is possible when starting the car on level ground to shift from low gear to intermediate gear and from intermediate to high gear at very low speeds, and shifting can be done more quietly than at high speeds. In starting on an incline a higher rate of speed should be attained before shifting gears.

Reversing

To start the car backwards, release the clutch, move the control lever to the left and push it forward as far as it will go. Open the throttle slightly by means of the accelerator pedal or throttle lever and engage the main clutch gradually.

If it should so happen that the transmission gears which mesh to make reverse are in just such positions that the ends of the teeth of one gear come against the ends of the teeth of the other gear, do not force them, but place the transmission control lever back in the neutral position, engage the clutch, again release the clutch and shift into reverse gear as directed.

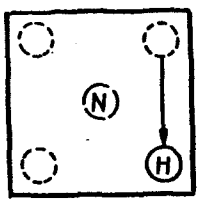

Fig. 5.
Intermediate Gear to High Gear.

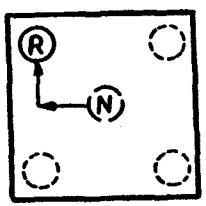

Fig. 6.
Neutral to Reverse Gear.

Shifting into Lower Gear

If, when ascending steep grades or pulling through soft mud roads or deep sand in high gear, the speed of the car is reduced until the engine labors, shift into intermediate gear. To do this, release the clutch, then push the control lever forward as far as it will go. Then engage the clutch. It is best to allow the car to slow down before making the shift and then, after releasing the clutch, to shift quickly. An experienced driver may find it more satisfactory to shift from high into intermediate gear in the following manner:

Release the clutch, place the control lever in the neutral position, engage the clutch, at the same time slightly accelerating the engine; then release the clutch again, and *instantly* shift into intermediate gear. Engage the clutch.

This entire change may be made in less time than it takes to read these directions by one who becomes familiar with this method. Shifting in this manner may be accomplished satisfactorily at higher speeds than is possible when shifting in the usual manner. It is not recommended, however, that the operator attempt to shift from high to intermediate gear in this manner until he has had considerable experience in shifting in the ordinary way.

Stopping the Car

First close the throttle and then release the engine clutch. Next shift the transmission control lever into the neutral position. The clutch may then be re-engaged. Stop the car by pushing forward on the brake pedal. After the car has been brought to a stop, apply the hand brake by means of the hand brake lever.

STOPPING THE ENGINE

After stopping the car and applying the hand brake, move the ignition switch lever to the horizontal position and at the same time pull back the auxiliary air valve lever. Pulling back the auxiliary air valve lever when stopping the engine "enriches" the mixture drawn into the cylinders and makes it easier to start the engine the next time.

TILTING HEAD LAMP REFLECTORS

The reflectors in the head lamps are pivoted so that they can be tilted and are controlled by a lever on the left-hand side of the steering column (see Fig. 1.) When the road is clear and illumination of the distant road is desired, the reflectors direct the rays straight ahead. When a vehicle traveling in the opposite direction approaches, the rays from the headlight can be deflected below the level of the occupants of the approaching car and the illumination directly in front of the car increased by simply raising the lever on the steering column and thereby tilting down the reflectors.

In a few states the law specifies that at no time shall there be any glaring rays from headlights higher than 42 inches above the road at a point 75 feet ahead of the car. When the reflectors are in the tilted position, Cadillac head lamps conform to this requirement.

DRIVING SUGGESTIONS

Rules of the Road

Road and traffic laws vary greatly in different localities. It is, therefore, impossible to set down a complete list of rules which may be followed in all parts of the country. The following are some of the rules which are practically universal in all parts of the United States.

In meeting a vehicle going in the opposite direction *pass to the right.*

In passing a vehicle going in the same direction *pass to the left.*

Always stop with the right hand side of the car next to the curb. If it is necessary to turn around to do this it should be done.

Never turn around or turn off onto another road without making absolutely sure that there is no other vehicle directly behind you.

Never enter upon street car tracks without making sure that there is no car directly behind you—*no matter how sure you feel, look and see.*

Do not cross street car or steam railroad tracks without making certain that it is absolutely safe to do so.

In crowded traffic do not apply the brakes suddenly unless it is absolutely neccessary. It may be that the vehicle following you cannot stop as quickly as you can.

On wet asphalt streets or slippery roads do not apply the brakes suddenly unless it is absolutely necessary. If the brakes are applied suddenly under these conditions disastrous skidding is apt to occur.

In crowded traffic it is a good plan to signal cars at the rear, before turning, slowing down or stopping.

It is a good plan to slow down in passing vehicles going in the opposite direction.

One of the most essential things to remember is that you should *never "take a chance."*

Coasting

To coast on the level, close the throttle and then release the main engine clutch by pushing forward on the left pedal.

When descending grades a good method is to close the throttle and, with the clutch engaged, allow the engine to do the holding back as much as possible. This saves much wear on the brake band linings, as the resistance offered by causing the car to drive the engine when "high gear" or "direct drive" is engaged is usually sufficient to control the speed. When the engine does not offer sufficient resistance the speed may be further checked by applying the foot brake.

When it is necessary to descend a very steep grade it is best to engage the intermediate or possibly the low speed gear *before commencing the descent,* and if the resistance thus obtained is not sufficient, supplement it by the foot brake. Bear in mind that the more the resistance of the engine is used in coasting the longer the brake band linings will last and the longer the brakes will retain their adjustment.

The principle of this method will be understood when it is realized that the same combination of gearing which changes the ratio between the engine and the rear axle, which makes it easier for the engine to drive the car, will, when the car is compelled to drive the engine, have exactly the opposite effect.

DON'TS FOR GENERAL OPERATION

Don't fail to change the engine oil frequently.

Don't fill the lubricating system in the engine only and neglect to lubricate all other parts of the car.

Don't neglect the lubrication of any part of the car.

Don't fail to push the auxiliary air valve lever forward as soon after starting as possible.

Don't run the car at sustained high speed when it is new.

Don't put oil in the engine without first straining it through cheese cloth or fine wire mesh and making sure that it is free from dirt and lint.

Don't allow the clutch to engage suddenly.

Don't prime the carburetor too much.

Don't attempt to shift from neutral to any gear, or from one gear to another gear without first releasing the clutch.

Don't attempt to shift from the reverse gear to any other gear when the car is moving.

Don't attempt to shift from any forward gear to the reverse gear when the car is moving.

Don't attempt to shift from the high gear to the low gear when the car is moving.

Don't attempt to shift from the intermediate gear to the low gear when the car is moving, unless it is moving very slowly. Ordinarily it is best to stop the car altogether.

Don't push the starter button when the engine is running.

Don't turn the steering gear when the car is standing. This is not only unnecessary but is also bad practice.

Don't fail to investigate any unusual sound which may develop in the car. The car should be inspected at the service station of a Cadillac distributor or dealer.

Don't neglect to inspect the level of the acid in the storage battery every 500 miles.

Don't turn corners at high speed.

Don't neglect to keep the cooling system filled.

Don't drive fast or attempt to stop suddenly on wet pavements.

Don't attempt to start the engine with the switch turned off, without pressure or without gasoline in the tank.

Don't neglect to keep the tires properly inflated.

Don't race the engine when it is not driving the car. There is no worse abuse.

TOP AND SIDE CURTAINS

Folding the Top

Unbutton the rear curtains "A," Fig. 7, from the bows and also from the top of the body. Fold the curtains in smoothly against the back curtain. Open the top rest clamps "B."

Release the front end of the top from the windshield standards by loosening the clamps at "C." After the top is released tighten the clamps to prevent them from rattling.

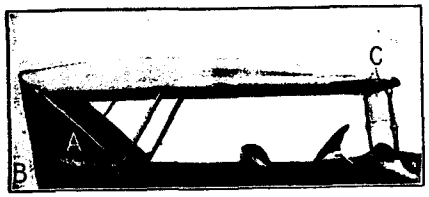

Fig. 7. Top in Raised Position.

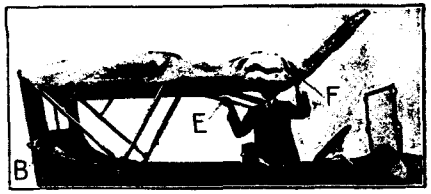

Fig. 8. Top Partially Folded, First Position.

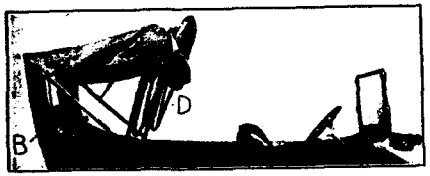

Fig. 9. Top Partially Folded, Second Position.

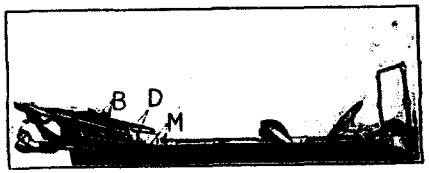

Fig. 10. Top Folded.

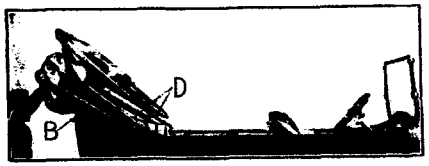

Fig. 11. Top Partially Raised, First Position.

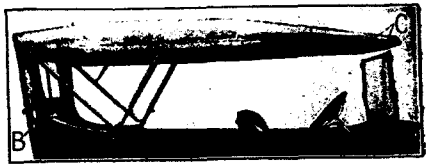

Fig. 12. Top Partially Raised, Second Position.

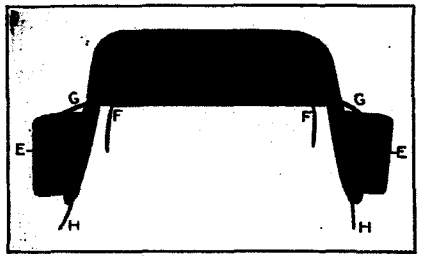

Fig. 13. Dust Hood.

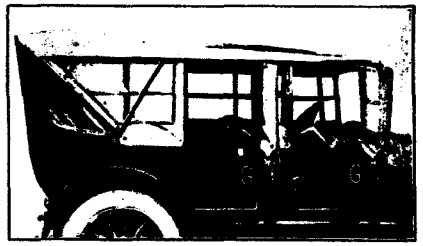

Fig. 14. Side Curtains in Place.

"Break down" the joints at each side of the horizontal bow by pushing up with one hand on the bow at "F," Fig. 8, and pulling down with the other hand at "E." Fold the front part of the top back until it closes as shown in Fig. 9. Insert the pins on the sockets of the center bow in the holes at "D."

With the top rests in place, carefully lower the top into the rests, being careful to tuck the material between the bows so that it rests smoothly and is not pinched. (See Fig. 10.) Then close and lock the top rest clamps "B."

Unfold and open up the dust hood (Fig. 13) so that the flaps, "E," are at the top. Draw the hood on over the folded top and tuck the flaps down between the bows and the body, taking care not to scratch the body. Be careful to draw the hood up evenly on both sides. Loop the straps "F" on the under side of the dust hood around the lower bow on each side, draw them tight and buckle. Pass the straps "G" through the top rest clamps "B," Fig. 10. Pass the straps "H" through the loops on the nuts "M" on the top supports just back of the rear doors. Button the snap fasteners on the lower edges of the flaps under the bows.

Raising the Top

Unbutton the fasteners along the lower edges of the parts of the dust hood protecting the bows at the sides. Unbuckle all the dust hood straps and carefully pull off the dust hood from the rear.

If the car is fitted with an automatic spring top as used in the early Type 57 season, open the top rest clamps "B," Fig. 10, and release the pins from the holes at "D." Then stand behind the car as shown in Fig. 11, and push up and forward on the rear bow. The top should then assume the position shown in Fig. 12.

If the car is not fitted with an automatic spring top open the top rest clamps "B," step inside the tonneau, take hold of the second bow from the front and raise the top until the front part balances so that it does not fall back. The top will have a position similar to that shown in Fig. 9. Loosen the pins "D" and taking a position under the top push forward on the second bow until the top assumes the position shown in Fig. 12.

Pull down the front end of the top until the ball on each windshield standard is well into the socket attached to the top bow and tighten the clamps "C."

Place the rear curtain "A," Fig. 7, in position and button the fasteners on the body and also on the rear bows. Close and lock the top rest clamps "B."

Side Curtains

Removable supporting rods are provided for the doors to carry the side curtains when the doors are opened. The supports are attached simply by inserting them in the holes in the brackets at "G," Fig. 14.

The curtains are fastened in place with fasteners of two kinds. One of these is the usual "glove fastener" type, which snaps on and off. The other type of fastener becomes locked on three sides when snapped into place and must be lifted on the side which is not locked in order to release it. This side is indicated by a small projection on the fastener as shown by the arrow (Fig. 15). This type of fastener cannot be released by lifting it at any other side.

Before the curtains are stowed away they should be dry and clean.



Figure 15.
Curtain Fastener.

WINDSHIELD POSITIONS

For Inclement Weather

The normal position of the windshield for inclement weather is with the upper and lower sections closed and with the removable rubber strip between the glasses. If, as the result of rain or snow on the windshield glass, it becomes impossible to see through it, the upper section may be tilted out at an angle. This is known as the "rain vision" position.. The driver may then look between the sections of the shield, at the same time being protected to some extent from the rain and snow. The clamping nuts at the top of the windshield standards must be loosened before the upper section can be tilted and should be tightened after it is in the desired position to hold it in place.

For Ventilation

There is a row of rectangular slots through the cowl just back of the windshield. When ventilation in the driver's compartment is desired, the lower section of the windshield should be tilted *in* at a slight angle so that the lower edge is just back of the ventilating slots in the cowl. If it is desired, the lower section may be tilted in at a greater angle. The clamping nuts half way up the windshield standards must be loosened before the lower section can be tilted and should be tightened after it is in the desired position.

If more ventilation is desired the upper section of the shield may be tilted toward the driver so as to deflect a current of air directly into the compartment.

CLOCK AND SPEEDOMETER

Clock

The clock is set and wound exactly as a stem winding watch. When setting or winding the clock use reasonable care.

Speedometer

The speedometer registers the speed at which the car is traveling, the total number of miles traveled, and the trip mileage. The total mileage cannot be reset but the trip mileage can be reset to zero.

An automobile repairman should never be allowed to attempt to adjust or repair the speedometer head. This work can be done only by men experienced in speedometer work and only with special machinery and tools.

If the speedometer head is removed, handle it with the same care that you would a fine watch. The speedometer head may easily be damaged by rough handling.

DEMOUNTABLE RIMS

Demounting Rim with Tire

Jack up the axle until the wheel is free from the ground. Then remove the valve cap; loosen the eight clamp nuts, with the brace wrench furnished with the tool kit, and turn each clamp to the left until it strikes the stop pin in the felloe band. Turn the wheel so that the valve is at the top and pull the bottom of the rim towards you until it clears the wheel. The rim with tire can then be removed by lifting it straight up. (Fig. 16.)

Mounting Rim with Tire

If the rim you are mounting has no split clamping ring, take the one from the rim removed. Turn the wheel so that the hole for the valve stem is at the top. Hold the rim so that the valve stem is at the top and so that the rim joint latch and the clamping ring are towards you. Insert the valve stem in the valve stem hole in the wheel and then push the bottom of the rim into place. (Fig. 17.)



Fig 16.
Demounting Rim from Wheel.



Fig. 17.
Mounting Rim on Wheel.

Turn each clamp to its original position and turn the clamping ring so that the split in the ring comes directly under one of the clamps. Tighten each clamp slightly. Then continue around the wheel, tightening each clamp firmly. Screw on the valve cap.

If the rim does not run true, mark the part that runs "out" from the face of the wheel. Then slightly loosen the clamps diametrically opposite this part and tighten the clamps at the marked part. Proceed in this manner until the rim does run true.

Removing Tire from Rim

The tire may be removed without removing the rim from the wheel.

Deflate the tire. Then open the lock with the pointed end of the tire tool or with a screw-driver.

Raise one end of the ring with the tool as shown (Fig. 18) until the lug is clear of the slot in the rim.



Fig. 18. Removing Tire from Rim, First Position.



Fig. 19. Removing Tire from Rim, Second Position.

Raise the end of the ring further and force the lug out over the edge of the rim. (Fig. 19.)

Start at the end of the ring, which is out of the groove, and remove the entire ring from the rim. (Fig. 20.) (See note.)

Turn the wheel until the valve stem is at the top, and pull the lower part of the tire towards you until it is clear of the rim. The tire may then be removed from the rim by lifting it straight up.

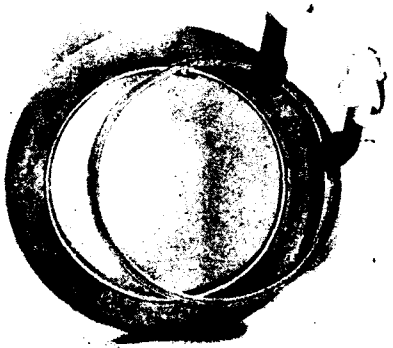

Fig. 20. Removing Tire from Rim, Third Position.

Note—In removing the ring from the rim, care should be taken to avoid opening the ring beyond its elastic limit. When the ring is free from the rim the ends of the ring should overlap from ½ to 1½ inches, which it will not do if it has been stretched in removal.

If the ends of the ring do not overlap they should be closed together before replacing. If this is not done there is a possibility of the lock failing to properly engage the lugs on the ends of the ring, which might later be the cause of an accident.

Caution—Do not attempt to remove a tire from a demountable rim without first completely deflating the tire. Serious personal injury may result if this is attempted.

Placing Tire on Rim

If the demountable rim is on the wheel, jack up the axle and turn the wheel until the hole for the valve is at the top.

Hold the tire so that the valve stem is at the top and insert the valve stem in the valve stem hole in the rim and wheel. Then push the bottom of the tire into place.



Fig. 21. Placing Tire on Rim, First Position.



Fig. 22. Placing Tire on Rim, Second Position.

Insert one end of the locking ring in the slot in the rim. Then with the tool as a lever, force the tire back far enough to allow the ring to go on easily. (Fig. 21.)

Starting at the end of the ring which is inserted in the slot in the rim, force the remainder of the ring into place by using the tire tool as pliers. (Fig. 22.)



Fig. 23. Placing Tire on Rim, Third Position.



Fig. 24. Placing Tire on Rim, Fourth Position.

Insert the flat end of the tool between the rim and the ring and turn the tool up edgewise. (Fig. 23.) This will lift the loose end of the ring and force it into place.

Draw the ends of the locking ring together with the tool. (Fig. 24.) Then swing the lock into place.

Then inflate the tire. (See under "Tire Air Compressor," page 20.)

If the demountable rim is not attached to a wheel, lay the rim with the tire flat on the ground when removing or replacing a tire.

TIRE HOLDER

The tire holder is designed to carry two standard size tires inflated on rims.

To remove the tire with rim, remove the lock and then unscrew the clamp as far as it will go. Move the bottom of the tire back until it is entirely free from the holder. The tire then may be removed by slightly lifting it straight up.

To put a tire on the holder proceed in the reverse manner.

Care should be exercised not to permit the inner tire to strike the body of the car when removing or replacing it.

TIRE AIR COMPRESSOR

Using the Compressor

To inflate a tire, first attach the air hose to the air connection from the compressor (see note), then connect the other end to the valve of the tire to be inflated. Do not connect the hose to the tire first, if there is air pressure in the tire, or the air will escape.

If the engine is running, release the clutch by pushing forward on the left pedal. Hold the pedal down until you are certain that the transmission gears have ceased to revolve, and then turn the slotted head of the compressor control shaft in the clockwise direction (see Fig. 1.) If the engine is not running, it is unnecessary to disengage the clutch before bringing the compressor into operation.

Run the engine at a speed of approximately 1,000 revolutions per minute. Unless the third brush of the electric generator is incorrectly adjusted the ammeter on the instrument board will register approximately sixteen at 1,000 revolutions per minute of the engine and the ammeter may be used in determining the correct engine speed.

The compressor operates at its most efficient speed at 1,000 revolutions per minute of the engine. Do not race the engine in operating the compressor, or at any other time when it is not driving the car.

To stop the compressor, turn the slotted head of the control shaft in the counter-clockwise direction.

NOTE: The connection for the air hose is in the tool box of cars fitted with the dust shield tool box, and projects from the left-hand dust shield just back of the battery box cover on cars having no tool box in the dust shield.

Caution:—Do not turn the compressor control shaft to bring the compressor into operation when the engine is running and the clutch is engaged, nor neglect the lubrication of the compressor. See page 35 for complete directions covering lubrication.

COLD WEATHER SUGGESTIONS

STARTING THE ENGINE

Priming the Carburetor

In *extremely* cold weather, if the engine is not started in 30 seconds, remove your foot from the starter button. This will stop the cranking operation. Now open and close the throttle once or twice with the hand throttle or the foot accelerator. *Do not* open and close the throttle more than twice.

Opening and closing the throttle operates the throttle pump of the carburetor. This raises the level of the gasoline in the carburetor, thereby priming it. If the throttle is opened and closed more than twice, gasoline is forced out of the carburetor.

Position for Spark Lever

Except in extremely cold weather the spark lever should be placed in the position marked "driving range" when starting. In extremely cold weather, it should be fully advanced when starting. (If the engine is to be cranked by hand, the spark lever should be placed at the extreme left on the sector.)

It is the practice of some drivers to place the spark lever at the extreme left on the sector when starting the engine. While this is the proper position for the spark lever if the engine be hand cranked, there is no reason for retarding the spark when the engine is electrically cranked and starting is facilitated if the spark lever is advanced to the "driving range." In extremely cold weather there is no reason why the spark lever cannot be placed in the fully advanced position if the engine be electrically cranked and a quicker start is assured if this is done. The following will explain why it is possible to fully advance the spark lever at such times:

The mixture in a cold engine does not burn as rapidly, nor is there so much energy in it, as when the engine is warmer and the fuel is better vaporized. When the engine is cold a large percentage of the heat of each explosion is instantly dissipated by reason of the cold combustion chambers and cylinder walls, the result being that an explosion which in a hot engine would occur early enough and have energy enough to produce a "spark knock" or "back kick," occurs so much later and is so much less intense, that neither of these results is produced.

It is best to have the spark lever in the fully advanced position for cold weather starting for the following reasons:

As explained before, a cold mixture ignites much more slowly than a hot mixture. A cold, slow-burning mixture, if ignited on top dead center on account of the spark being in the retarded position, may burn through the power stroke, through the exhaust stroke and may be still burning in the combustion chamber when the inlet valve is opened to draw in another charge. When this happens, the flame sets fire to the incoming charge, igniting the mixture in the intake pipe and carburetor, producing a "pop back" in the carburetor. The possibility of this happening is very much less if ignition is started earlier by placing the spark lever in the fully advanced position.

Position for Throttle Lever

In winter weather the throttle lever should be open about two inches on the sector for starting. Many drivers make a practice of opening the throttle wide or nearly so immediately the engine is started and after shifting the transmission into gear. The full suction of each piston through the carburetor under these conditions causes the auxiliary air valve in the carburetor to open wide, allowing a large volume of cold air to rush into the carburetor.

The proportion of air to gasoline drawn in under these conditions is practically the same as when the engine is hotter, but as only a portion of the gasoline drawn in is vaporized, and as only the vaporized portion burns, the proportion of air to gasoline burned is greater than when the engine is warmer, thus producing a "lean" mixture. A "lean" mixture is slow burning, whether it is warm or hot, and a cold "lean" mixture is particularly slow burning. Thus if the throttle is opened suddenly before the engine is thoroughly warm, the cold "lean" mixture resulting, burns so slowly that a "pop back" in the carburetor is almost sure to occur.

Use of Starter Button

Do not press the starter button while the engine is running.

In extremely cold weather, when the car has been standing long enough to become thoroughly chilled, it is a good plan to release the clutch before pressing down the starter button and to hold the clutch pedal down during the cranking operation. If this is not done, the starter is called upon to turn the jackshaft in the transmission in addition to cranking the engine. While at ordinary temperatures the additional energy required is almost negligible, in extremely cold weather the lubricant in the transmission may offer enough resistance to the transmission gears to increase considerably the demand upon the battery.

ANTI-FREEZING COOLING SOLUTION

In cold weather a good anti-freezing solution should be used. A solution of commercial glycerine and water is recommended of the correct proportion for the temperature experienced. The following are the freezing temperatures of glycerine and water solutions of various proportions:

Glycerine (% by volume)	Water (% by volume)	Freezing Temperature (degrees Fahr.)
35%	65%	—10°
40%	60%	—6°
45%	55%	—3°
50%	50%	0°
55%	45%	—2°
60%	40%	—4°

Do not use a solution containing calcium chloride, as this is injurious to the metal parts of the cooling system.

The radiator condenser also makes it possible to use with safety an anti-freezing solution of denatured or wood alcohol and water. The following are the freezing temperatures of denatured alcohol and water solutions of various proportions.

Denatured Alcohol (% by volume)	Water (% by volume)	Freezing Temperature (degrees Fahr.)	Specific Gravity (Hydrometer reading)
20%	80%	+13°	.974
30%	70%	— 3°	.964
40%	60%	—20°	.953
50%	50%	—34°	.936

It is a good plan to draw out a sample of the solution occasionally and to test its specific gravity with a hydrometer graduated between the limits of the above table.

The capacity of the cooling system is five and one quarter gallons. The condenser should contain an additional three quarts, making a total of six gallons.

Caution—Do not use water in the cooling system during freezing weather. Use a good anti-freezing solution. Water will freeze even though the engine be run continuously.

ADDITIONAL COLD WEATHER SUGGESTIONS

Starting in Intermediate or High Gear

Starting in intermediate or high gear should not be done at any time, but this is particularly unfair to a cold engine, as it necessitates a further opening of the throttle than is necessary when starting on low gear, with the probability of a "pop back" in the carburetor.

Cold Test of Engine Oil

Be careful to use an oil having a low cold test In other words, use an oil which flows freely at low temperature. (See under "Lubricants," page 27.)

Frequent Changing of Oil

Water may accumulate in the crank case of the engine during cold weather as a result of condensation. It is necessary, therefore, to drain the oil frequently and replace it by clean, fresh engine oil. (See under "Replace Oil Frequently During Cold Weather," page 30.) If water is allowed to accumulate in the crank case, serious damage to the engine may result.

Strainers in Gasoline System

It may be found necessary to remove the strainers in the gasoline line more frequently during cold weather in order to prevent an accumulation of water at these points which would freeze and prevent the gasoline from flowing to the carburetor. (See under "Settling Chambers and Strainers," page 46.)

OPERATION OF ENGINE

General Principle

The production of power by the engine may be described briefly as follows:

Gasoline is forced by air pressure from the tank to the carburetor. The carburetor is the instrument by the action of which gasoline is mixed with air in the proper proportion, forming an explosive vapor or gas. The gas thus formed is drawn through the intake manifold and through the inlet valves into the cylinders of the engine, where it is compressed and ignited by electric sparks, the pressure of the resulting explosions producing the power.

The quantity of gas supplied to the engine is regulated by a throttle valve at the carburetor, which is operated by means of the throttle lever at the steering wheel or by the accelerator button at the right of the brake pedal.

The Four-Cycle Engine

The Cadillac engine is of the four-cycle type, that is, there are four movements or strokes of each piston and two revolutions of the flywheel to complete each power producing cycle. The four strokes of the cycle each have a different function and follow one another in the same order as follows:

Suction Stroke. The suction stroke commences with the piston at its highest point in the cylinder and with the inlet and exhaust valves closed. Immediately the piston starts to descend the inlet valve opens and through this valve a charge of gas from the carburetor is drawn into the space above the piston.

Compression Stroke. As the piston starts upward again after completing the suction stroke, the inlet valve closes. As there is then no escape for the gas in the cylinder, it is compressed, the maximum compression being reached when the piston is at the top of its stroke.

Power Stroke. At the completion of the compression stroke, the spark takes place at the spark plug, igniting the compressed charge of gas. The heat resulting from the rapid combustion causes the pressure of the confined gas to rise almost instantaneously to several times its pressure before the explosion. This pressure exerted on the piston forces down the piston and produces the impulse which is transmitted by the connecting rod to the crankshaft, causing it to rotate.

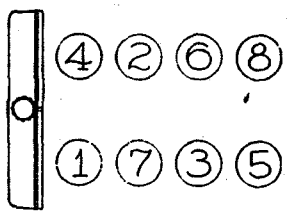

Fig. 25. Firing Order.

Exhaust Stroke. Just before the piston reaches the end of the power stroke, the exhaust valve opens. It remains open as the piston travels upward again on the exhaust stroke, driving the burned gas out from the cylinders. By the time the piston has reached its highest point it has forced out the burned gas and the exhaust valve closes. Having completed the four strokes, the piston is now ready to draw in a new charge and to repeat the cycle.

The same cycle of events takes place in all of the cylinders but no two pistons are at the same point in the cycle at the same time. In the Cadillac Eight Cylinder V-Type engine, the impulses in the eight cylinders are so timed that a power stroke is begun every quarter turn of the crankshaft. In other words, the crankshaft receives four overlapping impulses every revolution. The order in which the impulses take place is shown in Fig. 25.

Automatic Spark Control

When each piston is at its highest position in the cylinder is, of course, the time when the charge is at its greatest compression, or, in other words, when the gas is "jammed in the tightest." Ignition occurring exactly at this instant produces a much more forceful explosion than if it occurred at a time when the charge was not so tightly compressed.

If the charge were ignited the instant the contact is made in the ignition timer, regardless of the speed of the engine, the spark could be set permanently in one position and would not require changing. But a certain amount of time elapses from the instant the circuit is closed at the ignition timer until the charge is ignited in the cylinder. While this time is but the merest fraction of a second, in fact, almost infinitesimal, yet it is time just the same and must be taken into account when dealing with such a rapidly acting mechanism as an automobile engine.

The lapse of time required to ignite the charge is always the same regardless of the speed of the engine and pistons. You will realize that when the engine is running, say 3000 R. P. M., the pistons are traveling many times as fast as they do when it is running only 300 R. P. M. and that when the engine is running 3000 R. P. M. it is necessary to start the ignition process earlier.

In the Cadillac this is accomplished by means of a ring governor located directly under the ignition timer. As the speed of the engine increases, the ring in the governor assumes a position more nearly horizontal, forcing the timer contact cam slightly ahead on the shaft by which it is driven. This causes the timer contact points to break earlier, thereby starting the ignition process earlier in relation to the positions of the pistons. When the engine slows down, the ring in the governor assumes a position more nearly vertical, forcing the contact cam back on the shaft by which it is driven, causing the contact points to break later and thereby starting the ignition process later in the strokes of the pistons.

Manual Spark Control

The automatic control takes care of the spark position for all ordinary driving. A spark lever is provided, however, by which the ignition timing may be still further advanced or retarded. The spark lever is the shorter lever just above the steering wheel.

Ordinarily the spark lever should be carried in that portion of the sector marked "Driving Range." To get the best results, however, the spark lever should be retarded further for extremely low speeds and advanced further for extremely high speeds. The car should be driven at all times with the greatest possible spark advance which the speed of the engine will permit.

Advancing the spark too far for a given engine speed will usually cause a slight pounding noise, which is sometimes not noticed by the beginner, as it is usually but slight, owing to the substantial character of the crankshaft and bearings.

When starting the engine, place the spark lever in the "Driving Range" on the sector except during extremely cold weather when it should be placed at the extreme right or in the fully advanced position. If the engine should be cranked by hand, the spark lever should be placed at the extreme left on the sector or in the fully retarded position. If this caution is not observed a "back kick" may occur, probably resulting in personal injury.

Part II

LUBRICATION

IMPORTANCE OF LUBRICATION

There is no one thing which is the primary cause of more trouble and the cause of more expense in maintenance to the mechanism of an automobile than insufficient lubrication.

All moving parts of the Cadillac car are manufactured with an unusual degree of accuracy and the parts are carefully assembled. In order to maintain the splendid running qualities of the car it becomes necessary systematically to introduce suitable lubricants between all surfaces which move in contact with one another.

It should be borne in mind constantly that where one part moves upon or in contact with another friction is created. Friction means wear, and the wear will be of the metal itself unless there is oil, and oil is much cheaper than metal. The use of too much oil is better than too little, but just enough is best.

Proper lubrication not only largely prevents the wearing of the parts, but it makes the car run more easily, consequently with less expense for fuel and makes its operation easier in every way.

The oiling diagram shown on page 32 indicates the more important points which require attention. But do not stop at these. Notice the numerous little places where there are moving parts, such as the yokes on the ends of various brake rod connections, etc. A few drops of oil on these occasionally will make them work more smoothly.

Oil holes sometimes become stopped up with dirt or grease. When they do, clean them out and be careful not to overlook them. Also be careful not to allow dirt or grit to get into any bearings.

Judicious lubrication is one of the greatest essentials to the satisfactory running and the long life of the motor car. Therefore, lubricate, and lubricate judiciously.

LUBRICANTS

There are many grades of oils. There are none too good. Naturally, we have experimented a great deal with numerous lubricants to determine which are best adapted for the various parts of the Cadillac car. It is not always an easy matter for users to obtain suitable lubricants. The constant demand made upon us by Cadillac dealers and Cadillac users has induced us to provide suitable lubricants which may be obtained from Cadillac dealers.

Cadillac Motor Oil

Cadillac Motor Oil is recommended and may be used both summer and winter. In the absence of Cadillac Motor Oil, Veedol Zero Light Oil may be used summer and winter; Mobiloil A, Monogram Medium, or Amalie Non-Carbon Oil may be used during summer weather and Mobiloil Arctic Oil during winter weather.

The oil used should be a filtered one and not an acid or alkali treated oil. It should be refined from Pennsylvania crude or its equivalent.

We cannot hold ourselves responsible for damage resulting from the use of oil not suited to the Cadillac engine.

Engine oil should be strained through cheese cloth or fine mesh wire cloth before using.

Cadillac Rear Axle and Transmission Lubricant

Cadillac Rear Axle and Transmission Lubricant is recommended for the rear axle and transmission or in its absence a mixture of steam cylinder oil and a small amount of cup grease mixed to such a consistency that the mixture flows easily at temperatures from 60° to 70° Fahrenheit.

Cadillac Cup Grease

Cadillac Cup Grease is recommended for use in the grease cups or, in its absence, number three cup grease.

Cadillac Wheel Bearing Grease

Cadillac Wheel Bearing Grease is recommended for the wheel bearings or, in its absence, number one cup grease.

Cadillac Universal Joint Grease

Cadillac Universal Joint Grease is recommended for the universal joints on the drive shaft or, in its absence, number three fibre grease.

Cadillac Steering Gear Grease

Cadillac Steering Gear Grease is recommended for the steering gear or, in its absence, a mixture consisting of seventy-five per cent 600 W. lubricant, and twenty-five per cent number one cup grease.

ENGINE LUBRICATION

Lubricating System

The lubrication of Cadillac eight-cylinder engines is by oil under pressure. A supply of oil is carried in the oil pan "A," Fig 26. Oil is drawn from the oil pan by the oil pump "C" through the pipe "B" and forced to the main bearings "E," "F" and "G," through the supply pipe "D."

The pressure of the oil is regulated by an overflow valve or pressure regulator "M," containing a valve under spring tension. When the pressure is reached for which the valve is set, the valve is forced open and the oil overflows past the valve. A small hole drilled in the regulator housing allows oil to by-pass the valve when the valve is seated. Oil flowing through the by-pass and oil forced past the valve is carried to the camshaft bearings and power pressure pump in the gasoline system through the pipe "R" above and parallel to the camshaft. The forward end of this pipe is fitted with two nozzles from which oil flows into the camshaft sprockets and to the chains through holes drilled in the camshaft sprockets.

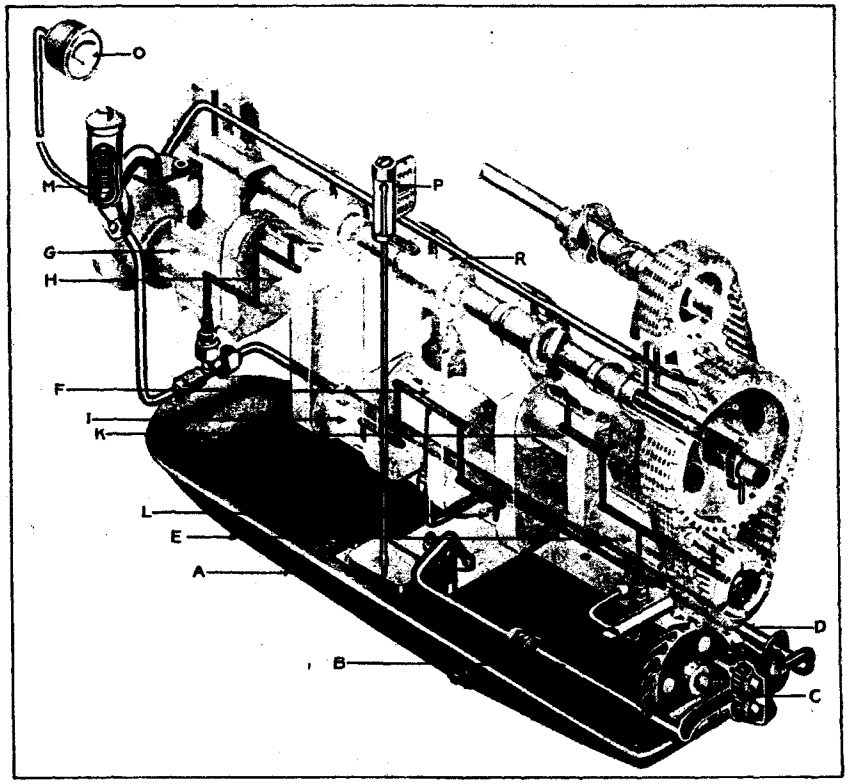

Fig. 26. Engine Lubricating System.

The connecting rod bearings, "H," "I," "K" and "L," on the crank shaft, are lubricated by oil from the main bearings forced through holes drilled in the crank shaft. The hole drilled in the forward end of the crank shaft communicates with a hole drilled in the crank shaft sprocket through which oil is supplied to the camshaft chain. The cylinders are lubricated by oil thrown from the lower ends of the connecting rods.

There is one gauge and one indicator in the lubricating system. The pressure gauge "O" is located on the instrument board and indicates the pressure of the oil. The indicator "P" is attached to the upper cover of the crank case near the carburetor and indicates the level of the oil in the oil pan "A."

Filling Lubricating System

An oil level indicator "P," Figure 26, is for the purpose of indicating when the supply of engine oil is low and when a sufficient amount has been added. The indicator is between the cylinder blocks and is under the intake manifold, on the right hand side.

Oil should be added whenever the red ball of the indicator is down to the line marked "Fill." Do not risk running the engine after the red ball has reached the line marked "Fill." If, through oversight, the red ball should reach the line marked "Empty" the engine should be stopped immediately and supplied with oil. The oil filler is just forward of the oil level indicator. (See Fig. 27.)

Use only oil which is suitable (see under "Lubricants," page 27), and be certain that the oil is free from dirt or lint before pouring it into the engine. It is a good practice to strain the oil through cheese cloth or fine mesh wire cloth.

There is an oil level plug in the right hand side of the oil pan shown in Fig. 27. If the oil level gauge on the engine should become inoperative from any cause or fail to register correctly, remove the oil level plug before starting to add oil, then add oil as above directed until it just starts to flow from the hole left by the removal of the plug. Then replace the plug and filling cap.

Note—If, on removing the level plug, oil flows from the hole for a few seconds, do not assume that the oil in the pan is up to the proper level. The level plug is at the lower end of a short standpipe which usually remains full of oil after the level of the oil in the oil pan has fallen below the upper end of the standpipe. The only way to be sure that the oil is up to the proper level is to allow the one or two teaspoonfuls of oil which has accumulated in the standpipe to drain off and then to add oil until it starts to flow from the hole.

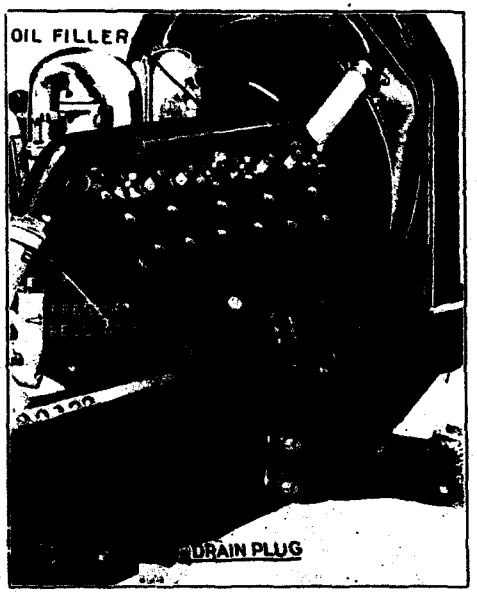

Fig. 27. Oil Filler, Pressure Regulator, Level Plug and Drain Plug. (Fender and Hood Removed.)

When adding oil with the level plug removed, the oil level indicator should register "Full" when the oil just starts to flow from the hole left by removing the plug. The oil pan then contains approximately one and one-half gallons of oil.

Replace Oil in Engine

At the end of each 500 miles of travel remove the drain plug in the engine oil pan (see Fig. 27) and drain out the oil, then replace the plug and through the oil filler on the housing just back of the fan, add one and one-half gallons of fresh engine oil (see under "Replace Oil Frequently During Cold Weather," page 30). A socket wrench with a long handle is supplied with the tool equipment to facilitate the removal and replacement of the drain plug.

At the end of the first 1,000 miles of travel and at the end of every 4,000 miles of travel thereafter drain the oil pan as directed in the preceding paragraph and through the filler add a mixture consisting of three quarts of kerosene oil and one quart of engine oil. The mixture must be entirely free from dirt and lint. Run the engine at a speed of between 600 and 1,000 revolutions per minute for the period of one minute. Then drain the oil pan, remove it and the screen from the engine and thoroughly clean the oil pan and screen. Do not fail to add one and one-half gallons of fresh engine oil after replacing the oil pan.

After cleaning the lubricating system with a mixture of kerosene and engine oil it is a good plan to clean the valve and seat of the pressure regulator "M," Fig. 26. The regulator is located just back of the right hand block of cylinders. The valve can be removed after removing the regulator cover by unscrewing it. It is important also to make certain that the small by-pass hole by which oil is permitted to escape when the regulator valve is closed, is clean and free from any obstruction.

Do not use waste in cleaning the regulator valve or its seat. Use cloth free from lint.

Caution:—Do not fail to replace the engine oil as frequently as suggested.

Replace Oil Frequently During Cold Weather

The mileages given under "Replace Oil in Engine" at which engine oil should be replaced and the oil pan and screen cleaned are those at which this work should be done during warm weather.

During cold weather a certain amount of water may accumulate in the crankcase of the engine as a result of condensation. The water thus formed either freezes, preventing the pump from drawing oil, or mixes with the oil, forming a thick substance which the pump cannot draw. It is necessary, therefore, during cold weather to drain the oil pan and clean the oil pan and screen much more frequently than during warm weather.

The frequency with which it is necessary to do this work during cold weather depends very largely upon the manner in which the car is driven. In cases where the car is driven short distances only and frequent stops are made so that the engine base and the oil in the oil pan remain cold it will be necessary to drain the oil pan and clean the oil pan and screen much more frequently than in cases where the car is driven for longer distances with fewer stops, so that the engine base becomes thoroughly warmed.

The car that is constantly making very short trips in cold weather should have the oil drained every 350 miles or once a week and the oil pan and screen cleaned once a month.

Unless the oil is drained out and the oil pan and screen are cleaned frequently enough in cold weather, serious damage to the engine may result, particularly on cars in short trip service.

Oil Pressure

The pressure indicated by the oil gauge on the instrument board varies with the speed and temperature of the engine and the viscosity of the oil. When the engine is warm and supplied with fresh Cadillac Motor Oil or oil of approximately the same viscosity, the pressure as indicated by the gauge should be from five to seven pounds when the engine is idling. (When idling the engine should run at approximately 300 revolutions per minute, if the throttle stop-screw at the carburetor is properly adjusted.) At higher speeds a higher pressure should be indicated and at lower speeds, a lower pressure. Before the engine has become warm, higher pressures will be indicated at given speeds. In other words, maximum pressures will be indicated at given speeds when the engine is cold and the oil is fresh; minimum pressures, when the engine is hot and the oil becomes thin from use.

Practically all engine lubricating oils become less viscous from use even under normal conditions. Running the engine too long with the auxiliary air control lever pulled back will cause the oil to be thinned more rapidly, due to the condensation of gasoline from the rich mixture.

Caution

If when starting the engine after replacing the oil it is found that the pressure gauge does not register pressure, stop the engine immediately and prime the oil pump. This may be done by disconnecting, at its upper end, the oil pipe running from the engine around the right hand side of the dash, and forcing clean engine oil into the pipe with the oil gun furnished in the tool kit. Connect the pipe and tighten the union before starting the engine.

Do not continue to run the engine if, as a result of low viscosity of the oil, or other cause, pressure is not indicated on the gauge when the engine is running. (See under "Replace Oil in Engine," page 30.)

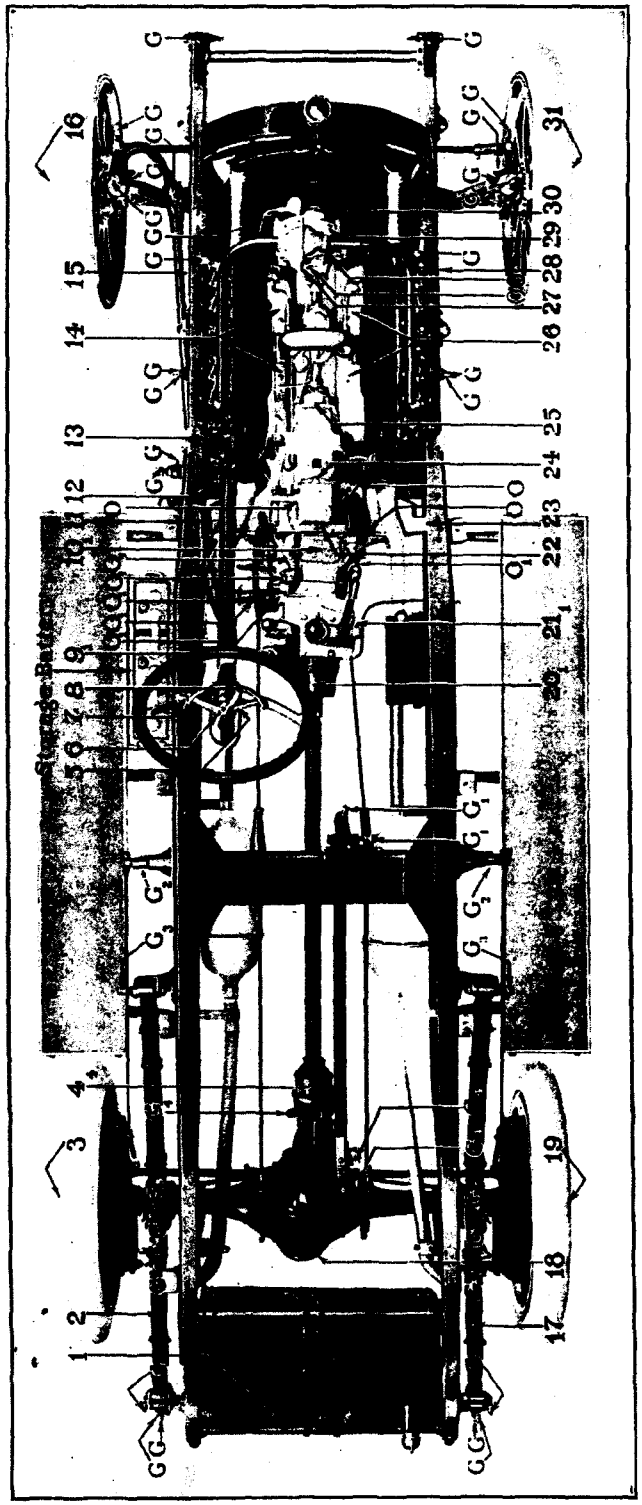

Fig. 28. General Lubrication Diagram.

Each "G" Indicates a Grease Cup. Each "O" Indicates An Oiling Point at Which Engine Oil Should Be Applied.

Each Number Indicates a Lubricating Point for Which Instructions Are Given Under "General Lubrication."

Accessibility: The small figures at the right of and below the numbers and letters on the above diagram refer to the following notes as to the accessibility of the lubricating points.

1. *These are lubricating points which are accessible after removing the floor boards forward of the front seat.*
2. *These grease cups lubricate the foot brake rocker shafts. They are provided with extensions which bring the grease cups within reach from under the running boards.*
3. *These grease cups lubricate the bearings at the front ends of the rear side springs. The grease cups are accessible after opening the small doors in the dust shields just forward of the rear fenders.*
4. *These lubricating points are accessible through hand holes in the rear floor on all cars except the Roadster and Victoria. (On the Phaeton and Sedan (Brougham) there is only one hand hole.)*
5. *These grease cups lubricate the rear spring seats on the rear axle and are underneath the springs just back of the axle.*

GENERAL LUBRICATION

It is manifestly impossible to give exact instructions in every instance as to just how frequently each individual point should be oiled or exactly how much lubricant should be applied. In the following instructions this is given approximately, based on average or normal use.

With the tool equipment of each car is packed a lubrication chart, with a schedule for the lubrication of the car. This is intended to be hung in the garage to serve as a reminder.

EVERY 125 MILES

Engine: 29

Every 125 miles of travel, or oftener, determine the quantity of oil in the engine (see under "Filling Lubricating System," page 29, and under "Replace Oil in Engine," page 30).

EVERY 500 MILES

Grease Cups: G

Turn down grease cups "G" every 500 miles. Some of the Type 57 cars have a grease cup at the instrument end of the speedometer cable. This cup should be turned down every 500 miles.

Starter Gear Shaft: 22

Every 500 miles of travel remove the small nickel plated plate on the floor boards just above the accelerator foot rest, also the small plug directly under the plate. With the oil gun furnished with the tool kit inject suitable lubricant. Cadillac Rear Axle and Transmission Lubricant is recommended for this purpose. One half the contents of the oil gun or less is required. A connection furnished with the oil gun fits the threaded hole left by the removal of the small plug.

This lubricates the shaft upon which operate the idler gears of the starter.

Fan Bearings: 30

The engine fan is driven by a spring and is free to oscillate on the fan shaft. The hole through which the fan hub bearings are lubricated is just back and at the base of the flange on the fan shaft against which the spring presses. A few drops of engine oil should be applied every 500 miles. It may be necessary to crank the engine in order to bring the oil hole to the top.

Springs: 1, 2, 15, 17, 28

It is recommended that the springs be lubricated every 500 miles by painting the edges and ends of the spring leaves with engine oil. A small, stiff brush should be used. After applying the oil the car should not be washed until it has been driven some distance to allow the lubricant to work in between the leaves.

Replace Engine Oil

Replace the engine oil at the end of every 500 miles of travel. (See under "Replace Oil in Engine," and "Replace Oil Frequently During Cold Weather," page 30).

Water in Storage Battery

Every five hundred miles or at least every two weeks inspect the level of the acid in the storage battery and add *distilled* water if the level is low. (See under "Adding Water to Storage Battery," page 53.)

EVERY 1000 MILES

Oil Cups and Oil Holes: O

A few drops of engine oil should be applied at points "O" every 1,000 miles.

Universal Joints: 4, 20

Fill the forward and rear universal joints on the drive shaft between the transmission and rear axle, with Cadillac Universal Joint Grease every 1,000 miles. A connection is furnished with the grease gun which fits the threaded holes left by the removal of the filler plugs in the casings around the joints.

The forward joint is covered by a cylindrical shield to prevent the grease from being thrown onto the under side of the floor board. To fill this joint it is necessary first to detach this shield from the transmission case and to slide it back over the drive shaft. This may be done after loosening the two screws which hold the shield and turning the shield through a small arc in a counter-clockwise direction.

The filler plug of the rear universal joint is accessible through a hand hole in the floor of all cars with the exceptions of the Roadster and Victoria.

Generator Bearings: 24, 25

The oil cup 24 is under the front part of the floor board on the Seven-passenger, Phaeton, Roadster, and Victoria. It can be reached from in front of the dash when the hood is raised. On enclosed cars, with the exception of the Victoria and Suburban, it is more convenient to remove the large aluminum cover plate on the front part of the floor board.

Oil cups 24 and 25 conduct lubricant to the forward and rear bearings on the armature shaft of the motor generator.

Oil Holes in Steering Wheel Hub: 5, 6

One of these oil holes is above the steering wheel and the other is accessible after folding the wheel. A few drops of engine oil should be applied at each point every 1,000 miles.

Engine Rear Supports: 11, 23

There is a slight movement between the side bars of the frame and the engine rear supports when the car is traveling over rough roads. It is necessary, therefore, to apply lubricant at these points.

There is an oil hole with a felt wick in each frame bracket to which the engine rear supports are bolted. Engine oil should be applied at these points every 1,000 miles of travel or oftener if necessary.

Tire Air Compressor: 9

The compressor piston is lubricated through two oil holes—one in front of the compressor cylinder and one just to the rear. Each oil hole is protected by a small sliding cover.

Apply engine oil at these points every 1,000 miles, or oftener if the compressor is used frequently.

Clutch Thrust Ball Race: 10

Every 1,000 miles remove the cover plate shown at 10, turn the clutch thrust ball race so that the small filler screw is at the top and remove the screw with a screw driver. Care must be exercised not to drop the screw into the clutch case. With the oil gun furnished in the tool kit inject suitable lubricant. Cadillac Rear Axle and Transmission Lubricant is recommended. A connection furnished with the oil gun fits the threaded hole left by the removal of the screw plug.

Clean Engine Lubricating System

At the end of the first 1,000 miles of travel and at the end of every 4,000 miles of travel thereafter, clean the lubricating system and the oil pan and screen. (See under "Replace Oil in Engine" and "Replace Oil Frequently During Cold Weather," page 30).

EVERY 2500 MILES

Transmission: 21

The transmission case should always contain sufficient lubricant to bring it up to the level of the filling hole in the right hand side of the case. It should be inspected every 2,500 miles and lubricant added if necessary. Cadillac Rear Axle and Transmission Lubricant is recommended for this purpose.

Rear Axle: 18

The rear axle should contain enough lubricant to bring it up to the level of the filling hole in the rear cover plate. It should be inspected every 2,500 miles and lubricant added if necessary. Cadillac Rear Axle and Transmission Lubricant is recommended for this purpose.

Timer and Distributor: 27

Every 2,500 miles of travel remove the small breather at the rear of the distributor housing and pack number two cup grease around the gears by which the timer and distributor are driven. The breather can be removed by unscrewing it.

Valve Stems: 14, 26

It is a good practice to apply engine oil to the valve stems and cam slides every 2,500 miles. This may be done by lifting the valve compartment covers and inserting the spout of the oil gun.

Wheels: 3, 16, 19, 31

Every 2,500 miles or every six months, if the car is driven but little, all the wheels should be removed (see under "Wheels," page 57), the bearings thoroughly washed and cleaned in either gasoline or kerosene and the bearings examined to determine whether any foreign substances have gotten into them that might damage them. The bearings should be thoroughly lubricated with a thin grease. Cadillac Wheel Bearing Grease is recommended for this purpose. Do not use heavy grease, as it will roll away from the path of the rolls and will not return.

There is an oil cup in the hub of each rear wheel. Inject engine oil here whenever you are oiling the car. Wipe the dirt from the cups first so that it will not get into the bearings.

Steering Gear: 12, 13

The internal mechanism of the steering gear should be lubricated every 2,500 miles. This can be done by removing the screw plugs at "12" and "13." The hole left by the removal of plug "13" is tapped to fit a connection furnished with the oil gun. Cadillac Steering Gear Lubricant is recommended for this part.

Speedometer Flexible Drive Shaft

The flexible shaft by which the speedometer is driven is carried in a flexible casing. The shaft should be removed from the casing and lubricated at the end of every 2,500 miles of travel.

Some of the Type 57 cars are fitted with Waltham speedometers, the remainder with Van Sicklen speedometers.

To remove the Van Sicklen flexible shaft, first disconnect the flexible casing from the speedometer head by unscrewing the knurled nut, then pull out the shaft through the upper end of the casing. A small hook bent from a piece of stiff wire of small diameter will facilitate the removal of the shaft.

The Waltham flexible shaft may be pulled out of its casing after disconnecting the casing from the socket at the speedometer end. The casing is held to the socket by a small set-screw.

Clean the flexible shaft by wiping it off and then lubricate it by applying Cadillac Cup Grease. After replacing the shaft in the casing it will probably be found necessary to rotate the shaft by hand in order that the connection on the lower end of the shaft and the connection on the drive shaft in the axle spindle may be meshed together. Re-attach the cable to the speedometer, first making certain that the tongue and groove at the speedometer end of the flexible shaft fit together.

The steering spindle end of the Waltham speedometer cable should be removed at least once a month and the bearing on the lower end of the flexible shaft cleaned and lubricated. The cable can be removed from the connection on the spindle by taking out the small bolt.

Do not under any circumstances attempt to lubricate the head of the speedometer. Any parts in the head which require lubrication are amply supplied before the head is assembled.

EVERY 5000 MILES

Clean Engine Lubricating System

At the end of every 5,000 miles of travel clean the lubricating system and the oil pan and screen. Replace the oil pan and refill it to the proper height with clean, fresh engine oil. (See under "Replace Oil in Engine" and "Replace Oil Frequently During Cold Weather," page 30.)

Replace Transmission Lubricant: 21

At the end of every 5,000 miles of travel remove the drain plug from the under side of the transmission case and drain out all of the lubricant. Refill the transmission with three quarts of suitable lubricant. Cadillac Rear Axle and Transmission Lubricant is recommended. The filler is shown at "21."

Replace Rear Axle Lubricant: 18

At the end of every 5,000 miles of travel remove the drain plug from the axle and drain out all lubricant. Refill with 5 quarts of suitable lubricant. Cadillac Rear Axle and Transmission Lubricant is recommended. The filler is shown at "18."

ADDITIONAL

Spark and Throttle Levers: 7, 8

The plungers in the spark and throttle levers should be lubricated occasionally. If the spark and throttle levers stick, rub a little oil on the sector where the friction shoes come in contact with it.

Top Joints

It may be found, after use, that the joints of the top require lubrication. Be very careful not to get oil on the top material and not to put too much oil on the joints, which will afterwards run out onto the material. Wipe off the joints carefully after lubricating.

In addition to the places specially mentioned, note carefully and oil all of the small connections and joints throughout the car, such as the various brake rod connections and joints in the brake mechanism. The joints of the internal brakes may be lubricated after removing the small cover "F," Fig. 43, on each brake drum. Care should be taken not to apply too much oil to the internal brake joints, as it may get on the brake band linings and impair the efficiency of the brakes.

Remember that wherever one part moves in contact with another, the ease of movement will be assisted and wear will be reduced to the minimum by lubrication.

Part III

GENERAL CARE

TIRES

Each tire maker publishes a booklet with instructions for care and repair of tires and every motorist should provide himself with one of these and thoroughly familiarize himself with the contents. We give here suggestions that apply to pneumatic tires in general.

Probably 75% of so-called "tire trouble" is the result of misuse. In the following we have illustrated some of the more common causes of tire breakdown.

Result of Improperly Adjusted Tire Chains

Fig. 29 illustrates a tire which has been badly damaged through the use of tire chains which were improperly adjusted or fastened to the spokes holding the chains tightly in one place. You will note that the tread is cut through to the fabric, and in fact loosened up and torn badly in many places.

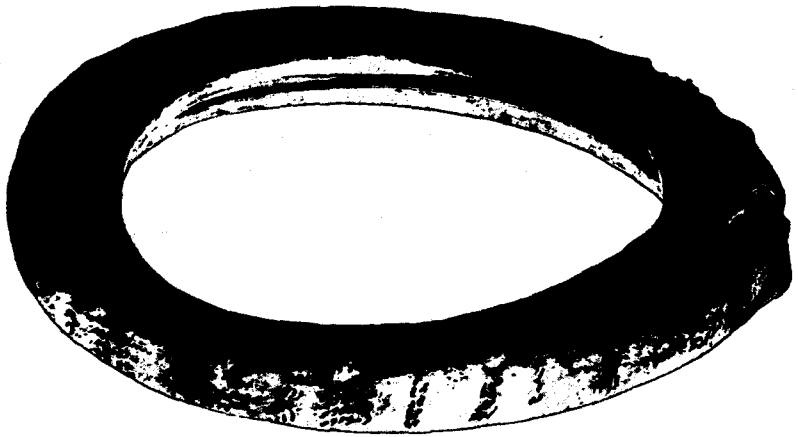

Fig. 29. Result of Improperly Adjusted Tire Chains.

The least injury results when chains are loosely applied, and have play enough to work themselves around the tire, distributing the chain on all points alike. Probably the greatest amount of injury comes from using chains unnecessarily on paved streets.

Neglect of Small Cuts

Fig. 30 illustrates a tire damaged from the neglect of two small cuts extending to the fabric. (Note the two prominent "bumps," which show plainly.)

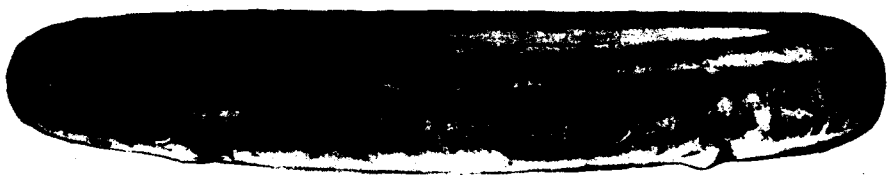

Fig. 30. Result of Small Tire Cuts Which Were Neglected.

If cuts extending to the fabric are neglected, fabric deterioration and blistering of the tread is bound to result.

It is unnecessary to remove a tire to treat a small cut of this nature. Tire companies furnish a plastic compound for filling cuts, thus preventing moisture and dirt from getting to the fabric.

Result of Improperly Aligned Front Wheels

Fig. 31 shows the result of running a car with the front wheels out of alignment. This usually affects both tires similarly, although sometimes one tire only is affected. An improper adjustment of the parallel rod in front of the axle, or a bent steering arm is responsible for this condition. Unless the wheels are kept in proper alignment, the tread of the front tires will wear away in a remarkably short time.



Fig. 31. Result of Improperly Aligned Front Wheels.

If the front wheels are badly enough out of alignment, the entire tread of both front wheels may be worn off in less than 100 miles. If the wheels are only slightly out of alignment, the result is the same, although the wearing off is slower.

Result of Sudden Application of the Brakes

You will note from Fig. 32 that the tread and several plies of fabric have been worn or, rather, scraped off at one place. This has been brought about by sudden application of the brakes, which resulted in sliding the wheels. It is remarkable how soon a tire will give away from this severe treatment.



Fig. 32. Result of Suddenly Applying Brakes.

Result of Under Inflation

Fig. 33 shows the most common result of under-inflation. The lower the pressure in the tire the more the tire flattens out under load. This flattening causes the side walls of the tire to bend more sharply as the wheel revolves. The final result of this is the breaking of the fabric in the side walls as shown in the illustration.

Tire Pressures

Undoubtedly, more tires are ruined from under inflation than any other source. Over inflation, however, results in hard riding. It is essential, therefore, that correct air pressures be maintained.

The following table was supplied for the Type 57 Cadillac, by one of the large tire manufacturers. The pressures shown are correct for a three or four passenger load and for 35x5" tires, except in the case of the Roadster, in which case the pressures shown are correct for a two-passenger load and for 34x4½" tires.

If the load is increased or decreased, a slightly greater or lesser pressure should be maintained. In no case, however, should tires be inflated to pressures *of more than five pounds above or below the pressures given in this table.*

	Inflation-Cord		Inflation-Fabric	
	Front	Rear	Front	Rear
Body Style	lbs.	lbs.	lbs.	lbs.
Touring	55	70	60	80
Sedan (Brougham)	55	75	60	85
Victoria	55	70	60	80
Limousine	60	75	65	85
Landaulet	60	75	65	85
Imperial	60	75	65	85
Town Limousine	55	75	60	85
Phaeton	55	65	60	75
Seven-Passenger Brougham	60	75	65	85
Roadster	55	60	60	70
Suburban	60	75	65	85

Additional Suggestions

The tires are constructed for the purpose of carrying up to certain maximum loads and no more. It should be realized that overloading a car beyond the intended carrying capacity is sure to materially shorten the life of the tires.

Do not turn corners or run over sharp obstructions, like car tracks, at a high rate of speed. Such practice is sure to strain or possibly break the fabric, with the result that the further life of the tires will be limited. Remember that most tire troubles are the result of abuse.

Avoid scraping the tires against the curb and running in ruts. This kind of wear scrapes off the rubber side wall and exposes the fabric to dirt and moisture, which soon starts to rot the threads.

In turning in a narrow street, avoid striking the curb.

If a tire goes flat, see that the valve is not leaking. A little moisture on the tip will show bubbles if the air is escaping.

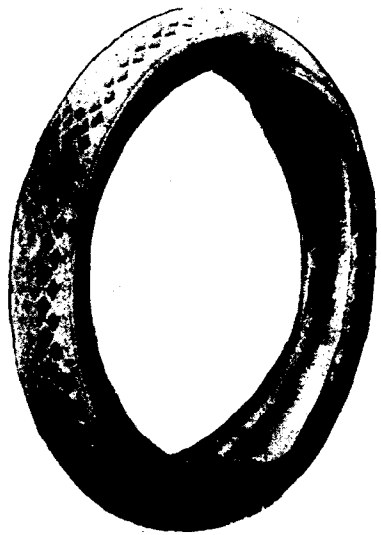

Fig. 33. Result of Insufficient Inflation of Tire.

In case of puncture, the car should be stopped at once and the tube repaired or replaced, or the tire replaced by the extra one. The tire should also be examined carefully and the cause of the puncture ascertained and the nail, glass or whatever it may be, should be extracted. Before replacing the tire on the rim, examine the inside of the casing to see that the cause of the puncture is not still protruding. It is also advisable to look over the outside of the tires frequently and take out any pieces of glass or other particles which may have become imbedded in the casing.

Don't run in ruts or car tracks; the sides of a tire will soon wear out under such treatment. Avoid large stones or other obstructions in the road. To hit one of these may break the fabric even though no external injury be visible.

The garage floor should be kept free from oil or gasoline. The tires on a car left standing on a grease-covered floor deteriorate quickly, the natural enemies of tires being oil and gasoline. These destroy the nature of the rubber, rendering it soft, so that it cuts and wears away quickly.

If the car is not used during the winter, it is better to remove the tires from the rims, keeping casings and tubes in a fairly warm atmosphere away from the light. It will be better to slightly inflate the tubes, as that keeps them very nearly in the position in which they will be used later on. If the tires are not removed and the car is stored in a light place, it will be well to cover the tires to protect them from the strong light, which has a deteriorating effect on rubber.

The greatest injury that can be done to tires on a car stored for the winter is to allow the weight of the car to rest on the tires. The car should be blocked up, so that no weight is borne by the tires, and the tires should then be deflated partially. This will relieve the tires of all strain, so that in the spring they should be practically no worse for the winter's storage.

STORAGE

Engine

To prepare the engine for storage proceed as follows: Start the engine, cover the radiator and run the engine until it is hot. (See under "Personal Danger in Running Engine in Closed Garage," page 48.) The engine should be run at a speed which will show an ammeter reading of about 10 with all lights switched off. It usually requires from two to ten minutes to heat up the engine.

After the engine is hot, shut off the flow of gasoline to the carburetor by closing the gasoline valve at the tank and immediately the engine starts to slow down from a "lean mixture" inject from three to four tablespoonfuls of clean fresh engine oil into the primary air inlet at the right-hand side of the carburetor. This will stop the engine.

Open the compression cocks. Inject from two to three tablespoonfuls of clean fresh engine oil into each cylinder and before closing the cocks crank the engine three or four revolutions with the ignition switched off. This will tend to distribute the oil over the cylinder walls.

If the engine is started again repeat the series of operations given in Paragraphs 1, 2 and 3.

Drain the cooling system. You will find complete directions in this book under "Draining the Cooling System," page 50.

Storage Battery *(see under "Preparing Battery for Winter Storage," page 56).*

Tires

During winter storage it is best to remove the tires from the rims and keep the casings and tubes in a fairly warm atmosphere away from the light. It is best to inflate the tubes slightly after the tires have been removed to keep the tires in the position in which they are when inflated on the rim.

If the tires are not removed from the car, and the car is stored in a light place, it is best to cover the tires to protect them from strong light, which has a deteriorating effect on rubber.

The greatest injury that can be done to tires when the car is stored is to allow the weight of the car to rest on them. If the tires are not removed the car should be blocked up so that no weight is borne by the tires and the tires partly deflated.

Body and Top

It is best to put the top up and cover the entire car to protect it from dust.

Taking the Car Out of Storage

When the car is taken out of storage and before the engine is started, drain the oil from the oil pan, remove and clean the oil pan and baffle plate and replace the oil with fresh oil. (See under "Replace Oil in Engine," page 30.)

The following instructions should be followed carefully in starting the engine:

Open the compression relief cocks and inject from two to three tablespoonfuls of clean fresh engine oil into each cylinder.

Close the cocks and with the ignition turned off turn the engine over a few revolutions by hand. This will tend to distribute the oil over the cylinder walls.

Turn on the gasoline at the tank and start the engine in the usual manner.

Immediately the engine starts push the auxiliary air valve lever as far down as possible without causing the engine to stop or a material reduction in engine speed and open the throttle to a point which causes an ammeter reading of approximately 10 with all lights switched off. With the engine running inject from two to three tablespoonfuls of clean fresh engine oil into the primary air inlet at the right hand side of the carburetor.

Push the auxiliary air valve lever down as far as it will go as soon as the engine is warm enough to permit it.

BODY AND TOP

Care of the Finish

The finish of an automobile requires more careful and frequent attention when the car is new than when it is older and the varnish is harder. Particular care should be taken to keep mud from the body and hood of the car while new.

Never permit mud to remain on the finish over night or long enough to dry. If it is not possible to wash the car thoroughly before putting it away for the night, flush it off and then thoroughly wash and polish the car the next morning. Mud permitted to remain on the car until it has dried, is not only difficult to remove but stains and dulls the finish.

Washing the Car

Use clean water and plenty of it. Do not use water containing alkali. In parts of the country where the regular water supply contains alkali use rain water. Do not use hot water, as it destroys the lustre. The temperature of the water should be between 40 and 60 degrees Fahrenheit. Do not wash the hood while it is hot. The effect on the finish is the same as washing it with hot water. Unless the hood is allowed to cool before washing, the lustre will soon disappear.

If a hose is used in washing, do not have a water pressure greater than will carry the water 6" beyond the end of the hose. Water under higher pressure drives the grit and dirt into the varnish. It is best not to use a nozzle.

Start at one of the front wheels, first going over the underside of the fender, the wheel and the chassis nearby, with water flowing gently from the hose. This will flush off most of the mud and dirt.

If it is necessary to use soap to remove road oil from the underside of the fenders or machine oil or grease from the chassis, use a little good automobile soap dissolved in a pail of water and apply the soapy solution with a sponge. Do not let this soapy solution remain on the finish more than two or three minutes but immediately wash it off thoroughly with a good soft carriage sponge. Then proceed to wash the under surfaces of the remaining fenders, the wheels and the remainder of the chassis in a similar manner.

When the washing of the chassis is completed begin at the front of the car and with the water running gently from the hose, flow on the body, hood and upper surfaces of the fenders. This will soften the accumulation of road dirt and remove most of it. Then go over the car again and remove all dirt by rubbing lightly with a soft wool sponge, which is used exclusively for the body, hood and upper surfaces of the fenders. At the same time, apply gently from a hose an abundance of water. Rinse the sponge frequently in clean water to remove any grit. After the washing is completed squeeze the sponge as dry as possible and pick up all water from crevices.

Then thoroughly wet a clean soft chamois, wring it as dry as possible, and dry the finish. Rinse the chamois and wring it out frequently. Do not rub the finish or apply more pressure than is necessary to dry off the water. Water evaporates quickly and leaves the finish in good condition.

If it is desired to chamois the wheels and chassis, wet the parts with clean water if they have become dry, and then wipe them. Use a separate chamois for the chassis. Do not use on the body a chamois that has been used on the chassis or wheels.

Do not use soap, gasoline, kerosene or anything of this nature on the finish. Such ingredients attack the varnish.

Do not clean the glass with preparations which may contain harmful ingredients. Use only cleaning compounds which are known to have no destructive effects on highly polished glass.

GASOLINE SYSTEM

General Description

The supply of gasoline is carried in a tank at the rear of the car and is forced to the carburetor by air under a pressure of one to two pounds. A float controlled needle valve in the carburetor maintains the gasoline at the correct level in the carburetor bowl.

The gasoline pressure is indicated by a gauge on the instrument board (see Fig. 1.) A hand air compressor on the instrument board is provided, by which pressure for starting may be obtained when the car has been standing long enough to make this necessary. When the engine is running, pressure is automatically maintained by an air compressor on the engine, driven by an eccentric on the front end of the cam shaft. An air pressure relief valve connected in the air line prevents the pressure rising above that for which the valve is set.

The pipe extending almost to the bottom of the gasoline tank is a continuation of the gasoline line. The air line simply enters the tank at the top and does not extend into the gasoline.

A valve is provided by which the gasoline may be shut off at the tank. The handle of the valve is just to the left of the quantity gauge.

Filling the Gasoline Tank

The gasoline tank is at the rear of the car. (See Fig. 34.) The filler cap may be removed after loosening the thumb screw on the top of the cap.

Gasoline should be strained through a wire cloth of very fine mesh before it is poured into the tank. If dirt or water is allowed to enter the gasoline system it may cause great annoyance by getting under the carburetor inlet needle and causing the carburetor to flood.

After filling the tank, screw on the filler cap and tighten the thumb screw. This is necessary to prevent leakage of the air pressure by which the gasoline is forced to the carburetor.

Settling Chambers and Strainers

There are two settling chambers in the gasoline system, one at the under side of the gasoline tank and the other attached to the left hand side of the frame of the car just under the front floor boards.

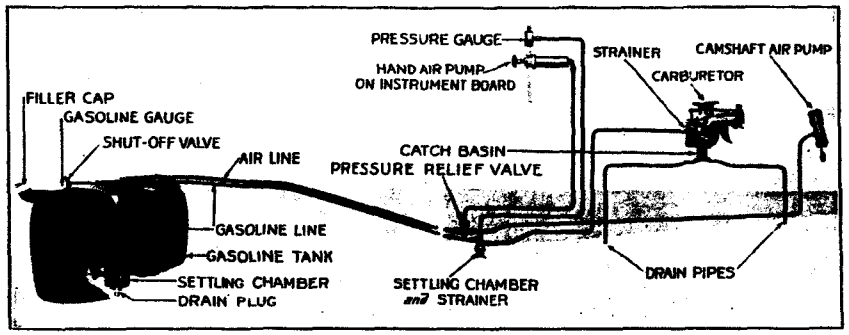

Fig. 34. Gasoline System.

There is a drain plug at the bottom of each of these settling chambers. Every one thousand miles or oftener the plug in the settling chamber under the floor boards and the plug in the settling chamber underneath the gasoline tank should be removed to drain the settling chambers of any dirt or water which has accumulated. Before unscrewing either of the plugs, the car should be driven out of the garage into the open and the gasoline system relieved of all air pressure by removing the gasoline filler cap on the tank. Be sure there is no fire near the car when these plugs are removed.

There are two strainers in the gasoline system which require cleaning periodically—one at the point where the gasoline feed pipe is attached to the carburetor, and the other attached to the drain plug in the settling chamber under the front floor boards. (See Fig. 34.)

The strainers should be removed and cleaned every one thousand miles or oftener. Shut off the gasoline at the tank before removing either strainer. In cold weather it may be found necessary to remove the strainers more frequently, to prevent an accumulation of water at these points which would freeze and prevent gasoline from flowing to the carburetor.

CARBURETOR

The carburetor is correctly adjusted when the car is assembled and unless tampered with should not require readjustment. It is unnecessary to change the adjustment for changes in season and weather.

Good carburetor action cannot be expected until the engine is thoroughly warmed up. Imperfect carburetor action while the engine is cold does not indicate that the carburetor requires adjustment.

If adjustment of the carburetor seems to be necessary, the car should be taken to a Cadillac distributor or dealer. The adjustment should not be attempted by anyone unfamiliar with adjustments of this nature.

Personal Danger of Running Engine in Closed Garage

Carbon monoxide, a deadly poisonous gas, is present in the exhaust of gasoline engines. Increasing the proportion of gasoline to air in the mixture fed to the engine, in other words, enriching it, increases the amount of carbon monoxide given off.

Because of the presence of carbon monoxide it is very dangerous to run the engine for any length of time while the car is in a small, closed garage. If the doors and windows are open the danger is very much lessened, but it is far safer, particularly if an adjustment of the carburetor is being made, to run the car into the open.

Serious personal injury may be caused by the presence of carbon monoxide in a garage if the percentage of it in the air is greater than a very small fraction of one per cent. Unconsciousness may result without warning. It is reported that no indication of danger is given by personal discomfort until too late. Deaths resulting from the presence of carbon monoxide in garages have been reported.

COOLING SYSTEM

General Description

The cooling system is of the water forced circulation type. The circulation through each cylinder block is independent of the circulation through the other, two pumps being provided.

The temperature of the liquid circulated by the pumps is under thermostatic control, the purpose of which is to permit water circulated through the water jackets of the cylinders and carburetor intake manifold to warm up to the temperature at which the engine operates best very soon after the engine is started and to prevent the temperature dropping below this point while the engine is running.

Condenser

A condenser, the purpose of which is to prevent the loss of the cooling medium by evaporation, is attached to the right hand side of the frame just beneath the front floor boards.

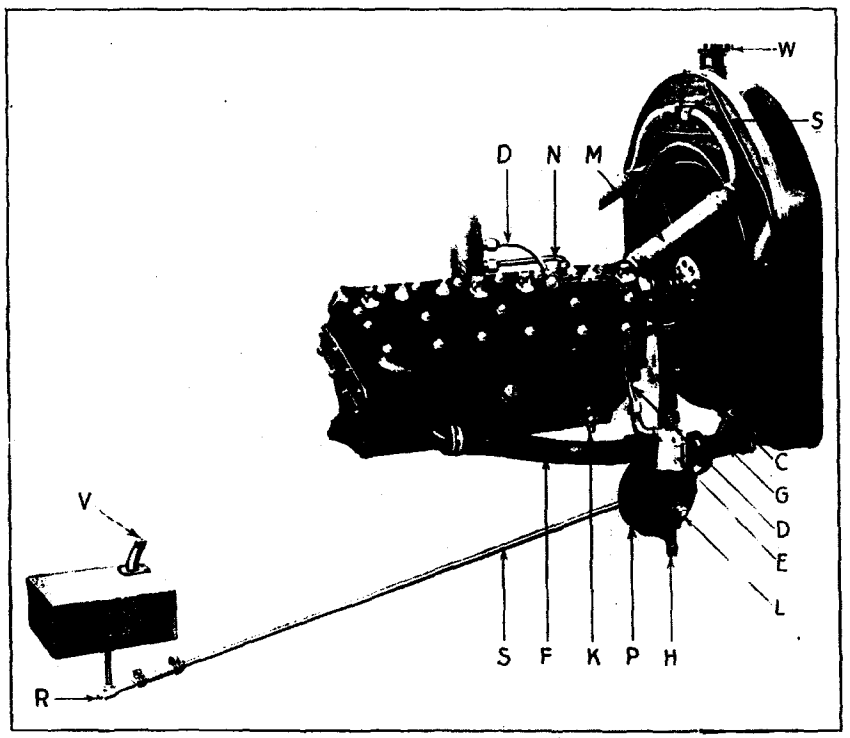

Fig. 35. Cooling System, Showing Path of Circulation.

The proper operation of the condenser requires an air tight joint at the radiator filler cap. To make it possible to screw down and tighten the cap without injury to the rubber gasket, two metal washers are interposed between the head of the cap and the gasket. It is important that nothing be installed on the radiator filler cap which causes a leak at the cap or which makes necessary the elimination of the steel washers or cutting a hole through the rubber gasket.

Refilling the Cooling System

Fill the cooling system with water during warm weather and with a suitable anti-freezing solution during freezing weather. (See under "Anti-freezing Solution," page 22.) To fill the cooling system proceed as follows:

Replace the water pump drain plugs "H," (Fig. 35), and close the cylinder drain cocks "K."

The points of the triangular shaped indicators on the ends of the shafts "L" should point up. If they do not, turn the shafts to bring the points up. The shafts may be turned in either direction.

There is a drain cock "K" in each cylinder block and drain plug "H" and a shaft "L" in each water pump.

Remove the radiator filler cap "W" and fill the cooling system. Screw down the radiator filler cap firmly in replacing it. This is important. (See under "Condenser," page 49.) Turn the water pump shaft "L," so that the point of the triangular indicator points down.

To fill the radiator condenser, take out the removable floor board just forward of the transmission control lever. (See Figure 1.) Remove the condenser filler cap "V" (Fig. 35), and fill the condenser one-half full, using the same liquid as in the radiator. Replace the filler cap, making sure that the vent hole in the side of the cap is open.

Note—On the Victoria, the condenser filler is accessible through an opening in the floor just forward of the auxiliary seat. This opening is provided with a sliding cover and is concealed by the carpet and by the seat when folded down.

Adding Cooling Solution

If only a small amount of cooling solution is necessary to fill the cooling system, it is necessary only to remove the radiator filler cap and pour in the required amount.

Screw down the radiator filler cap firmly after replacing it. This is necessary to insure the proper operation of the condenser.

Draining the Cooling System

To drain the cooling system, remove the water pump drain plugs "H" (Fig. 35) and turn the water pump shafts "L" so that the points of the triangular indicators on the ends of the shafts point up. The shafts may be turned in either direction. Then open the cylinder drain cocks "K."

There is a drain cock "K" in each cylinder block and a drain plug "H" and a thermostat shaft "L" in each water pump.

To drain the condenser, remove the drain plug "R."

Cleaning the Cooling System

The cooling system should be drained and flushed out every two or three months. This can be done in the following manner:

Run the engine with the radiator covered until the liquid in the cooling system is boiling hot, then turn the water pump shafts "L" (Fig. 35) so that the points of the triangular indicators on the ends of the shafts point up.

Shut off the engine, immediately remove the water pump drain plugs "H," and open the cylinder drain cocks "K." (Bear in mind in removing the drain plugs "H" that the liquid is scalding hot.) Remove the condenser drain plug "R."

If an alcohol anti-freezing solution is drawn off part of it may be used again if the sediment is allowed to settle. In case it is used the specific gravity should be tested with an hydrometer, after it has thoroughly cooled.

When the liquid has drained off, replace the drain plugs "H," close the drain cocks "K" and fill the cooling system with hot water. Then repeat the operations outlined above.

If, in draining the second time, the water is very dirty, it may be desirable to repeat the flushing operation a third time, using a solution of sal-soda. If the sal-soda solution is used, be sure that it is drained out and the cooling system flushed again with clear water.

The sal-soda solution should not be allowed to get on the finish of the hood or radiator.

During freezing weather be sure to refill with a suitable anti-freezing solution.

Cleaning the Water Strainers

There are two strainers in the cooling system, one in each radiator outlet. They should be removed and cleaned at the end of the first 500 miles of travel and every 2,000 miles thereafter. If sediment is allowed to accumulate at these points the circulation of water is interfered with or prevented and, as a result, the engine overheats and pounds.

The location of the strainers is illustrated in Figure 36. The radiator splash shield is cut away to show the removal of the left hand strainer. The strainer may be withdrawn after simply unscrewing the plug.

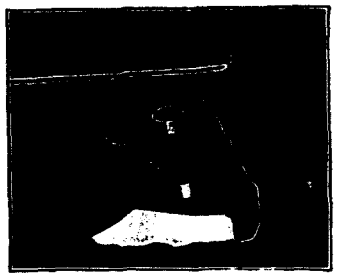

Fig. 36. Showing Left Hand Strainer Removed.

CADILLAC-DELCO ELECTRICAL SYSTEM

General Description

The Cadillac-Delco system is the single wire, single unit system. One side of the motor, generator, storage battery, lamps, horn and ignition apparatus is connected to some part of the frame of the car or the engine. The other connections are made with copper wires or cables.

The motor generator serves both as a generator of current and as an electric motor for cranking the engine when starting. The principal elements of the motor generator are an armature and a field. There are two windings on the armature and two in the field—one on the armature and one on the field are used when the motor generator is used as a generator and the other windings when it is used as a motor.

GENERATION OF CURRENT

When the engine is not running and the lights are turned on, the ammeter, which is located on the instrument board (See Figure 1) indicates on the "discharge" side of the dial, the amount of current being drawn from the storage battery for the lights. When the ignition switch is turned on the ammeter indicates in addition the current used in slowly rotating the armature of the motor generator. When the starter button is pushed down, the current is no longer required for slowly rotating the armature of the motor generator. The ammeter then indicates only the current used for ignition and lights (if turned on.) The ammeter does not indicate the amount of current used in the cranking operation.

Before the engine is running fast enough to generate sufficient current to equal the current demand, the ammeter indicates on the "Discharge" side the amount of current being drawn from the storage battery. When the engine has attained a speed sufficient to generate current to more than equal the demand, the ammeter indicates on the "Charge" side the excess current which passes to the storage battery and recharges it.

Ordinarily, with all lights switched off, sufficient current is generated to start recharging the battery when the car is operated in high gear at speeds between four and six miles per hour and, of course, at much lower speeds when the car is operated in low or intermediate gear. With all lights turned on sufficient current is generated to take care of the requirements at a speed of ten to fifteen miles per hour and at speeds greater than this the surplus current passes through the storage battery and recharges it. In other words, the ammeter indicates the rate at which the storage battery is being charged or discharged.

To determine the total output of the generator turn off all the lights and add the amount of current used for ignition, i. e., two to three amperes, to the ammeter reading.

MOTOR GENERATOR COMMUTATORS

Do not under any conditions put oil of any kind on the commutators of the motor generator.

IGNITION SYSTEM

The ignition system embodies the following elements: A source of current, the generator, or at low speeds, the storage battery; an ignition timer, which interrupts the low tension current at the proper instant to produce a spark in the high tension circuit; an induction coil, transforming the primary current of six volts into one of sufficient voltage to jump between the points of the spark plugs; a condenser, which assists the induction coil to raise the voltage, and which protects the contact points of the ignition timer from burning; and a high tension distributor which directs the distribution of the high tension current to the spark plugs in the respective cylinders.

Spark Plugs

Spark plugs should be clean. When carbon or soot is permitted to collect on them, it causes a short circuiting of the current and prevents the proper ignition of the charge in the cylinder. A good method of cleaning plugs is to wash them in alcohol. Use gasoline in the absence of alcohol.

In order to get the best results the points on the spark plug should be .023 of an inch apart.

Cleaning Lamp Reflectors

The reflectors of the head and side lamps are plated with pure silver. In polishing, extreme care must be exercised in selecting materials which will not scratch the silver.

Powdered dry rouge and a chamois skin are recommended. If the reflectors are tarnished, moisten the rouge with alcohol, and apply with the chamois. Then polish with a dry chamois and rouge.

The chamois should be soft and must be kept free from dust. Do not use the chamois for any other purpose.

Socket for Portable Lamp

A socket for a portable lamp is attached to the back of the instrument board just to the right of the hand air pump.

Lamp Bulbs

It is recommended that bulbs for the lamps be purchased from a Cadillac distributor or dealer. In any event bulbs should be used which have the correct voltage and candle power rating. The following is a table of correct voltages and candle powers:

Lamps	*Voltage*	*Candle Power*
Head	7	18
Side	8	6
Speedometer	4	2
Tail	4	2
Clock	8	2
Tonneau	8	2
Portable	8	6
Dome, enclosed cars	8	6
Quarter, enclosed cars	8	2

STORAGE BATTERY

General Description

The storage battery consists of three cells. It is carried in a compartment in the left hand dust shield. The cover of this compartment forms a part of the dust shield and may be removed after unscrewing the two nickel-plated screws with a screw-driver.

The battery is designed especially for the Cadillac-Delco electrical cranking, lighting and ignition system and is made by the Electric Storage Battery Co. of Philadelphia, Pa., whose products for the trade are known as "Exide" batteries.

The specific gravity of the acid solution in the battery is an indication of the state of charge of the battery. (See under "Hydrometer Syringe," page 54.) In a fully charged battery the specific gravity should be from 1.270 to 1.290. If the specific gravity registers from 1.150 to 1.170 it indicates that the battery is practically discharged. A battery discharged below a specific gravity of 1.150 will not crank the engine nor will it burn the lights to full candle-power when the engine is not running.

Caution:—Never run the engine with the storage battery disconnected or while it is off the car. Very serious damage to the motor generator may result from such action. Do not remove the motor generator or attempt any adjustment of the circuit breakers or remove any of the wires to the circuit breakers, without first disconnecting the storage battery.

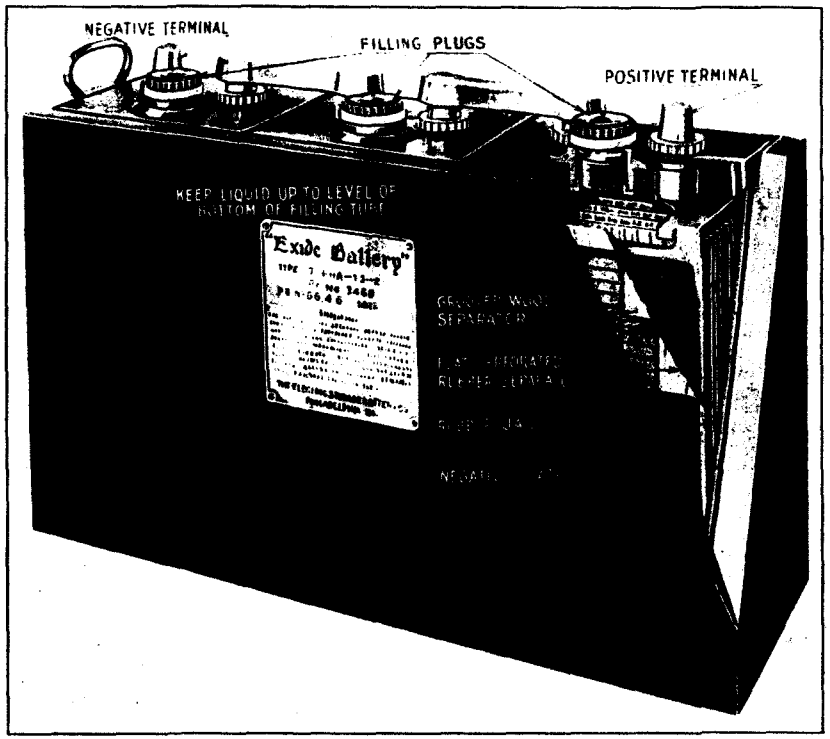

Fig. 37. Storage Battery, Sectional View.

Adding Water to Storage Battery

The acid solution in the battery must always cover the plates and the level of the acid solution should be kept even with the bottom of the filling tubes. Water should be added frequently enough to keep the level up to this point. *Do not add acid.* Ordinarily water should be added every 500 miles, but it should be added at least every two weeks and more frequently if found necessary. Usually it will require only a teaspoonful or so of water; in hot weather it may require more. Be sure to replace and tighten the filling plugs after adding water.

To remove a filling plug, turn it as far as possible in the counter-clockwise direction, then lift it straight up. To replace, hold it so that the large arrow is perpendicular to the center line of the car, set the plug in place and turn it in the clockwise direction until tight.

If a plug is left out or is loose, the acid solution will escape from the cell, especially when the battery is being charged. If a plug is lost or broken, you should obtain a new one and install it as soon as possible.

If one cell regularly requires more water than the others, thus lowering the specific gravity of the acid solution in that cell, a leaky jar is indicated. Even a very slow leak will in time result in the loss of all the acid solution in the cell. A leaky jar should immediately be replaced by a new one.

The water for filling the battery must be pure. Distilled water, melted artificial ice or fresh rain water are suitable for this purpose. If rain water is used, it should not be allowed to come in contact with any metal. It should not be caught from a metal roof or in a metal receptacle.

Never keep the water in a metal container, such as a metal bucket or can. It is best to get a bottle of distilled water from a druggist or from an ice plant. A quart will last a long time. The whole point is to keep metal particles out of the battery. Spring water, well water or hydrant water from iron pipes generally contains iron and other metals in solution, which will ultimately cause trouble if used.

Hydrometer Syringe

An hydrometer (Fig. 38) is an instrument for testing the specific gravity of a liquid. An hydrometer syringe is an hydrometer specially designed for convenience in testing the specific gravity of the acid solution in storage batteries. Hydrometer syringes are not a part of the electrical system but can be purchased from any "Exide" service station.

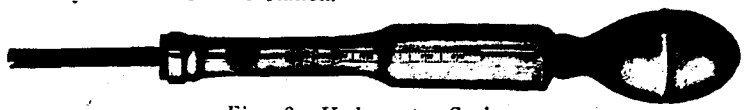

Fig. 38. Hydrometer Syringe.

To test the solution in the storage battery with an hydrometer syringe, proceed as follows:

Remove the filling plug from the cell to be tested, compress the rubber bulb of the syringe, and insert the pipette into the solution of the cell. Hold the syringe as nearly vertical as possible, and gradually lessen the pressure on the bulb until enough of the acid solution is drawn into the syringe to float the hydrometer. The specific gravity reading is taken on the hydrometer at the surface of the acid solution in the glass barrel.

If the acid solution is below the top of the battery plate, or so low that it is not possible to draw enough of the solution into the barrel to float the hydrometer, fill the cell to the proper level (see Figure 37), by adding pure water, run the engine until the water has become thoroughly mixed with the acid solution, and then take the reading as above described. The engine should run for several hours after water is added before an hydrometer reading is taken.

Preparing Battery for Winter Storage

When the car is stored for the winter the level of the acid solution should be even with the bottom of the filling tubes. (See under "Adding Water to Storage Battery," page 53.) If water is added it should be added just before the last time the car is used so that it will be thoroughly mixed with the acid solution. When the car is stored, the specific gravity of the acid solution should register from 1.270 to 1.290. In this condition there is no danger of the acid solution freezing. The specific gravity of water is 1.000 and water freezes at 32 degrees F. above zero.

Unless the battery is fully charged or nearly so it is probable that the acid solution in the battery will freeze and cause extensive damage.

The following is a table of the freezing temperatures of sulphuric acid and water solutions of specific gravities from 1.050 to 1.300.

Specific Gravity (Hydrometer Reading)	Freezing Temperature (Degrees Fahr.)
1.050	+27°
1.100	+18°
1.150	+ 5°
1.164	0°
1.200	−17°
1.250	−61°
1.275 to 1.300	−90°

The battery should be charged every two months during the "out of service" period, by running the engine. If the above is impossible, and there is no garage equipped for charging batteries to which it may be conveniently sent, the battery may be allowed to stand without charging during the winter, provided the specific gravity of the acid solution registers from 1.270 to 1.290 at the time the car is laid up. Much better results and longer life from the battery will be obtained by giving the periodic charges.

The wires of the battery should be disconnected during the "out of service" period, as a slight leak in the wiring will discharge the battery.

Placing Battery in Service Again

If the battery has received periodic charges it will be unnecessary to give it any special attention, other than to fill it to the proper height with distilled water and connect the wires which were disconnected when the car was stored. After the car has been driven for a number of hours, the specific gravity of the acid solution should be taken with a hydrometer syringe. The solution should register from 1.270 to 1.290 if the battery is fully charged.

A greenish deposit sometimes exists on the terminals of a storage battery which has been stored. This deposit may be removed with a solution of bicarbonate of soda (common cooking soda) in water. Do not allow any of this solution to get into the cells of the battery.

If the battery has not been kept charged during the winter, it is advisable to remove it from the car and have a plant equipped to take care of the work, give it a fifty-hour charge at a 4-ampere rate, before putting it into service again.

Sediment

The sediment which gradually accumulates in the bottom of the jars, should be removed before it reaches the bottom of the plates, as it is very harmful to the battery. The need of cleaning may be determined by inspection. Its necessity is indicated by lack of capacity, excessive evaporation of the acid solution and excessive heating when charging. If a battery is in need of cleaning or repairs, it is best to communicate with a Cadillac distributor or dealer or with the nearest Exide Depot, who will advise you where to ship the battery. *Do not ship batteries without receiving instructions.*

Exide Depots and Sales Offices

The Electric Storage Battery Company, whose general offices and works are at Alleghany Avenue and 19th Street, Philadelphia, Pa., has service stations in towns of any considerable size where battery repair work is done, as well as sales offices and Exide battery depots in a number of the larger cities of the country, where complete assembled batteries and repair parts are carried in stock. For the location of the nearest Exide depot or service station, write the local Cadillac distributor or dealer, or, if preferred, the Electric Storage Battery Company, at Philadelphia.

TRANSMISSION AND CLUTCH

TRANSMISSION

General Description

The transmission is in unit with the engine, and is of the selective type of sliding gear. The gear changes are accomplished by the movement of a hand lever at the driver's right (see Figure 1, also under "Gear Shifting," page 10.)

When traveling in high gear, power from the engine is transmitted through the transmission without passing through any of the transmission gears. Power is transmitted through transmission gears when the car is operated in intermediate, low, or reverse gear.

Changes of gear must never be attempted without first disengaging the clutch by holding down on the clutch pedal.

Lubrication

The transmission case should always contain lubricant enough to bring the level up to the filler plug in the right-hand side of the case. The level should be inspected at least every 2,500 miles, and lubricant added if necessary.

At the end of every 5,000 miles the transmission case should be thoroughly drained and refilled with fresh lubricant.

Cadillac Rear Axle and Transmission Lubricant is recommended for the transmission. In its absence steam cylinder oil mixed with cup grease may be used. The consistency of the mixture should be such that the mixture will flow easily at temperatures of from 60° to 70° Fahrenheit.

CLUTCH

General Description

The main clutch is of the multiple disc dry plate type. The driving discs are covered on both sides with a friction material composed largely of asbestos, and are driven by gear teeth in a clutch ring bolted to the fly wheel of the engine.

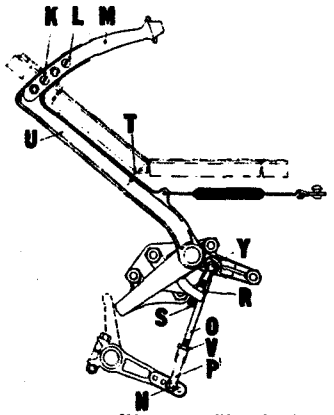

Fig. 39. Clutch Control.

The driven discs are not covered. These discs are carried on a clutch hub and drive the clutch hub through keys. The clutch hub in turn drives the transmission shaft.

When the clutch is engaged by allowing the clutch pedal to come toward you, the clutch spring forces all of the discs together. The resulting friction between the driving and driven discs drives the transmission shaft and the car when the transmission control lever is in other than neutral position.

The clutch pedal should be adjusted occasionally to compensate for wear on the facings of the clutch discs. This adjustment is explained below under "Adjustment of Clutch Pedal Clearance."

Adjustment of Clutch Pedal Clearance

After the car has been run for some time it may be found that the facings on the clutch discs have become compressed or worn to some extent and that consequently the clutch pedal strikes the stop screw before the clutch is fully engaged. When this condition exists a readjustment may be made as follows:

Remove the pin "N," Fig. 39, and unscrew the yoke "P," which is threaded on the rod "O," so that when the pin "N" is replaced the clutch pedal has a movement back and forth of one and one-quarter inches without starting to release the clutch. Secure the pin "N" with a cotter pin and tighten the lock nut "V."

Adjustment of Length of Clutch and Brake Pedals

The clutch and brake pedals are each made in two parts slidingly adjustable to accommodate different drivers.

STEERING GEAR

General Description

The steering gear is of the worm and sector type. Adjustments are provided in the steering gear for taking up play, which may result after long use.

Lubrication

The mechanism of the steering gear is lubricated through fillers "A" and "B," Figure 40. The filler at "A" is threaded to fit a connection furnished with the oil gun.

Cadillac Steering Gear Lubricant should be used for this part. In its absence, Cadillac Rear Axle and Transmission Lubricant mixed with two to three per cent of flake graphite can be used.

Filling at "B" is facilitated by first turning the steering wheel so that the front wheels face to the right as far as they go. The car should be in motion when the steering wheel is turned.

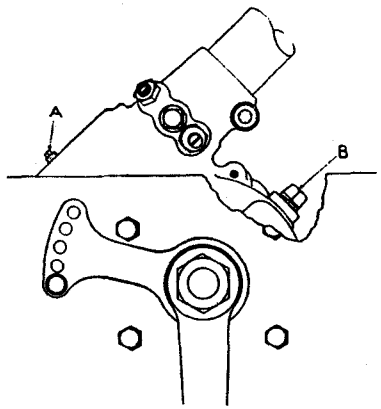

Fig. 40.

Steering Gear Lubrication

WHEELS

The adjustment of wheel bearings or the removal of wheels should not be attempted by one unfamiliar with work of this nature. It is recommended that the car be taken to a Cadillac distributor or dealer for this work.

Removing Front Wheel

Jack up the axle until the wheel is free from the ground.
Remove the hub cap by unscrewing it.
Remove the lock nut "A," Fig. 41.
Remove the washer "B."
Remove the adjusting nut "C."
The wheel may now be removed.
In removing the right front wheel remove the speedometer driver.

Before replacing the wheel, see that the bearings are clean and that they are filled with light grease. Be sure that the grease is free from dirt and grit.

Replacing Front Wheel and Adjusting Bearings

In replacing the wheel, adjust the nut "C" very carefully. (See under "Caution in Adjusting Wheel Bearings," page 59.) Replace washer "B," being sure that one of the holes in the washer fits over the stud "D." Replace the lock nut "A" and tighten carefully.

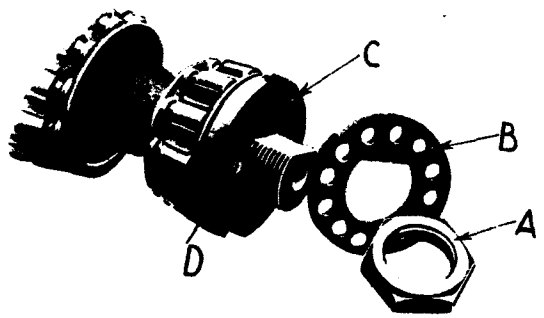

Fig. 41. Front Wheel Bearings and Adjusting Nuts.

The thread on the right hand spindle is a right hand thread; the thread on the left hand spindle is a left hand thread. Therefore, in tightening the adjusting and lock nuts, "C" and "A," they should be turned in the same direction in which the wheels turn when the car moves forward.

It is better to adjust the wheel bearings a little too loose than tight. If, after the adjustment is apparently correct, a hole in the washer "B" is not directly over the stud "D," it is best to loosen the adjustment rather than to tighten it.

Removing Rear Wheel

Remove the lubricator "A," Fig. 42.

Remove the hub cap "B" by unscrewing it.

Remove the spring locking ring "K."

Withdraw the axle shaft "C."

Jack up the axle so that the wheel will clear the floor.

Remove the lock nut "D," the washer "E" and the adjusting nut "F."

The wheel can then be taken off.

Replacing Rear Wheel and Adjusting Bearings

Before putting the wheel on again, see that the bearings "G" and "H" are clean and filled with light grease which is free from dirt and grit.

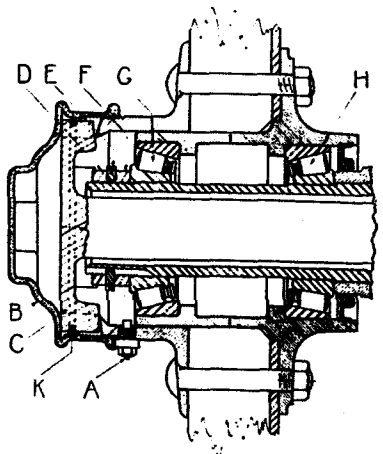

Fig. 42. Sectional View of Rear Hub, Showing Bearings.

In putting the wheel on again, set the adjusting nut "F" very carefully. (See under "Caution in Adjusting Wheel Bearings.") Place the washer "E" in position, and tighten the lock nut "D."

CAUTION IN ADJUSTING WHEEL BEARINGS

When adjusting the wheel bearings, with which the wheels are equipped, great care must be exercised not to get them tight. These bearings will revolve even when adjusted very tightly, but that condition is sure to prove disastrous. They should be adjusted so that a very slight amount of play or looseness may be discerned.

If, after a bearing has been adjusted to a point that is apparently correct, the locking device cannot be placed in position without changing the adjustment, it is far better to *loosen* the adjustment until it can be secured with the locking device than to *tighten* the bearing adjustment.

REAR AXLE

General Description

The rear axle is of the full floating type. The wheels rotate on the axle housing. The axle shafts do not carry the weight of the car, but simply transmit power from the differential to rotate the wheels.

BRAKES

General Description

There are two pairs of brakes. The regular service brakes, which are operated by the right pedal, contract upon the outside of the drums. The hand brakes, operated by a hand lever, expand within the drums.

Connections from the right pedal and hand lever are made through equalizing bars so that each drum will be gripped with practically the same pressure. While these equalizing bars compensate for a certain amount of inequality in the tension, it is desirable to adjust the brakes as nearly alike as possible.

The brake band linings can be renewed when necessary.

When the brake band linings are wet and muddy they are less effective than at other times. Hence more care must be exercised in driving at such times.

The brakes and all parts relating thereto should be examined and tested occasionally to be sure that they are in serviceable condition.

The joints and all working parts should be oiled occasionally to avoid any possibility of the parts rusting and sticking together. The internal brake joints are accessible after removing the small covers "F," Fig. 43, from the brake drums. Care should be taken not to apply too much oil to the internal brake joints, as it may get on the brake band linings and impair the efficiency of the brakes.

Adjustment of Foot Brakes

Brake adjustment should not be attempted by one unfamiliar with work of this kind. It is recommended that the car be taken to a Cadillac distributor or dealer.

Provision is made in each brake for its adjustment. Do not attempt to adjust the brakes by the pull rods. The brakes cannot be properly adjusted in this manner. To adjust each foot brake, proceed as follows:

Remove the cotter pin in the adjusting screw "A," Fig. 43, and turn the screw "A" until that part of the brake band lining opposite the screw just clears the drum. Adjust the two nuts "B" on the yoke bolt so that the lower part of the brake band lining just clears the drum.

Then adjust the nut "C" on the upper end of the yoke bolt so that the lever "D" is brought into the position shown in Fig. 43, when the brake is fully applied—*i. e.*, so that the lower edge of the pin "T" and the upper edge of the pin "S" are tangent to an imaginary horizontal line shown at "X." Lock all adjustments.

Adjustment of Hand Brakes

Brake adjustment should not be attempted by one unfamiliar with work of this kind. It is recommended that the car be taken to a Cadillac distributor or dealer.

Provision is made in each brake for its adjustment. Do not attempt to adjust the brakes by the pull rods. The brakes cannot be properly adjusted in this manner. To adjust each hand brake proceed as follows:

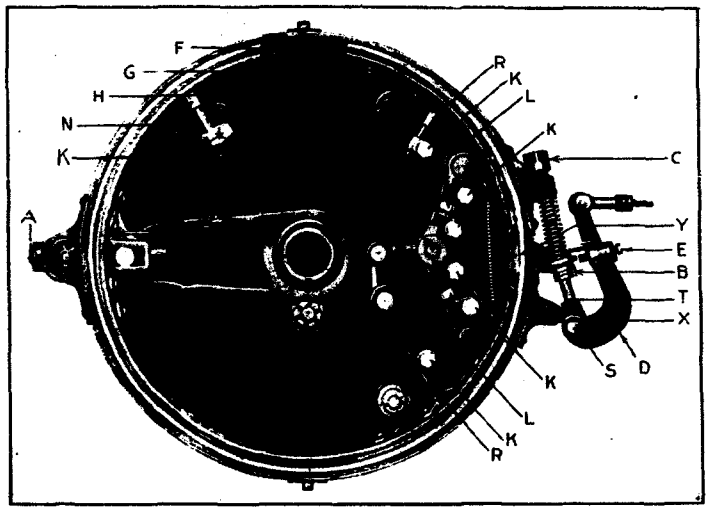

Fig. 43. Internal and External Brakes. Wheel Removed.

Place a jack under the rear axle housing and raise the axle so that the wheel can be turned by hand. Remove the cover "F," Fig. 43; this may be done by loosening the lock nut "G" and turning the bolt to the left about one-quarter of a turn, which releases the clamping bar "H."

Rotate the wheel until the opening gives access to the screw "J." Turn the screw "J" until that part of the brake band lining opposite the screw just clears the drum.

Rotate the wheel and through the opening loosen the seven locking screws "K." Then turn the two adjusting screws "L," which have right-hand threads on one end and left-hand threads on the other, so that when the brake is fully applied the center of the pin "M" stands 3 3/16 inches to 3¼ inches away from the inside of the brake drum at "Y." The screws "L" should be turned equally and in the same direction.

Release the brakes and adjust the stop screws "R" so that the upper and lower parts of the brake band lining are equidistant from the brake drum. Adjust the stop screw "N" so that the head of the screw just touches the inside of the brake band. Tighten the seven locking screws "K" and replace the cover "F."

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REPAIR PARTS

Ordering New Parts

With more than a hundred thousand Cadillac automobiles in use, it is obviously impractical for us to deal directly with each Cadillac owner. We cannot open accounts with or sell at a discount to any except regular distributors with whom annual contracts are made.

To avoid unnecessary delay and useless correspondence new parts should, where possible, be ordered from the distributor or dealer from whom the car was purchased or from the nearest Cadillac distributor or dealer, who is generally in a position to know what is desired and to supply it from his stock. If he cannot do so, he can order it for you.

Where, however, conditions are such as in our judgment to warrant it, we will fill orders for parts at current list prices, f. o. b. factory, provided the order is accompanied by cash. In ordering, send the engine number and type of the car with an accurate description of the part desired, preferably accompanied by a sketch with dimensions. If this cannot be done, return the part properly tagged, transportation charges prepaid. (See below under "Returning Parts.") Otherwise, we cannot promise prompt service or to fill the order intelligently.

Our responsibility in all cases ceases with delivery to the transportation company.

Returning Parts

In the event that parts are returned to the factory, the transportation charges must be prepaid or the parts will not be accepted. They should be properly tagged with the name of the owner and the engine number of the car, and a letter should be sent, giving complete instructions regarding the disposition of the parts.

Tires, Speedometers and Clocks

In cases of repairs to tires, speedometers or clocks, correspondence should be opened directly with the manufacturers or one of their branches. If necessary the parts should be sent to them. Transportation charges should be prepaid.

CADILLAC MOTOR CAR CO.
1915-19 Parts & parts prices

Price list for types s
51-53-55-57. Effective June 1,
1926. 8th ed.

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Price List

For Types 51-53-55-57

ENG'R'G. TESTS

List of Parts for Types 51-53-55-57 combined.

Interchangeability of Parts Indicated.

This Price List is effective June 1, 1926, and supersedes all previous lists. Parts are subject to removal without notice.

PRICE $4.70 NET WITH BINDER

Copyright 1919 by

Cadillac Motor Car Co.

Detroit, Michigan, U. S. A.

EIGHTH EDITION

Price List

For Types 51-53-55-57

ENG'R'G. TESTS

List of Parts for Types 51-53-55-57 combined.

Interchangeability of Parts Indicated.

This Price List is effective June 1, 1926, and supersedes all previous lists. Parts are subject to removal without notice.

PRICE $4.70 NET WITH BINDER

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Detroit, Michigan, U. S. A.

EIGHTH EDITION

TO THE USER

With more than a hundred and sixty thousand Cadillac automobiles in use, it is obviously impractical for us to deal directly with Cadillac users. We cannot open accounts with or sell at a discount to any except regular distributors with whom we make annual contracts.

To avoid unnecessary delay and correspondence, new parts should, where possible, be ordered from the distributor or dealer from whom the car was purchased, or from the nearest distributor or dealer, who is in a position to know what is desired and usually to supply it from his stock. If he cannot do so he can order it for you.

Where, however, conditions are such as in our judgment to warrant it, users' orders for parts will be filled, provided the order is accompanied by cash.

ORDERING PARTS

Unless these instructions are followed carefully we cannot be responsible for errors or delay.

This Parts List is arranged in groups to assist in locating readily the serial number and name of a part desired; for example, the Crankcase, Carburetor, Transmission Control, etc. Under these headings will be found listed all the parts that compose the respective groups.

Parts must be ordered by the serial number and by the name in full as given herein, except in telegraphed orders, when the code word may be used. (See under "Ordering by Telegraph.") The type and engine number must be given on the order. (See under "Engine Number.") If in doubt as to the correct name and serial number of the part desired, send us a sketch of it with dimensions, or return the used part. (See under "Returning Parts.")

Confusion in ordering "Right" and "Left" parts will be avoided if it is remembered that the "Right" side is that at the right of the driver.

Our responsibility in the shipment of parts ceases with delivery to the transportation company.

ORDERING BY TELEGRAPH

The Cadillac Motor Car Company cannot be responsible for errors which may occur as the result of incorrectly written or incorrectly transmitted telegrams.

Code words should be used only in direct messages and when the name and serial number cannot be transmitted in ten words. In ordering by mail, night letter, day letter or by direct message, when the order can be written in ten words, the serial number and name of the part should be given. Code words in night letters or day letters will subject the message to full toll charges by the telegraph company.

USE OF CODE

The telegraph code used in this book has been formulated for convenience and economy in telegraphing orders for parts. While it is extremely simple to understand and use, it must be used with absolute exactness or it is worse than useless.

These same code words are used in all Cadillac parts lists. It is therefore necessary in ordering from this book to precede the code words for the various items by the KEY WORD "UNITE."

For example, the following order is to be codified. Ship by express one sprocket on crank shaft for cam drive, one exhaust manifold, right, one piston ring, one drive shaft for water pump.

The first item is listed on Page 5 under the heading Engine Chains and Sprockets. The code word for this item is T I L A B.

The second item is listed on Page 12 under the heading Intake and Exhaust Manifolds. The code word for this item is K A B E D.

The third item is listed on Page 13 under the heading Pistons and Wrist Pins. The code word for this item is B A F E D.

The fourth item is listed on Page 16 under the heading Water Pumps and Drive Shafts. The code word for this item is Z I L E D.

The codified telegram should therefore read:

Cadillac Motor Car Company,
Detroit, Michigan.

Express UNITE one each T I L A B, K A B E D, B A F E D, Z I L E D.

Signed.....

RETURNING PARTS

In the event parts are returned to the factory for any purpose, the transportation charges must be prepaid or the parts will not be accepted. The name and address of the shipper must be written plainly on the package. Each individual part must also be tagged with the name and address of the shipper, the name of the owner of the car and the type and engine number of the car, also the number of miles the car has been driven. Be sure to write us at the time the package is shipped, stating what is being shipped, how it is being shipped (mail, express or freight), and what disposition is to be made of the parts. This is necessary regardless of any former correspondence. In addition, reference should be made by date to previous correspondence.

TIRES, SPEEDOMETERS, CLOCKS AND STORAGE BATTERIES

When purchasing new parts or in cases of repairs for tires, speedometers, storage batteries or clocks, correspondence should be opened directly with the manufacturers, or one of their branches. If necessary, the parts should be sent to them. Transportation charges should be prepaid.

KEY TO ABBREVIATIONS

In many cases different parts are used on chassis of different wheel base length and with different body styles. To indicate on which chassis or with which bodies parts are used, the following abbreviations are used:

Berline	(BL)	Types 51, 53
Brougham	(B)	Types 53, 55
**Brougham, Type A, Job 2730	(B1)	Type 57
**Brougham, Type B, Job 3050	(B2)	Type 57
Convertible	(CV)	Type 55
Coupe	(C)	Types 51, 53, 55
Closed cars	(CC)	Types 51, 53, 55, 57
Club roadster	(CR)	Type 55
Five Passenger	(5P)	Type 51
Imperial	(I)	Types 55, 57
Landaulet	(LD)	Types 55, 57
Limousine	(L)	Types 51, 53, 55, 57
Open cars	(OC)	Types 51, 53, 55, 57
Touring	(T)	Type 55
132 inch Touring	(MT)	Type 53
Seven Passenger Touring	(7P)	Types 51, 53, 57
Seven Passenger Brougham	(7B)	Type 57
Town Landaulet	(TLD)	Type 57
Town Limousine	(TL)	Type 57
Phaeton	(P)	Type 55
*Phaeton, first type	(P1)	Type 57
*Phaeton, second type	(P2)	Type 57
Roadster	(R)	Types 51, 53, 55
*Roadster, first type	(R1)	Type 57
*Roadster, second type	(R2)	Type 57
Salon	(SL)	Types 51, 53
Sedan	(SD)	Type 51
Suburban, Type A, Job 2910	(SB1)	Type 57
Suburban, Type B, Job 3140	(SB2)	Type 57
Victoria	(V)	Types 53, 55
**Victoria, Type A, Job 2750	(V1)	Type 57
**Victoria, Type B, Job 3040	(V2)	Type 57
122 inch wheel base chassis	(E)	Types 51, 53
125 inch wheel base chassis	(S)	Types 55, 57
132 inch wheel base chassis	(M)	Types 53, 55, 57
145 inch wheel base chassis	(A)	Types 51, 53, 55, 57
125 inch wheel base cars	(F)	Types 55, 57
132 inch wheel base cars	(G)	Types 53, 55, 57
145 inch wheel base cars	(H)	Types 51, 53, 55, 57

*The Phaeton first type and Roadster first type can be distinguished from the Phaeton second type and Roadster second type by the bead on the doors and body of the former.

**Victorias, Type A, were shipped previous to May 15, 1919, and Broughams, Type A, previous to June 10. Suburbans, Type A, were shipped previous to June 27, 1919.

CLOSED BODY PARTS

It is necessary to furnish the engine number or job and body numbers on orders for closed body parts. This data is required even though you have used the Parts book in placing your order. The job and body number is stamped on the Right front door sill and on the bottom of each door.

The body styles and corresponding job numbers are as follows:

BODY NAME	JOB NO.	ABBREVIATION
	TYPE 51	
Coupe	602	(C)
Imperial	715	(I)
Limousine	583	(L)
Sedan	601	(SD)
	TYPE 53	
Brougham	1518	(B)
Berline	1519	(BL)
Limousine	1744	(L)
Victoria	1517	(V)
Coupe	Cadillac Mfg.	(C)
	TYPE 55	
Brougham	2460	(B)
Imperial	2440	(I)
Limousine	2450	(L)
Landaulet	2620	(LD)
Coupe	Cadillac Mfg.	(C)
Convertible	Cadillac Mfg.	(CV)
	TYPE 57	
Brougham, Type A	2730	(B-1)
Brougham, Type B	3050	(B-2)
Imperial	2760	(I)
Landaulet	2770	(LD-1)
Limousine, Type A	2740	(L-1)
Limousine, Type B	2820	(L-2)
Limousine, U. S. Govt.	3110	(L)
Limousine, 8 Passenger		(8PL)
Town Landaulet	2840	(TLD)
Town Limousine	2680	(TL)
Suburban, Type A	2910	(SB-1)
Suburban, Type B	3140	(SB-2)
Victoria, Type A	2750	(V-1)
Victoria, Type B	3040	(V-2)

SPECIAL INSTRUCTIONS TO BE FOLLOWED IN CLASSIFYING ORDERS FOR PARTS

Our Stock Room is separated into three Divisions. To facilitate the handling of shipment, orders must be classified as follows: Electrical material, Crated material and General.

Electrical items can be identified by symbol numbers with a "D" or "K" suffix. Crated material consists principally of sheet metal parts and large assemblies which it is not practical to box.

In order to determine the proper classification we have indicated the parts in the Parts List as follows:

† Indicates parts which are to be classified as Electrical material.

* Indicates parts which are to be classified as Crated material.

x Indicates parts which are subject to Special Discount.

All other items listed should not appear on orders with either Electrical or Crated material.

WHEEL BASE

TYPE 51

All standard Type 51 bodies were mounted on 122 inch wheel base chassis. Chassis furnished without bodies have 122 inch or 145 inch wheel base.

TYPE 53

All standard Type 53 bodies with the exception of "132" Touring were mounted on 122 inch wheel base chassis. The "132" Touring was mounted on 132 inch wheel base chassis. Chassis furnished without bodies have 122 inch, 132 inch or 145 inch wheel base.

TYPE 55

Touring, Phaeton, Roadster, Club Roadster, Coupe, Victoria, Convertible and Brougham bodies were mounted on 125 inch wheel base chassis. Limousine, Landaulet and Imperial bodies were mounted on 132 inch wheel base chassis. Chassis furnished without bodies have 125 inch, 132 inch or 145 inch wheel base.

TYPE 57

Seven-Passenger, Phaetons (first and second types), Roadsters (first and second types), Victoria, and Brougham bodies are mounted on 125 inch wheel base chassis. Limousine, Town Limousine, Landaulet, Town Landaulet, Suburban, Seven-Passenger Brougham, and Imperial bodies are mounted on 132-inch wheel base chassis. Chassis furnished without bodies have 125 inch, 132 inch or 145 inch wheel base.

ENGINE NUMBERS

On eight cylinder cars the engine number is stamped on the crank case just back of the right hand block of cylinders. On Type 57 engines it is stamped on the fan shaft housing also.

Type 51 engines number from A-6001 to A-19001 inclusive.
Type 53 engines number from A-20001 to A-38003 inclusive.
The engine number of each Type 55 car begins with the figures "55."
The engine number of each Type 57 car begins with the figures "57."

CODIFIED SENTENCES

	CODE WORD
Mail Special Delivery	CABOO
Forward by express C. O. D.	CABOU
Forward by Parcel Post C. O. D.	CABME
Forward by Freight, D. B. L.	CADRE
Include the following parts in our next carload shipment	CAMEO
Ship our order number—via express instead of freight	CASTE
Ship our order number—via freight instead of express	CAMPO
Rush parts via freight. Do not hold for carload shipment	CARPO
How and when did you ship our order number?	CAUMA
Trace shipment of our order number	CENTI
Reply by mail	CESTA
Parts specified on your order number will be shipped	CESTO
Parts specified on your order number (or wire date) were shipped via	CERIO
Do you require parts for 56 inch or 61 inch tread?	CHICA
Carriers have been instructed to trace shipment of your order number	CURIO
Advise engine number for parts, your order number	CIRSO
State size of wheel and style of rim, your order number	CITRA
State engine number of car for which parts are wanted in your order number	COCOA
Cannot supply————shall we ship————?	COLPO
Expect to ship parts called for in your————(letter, wire, or order) number————(date)	COMPO
————word in your wire not clear; advise part wanted	CONGO
Advise key word of code your wire————	CONTE
Include in first (freight or express) shipment coming to us———— (parts) ————	COOBA
We have a large number of parts holding for carload. There is no carload in sight. Shall we ship by straight freight or express? Weight of parts is————pounds	CONGE
Cancel our order number————	CREDO
Cancel————item on our order number————	COPRO
Have received request from————asking us to ship parts to (him or them) and charge to your account. Shall we do so?	CORMO
Ship to————and charge to us parts ordered by	COWLE
Do not charge to us parts ordered by————	COSTA
Ship to————by————and charge to us the following parts ————	COPRU
Confirmation does not agree with your wire————(date). Have shipped————. Shall we ship?————	CORNU
Cannot locate your order number————of (date)	CURIA
Duplicate parts on order number————	CYANO
We are urgently in need of————When can you ship?	CYMRU

CODIFIED NUMBERS

A code word consisting of five letters or less is counted as one word by telegraph companies. There is a saving therefore in using the following table in wiring numbers:

1-A.	3-C.	5-E.	7-G.	9-I
2-B.	4-D.	6-F.	8-H.	0-J

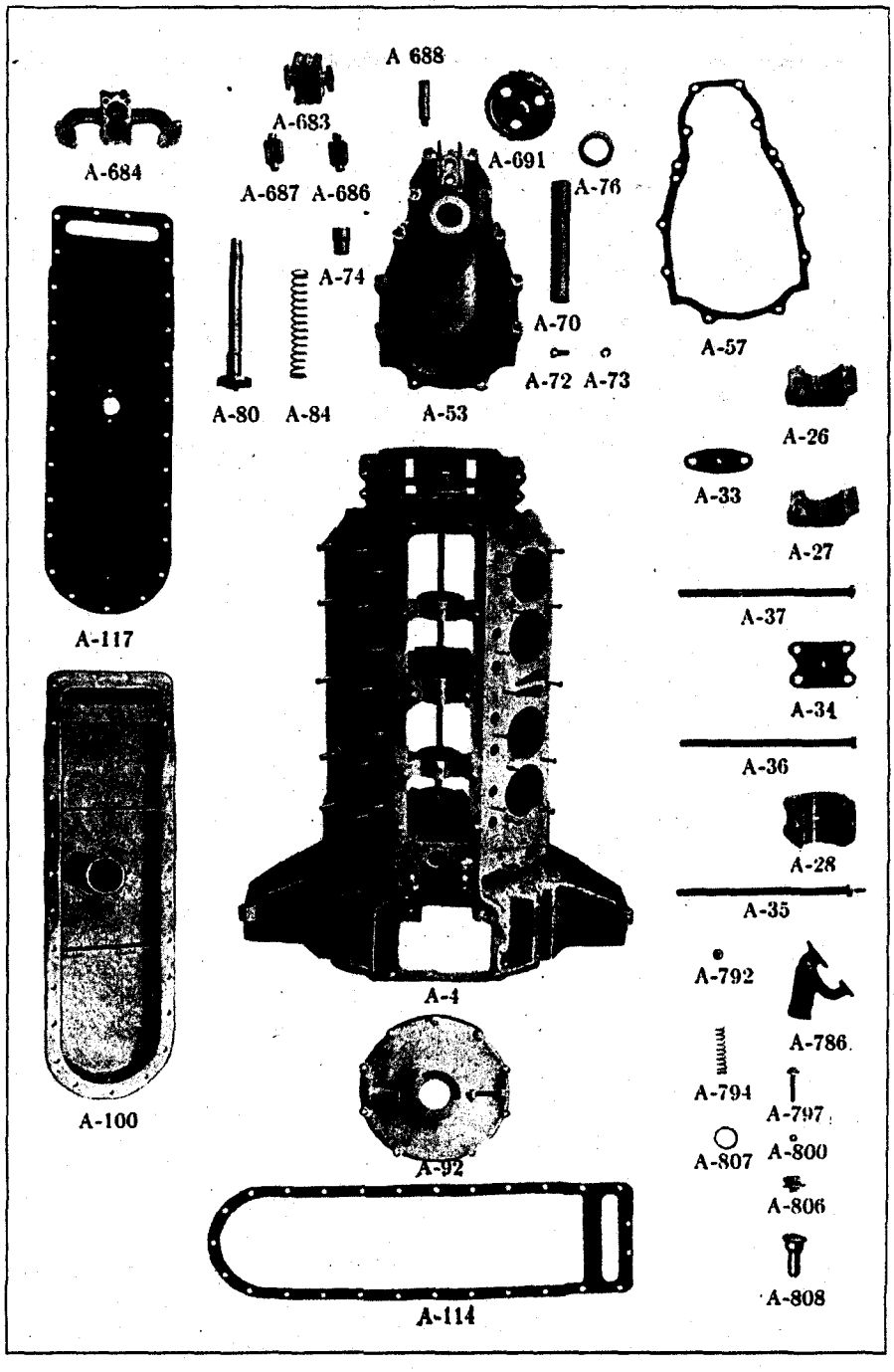
For example, it takes four words to write the number 1250. By the use of the above table but one word is required, namely ABEJ.

SAVING BY USE OF CODE

The following 14-word message may be written in 2 words if the code is used.
"When and how did you ship on order number 23762?" CAUMA BCGFB

CRANK CASE

Code Word	Sec.-Bin	Serial	Part Name	Type	Symbol	Price
			NOTE—When ordering crank cases it is necessary to state engine number of car on which part is to be used or if ordered for stock.			
BADAB		A-1	Crank case with studs, bearings, bearing caps, plates, bolts and nuts used when oil relief valve is cast integral with starter gear housing before Engine A-7710	51	20866	$188.00
FADAB		A-2	Crank case with studs, bearings, bearing caps, plates, bolts and nuts, used with oil relief valve mounted on angular face of crank case on and after Engine A-7710	51	20866	188.00
MADAB		A-3	Crank case with studs, bearings, bearing caps, plates, bolts and nuts	53	21733	188.00
RADAB		A-4	Crank case with studs, bearings, bearing caps, plates, bolts and nuts	55-7	22586	188.00
TADAB	13-D-31	A-5	Stud, upper, front cover	51-3	19712	.05
ZADAB	9-J-9	A-6	Stud, lower, front cover	51-3	19711	.05
BEDAB	10-K-4	A-7	Stud in crank case for water pump before Engine 55-L-101	51-3-5	19708	.05
DEDAB	9-T-5	A-8	Stud in crank case for water pump after Engine 55-L-101	55-7	34750	.05
KEDAB	9-T-11	A-9	Stud in crank case for oil pump elbows	51-3-5-7	37202	.05
LEDAB	14-C-79	A-10	Stud in crank case for cylinder block	51-3-5-7	19705	.05
MEDAB	9-O-15	A-11	Stud in crank case for cam slide clamp	51-3-5-7	19700	.05
PEDAB	9-N-20	A-12	Stud, 7/8" long, pipe flange to crank case (1st type)	51	19672	.05
SEDAB	9-T-11	A-13	Stud, short, for oil relief housing	51-3-5-7	37202	.05
TEDAB	9-O-2	A-14	Stud, long, for pipe flange to oil relief housing	51-3-5-7	30119	.05
ZEDAB	10-K-4	A-15	Stud for valve rocker cover	51-3-5-7	19708	.05
BIDAB	14-C-129	A-16	Stud for oil pan (27 on 1st type oil pan)	51	30598	.05
CIDAB	9-S-20	A-17	Stud, short, 2 used on forward corners of crank case attaching oil pan (2nd type on 51)	51-3-5-7	34866	.05
FIDAB	9-S-23	A-18	Stud, oil pan to crank case, 25 used (2nd type on 51)	51-3-5-7	34865	.05
LIDAB		A-19	1¾" plug in crank case at rear of cam shaft	51	XE10645	.40
MIDAB		A-20	1¼" pipe plug in crank case at rear of cam shaft (2nd type)	51	30600	.15
RIDAB	15-B-161	A-21	1 1/16" plug in crank case at rear of cam shaft (3rd type on 51)	51-3-5-7	30160	.35
TIDAB	16-C-123	A-22	Gasket for plug 30160	51-3-5-7	30470	.05
ZIDAB	15-D-69	A-23	2" pipe plug in bottom of crank case	51-3-5-7	32578	.35
BODAB	9-O-3	A-24	Tube in crank case for oiling chains	55-7	34029	.10
CODAB	9-O-12	A-25	Plug in oil holes to cam shaft	51-3-5-7	19781	.05
DODAB	15-B-33	A-26	Cap for front main bearing (with oversize dowel holes)	51-3-5-7	31198	2.30
FODAB	15-D-62	A-27	Cap for center main bearing (with oversize dowel holes)	51-3-5-7	19411	2.00
KODAB	14-B-97	A-28	Cap for rear main bearing (with oversize dowel holes)	51-3-5-7	19412	3.00
LODAB	14-B-140	A-29	Dowel, oversize, front and center main bearing cap	51-3	32118	.05
MODAB	10-H-6	A-30	Dowel, oversize, rear main bearing cap	51-3	32246	.05
PODAB	14-D-42	A-31	Dowel, oversize, front and center main bearing cap	55-7	34532	.10
RODAB	10-L-8	A-32	Dowel, oversize, rear main bearing cap	55-7	34531	.10
SODAB	14-B-95	A-33	Plate for main bearing, front and center	51-3-5-7	19413	1.25
TODAB	14-B-88	A-34	Plate for main bearing, rear	51-3-5-7	19414	1.75
ZODAB	14-B-83	A-35	Bolt for front and center main bearing caps 51-3-5-7 and front of rear on 51	51-3-5-7	54567	1.00
CUDAB	14-B-30	A-36	Bolt for RIGHT side of rear main bearing	51-3	19416	1.00
DUDAB	13-C-49	A-37	Bolt for LEFT side of rear main bearing	51-3	19760	1.00
FUDAB	15-B-43	A-38	Bolt for rear main bearing (4 used on 55, 7) (2 used on front of rear cap on 53)	53-5-7	30953	1.00
LUDAB	12-C-89	A-39	Nut for main bearing bolt	51-3-5-7	11665	.20
MUDAB	10-D-7	A-40	Cotter pin	51-3-5-7	15166	.05
PUDAB	10-C-8	A-41	Dowel for main bearing bolts	51-3-5-7	19664	.05
RUDAB	14-C-85	A-42	Bushing in crank case for oil pump shaft, front	51-3-5-7	19531	.35
SUDAB	14-B-115	A-43	Bushing in crank case for oil pump shaft, rear	51	19532	.60
TUDAB	13-B-1	A-44	Bushing in crank case for oil pump shaft, rear	53-5-7	31337	.55
ZUDAB	14-B-66	A-45	Nipple in main bearing plate for oil pipe connection	51-3-5-7	19596	.40



CRANK CASE AND END COVERS. OIL PAN AND BAFFLE PLATE

Code Word	Sec.-Bin	Serial	Part Name	Type	Symbol	Price
BAHAB	14-B-70	A-46	Small plug in crank case for oil pocket drain	51-3	30376	$ .20
CAHAB	14-C-1	A-47	Large plug in crank case for oil pocket drain	51-3	30377	.15
DAHAB		A-48	Plug in oil pocket in rear end of crank case	51	30510	.10
FAHAB	9-N-19	A-49	Thimble dowel, locating generator	51-3-5-7	19595	.05
KAHAB	11-D-56	A-50	Bolt, engine to frame	51-3-5-7	32541	.45
LAHAB	15-D-77	A-51	Castle nut for engine bolt	51-3-5-7	19019	.35
MAHAB	13-C-95	A-52	Cotter pin	51-3-5-7	15212	.05

COVERS FOR FRONT AND REAR OF CRANK CASE. STARTING CRANKS AND SHAFTS

ZAHAB	13-G-26	A-53	Cover for front of crank case with studs and bushings	51-3-5-7	20862	17.50
BEHAB	9-J-23	A-54	Stud in front cover for oil pump casing	51-3-5-7	19704	.05
CEHAB	9-T-11	A-55	Stud in front cover for air pump	51-3-5-7	37202	.05
DEHAB	14-D-55	A-56	Bushing in front cover for oil pump gear	51-3-5-7	19535	.30
FEHAB	16-G-6	A-57	Paper gasket for front cover	51-3-5-7	19611	.05
KEHAB	13-B-21	A-58	Screw (2⅜" long), front cover to crank case	51-3-5-7	11621	.10
LEHAB	11-D-54	A-59	Screw (1¼" long), front cover to crank case	55-7	10026	.08
MEHAB	32-D-77	A-60	Screw (3" long), front cover to crank case	55-7	10036	.20
PEHAB	37-B-94	A-61	Screw, front cover to fan housing	55-7	10024	.05
REHAB	10-E-10	A-62	Lock washer	51-3-5-7	11325	.05
SEHAB	14-C-9	A-63	Threaded dowel for front cover	51-3-5-7	19545	.10
ZEHAB	30-D-60	A-65	Nut on studs for front cover	51-3	11678	.05
BIHAB	10-E-10	A-66	Lock washer	51-3	11325	.05
CIHAB	14-C-115	A-67	Tube with bushing for front engine support	51	20863	3.50
DIHAB	14-D-23	A-68	Tube with bushing for front engine support	53	21688	3.50
FIHAB	14-C-107	A-69	Tube with bushing for front engine support before Engine 55-F-1	55	22575	3.50
LIHAB	14-C-109	A-70	Tube with bushing for front engine support on and after Engine 55-F-1	55-7	22873	3.75
PIHAB	14-B-33	A-71	Bushing in engine support tube	51-3-5-7	19551	.40
RIHAB	10-C-5	A-72	Screw, engine support tube to cover	51-3-5-7	11627	.05
SIHAB	10-E-10	A-73	Lock washer	51-3-5-7	11325	.05
TIHAB	14-B-92	A-74	Bushing for engine support tube, front	51-3-5-7	19550	.55
ZIHAB	10-F-6	A-75	Taper pin for bushing	51-3-5-7	15030	.05
BOHAB	14-B-54	A-76	Ball for front engine support	51-3-5-7	19555	2.35
COHAB	15-D-36	A-77	Starting crank shaft	51	19552	3.00
DOHAB	15-B-113	A-78	Starting crank shaft	53	30962	3.75
FOHAB	13-D-26	A-79	Starting crank shaft before Engine 55-F-1	55	33025	4.00
KOHAB	15-E-16	A-80	Starting crank shaft, used on and after Engine 55-F-1	55-7	27428	4.00
LOHAB	14-B-62	A-81	Spring for starting crank shaft	51	19556	.10
MOHAB	15-B-157	A-82	Spring for starting crank shaft	53	31208	.20
POHAB	13-B-145	A-83	Spring for starting crank shaft before Engine 55-F-1	55	33023	.20
ROHAB	14-C-7	A-84	Spring for starting crank shaft on and after Engine 55-F-1	55-7	53102	.10
TOHAB	15-B-40	A-85	Starting crank cap complete	51	20490	1.75
ZOHAB	37-E-11	A-86	Starting crank cap	53-5	31294	1.75
BUHAB	12-E-11	A-87	Starting crank complete	51	40431	3.00
CUHAB	13-G-2	A-89	Starting crank complete	53-5-7	59881	2.25
DUHAB	9-J-11	A-90	Spring for starting crank plunger before Engine 55-F-1	51-3-5	12892	.05
KUHAB	9-J-10	A-91	Ball for starting crank before Engine 55-F-1	51-3-5	3673	.05
LUHAB	13-D-76	A-92	Cover for rear end of crankcase (2 halves)	51-3-5-7	22222	5.50
MUHAB	16-D-66	A-93	Gasket for rear end cover	51-3-5-7	19542	.05
PUHAB	9-P-9	A-94	Screw for halves of cover	51-3-5-7	11855	.05
RUHAB	10-P-7	A-95	Nut	51-3-5-7	10887	.05
SUHAB	10-D-8	A-96	Lock washer	51-3-5-7	11313	.05
TUHAB	10-J-5	A-97	Screw, rear cover to crank case	51-3-5-7	10006	.05
ZUHAB	15-B-35	A-98	Lock washer	51-3-5-7	11324	.05

ENGINE OIL PANS AND BAFFLE PLATES

Code Word	Sec.-Bin	Serial	Part Name	Type	Symbol	Price
			NOTE—The second type oil pan will be supplied for engines before A-6399 with necessary parts to make the change.			
FAKAB	14-E-15	A-99	Oil pan after Engine A-6399 (See note)	51-3	31792	$12.00
KAKAB	15-G-14	A-100	Oil pan	55-7	22894	12.00
LAKAB	30-D-60	A-101	Nut on stud for (1st type) oil pan	51	11678	.05
MAKAB	36-D-21	A-102	Lock washer	51	11316	.05
PAKAB	38-D-12	A-103	Nut on stud for oil pan (2nd type 51 pans)	51-3-5-7	10892	.05
SAKAB	15-B-35	A-104	Lock washer	51-3-5-7	11324	.05
TAKAB	14-B-139	A-105	Drain plug for oil pan, ¾"	51-3-5-7	30436	.25
ZAKAB	9-B-11	A-106	Gasket for drain plug	51-3-5-7	30437	.05
BEKAB	14-C-1	A-107	Drain plug for oil pan (1" pipe plug)	51	30377	.15
CEKAB	14-B-72	A-108	Drain plug for oil pan, 1⅛"	51	30209	.25
DEKAB	9-C-21	A-109	Gasket for 1⅛" drain plug	51	30200	.20
FEKAB		A-110	⅛" pipe plug for overflow pipe in oil pan	51-3	30295	.10
KEKAB		A-111	Plug for overflow pipe in oil pan	55-7	34121	.08
LEKAB	10-O-12	A-112	⅜" pipe plug for overflow pipe in oil pan	51	30121	.05
MEKAB		A-113	¼" pipe plug for oil pipe overflow in oil pan	51	30510	.10
PEKAB	18-G-1	A-114	Gasket for oil pan and baffle plate	51-3-5-7	18374	.35
REKAB	13-F-27	A-115	Baffle plate with gauze and pocket after Engine A-6399	51	21431	3.50
SEKAB	12-A-74	A-116	Baffle plate for oil pan	53	21534	3.50
TEKAB	13-G-22	A-117	Baffle plate for oil pan	55-7	22123	3.50
ZEKAB	10-S-1	A-118	Screw, baffle plate to oil pan before Engine A-6399	51	10560	.05
CIKAB	10-D-8	A-119	Lock washer	51	11313	.05

CRANK SHAFT AND MAIN BEARINGS

RIKAB	15-Col.-A	A-122	Crank shaft with studs and plugs	51-3-5-7	22489	80.00
SIKAB	18-C-155	A-123	Stud in crank shaft for fly wheel	51-3-5-7	19678	.05
TIKAB	13-D-8	A-124	Nut for stud	51-3-5-7	11675	.05
ZIKAB	15-B-35	A-125	Lock washer	51-3-5-7	11324	.05
BOKAB	14-D-47	A-126	Dowel, crank shaft to fly wheel	51-3-5-7	19680	.15
DOKAB	23-E-14	A-128	Spiral gear on crank shaft for pump drive (10 teeth)	51-3-5-7	19521	2.50
FOKAB	10-F-4	A-129	Woodruff key for spiral gear	51-3-5-7	11363	.05
KOKAB	23-G-14	A-130	Sprocket on crank shaft for cam drive	51-3-5-7	32624	5.50
LOKAB	10-F-2	A-131	Woodruff key for sprocket	51-3-5-7	11370	.10
MOKAB	13-C-101	A-132	Screw in end of crank shaft before Engine A-36347	51-3	11633	.05
POKAB	9-O-9	A-133	Stud in end of crank shaft after Engine A-36347	53-5-7	33165	.10
ROKAB	9-G-6	A-134	Nut on stud	53-5-7	H-1700	.05
SOKAB	13-D-52	A-135	Flat washer on stud or screw	51-3-5-7	11465	.05
TOKAB	10-P-17	A-136	Lock washer	51-3-5-7	11327	.05
ZOKAB	15-D-68	A-137	Spacer for crank shaft sprocket	51-3-5-7	30276	.40
BUKAB	9-R-18	A-138	Pipe plug for oil holes in crank shaft	51-3-5-7	30471	.05
CUKAB	25-E-16	A-139	Main bearing, front, upper half	51-3-5-7	19960	3.00
DUKAB	25-E-14	A-140	Main bearing, front, lower half	51-3-5-7	19407	3.00
FUKAB	25-E-15	A-141	Main bearing, center, upper half	51-3-5-7	19962	2.60
KUKAB	25-E-24	A-142	Main bearing, center, lower half	51-3-5-7	19408	2.60
LUKAB	25-F-12	A-143	Main bearing, rear, upper half	51-3-5-7	19961	3.80
MUKAB	25-E-22	A-144	Main bearing, rear, lower half	51-3-5-7	19409	3.80
WOKAB		A-144-A	Main bearing, front, upper and lower half	51-3-5-7	42633	6.00
NUKAB		A-144-B	Main bearing, center, upper and lower half	51-3-5-7	42634	5.20
VUKAB		A-144-C	Main bearing, rear, upper and lower half	51-3-5-7	42635	7.60
PUKAB		A-145	*Liner for main bearing, front and center	51-3-5-7	19623	.15
RUKAB		A-146	*Liner for main bearing, rear	51-3-5-7	19622	.20
SUKAB	25-F-17	A-146-B	Main bearing, front, upper half, **.020 undersize**	51-3-5-7	50577	3.00
TUKAB	25-E-6	A-146-C	Main bearing, front, lower half, **.020 undersize**	51-3-5-7	50578	3.00
ZUKAB	25-F-4	A-146-D	Main bearing, center, upper half, **.020 undersize**	51-3-5-7	50579	2.60

*NOTE—Liners for main bearings may be had in the following thicknesses: .170, .171, .172, .173, .174, .175, .176, .177, .178, .179, .180, .181, .182, .183, .184, .185, .186, .187, .188, .189, .190.
Specify size when ordering.

Code Word	Sec.-Bin	Serial	Part Name	Type	Symbol	Price
XUKAB	25-F-15	A-146-E	Main bearing, center, lower half, **.020 undersize**	51-3-5-7	50580	$ 2.60
YUKAB	25-E-9	A-146-F	Main bearing, rear, upper half, **.020 undersize**	51-3-5-7	50581	3.80
WUKAB	25-F-3	A-146-H	Main bearing, rear, lower half, **.020 undersize**	51-3-5-7	50582	3.80
BYKAB	25-D-66	A-146-J	Main bearing, center, upper half **.030 undersize**	51-3-5-7	53276	2.60
CYKAB	25-D-67	A-146-K	Main bearing, center, lower half **.030 undersize**	51-3-5-7	53277	2.60
DYKAB		A-146-L	Main bearing, front, upper and lower half **.020 undersize**	51-3-5-7	42636	6.00
FYKAB		A-146-M	Main bearing, center, upper and lower half **.020 undersize**	51-3-5-7	42637	5.20
KYKAB		A-146-N	Main bearing, rear, upper and lower half **.020 undersize**	51-3-5-7	42638	7.60
LYKAB		A-146-P	Main bearing, center, upper and lower half **.030 undersize**	51-3-5-7	42639	5.20
BALAB	25-D-48	xA-147	Bearing on front end of clutch connection in crank shaft	51-3-5-7	18803	4.00
CALAB	19-D-4	A-148	Bushing on front clutch connection for bearing	51-3-5-7	18802	.35
DALAB	9-I-18	A-149	Pin for bushing on clutch connection	51-3-5-7	18898	.05
FALAB	17-D-37	A-150	Felt washer for bearing	51-3-5-7	18808	.08
KALAB	18-C-43	A-151	Cover for felt retainer and bearing in crank shaft	51-3-5-7	18822	.25
LALAB	14-B-59	A-152	Plate for felt retainer	51-3-5-7	18805	.05
MALAB	16-B-119	A-153	Paper washer for retainer cover	51-3-5-7	19893	.05

FLY WHEELS

BELAB	13-F-13	A-156	Fly wheel with studs	51	20704	30.00
CELAB	13-G-19	A-157	Fly wheel with studs	53-5-7	22139	30.00
DELAB	15-C-159	A-158	Stud, clutch driver to fly wheel	51-3-5-7	19702	.05
FELAB	30-D-60	A-159	Nut for stud for clutch driver	51-3-5-7	11678	.05
KELAB	10-E-10	A-160	Lock washer	51-3-5-7	11325	.05
LELAB	10-B-22	A-161	Lock for fly wheel dowel	51-3-5-7	19681	.05
MELAB	9-L-18	A-162	Screw, lock to fly wheel	51-3-5-7	11647	.05
PELAB	15-B-35	A-163	Lock washer	51-3-5-7	11324	.05
RELAB	14-B-1	A-164	Indicator for fly wheel	51	19624	.15
SELAB	10-C-5	A-165	Indicator for fly wheel	53-5-7	31001	.30
TELAB	10-B-5	A-166	Check nut for indicator (2 used)	51-3-5-7	3798	.05
ZELAB	15-B-35	A-167	Lock washer	51-3-5-7	11324	.05
BILAB		A-168	Castle nut for indicator	51	11677	.05
CILAB	11-B-17	A-169	Bushing for fly wheel indicator	51	19635	.05
DILAB	36-B-145	A-170	Lock washer	51	11340	.05

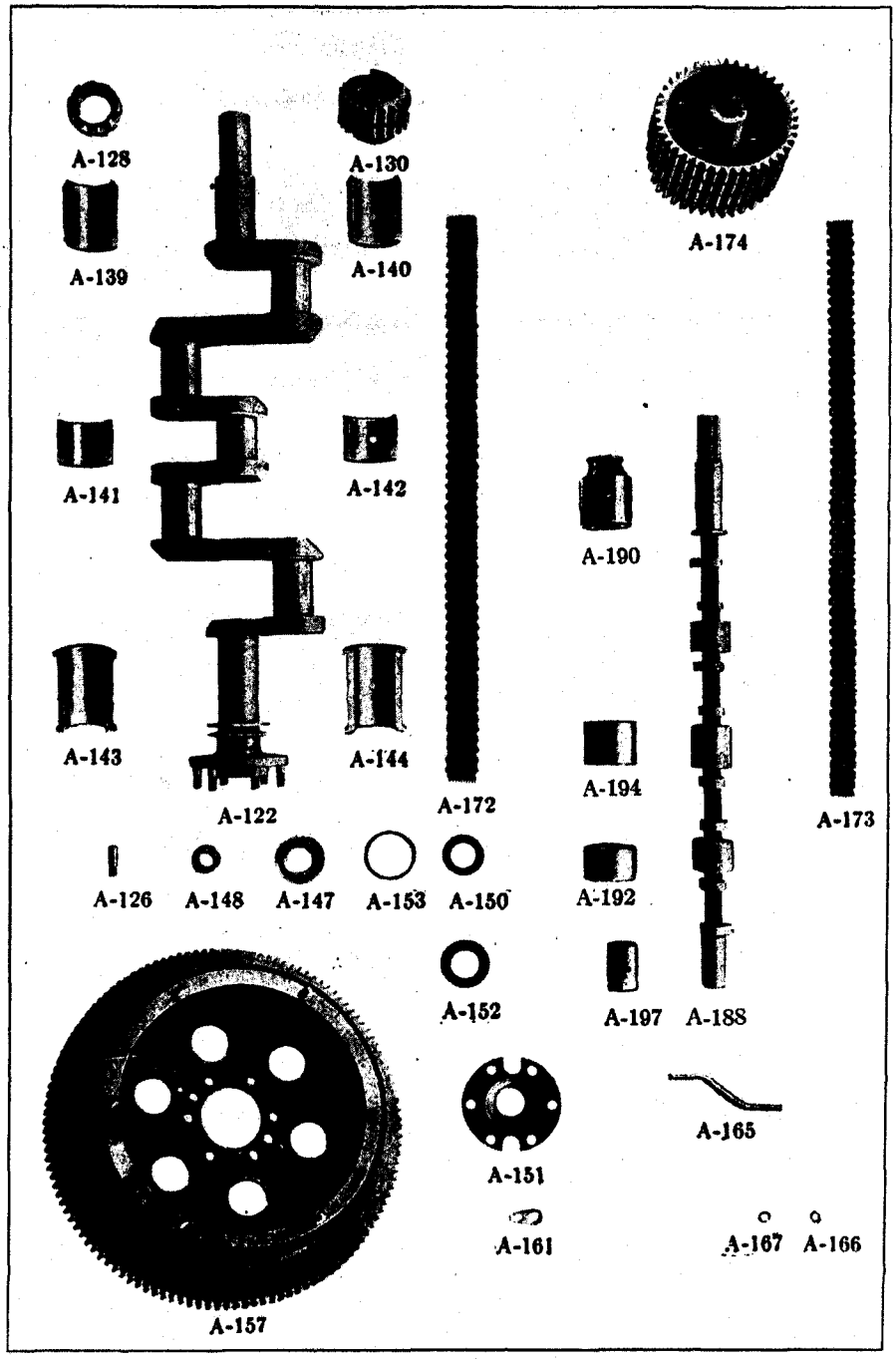
ENGINE CHAINS AND SPROCKETS

MILAB	14-G-1-2	A-172	Silent chain for cam shaft drive (closed)	51-3-5-7	19480	7.70
PILAB	14-G-4-5	A-173	Silent chain for fan drive (open)	51-3-5-7	19481	6.55
RILAB	23-G-1	A-174	Sprocket for cam shaft and fan drive	51-3-5-7	32654	10.50
SILAB	9-B-11	A-175	Key for cam shaft sprocket	51-3-5-7	17149	.15
TILAB	23-G-14	A-176	Sprocket on crank shaft for cam drive	51-3-5-7	32624	5.50
ZILAB	10-F-2	A-177	Woodruff key for sprocket	51-3-5-7	11370	.10
COLAB	23-G-4	A-179	Sprocket on fan shaft for fan drive	51-3-5-7	31172	3.00
DOLAB	10-F-4	A-180	Key, sprocket to fan shaft	51-3-5-7	11363	.05
FOLAB	15-C-25	A-181	Seat pin for fan chain	51-3-5-7	38533	.05
KOLAB	15-C-35	A-182	Rocker pin for fan chain	51-3-5-7	38535	.05
LOLAB	15-D-4	A-183	Washer for silent chain pin	51-3-5-7	38537	.05
MOLAB	15-D-18	A-184	Seat pin for cam chain	51-3-5-7	38534	.05
POLAB	15-C-131	A-185	Rocker pin for cam chain	51-3-5-7	38536	.05

CAM SHAFT AND BEARINGS

BULAB	13-E-18	A-187	Cam shaft	51-3	19427	26.00
CULAB	12-G-18	A-188	Cam shaft	55-7	32647	26.00
DULAB	25-D-78	A-189	Bearing for cam shaft, front	51-3	19439	4.50
FULAB	25-D-23	A-190	Bearing for cam shaft, front	55-7	32594	4.50
KULAB	25-C-155	A-191	Bearing for camshaft, 2nd and 4th	51-3	19441	2.50
LULAB	25-D-70	A-192	Bearing for cam shaft, 2nd and 4th	55-7	32595	1.75
MULAB	25-D-33	A-193	Bearing for cam shaft, center	51-3	19442	3.00

x Indicates subject to special discount.

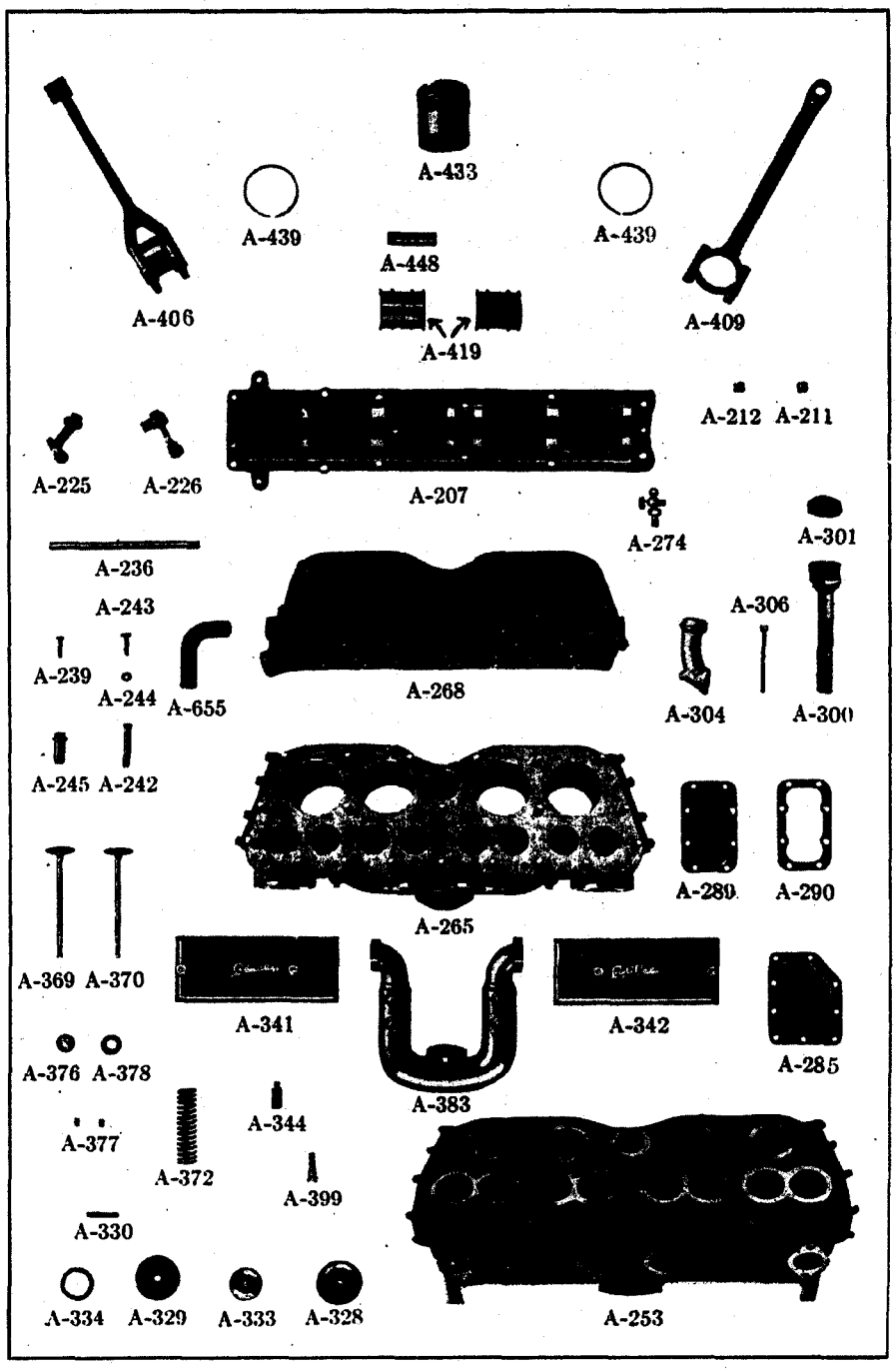


CRANK SHAFT, CAM SHAFT, BEARINGS, CHAINS AND FLY WHEEL

Code Word	Sec.-Bin	Serial	Part Name	Type	Symbol	Price
PULAB	25-D-77	A-194	Bearing for cam shaft, center	55-7	32596	$ 1.85
RULAB	25-D-42	A-195	Bearing for cam shaft, rear	51-3-5	19443	1.75
SULAB	15-B-31	A-196	Bearing for cam shaft, rear	55	34333	2.00
TULAB	25-B-157	A-197	Bearing for cam shaft, rear	57	38274	1.75
ZULAB	9-J-3	A-198	Gasket for rear end cam shaft bearing after engine 55-K-500	55	34456	.05
BAPAB	10-A-23	A-199	Plug in rear cam shaft bearing after engine 55-K-500	55	34331	.75
CAPAB	9-R-14	A-200	Lock screw for front cam shaft bearing	51-3	19440	.10
DAPAB	9-R-15	A-201	Lock screw for front cam shaft bearing	55-7	32593	.10
FAPAB	9-R-16	A-202	Screw for rear cam shaft bearing	51	19661	.05
KAPAB	15-B-9	A-203	Dowel for rear cam shaft bearing	51-3	30496	.05

VALVE MECHANISM

MAPAB	14-F-10	A-205	Cover for valve rocker arms and cam shaft	51	19444	17.00
PAPAB	11-E-27	A-206	Cover for valve rocker arms and cam shaft	53	30974	16.00
RAPAB	13-E-7	A-207	Cover for valve rocker arms and cam shaft	55-7	32658	16.00
SAPAB	16-E-26	A-208	Gasket under valve rocker cover	51	19617	.05
TAPAB	17-F-2	A-210	Gasket under valve rocker cover	53-5-7	32611	.05
ZAPAB	11-D-11	A-211	Bushing with shoulder for valve rocker shaft, front, and center 51-3-5-7 and rear 51-3	51-3-5-7	19450	.30
CEPAB	15-B-9	A-212	Bushing for valve rocker shaft, rear	55-7	32590	.15
DEPAB	14-B-158	A-213	Spacer for valve rocker shaft, short	51	19451	.25
FEPAB	15-B-25	A-214	Spacer for valve rocker shaft, short	53	31023	.25
KEPAB	15-D-80	A-215	Spacer for valve rocker shaft, short, before engine 55-K-850	55	32591	.30
MEPAB	11-D-60	A-216	Spacer for valve rocker shaft, long	51-3	31024	.40
PEPAB	11-C-131	A-217	Spacer for valve rocker shaft, long	55-7	32592	.40
REPAB	10-R-1	A-218	Taper pin for spacer on shaft	51	15010	.05
SEPAB	10-R-7	A-219	Dowel, valve rocker arm cover to crank case	51-3-5-7	19714	.10
ZEPAB	30-D-60	A-221	Nut on valve rocker cover stud	51-3-5-7	11678	.05
BIPAB	10-E-10	A-222	Lock washer	51-3-5-7	11325	.05
CIPAB	11-D-28	A-223	Valve rocker arm complete with roll, pin and tappet pin	51-3	21413	2.75
DIPAB	11-D-32	A-224	Valve rocker arm complete with roll, pin, tappet pin and bushing before engine 55-K-850	55	22718	2.75
KIPAB	11-D-31	A-225	Valve rocker arm, RIGHT, complete with roll, pin, tappet pin and bushing on and after engine 55-K-850	55-7	22879	3.00
MIPAB	11-D-37	A-226	Valve rocker arm, LEFT, complete with roll, pin, tappet pin and bushing on and after engine 55-K-850	55-7	22880	3.00
RIPAB	11-D-51	A-227	Valve rocker arm and tappet pin	51-3	41826	2.00
SIPAB	13-C-75	A-228	Valve rocker arm with bushing and tappet pin before engine 55-K-850	55	22675	2.00
ZIPAB	11-D-45	A-229	Valve rocker arm, RIGHT, with bushing and tappet pin on and after engine 55-K-850	55-7	41731	2.25
COPAB	11-E-19	A-230	Valve rocker arm, LEFT, with bushing and tappet pin after engine 55-K-850	55-7	41732	2.25
FOPAB	12-E-3	A-230A	Bushing for valve rocker arm on and after engine 55-K-850	55-7	34332	.30
BOPAB	13-C-63	A-230B	Bushing for valve rocker arm before engine 55-K-851	51-3-5	34142	.25
KOPAB	11-E-7	A-231	Roller for valve rocker arm	51-3-5-7	19448	.35
LOPAB	11-D-14	A-232	Pin for roller	51-3	19449	.35
MOPAB	11-E-9	A-233	Pin for roller	55-7	53063	.10
POPAB	10-E-8	A-234	Cotter pin for pin	51-3-5-7	15161	.05
ROPAB	11-E-10	A-235	Shaft for valve rocker arm	51	19445	1.20
SOPAB	11-F-11	A-236	Shaft for valve rocker arm—Standard	53-5-7	32589	1.15
DOPAB	11-D-25	A-236-B	Shaft for valve rocker arm .004 oversize	53-5-7	54583	1.15
TOPAB	12-D-30	A-237	Set screw with cup point for valve rocker shaft forward end (1st type)	53	31021	.05
BUPAB	12-D-46	A-238	Set screw with cup point for valve rocker shaft rear end (1st type)	53	31022	.05
DUPAB	10-R-11	A-239	Set screw with flat point for valve rocker shaft (2nd type on 53)	53-5-7	11269	.10
KUPAB		A-240	Check nut for cup point set screw	53	3886	.05
LUPAB	15-B-35	A-241	Lock washer	53-5-7	11324	.05



CYLINDER BLOCKS AND HEADS. PISTON, CONNECTING RODS AND VALVE MECHANISM

Code Word	Sec.-Bin	Serial	Part Name	Type	Symbol	Price
MUPAB	11-G-4	A-242	Cam slide	51-3-5-7	19458	$ .70
PUPAB	15-D-2	A-243	Screw adjusting cam slide	51-3-5-7	19460	.20
RUPAB	14-B-27	A-244	Check nut for adjusting screw	51-3-5-7	11667	.20
SUPAB	11-G-5	A-245	Guide for cam slide	51-3-5-7	37985	.50
TUPAB	13-C-43	A-246	Clamp for valve guide	51-3	19461	.15
ZUPAB	14-B-134	A-247	Clamp for valve guide	55-7	37986	.15
CASAB	9-D-2	A-249	Nut on stud for cam slide clamp	51-3-5-7	11676	.05
DASAB	15-B-35	A-250	Lock washer	51-3-5-7	11324	.05

CYLINDER BLOCKS

FASAB	39-Rear	A-253	Cylinder block with end covers, studs and bushings	51	21689	70.00
KASAB	39-Rear	A-254	Cylinder block, **first oversize** with end covers, studs and bushings	51	41789	70.00
MASAB	39-Rear	A-255	Cylinder block, **second oversize** with end covers, studs and bushings	51	41790	70.00
RASAB	39-Rear	A-256	Cylinder block with end covers, studs and bushings	53	21689	70.00
SASAB	39-Rear	A-257	Cylinder block, **first oversize** with end covers, studs and bushings	53	41791	70.00
ZASAB	39-Rear	A-258	Cylinder block, **second oversize** with end covers, studs and bushings	53	41792	70.00
CESAB	39-Rear	A-259	Cylinder block, RIGHT, with end covers, studs and bushings	55	41657	70.00
FESAB	39-Rear	A-260	Cylinder block, LEFT, with end covers, studs and bushings	55	41658	70.00
LESAB	39-Rear	A-261	Cylinder block, RIGHT, **first oversize** with end covers, studs and bushings	55	41797	70.00
PESAB	39-Rear	A-262	Cylinder block, LEFT, **first oversize** with end covers, studs and bushings	55	41798	70.00
SESAB	39-Rear	A-263	Cylinder block, RIGHT, **second oversize** with end covers, studs and bushings	55	41799	70.00
ZESAB	39-Rear	A-264	Cylinder block, LEFT, **second oversize** with end covers, studs and bushings	55	41800	70.00
CISAB	39-Col.-E	A-265	Cylinder block with end covers, studs and bushings, less head	57	24268	70.00
FISAB	39-Col.-E	A-266	Cylinder block, **first oversize** with end covers, studs and bushings, less head	57	24474	70.00
LISAB	40-Col.-E	A-267	Cylinder block, **second oversize** with end covers, studs and bushings, less head	57	24475	70.00
PISAB	13-G-20	A-268	Cylinder head, RIGHT	57	23485	15.00
RISAB	12-G-23	A-269	Cylinder head, LEFT	57	23486	15.00
SISAB	19-G-4	A-270	Gasket for cylinder heads	57	37858	.55
TISAB	13-D-1	A-271	Stud, short, attaching head	57	37865	.10
ZISAB	13-B-36	A-272	Stud, long, attaching head	57	37866	.10
BOSAB	13-D-39	A-273	Nut on studs	57	11737	.10
COSAB	14-E-12	A-274	Priming cock in cylinder head	53-5-7	32047	.60
MOSAB	16-D-42	A-277	Gasket for cylinder end cover with $\frac{11}{64}$" holes	51	19597	.10
POSAB	9-M-19	A-278	Stud for cylinder end covers having $\frac{11}{64}$" holes	51	30303	.05
SOSAB	9-M-10	A-279	Nut for stud	51	11674	.05
TOSAB	13-B-16	A-280	Lock washer	51	11315	.05
FUSAB	16-D-17	A-283	Gasket for cylinder end covers having $\frac{21}{64}$" holes	51	31179	.10
KUSAB	14-D-27	A-284	Cover for cylinder end, RIGHT front, or LEFT rear on 51-3 and on LEFT rear only 55	51-3-5	31180	.80
MUSAB	15-E-14	A-285	Cover for cylinder end, LEFT front, or RIGHT rear on 51-3 and on RIGHT rear only 55	51-3-5	31181	.80
RUSAB	15-F-26	A-286	Cover for front end of RIGHT cylinder with nipple for hose connection	55	34023	2.00
TUSAB	15-F-16	A-287	Cover for front end of LEFT cylinder with nipple for hose connection	55	34024	2.00

Code Word	Sec.-Bin	Serial	Part Name	Type	Symbol	Price
BATAB	16-D-17	A-288	Gasket for cylinder end covers	53-5	31179	$ .10
CATAB	14-D-26	A-289	Cover for cylinder end	57	37855	.55
DATAB	16-D-60	A-290	Gasket for cylinder end covers	57	37856	.05
FATAB	10-R-6	A-291	Stud for cylinder end covers having $\frac{21}{64}$" holes	51-3-5-7	30572	.05
LATAB	15-D-74	A-292	Nut for stud	51-3-5-7	11696	.05
MATAB	15-B-35	A-293	Lock washer	51-3-5-7	11324	.05
PATAB	12-G-11	A-294	Bushing for valve stem	51-3-5-7	19454	.75
RATAB	12-C-8	A-295	Support for valve tappet cover plate	51-3-5-7	19465	.60
SATAB	10-N-24	A-296	Screw, support to cylinder	51-3-5-7	10237	.05
TATAB	10-D-8	A-297	Lock washer	51-3-5-7	11313	.05
ZATAB	9-D-2	A-298	Stud in cylinder for conduit bracket	53-5	31586	.05
BETAB	11-E-25	A-299	Breather and oil filler complete less cap	51	21201	2.25
CETAB	13-E-14	A-300	Breather and oil filler complete less cap	53-5	21760	2.25
DETAB	13-D-54	A-301	Cap for breather and oil filler	51-3-5	30926	.45
FETAB	11-D-58	A-302	Breather and gauze for valve tappet cover plate	53-5	21461	.85
KETAB	10-G-11	A-303	Gauze for breather	53-5	31149	.05
LETAB	15-C-161	A-304	Housing on outer side of cylinder for breather	57	37877	1.50
METAB	9-K-9	A-305	Gasket for breather housing	57	56138	.05
PETAB	13-C-117	A-306	Screw, breather housing to cylinder	57	37875	.10
RETAB	13-B-16	A-307	Lock washer	57	11315	.05
TETAB	14-B-100	A-309	Breather body with gauze	57	41840	1.15
ZETAB	15-D-63	A-310	Cap for breather	57	38663	.20
BITAB	9-N-11	A-311	Screw, cap to breather body	57	38664	.05
CITAB	15-B-11	A-312	1¼" pipe plug in cylinder for water inlet	51-3-5-7	30511	.25
DITAB	14-C-75	A-313	1" pipe plug in cylinder for water outlet	51-3-5	19476	.20
FITAB	10-F-6	A-314	¼" pipe plug for cylinder	51-3-5-7	H1-425	.05
KITAB	10-D-1	A-315	Plug in cylinder	57	3467	.05
LITAB	10-H-4	A-316	½" pipe plug in cylinder	51-3	4519	.05
MITAB	10-M-13	A-317	¼" slotted pipe plug in cylinder	51	30555	.05
PITAB	15-D-1	A-318	Pet cock to drain cylinders	51-3-5-7	14024	1.00
RITAB	17-E-1	A-319	Gasket between cylinders and crank case	51-3-7	37151	.05
SITAB	17-F-8	A-320	Gasket between cylinders and crank case	55	32655	.10
TITAB	13-D-8	A-321	Nut for stud, cylinders to crank case	51-3-5-7	11675	.05
ZITAB	10-Q-21	A-322	Lock washer	51-3-5-7	11326	.05
BOTAB	14-D-47	A-323	Threaded dowel, cylinder to crank case	51-3-5-7	19680	.15
DOTAB	13-B-3	A-325	Acorn nut on top of cylinder	51-3-5	11666	.15
FOTAB	16-B-160	A-326	Gasket on stud for acorn nut	51-3-5	19699	.05
KOTAB		A-327	Plate for top of cylinder	51	19432	.60
LOTAB	13-D-44	A-328	Plate for top of cylinder	53-5	31651	.60
MOTAB	17-D-3	A-329	Gasket for plate on top of cylinder	51-3-5	19434	.05
POTAB	13-C-61	A-330	Stud in brass plug in top of cylinder	51-3	19433	.05
ROTAB	13-C-97	A-331	Stud in brass plug in top of cylinder	55	32577	.05
SOTAB	13-D-61	A-332	Brass plug in top of cylinder	51	19430	.75
TOTAB	13-D-57	A-333	Brass plug in top of cylinder	53-5	31147	.75
ZOTAB	16-C-4	A-334	Gasket for plug in top of cylinder	51-3-5	19431	.10

VALVE TAPPET COVER PLATES

CUTAB	13-D-25	A-335	Valve tappet cover plate, RIGHT front or LEFT rear	51-3	19756	2.00
DUTAB	13-D-24	A-336	Valve tappet cover plate, LEFT front or RIGHT rear	51-3	19462	2.00
FUTAB	13-D-55	A-339	Valve tappet cover plate, RIGHT front, LEFT rear	55	37024	2.00
KUTAB	15-D-65	A-340	Valve tappet cover plate, LEFT front, RIGHT rear	55	37025	2.00
LUTAB	12-D-43	A-341	Valve tappet cover plate, RIGHT front, LEFT rear	57	38150	1.65
MUTAB	11-D-55	A-342	Valve tappet cover plate, LEFT front, RIGHT rear	57	38151	1.65
PUTAB	10-D-2	A-343	Stud supporting (1st type) valve tappet cover plate	55	32588	.20
RUTAB	15-C-145	A-344	Stud supporting valve tappet cover plate	51-3-5-7	19466	.25
SUTAB	14-B-17	A-345	Screw attaching valve tappet cover plate	51-3-5-7	11626	.05
TUTAB	15-B-45	A-346	Lock washer	51-3-5-7	11314	.05
ZUTAB	14-B-100	A-347	Breather in valve tappet cover plate	55	41840	1.15
XUTAB	15-D-63	A-347-B	Cap for breather	55	38663	.20
YUTAB	9-N-11	A-347-C	Screw, cap to breather	55	38664	.05

VALVE CHAMBER CAPS

Code Word	Sec.-Bin	Serial	Part Name	Type	Symbol	Price
BAZAB	13-D-60	A-348	Valve chamber cap, high compression, tapped for spark plug, stamped "H"	51	19435	$ 1.00
DAZAB	13-D-58	A-349	Valve chamber cap, high compression, tapped for priming cock, stamped "H"	51	19436	1.00
KAZAB	11-D-16	A-350	Valve chamber cap, high compression, tapped for priming cock, stamped "H"	55	32630	1.00
MAZAB	13-D-56	A-351	Valve chamber cap, high compression, tapped for spark plug, stamped "H"	55	32631	1.00
RAZAB	12-D-33	A-352	Valve chamber cap, low compression, tapped for spark plug, stamped "L"	51-3	19435½	1.00
TAZAB	11-D-59	A-353	Valve chamber cap, low compression, tapped for priming cock, stamped "L"	51-3	19436½	1.00
BEZAB	13-D-53	A-354	Valve chamber cap, low compression, tapped for priming cock, stamped "L"	55	34118	1.00
DEZAB	13-C-107	A-355	Valve chamber cap, low compression, tapped for spark plug, stamped "L"	55	34119	1.00
KEZAB	15-D-16	A-356	Valve chamber cap, low compression, tapped for spark plug, stamped "LL"	51-3	30305	1.00
MEZAB	13-D-71	A-357	Valve chamber cap, low compression, tapped for priming cock, stamped "LL"	51-3	30304	1.00
REZAB	15-D-15	A-358	Valve chamber cap, low compression, tapped for priming cock, stamped "LL"	55	34171	1.00
TEZAB	11-D-12	A-359	Valve chamber cap, low compression, tapped for spark plug, stamped "LL"	55	34170	1.00
BIZAB	17-E-3	A-360	Gasket for valve chamber caps	51-3	19607	.05
CIZAB	16-D-44	A-361	Gasket for valve chamber caps	55	32599	.05
DIZAB	16-C-86	A-362	Gasket for spark plug	51-3-5-7	8819	.05
FIZAB	14-D-63	A-363	Priming cock in valve chamber cap	51	17972	1.00
KIZAB	14-E-12	A-364	Priming cock in valve chamber cap	53-5	32047	.60

INLET AND EXHAUST VALVES

ZIZAB	11-G-18	A-367	Inlet valve, marked "IN"	51-3	30601	2.60
BOZAB	11-E-18	A-368	Exhaust valve, marked "EX"	51-3	30602	4.60
COZAB	11-G-13	A-369	Inlet valve, marked "IN"	55-7	39595	1.50
DOZAB	11-G-11	A-370	Exhaust valve, marked "EX"	55-7	39594	2.75
FOZAB	12-G-7	A-371	Spring for inlet or exhaust valves	51-3	19717	.20
KOZAB	13-G-5	A-372	Spring for inlet or exhaust valves	55-7	32616	.45
LOZAB	13-C-99	A-373	Seat for valve spring (1st type)	51	19456	.10
MOZAB	10-E-23	A-374	Thrust washer for valve spring (1st type)	51	19604	.05
POZAB	13-B-13	A-375	Seat for valve spring (2nd type on 51)	51-3-5	30603	.10
ROZAB	19-G-3	A-376	Seat for valve spring	57	37868	.10
SOZAB	13-B-31	A-377	Collar for valve spring seat (2 used, each valve) (2nd type on 51)	51-3-5-7	30604	.10
ZOZAB	13-D-43	A-378	Valve spring retainer, upper	51-3-5-7	31103	.05

INTAKE AND EXHAUST MANIFOLDS

LUZAB	13-E-2	A-381	Intake manifold	51	19769	30.00
MUZAB	13-E-19	A-382	Intake manifold	53	31249	30.00
PUZAB	14-D-53	A-383	Intake manifold	55-7	33527	32.00
RUZAB	16-C-33	A-384	Gasket for intake manifold at cylinder	51-3	19605	.05
SUZAB	16-E-13	A-385	Gasket for intake manifold at cylinder	55-7	32601	.05
TUZAB	13-B-24	A-386	Screw, intake manifold to cylinder	51-3-5-7	11643	.10
ZUZAB	10-E-10	A-387	Lock washer	51-3-5-7	11325	.05

Code Word	Sec.-Bin	Serial	Part Name	Type	Symbol	Price
BABED	14-E-9	A-388	Exhaust manifold, RIGHT	51	19697	$ 6.00
CABED	14-E-8	A-389	Exhaust manifold, LEFT	51	19698	6.00
DABED	14-E-23	A-390	Exhaust manifold, RIGHT	53	30927	7.00
FABED	14-C-159	A-391	Exhaust manifold, LEFT	53	30928	7.00
KABED	14-F-16	A-392	Exhaust manifold, RIGHT	55-7	32659	8.50
LABED	14-F-21	A-393	Exhaust manifold, LEFT	55-7	32660	8.50
MABED	16-D-19	A-394	Gasket for exhaust manifold	51-3	19606	.10
PABED	16-D-3	A-395	Gasket for exhaust manifold, front and rear	55-7	19802	.05
RABED	16-D-48	A-396	Gasket for exhaust manifold, center	55-7	32646	.10
SABED	14-D-14	A-397	Screw, exhaust manifold to cylinder	51	11609	.20
TABED	15-D-79	A-398	Screw, exhaust manifold to cylinder	53	30815	.40
ZABED	15-C-117	A-399	Screw, exhaust manifold to cylinder	55-7	32603	.10

CONNECTING RODS

DEBED	11-F-20	A-402	Outside connecting rod with cap, bolts and nuts, less bearing and piston	51	20602	16.00
MEBED	11-F-22	A-404	Outside connecting rod with wrist pin bushing and caps, bolts and nuts, less crank end bearing and piston	53	21377	16.00
TEBED	11-F-15	A-406	Outside connecting rod with wrist pin bushing, caps and bolts, less crank end bearing and piston	55-7	22143	16.00
BIBED	11-E-11	A-407	Inside connecting rod with cap, bolts and nuts, less bearing and piston	51	20601	12.00
DIBED	11-E-21	A-408	Inside connecting rod with wrist pin bushing, cap, bolts and nuts, less crank end bearing and piston	53	21374	12.00
KIBED	11-E-26	A-409	Inside connecting rod with wrist pin bushing, less crank end bearing and piston	55-7	25434	12.00
MIBED	15-B-29	A-410	Bolt for outside connecting rod cap	51-3	19423	.30
PIBED	15-D-5	A-411	Bolt for outside connecting rod cap	55-7	32605	.30
RIBED	12-D-11	A-412	Nut for outside connecting rod cap bolt	51-3-5-7	11669	.10
SIBED	9-M-11	A-413	Cotter pin for nut	51-3-5-7	15162	.05
ZIBED	11-B-113	A-415	Bolt for inside connecting rod cap	51-3-5-7	32606	.30
BOBED	13-D-37	A-416	Nut for inside connecting rod cap bolt	51-3-5-7	11668	.10
COBED	9-N-17	A-417	Cotter pin for nut	51-3-5-7	15163	.05
DOBED	25-G-10	A-418	Bearing for connecting rod (halves not sold separately)	51-3	21979	4.70
FOBED	25-G-7-8	A-419	Bearing for connecting rod (halves not sold separately)	55-7	22617	4.70
POBED	25-F-26	A-419B	Bearing for connecting rod **.005 undersize**	51-3	41394	4.70
ROBED	25-E-27	A-419C	Bearing for connecting rod **.020 undersize**	51-3	41897	4.70
SOBED	25-F-27	A-419D	Bearing for connecting rod **.005 undersize**	55-7	22616	4.70
TOBED	25-E-19	A-419E	Bearing for connecting rod **.020 undersize**	55-7	41899	4.70
KOBED	9-I-10	A-420	Shim for connecting rod bearing, (.002 Thick)	51-3-5-7	53888	.05
XOBED	9-I-11	A-420-B	Shim for connecting rod bearing, (.003 Thick)	51-3-5-7	53887	.05
YOBED	9-I-12	A-420-C	Shim for connecting rod bearing, (.004 Thick)	51-3-5-7	53886	.05
ZOBED	9-I-13	A-420-D	Shim for connecting rod bearing, (.005 Thick)	51-3-5-7	53885	.05
LOBED	9-P-19	A-421	Dowel for connecting rod bearing	51-3	19422	.05
MOBED	9-R-10	A-422	Dowel for connecting rod bearing	55-7	32608	.05

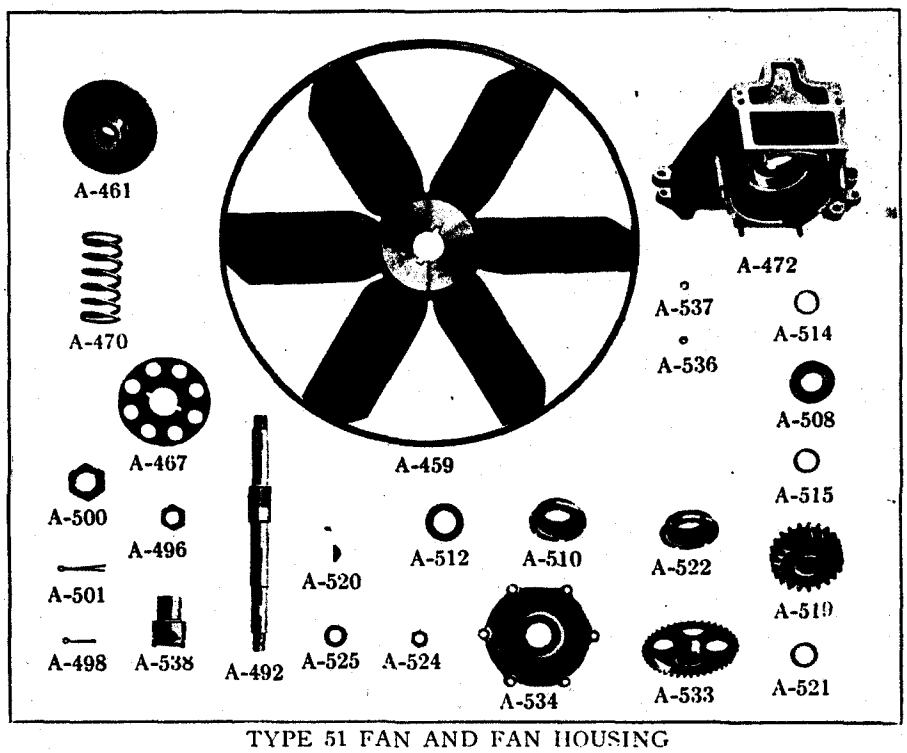
PISTONS AND WRIST PINS

BUBED	21-G-1	A-425	Piston with rings	51	21188	3.20
CUBED	13-G-1	A-426	Piston with rings, **first oversize**	51	21206	3.20
DUBED	26-G-3	A-427	Piston with rings, **second oversize**	51	21207	3.20
FUBED	20-G-1	A-428	Piston with rings	53	21375	3.20
KUBED	30-G-1	A-429	Piston with rings, **first oversize**	53	22001	3.20
LUBED	38-G-1	A-430	Piston with rings, **second oversize**	53	22002	3.20
PUBED	24-G-1	A-433	Piston with rings	55-7	28907	3.20
SUBED	25-G-1	A-436	Piston with rings(**standard high limit**)	55-7	28908	3.20
TUBED	28-G-1	A-437	Piston with rings, **first oversize**	55-7	42277	3.20
ZUBED	18-G-3	A-438	Piston with rings, **second oversize**	55-7	42278	3.20
YUBED	37-G-1	A-438-B	Piston with rings, **.005 oversize**	55-7	42630	3.20

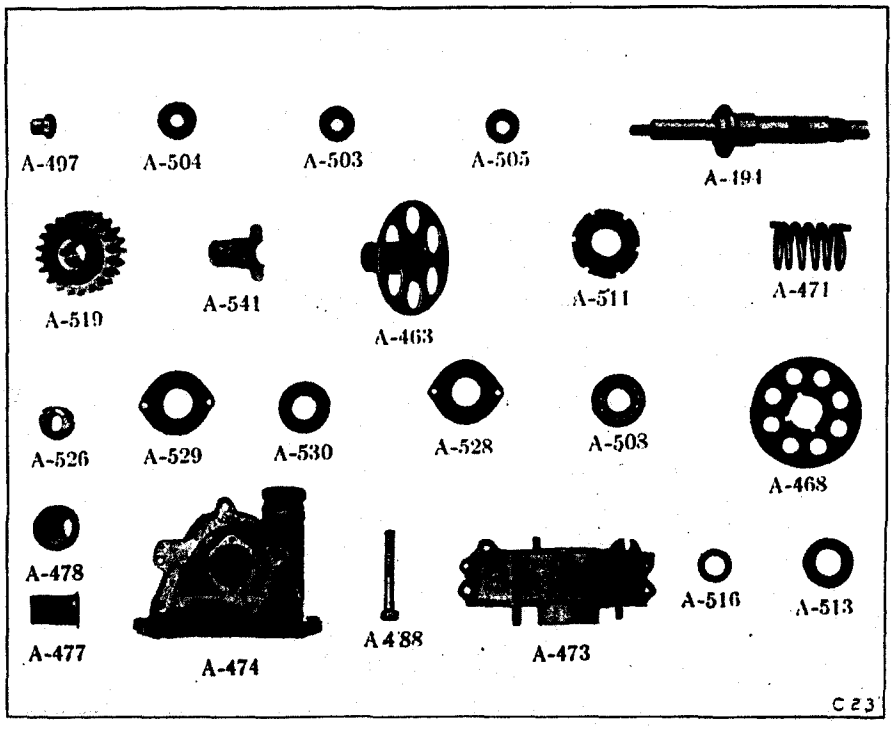
Code Word	Sec.-Bin	Serial	Part Name	Type	Symbol	Price
BAFED	12-G-6	A-439	Piston ring, 3 used	51-3-5-7	56288	$ .65
CAFED	12-G-3	A-439-B	Piston ring, upper, compression	51-3-5-7	56289	.30
DAFED		A-441	Piston ring, **first oversize**, 3 used	51-3-5-7	30776	.30
KAFED	13-F-9	A-443	Piston ring, **second oversize**, 3 used	51-3-5-7	30778	.30
FAFED	12-C-97	A-443-B	Piston ring, upper and center compression **.005 oversize**	55-7	76221	.30
LAFED	12-C-93	A-443-C	Piston ring, lower, oilseal **.005 oversize**	55-7	76222	.65
MAFED	11-F-16	A-445	Wrist pin	51	19426	.80
PAFED	11-D-41	A-446	Wrist pin	53	30891	.80
SAFED	11-G-10	A-448	Wrist pin	55-7	37673	.80
TAFED	11-C-29	A-449	Wrist pin **.002 oversize**	51	32366	.80
ZAFED	11-D-23	A-450	Wrist pin **.003 oversize**	53	32812	.80
BEFED	11-G-15	A-451	Wrist pin **.003 oversize**	55-7	37087	.80
CEFED	11-D-7	A-452	Wrist pin bushing	53	30890	.45
DEFED	11-G-14	A-453	Wrist pin bushing	55-7	32607	.45
FEFED	15-C-47	A-454	Lock screw for wrist pin to connecting rod	51	11620	.05
KEFED	11-D-73	A-455	Lock screw for wrist pin to piston	53	30855	.10
LEFED	37-B-60	A-456	Lock screw for wrist pin to piston	55-7	32540	.10
MEFED	15-B-45	A-457	Lock washer	51	11314	.05
PEFED	13-B-16	A-458	Lock washer	53	11315	.05
REFED	15-B-35	A-458-A	Lock washer	55-7	11324	.05

FAN AND FAN HOUSING

SEFED	12-E-27	A-459	Fan complete (blades, rim and disc)	51	20468	6.50
TEFED	12-G-25	A-460	Fan complete (blades, rim and disc)	53-5-7	22246	6.50
ZEFED	12-D-65	A-461	Driving disc for fan, front, complete with pins	51	20820	3.00
CIFED	11-E-23	A-463	Driving disc for fan, front, complete with pins and bushings	53-5-7	22528	4.50
DIFED	10-N-4	A-464	Pin for fan driving disc	51	19695	.05
FIFED	10-Q-7	A-465	Pin for fan driving disc	53-5-7	30842	.05
KIFED	15-C-11	A-466	Bushing for fan driving disc	53-5-7	31139	.20
LIFED	12-D-77	A-467	Pressure disc for fan, rear	51	19505	2.00
MIFED	12-D-41	A-468	Pressure disc for fan, rear	53-5-7	30846	2.00
PIFED	10-F-4	A-469	Woodruff key, fan disc to shaft	51	11363	.05
RIFED	12-E-14	A-470	Spring for fan drive	51	19507	.30
SIFED	12-G-1	A-471	Spring for fan drive	53-5-7	30845	.40
TIFED	14-C-145	A-472	Fan housing with studs	51	20600	9.50
ZIFED	12-D-80	A-473	Fan housing with studs	53-5	21430	10.00
BOFED	14-D-51	A-474	Fan housing with studs	57	23937	11.00
COFED	9-P-2	A-475	Plug for fan housing	51	30765	.10
DOFED	16-E-6	A-476	Gasket between fan housing and distributor	53-5-7	31107	.05
FOFED	18-D-12	A-477	Strainer for oil filler in fan housing	57	23325	.50
KOFED	14-C-123	A-478	Cap, oil filler on fan housing	57	13118	.50
LOFED	16-C-11	A-479	Washer for oil filler cap	57	38077	.08
MOFED	10-P-7	A-480	Stud in fan housing for engine front end cover and distributor (1st type on "55")	51-3-5	19777	.05
POFED	30-D-60	A-481	Nut	51-3-5	11678	.05
ROFED	11-D-54	A-482	Screw, fan housing to crank case	51-3-5-7	10026	.08
SOFED	10-E-10	A-483	Lock washer	51-3-5-7	11325	.05
TOFED	10-R-7	A-484	Threaded dowel, fan housing to crank case	51-3-5-7	19714	.10
BUFED	10-S-1	A-486	Taper pin, fan housing to distributor	53-5	15046	.05
CUFED	37-C-149	A-487	Screw, short, fan housing to distributor	53-5-7	10028	.10
DUFED	10-J-5	A-488	Screw, long, fan housing to distributor	53-5-7	11859	.20
FUFED	10-P-7	A-489	Stud in distributor for fan housing	53-5-7	19777	.05
KUFED	30-D-60	A-490	Nut	53-5-7	11678	.05
LUFED	10-E-10	A-491	Lock washer	53-5-7	11325	.05
MUFED	12-D-78	A-492	Fan shaft with thrust washer and nut for front end	51	40355	5.20
PUFED	12-F-10	A-493	Fan shaft ($9\frac{7}{8}$" long) used before engine No. A-25000	53	30843	5.20
RUFED	12-E-16	A-494	Fan shaft ($11\frac{3}{16}$" long) used after engine No. A-25000 on 53	53-5-7	31842	5.20
SUFED	12-D-76	A-495	Nut for front end of fan shaft, RIGHT hand thread	51	19616	.10
TUFED	13-D-51	A-496	Nut for front end of fan shaft, LEFT hand thread	51	30297	.25
ZUFED	12-D-79	A-497	Nut for front end of fan shaft	53-5-7	30823	.60



TYPE 51 FAN AND FAN HOUSING



TYPES 53-55-57 FAN HOUSING

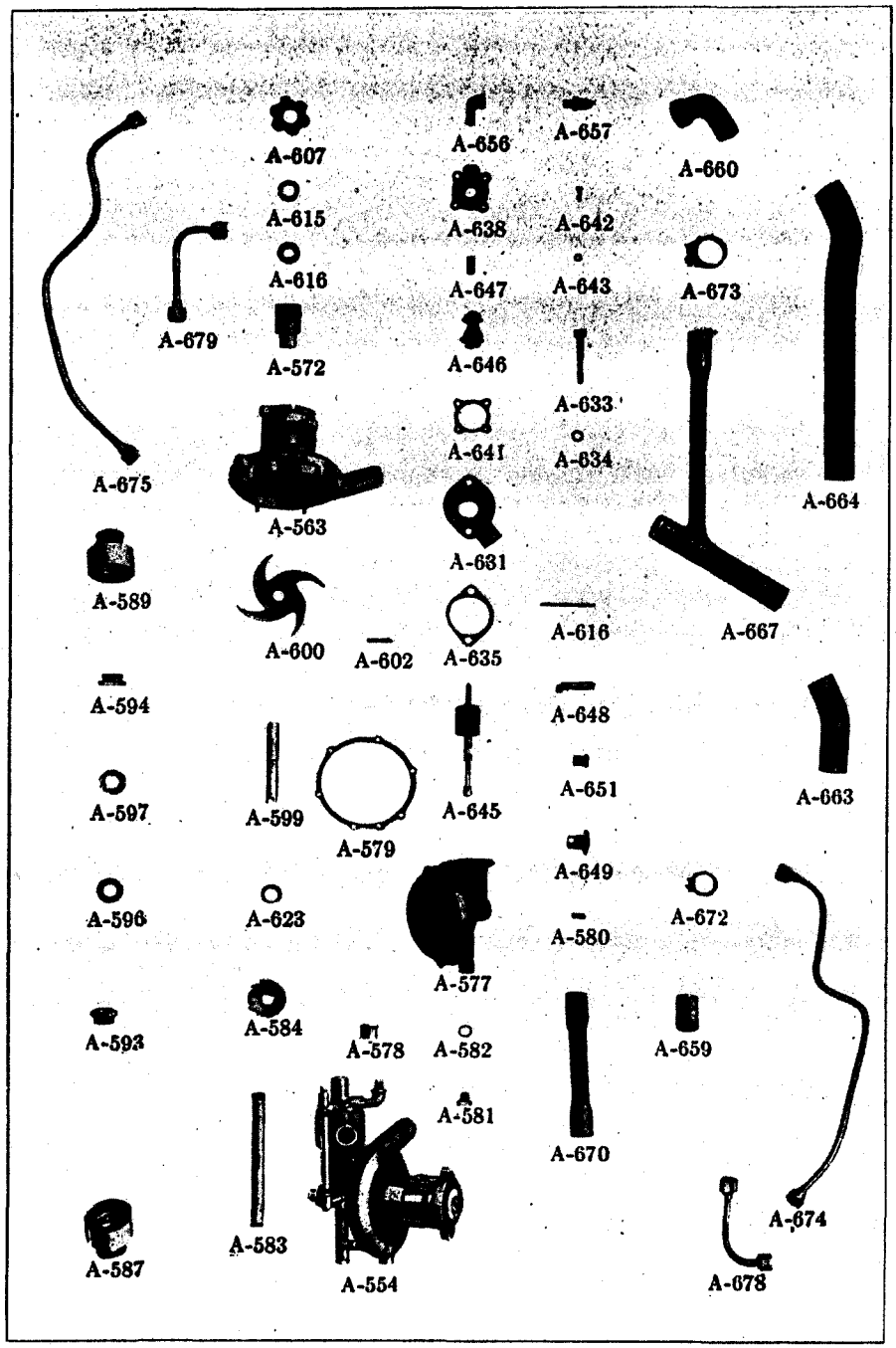
Code Word	Sec.-Bin	Serial	Part Name	Type	Symbol	Price
BAKED		A-498	Cotter pin for nut on front and rear	51	15191	$ .05
CAKED	10-R-5	A-499	Cotter pin for nut on front end	53-5-7	15176	.05
DAKED	12-C-10	A-500	Nut on fan drive shaft retaining spring on (1st and 2nd types)	51	19508	.25
KAKED	10-P-20	A-501	Cotter pin	51	15196	.05
LAKED	12-C-69	A-502	Thrust washer for fan spring, late type	51	11488	.05
MAKED	16-B-95	A-503	Fibre thrust washer on front end of fan shaft	53-5-7	11505	.20
PAKED	10-P-12	A-504	Front washer for thrust bearing	53-5-7	11503	.30
RAKED	11-D-53	A-505	Rear washer for thrust bearing	53-5-7	11504	.30
SAKED	10-M-11	A-506	Pin locking thrust bearing washers	53-5-7	32793	.05
TAKED	12-C-157	A-507	Dust cover for fan shaft thrust bearing	53-5-7	30902	.10
ZAKED	25-D-69	xA-508	Ball bearing, front and rear on fan shaft (No. 205 single roll)	51-3-5-7	19484	3.00
CEKED	25-G-17	A-509	Bearing, front on fan shaft (No. 205 double roll bearing)	53	30814	3.50
DEKED	15-B-27	A-510	Retainer for bearing, front end	51	19485	1.50
FEKED	13-C-45	A-511	Retainer, fan shaft bearing, front	53-5-7	31968	1.75
KEKED	16-B-11	A-512	Felt washer in front retainer	51	19487	.08
LEKED	17-E-2	A-513	Felt washer for front retainer	53-5-7	11808	.08
MEKED	10-G-7	A-514	Thin washer for fan shaft bearing	51	11473	.05
PEKED	10-I-1	A-515	Spacer for rear of front bearing	51	19489	.10
REKED	12-B-151	A-516	Spacer for fan shaft front bearing	53-5-7	31969	.10
SEKED	14-D-2	A-517	Spacer between sprocket and front bearing	53-5-7	30811	.15
ZEKED	23-G-4	A-519	Sprocket for fan drive	51-3-5-7	31172	3.00
BIKED	10-F-4	A-520	Key for sprocket	51-3-5-7	11363	.05
CIKED	14-B-8	A-521	Spacer on fan shaft between sprocket and rear bearing	51	19490	.10
DIKED	14-B-40	A-522	Retainer for rear bearing	51	19486	1.50
FIKED	17-D-71	A-523	Felt washer in rear retainer	51	19488	.05
KIKED	9-D-3	A-524	Castle nut for rear of fan shaft	51	11683	.15
LIKED	10-D-15	A-525	Washer for castle nut	51	11469	.05
MIKED	14-B-38	A-526	Lock nut for rear fan shaft bearing	53-5-7	30813	.55
PIKED	14-D-71	A-527	Cotter pin	53-5-7	15169	.05
RIKED	10-Q-9	A-528	Retainer, inner, for rear fan shaft bearing felt	53-5-7	31378	.15
SIKED	15-B-147	A-529	Retainer, outer, for rear fan shaft bearing felt	53-5-7	31379	.25
TIKED	16-F-13	A-530	Felt washer between retainers	53-5-7	11506	.10
ZIKED	15-C-115	A-531	Screw attaching retainers	53-5-7	10272	.05
BOKED	15-B-45	A-532	Lock washer	53-5-7	11314	.05
COKED	23-D-54	A-533	Gear on fan shaft, driving tire pump	51	19501	2.50
DOKED	14-B-23	A-534	Cover for rear end of fan housing	51	19491	1.00
XOKED	16-D-16	A-534B	Gasket for rear end cover	51	30735	.05
YOKED	17-D-71	A-534C	Felt washer for rear end cover	51	19488	.05
FOKED	9-T-11	A-535	Stud for cover	51	37202	.05
KOKED	9-M-10	A-536	Nut on stud	51	11674	.05
LOKED	15-B-45	A-537	Lock washer	51	11314	.05
MOKED	14-B-147	A-538	Coupling on fan shaft for generator coupling	51	19771	1.75
POKED	10-G-2	A-539	Woodruff key for tire pump gear and coupling	51	11361	.05
ROKED	9-C-12	A-540	Headless set screw for coupling	51	11256	.15
SOKED	12-D-14	A-541	Coupling on fan shaft for generator coupling	53-5-7	32618	2.25
TOKED	10-F-10	A-542	Woodruff key for coupling	53-5-7	11359	.05
ZOKED	12-D-29	A-543	Screw in end of fan shaft for coupling	53-5-7	10058	.10
BUKED	10-P-11	A-544	Flat washer	53-5-7	11512	.05
CUKED	10-P-17	A-545	Lock washer	53-5-7	11327	.05

WATER PUMPS AND DRIVE SHAFT

DUKED	15-G-9	A-548	Water pump complete, RIGHT	51-3	21468	35.00
FUKED	15-G-26	A-549	Water pump complete, LEFT	51-3	21469	35.00
KUKED	14-F-25	A-550	Water pump complete, RIGHT, before engine 55-L-101	55	22244	35.00
MUKED	13-F-4	A-551	Water pump complete, RIGHT, after engine 55-L-101	55	23590	35.00
PUKED	14-E-26	A-552	Water pump complete, LEFT, before engine 55-L-101	55	22245	35.00
RUKED	15-F-5	A-553	Water pump complete, LEFT, after engine 55-L-101	55	23591	35.00
SUKED	14-G-26	A-554	Water pump complete, RIGHT	57	23907	35.00
TUKED	14-E-27	A-555	Water pump complete, LEFT	57	23908	35.00
ZUKED	10-K-4	A-556	Stud for water pump body to crank case before engine 55-L-101	51-3-5	19708	.05

x Indicates subject to special discount.

Code Word	Sec.-Bin	Serial	Part Name	Type	Symbol	Price
BALED	9-T-5	A-557	Stud for water pump to crank case, after engine 55-L-101	55-7	34750	$ .05
DALED	30-D-60	A-558	Nut	51-3-5-7	11678	.05
FALED	10-E-10	A-559	Lock washer	51-3-5-7	11325	.05
KALED	14-G-27	A-560	Body of water pump with bushing and studs, RIGHT, before engine 55-L-101	51-3-5	22301	6.50
MALED	15-G-27	A-561	Body of water pump with bushing and studs, LEFT, before engine 55-L-101	51-3-5	22302	6.50
RALED	12-G-5	A-563	Body of water pump with bushing and studs, RIGHT, after engine 55-L-101	55-7	23584	7.50
TALED	14-G-24	A-565	Body of water pump with bushing and studs, LEFT, after engine 55-L-101	55-7	23585	7.50
BELED	9-L-22	A-566	Stud in body of water pump attaching cover	51-3-5-7	19770	.05
CELED	9-M-10	A-567	Nut	51-3-5-7	11674	.05
DELED	15-B-45	A-568	Lock washer	51-3-5-7	11314	.05
FELED	15-D-57	A-569	Bushing for water pump body, RIGHT	51-3	19645	1.25
KELED	14-D-18	A-570	Bushing for water pump body, LEFT	51-3	19646	1.25
LELED	15-C-157	A-571	Bushing for water pump body, RIGHT, before engine 55-L-101	55	32750	1.25
PELED	15-D-44	A-572	Bushing for water pump body, RIGHT, after engine 55-L-101	55-7	34789	1.30
SELED	14-B-150	A-573	Bushing for water pump body, LEFT, before engine 55-L-101	55	32751	1.25
ZELED	15-D-38	A-574	Bushing for water pump body, LEFT, after engine 55-L-101	55-7	34790	1.30
CILED	9-P-23	A-575	Dowel for bushing	51-3-5-7	19716	.05
DILED	14-G-13	A-576	Cover for water pump with bushing before engine 55-L-101	51-3-5	40032	5.00
KILED	15-G-19	A-577	Cover for water pump with bushing after engine 55-L-101	55-7	23645	6.00
MILED	14-B-144	A-578	Bushing in pump cover	51-3-5-7	19517	.50
PILED	17-D-6	A-579	Gasket for pump cover	51-3-5-7	19512	.05
RILED	10-D-1	A-580	⅛" plug for side of pump cover	51-3-5-7	3467	.05
SILED	15-D-22	A-581	Drain plug for pump cover	51-3-5-7	11834	.15
TILED	16-C-46	A-582	Gasket for drain plug	51-3-5-7	30201	.05
ZILED	13-D-7	A-583	Drive shaft for pump (male)	51-3-5-7	19513	1.75
BOLED	23-F-12	A-584	Spiral gear on water pump drive shaft	51-3-5-7	19522	2.10
COLED	10-G-2	A-585	Woodruff key	51-3-5-7	11361	.05
DOLED	25-C-131	A-586	Bearing for water pump shaft, RIGHT, with LEFT hand thread	51-3	19649	3.75
KOLED	25-F-18	A-587	Bearing for water pump shaft, RIGHT, with LEFT hand thread	55-7	32626	3.50
MOLED	25-F-11	A-588	Bearing for water pump shaft, LEFT, with RIGHT hand thread	51-3	19524	3.50
POLED	25-G-18	A-589	Bearing for water pump shaft, LEFT, with RIGHT hand thread	55-7	32627	3.75
SOLED	9-T-5	A-591	Lock screw for pump shaft bearing	51-3-5-7	32536	.10
TOLED	15-B-35	A-592	Lock washer	51-3-5-7	11324	.05
ZOLED	15-D-21	A-593	Packing nut for pump shaft, RIGHT, with LEFT hand thread	51-3-5-7	32539	.25
BULED	15-D-19	A-594	Packing nut for pump shaft, LEFT, with RIGHT hand thread	51-3-5-7	32538	.25
CULED	16-D-14	A-595	Packing for water pump drive shaft bearing (2 pieces)	51-3-5-7	34636	.25
DULED	15-C-109	A-596	Thrust washer for pump bearing	51-3-5-7	11462	.30
FULED	25-D-34	A-597	Ball retainer and balls for thrust bearing	51-3-5-7	20577	.60
KULED	14-D-76	A-598	Shaft for water pump, female (2 used) before engine 55-K-1	51-3-5	19694	3.00
LULED	14-D-8	A-599	Shaft for water pump, female (2 used) after engine 55-K-1	55-7	34784	2.85
MULED	14-G-11	A-600	Pump impeller, RIGHT	51-3-5-7	19514	2.20
PULED	14-G-12	A-601	Pump impeller, LEFT	51-3-5-7	19515	2.20
RULED	10-Q-20	A-602	Taper pin, impeller to shaft	51-3-5-7	15051	.05
SULED	14-B-48	A-603	Thrust washer for pump impeller	51-3-5-7	19518	.25



WATER PUMPS, DRIVE SHAFTS AND WATER CONNECTIONS

Code Word	Sec.-Bin	Serial	Part Name	Type	Symbol	Price
BAPED	15-D-25	A-604	Gland nut for shaft, RIGHT hand thread, before engine 55-L-101	51-3-5	21961	$ 1.00
DAPED	15-C-33	A-605	Gland nut for shaft, LEFT hand thread, before engine 55-L-101	51-3-5	21962	1.00
MAPED	14-D-62	A-607	Gland nut for shaft, RIGHT hand thread, after engine 55-L-101	55-7	34661	1.00
RAPED	14-D-64	A-609	Gland nut for shaft, LEFT hand thread, after engine 55-L-101	55-7	34662	1.00
SAPED	14-D-68	A-610	Lock for gland nut, RIGHT	55-7	37053	.10
TAPED	15-C-6	A-611	Lock for gland nut, LEFT	55-7	37054	.10
ZAPED	9-S-21	A-612	Screw for lock	55-7	11980	.05
BEPED	15-D-41	A-613	Gland for water pump packing	51-3	19652	.20
DEPED	10-D-1	A-614	Gland for water pump shaft packing before engine 55-L-101	55	33053	.40
KEPED	14-B-11	A-615	Gland for water pump shaft packing after engine 55-L-101	55-7	34663	.35
LEPED	17-D-58	A-616	Packing for female pump shaft	51-3-5-7	37065	.25
MEPED	15-D-56	A-617	Elbow for grease cup extension	51-3-5	30382	.15
PEPED	30-B-12	A-618	Grease cup extension before engine 55-M-50	51-3-5	30383	.20
REPED	14-B-21	A-619	Coupling for grease cup extension	51-3-5-7	19754	.10
SEPED	29-D-59	A-620	Grease cup with ball check	51-3-5-7	17055	.60
TEPED	15-D-14	A-621	Extension for grease cup after engine 55-M-50	55	37544	.40
ZEPED	14-D-70	A-622	Support for grease cup extension after engine 55-M-50	55	37543	.50
BIPED	10-G-2	A-623	Collar for water pump shaft after engine 55-M-50	55-7	32537	.10
CIPED	10-G-3	A-624	Clip for grease cup extension	57	38037	.05
DIPED	14-D-73	A-625	Extension for grease cup	57	38038	.25
KIPED	15-D-39	A-626	Elbow for grease cup extension	57	38036	.40

THERMOSTAT BODIES AND EXPANDING MEMBERS

LIPED	15-D-42	A-629	Body for thermostat valve	51	30135	3.25
MIPED	15-F-20	A-630	Body for thermostat valve before engine 55-L-101	53-5	31661	4.00
RIPED	15-D-64	A-631	Body for thermostat valve, RIGHT, after engine 55-L-101	55-7	37072	4.00
SIPED	15-D-37	A-632	Body for thermostat valve, LEFT, after engine 55-L-101	55-7	37073	4.00
TIPED	14-C-49	A-633	Screw, thermostat body to pump	51-3-5-7	11839	.15
ZIPED	10-E-10	A-634	Lock washer	51-3-5-7	11325	.05
BOPED	16-B-2	A-635	Gasket, thermostat body to pump	51-3-5-7	30132	.05
COPED	15-D-47	A-636	Strainer for thermostat body	51	20632	.35
DOPED	14-C-59	A-637	Cap for thermostat valve body	51-3	30136	.45
FOPED	15-C-87	A-638	Cap for thermostat valve body before engine 55-L-101	55-7	38093	.40
LOPED	15-D-23	A-639	Cap for thermostat valve body, RIGHT, after engine 55-L-101	55	34785	.30
POPED	14-C-17	A-640	Cap for thermostat valve body, LEFT, after engine 55-L-101	55	34786	.30
ROPED	16-B-12	A-641	Gasket, thermostat body to cap	51-3-5-7	30133	.05
SOPED	10-N-2	A-642	Screw, cap to thermostat body	51-3-5-7	10273	.05
TOPED	15-B-45	A-643	Lock washer	51-3-5-7	11314	.05
BUPED	14-E-13	A-644	Expanding member of thermostat with drain pin before engine 55-K-580	51-3-5	20796	4.00
DUPED	15-F-9	A-645	Expanding member of thermostat with drain pin after engine 55-K-580	55-7	23581	4.00
FUPED	14-D-49	A-646	Valve for thermostat	51-3-5-7	30134	1.20
KUPED	14-C-87	A-647	Nut adjusting thermostat valve	51-3-5-7	30159	.20
LUPED	9-M-8	A-648	Cam for thermostat valve	51-3-5-7	19886	.60
MUPED	14-B-151	A-649	Retainer nut for thermostat cam	51-3-5-7	19888	.65
PUPED	9-R-5	A-650	Gasket for retaining nut	51-3-5-7	30594	.05
RUPED	15-C-111	A-651	Packing nut for thermostat cam	51-3-5-7	19885	.15
SUPED	10-M-9	A-652	Packing for thermostat cam	51-3-5-7	32128	.05

WATER CONNECTIONS

Code Word	Sec.-Bin	Serial	Part Name	Type	Symbol	Price
BARED	15-C-54	A-655	Elbow on cylinder head for thermostat connection	57	38072	$ 1.00
CARED	15-B-153	A-656	Elbow on thermostat cover for water connection	51-3-5-7	30375	.05
DARED	11-D-21	A-657	Nipple on thermostat and cylinder for water pipe connection	51-3-5-7	16498	.40
KARED	14-C-41	A-658	Tee on cylinder for water outlet (1st type)	51	30140	.60
LARED	14-D-65	A-659	Nipple on cylinder for water outlet	51-3-5-7	19733	.35
MARED	14-D-54	A-660	Elbow on cylinder for water inlet	51-3-5-7	19732	1.00
PARED	16-G-20	A-661	Hose connection from radiator to pump before engine 55-M-50	51-3-5	19731	.55
SARED	16-G-12	A-662	Hose connection from radiator to pump after engine 55-M-50	55	34787	.45
ZARED	16-G-16	A-663	Hose connection from radiator to pump	57	37079	.45
BERED	17-G-19	A-664	Hose connection from water pump to cylinder	51-3-5-7	19730	.75
CERED	16-D-41	A-665	Hose connection from cylinder to thermostat used with tee	51	30139	.40
DERED	16-D-67	A-666	Hose connection from cylinder to radiator (1st and 2nd type) used with tee	51	19734	.50
KERED	16-G-1	A-667	Hose connection from cylinder to radiator and branch to thermostat (3rd type on 51)	51-3	30141	2.40
MERED	16-G-9	A-668	Hose connection from cylinder to radiator	55	34025	.45
PERED	16-G-15	A-669	Hose connection from cylinder to radiator	57	38098	.45
RERED	16-G-8	A-670	Hose connection from cylinder to thermostat	55-7	51292	.30
SERED	13-D-22	A-671	Clamp for hose, small	51-3	30196	.10
TERED	15-G-6	A-672	Clamp for hose, small (4 used)	55-7	34020	.20
ZERED	12-G-15	A-673	Clamp for hose, large	51-3-5-7	30721	.25
BIRED	24-E-19	A-674	Copper water pipe from water pump to intake manifold, RIGHT	51-3-5-7	20666	1.00
DIRED	24-E-19	A-675	Copper water pipe from water pump to intake manifold, LEFT	51-3-5-7	20666	1.00
KIRED	24-C-99	A-676	Copper water pipe from cylinder to intake manifold, RIGHT	51-3-5	20662	1.00
MIRED	24-C-111	A-677	Copper water pipe from cylinder to intake manifold, LEFT	51-3-5	20663	1.00
RIRED	24-B-107	A-678	Copper water pipe from cylinder to intake manifold, RIGHT	57	23967	1.00
TIRED	24-D-51	A-679	Copper water pipe from cylinder to intake manifold, LEFT	57	23968	1.00
BORED	24-D-12	A-680	Nut for water pipe connection	51-3-5-7	11688	.20

OIL PUMP AND DRIVE SHAFT

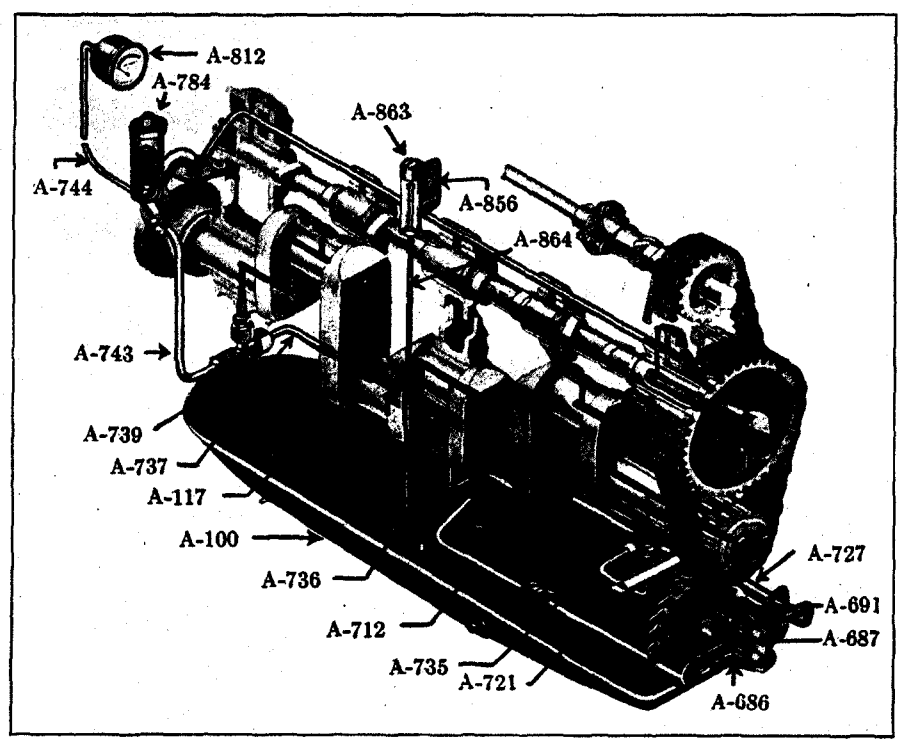
MORED	14-D-4	A-683	Casing with bushing for oil pump	51-3-5	40343	4.00
PORED	14-E-16	A-684	Casing with bushing for oil pump	57	24251	6.50
RORED	14-D-55	A-685	Bushing for oil pump gear	51-3-5-7	19535	.30
SORED	23-D-32	A-686	Drive gear for oil pump	51-3-5-7	19533	2.00
TORED	23-C-123	A-687	Driven gear for oil pump	51-3-5-7	19534	1.75
ZORED	14-D-41	A-688	Shaft for oil pump drive	51-3-5-7	19529	.75
BURED	10-S-9	A-689	Spacer for oil pump shaft	51-3-5-7	19530	.25
CURED	10-K-13	A-690	Dowel for spacer on shaft	51-3-5-7	19776	.05
DURED	23-E-8	A-691	Spiral gear for oil pump drive, 20 teeth	51-3-5-7	19528	5.75
FURED	10-R-18	A-692	Taper pin	51-3-5-7	15032	.05
KURED	16-B-40	A-693	Gasket between oil pump and front end cover	51-3-5-7	19610	.05
LURED	9-M-10	A-694	Nut on stud attaching pump	51-3-5-7	11674	.05
MURED	15-B-45	A-695	Lock washer	51-3-5-7	11314	.05
PURED	10-D-3	A-696	Dowel for oil pump casing	51-3-5-7	19660	.05
RURED	14-D-38	A-697	5/8" elbow from crank case to oil pump, RIGHT side	51-3	19632	1.00
SURED	15-D-45	A-698	5/8" elbow from crank case to oil pump, RIGHT side	55	32558	1.00
TURED	15-B-85	A-699	1/2" elbow tapped for oil pipe nipple from pump to crank case, LEFT side	51-3	32308	1.25

Code Word	Sec.-Bin	Serial	Part Name	Type	Symbol	Price
BASED	14-D-61	A-700	½" elbow from oil pump to crank case, LEFT side	55	32559	$ 1.00
CASED	16-C-27	A-701	Gasket, large, for ⅝" elbow and between crank case and ½" elbow, 3 used	51-3-5-7	19662	.05
FASED	16-B-32	A-702	Gasket, small, between ½" elbow and pump casing	51-3-5	19772	.05
LASED	10-O-13	A-703	Screw, elbow to oil pump	51-3-5	11618	.05
MASED	9-M-10	A-704	Nut on studs and screw attaching elbows	51-3-5-7	11674	.05
PASED	15-B-45	A-705	Lock washer	51-3-5-7	11314	.05

OIL PIPING

RASED	24-B-95	A-708	Suction pipe with gland nut (1st type)	51	20549	2.00
SASED		A-709	Nut, 1st type oil suction pipe in baffle plate	51	11685	.10
TASED		A-710	Lock washer	51	11474	.05
ZASED	24-D-14	A-711	Suction pipe with flange and union nut (2nd type on 51)	51-3	20803	2.50
BESED	24-D-58	A-712	Suction pipe with flange and union nut	55-7	22283	2.25
CESED	9-A-15	A-713	Stud, flange to baffle plate (2nd type on 51)	51-3-5-7	30372	.05
FESED	9-M-10	A-714	Nut (2nd type on 51)	51-3-5-7	11674	.05
KESED	15-B-45	A-715	Lock washer	51-3-5-7	11314	.05
LESED	16-C-38	A-716	Gasket for flange on suction pipe (2nd type on 51)	51-3	30425	.05
MESED	16-C-29	A-717	Gasket for suction pipe flange	55-7	32602	.05
PESED	10-H-6	A-718	Union nut, RIGHT hand connection for suction pipe	51-3-5-7	32550	.15
RESED	9-O-7	A-719	Clip, upper, for oil suction pipe	51-3-5-7	19666	.05
SESED	9-O-8	A-720	Clip, lower, for oil suction pipe	51-3-5-7	19667	.05
TESED	14-D-24	A-721	Pipe connecting suction pipe with elbow on crank case, RIGHT side	51-3-5-7	32548	1.75
BISED	24-F-2	A-722	Header pipe and oil pipe for oil pump (1st type) 20½" long with rear end closed	51	24611	4.70
DISED	24-D-11	A-723	Header pipe for oil pump (2nd type on 51)	51-3-5-7	30161	4.00
FISED	9-I-18	A-724	Sleeve nipple for header pipe connection	51-3-5-7	19638	.15
KISED	14-B-27	A-725	Union nut for header pipe connection	51-3	19641	.25
LISED	14-B-53	A-726	Union nut for header pipe connection	55-7	32551	.15
MISED	14-B-75	A-727	Pipe connecting header pipe to elbow on crank case, LEFT side	51-3-5-7	19794	1.00
RISED	9-O-10	A-728	Clip, upper, for oil header pipe	51-3-5-7	19668	.05
SISED	9-O-2	A-729	Clip, lower, for oil header pipe	51-3-5-7	19665	.05
TISED	12-B-87	A-730	Screw for clips on header and suction pipe	51-3-5-7	11616	.05
ZISED	9-D-2	A-731	Nut	51-3-5-7	11676	.05
BOSED	9-I-16	A-732	Lead washer	51-3-5-7	11459	.05
COSED	10-U-22	A-733	Flat washer	51-3-5-7	11464	.05
DOSED	13-B-16	A-734	Lock washer	51-3-5-7	11315	.05
FOSED	24-C-107	A-735	Oil pipe from header to front main bearing	51-3-5-7	20661	.85
KOSED	24-B-111	A-736	Oil pipe from header to center main bearing	51-3-5-7	20668	.85
LOSED	24-B-109	A-737	Oil pipe from header to rear main bearing tee	51-3-5-7	20679	.85
MOSED	24-D-57	A-738	Pipe complete with flange from header to gauge tee (used with 1st type header)	51	20665	1.50
ROSED	15-D-6	A-739	Pipe and tee complete on rear main bearing for oil pipe connection (2nd type on 51)	51-3-5-7	20470	1.25
TOSED	9-T-10	A-740	Paper gasket for pipe flange (1st type pipe)	51	19675	.05
ZOSED	9-M-10	A-741	Nut on stud, pipe flange to crank case (1st type)	51	11674	.05
CUSED	15-B-45	A-742	Lock washer	51	11314	.05
DUSED	24-C-91	A-743	Pipe with flange from tee to relief valve on crank case (2nd type on 51)	51-3-5-7	20779	1.50
KUSED	24-E-26	A-744	Pipe from oil relief valve to dash	57	23388	2.00
LUSED	15-C-10	A-745	Flange for ⅜" pipe on oil relief valve	51-3-5-7	30120	.45
MUSED	16-B-36	A-746	Gasket for ⅜" pipe flange on oil relief valve	51-3-5-7	30122	.05
PUSED	24-B-105	A-747	Pipe from gauge tee to 1st type starter gear housing	51	20664	.70
RUSED	14-B-51	A-748	Tee for gauge and relief valve oil pipes (1st type oil relief valve)	51	19679	.30
TUSED		A-749	Pipe from oil relief valve to dash (OC) (2nd type oil relief valve)	51	20677	1.00

Code Word	Sec.-Bin	Serial	Part Name	Type	Symbol	Price
BATED		A-750	Oil pipe from oil relief valve to dash (CC) (2nd type oil relief valve)	51	20780	$ 1.00
DATED	24-F-24	A-751	Pipe from oil relief valve to dash	53	21337	1.25
FATED	24-C-77	A-752	Pipe from oil relief valve to dash	55	22747	1.25
KATED		A-753	Oil pipe from dash to gauge (OC) (2nd type oil relief valve)	51	20669	.35
MATED	24-D-62	A-754	Oil pipe from dash to gauge (CC) (2nd type oil relief valve)	51	23668	.75
RATED	24-D-45	A-755	Oil pipe from elbow on dash to gauge except (CV) (CR) (SB-1) (SB-2) (V-2) (B-2)	53-5-7	22413	.75
TATED	24-B-141	A-756	Oil pipe from elbow on dash to gauge (CV)	55	23666	.75
ZATED	24-D-62	A-757	Oil pipe from elbow on dash to gauge (CR)	55	23668	.75
BETED	24-B-135	A-758	Oil pipe from elbow on dash to gauge (SB-1) (SB-2) (V-2) (B-2)	57	25669	.75
CETED	24-G-22	A-759	Oil pipe with tee and union nuts from LEFT elbow to front end cover and fan housing	51-3	41432	.75
FETED	10-A-12	A-760	Thick fibre block for oil pipe on dash	51-3-5-7	19871	.05
KETED	10-H-17	A-761	Fibre block for single clip (countersunk hole)	57	38114	.10
LETED	10-A-12	A-762	Thin fibre clip for oil pipes on dash	51-3-5-7	19329	.05
METED	10-A-12	A-763	Clip, single (sheet steel) for oil pipe on dash	51-3-5-7	19330	.05
PETED	36-B-155	A-764	Screw, clips to dash	51-3-5	10274	.05
RETED	38-C-65	A-765	Screw, clips to dash (OC)	57	10598	.05
SETED	10-E-14	A-766	Screw, clips to dash (CC)	57	36359	.05
TETED	38-B-8	A-767	Nut	57	10889	.05
ZETED	15-B-45	A-768	Lock washer	51-3-5-7	11314	.05
BITED		A-769	Bracket for pipe lines on dash (CC) on 53, (CC) except (C) and (CV) on 55	53-5	31853	.10
DITED	10-P-18	A-770	Bracket for pipe lines on dash (C) and (CV)	55	19872	.10
FITED	14-C-141	A-771	Elbow for oil pipe on dash (OC) on 51	51-3-5	19134	.50



ENGINE OILING SYSTEM

Code Word	Sec.-Bin	Serial	Part Name	Type	Symbol	Price
BAZED	14-B-41	A-772	¼" elbow for oil pipe on dash (CC)	51	30118	$ .40
CAZED	14-D-52	A-773	Nut for elbow	51-3-5-7	11656	.15
DAZED	24-D-12	A-774	Nut for ⅜" copper pipe union	51-3-5-7	11688	.20
FAZED	14-C-55	A-775	Nut for ⅝" copper pipe union	51-3-5-7	11687	.20
KAZED	36-C-101	A-776	Nut for ¼" copper pipe union	51-3-5-7	18286	.15
LAZED	14-B-66	A-777	Nipple on main bearing plate for oil pipe connection	51-3-5-7	19596	.40
MAZED	10-H-2	A-778	Nipple in LEFT elbow for oil pipe connection	51-3	32553	.20
PAZED	9-J-2	A-779	Nipple and nozzle in front end cover for oil pipe connection	51-3	41431	.25
SAZED	9-J-1	A-780	Nipple and nozzle in fan housing for oil pipe connection	51-3	41430	.50

OIL RELIEF VALVE

NOTE—There were two types of oil relief valves and starter gear housing used on Type 51 cars. The first type oil relief valve was cast integral with the starter gear housing. The second type oil relief valve was a separate unit mounted upon the angular surface of the crank case.

SEZED	14-C-157	A-783	Oil relief housing complete with cap (2nd type on 51)	51-3	21535	5.00
TEZED	15-D-34	A-784	Oil relief housing complete	55-7	22294	5.00
ZEZED	14-D-16	A-785	Oil relief housing with valve seat (2nd type on 51)	51-3	20871	3.75
BIZED	14-D-29	A-786	Oil relief housing only with nipple and valve seat	55-7	22560	3.75
CIZED	9-M-10	A-787	Nut on stud attaching oil relief housing	51-3-5-7	11674	.05
DIZED	15-B-45	A-788	Lock washer	51-3-5-7	11314	.05
FIZED	14-B-63	A-789	Seat for oil relief housing	51-3-5-7	19591	.45
KIZED	16-B-31	A-790	Gasket for outlet branch of relief housing	51-3-5-7	30124	.05
LIZED	16-B-36	A-791	Gasket for inlet branch of oil relief housing	51-3-5-7	30122	.05
MIZED	25-D-36	A-792	¾" ball for oil relief valve	51-3-5-7	19955	.25
PIZED	12-B-7	A-793	Spring for oil relief valve (1st type) 4⅛" long	51	19590	.10
RIZED	15-B-51	A-794	Spring for oil relief valve (2nd type on 51) (2½" long)	51-3-5-7	30475	.05
SIZED	9-O-14	A-795	Seat, lower, for oil relief valve spring (2nd type on 51)	51-3-5-7	30757	.10
TIZED	10-L-5	A-796	Screw adjusting oil relief valve	51-3	30126	.10
ZIZED	10-N-2	A-797	Stud adjusting oil relief valve	55-7	32543	.05
BOZED	9-D-2	A-798	Check nut for adjusting screw	51-3	11676	.05
COZED	10-Q-22	A-799	Seat, upper, on stud for oil relief valve spring	55-7	32544	.10
DOZED	9-S-3	A-800	Nut locking upper seat	55-7	11720	.05
FOZED		A-801	Nipple for oil relief (1st type)	51	19593	.30
KOZED	16-B-137	A-802	Gasket for oil relief nipple (1st type)	51	19673	.05
LOZED	39-B-73	A-803	Plug in starter gear housing at end of starting clutch shaft (1st type housing)	51	19594	.20
POZED		A-804	Paper gasket for plug (1st type)	51	19736	.05
ROZED	14-B-71	A-805	Cap for oil relief valve	51-3	31186	.75
SOZED	9-P-2	A-806	Cap for oil relief valve	55-7	32542	.45
TOZED	16-B-29	A-807	Gasket for cap	51-3-5-7	19674	.05
ZOZED	14-C-131	A-808	Cover for oil relief valve cap	51-3	31187	.50
BUZED	10-O-7	A-809	Leather gasket for cover	51-3	31188	.05
CUZED	10-H-2	A-810	Nipple in oil relief housing for pipe connection	55-7	32553	.20

OIL PRESSURE GAUGE

DUZED	14-F-18	A-812	Oil pressure gauge complete on instrument board	51-3-5-7	32970	2.00
FUZED	35-C-65	A-813	Strap for oil pressure gauge (OC) (S) (M) (A)	51-3-5-7	18874	.10
KUZED	10-Q-13	A-814	Strap for oil pressure gauge (CC)	51-3-5-7	18875	.10
LUZED	9-S-12	A-815	Alignment strap for pressure gauge	57	37090	.05
MUZED	13-C-3	A-816	Flat washer for oil pressure gauge (CC)	53-5-7	31463	.05
PUZED	10-K-8	A-817	Nut, strap on gauge	51-3-5-7	10888	.05
RUZED	15-B-45	A-818	Lock washer	51-3-5-7	11314	.05
SUZED	26-B-61	A-819	Glass for oil pressure gauge	51-3-5-7	754	.20
TUZED	9-U-20	A-820	Spacing ring for glass	51-3-5-7	821	.10
ZUZED	9-T-21	A-821	Ring retainer for glass	51-3-5-7	1425	.20

TYPE 51 OIL LEVEL INDICATOR

Code Word	Sec.-Bin	Serial	Part Name	Type	Symbol	Price
BABIG	14-B-155	A-824	Gear pinion and float complete on baffle plate for oil indicator	51	38441	$ 3.00
DABIG	9-O-10	A-825	Support for gear and pinion on baffle plate	51	18270	.50
FABIG	10-C-17	A-826	Rivet, support for gear and pinion to baffle plate	51	17700	.05
LABIG	9-R-10	A-827	Bracket for oil indicator gear support	51	18271	.30
PABIG	9-P-13	A-829	Pinion for oil indicator shaft	51	18268	.25
SABIG	14-B-37	A-831	Rod with bushing for oil indicator from pinion to hand used before engine A-18626	51	20705	.40
ZABIG	14-B-101	A-832	Rod with bushing for oil indicator from hand to gear assembly after engine A-18625	51	21194	.40
CEBIG	10-E-3	A-833	Guide for oil indicator rod	51	18272	.35
DEBIG	16-C-125	A-834	Cork float for oil indicator	51	18267	.40
FEBIG	9-R-22	A-835	Rod for oil indicator float	51	19796	.15
LEBIG	10-D-13	A-837	Body of oil indicator	51	19789	.75
MEBIG	10-N-13	A-838	Screw, long, indicator body to rocker cover	51	10276	.05
PEBIG	10-N-2	A-839	Screw, short, indicator body to rocker cover	51-3-5	10273	.05
REBIG	15-B-45	A-840	Lock washer	51	11314	.05
SEBIG	15-C-31	A-841	Cover for oil indicator body used before engine A-18626	51	19788	.45
TEBIG	14-D-74	A-842	Cover for oil indicator used after engine A-18625	51	30761	.60
ZEBIG	10-Q-6	A-843	Plug for oil indicator cover used after engine A-18625	51	30762	.25
BIBIG	16-C-113	A-844	Cork gasket for oil indicator cover	51	19790	.08
CIBIG	16-B-71	A-845	Gasket, upper, for oil indicator cover used after engine A-18625	51	31622	.08
FIBIG	9-S-15	A-846	Screw, cover to body	51	10184	.05
KIBIG	15-D-13	A-847	Glass for oil indicator used before engine A-18626	51	19792	.20
LIBIG	15-C-93	A-848	Glass for oil indicator used after engine A-18625	51	30764	.45
MIBIG	14-B-25	A-849	Dial for oil indicator	51	19791	.45
PIBIG	9-R-21	A-850	Screw, dial to body	51	11638	.05
RIBIG	14-D-66	A-851	Hand for oil indicator	51	19787	.10
SIBIG	9-H-6	A-852	Bushing in body for oil indicator rod	51	30277	.05

TYPES 53-55-57 OIL LEVEL INDICATOR

FOBIG	15-C-8	A-855	Body with dial and glass for oil indicator	53	21532	2.00
KOBIG	36-D-41	A-856	Body with dial for oil indicator	55-7	27866	1.55
LOBIG	14-C-27	A-857	Body and dial for oil indicator	53	21746	1.40
POBIG	10-A-14	A-859	Rivet, dial to body	53-5-7	17649	.05
ROBIG	10-N-2	A-860	Screw, indicator to top cover	51-3-5-7	10273	.05
SOBIG	14-F-7	A-861	Glass for oil indicator	53-5-7	31771	.20
TOBIG	10-N-7	A-862	Gasket for glass in oil indicator body	53-5-7	31772	.05
ZOBIG	10-O-12	A-863	Plug in top oil indicator body	53-5-7	31777	.10
BUBIG	15-G-2	A-864	Rod with ball and float for oil indicator	53-5-7	42567	.65
CUBIG	9-J-18	A-865	Ball for oil indicator rod ($\frac{3}{16}$" hole)	53-5-7	31781	.05
FUBIG	10-O-21	A-865-B	Ball for oil indicator rod ($\frac{1}{16}$" hole)	53-5-7	55978	.05
DUBIG	9-P-8	A-866	Guide in baffle plate	53-5-7	31773	.05

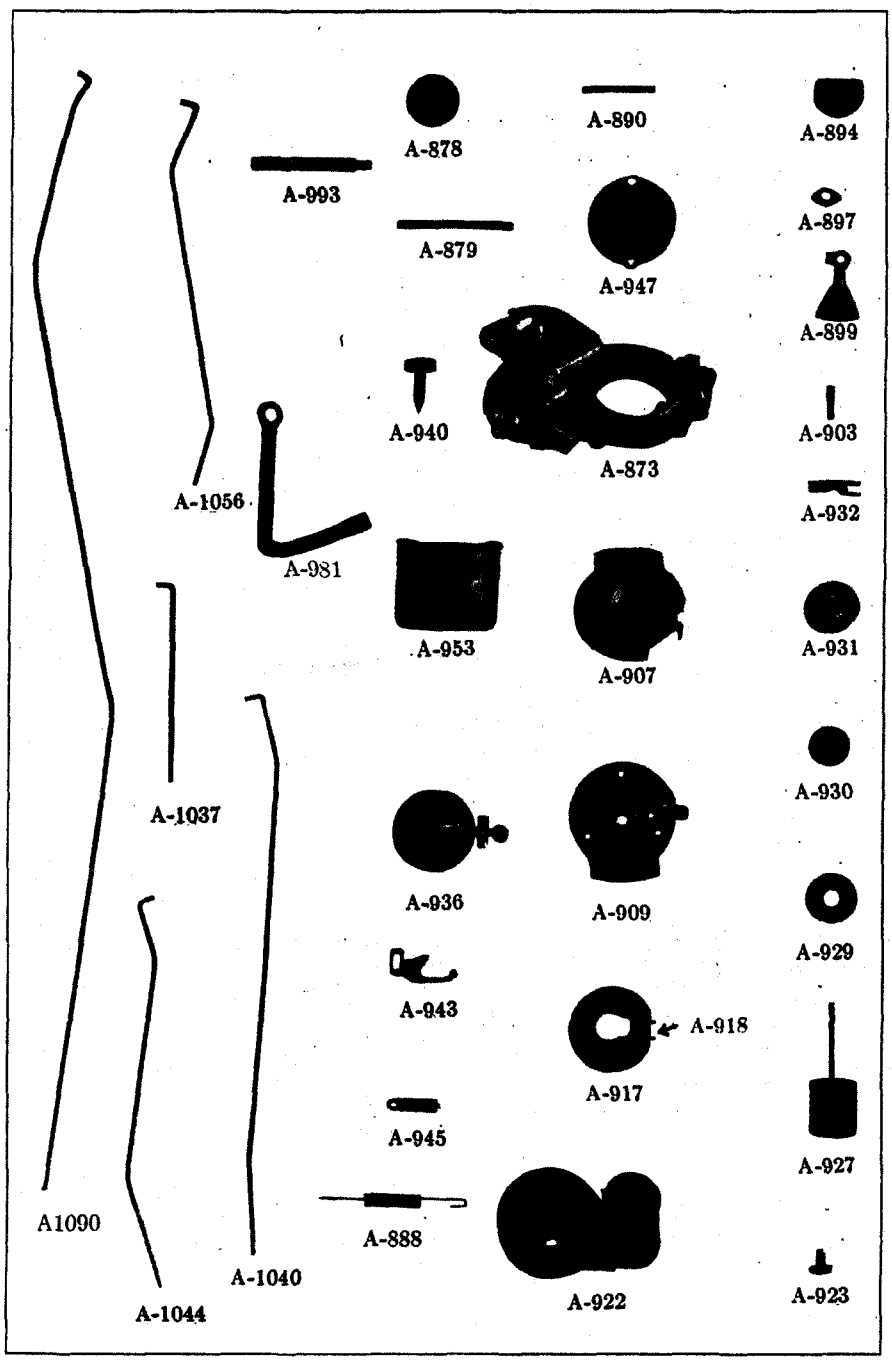
CARBURETORS AND CARBURETOR BODIES

SUBIG	12-G-24	A-869	Carburetor complete, LEFT steering	51	41499	30.00
TUBIG	13-C-11	A-870	Carburetor complete, RIGHT steering	51	41500	30.00
ZUBIG	12-G-13	A-871	Carburetor complete, LEFT steering	53-5-7	22344	30.00

Code Word	Sec.-Bin	Serial	Part Name	Type	Symbol	Price
BADIG	12-B-150	A-872	Carburetor complete, RIGHT steering	53-5-7	22840	$30.00
CADIG	12-D-23	A-873	Carburetor body with bushings, throttle and automatic valves, LEFT steering	51-3-5-7	21741	14.20
FADIG	12-D-13	A-874	Carburetor body with bushings, throttle and automatic valves, RIGHT steering	51-3-5-7	21744	10.00
LADIG	16-B-69	A-875	Gasket for carburetor at intake manifold	51-3-5-7	19963	.05
MADIG	13-G-3	A-876	Retainer for auxiliary air valve seat	51-3-5-7	19393	.10
PADIG	16-D-2	A-877	Leather for auxiliary air valve seat	51-3-5-7	19395	.08
RADIG	12-D-32	A-878	Throttle valve only	51-3-5-7	19392	.10
SADIG	12-C-1	A-879	Shaft for throttle valve, LEFT steering	51-3-5-7	31473	.35
TADIG	12-C-27	A-880	Shaft for throttle valve, RIGHT steering	51-3-5-7	31626	.35
ZADIG	10-Q-3	A-881	Screw, throttle valve on shaft	51-3-5-7	9580	.05
BEDIG	12-D-52	A-882	Throttle control lever, with shaft, LEFT steering	51-3-5-7	21356	.85
CEDIG	9-B-20	A-883	Throttle control lever, RIGHT steering	51-3-5-7	31625	.50
DEDIG	10-C-18	A-884	Adjusting screw for throttle lever	51-3-5-7	11872	.05
FEDIG	9-P-15	A-885	Clamp screw for lever and adjusting clamp	51-3-5-7	11828	.05
KEDIG	14-C-1	A-886	Bushing for throttle shaft in body	51-3-5-7	19855	.15
LEDIG	10-D-6	A-887	Taper pin for throttle lever	51-3-5-7	15000	.05
MEDIG	14-D-3	A-888	Spring operating throttle valve	51-3-5-7	19913	.10
PEDIG	12-C-75	A-889	Shaft with spring and cap for automatic throttle valve, LEFT steering	51-3-5-7	21406	.40
SEDIG	10-O-10	A-890	Shaft for automatic throttle valve	51-3-5-7	31634	.15
TEDIG	10-K-5	A-891	Spring for automatic throttle valve	51-3-5-7	31636	.05
ZEDIG	10-P-6	A-892	Cap for spring on automatic throttle valve	51-3-5-7	31635	.05
BIDIG	10-C-8	A-893	Spacer for automatic throttle shaft	51-3-5-7	31603	.05
CIDIG	9-I-22	A-894	Disc for automatic throttle valve	51-3-5-7	31633	.10
DIDIG	9-H-18	A-895	Stop pin for automatic throttle disc	51-3-5-7	31621	.08
FIDIG	10-A-14	A-896	Screw, disc to shaft	51-3-5-7	11866	.05
KIDIG	10-C-8	A-897	Clamp plate for automatic throttle valve cap	51-3-5-7	31637	.05
LIDIG	10-D-23	A-898	Screw for clamp plate	51-3-5-7	11873	.05
MIDIG	12-D-5	A-899	Shutter for vacuum regulator	51-3-5-7	31398	.40
RIDIG	9-P-15	A-901	Clamp screw for shutter and vacuum regulating screw	51-3-5-7	11828	.05
TIDIG	10-O-18	A-902	Taper pin on shutter	51-3-5-7	15142	.05
ZIDIG	10-K-15	A-903	Vacuum regulating screw	51-3-5-7	31457	.10

CARBURETOR STRANGLE TUBE AND DIAPHRAGM, BOWL, FLOAT AND AIR VALVE

CODIG	12-D-34	A-906	Strangle tube complete	51	41516	.75
DODIG	12-C-37	A-907	Strangle tube complete	53-5-7	21355	.75
FODIG	12-F-3	A-908	Diaphragm with tube and elbow	51	41474	3.50
KODIG	12-G-9	A-909	Diaphragm with drain tube	53-5-7	22680	3.50
LODIG	16-D-34	A-910	Cork gasket for bowl	51-3-5-7	31223	.05
MODIG	12-B-63	A-911	Strainer with ring in connection at diaphragm	51-3-5-7	22339	.25
PODIG	12-C-13	A-912	Strainer housing on diaphragm	51-3-5-7	33271	.50
RODIG	9-I-15	A-913	Washer for strainer	51-3-5-7	33280	.05
SODIG	12-D-16	A-914	Spray nozzle No. 17 with stop	51-3-5-7	22059	.50
TODIG	10-M-20	A-915	Needle valve	51-3-5-7	13392	.20
ZODIG	9-T-8	A-916	Screw, diaphragm to body (3 used)	51-3-5-7	10239	.05
BUDIG	12-F-11	A-917	Cork float	51-3-5-7	18002	.50
CUDIG	14-B-28	A-918	Lever for carburetor float	51-3-5-7	18003	.10
DUDIG	9-P-16	A-919	Pin for float lever	51-3-5-7	18000	.05
FUDIG	9-O-14	A-920	Screw for float lever	51-3-5-7	11858	.05
KUDIG	12-D-44	A-921	Bowl and accelerator chamber with disc and nipple for packing nut	51	22935	5.25
MUDIG	12-B-81	A-922	Bowl and accelerator chamber with disc and nipple for packing nut	53-5-7	22341	5.25
RUDIG	12-C-79	A-923	Screw in bottom of bowl	51-3-5-7	31591	.20
SUDIG	9-I-1	A-924	Leather washer for screw	51-3-5-7	14882	.05
TUDIG	14-B-26	A-925	Packing nut for drain tube in bottom of bowl	51-3-5-7	34136	.10
ZUDIG	9-H-16	A-926	Packing for nut on drain tube in bottom of bowl	51-3-5-7	34137	.05



CARBURETOR. SPARK AND THROTTLE CONTROL

Code Word	Sec.-Bin	Serial	Part Name	Type	Symbol	Price
BAHIG	12-E-15	A-927	Plunger with rod for accelerator chamber	51-3-5-7	22255	$ 1.00
CAHIG	17-D-52	A-928	Cork stopper for plunger well	51-3-5-7	32213	.10
DAHIG	10-U-9	A-929	Cover plate for plunger on accelerator chamber	51-3-5-7	19876	.05
FAHIG	10-U-11	A-930	Packing washer between cover plate and chamber	51-3-5-7	11467	.15
KAHIG	12-D-31	A-931	Cap for plunger on accelerator chamber	51-3-5-7	19875	.15
LAHIG	10-Q-15	A-932	Adjusting clamp for plunger	51-3-5-7	31222	.35
MAHIG	9-P-15	A-933	Screw for plunger adjusting clamp	51-3-5-7	11828	.05
PAHIG	12-D-24	A-934	Pin for plunger clamp and accelerator lever	51-3-5-7	16221	.05
RAHIG	10-B-16	A-935	Cotter pin	51-3-5-7	15251	.05
SAHIG	12-B-77	A-936	Auxiliary air valve	51-3-5-7	19391	1.00
TAHIG	12-B-11	A-937	Spring for auxiliary air valve	51-3-5-7	19828	.10
ZAHIG	10-I-3	A-938	Pin for auxiliary air valve	51-3-5-7	16220	.05
BEHIG	10-B-16	A-939	Cotter pin	51-3-5-7	15251	.05
CEHIG	12-D-39	A-940	Adjusting screw for auxiliary air valve	51-3-5-7	20412	.45
DEHIG	10-M-1	A-941	Plunger for adjusting screw	51-3-5-7	12265	.05
FEHIG	10-Q-3	A-942	Spring for plunger	51-3-5-7	12266	.05
KEHIG	14-C-5	A-943	Lever arm for auxiliary air valve	51-3-5-7	16404	.30
LEHIG	13-C-1	A-944	Spring for lever arm	51-3-5-7	16410	.05
MEHIG	10-U-9	A-945	Cover for lever arm slot	51-3-5-7	16405	.05
PEHIG	9-K-14	A-946	Screw attaching cover	51-3-5-7	11829	.05
REHIG	12-B-17	A-947	Cover plate complete for air valve	51-3-5-7	20475	.30
SEHIG	12-B-45	A-948	Cover plate only for auxiliary air valve	51-3-5-7	19854	.15
TEHIG	16-B-112	A-949	Cork stop for auxiliary air valve	51-3-5-7	19933	.10
ZEHIG	10-I-8	A-950	Rivet for stop	51-3-5-7	17688	.05
BIHIG	10-J-12	A-951	Washer for rivet	51-3-5-7	11472	.05
CIHIG	9-K-14	A-952	Screw attaching cover	51-3-5-7	11829	.05
DIHIG	12-C-46	A-953	Shield for auxiliary air inlet	51-3-5-7	31288	.30
FIHIG	9-K-14	A-954	Screw attaching shield	51-3-5-7	11829	.05
KIHIG	13-B-24	A-955	Screw, carburetor to intake manifold	51-3-5-7	11643	.10

CARBURETOR DRAIN

MIHIG	12-D-17	A-959	Drain pocket for carburetor	51	34420	2.00
PIHIG	12-D-6	A-960	Drain pocket for carburetor	53-5-7	34176	1.75
RIHIG	12-D-38	A-961	Shelf with pin for drain pocket	51	41519	.85
SIHIG		A-962	Support pin for drain pocket	51	34415	.05
TIHIG	10-J-7	A-963	Support for drain pocket	53-5-7	34175	.30
ZIHIG	9-C-10	A-964	Screw, shelf to generator	51	11953	.05
BOHIG	10-J-7	A-965	Clamp screw, drain pocket on support stud	51-3-5-7	11644	.05
COHIG	15-B-45	A-966	Lock washer	51-3-5-7	11314	.05
DOHIG	10-E-10	A-967	Lock washer under support stud	53-5-7	11325	.05
FOHIG	9-N-4	A-968	Taper pin for support pin	51	15002	.05
KOHIG	24-D-78	A-969	Front drain pipe with nut and clip	51	41479	1.15
LOHIG	24-C-153	A-970	Rear drain pipe with nut and clip	51	41475	1.00
MOHIG	24-C-103	A-971	Front drain pipe with nut and clip	53-5-7	22765	1.00
POHIG	24-C-153	A-972	Rear drain pipe with nut and clip	53	41475	1.00
ROHIG	24-D-69	A-973	Rear drain pipe with nut and clip	55-7	22766	1.15
SOHIG	14-C-55	A-974	Nut for drain pipe connection	51-3-5-7	11687	.20
TOHIG	10-R-9	A-975	Clip for front drain pipe	51-3-5-7	34182	.05

ACCELERATOR PEDALS

NOTE—Two types of accelerator pedal brackets and cover plates for generator were used on type 53 cars. The second type accelerator pedal may be distinguished from the first, in that the bracket supporting the accelerator pedal is integral with the hand hole cover on the transmission.
The second type was used on all cars after engine A-26482

ZUHIG	18-B-11	A-979	Accelerator foot pedal	51	19764	1.25

Code Word	Sec.-Bin	Serial	Part Name	Type	Symbol	Price
BAKIG	13-C-65	A-980	Accelerator foot pedal (1st type), LEFT steering, before engine A-26482 and all cars, RIGHT steering	53	30818	$ 1.25
DAKIG	15-C-155	A-981	Accelerator foot pedal on all cars, except (C) on 53 and all cars on 55-7, LEFT steering	53-5-7	31953	2.65
KAKIG	13-C-157	A-982	Accelerator foot pedal (C)	53	32212	1.50
LAKIG	15-C-153	A-983	Accelerator foot pedal, all cars, RIGHT steering	55-7	34324	1.25
MAKIG	12-B-58	A-984	Button for accelerator pedal, all cars on 51-3-7 and all cars except (R) (P) (CR) and (C) on 55	51-3-5-7	59013	.75
RAKIG	12-D-5	A-985	Button for accelerator pedal (R) (P) (CR) and (C)	55	37845	.70
SAKIG	10-D-7	A-986	Lock washer	51-3-5-7	11335	.05
TAKIG	31-B-135	A-987	Clamp screw for accelerator pedal, LEFT steering (2nd type on 53)	53-5-7	10275	.05
BEKIG	15-B-45	A-988	Lock washer	51-3-5-7	11314	.05
CEKIG	10-U-10	A-989	Fulcrum pin for accelerator foot pedal	51	19765	.05
DEKIG	38-B-8	A-990	Nut for fulcrum pin	51	10889	.05
FEKIG	13-B-16	A-991	Lock washer	51	11315	.05
KEKIG	10-M-17	A-992	Shaft for accelerator pedal, 1st type, LEFT steering on 53, all cars RIGHT steering, 53-5-7	53-5-7	30835	.15
MEKIG	10-N-15	A-993	Shaft for accelerator pedal, LEFT steering (2nd type on 53)	53-5-7	31951	.20
REKIG	34-B-37	A-994	Bushing for accelerator shaft, 1st type, LEFT steering on 53, all cars RIGHT steering 53-5-7	53-5-7	30836	.40
TEKIG	10-F-9	A-995	Taper pin, accelerator pedal to shaft, RIGHT steering	53-5-7	15016	.05
ZEKIG	14-B-24	A-996	Bushing for accelerator shaft, LEFT steering (2nd type on 53)	53-5-7	31948	.55
CIKIG	10-T-4	A-997	Bowen oiler in bracket for accelerator pedal	53-5-7	30772	.20
DIKIG	10-U-8	A-998	Bowen oiler on bracket for pedal shaft, RIGHT steering.	57	32303	.20
FIKIG	32-C-27	A-999	Bracket with bushing for accelerator pedal, (1st type), LEFT steering	53	21502	.70
KIKIG	10-J-5	A-1000	Screw, bracket to transmission	53	10006	.05
LIKIG	13-B-16	A-1001	Lock washer	53	11315	.05
MIKIG	18-C-47	A-1002	Bracket with bushing for accelerator pedal shaft (C)	53	22030	1.50
PIKIG	33-B-5	A-1003	Screw for bracket	57	10008	.10

SPARK AND THROTTLE CONTROL

SIKIG		A-1006	Rocker shaft in starter gear housing for control rods, LEFT steering	51	19965	.20
ZIKIG	13-C-131	A-1007	Rocker shaft in starter gear housing for control rods, RIGHT steering	51	30339	.20
COKIG	31-C-43	A-1008	Rocker shaft for spark control, RIGHT steering	53-5-7	30965	.25
DOKIG	10-Q-15	A-1009	Bushing for spark control rocker shaft, RIGHT steering	53-5-7	30959	.60
FOKIG	18-B-15	A-1010	Bracket on transmission case for spark control shaft, RIGHT steering	53-5	31012	.50
LOKIG	19-B-155	A-1011	Bracket on transmission case with bushing for spark control shaft, RIGHT steering	57	24291	1.60
POKIG	33-B-5	A-1012	Screw for bracket	53-5-7	10008	.10
ROKIG	15-B-35	A-1013	Lock washer	53-5-7	11324	.05
SOKIG	10-F-13	A-1014	Lever on rocker shaft to operate rod from rocker shaft to distributor on 51 and on 1st type accelerator shaft on 53	51-3	19065	.35
ZOKIG	31-C-79	A-1015	Lever for accelerator pedal shaft, LEFT steering (2nd type on 53)	53-5-7	31950	.35
CUKIG	10-F-9	A-1016	Taper pin	53-5-7	15016	.05
DUKIG	31-B-65	A-1017	Bell crank on rocker shaft for carburetor control rods, LEFT steering	51	19971	.30
KUKIG	13-C-133	A-1018	Bell crank for spark control, RIGHT steering	51	30340	.30
LUKIG	9-A-23	A-1019	Spacer for bell crank, RIGHT steering	51	30341	.05
PUKIG	11-B-37	A-1020	Bell crank for throttle control, LEFT steering	53-5-7	31949	.70
SUKIG		A-1022	Bell crank on rocker shaft for carburetor control rods, RIGHT steering	51	30353	.30
ZUKIG	10-N-13	A-1023	Bell crank for throttle control, RIGHT steering	53-5-7	30997	1.10

Code Word	Sec.-Bin	Serial	Part Name	Type	Symbol	Price
BALIG	31-C-151	A-1024	Arm on rocker shaft to operate rod from steering gear to rocker shaft	51	19066	$ .40
DALIG	31-C-151	A-1025	Arm on rocker shaft for spark rod to distributor and on throttle control shaft, RIGHT steering	53	19066	.40
KALIG	31-C-151	A-1026	Arm on rocker shaft for spark rods to distributor, 1 used, LEFT steering on type 55, 2 used on RIGHT steering	55-7	19066	.40
MALIG	10-N-2	A-1027	Clamp screw for arm	51-3-5-7	10273	.05
PALIG	15-B-45	A-1028	Lock washer	51-3-5-7	11314	.05
RALIG	31-D-77	A-1029	Arm on rocker shaft for spark control, LEFT steering	53-5-7	30837	.50
SALIG	10-E-22	A-1030	Rocker arm for spark rod to steering gear, RIGHT steering	53-5-7	31940	.45
ZALIG	10-N-2	A-1031	Clamp screw for rocker arm	53-5-7	10273	.05
BELIG	15-B-35	A-1032	Lock washer	53-5-7	11324	.05
CELIG	14-B-18	A-1033	Rod, accelerator pedal to bell crank, all cars except (C), LEFT steering	51	19968	.20
FELIG	14-B-44	A-1034	Rod, accelerator pedal to bell crank (C) LEFT steering	51	19497	.20
KELIG		A-1035	Rod, accelerator pedal to bell crank, all except (C), RIGHT steering	51	30344	.20
MELIG		A-1036	Rod, 1st type accelerator pedal to bell crank, all except (C), LEFT steering	53	31303	.35
RELIG	14-B-19	A-1037	Rod, 2nd type accelerator pedal to bell crank, all except (C) on 53, LEFT steering	53-5-7	31952	.35
TELIG	14-B-86	A-1038	Rod, accelerator pedal to bell crank (C), LEFT steering	53	32140	.40
ZELIG	13-C-93	A-1039	Accelerator rod, bell crank to carburetor	51	19969	.30
BILIG	13-B-79	A-1040	Accelerator rod, bell crank to carburetor, LEFT steering	53-5-7	31306	.30
CILIG	12-A-37	A-1041	Accelerator rod, bell crank to carburetor, RIGHT steering, all cars, except (CV) on 55	53-5-7	31606	.30
FILIG	12-A-65	A-1042	Accelerator rod, bell crank to carburetor (CV), RIGHT steering	55	34587	.30
LILIG	14-B-130	A-1043	Throttle rod, bell crank to steering gear, LEFT steering	51	19970	.20
MILIG	35-B-98	A-1044	Throttle rod, bell crank to steering gear (7-P) (SL) (R) (C) (V) and (G) on 53 and all cars 55-7, LEFT steering	53-5-7	31588	.30
SILIG	12-B-101	A-1045	Throttle rod, bell crank to steering gear (L) (BL) (B) and (A), LEFT steering	53	31307	.30
BOLIG		A-1046	Throttle rod, bell crank to steering gear, all except (SD) (L) and (BL), RIGHT steering	51	30345	.30
COLIG		A-1047	Throttle rod, bell crank to steering gear, used on (L) and (BL), RIGHT steering	51	30534	.30
FOLIG	12-C-155	A-1048	Throttle rod, bell crank to steering gear, RIGHT steering	53-5-7	31604	.40
KOLIG	10-T-6	A-1049	Trunion for throttle rod at bell crank, LEFT steering	51-3-5-7	19786	.15
LOLIG	9-R-13	A-1050	Collar for throttle rod	51-3-5-7	51734	.15
MOLIG	10-I-1	A-1051	Set screw in collar	51-3-5-7	5277	.05
POLIG	9-A-18	A-1052	Trunion for throttle rod at bell crank, RIGHT steering	53-5-7	31962	.15
ROLIG	10-B-16	A-1053	Cotter pin in ends of rods	51-3-5-7	15251	.05
SOLIG	12-B-133	A-1054	Spark rod, steering gear to rocker shaft, LEFT steering	51	19966	.20
TOLIG		A-1055	Spark rod, steering gear to bell crank, RIGHT steering	51	30347	.20
ZOLIG	12-D-25	A-1056	Spark rod, bell crank to steering gear, LEFT steering	53-5-7	31305	.15
BULIG	12-B-71	A-1057	Spark rod, rocker shaft to steering column, RIGHT steering	53-5-7	31605	.20
DULIG	13-B-151	A-1058	Spark rod, rocker shaft to distributor	51	19967	.20
FULIG	12-A-45	A-1059	Spark rod, rocker shaft to distributor, LEFT steering	53-5-7	31304	.30
KULIG	12-A-54	A-1060	Spark rod, rocker shaft to distributor, RIGHT steering	53-5-7	31602	.35
LULIG	10-T-6	A-1061	Adjustable trunion for spark and accelerator rods	51-3-5-7	19082	.20
MULIG	10-R-3	A-1062	Check nut for adjusting trunion	51	10886	.05
PULIG	9-G-13	A-1063	Support for spark rod to distributor, RIGHT steering	53-5-7	31601	.10

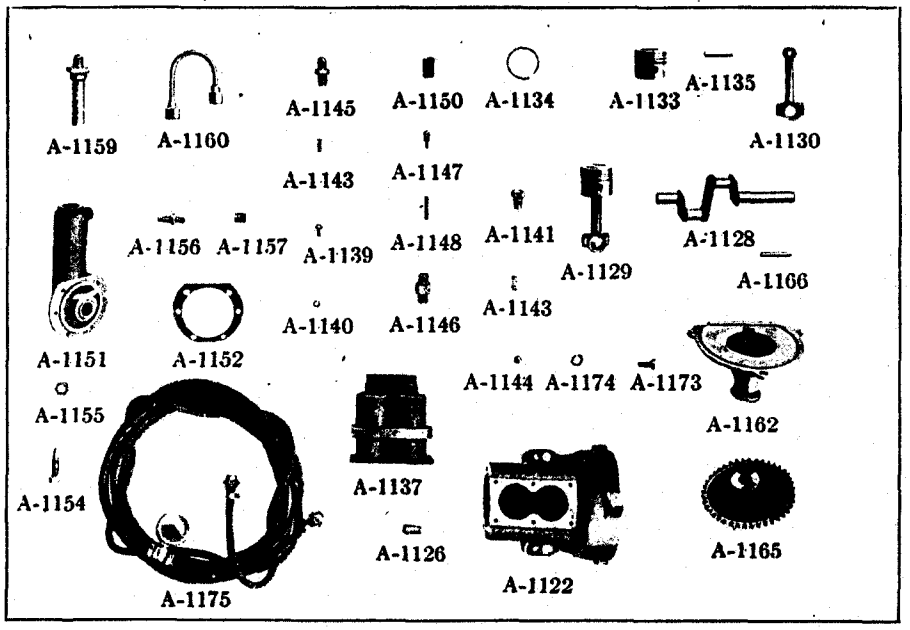
AIR CONTROL RODS

RULIG	28-A-25	A-1066	Rod for auxiliary air control (5-P) (7-P) and (SL), LEFT steering	51	19964	.40
TULIG	12-A-52	A-1067	Rod for auxiliary air control (R), LEFT steering	51	30643	.40
ZULIG		A-1068	Rod for auxiliary air control (L), LEFT steering	51	30332	.40

Code Word	Sec.-Bin	Serial	Part Name	Type	Symbol	Price
BAMIG		A-1069	Rod for auxiliary air control (BL) and (SD), LEFT steering	51	30334	.40
DAMIG	12-A-63	A-1070	Rod for auxiliary air control (C), LEFT steering	51	30333	.40
FAMIG		A-1071	Rod for auxiliary air control (5-P) (7-P) and(SL), RIGHT steering	51	30346	.40
KAMIG	12-A-71	A-1072	Rod for auxiliary air control all cars except (C) (L) (BL) (B) and (R), LEFT steering	53	31367	.40
LAMIG	12-A-46	A-1073	Rod for auxiliary air control (R), LEFT steering	53	32116	.40
PAMIG	12-A-13	A-1074	Rod for auxiliary air control (C), LEFT steering	53	32367	.40
RAMIG	12-A-55	A-1075	Rod for auxiliary air control (L) (BL) and (B), LEFT steering	53	31930	.40
SAMIG	12-A-53	A-1076	Rod for auxiliary air control, (7-P) (SL) (R) and (V), RIGHT steering	53	31981	.40
TAMIG	12-A-39	A-1077	Rod for auxiliary air control (L) (BL) and (B), RIGHT steering	53	32372	.40
ZAMIG	12-A-43	A-1078	Rod for auxiliary air control (T), LEFT steering	55	34158	.40
CEMIG	12-A-49	A-1079	Rod for auxiliary air control (P) and (R), LEFT steering	55	34160	.40
FEMIG		A-1080	Rod for auxiliary air control (V), LEFT steering	55	34162	.40
KEMIG	12-A-58	A-1081	Rod for auxiliary air control (CV), LEFT steering	55	34163	.40
LEMIG	12-A-56	A-1082	Rod for auxiliary air control (B) (L) (I) and (LD), LEFT steering	55	34161	.40
MEMIG	13-A-43	A-1083	Rod for auxiliary air control (C), LEFT steering	55	34589	.40
PEMIG	13-A-29	A-1084	Rod for auxiliary air control (T), RIGHT steering	55	34159	.40
TEMIG		A-1085	Rod for auxiliary air control (P) (R) and (CR), RIGHT steering	55	34590	.40
ZEMIG		A-1086	Rod for auxiliary air control, RIGHT steering (V)	55	34593	.40
DIMIG	12-A-36	A-1087	Rod for auxiliary air control, RIGHT steering (CV)	55	34592	.40
KIMIG		A-1088	Rod for auxiliary air control, RIGHT steering (C)	55	34588	.40
MIMIG		A-1089	Rod for auxiliary air control (B) (L) (I) (LD) (M) and (A), RIGHT steering	55	34591	.40
PIMIG	12-A-2	A-1090	Rod for auxiliary air control (7-P) (V-1) (S) (P-1) (R-1), LEFT steering	57	37651	.40
RIMIG	12-A-16	A-1091	Rod for auxiliary air control (R-2) (P-2), LEFT steering	57	38133	.40
TIMIG	12-A-31	A-1092	Rod for auxiliary air control (L) (I) (LD) (B-1) (TL) (TLD) (M) and (A), LEFT steering	57	37652	.40
ZIMIG		A-1092-A	Rod for auxiliary air control (V-2) (SB-2)	57	38733	.40
BOMIG		A-1093	Rod for auxiliary air control (7-P) (V-1) (S) (R-1) and (P-1), RIGHT steering	57	37670	.40
DOMIG		A-1094	Rod for auxiliary air control (R-2) and (P-2), RIGHT steering	57	38134	.40
FOMIG		A-1095	Rod for auxiliary air control (B-1) (I) (LD) (TL) (TLD) (M) and (A), RIGHT steering	57	37671	.40
KOMIG		A-1096	Rod for auxiliary air control(SB-1)(SB-2),LEFT steering	57	38228	.40
LOMIG		A-1097	Rod for auxiliary air control(SB-1)(SB-2),RIGHT steering	57	38229	.40
POMIG	9-O-21	A-1099	Bearing for auxiliary air control rod in cowl (C)	53	32233	.25
ROMIG	10-N-2	A-1100	Flat washer on auxiliary air control rod	51-3-5-7	11429	.05
TOMIG	10-J-2	A-1102	Lock swivel for air control rod	51-3-5-7	17021	.15
ZOMIG	10-J-2	A-1103	Set screw for lock swivel	51-3-5-7	11253	.05
BUMIG	31-C-97	A-1104	Air control lever, all cars except (SD) and (C) on 51 and all except (L) (C) and (B) on 53	51-3	19957	.75
CUMIG	31-D-65	A-1105	Air control lever (SD) and (C) on 51 and (L) and (BL) on 53	51-3	30173	.75
DUMIG	31-D-2	A-1106	Air control lever (C)	53	32245	.75
FUMIG	31-D-18	A-1107	Air control lever	55-7	33603	.75
KUMIG	10-R-16	A-1108	Spring for air control lever	51-3	13727	.10
LUMIG	9-Q-17	A-1109	Spring for air control lever	55-7	33600	.08
MUMIG	10-M-7	A-1110	Flat washer for air control spring	51-3	50054	.05
PUMIG	9-P-17	A-1111	Flat washer for air control lever spring	55-7	11521	.05
RUMIG	10-I-6	A-1112	Nut for air control lever	51-3	13719	.15
SUMIG	9-Q-17	A-1113	Nut for air control lever stud	55-7	33596	.15
TUMIG	9-A-19	A-1114	Pin, nut on air control lever	51-3	16859	.05
ZUMIG	10-L-3	A-1115	Pin, nut on air control lever stud	55-7	33597	.05

TYPE 51 TIRE PUMP

Code Word	Sec.-Bin	Serial	Part Name	Type	Symbol	Price
			NOTE—For types 53-55-57 tire pump see A-3522 to A-3760			
DAPIG	15-C-147	A-1118	Tire pump complete	51	41521	$25.00
FAPIG	37-B-16	A-1119	Screw, tire pump to fan housing	51	56198	.08
KAPIG	10-E-10	A-1120	Lock washer	51	11325	.05
LAPIG	10-R-1	A-1121	Taper pin for tire pump	51	15045	.05
MAPIG	15-D-59	A-1122	Base for tire pump with bushing	51	20812	4.00
PAPIG	9-T-20	A-1123	Bushing in base for crank shaft, rear	51	16590	.50
RAPIG	25-D-31	A-1124	Bearing in oil trap for crank shaft	51-3	16589	.50
SAPIG	9-T-20	A-1125	Dowel for bushings	51-3	18162	.05
TAPIG	10-T-1	A-1126	Winkley oiler for tire pump base	51	30773	.20
ZAPIG	16-B-116	A-1127	Gasket for tire pump base	51	19559	.05
BEPIG	15-E-12	A-1128	Crank shaft for tire pump	51	18089	4.00
CEPIG	15-C-135	A-1129	Piston and connecting rod, complete assembled	51	20451	2.00
DEPIG	14-B-82	A-1130	Connecting rod and cap assembled	51	20334	1.00
FEPIG		A-1131	Screw for connecting rod cap	51	11637	.08
KEPIG		A-1132	Lock wire for connecting rod cap	51-3	19895	.05
LEPIG	14-B-80	A-1133	Piston with rings for tire pump	51	40229	2.00
MEPIG	13-B-47	A-1134	Piston ring for tire pump	51	19161	.10
PEPIG	10-D-17	A-1135	Piston pin	51	16588	.20
REPIG	9-N-21	A-1136	Fibre for piston pin	51	19254	.05
SEPIG	12-E-10	A-1137	Cylinder with gauze for tire pump	51	20814	4.00
TEPIG	12-B-59	A-1138	Gauze for cylinder	51	16603	.15
ZEPIG	10-S-1	A-1139	Screw, cylinders to oil trap	51-3	10560	.05
BIPIG	10-D-8	A-1140	Lock washer	51-3	11313	.05
CIPIG	10-E-10	A-1141	Cap for cylinder, rear	51	16597	.10

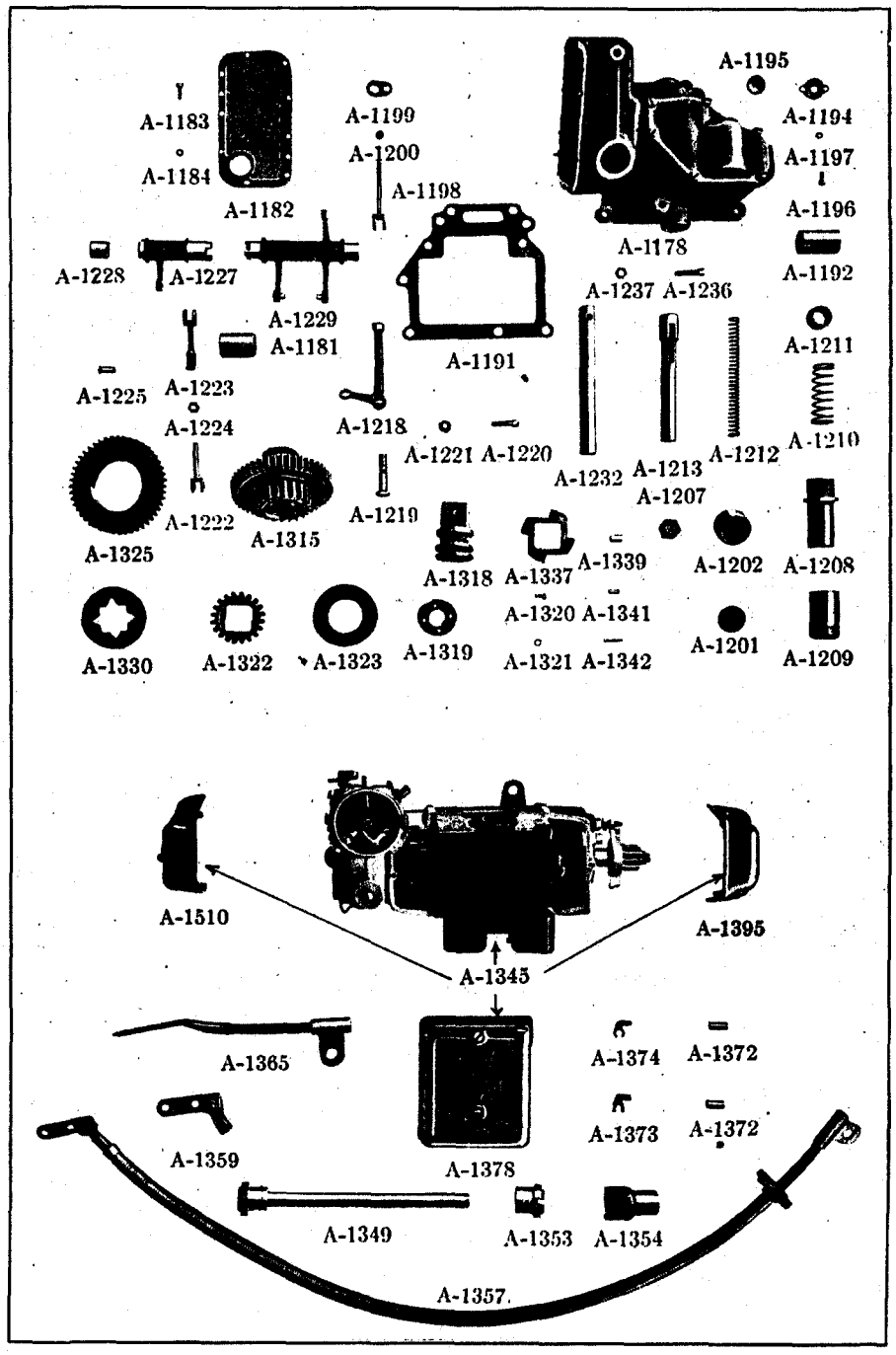


TYPE 51. TIRE PUMP

Code Word	Sec.-Bin	Serial	Part Name	Type	Symbol	Price
BARIG		A-1142	Air relief valve complete	51	41520	$ .40
CARIG	10-M-5	A-1143	Spring for check valve	51-3	16595	.05
DARIG	9-J-10	A-1144	Ball for check valve	51	3673	.05
FARIG	9-O-9	A-1145	Nipple for cylinder outlet	51	18283	.10
KARIG	10-D-4	A-1146	Body only of air relief valve	51	17534	.10
LARIG	10-D-3	A-1147	Adjusting screw for air relief valve	51	16593	.05
MARIG	9-I-9	A-1148	Spring for relief valve	51	16594	.05
PARIG	10-R-4	A-1149	Steel ball for air relief valve	51-3	17455	.05
RARIG	9-B-22	A-1150	Cap for air relief valve	51	17533	.20
SARIG	15-C-49	A-1151	Body of oil trap with bearing	51	20815	3.00
TARIG	9-E-23	A-1152	Gasket for oil trap body	51	16832	.10
ZARIG		A-1153	Partition in oil trap body	51-3	16602	.05
BERIG	10-M-5	A-1154	Shut off valve for oil trap body	51	17178	.10
CERIG	30-D-60	A-1155	Check nut on shut off valve	51	11678	.05
DERIG	9-C-3	A-1156	Nipple for oil trap outlet	51	16598	.10
FERIG	10-O-23	A-1157	Cap with gasket for nipple on oil trap outlet	51-3	25918	.05
KERIG	10-A-5	A-1158	Gasket in cap for nipple	51-3	12804	.05
LERIG	15-C-29	A-1159	Nipple and tube for oil trap inlet	51-3	20459	.40
MERIG	24-B-145	A-1160	Pipe from pump to oil trap	51	20449	.45
PERIG	36-C-101	A-1161	Union nut for pipe	51-3	18286	.15
RERIG	19-C-153	A-1162	Cover with bushing and shifter for drive gear	51	20452	2.50
SERIG	14-C-143	A-1163	Cover with bushing for tire pump	51	41320	1.25
TERIG	16-D-16	A-1164	Gasket for driving gear cover	51	30735	.05
ZERIG	23-D-55	A-1165	Shifter gear for tire pump	51	19502	2.50
BIRIG	10-D-1	A-1166	Key for gear to crank shaft	51	18090	.08
CIRIG	10-D-8	A-1167	Shifter for tire pump gears	51	18092	.75
DIRIG	10-O-8	A-1168	Knob for gear shifter	51	18095	.10
FIRIG	9-Q-14	A-1169	Pin for gear shifter	51	18094	.05
KIRIG		A-1170	Bushing for shifter in gear cover	51	18088	.35
LIRIG	10-B-2	A-1171	Spring for gear shifter	51	18093	.05
MIRIG	9-U-6	A-1172	Pin for gear shifter knob	51	18096	.05
PIRIG	36-B-147	A-1173	Screw, cover to base	51	10327	.05
RIRIG	15-B-35	A-1174	Lock washer	51	11324	.05
SIRIG	Ac. S.	A-1175	Air hose and gauge complete	51-3-5-7	37669	4.00

TYPE 51 STARTER CONTROL

TIRIG	12-F-7	A-1177	Housing for starter gear with top cover and center bearing (1st type), with oil relief housing cast intregal	51	20590	12.00
ZIRIG	14-E-7	A-1178	Housing for starter gear with top cover and center bearing (2nd type), less oil relief valve	51	20822	10.00
CORIG	36-B-155	A-1179	Screw, top cover to housing	51	10274	.05
DORIG	15-B-45	A-1180	Lock washer	51	11314	.05
FORIG	14-B-55	A-1181	Bushing for starter gear shifter, center	51	19580	1.00
KORIG	39-B-109	A-1182	Side cover for starter gear housing	51	19565	1.00
LORIG	10-N-24	A-1183	Screw, side cover on housing	51	10237	.05
MORIG	10-D-8	A-1184	Lock washer	51	11313	.05
PORIG	10-B-10	A-1185	Dowel for side cover	51	19727	.05
RORIG	13-B-103	A-1186	Screw, short, starter housing to crankcase	51	10025	.05
SORIG	10-E-18	A-1187	Screw, long, 1st type housing to crankcase	51	11635	.10
TORIG		A-1188	Screw, long, 2nd type housing to crankcase	51	11847	.05
ZORIG	10-E-10	A-1189	*Lock washer	51	11325	.05
BURIG	10-R-7	A-1190	Threaded dowel, housing to crankcase	51	19714	.10
CURIG	16-D-62	A-1191	Gasket for starter gear housing	51	19751	.05
DURIG	25-C-151	A-1192	Bushing in housing for starter gear shifter, LEFT steering	51	19581	1.25
FURIG		A-1193	Bushing in starter gear housing for shifter, RIGHT steering	51	30343	1.25
LURIG	9-L-18	A-1194	Guide plate for generator lifting rod	51	19728	.05
MURIG		A-1195	Felt washer on motor brush lifting rod	51	19498	.05
PURIG	10-E-5	A-1196	Screw, plate to housing	51	11605	.10
RURIG	10-D-8	A-1197	Lock washer	51	11313	.05
SURIG	10-O-8	A-1198	Yoke rod operating motor brush lifting rod	51	19725	.60
TURIG	39-C-93	A-1199	Block on yoke rod	51	19726	.08
ZURIG	10-O-18	A-1200	Lock nut for block	51	11690	.05

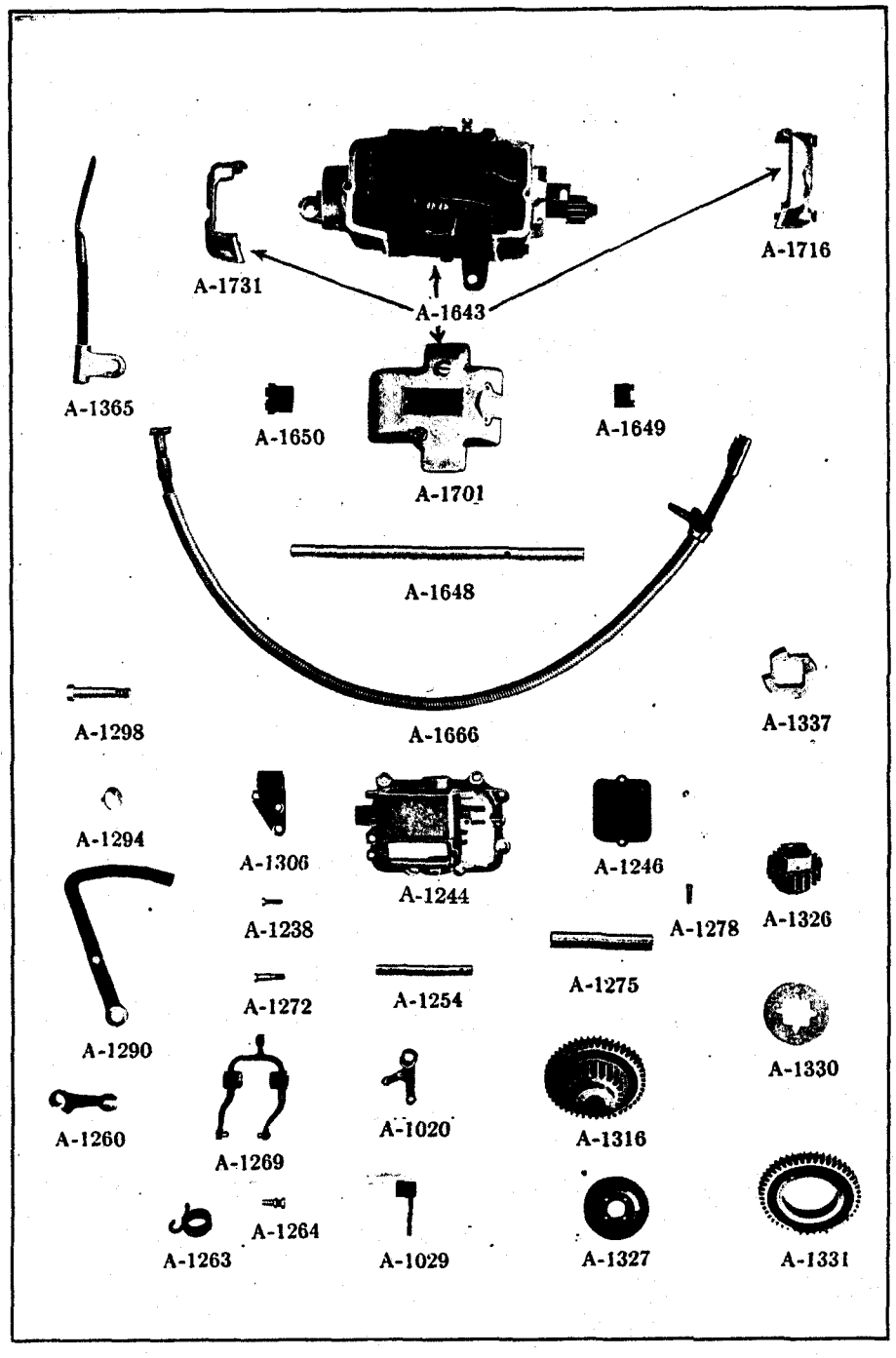


TYPE 51. MOTOR GENERATOR AND STARTER CONTROL

Code Word	Sec.-Bin	Serial	Part Name	Type	Symbol	Price
BATIG	35-B-38	A-1201	Rubber cap for accelerator toe rest and push pedal knob, all except (C)	51	19685	$ .10
DATIG	39-C-30	A-1202	Knob for push pedal with cap starting motor generator, all except (C)	51	20869	.75
KATIG	10-B-2	A-1203	Knob for push pedal starting motor generator (C)	51	30225	.25
LATIG	12-B-139	A-1204	Starter pedal (C)	51	30180	3.00
MATIG	9-B-21	A-1205	Pin for starter pedal (C)	51	16789	.10
PATIG	15-C-45	A-1206	Cotter pin (C)	51	15171	.05
RATIG	10-B-1	A-1207	Nut retainer for push pedal spring	51	19687	.05
TATIG	39-B-67	A-1208	Retainer for push pedal spring, lower	51	19566	1.00
SATIG	14-B-47	A-1209	Retainer for push pedal spring, upper	51	19688	.60
ZATIG	14-C-21	A-1210	Spring for push rod, outer (2 used)	51	19571	.10
BETIG	15-C-85	A-1211	Spacer between outside springs	51	19464	.15
CETIG	39-B-83	A-1212	Spring for push pedal, inner	51	19570	.10
DETIG	14-B-116	A-1213	Tube complete for push pedal plunger	51	20823	1.25
FETIG	10-Q-19	A-1214	Slotted tube, short, for retainer for push pedal	51	19690	.30
KETIG	10-E-10	A-1215	Plug for push pedal in plunger	51	19686	.05
LETIG	9-K-20	A-1216	Dowel for push pedal plug	51	19689	.05
METIG	39-B-63	A-1217	Plunger for push pedal	51	19567	.05
PETIG	14-B-52	A-1218	Lever for push pedal for starting motor generator	51	19574	1.25
RETIG	39-C-63	A-1219	Fulcrum screw on starter push pedal	51	19575	.05
SETIG	9-Q-20	A-1220	Set screw for fulcrum screw	51	3332	.05
TETIG	9-D-2	A-1221	Check nut	51	11676	.05
ZETIG	39-C-95	A-1222	Connecting link from push pedal lever to starter gear lever, male half	51	19428	.40
CITIG	9-N-22	A-1223	Connecting link from push pedal lever to starter gear lever, female half	51	19429	.60
FITIG		A-1224	Check nut for connecting links	51	3886	.05
KITIG	9-M-9	A-1225	Pin for push rod connecting links	51	19583	.05
LITIG	10-E-11	A-1226	Cotter pin	51	15152	.05
MITIG	39-B-79	A-1227	Lever for starter gear, short	51	19578	2.00
PITIG	10-E-4	A-1228	Bushing in end of starter gear lever	51	19579	.25
RITIG	14-C-45	A-1229	Shifter for starter gear, long	51	20824	2.50
SITIG	10-M-7	A-1230	Pin for generator shifting fork	51	19729	.08
TITIG	14-B-93	A-1231	Shaft with flange and tube for starting clutch (1st type)	51	20825	2.00
ZITIG	18-B-149	A-1232	Shaft for starting clutch (solid, 2nd type)	51	30125	1.00
BOTIG	14-B-21	A-1233	Coupling for starting shaft grease cup on 1st type housing	51	19754	.10
DOTIG	30-B-12	A-1234	Pipe for starting gear grease cup on 1st type housing	51	30383	.20
FOTIG	14-E-14	A-1235	Grease cup	51	17054	.50
KOTIG	10-B-9	A-1236	Set screw for 2nd type starter gear shaft	51	11005	.05
LOTIG	38-D-12	A-1237	Check nut on set screw	51	10892	.05
MOTIG	10-J-5	A-1238	Screw in starter gear housing for retainer on armature shaft	51	10006	.05

TYPES 53-55-57 STARTER CONTROL

SOTIG	13-E-13	A-1244	Housing for starter gear	53-5-7	32650	8.50
TOTIG	16-B-78	A-1245	Gasket for starter gear housing	53	31002	.05
ZOTIG	39-B-145	A-1246	Top cover for starter housing	53-5-7	31035	.15
BUTIG	15-C-115	A-1247	Screw for top cover	53-5-7	10272	.05
CUTIG	15-B-45	A-1248	Lock washer	53-5-7	11314	.05
DUTIG	13-B-99	A-1249	Screw, housing to generator	53-5-7	10328	.05
FUTIG	15-B-35	A-1250	Lock washer	53-5-7	11324	.05
KUTIG	10-I-8	A-1251	Screw, long, housing to crankcase	53-5-7	10356	.10
LUTIG	37-B-94	A-1252	Screw, short, housing to crankcase	53-5-7	10024	.05
MUTIG	10-E-10	A-1253	Lock washer	53-5-7	11325	.05
PUTIG	14-B-34	A-1254	Shaft, LEFT, for starter shifter, LEFT steering	53-5-7	30918	.20
RUTIG	9-B-20	A-1255	Shaft, LEFT, for starter shifter, RIGHT steering	53-5-7	31051	.15
SUTIG	9-J-19	A-1256	Collar for LEFT shifter shaft	53-5-7	30919	.25
TUTIG	12-D-59	A-1257	Cotter pin in collar	53-5-7	15165	.05
ZUTIG	9-A-19	A-1258	Shaft, RIGHT, for starter shifter	53-5-7	30914	.30



TYPES 53-55-57. MOTOR GENERATOR AND STARTER CONTROL

Code Word	Sec.-Bin	Serial	Part Name	Type	Symbol	Price
BABOM	10-U-8	A-1259	Bowen oiler (2D-Vertical) in housing	53-5-7	32303	$ .20
CABOM	12-D-74	A-1260	Lever on RIGHT shaft for starter pedal, all except (C)	53-5-7	30915	.90
FABOM	13-B-29	A-1261	Lever on RIGHT shaft for starter pedal (C)	53	32082	1.75
KABOM	10-N-19	A-1262	Taper pin	53-5	55678	.15
LABOM	15-E-6	A-1263	Spring for starter pedal	53-5-7	30822	.10
MABOM	14-E-24	A-1264	Stud in housing for starter lever spring	53-5-7	30838	.05
PABOM	15-B-35	A-1265	Lock washer	53-5	11324	.05
RABOM	9-H-19	A-1266	Stop screw for starter pedal lever, all except (C) on 53	53-5-7	30971	.05
SABOM		A-1267	Stop screw for starter lever (C)	53	11877	.05
TABOM	9-M-10	A-1268	Nut for stop screw	53-5-7	11674	.05
ZABOM	11-D-71	A-1269	Shifter with pins for starter gear	53-5-7	21782	3.75
BEBOM	10-M-7	A-1270	Pin for generator shifter fork	53-5-7	19729	.08
CEBOM	10-F-7	A-1271	Taper pin for shifter	53-5-7	15028	.05
DEBOM	10-S-11	A-1272	Pin in shifter operating lifting rod in generator	53-5-7	30824	.05
FEBOM	9-D-2	A-1273	Nut on pin	53-5-7	11676	.05
KEBOM	15-B-35	A-1274	Lock washer	53-5-7	11324	.05
LEBOM	12-B-91	A-1275	Shaft for starting clutch	53	30810	1.00
REBOM	10-D-23	A-1278	Set screw for shaft in housing	53-5-7	11268	.05
SEBOM	9-M-10	A-1279	Lock nut	53-5-7	11674	.05
TEBOM	10-G-9	A-1280	Elbow for grease cup	53	B-600	.15
ZEBOM	14-E-14	A-1281	Grease cup for shaft	51-3	17054	.50
BIBOM	12-B-47	A-1282	Elbow for starter clutch shaft	55-7	24175	.75
CIBOM	9-H-17	A-1283	Plug for elbow	51-3-5-7	37094	.10
DIBOM	10-U-12	A-1284	Bowen oiler in elbow for shaft (¼" pipe thread)	55	32306	.30
TIBOM	12-A-32	A-1285	Bowen oiler in elbow for shaft (⅛" pipe thread)	55	30789	.20

TYPES 53-55-57 STARTER PEDALS AND BRACKETS

FIBOM	18-B-13	A-1290	Starter pedal with pin, all except (C)	53-5-7	25633	3.00
KIBOM	9-P-23	A-1291	Pin in pedal operating starting lever, all except (C).	53-5-7	30916	.05
LIBOM	19-C-7	A-1292	Starter pedal rod (C)	53	21990	1.00
MIBOM	14-B-129	A-1293	Starter pedal (C)	55	34809	1.75
PIBOM	13-C-29	A-1294	Button for starter pedal, all except (R) (P) (CR) and (C) on 55 and all (CC) except (V-1) (V-2) (SB-1) (SB-2) on 57	53-5-7	37645	.60
SIBOM	12-D-5	A-1295	Button for starter pedal (R) (P) (CR) and (C) on 55, (OC) (V-1) (V-2) (SB-1) (SB-2) (S) (M) (A) on 57	55-7	37845	.70
ZIBOM	10-D-7	A-1296	Lock washer	53-5-7	11335	.05
BOBOM		A-1297	Spring for starter pedal (C)	55	34816	.60
COBOM	13-B-141	A-1298	Fulcrum pin for pedal, all except (C), LEFT steering	53	30807	.20
DOBOM	14-B-35	A-1299	Fulcrum pin for pedal, all except (C)	55-7	32790	.30
FOBOM		A-1300	Fulcrum pin for pedal (C)	55	34808	.20
KOBOM	31-B-23	A-1301	Fulcrum pin for pedal, RIGHT steering, all except (C)	53	30960	.20
LOBOM	37-C-157	A-1302	Nut for fulcrum pin, all except (C)	53	6455	.10
MOBOM	9-E-5	A-1303	Nut for fulcrum pin, all except (C) on 55	55-7	11721	.05
POBOM	10-C-6	A-1304	Lock washer for nut, RIGHT steering, all except (C)	53	11319	.05
SOBOM	10-L-24	A-1305	Lock washer for nut, all cars except (C)	55	11328	.05
TOBOM	18-B-50	A-1306	Bracket on transmission for starter pedal, all except (C) on 53	53-5	30804	.75
BUBOM	18-B-38	A-1307	Bracket on transmission for starter pedal	57	37413	1.00
CUBOM	10-J-5	A-1308	Screw, bracket to transmission	51-3-5	10006	.05
DUBOM	14-D-21	A-1309	Screw, bracket to transmission	57	10007	.05
FUBOM	15-B-35	A-1310	Lock washer	53-5	11324	.05
KUBOM	13-B-16	A-1311	Lock washer	57	11315	.05
LUBOM	10-U-8	A-1312	Bowen oiler (2D-Vertical) in starter pedal, all except (C) on 53	53-5-7	32303	.20

STARTER CLUTCH

RUBOM	50-E-13	†A-1315	Starter clutch complete	51	10726-D	11.80
SUBOM	50-D-7	†A-1316	Starter clutch complete	53	11973-D	18.00
TUBOM	50-G-7	†A-1317	Starter clutch complete	55-7	12677-D	11.25
ZUBOM	50-B-11	†A-1318	Hub complete for starter clutch	51	10963-D	5.65

†Classify on order as electrical material.

Code Word	Sec.-Bin	Serial	Part Name	Type	Symbol	Price
BADOM	53-H-15	†A-1319	Retaining plate for small pinion	51	23505-D	$ .06
CADOM	52-P-11	†A-1320	Screw, retainer to hub	51	20035-D	.06
DADOM	52-L-8	†A-1321	Lock washer	51	20495-D	.06
FADOM	53-B-15	†A-1322	Pinion, small, for starter clutch	51	23508-D	1.70
KADOM	52-V-9	†A-1323	Retaining ring between hub and cam	51	23509-D	.12
LADOM	52-V-9	†A-1324	Retaining ring between pinion and cam	51-3	23506-D	.12
MADOM	50-B-20	†A-1325	Large gear for starter clutch	51	23503-D	3.40
PADOM	50-B-15	†A-1326	Hub complete for starter clutch	53	11997-D	7.90
RADOM	52-V-7	†A-1327	Retainer on back of clutch for hub and cam	53	26200-D	.70
SADOM		†A-1328	Screw, retainer to hub	53	20987-D	.06
TADOM	53-Q-17	†A-1329	Lock washer	53	23277-D	.06
ZADOM	52-V-9	†A-1330	Retaining ring between pinion and cam	51-3	23506-D	.12
BEDOM	50-B-36	†A-1331	Large gear for starter clutch	53	12679-D	3.10
CEDOM	50-C-13	†A-1332	Pinion complete for starter clutch	55-7	12684-D	4.50
DEDOM	50-C-17	†A-1333	Inner retainer on back of clutch for hub and cam	55-7	27828-D	.12
FEDOM	50-C-36	†A-1334	Outer locking retainer on back of clutch for large gear on hub	55-7	27827-D	.06
LEDOM	51-B-10	†A-1335	Retaining ring between pinion and large gear	55-7	27891-D	.25
MEDOM	50-B-36	†A-1336	Large gear for starter clutch	55-7	12679-D	3.10
PEDOM	50-B-27	†A-1337	Cam for starter clutch	51-3	23507-D	5.65
REDOM	50-C-7	†A-1338	Cam for starter clutch	55-7	27883-D	1.95
SEDOM	50-B-33	†A-1339	Roll for starter clutch cam	51-3	23625-D	.12
TEDOM	53-J-11	†A-1340	Roll for starter clutch cam	55-7	25506-D	.12
ZEDOM	54-D-9	†A-1341	Plunger for starter clutch cam	51-3-5-7	20017-D	.06
BIDOM	53-N-9	†A-1342	Spring for starter clutch cam	51-3-5-7	21538-D	.06

TYPE 51. MOTOR GENERATOR AND DISTRIBUTOR, GENERATOR DRIVE SHAFT, STARTING CABLE AND GROUND LEAD

LIDOM	57-E-3	†A-1345	Motor generator and distributor complete	51	44-D	193.65
MIDOM	37-B-66	A-1346	Screw, short, generator to cover plate	51-3-5-7	11648	.10
PIDOM	36-C-117	A-1347	Screw, long, generator to cover plate	51	10068	.05
RIDOM	10-P-17	A-1348	Lock washer	51-3-5-7	11327	.05
SIDOM	14-C-3	A-1349	Generator drive shaft with coupling on rear end	51	20744	2.25
TIDOM	14-B-127	A-1350	Generator drive shaft	51	19495	1.00
ZIDOM	14-B-49	A-1351	Coupling for generator drive shaft, rear, female	51	19496	1.75
BODOM	10-F-6	A-1352	Taper pin for coupling	51	15030	.05
CODOM	14-B-145	A-1353	Coupling for fan and generator shaft, front, male	51	19932	1.50
DODOM	14-B-147	A-1354	Coupling for fan and generator shaft, front, female	51	19771	1.75
FODOM	10-G-2	A-1355	Woodruff key for coupling	51	11361	.05
KODOM	9-C-12	A-1356	Headless set screw for coupling	51-3-5-7	11256	.15
LODOM	39-F-27	A-1357	Cable complete, generator to storage battery	51	40533	4.50
MODOM		A-1358	Conduit assembled for generator cable	51	40534	1.00
PODOM	54-B-2	†A-1359	Connector on cable at generator	51	10697-D	1.40
RODOM	37-B-20	A-1360	Screw, flange to battery box	51	11606	.05
SODOM		A-1361	Wire for cable from battery to generator	51	18585	2.00
TODOM	39-B-6	A-1362	Fibre bushing for generator cable	51-3-5-7	18633	.05
ZODOM	39-G-2	A-1363	Ground connection for storage battery	51-3-5-7	19079	.40
DUDOM	39-E-8	A-1365	Ground lead complete with connectors	51-3	22000	1.25
FUDOM	37-B-16	A-1366	Screw, ground connection to frame	51	56198	.08
KUDOM	9-O-19	A-1367	Reinforcement for ground connection on frame	51-3-5-7	16467	.10
LUDOM	9-O-17	A-1368	Lead contact plate for ground connection next to frame	51-3-5-7	16515	.05
MUDOM	39-D-74	A-1369	Battery lug, negative	51	19080	.35
PUDOM	39-E-26	A-1370	Battery lug, positive	51	19081	.35
RUDOM	39-C-68	A-1371	Ferrule for battery lug	51	19103	.15
SUDOM	10-L-11	A-1372	Fibre ferrule, large	51	19916	.05
TUDOM	53-G-18	†A-1373	Terminal clip, large	51	24453-D	.06
ZUDOM	53-K-10	†A-1374	Terminal clip, small	51	23360-D	.06

†Classify on order as electrical material.

TYPE 51 GENERATOR TOP COVER AND END FRAME. LIFTING ROD, MOTOR AND SERIES BRUSH ARM

Code Word	Sec.-Bin	Serial	Part Name	Type	Symbol	Price
BAFOM	50-B-68	†A-1378	Top cover complete for motor generator	51	10991-D	$4.10
CAFOM	53-J-15	†A-1379	Clamp nut on motor generator top cover	51	24425-D	.30
DAFOM	53-P-16	†A-1380	Stud in clamp nut attaching motor top cover	51	24200-D	.40
FAFOM	50-C-62	†A-1381	Terminal block on side of motor generator	51	11060-D	1.60
KAFOM	52-L-8	†A-1382	Lock washer on stud in back of terminal block	51	20495-D	.06
MAFOM	52-H-3	†A-1383	Nut	51	20068-D	.06
PAFOM	52-Q-9	†A-1384	Clip on stud on terminal block	51	22395-D	.06
RAFOM	53-U-15	†A-1385	Lock washer	51	20137-D	.06
SAFOM	52-V-4	†A-1386	Nut on outer end of stud in terminal block	51	20075-D	.06
TAFOM	53-H-7	†A-1387	Cap nut for large motor terminal stud	51	24611-D	.12
ZAFOM	53-K-17	†A-1388	Nut on large terminal stud for motor lead wires	51	21116-D	.12
BEFOM	53-U-9	†A-1389	Lock washer	51	21105-D	.06
CEFOM	50-C-39	†A-1390	Motor end frame with motor brush stud	51	10801-D	3.95
FEFOM	52-V-2	†A-1392	Screw, motor end frame, upper, LEFT	51	23231-D	.35
KEFOM	53-J-13	†A-1393	Screw, motor end frame, lower, RIGHT	51-3-5-7	23232-D	.06
LEFOM	53-J-18	†A-1394	Screw, motor end frame, lower, LEFT	51-3-5-7	21663-D	.12
MEFOM	50-C-47	†A-1395	Motor end top cover complete	51	11012-D	1.30
PEFOM	52-W-11	†A-1396	Oiler in edge of motor end cover	51	11151-D	.25
REFOM	52-P-5	†A-1397	Knurled screw for top covers	51-3-5-7	21531-D	.12
SEFOM	52-G-4	†A-1398	Spring washer	51-3-5-7	20484-D	.06
TEFOM	53-W-12	†A-1399	Sliding cover in lower motor end frame	51	23222-D	.06
ZEFOM	52-V-8	†A-1400	Guide for sliding cover	51	23223-D	.06
BIFOM	53-H-14	†A-1401	Screw	51	22556-D	.06
CIFOM	53-V-14	†A-1402	Lock washer	51	20647-D	.06
DIFOM	52-V-1	†A-1403	Bushing in motor end frame for switch operating rod	51	23057-D	.35
LIFOM	52-S-5	†A-1405	Lifting rod only for motor brush	51	23510-D	.80
MIFOM	52-W-8	†A-1406	Nut on outer end of motor brush lifting rod	51	24610-D	.12
PIFOM	10-E-8	A-1407	Cotter pin	51	15161	.05
RIFOM	52-S-10	†A-1408	Stud for ground motor brush	51-3-5-7	23147-D	.18
SIFOM	53-V-18	†A-1409	Lock washer on stud for series and motor brushes	51	22172-D	.06
TIFOM	53-R-18	†A-1410	Flat washer on motor brush stud between end frame and brush	51-3-5-7	21168-D	.06
BOFOM	52-H-7	†A-1411	Flat washer on motor brush stud back of brush arm and on stud next to series brush arm	51	21428-D	.06
DOFOM	53-K-13	†A-1412	Lock washer for motor brush arm stud	51-3-5-7	20725-D	.06
FOFOM	53-S-12	†A-1413	Nut on stud in end frame	51-3-5-7	20217-D	.06
KOFOM	53-B-15	†A-1414	Motor brush ground arm complete	51	11190-D	2.55
LOFOM	53-K-16	†A-1415	Motor brush ground arm complete less contact spring and brush	51	10812-D	1.75
POFOM		†A-1416	Motor brush only, upper and lower	51-3-5-7	35808-D	.75
ROFOM	10-B-10	A-1417	Lock washer for motor brush	51-3-5-7	19092	.05
SOFOM	53-P-18	†A-1417B	Plain washer	51	20790-D	.06
TOFOM	53-V-8	†A-1418	Screw, brush to arm	51-3-5-7	22751-D	.06
ZOFOM	53-S-13	†A-1419	Contact spring for generator on upper end of motor lifting brush	51	23045-D	.06
BUFOM	52-U-9	†A-1420	Plate supporting generator contact spring	51	24115-D	.06
DUFOM	53-P-15	†A-1422	Lock plate for generator contact spring	51-3-5-7	22817-D	.06
FUFOM		†A-1423	Screw, contact spring to motor brush arm	51	20987-D	.06
KUFOM	53-J-15	†A-1424	Brush spring for series and ground motor brush arm	51	25731-D	.06
LUFOM	51-E-4	†A-1425	Series brush arm and spring stud	51	10811-D	1.30
MUFOM	52-H-9	†A-1426	Insulating bushing for motor brush arm	51	25017-D	.18
PUFOM	52-J-1	†A-1427	Stud for motor brush arm	51	25016-D	.06
RUFOM	53-M-8	†A-1428	Adjusting screw for motor brush arm	51	24621-D	.06
SUFOM	52-S-8	†A-1429	Nut	51	24619-D	.06

†Classify on order as electrical material.

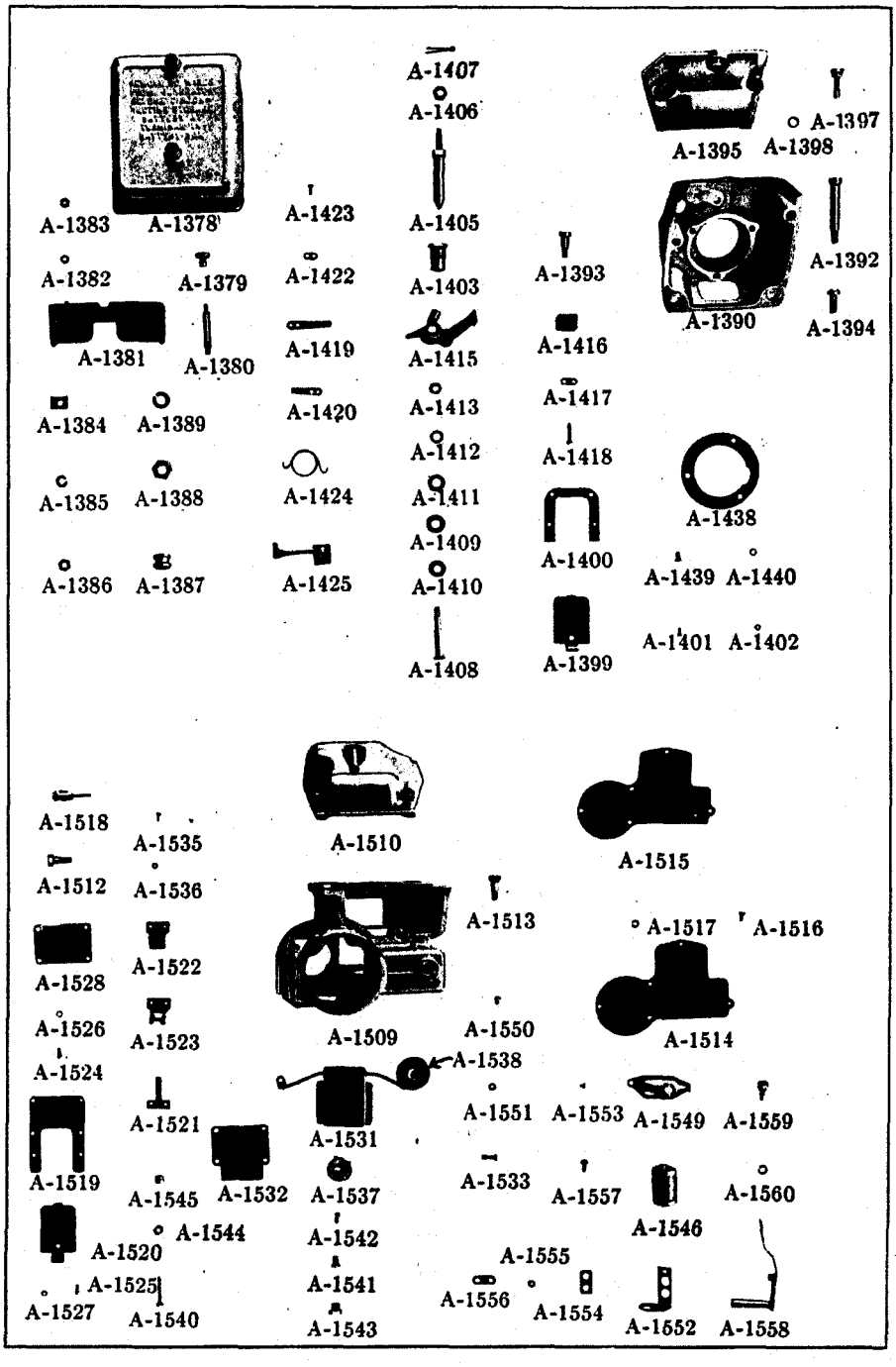


Plate No. 1 TYPE 51. MOTOR GENERATOR AND DISTRIBUTOR

TYPE 51 MOTOR GENERATOR FRAME, ARMATURE, FIELD COIL DRIVING CLUTCH AND GENERATOR BRUSH ARMS

Code Word	Sec.-Bin	Serial	Part Name	Type	Symbol	Price
BAHOM	50-E-61	†A-1433	Frame for motor generator, complete	51	10698-D	$17.90
CAHOM	50-G-7	†A-1434	Armature for motor generator	51	13513-D	22.50
DAHOM	51-B-12	†A-1435	Felt retainer inside of bearing on armature shaft	51-3-5-7	20808-D	.06
FAHOM	50-B-65	†A-1436	Oil retainer (felt) in motor end housing	51-3-5-7	21703-D	.06
LAHOM	52-W-1	†A-1438	Bearing retainer in motor end frame for ball bearing	51	23243-D	.12
MAHOM	53-J-10	†A-1439	Screw for bearing retainer in motor end frame	51-3-5	20178-D	.06
PAHOM	52-K-3	†A-1440	Lock washer	51-3-5	20241-D	.06
RAHOM	53-B-17	†A-1441	Ball bearing complete with inner and outer race	51	14898-D	9.00
TAHOM	53-R-7	†A-1442	Washer for outer end of ball bearing at motor end of armature shaft	51	23857-D	.06
BEHOM	53-H-16	†A-1443	Spacing sleeve back of pinion on motor armature shaft	51	23511-D	.30
CEHOM	50-B-34	†A-1444	Retainer and washer assembled on armature shaft back of small pinion	51	11383-D	.95
FEHOM	51-D-6	†A-1445	Felt washer for retainer on end of armature shaft	51	25019-D	.06
KEHOM	51-A-9	†A-1446	Small pinion on motor end of armature shaft	51	23491-D	.85
LEHOM	53-J-7	†A-1447	Clamp washer for pinion on motor armature shaft	51-3-5-7	21536-D	.25
PEHOM	52-V-12	†A-1448	Lock washer for screw in motor end of armature shaft.	51-3-5-7	24622-D	.06
SEHOM	53-J-7	†A-1449	Clamp screw in motor end of armature shaft	51-3-5-7	24496-D	.06
TEHOM	53-H-12	†A-1450	Clamp screw in generator end of armature shaft	51-3-5-7	24828-D	.12
ZEHOM	53-R-8	†A-1451	Lock washer	51-3-5-7	24829-D	.06
BIHOM	53-J-12	†A-1452	Clamp washer for driving clutch on armature shaft	51	23065-D	.75
DIHOM	50-D-15	†A-1453	Generator driving clutch, complete	51	12127-D	8.45
FIHOM	50-C-21	†A-1454	Generator clutch spiral gear and cam	51	10978-D	5.65
KIHOM	53-G-11	†A-1455	Binding spring which holds spiral gear and cam or shell	51-3-5-7	23983-D	.12
LIHOM	50-E-7	†A-1456	Driving clutch inner shell	51-3-5-7	26109-D	1.95
MIHOM	52-Q-2	†A-1457	Roll for driving clutch cam	51-3-5-7	23952-D	.06
PIHOM	54-D-9	†A-1458	Plunger for driving clutch cam	51-3-5-7	20017-D	.06
RIHOM	53-P-13	†A-1459	Spring for plunger	51-3-5-7	20024-D	.06
SIHOM	50-B-13	†A-1460	Felt oil retainer for ball bearing on generator end of armature shaft	51-3-5-7	21383-D	.06
ZIHOM	50-D-35	x†A-1461	Ball bearing complete on generator end of armature shaft.	51-3-5-7	12988-D	2.60
BOHOM	51-D-10	†A-1462	Spacing collar back of driving clutch on armature shaft	51-3-5-7	23192-D	.18
COHOM	52-V-5	†A-1463	Retainer for ball bearing generator end of armature shaft	51	23642-D	.12
DOHOM	53-S-12	†A-1464	Screw for ball bearing retainer	51	21094-D	.06
FOHOM	50-E-43	†A-1465	Field coil complete with motor brush plate and lead connections	51	10964-D	13.80
LOHOM	53-K-16	†A-1467	Insulator on each side of field coil	51-3-5-7	25929-D	.06
MOHOM	52-J-3	†A-1468	Connecting lead from field coil to resistance spool	51	10631-D	.18
POHOM	52-S-5	†A-1469	Clip for generator lead to motor brush plate	51-3-5-7	23051-D	.06
ROHOM	53-W-10	†A-1470	Insulator on each side of clip on motor brush plate	51-3-5-7	20219-D	.06
TOHOM	53-V-8	†A-1471	Lock plate for motor brush plate	51-3-5-7	23197-D	.06
ZOHOM	52-P-11	†A-1472	Screws to hold clip to plate	51-3-5-7	20035-D	.06
BUHOM	52-V-8	†A-1473	Insulating bushing on motor brush plate screw	51-3-5-7	23282-D	.06
CUHOM	53-P-16	†A-1474	Insulating washer on each side of motor brush plate	51-3	27193-D	.06
DUHOM	53-T-18	†A-1475	Flat washer on motor brush plate screw	51-3-5-7	20114-D	.06
FUHOM	52-J-3	†A-1476	Lock washer on motor brush plate screw	51-3-5-7	21717-D	.06
KUHOM	53-N-18	†A-1477	Screw, motor brush plate to frame	51-3-5-7	21147-D	.06
LUHOM	53-L-15	†A-1478	Screw, generator field lead to clip and coil	51-3-5-7	23451-D	.06
PUHOM	10-B-10	A-1479	Lock washer	51-3-5-7	19092	.05
RUHOM	53-T-13	†A-1480	Insulator bushing	51-3-5-7	23226-D	.06
SUHOM	9-P-4	A-1481	Nut	51-3-5-7	19093	.05
TUHOM	52-H-10	†A-1482	Stud in plate for generator brush arms	51	23113-D	.25
ZUHOM	53-T-9	†A-1483	Cotter pin, tension spring on stud	51	20163-D	.06

†Classify on order as electrical material.

x Indicates subject to special discount.

Code Word	Sec.-Bin	Serial	Part Name	Type	Symbol	Price
BAKOM	52-L-8	†A-1484	Lock washer for studs and brush holder plate screws	51-3-5-7	20495-D	$ .06
DAKOM	52-H-3	†A-1485	Nut on generator brush arm studs	51-3-5-7	20068-D	.06
FAKOM		†A-1486	Plate on stud for generator brush arms	51	22011-D	.25
KAKOM	52-P-11	†A-1487	Screw, brush holder plate to brush arm plate	51-3-5-7	20035-D	.06
MAKOM	53-P-12	†A-1488	Brush holder bracket for generator brush arm	51-3-5-7	23093-D	.12
PAKOM	53-U-17	†A-1489	Screw for attaching brush holder plate to main frame	51	26188-D	.06
RAKOM	53-U-18	†A-1490	Plate on back of studs for generator brush support	51-3-5-7	20494-D	.06
TAKOM	53-W-15	†A-1491	Insulator on each side of generator brush holder plate	51-3-5-7	23623-D	.06
ZAKOM	52-K-11	†A-1492	Insulating bushing for generator brush holder plate screws	51-3-5-7	23249-D	.06
DEKOM	51-E-9	†A-1494	Motor brush plate for motor brush arms	51-3-5-7	10660-D	.85
FEKOM	52-U-12	†A-1495	Rivet	51-3-5-7	22759-D	.06
PEKOM	53-P-10	†A-1499	Generator brush arm, RIGHT	51	10627-D	.35
REKOM	53-N-8	†A-1500	Generator brush arm, LEFT	51	10626-D	.25
SEKOM	52-U-1	†A-1501	Tension spring for generator brushes	51	20046-D	.18
TEKOM	50-D-33	†A-1502	Carbon brush for generator	51-3-5-7	23079-D	.35
ZEKOM	53-V-8	†A-1503	Screw, brush to arm	51-3-5-7	22751-D	.06
BIKOM	53-P-15	†A-1504	Lock plate	51-3-5-7	22817-D	.06
CIKOM	53-U-10	†A-1505	Lead for ground connector from RIGHT generator brush to motor ground brush	51	10629-D	.35
FIKOM	53-N-16	†A-1506	Lead for outside terminal connection from LEFT generator brush to terminal on back of block	51	10856-D	.30

TYPE 51 GENERATOR END HOUSING AND END TOP COVERS. CONDENSER, RESISTING UNIT AND RESISTANCE SPOOLS

PIKOM	50-B-17	†A-1509	Generator end cover	51	23665-D	11.25
RIKOM	51-F-11	†A-1510	Generator end top cover complete	51	10605-D	1.95
SIKOM	52-V-17	†A-1511	Bearing oiler in edge of generator end	51-3-5	11665-D	.12
TIKOM	53-J-18	†A-1512	Screw, generator end frame, upper RIGHT and lower LEFT	51-3-5-7	21663-D	.12
BOKOM	53-J-13	†A-1513	Screw, generator end frame, upper LEFT and lower RIGHT	51-3-5-7	23232-D	.06
DOKOM	53-K-9	†A-1514	Cover plate, lower, for generator end housing	51	23132-D	.18
FOKOM	53-G-17	†A-1515	Gasket for lower cover plate for generator end frame	51	23316-D	.06
LOKOM		†A-1516	Screw, lower cover plate to end frame	51	20987-D	.06
MOKOM	10-B-10	A-1517	Lock washer	51	19092	.05
POKOM	53-T-9	†A-1518	Winkley oiler for distributor bearing complete, through generator end frame, 1st type	51	11326-D	.40
SOKOM	53-W-14	†A-1519	Guide plate for sliding cover in front end frame	51	23978-D	.12
TOKOM	53-W-12	†A-1520	Sliding cover plate in front end frame	51	23222-D	.06
ZOKOM	53-V-7	†A-1521	Lock clip for distributor head	51-3-5-7	23433-D	.06
BUKOM	53-J-13	†A-1522	Plain clip for distributor head	51	21783-D	.12
CUKOM	52-U-3	†A-1523	Slotted clip for distributor head	51-3-5-7	23432-D	.06
DUKOM	53-H-14	†A-1524	Screw for clip	51	22556-D	.06
FUKOM		†A-1525	Screw for guide plate	51	20987-D	.06
KUKOM	53-V-14	†A-1526	Lock washer for clip screw	51	20647-D	.06
LUKOM	10-B-10	A-1527	Lock washer, guide plate screw	51	19092	.05
MUKOM	52-M-9	†A-1528	Cover plate for distributor governor	51	23252-D	.18
PUKOM		†A-1529	Screw	51	20987-D	.06
RUKOM	10-B-10	A-1530	Lock washer	51	19092	.05
SUKOM	50-D-19	†A-1531	Condenser for distributor on generator end frame	51	10861-D	3.10
TUKOM	52-U-10	†A-1532	Gasket for condenser plate	51	23422-D	.06
ZUKOM	53-W-16	†A-1533	Screw for condenser	51	23601-D	.06

†Classify on order as electrical material.

Code Word	Sec.-Bin	Serial	Part Name	Type	Symbol	Price
BALOM	52-K-1	†A-1534	Clip for lead from condenser to distributor	51	23319-D	$ .06
CALOM	52-U-3	†A-1535	Screw for condenser connector	51	23204-D	.06
DALOM	53-S-17	†A-1536	Lock washer	51	20345-D	.06
FALOM	53-B-18	†A-1537	Resistance unit	51	10648-D	.55
KALOM	53-W-7	†A-1538	Guard for resistance unit	51	23746-D	.06
LALOM	53-G-7	†A-1539	Insulator for resistance unit in guard	51	24527-D	.06
MALOM	52-Q-7	†A-1540	Screw, resistance unit to frame	51	23268-D	.12
PALOM	53-S-8	†A-1541	Bushing for resistance unit screw	51	23269-D	.06
RALOM	52-M-4	†A-1542	Insulator bushing between resistance unit and screw	51	22769-D	.12
TALOM	53-M-11	†A-1543	Bushing between resistance unit and housing	51	23270-D	.18
BELOM	52-L-8	†A-1544	Lock washer	51	20495-D	.06
CELOM	52-V-11	†A-1545	Nut	51	23644-D	.12

NOTE:—All orders for resistance spools should state the number which is stamped on the end of the spool removed from the car.

PELOM	51-B-3	†A-1546	Resistance spool in distributor housing	51	10701-D	1.70
RELOM	51-B-9	†A-1547	Resistance spool in distributor housing	51	10702-D	1.90
SELOM	52-L-1	†A-1548	Resistance spool in distributor housing	51	10703-D	1.70
TELOM	53-G-15	†A-1549	Bracket, upper, for resistance spool	51	23271-D	.12
ZELOM	52-J-3	†A-1550	Screw for upper resistance spool bracket	51	23678-D	.06
BILOM	10-B-10	A-1551	Lock washer	51	19092	.05
CILOM	52-N-10	†A-1552	Bracket, lower, for resistance spool	51	23264-D	.12
DILOM	53-Q-7	†A-1553	Screw	51	21015-D	.06
FILOM	53-W-10	†A-1554	Insulator for resistance spool bracket to generator end frame	51	20219-D	.06
LILOM	53-T-13	†A-1555	Insulator bushing for screw	51	23226-D	.06
MILOM	53-V-8	†A-1556	Lock plate for current regulator bracket to end of frame.	51	23197-D	.06
RILOM	52-P-11	†A-1557	Screw for current regulator bracket	51	20035-D	.06
SILOM	52-W-10	†A-1558	Current regulator contact arm	51	10634-D	.45
TILOM	52-S-9	†A-1559	Pivot screw for current regulator arm	51	24939-D	.06
ZILOM	52-J-3	†A-1560	Lock washer	51	21717-D	.06

TYPE 51 DISTRIBUTOR HEAD, ROTOR, TIMER CONTACT ARM AND CONTACT SCREW. DISTRIBUTOR SHAFT, CAM AND GOVERNOR

FOLOM	51-G-1	†A-1563	Distributor head	51-3-5-7	12568-D	5.35
KOLOM	53-V-11	†A-1564	Plunger in distributor head with dove tail end	51-3	21425-D	.12
LOLOM	52-Q-10	†A-1565	Spring for distributor head plunger, tapered, ⅜" long	51-3	21424-D	.06
MOLOM	50-B-37	†A-1566	Center high tension terminal for distributor head	51-3-5-7	10877-D	.18
POLOM	50-B-38	†A-1567	No. 1 high tension terminal	51-3-5-7	10878-D	.18
ROLOM	50-B-39	†A-1568	No. 2 high tension terminal	51-3-5-7	10879-D	.18
SOLOM	50-B-40	†A-1569	No. 3 high tension terminal	51-3-5-7	10880-D	.18
TOLOM	50-B-41	†A-1570	No. 4 high tension terminal	51-3-5-7	10881-D	.18
ZOLOM	50-B-42	†A-1571	No. 5 high tension terminal	51-3-5-7	10882-D	.18
BULOM	50-B-43	†A-1572	No. 6 high tension terminal	51-3-5-7	10883-D	.18
CULOM	50-B-44	†A-1573	No. 7 high tension terminal	51-3-5-7	10884-D	.18
DULOM	50-B-45	†A-1574	No. 8 high tension terminal	51-3-5-7	10885-D	.18
FULOM	53-S-8	†A-1575	Soft rubber washer for terminals	51-3-5-7	23865-D	.06
KULOM	50-B-58	†A-1576	Rotor complete for distributor	51	10611-D	1.80
LULOM	53-P-9	†A-1577	Connector on top of distributor from center to brush	51-3-5-7	23074-D	.06
MULOM	52-J-1	†A-1578	Screw	51-3-5	26803-D	.06
PULOM	54-E-9	†A-1579	Brush for distributor rotor	51-3-5-7	23895-D	.12
RULOM	54-C-4	†A-1580	Spring for distributor brush	51-3-5-7	24414-D	.06
SULOM	53-Q-17	†A-1581	Timer contact arm complete for distributor	51	11408-D	1.95
TULOM	53-K-17	†A-1582	Stop for contact arm	51	23733-D	.06
ZULOM	53-W-12	†A-1583	Spring for contact arm	51	23398-D	.18

†Classify on order as electrical material.

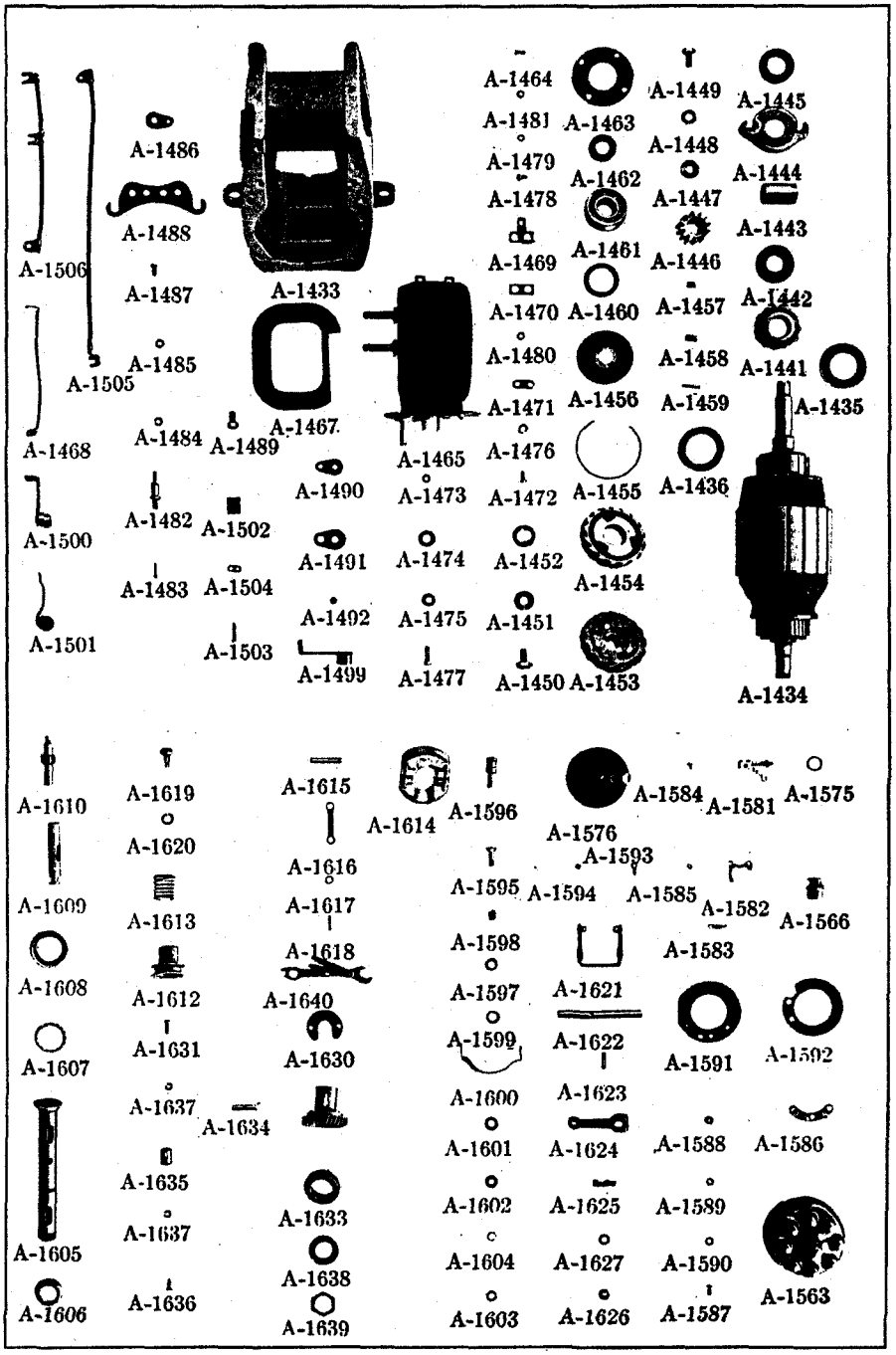


Plate No. 2 TYPE 51. MOTOR GENERATOR AND DISTRIBUTOR

Code Word	Sec.-Bin	Serial	Part Name	Type	Symbol	Price
BAROM	52-J-1	†A-1584	Screw for contact stop arm in segment	51	21836-D	$ .06
CAROM	53-S-17	†A-1585	Lock washer	51	20345-D	.06
DAROM	53-P-13	†A-1586	Segment complete for generator ignition in top of distributor housing	51	10922-D	.50
FAROM	52-H-9	†A-1587	Screw	51	23501-D	.06
KAROM	53-W-13	†A-1588	Insulating bushing for screw	51	23481-D	.18
LAROM	52-M-8	†A-1589	Flat washer	51	23480-D	.06
MAROM	52-L-8	†A-1590	Lock washer	51	20495-D	.06
PAROM	53-W-7	†A-1591	Plate for ball race in distributor	51	23220-D	.35
RAROM	53-W-10	†A-1592	Fibre insulating washer on mounting plate in upper end of distributor	51	23234-D	.06
SAROM	50-D-63	†A-1593	Timer contact screw for distributor	51-3-5-7	12411-D	.75
TAROM	53-Q-14	†A-1594	Lock nut for contact screw	51	26828-D	.06
ZAROM	53-U-14	†A-1595	Screw stud in distributor for contact screw	51	23205-D	.18
BEROM	53-T-8	†A-1596	Spring terminal complete in distributor housing	51	11868-D	.55
CEROM	53-S-12	†A-1597	Washer on spring terminal and contact screw stud	51	22616-D	.06
DEROM	53-J-11	†A-1598	Insulating bushing for spring terminal and contact screw stud	51-3-5-7	22738-D	.12
FEROM	53-H-10	†A-1599	Insulating washer for spring terminal and contact screw stud	51-3-5-7	20076-D	.06
KEROM	53-G-8	†A-1600	Connector for spring terminal and contact screw stud	51	23756-D	.06
LEROM	53-H-10	†A-1601	Fibre insulating washer on spring terminal and contact screw stud	51-3-5-7	20076-D	.06
MEROM	52-L-3	†A-1602	Flat washer	51-3-5-7	20310-D	.06
PEROM	53-P-17	†A-1603	Nut on inner end of terminal and contact screw stud	51-3-5-7	20704-D	.06
REROM	53-K-13	†A-1604	Lock washer	51-3-5-7	26717-D	.06
SEROM	53-B-17	†A-1605	Shaft with upper bearing cone for distributor	51	17111-D	5.35
TEROM	50-B-14	†A-1606	Cone, lower, for distributor shaft	51	27222-D	.70
ZEROM	51-C-12	†A-1607	Ball bearing for upper or lower end of distributor shaft	51-3-5	10282-D	.35
BIROM	50-C-20	†A-1608	Bearing cup, upper or lower, for distributor	51-3-5	20775-D	1.15
CIROM	53-W-8	†A-1609	Cam shaft, inner, for cam adjustment	51	23098-D	1.25
DIROM	54-D-4	†A-1610	Distributor cam adjustment, complete at upper end of shaft	51	10954-D	2.35
KIROM	52-G-12	†A-1611	Adjusting screw for cam shaft	51	23117-D	.12
LIROM	53-H-12	†A-1612	Collar for automatic advance on distributor	51	23718-D	.70
MIROM	54-C-10	†A-1613	Spring on distributor shaft for automatic advance collar	51-3-5-7	23129-D	.12
PIROM	50-D-37	†A-1614	Governor ring, complete for distributor	51-3-5-7	10889-D	1.40
RIROM	52-V-8	†A-1615	Pin for advance collar and governor	51	23101-D	.30
SIROM	53-U-10	†A-1616	Advance arms between governor ring and advance collar pin	51-3-5-7	23104-D	.06
ZIROM	52-R-8	†A-1617	Flat washer	51	24415-D	.06
BOROM	53-T-9	†A-1618	Cotter pin	51	20163-D	.06
COROM	53-G-9	†A-1619	Screw, governor ring to distributor shaft	51-3-5-7	23496-D	.06
DOROM	52-W-12	†A-1620	Lock washer	51-3-5-7	24493-D	.06
FOROM	52-L-1	†A-1621	Advance yoke assembled for distributor	51	10598-D	.85
KOROM	53-L-9	†A-1622	Shaft for advance yoke	51	23257-D	.12
LOROM	53-T-15	†A-1623	Screw, yoke to shaft	51-3-5-7	21797-D	.06
MOROM	53-G-12	†A-1624	Lever for advance yoke shaft	51-3-5-7	23143-D	.85
POROM	53-S-13	†A-1625	Screw, lever to shaft	51-3-5-7	23144-D	.12
ROROM	53-U-18	†A-1626	Nut for screw	51-3-5-7	26922-D	.06
SOROM	53-U-15	†A-1627	Lock washer	51-3-5-7	20137-D	.06
TOROM		†A-1628	Spiral gear and hub assembled for distributor shaft	51	17105-D	3.55
BUROM	53-H-9	†A-1630	Guide plate for spiral gear	51-3-5-7	23217-D	.12
CUROM	53-T-13	†A-1631	Screw, guide plate to spiral gear	51-3	21747-D	.06
DUROM	53-S-12	†A-1632	Dowel pin for spiral gear and hub	51-3-5-7	24029-D	.06
FUROM	54-B-7	†A-1633	Advance ring on lower end of distributor shaft	51-3-5-7	23100-D	.55
KUROM	52-R-1	†A-1634	Pin for advance ring for lower end of distributor shaft	51-3-5-7	23134-D	.18
LUROM	53-J-13	†A-1635	Clamp for pin in lower end of distributor shaft	51-3-5-7	23218-D	.18
MUROM	52-J-4	†A-1636	Screw locating pin in advance ring	51-3-5-7	23378-D	.06
PUROM	10-B-10	A-1637	Lock washer	51-3-5-7	19092	.05
RUROM	52-S-10	†A-1638	Clamp nut for ball bearing on lower end of distributor shaft	51-3-5	21443-D	.12
TUROM	53-G-13	†A-1639	Lock nut for ball bearing on lower end of distributor shaft	51-3-5	21444-D	.12
ZUROM	53-P-14	†A-1640	Distributor wrench	51	11407-D	.35

†Classify on order as electrical material.

TYPES 53–55–57 GENERATOR AND GENERATOR DRIVE SHAFT. STARTING CABLE AND GROUND LEAD

Code Word	Sec.-Bin	Serial	Part Name	Type	Symbol	Price
BASOM	57-E-6	†A-1643	Motor generator complete	53	78-D	119.25
CASOM	57-F-1	†A-1644	Motor generator complete	55-7	98-D	151.85
DASOM	10-P-23	A-1645	Screw, front, generator to rocker plate	53-5-7	31844	.15
FASOM	37-B-66	A-1646	Screw, rear end of generator to cover plate	51-3-5-7	11648	.10
KASOM	10-P-17	A-1647	Lock washer	51-3-5-7	11327	.05
LASOM	11-D-61	A-1648	Generator drive shaft 14⅞" long before engine A-25001	53	30939	1.75
MASOM	14-B-32	A-1649	Coupling, front, for generator shaft	53	30809	1.00
PASOM	14-B-10	A-1650	Coupling, rear, 1st type on generator shaft	53	30952	1.50
RASOM	14-B-161	A-1651	Generator drive shaft, after engine A-25000	53-5-7	31834	1.70
SASOM	13-B-17	A-1652	Coupling on rear end of generator drive shaft (2nd type on 53)	53-5-7	31833	1.70
ZASOM	10-F-6	A-1653	Taper pin	51-3-5-7	15030	.05
BESOM	10-F-10	A-1654	Key for front and rear coupling	51-3-5-7	11359	.05
CESOM	9-C-12	A-1655	Headless set screw for couplings	51-3-5-7	11256	.15
DESOM	10-P-16	A-1656	Ring for front and rear coupling on generator shaft (2nd type on 53)	53-5-7	31835	.20
KESOM	12-B-3	A-1657	Screw, ring to front or rear coupling (2nd type on 53)	53-5-7	11878	.05
LESOM	9-M-10	A-1658	Nut	53-5-7	11674	.05
MESOM	15-C-115	A-1659	Screw, ring to driving clutch (2nd type on 53)	53-5-7	10272	.05
PESOM	15-B-45	A-1660	Lock washer	53-5-7	11314	.05
RESOM	14-B-78	A-1661	Coupling, front end of generator drive shaft (2nd type on 53)	53-5-7	31832	1.50
TESOM	12-D-14	A-1662	Coupling on rear end of fan shaft (2nd type on 53)	53-5-7	32618	2.25
ZESOM	12-D-29	A-1663	Screw in end of fan shaft for coupling (2nd type on 53)	53-5-7	10058	.10
BISOM	10-P-11	A-1664	Special flat washer on screw (2nd type on 53)	53-5-7	11512	.05
CISOM	10-P-17	A-1665	Lock washer	53-5-7	11327	.05
DISOM	39-E-21	A-1666	Cable complete, generator to storage battery	53	20983	4.50
FISOM	39-G-27	A-1667	Cable complete, generator to storage battery	55-7	22326	4.50
KISOM	39-D-16	A-1668	Conduit with flange for generator cable	53-5-7	20984	1.50
LISOM	54-B-10	†A-1669	Connector on cable at generator	53-5-7	26192-D	.18
MISOM	53-J-12	†A-1670	Screw, connector on generator	53-5-7	26203-D	.06
PISOM	53-T-10	†A-1671	Lock washer	53-5-7	21163-D	.06
RISOM	39-D-74	A-1672	Battery lug, negative	51-3	19080	.35
SISOM	39-E-26	A-1673	Battery lug, positive	51-3	19081	.35
TISOM	39-D-23	A-1674	Battery lug (clamp), negative	55-7	39346	.40
ZISOM	39-E-5	A-1675	Battery lug (clamp), positive	55-7	39345	.40
BOSOM	39-E-8	A-1676	Ground lead, complete with connectors	51-3	22000	1.25
COSOM	39-G-1	A-1677	Ground lead, complete with connectors	55-7	22327	1.25
DOSOM	39-G-2	A-1678	Ground connection for storage battery on side bar	51-3-5-7	19079	.40
FOSOM	13-B-103	A-1679	Screw, ground connection to frame	53-5-7	10025	.05
KOSOM	12-D-47	A-1680	Nut	53-5-7	10893	.05
LOSOM	36-D-21	A-1681	Lock washer	53-5-7	11316	.05
POSOM	9-O-19	A-1683	Reinforcement for ground connection on frame	51-3-5-7	16467	.10
ROSOM	39-B-6	A-1684	Fibre bushing for generator cable	51-3-5.7	18633	.05
SOSOM	9-O-17	A-1685	Lead contact plate for ground connection next to frame	51-3-5-7	16515	.05
TOSOM	39-B-1	A-1686	Conduit for generator cover	53-5-7	31278	.75
ZOSOM	10-N-2	A-1687	Screw, condulet to generator,	53-5-7	10273	.05
BUSOM	15-B-45	A-1688	Lock washer	53-5-7	11314	.05

TYPES 53-55-57 GENERATOR FRAME, END FRAMES, TOP AND END COVERS

RUSOM		†A-1690	Generator frame, core, bottom and side frame	53	11950-D	16.80
SUSOM	57-C-4	†A-1691	Generator frame, core, bottom and side frame	55-7	12840-D	16.55
TUSOM	54-D-4	†A-1692	Binding screw through core holding upper ends of frame	53-5-7	24228-D	.70
ZUSOM	52-Q-17	†A-1693	Binding screw through core holding lower ends of frame	51-3-5-7	24126-D	.12

†Classify on order as electrical material.

Code Word	Sec.-Bin	Serial	Part Name	Type	Symbol	Price
BATOM	52-Q-17	†A-1694	Lock washer	51-3-5-7	24494-D	$ .06
CATOM	51-B-11	†A-1695	Terminal guard on top of side frame	53-5-7	26542-D	.06
DATOM	52-H-7	†A-1696	Screw for terminal guard to top of side frame	53-5-7	22229-D	.06
FATOM	53-K-13	†A-1697	Lock washer	51-3-5-7	26717-D	.06
KATOM	53-K-18	†A-1698	Stud dowel through RIGHT frame supporting horn wire.	53-5-7	26184-D	.18
LATOM	53-W-10	†A-1699	Nut	53-5-7	26265-D	.06
MATOM	52-J-3	†A-1700	Lock washer	51-3-5-7	21717-D	.06
PATOM	50-E-19	†A-1701	Top cover with name plate and screws	53-5-7	12043-D	2.55
RATOM	51-D-3	†A-1702	Knurled head screw for top cover	53-5-7	26182-D	.12
SATOM	52-P-5	†A-1703	Stud in side frame for top cover	53-5-7	26181-D	.12
TATOM	52-W-9	†A-1704	Name plate on top cover	53-5-7	26180-D	.18
ZATOM	52-U-18	†A-1705	Rivet	53-5-7	23627-D	.06
BETOM	54-F-8	†A-1706	Motor end frame	53	12039-D	6.45
CETOM	50-E-47	†A-1707	Motor end frame with stud	55-7	17331-D	5.05
DETOM	52-P-12	†A-1708	Cover for side and bottom of motor end frame	51-3-5-7	27863-D	.06
FETOM	52-P-9	†A-1709	Gasket for cover	51-3-5-7	27864-D	.06
KETOM		†A-1710	Screw for cover	51-3-5-7	20987-D	.06
LETOM	10-B-10	A-1711	Lock washer	51-3-5-7	19092	.05
METOM	53-J-13	†A-1712	Screw for motor end frame, lower, RIGHT	51-3-5-7	23232-D	.06
PETOM	53-J-18	†A-1713	Screw for motor end frame, lower, LEFT	51-3-5-7	21663-D	.12
RETOM	51-D-9	†A-1714	Screw through upper LEFT corner of motor end frame	53-5-7	26198-D	.06
SETOM	52-R-1	†A-1715	Screw through upper RIGHT corner of motor end frame.	53-5-7	26199-D	.06
TETOM	50-D-47	†A-1716	Motor end top cover, complete	53-5-7	12045-D	1.50
ZETOM	51-C-8	†A-1717	Bearing oiler in motor end top cover	51-3-5-7	14043-D	.30
BITOM	52-L-10	†A-1718	Wick for oiler	51-3-5-7	30323-D	.06
CITOM	52-P-6	†A-1719	Screw, motor end cover to frame	53-5-7	26567-D	.12
DITOM	52-G-4	†A-1720	Spring washer	51-3-5-7	20484-D	.06
FITOM	50-C-53	†A-1721	Generator end frame	53	26211.D	3.95
KITOM	50-F-31	†A-1722	Generator end frame	55-7	27861-D	4.80
LITOM	52-P-12	†A-1723	Cover for generator end frame (bottom)	55-7	27863-D	.06
MITOM	52-P-9	†A-1724	Gasket for cover	55-7	27864-D	.06
PITOM		†A-1725	Screw	55-7	20987-D	.06
RITOM	10-B-10	A-1726	Lock washer	55-7	19092	.05
SITOM	51-C-8	†A-1727	Bearing oiler in generator end frame	53-5-7	14043-D	.30
TITOM	52-L-10	†A-1728	Wick for oiler	53-5-7	30323-D	.06
ZITOM	53-J-13	†A-1729	Screw, generator end frame, upper RIGHT and lower LEFT	51-3-5-7	23232-D	.06
COTOM	53-J-18	†A-1730	Screw, generator end frame, upper LEFT and lower RIGHT	51-3-5-7	21663-D	.12
FOTOM	50-F-25	†A-1731	Generator end top cover with screws	53-5-7	12046-D	1.30
KOTOM	52-P-5	†A-1732	Screw, for generator end cover	51-3-5-7	21531-D	.12

TYPES 53-55-57 GENERATOR ARMATURE AND BEARINGS FOR ARMATURE SHAFT. PINION AND DRIVING CLUTCH

MOTOM	57-D-1	†A-1739	Armature complete	53-5-7	11989-D	27.00
POTOM	51-B-12	†A-1740	Retainer for felt washer for rear roller bearing	51-3-5-7	20808-D	.06
ROTOM	53-J-10	†A-1741	Screw, retainer to motor end frame	51-3-5-7	20178-D	.06
SOTOM	52-K-3	†A-1742	Lock washer	51-3-5-7	20241-D	.06
TOTOM	50-B-65	†A-1743	Felt oil retainer for rear bearing	51-3-5-7	21703-D	.06
ZOTOM	50-A-1	x†A-1744	Ball bearing with inner and outer race on rear end of armature shaft	53-5-7	15499-D	4.10
DUTOM	53-W-9	†A-1746	Retainer for bearing race in motor end frame	53	26193-D	.06
FUTOM	53-S-15	†A-1747	Washer (first type) (4 used) for bearing race in motor end frame	55-7	27147-D	.06
LUTOM	51-A-6	†A-1748	Retainer (second type) (1 used) for bearing race in motor end frame	55-7	30514-D	.06
PUTOM	52-U-9	†A-1749	Flat washer on armature shaft in motor end housing	53-5-7	25926-D	.06
RUTOM	53-L-14	†A-1750	Spacing sleeve back of pinion on armature shaft	53-5-7	26217-D	.12
SUTOM	54-C-5	†A-1751	Pinion on rear end of armature shaft	53-5-7	26201-D	.55
TUTOM	53-J-7	†A-1752	Clamp washer for pinion on armature shaft	51-3-5-7	21536-D	.25
ZUTOM	52-V-12	†A-1753	Lock washer	51-3-5-7	24622-D	.06

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Code Word	Sec.-Bin	Serial	Part Name	Type	Symbol	Price
BAZOM	53-J-7	†A-1754	Clamp screw in motor end of armature shaft	51-3-5-7	24496-D	$ .06
CAZOM	50-D-35	x†A-1755	Ball bearing on front end of armature shaft	51-3-5-7	12988-D	2.60
DAZOM	52-V-1	†A-1756	Retainer for bearing in generator end frame	53-5-7	25406-D	.12
FAZOM		†A-1758	Screw, bearing retainer in generator end frame	53-5-7	25810-D	.06
LAZOM	53-Q-17	†A-1759	Lock washer	53-5-7	23277-D	.06
MAZOM	50-B-13	†A-1760	Felt oil retainer for front end bearing (2 used)	51-3-5-7	21383-D	.06
PAZOM	51-D-10	†A-1761	Spacing collar back of driving clutch on armature shaft	51-3-5-7	23192-D	.18
RAZOM	50-C-8	†A-1762	Generator driving clutch complete, used before engine A-25001	53	12035-D	7.90
TAZOM	51-B-8	†A-1763	Generator clutch outer shell and cam, used before engine A-25001	53	12034-D	5.05
BEZOM	50-D-75	†A-1764	Generator driving clutch complete, used after engine A-25000	53-5-7	12257-D	5.65
DEZOM	50-C-23	†A-1765	Generator clutch outer shell and cam, used after engine A-25000	53-5-7	12256-D	2.80
KEZOM	50-E-7	†A-1766	Inner shell for driving clutch	51-3-5-7	26109-D	1.95
LEZOM	52-Q-2	†A-1767	Roll for driving clutch cam	51-3-5-7	23952-D	.06
MEZOM	54-D-9	†A-1768	Plunger for driving clutch cam	51-3-5-7	20017-D	.06
PEZOM	53-P-13	†A-1769	Spring for plunger in driving clutch cam	51-3-5-7	20024-D	.06
REZOM	53-G-11	†A-1770	Binding spring which holds outer shell and cam on inner shell	51-3-5-7	23983-D	.12
TEZOM	53-N-11	†A-1771	Clamp washer holding generator clutch on end of armature shaft	53-5-7	24770-D	.30
BIZOM	53-H-12	†A-1772	Clamp screw for generator clutch on armature shaft	51-3-5-7	24828-D	.12
CIZOM	53-R-8	†A-1773	Lock washer	51-3-5-7	24829-D	.06

TYPES 53-55-57 GENERATOR FIELD COIL, LIFTING ROD, SERIES ARMS AND MOTOR GROUND ARM

MIZOM	50-D-49	†A-1777	Field coil complete, with lead attachments for motor and generator brushes	53-5-7	17137-D	12.95
RIZOM	53-K-16	†A-1778	Insulator on either side of field coil	51-3-5-7	25929-D	.06
SIZOM	53-K-10	†A-1779	Terminal clip on side of coil	53-5-7	26786-D	.06
TIZOM	53-S-10	†A-1780	Clip on coil for connection to terminal plate	53	26185-D	.12
ZIZOM	53-K-12	†A-1781	Clip on coil for connection to terminal plate	55-7	28021-D	.12
BOZOM	53-S-14	†A-1782	Insulator for terminal on side of coil	53-5-7	26826-D	.06
COZOM	54-D-1	†A-1783	Lifting rod for motor brushes	53-5-7	26202-D	.90
FOZOM	54-C-7	†A-1785	Series brush arm complete less brush	53-5-7	12010 D	.90
KOZOM	54-C-2	†A-1786	Ground arm complete less brush	53-5-7	12009-D	.80
LOZOM	52-S-10	†A-1787	Stud for ground motor brush	51-3-5-7	23147-D	.18
MOZOM		†A-1788	Motor brush only (2 used)	51-3-5-7	35808-D	.75
POZOM	53-V-8	†A-1789	Screw, brush to arm	51-3-5-7	22751-D	.06
ROZOM	10-B-10	A-1790	Lock washer	51-3-5-7	19092	.05
SOZOM	52-Q-11	†A-1791	Spring in hub of series motor and ground brush arms.	53-5-7	26276-D	.06
ZOZOM	51-A-5	†A-1792	Spring holding ground and series motor brushes against commutator	53-5-7	27675-D	.12
CUZOM	52-M-4	†A-1793	Brass washer on studs for motor brushes	53-5-7	26274-D	.06
DUZOM	53-R-18	†A-1794	Flat washer on outer end motor brush stud	51-3-5-7	21168-D	.06
FUZOM	53-K-13	†A-1795	Lock washer for motor brush arm stud	51-3-5-7	20725-D	.06
KUZOM	53-S-12	†A-1796	Nut for brush arm stud in end frame	51-3-5-7	20217-D	.06
LUZOM	53-T-9	†A-1797	Cotter pin for series motor brush arm stud	53-5-7	20163-D	.06
MUZOM	53-V-9	†A-1798	Contact spring for generator on upper end of ground motor brush arm	53-5-7	25960-D	.06
RUZOM	52-W-8	†A-1799	Plate supporting contact spring	53-5-7	25961-D	.06
SUZOM	52-Q-12	†A-1800	Insulating plate each side of contact spring	53-5-7	25762-D	.06
TUZOM		†A-1801	Screw, contact spring to ground motor brush arm (1st type)	53	34460-D	.06

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Code Word	Sec.-Bin	Serial	Part Name	Type	Symbol	Price
BABUP	52-L-6	†A-1802	Screw, contact spring to ground motor brush arm (2nd type)	53	21098-D	$ .06
DABUP	53-T-15	†A-1803	Screw for contact spring	55-7	21899-D	.06
FABUP	53-P-18	†A-1804	Plain washer for screw	55-7	20790-D	.06
KABUP	52-U-11	†A-1805	Bushing on screw for spring	53-5-7	27160-D	.12
LABUP	10-B-10	A-1806	Lock washer	53-5-7	19092	.05
PABUP	51-E-9	†A-1808	Motor brush plate supporting brush arm	51-3-5-7	10660-D	.85
RABUP	53-P-16	†A-1809	Insulating washer on each side of motor brush	51-3	27193-D	.06
SABUP	53-R-10	†A-1810	Insulating washer on each side of motor brush	55-7	20125-D	.06
TABUP	53-N-18	†A-1811	Screw holding motor brush plate to frame	51-3-5-7	21147-D	.06
ZABUP	52-V-8	†A-1812	Insulating bushing on motor brush plate screw	51-3-5-7	23282-D	.06
BEBUP	53-T-18	†A-1813	Flat washer	51-3-5-7	20114-D	.06
CEBUP	52-J-3	†A-1814	Lock washer	51-3-5-7	21717-D	.06
DEBUP	52-U-12	†A-1815	Rivet, brush plate to field coil	51-3-5-7	22759-D	.06
FEBUP	53-W-10	†A-1816	Insulator on each side of clip on motor brush plate	51-3-5-7	20219-D	.06
LEBUP	52-P-11	†A-1817	Screw, clip to plate	51-3-5-7	20035-D	.06
MEBUP	53-V-8	†A-1818	Lock plate	51-3-5-7	23197-D	.06
PEBUP	53-T-13	†A-1819	Insulating bushing on clip screw	51-3-5-7	23226-D	.06
REBUP	53-L-15	†A-1820	Screw, clip to lead	51-3-5-7	23451-D	.06
SEBUP	9-P-4	A-1821	Nut	51-3-5-7	19093	.05
TEBUP	10-B-10	A-1822	Lock washer	51-3-5-7	19092	.05

TYPES 53-55-57 GENERATOR BRUSH ARMS

BIBUP	54-C-3	†A-1828	RIGHT generator brush arm only	53-5-7	11729-D	.25
DIBUP	54-B-5	†A-1830	LEFT generator brush arm only	53-5-7	11728-D	.25
FIBUP	50-D-33	†A-1831	Brush for RIGHT or LEFT generator brush arm	51-3-5-7	23079-D	.35
KIBUP	53-V-8	†A-1832	Screw, brush to arm	51-3-5-7	22751-D	.06
LIBUP	53-P-15	†A-1833	Lock plate	51-3-5-7	22817-D	.06
MIBUP	51-A-2	†A-1834	Spring holding RIGHT brush to commutator	53-5-7	25356-D	.12
PIBUP	52-U-8	†A-1835	Stud for RIGHT and third generator brush arms	53-5-7	25777-D	.18
RIBUP	52-T-9	†A-1836	Insulating sleeve on spring stud for third generator brush arms	53-5-7	25784-D	.06
TIBUP	52-M-11	†A-1837	Stud holding spring for third and RIGHT generator brush arms	53-5-7	14547-D	.25
BOBUP	53-L-13	†A-1838	Plate either side of LEFT generator brush arm bracket	53-5-7	25955-D	.06
DOBUP	53-W-13	†A-1839	Stud for LEFT generator brush arm spring	53-5-7	25355-D	.12
FOBUP	53-J-11	†A-1840	Spring, LEFT generator brush to commutator	53-5-7	25357-D	.12
KOBUP	52-H-3	†A-1841	Nut on generator brush arm studs	51-3-5-7	20068-D	.06
LOBUP	52-M-9	†A-1842	Stud for LEFT brush arm on bracket	53-5-7	25387-D	.12
POBUP	53-P-8	†A-1844	Third arm only, less extension	53-5-7	12169-D	.18
ROBUP	52-W-7	†A-1845	Extension for third brush arm	53-5-7	27935-D	.12
SOBUP	53-U-17	†A-1846	Screw, extension to third brush arm	53-5-7	25931-D	.06
TOBUP	53-U-7	†A-1847	Flat washer	53-5-7	20810-D	.06
ZOBUP	10-B-10	A-1848	Lock washer	53-5-7	19092	.05
BUBUP	54-D-7	†A-1849	Brush for generator third brush arm	53-5-7	29320-D	.25
CUBUP	52-S-9	†A-1850	Screw, brush to third arm	53-5-7	26766-D	.06
DUBUP	53-J-12	†A-1851	Spring, third generator brush to commutator	53-5-7	25783-D	.12
FUBUP	52-K-2	†A-1852	Flat washer on third brush arm stud	53-5-7	24201-D	.06
KUBUP	53-J-12	†A-1853	Insulating bushing on third brush arm stud	53-5-7	25779-D	.12
LUBUP	53-V-9	†A-1854	Large insulating washer on third brush arm	53-5-7	21036-D	.06
MUBUP	52-G-3	†A-1855	Small insulating washer on third brush arm stud	53-5-7	21298-D	.06
RUBUP	10-E-9	A-1856	Cotter pin in stud for third brush arm	53-5-7	15150	.05
SUBUP	52-P-12	†A-1857	Brush holder bracket for generator brush arms	51-3-5-7	23093-D	.12
TUBUP	53-U-17	†A-1858	Screw, generator brush bracket to terminal bracket	53-5-7	26188-D	.06

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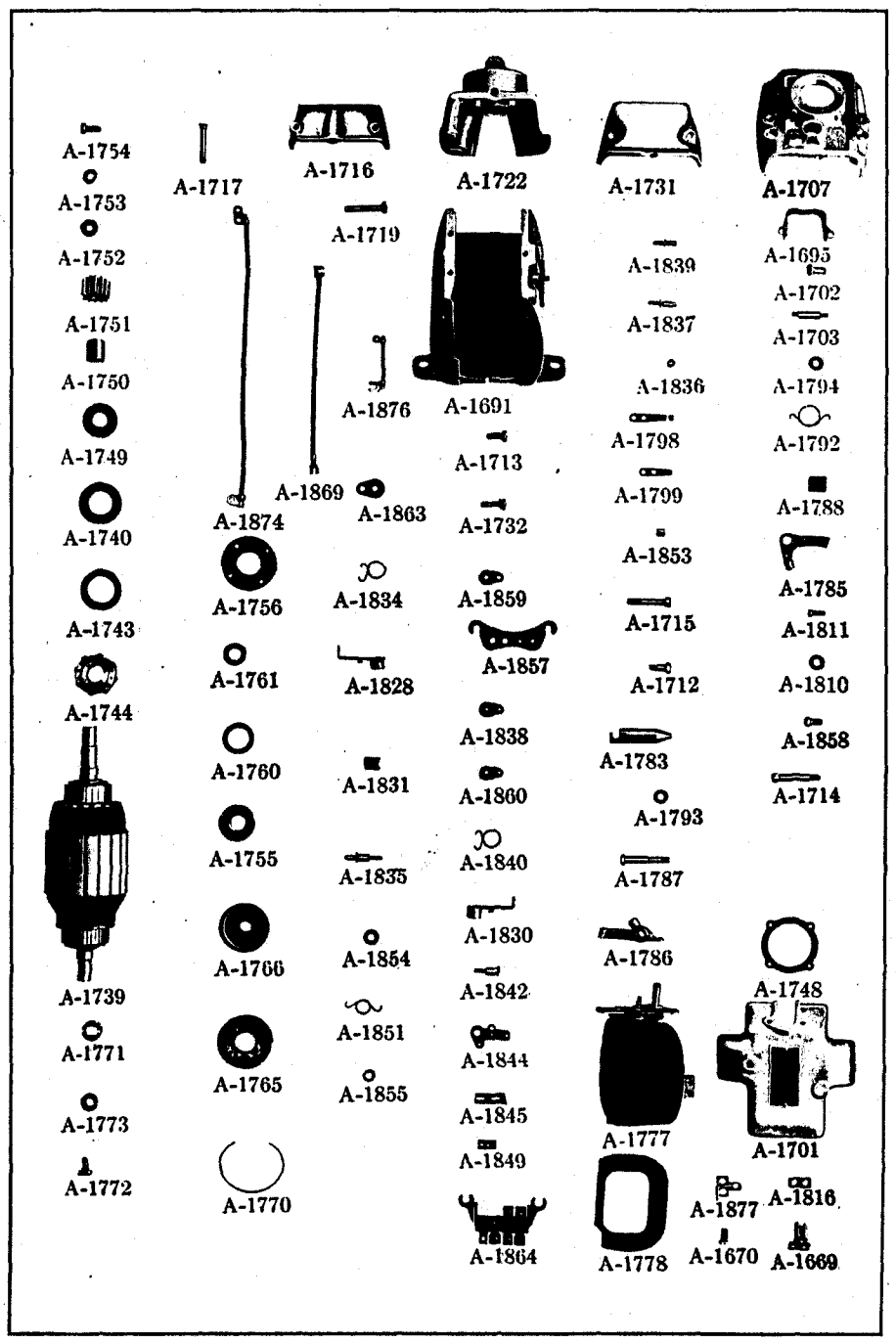

TYPES 53-55-57. GENERATOR

Code Word	Sec.-Bin	Serial	Part Name	Type	Symbol	Price
BAFUP	53-U-18	†A-1859	Thin plate on back of studs for generator brush support	51-3-5-7	20494-D	$ .06
DAFUP	53-L-15	†A-1860	Thick plate on RIGHT generator stud	53-5-7	22145-D	.06
FAFUP	52-L-8	†A-1861	Lock washer	51-3-5-7	20495-D	.06
KAFUP	52-K-11	†A-1862	Insulating bushing in bracket on RIGHT generator stud	51-3-5-7	23249-D	.06
MAFUP	53-W-15	†A-1863	Insulator on each side of brush holder bracket for RIGHT arm	51-3-5-7	23623-D	.06
RAFUP	50-C-45	†A-1864	Terminal bracket	53-5-7	12008-D	.70
SAFUP	53-S-10	†A-1865	Clip for terminal bracket	51-3-5-7	23450-D	.06
TAFUP	9-P-4	A-1866	Screw for clip	53-5-7	19091	.05
ZAFUP	9-P-4	A-1867	Nut	53-5-7	19093	.05
BEFUP	10-B-10	A-1868	Lock washer	51-3-5-7	19092	.05
CEFUP	51-C-3	†A-1869	Lead from motor brush plate to terminal bracket	53-5-7	11999-D	.25
DEFUP	52-Q-11	†A-1870	Clip on motor brush end of lead to terminal bracket	55-7	23666-D	.06
FEFUP	53-G-18	†A-1871	Spade clip on lead from terminal bracket to motor brush plate	53-5-7	23374-D	.06
LEFUP	53-K-14	†A-1872	Clip on end of lead from generator brush to switch	55-7	27929-D	.06
MEFUP	51-E-12	†A-1873	Lead from switch arm to generator brush bracket	53	11921-D	.30
PEFUP	50-B-7	†A-1874	Lead from switch arm to generator brush bracket	55-7	12748-D	.25
REFUP	52-T-12	†A-1875	Clip on switch end of lead to generator brush bracket	55-7	26225-D	.06
SEFUP	53-R-14	†A-1876	Lead from field coil to third generator brush	53-5-7	11998-D	.12
TEFUP	52-S-5	†A-1877	Clip for generator lead to motor brush plate	51-3-5-7	23051-D	.06
ZEFUP	52-U-11	†A-1878	Screw	53-5-7	20300-D	.06
BIFUP	10-B-10	A-1879	Lock washer	53-5-7	19092	.05

TYPES 53–55–57. DISTRIBUTOR, DISTRIBUTOR HOUSING AND DISTRIBUTOR HEAD. ROTOR, TIMER CONTACT ARM AND CONTACT SCREW

FIFUP	50-A-2	†A-1884	Distributor complete	53-5-7	5206-D	56.25
LIFUP		†A-1886	Housing for distributor with clips	53-5	17126-D	11.25
PIFUP	50-B-10	†A-1887	Housing for distributor with clips and lower bearing	57	17184-D	12.00
MIFUP	53-Q-16	†A-1887B	Bearing in housing for shaft	57	32957-D	1.15
RIFUP	53-T-10	†A-1888	Oiler in distributor housing for lower bearing	57	11323-D	.25
SIFUP	53-P-17	†A-1889	Wick for oiler	57	29074-D	.06
TIFUP	53-P-18	†A-1890	Spring for wick	57	29246-D	.12
ZIFUP	53-J-13	†A-1891	Plain clip for distributor head	53-5-7	21783-D	.12
BOFUP	52-U-3	†A-1892	Slotted clip for distributor head	51-3-5-7	23432-D	.06
COFUP	53-V-7	†A-1893	Lock clip for distributor head	51-3-5-7	23433-D	.06
DOFUP		†A-1894	Rivet, clips to distributor housing	53-5-7	23283-D	.06
FOFUP	52-M-15	†A-1895	Rivet, plain clip to housing	53-5-7	24202-D	.06
KOFUP	53-W-8	†A-1896	Breather with gauze for distributor housing	53-5-7	12075-D	.35
LOFUP	51-G-1	†A-1897	Distributor head complete less terminals	51-3-5-7	12568-D	5.35
MOFUP	53-V-11	†A-1898	Plunger with dove tail end in distributor head	51-3	21425-D	.12
POFUP	50-C-61	†A-1899	Plunger, flat end and drilled in distributor head	55-7	15487-D	.18
ROFUP	52-Q-10	†A-1900	Spring for distributor head plunger, tapered, 3/8" long	51-3	21424-D	.06
SOFUP	53-R-12	†A-1901	Spring for distributor head plunger tapering toward center	55-7	27607-D	.06
ZOFUP	53-P-14	†A-1902	Bowen oiler for distributor under rotor	55-7	14357-D	.25
BUFUP	50-B-37	†A-1903	High tension terminal, center, plain	51-3-5-7	10877-D	.18
CUFUP	50-B-38	†A-1904	No. 1 high tension terminal	51-3-5-7	10878-D	.18
DUFUP	50-B-39	†A-1905	No. 2 high tension terminal	51-3-5-7	10879-D	.18
FUFUP	50-B-40	†A-1906	No. 3 high tension terminal	51-3-5-7	10880-D	.18
KUFUP	50-B-41	†A-1907	No. 4 high tension terminal	51-3-5-7	10881-D	.18
LUFUP	50-B-42	†A-1908	No. 5 high tension terminal	51-3-5-7	10882-D	.18
MUFUP	50-B-43	†A-1909	No. 6 high tension terminal	51-3-5-7	10883-D	.18
PUFUP	50-B-44	†A-1910	No. 7 high tension terminal	51-3-5-7	10884-D	.18
RUFUP	50-B-45	†A-1911	No. 8 high tension terminal	51-3-5-7	10885-D	.18
SUFUP	53-S-8	†A-1912	Washer for distributor head terminals	51-3-5-7	23865-D	.06
TUFUP	50-E-63	†A-1913	Rotor complete for distributor	53-5-7-	16727-D	1.15
ZUFUP	53-P-9	†A-1914	Connector on top of distributor from center to brush	51-3-5-7	23074-D	.06

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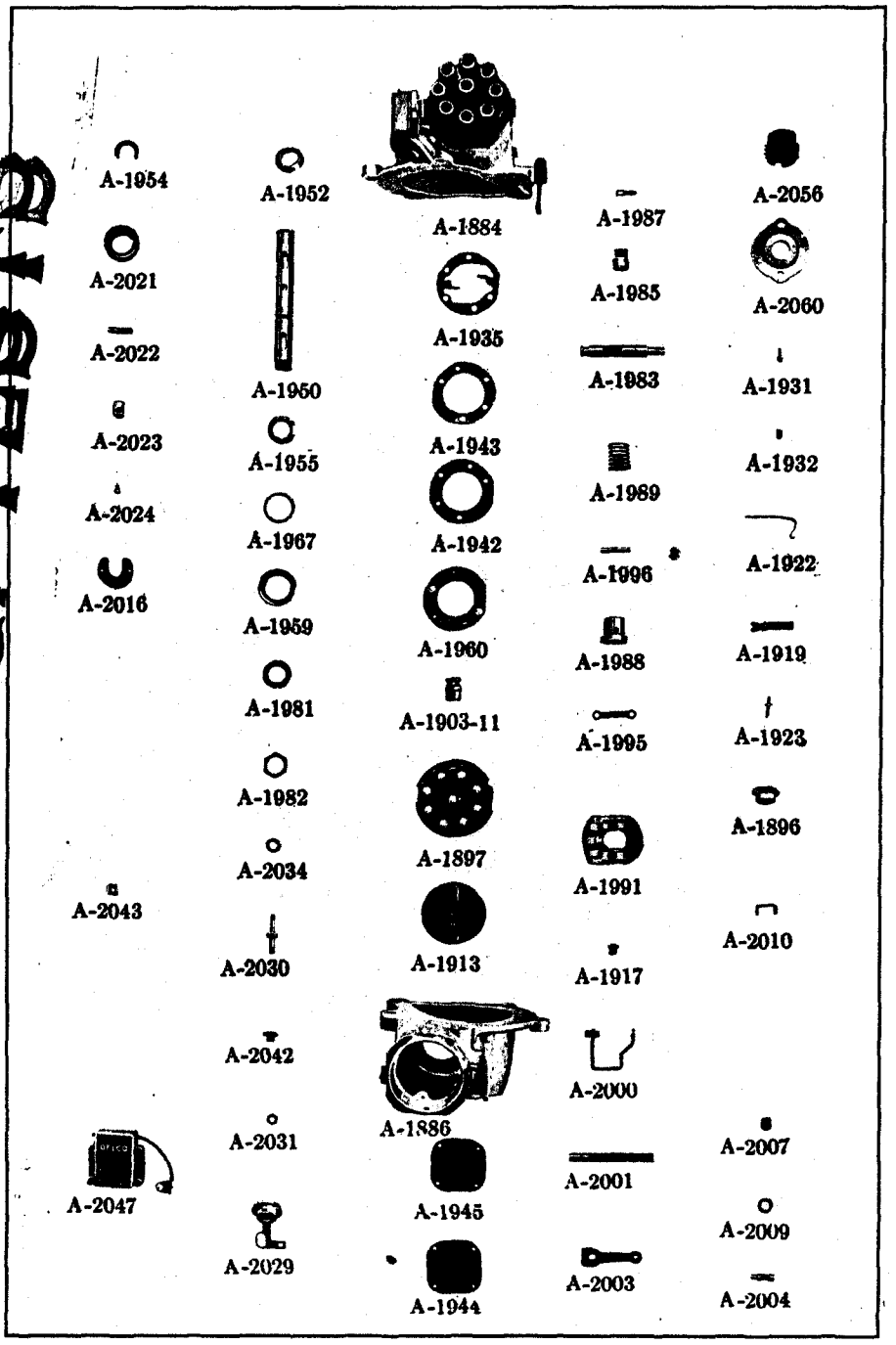
Code Word	Sec.-Bin	Serial	Part Name	Type	Symbol	Price
BAHUP	52-J-1	†A-1915	Screw, No. 4—40, connector to rotor	51-3-5	26803-D	$ .06
CAHUP	52-J-1	†A-1916	Screw, No. 5—40, connector to rotor	51-3-5-7	26803-D	.06
DAHUP	54-E-9	†A-1917	Brush for distributor rotor	51-3-5-7	23895-D	.12
FAHUP	54-C-4	†A-1918	Spring for distributor rotor brush	51-3-5-7	24414-D	.06
KAHUP	50-E-63	†A-1919	Timer contact arm complete	53-5-7	12413-D	1.25
LAHUP	54-D-12	†A-1922	Spring, contact arms against cam	53-5-7	25634-D	.06
MAHUP	53-N-16	†A-1923	Stud for contact arm	53-5-7	26284-D	.12
PAHUP	53-V-18	†A-1924	Insulating bushing on contact arm stud	53-5	26292-D	.06
RAHUP	52-M-11	†A-1925	Insulating bushing for contact arm stud	57	29438-D	.12
SAHUP	52-J-12	†A-1926	Insulating washer for contact arm stud	57	29440-D	.06
TAHUP	52-N-12	†A-1927	Nut, contact arm studs in top of distributor	53-5-7	28834-D	.06
ZAHUP	53-Q-14	†A-1928	Flat washer	53-5-7	24336-D	.06
BEHUP	53-U-15	†A-1929	Lock washer	53-5-7	24337-D	.06
CEHUP	10-E-9	A-1930	Cotter pin	53-5-7	15150	.05
DEHUP	50-D-63	†A-1931	Timer contact screw	51-3-5-7	12411-D	.75
FEHUP	53-U-8	†A-1932	Brass nut, contact screw in bracket	53-5-7	26836-D	.12
KEHUP	53-Q-14	†A-1933	Lock nut for contact screw	53-5-7	26828-D	.06
LEHUP	53-S-17	†A-1934	Lock washer	55-7	20345-D	.06
MEHUP	50-C-19	†A-1935	Contact plate in top of distributor	53-5-7	13514-D	.35
PEHUP	53-V-15	†A-1938	Screw, contact plate in distributor	53-5-7	23879-D	.06
REHUP	10-B-10	A-1939	Lock washer	53-5-7	19092	.05
SEHUP	53-H-13	†A-1940	Bushing on screws for contact plate and mounting plate	53-5-7	26293-D	.12
TEHUP	53-Q-13	†A-1941	Flat washer	53-5-7	23876-D	.06
ZEHUP	53-J-14	†A-1942	Insulating washer between contact plate and housing	53-5-7	26289-D	.12
BIHUP	53-P-15	†A-1943	Connector between contact plate and insulator	53-5-7	26286-D	.25
CIHUP	51-D-5	†A-1944	Cover plate for bottom of housing	53-5-7	25405-D	.12
DIHUP	53-L-13	†A-1945	Gasket for bottom cover plate	53-5-7	25433-D	.06
FIHUP	53-M-11	†A-1946	Screw for bottom cover plate	53-5-7	26310-D	.06
KIHUP	10-B-10	A-1947	Lock washer on screws	53-5-7	19092	.05

TYPES 53-55-57 DISTRIBUTOR SHAFTS AND CAM, GOVERNOR AND SPIRAL GEAR ON DISTRIBUTOR SHAFT

PIHUP	50-C-15	†A-1950	Distributor shaft only	53-5	23724-D	3.95
RIHUP	50-C-22	†A-1951	Distributor shaft only	57	29062-D	2.25
TIHUP	51-A-3	†A-1952	Cone on upper end of distributor shaft	53-5	27221-D	.70
ZIHUP	53-W-16	†A-1954	Clip for upper cone on distributor shaft	53-5-7	23720-D	.06
BOHUP	50-B-14	†A-1955	Cone on lower end of distributor shaft	53-5	27222-D	.70
DOHUP	53-S-16	†A-1957	Key, rectangular head, to prevent cones from rotating on shaft	53	27216-D	.06
KOHUP	53-S-16	†A-1958	Pin, round head, to prevent cones from rotating on shaft	53-5	27216-D	.06
MOHUP	50-C-20	†A-1959	Bearing cup, upper or lower end of distributor housing	51-3-5	20775-D	1.15
POHUP	51-C-7	†A-1960	Plate supporting upper ball race in distributor	53-5	26134-D	.35
ROHUP	50-C-10	†A-1961	Plate under retainer for ball bearing	57	29068-D	1.40
SOHUP	53-N-13	†A-1962	Screw, mounting plate in upper end of housing	53-5	26308-D	.18
ZOHUP	53-J-17	†A-1963	Screw, short, mounting plate in upper end of distributor	57	20809-D	.12
BUHUP	52-J-6	†A-1964	Screw, long, mounting plate in upper end of distributor	57	20205-D	.06
CUHUP	53-R-16	†A-1965	Washer on screw	53-5-7	26441-D	.06
DUHUP	10-B-10	A-1966	Lock washer	53-5-7	19092	.05
FUHUP	51-C-12	†A-1967	Ball bearing for upper or lower end of distributor shaft	51-3-5	10282-D	.35
KUHUP	51-B-1	x†A-1968	Ball bearing for upper end of distributor shaft	57	13342-D	1.70
LUHUP	51-C-6	†A-1969	Retainer for ball bearing	57	29069-D	.06
MUHUP	53-N-13	†A-1970	Plain washer (thin) for ball bearing	57	29066-D	.06
PUHUP	53-N-10	†A-1971	Plain washer (thick) for ball bearing	57	30298-D	.06
RUHUP	53-N-10	†A-1972	Clip retaining washer	57	29072-D	.06
SUHUP	53-P-8	†A-1973	Plain washer above clip	57	26033-D	.06
TUHUP	53-P-8	†A-1974	Collar retaining washer	57	28951-D	.06
ZUHUP	53-N-10	†A-1975	Clip retaining collar	57	28949-D	.06

†Classify on order as electrical material.

x Indicates subject to special discount.



TYPES 53-55-57. DISTRIBUTOR

Code Word	Sec.-Bin	Serial	Part Name	Type	Symbol	Price
BAKUP	53-P-8	†A-1976	Felt washer for ball bearing	57	28929-D	$ .06
DAKUP	53-N-10	†A-1978	Clip retaining lower bearing	57	29072-D	.06
FAKUP	53-N-10	†A-1979	Plain washer above bearing	57	29071-D	.18
KAKUP	52-S-10	†A-1981	Clamp nut for ball bearing on lower end of distributor shaft	51-3-5	21443-D	.12
MAKUP	53-G-13	†A-1982	Lock nut for ball bearing on lower end of distributor shaft	51-3-5	21444-D	.12
PAKUP	50-C-43	†A-1983	Cam shaft, inner, for cam adjustment	53-5	26282-D	3.10
RAKUP	54-C-1	†A-1984	Cam shaft, inner, for cam adjustment	57	29057-D	1.15
SAKUP	54-C-9	†A-1985	Cam on upper end of inner distributor shaft	53-5-7	28837-D	1.15
TAKUP	53-P-18	†A-1986	Spacing washer under cam	57	29528-D	.06
ZAKUP	53-J-10	†A-1987	Screw, cam to inner distributor shaft	53-5-7	13474-D	.12
BEKUP	54-B-8	†A-1988	Collar for automatic advance on distributor shaft	53-5-7	24362-D	.40
CEKUP	54-C-10	†A-1989	Spring on distributor shaft for automatic advance collar.	51-3-5-7	23129-D	.12
DEKUP	53-P-8	†A-1990	Washer on top of spring	57	26033-D	.06
FEKUP	50-D-37	†A-1991	Governor ring, complete for distributor	51-3-5-7	10889-D	1.40
KEKUP	53-U-10	†A-1995	Advance arms between governor ring and advance collar pin	51-3-5-7	23104-D	.06
MEKUP	53-T-18	†A-1996	Pin for either end of advance arms	53-5-7	25922-D	.12
PEKUP	52-W-11	†A-1997	Clip on end of advance collar pin	53-5-7	25921-D	.06
REKUP	53-G-9	†A-1998	Screw, governor ring to distributor shaft	51-3-5-7	23496-D	.06
SEKUP	52-W-12	†A-1999	Lock washer	51-3-5-7	24493-D	.06
TEKUP	50-B-35	†A-2000	Advance yoke for distributor	53-5-7	12084-D	.70
ZEKUP	51-D-4	†A-2001	Shaft for advance yoke	53-5-7	26148-D	.30
BIKUP	53-T-15	†A-2002	Screw, advance yoke to shaft	51-3-5-7	21797-D	.06
CIKUP	53-G-12	†A-2003	Lever for advance yoke shaft	51-3-5-7	23143-D	.85
DIKUP	53-S-13	†A-2004	Screw, lever to shaft	51-3-5-7	23144-D	.12
FIKUP	53-U-18	†A-2005	Nut	51-3-5-7	26922-D	.06
KIKUP	53-U-15	†A-2006	Lock washer	51-3-5-7	20137-D	.06
LIKUP	52-Q-11	†A-2007	Spring on advance shaft	53-5-7	26276-D	.06
MIKUP	52-L-8	†A-2008	Washer on advance shaft for spring	53-5-7	26443-D	.06
PIKUP	53-L-15	†A-2009	Felt washer between housing and advance yoke	53-5-7	25430-D	.06
SIKUP	52-V-8	†A-2010	Stop for advance yoke	53-5-7	26732-D	.12
TIKUP		†A-2011	Screw, stop for advance arm to inside of housing	53-5-7	20987-D	.06
BOKUP	53-V-9	†A-2012	Lock plate	53-5-7	22827-D	.06
COKUP	50-E-25	†A-2013	Spiral gear and hub	53-5-7	17154-D	2.55
KOKUP	53-H-9	†A-2016	Guide plate for spiral gear	51-3-5-7	23217-D	.12
LOKUP	53-T-13	†A-2017	Screw, spiral gear to hub	51-3	21747-D	.06
MOKUP	52-W-11	†A-2018	Screw, spiral gear to hub	55-7	27548-D	.06
POKUP	10-B-10	A-2019	Lock washer	51-3-5-7	19092	.05
ROKUP	53-S-12	†A-2020	Dowel pin, spiral gear to hub	51-3-5-7	24029-D	.06
SOKUP	54-B-7	†A-2021	Advance ring on lower end of distributor shaft	51-3-5-7	23100-D	.55
TOKUP	52-R-1	†A-2022	Pin for advance ring	51-3-5-7	23134-D	.18
ZOKUP	53-J-13	†A-2023	Clamp for pin in lower end of distributor shaft	51-3-5-7	23218-D	.18
BUKUP	52-J-4	†A-2024	Screw locating pin in advance ring	51-3-5-7	23378-D	.06
CUKUP	10-B-10	A-2025	Lock washer	51-3-5-7	19092	.05

TYPES 53-55-57 RESISTANCE UNIT AND CONDENSER FOR DISTRIBUTOR

DUKUP	50-E-21	†A-2029	Resistance unit	53-5-7	12013-D	.95
FUKUP	53-K-17	†A-2030	Stud for resistance unit	53-5-7	26132-D	.12
KUKUP	53-P-17	†A-2031	Nut on inner end of resistance unit stud	51-3-5-7	20704-D	.06
LUKUP	52-L-3	†A-2032	Flat washer	51-3-5-7	20310-D	.06
MUKUP	53-K-13	†A-2033	Lock washer	51-3-5-7	26717-D	.06
PUKUP	53-H-10	†A-2034	Insulating washer	51-3-5-7	20076-D	.06
RUKUP	53-J-11	†A-2035	Bushing through housing on resistance unit stud	51-3-5-7	22738-D	.12
TUKUP	53-S-12	†A-2036	Flat washer between resistance unit and housing on resistance unit stud	51-3-5-7	22616-D	.06

†Classify on order as electrical material.

Code Word	Sec.-Bin	Serial	Part Name	Type	Symbol	Price
BALUP	53-H-10	†A-2037	Insulator washer next to outside of housing on resistance unit stud	51-3-5-7	20076-D	$ .06
DALUP	52-H-3	†A-2038	Nut, resistance unit on stud	53-5-7	20068-D	.06
FALUP	53-L-16	†A-2039	Flat washer	53-5-7	28548-D	.06
KALUP	52-L-8	†A-2040	Lock washer	53-5-7	20495-D	.06
LALUP	53-W-15	†A-2041	Stud for RIGHT side of plain clip and resistance unit stud	53-5-7	26137-D	.06
PALUP	53-J-13	†A-2042	Bushing on stud in slot of resistance terminal	53-5-7	26829-D	.12
RALUP	53-S-10	†A-2043	Terminal clip on resistance unit connection	53-5-7	23450-D	.06
SALUP	52-U-10	†A-2044	Screw	53-5-7	26209-D	.06
TALUP	52-U-8	†A-2045	Nut	53-5-7	26207-D	.06
ZALUP	10-B-10	A-2046	Lock washer	51-3-5-7	19092	.05
BELUP	50-F-21	†A-2047	Condenser complete with screws	53-5-7	17133-D	1.95
CELUP	53-M-12	†A-2048	Clip on end of condenser lead	53-5-7	23314-D	.06
DELUP	53-W-16	†A-2049	Screw attaching condenser	53-5-7	23601-D	.06
FELUP	53-S-18	†A-2050	Bushing for screw	57	27798-D	.06
KELUP	50-D-23	†A-2051	Distributor wrench	51-3	12741-D	.18
LELUP	50-B-49	†A-2052	Distributor wrench, plain	55-7	31886-D	.12
MELUP	50-D-23	†A-2053	Distributor wrench with gauges	55-7	12741-D	.18

TYPES 53-55-57 DISTRIBUTOR DRIVE GEAR ON FAN SHAFT. COVER FOR DISTRIBUTOR HEAD

RELUP	54-B-3	†A-2056	Gear on fan shaft driving distributor before engine A25001	53	26210-D	1.15
SELUP	50-B-22	†A-2057	Gear on fan shaft driving distributor after engine A-25000 on "53"	53-5-7	26795-D	2.70
ZELUP	10-F-6	A-2058	Taper pin, gear on shaft before engine A-25001	53	15030	.05
CILUP	10-F-10	A-2059	Key for gear on shaft after engine A-25000	53-5-7	11359	.05
DILUP	13-B-33	A-2060	Plate on fan shaft for distributor housing before engine A-25001	53	30999	.75
KILUP	16-C-30	A-2061	Felt washer in distributor end plate before engine A-25001	53	30998	.10
LILUP	10-N-2	A-2062	Screw attaching plate before engine A-25001	53	10273	.05
MILUP	10-U-16	A-2063	Plate, inner, on fan shaft for distributor housing after engine A-25000	53-5-7	31836	.10
RILUP	13-C-19	A-2064	Plate, outer, on fan shaft for distributor housing after engine A-25000	53-5-7	31837	.10
TILUP	17-D-36	A-2065	Felt washer on fan shaft for distributor housing after engine A-25000	53-5-7	31840	.05
BOLUP	15-C-115	A-2066	Screw, plate to distributor, after engine A-25000	53-5-7	10272	.05
DOLUP	15-B-45	A-2067	Lock washer	53-5-7	11314	.05
FOLUP	39-E-9	A-2068	Protection cover for distributor head	53-5-7	39290	3.50
KOLUP	39-B-3	A-2069	Bale locking protection cover	53-5-7	31095	.45
LOLUP	39-E-23	A-2070	Side plate for distributor head cover	53-5-7	31096	1.25
MOLUP	10-J-16	A-2071	Screw, side plate to housing	53-5-7	11879	.05

CIRCUIT BREAKER RELAY

CULUP	50-D-67	†A-2075	Circuit breaker relay complete No. 928-A, all except (L) (BL)	51	5696-D	9.00
FULUP	50-B-74	†A-2076	Circuit breaker relay complete No. 427-A, (L) (BL)	51	5695-D	10.15
KULUP	58-D-1	†A-2077	Circuit breaker relay complete	53-5-7	5759-D	5.05
LULUP	50-D-39	†A-2078	Shell for circuit breaker relay	51-3-5-7	11085-D	.85
MULUP	53-W-16	†A-2079	Thumb nut in top of shell	51-3-5-7	26678-D	.18
RULUP	52-R-2	†A-2082	Mounting bracket	51	24723-D	.45
SULUP	53-K-15	†A-2083	Rod in mounting plate for shell	51	24394-D	.06
TULUP	52-J-2	†A-2084	Mounting plate base for shell	51	24732-D	.06

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Code Word	Sec.-Bin	Serial	Part Name	Type	Symbol	Price
CAMUP	53-V-12	†A-2087	Armature	51	24039-D	$ .30
DAMUP	53-S-18	†A-2088	Hinge pin for armature	51-3-5-7	24082-D	.06
FAMUP	53-V-17	†A-2089	Coil spring for armature	51	24050-D	.12
KAMUP	53-U-18	†A-2090	Armature stop complete, assembled	51	11054-D	.18
LAMUP	53-S-17	†A-2091	Screw for stop on armature	51	24045-D	.06
MAMUP	53-V-14	†A-2092	Lock washer	51	23406-D	.06
TAMUP	52-U-11	†A-2096	Sleeve around core	51-3-5-7	24733-D	.06
ZAMUP	53-S-16	†A-2097	Nut, core to mounting bracket	51	24314-D	.06
BEMUP	53-S-16	†A-2098	Lock washer	In.	24274-D	.06
CEMUP	52-P-12	†A-2099	Coil only	51	24728-D	.55
FEMUP	52-R-5	†A-2101	Screw, terminal to back of bracket	51	24047-D	.06
KEMUP	52-J-3	†A-2102	Insulator (Empire Cloth) under short contact arm	51	24730-D	.06
LEMUP	52-S-12	†A-2103	Bushing through mounting plate for coil end	51	24726-D	.12
PEMUP	52-K-1	†A-2104	Clip on end of coil for terminal post	51-3-5-7	24724-D	.06
REMUP	53-V-7	†A-2105	Contact spring assembled	51	11324-D	.18
SEMUP	52-W-12	†A-2106	Insulating plate between contact spring and bracket (2 used)	51-3-5	24035-D	.06
TEMUP	53-L-9	†A-2107	Metal plate between contact spring and bracket	57	29392-D	.06
ZEMUP	53-R-13	†A-2108	Insulating bushing for contact spring screw (2 used)	51	24081-D	.06
BIMUP	52-T-1	†A-2109	Screw, contact spring to bracket	51	24729-D	.12
CIMUP	53-Q-14	†A-2110	Flat washer	51-3-5-7	24336-D	.06
FIMUP	52-T-4	†A-2112	Terminal plate for post and spring	51	24725-D	.06
LIMUP	53-N-16	†A-2114	Base plate for terminal post, 2 round, 1 square holes	51	29525-D	.06
MIMUP	53-S-10	†A-2115	Clip on end of terminal post	51-3-5-7	23450-D	.06
PIMUP	9-P-4	A-2116	Screw, outer, on terminal post	51-3-5-7	19091	.05
RIMUP	53-V-17	†A-2117	Nut for terminal post screw	51	23638-D	.06
SIMUP	10-B-10	A-2118	Lock washer	51	19092	.05
TIMUP	53-T-10	†A-2119	Screw, terminal post to mounting bracket	51-3-5-7	24375-D	.06
ZIMUP	53-W-18	†A-2120	Bushing on terminal post screw	51-3-5-7	24485-D	.12
BOMUP	53-Q-13	†A-2121	Flat washer	51-3-5-7	23876-D	.06
COMUP	10-B-10	A-2122	Lock washer	51-3-5-7	19092	.05
DOMUP	51-D-7	†A-2123	Mounting bracket	53-5-7	15678-D	.75
FOMUP	52-K-1	†A-2124	Mounting plate base for shell	53-5-7	26577-D	.12
KOMUP	52-M-10	†A-2125	Mounting plate	53-5-7	26573-D	.35
LOMUP	53-S-14	†A-2126	Screw, brackets and mounting plate to base	53-5-7	26553-D	.06
MOMUP	53-T-14	†A-2127	Bracket for armature on RIGHT side of relay	53-5-7	12228-D	.70
POMUP	53-K-9	†A-2128	Bracket for armature on LEFT side of relay	53-5-7	12180-D	.85
ROMUP	53-Q-14	†A-2129	Armature with clamp for lock out relay	53-5-7	12005-D	.25
SOMUP	53-R-15	†A-2130	Armature with clamp for vibrating relay	53-5-7	12591-D	.35
TOMUP	53-S-18	†A-2131	Hinge pin for armature	51-3-5-7	24082-D	.06
ZOMUP	53-Q-15	†A-2132	Spring for RIGHT armature	51-3-5-7	26534-D	.06
BUMUP	53-R-14	†A-2133	Spring for LEFT armature	53-5-7	26297-D	.06
CUMUP	52-U-6	†A-2134	Core only for RIGHT coil	53-5-7	12006-D	.30
DUMUP	52-P-10	†A-2135	Core complete, LEFT, less coil	53-5-7	12150-D	.85
FUMUP	52-U-11	†A-2136	Sleeve for RIGHT core	51-3-5-7	24733-D	.06
KUMUP	52-U-6	†A-2137	Coil for RIGHT core	53-5-7	26536-D	.35
LUMUP	52-Q-8	†A-2138	Coil for LEFT core	53-5-7	26561-D	.45
MUMUP	52-K-1	†A-2140	Clip on end of coil for center terminal post	51-3-5-7	24724-D	.06
PUMUP	52-P-8	†A-2141	Screw, core to bracket	53-5-7	24049-D	.06
RUMUP	53-N-13	†A-2142	"L" shaped contact spring on RIGHT bracket	53-5-7	12148-D	.25
SUMUP	53-N-8	†A-2143	"L" shaped contact spring with small hole on LEFT bracket	53-5-7	12149-D	.25
TUMUP	53-Q-18	†A-2144	Insulator plate between armature spring and contact spring	53-5-7	26337-D	.06
ZUMUP	52-T-4	†A-2145	Brass connector from contact spring to terminal post (2 used)	51-3-5-7	24725-D	.06

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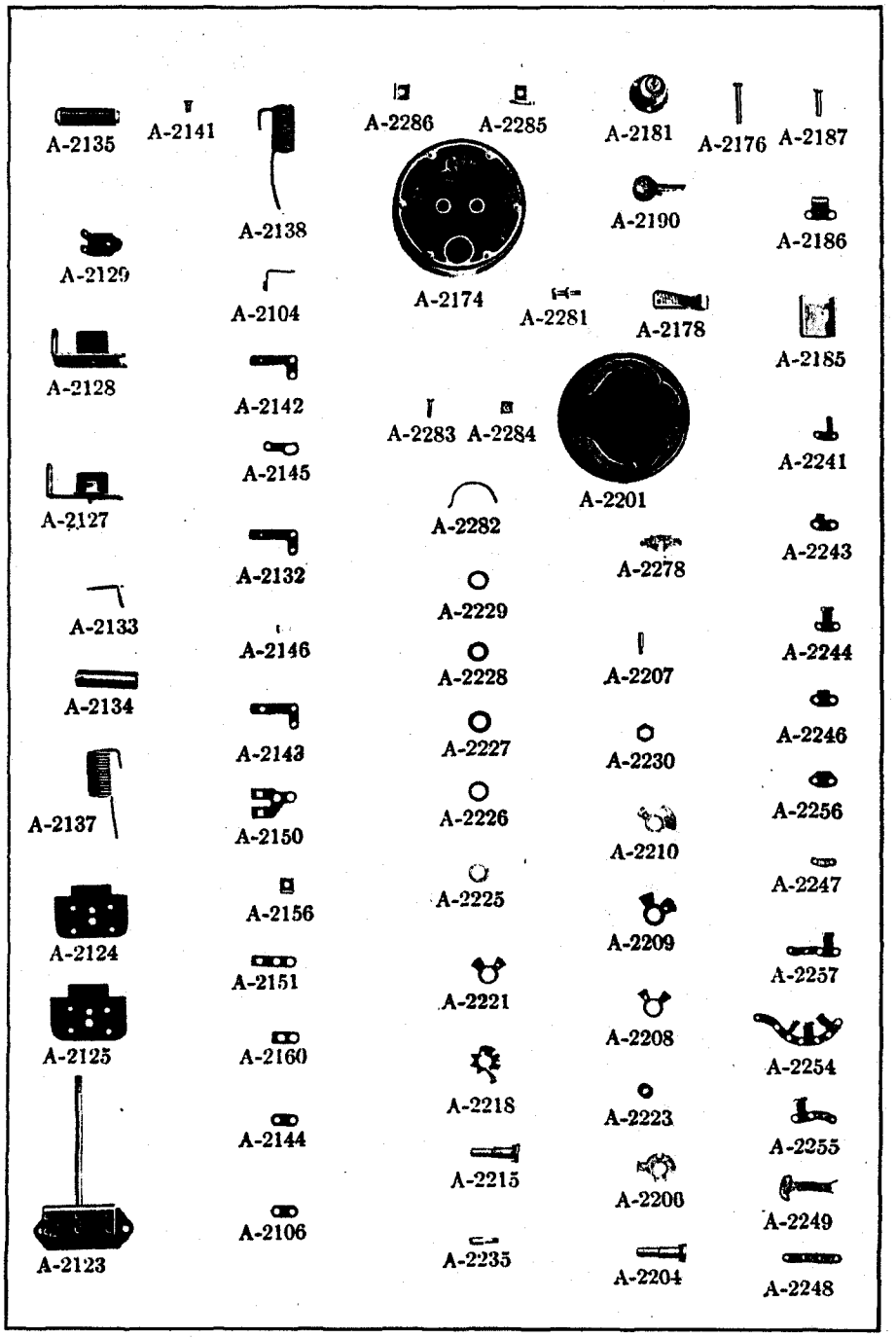
Code Word	Sec.-Bin	Serial	Part Name	Type	Symbol	Price
BARUP	53-R-14	†A-2146	Screw, contact spring to bracket	53-5-7	25362-D	$ .06
CARUP	53-R-13	†A-2147	Bushing on screw attaching contact spring	53-5-7	24081-D	.06
DARUP	53-R-15	†A-2148	Lock washer	53-5-7	25206-D	.06
FARUP	53-Q-14	†A-2149	Brass washer on screw for contact and armature springs.	51-3-5-7	24336-D	.06
LARUP	53-Q-18	†A-2150	Base plate for double terminal post	53-5-7	29526-D	.12
MARUP	53-N-16	†A-2151	Base plate for single terminal post	53-5-7	29525-D	.06
PARUP	53-T-10	†A-2152	Screw, terminal post to mounting	51-3-5-7	24375-D	.06
RARUP	53-W-18	†A-2153	Bushing on screw, terminals to mounting	51-3-5-7	24485-D	.12
SARUP	10-B-10	A-2154	Lock washer on screw holding terminals to mounting.	53-5-7	19092	.05
ZARUP	53-Q-13	†A-2155	Plain washer on screw for attaching terminal post to mounting	51-3-5-7	23876-D	.06
CERUP	53-S-10	†A-2156	Clip on end of terminal post	51-3-5-7	23450-D	.06
DERUP	9-P-4	A-2157	Screw for clip on terminal post (4 used)	51-3-5-7	19091	.05
FERUP	9-P-4	A-2158	Nut for screw	51-3-5-7	19093	.05
KERUP	10-B-10	A-2159	Lock washer for terminal screw	53-5-7	19092	.05
LERUP	52-M-6	†A-2160	Insulator for terminal post	51-3-5-7	24282-D	.06
MERUP	53-K-10	†A-2161	Terminal (double spade)	53-5-7	23375-D	.06
PERUP	53-G-18	†A-2162	Terminal (single spade)	53-5-7	23374-D	.06
RERUP	9-P-18	A-2163	Screw, relay to dash (OC)	51-3-5-7	10559	.05
SERUP	10-S-1	A-2164	Screw, relay to dash (CC)	51-3-5-7	10560	.05
TERUP	10-P-7	A-2165	Nut on screw attaching relay	51-3-5-7	10887	.05
ZERUP	10-D-8	A-2166	Lock washer	51-3-5-7	11313	.05

COMBINATION SWITCH AND HOUSING. LEVER AND LOCK FOR SWITCH

KIRUP	50-B-73	†A-2169	Combination switch complete	51	1045-D	18.85
PIRUP	50-F-73	†A-2172	Combination switch complete	53-5-7	1150-D	18.85
RIRUP	50-B-59	†A-2173	Housing for switch	51	10876-D	2.35
SIRUP	50-C-63	†A-2174	Housing for switch	53	12633-D	2.75
TIRUP	50-B-23	†A-2175	Housing only for switch with push button for clock light	55-7	13112-D	3.55
ZIRUP	53-U-14	†A-2176	Screw, housing to switch	51-3-5-7	23735-D	.06
BORUP	10-B-10	A-2177	Lock washer	51-3-5-7	19092	.05
CORUP	50-C-65	†A-2178	Lever for combination switch	51-3-5-7	33631-D	1.15
FORUP	53-T-12	†A-2180	Screw, lever to studs	51-3-5-7	23745-D	.12
KORUP		A-2181	Yale lock for combination switch (specify No.)	51-3	11355-D	3.15
LORUP		A-2182	Sargent lock for combination switch (specify No.)	55	33230	2.80
MORUP		A-2183	Sargent lock for combination switch ("S" series) (specify lock No.)	57	39360	2.80
RORUP		A-2184	Sargent lock for combination switch ("R" series)(specify lock No.)	57	39360	2.80
TORUP	53-L-8	†A-2185	Tumbler for lock on combination switch	51-3-5-7	10930-D	.40
ZORUP	53-Q-9	†A-2186	Spring for tumbler	51-3-5-7	23776-D	.06
BURUP	53-Q-11	†A-2187	Screw, tumbler and spring on mounting plate	51-3-5-7	23740-D	.12
DURUP	52-R-6	†A-2188	Nut	51-3-5-7	23713-D	.06
FURUP	53-U-14	†A-2189	Lock washer	51	23663-D	.06
KURUP		A-2190	Key for switch lock (Yale) (specify lock No.)	51-3	46146	.35
LURUP		A-2191	Key for switch lock (Sargent) (specify lock No.)	55	46147	.35
MURUP		A-2192	Key for switch lock (Sargent) (specify lock No.)	57	46158	.35
PURUP	52-L-8	†A-2193	Screw, lock in housing	51-3-5-7	24626-D	.06
RURUP	53-H-15	†A-2194	Push button and stud complete for clock light	55-7	13110-D	1.00
SURUP	53-L-16	†A-2195	Push button for clock light	55-7	23564-D	.18
TURUP	52-T-9	†A-2196	Insulating washer between insulating roll and housing on push button stud	55-7	28308-D	.06

†Classify on order as electrical material.



CIRCUIT BREAKER RELAY COMBINATION SWITCH

BASE, CONTACT PLATES, BLADES AND BRUSHES FOR SWITCH. LIGHTING AND IGNITION STUDS ON SWITCH

Code Word	Sec.-Bin	Serial	Part Name	Type	Symbol	Price
BATUP	50-B-46	†A-2200	Bakalite mounting base for switch	51	23810-D	$1.60
CATUP	50-B-62	†A-2201	Bakalite mounting base for switch	53	26543-D	1.70
DATUP	51-E-2	†A-2202	Bakalite mounting base for switch	55-7	28295-D	1.40
FATUP	53-S-9	†A-2203	Switch blade assembly complete	53-5-7	13290-D	1.95
KATUP	53-M-7	†A-2204	Stud on ignition side of switch	51-3-5-7	13323-D	.35
LATUP	52-M-3	†A-2205	Stop disc complete on lower end of ignition stud	51	10927-D	.35
MATUP	53-Q-17	†A-2206	Stop disc, lower, on ignition stud	53-5-7	12143-D	.30
PATUP	53-Q-12	†A-2207	Stop screw for disc on ignition stud	51-3-5-7	24632-D	.06
RATUP	53-R-16	†A-2208	Lower contact blade on ignition stud	53-5-7	26497-D	.12
SATUP	53-R-13	†A-2209	Insulator between contact blades on insulator stud	53-5-7	26496-D	.06
ZATUP	53-Q-16	†A-2210	Upper contact blade on ignition stud	53-5-7	26524-D	.06
BETUP	52-M-7	†A-2211	Bushing on stud in stop plate for ignition switch stud	51	23728-D	.06
CETUP	53-Q-9	†A-2212	Bushing on ignition switch stud	51	24636-D	.12
DETUP	53-Q-10	†A-2213	Contact plate on ignition switch stud	51	23708-D	.06
FETUP	53-M-15	†A-2214	Gear on ignition switch stud	51	24635-D	.45
KETUP	52-L-10	†A-2215	Stud complete on lighting side of switch	51-3-5-7	13324-D	.35
LETUP	53-W-17	†A-2216	Stud complete supporting lighting lever	53-5-7	13291-D	1.30
METUP	52-V-11	†A-2217	Stop disc on lighting switch stud	51	11354-D	.25
PETUP	53-Q-16	†A-2218	Stop disc, lower, on lighting stud	53-5-7	12142-D	.35
RETUP	53-S-13	†A-2219	Bushing on small stud on stop disc (2 used)	53-5-7	26527-D	.12
SETUP	53-Q-11	†A-2220	Contact plate on lighting switch stud	51	23709-D	.12
TETUP	53-R-14	†A-2221	Contact plate on lighting stud	53-5-7	26544-D	.12
ZETUP	53-Q-10	†A-2222	Bushing on lighting stud	51	23737-D	.12
BITUP	53-S-14	†A-2223	Bushing on lighting and ignition studs	53-5-7	30635-D	.06
CITUP	52-M-8	†A-2224	Bushing for stud in stop disc on lighting stud	51	23727-D	.12
DITUP	52-W-12	†A-2225	Thick washer between stop disc and lower insulator on switch studs (4 used)	51-3-5-7	23717-D	.06
KITUP	53-Q-14	†A-2226	Thin brass washer above top insulator and between thick washer on switch studs (4 used)	53-5-7	25473-D	.06
MITUP	53-Q-11	†A-2227	Insulating washer for contact plates on lighting and ignition studs (4 used)	51-3-5-7	23710-D	.06
RITUP	53-T-10	†A-2228	Thin brass washer on switch studs below lock washer	53-5-7	23909-D	.06
TITUP	52-L-1	†A-2229	Thick brass washer above top insulator on switch studs (2 used)	53-5-7	23908-D	.06
BOTUP	53-R-8	†A-2230	Large nut on lighting and ignition switch studs	51-3-5-7	23711-D	.06
COTUP	53-Q-18	†A-2232	Lock washer for nut on upper end of switch studs	51-3-5-7	26526-D	.06
FOTUP	53-V-10	†A-2233	Flat washer for LEFT switch stud	51	23721-D	.06
KOTUP	53-G-7	†A-2234	Flat washer on switch studs above nuts	55-7	31009-D	.06
LOTUP	53-V-13	†A-2235	Small stud supporting lighting and ignition studs	51-3-5-7	28896-D	.18
POTUP	53-T-14	†A-2236	Nut on stud for supporting lighting and ignition levers,	51-3-5-7	23712-D	.06
SOTUP	52-K-9	†A-2237	Lock washer	51	23425-D	.06
TOTUP	52-L-8	†A-2238	Lock washer on stud supporting lighting studs	53-5-7	20495-D	.06
BUTUP	52-R-6	†A-2239	Nut on small studs on back of switch (5 used)	51-3-5-7	23713-D	.06
CUTUP	53-R-15	†A-2240	Lock washer on small studs on switch back (5 used)	51-3-5-7	25206-D	.06
FUTUP	52-T-7	†A-2241	Blade contact for No. 1 terminal	51-3-5-7	23688-D	.06
KUTUP	53-Q-10	†A-2242	Insulating plate for No. 1 contact	51	23698-D	.06
LUTUP	53-R-13	†A-2243	Insulator for blade contact on No. 1 terminal	53-5-7	26525-D	.06
MUTUP	53-S-11	†A-2244	Blade contact for terminals Nos. 2, 3, 6 on "51" and 2, 3, 5, 6 on "53-55"	51-3-5-7	23687-D	.06
RUTUP	53-Q-8	†A-2245	Insulating plate for Nos. 2, 3, 5, 6 terminals	51	23696-D	.06
SUTUP	53-Q-15	†A-2246	Insulating plate between contact blades on Nos. 2, 3, 5, 6 terminals (12 used)	53-5-7	26530-D	.06
ZUTUP	53-T-16	†A-2247	Plate under tumbler for No. 4 terminal	51-3-5-7	23683-D	.06

†Classify on order as electrical material.

Code Word	Sec.-Bin	Serial	Part Name	Type	Symbol	Price
BAZUP	53-Q-11	†A-2248	Brass plate connector under No. 4 terminal	51-3-5-7	23691-D	$ .06
FAZUP	53-R-17	†A-2248B	Blade contact for No. 8 terminal	51-3	26499-D	.12
CAZUP	53-Q-9	†A-2249	Blade contact for No. 8 terminal	55-7	28557-D	.12
DAZUP	52-N-12	†A-2250	Brass spacers under blade contact for No. 8 terminal (2 used)	55-7	28486-D	.06
KAZUP	52-N-10	†A-2251	Brass connector for terminals Nos. 8 and 3	55-7	28485-D	.06
LAZUP	53-V-15	†A-2252	Spring contact on No. 8 terminal for clock lamp push button	55-7	28537-D	.12
PAZUP	53-W-14	†A-2253	Spring contact for clock lamp terminal	55-7	27707-D	.12
RAZUP	53-Q-12	†A-2254	Brush for switch lower contact for Nos. 3, 2, 1, and connector to No. 4	51-3-5-7	24624-D	.12
TAZUP	52-T-1	†A-2255	Blade contact, lower, No. 5 and connector to No. 4	51-3-5-7	23674-D	.06
ZAZUP	53-Q-8	†A-2256	Insulating plate, lower, for No. 6 contact	51-3-5-7	23697-D	.06
BEZUP	53-R-17	†A-2257	Blade contact, lower, No. 6 and connector to No. 7	53-5-7	26498-D	.06
CEZUP	53-S-11	†A-2258	Blade contact, lower, No. 6, upper No. 5	51	23686-D	.12
DEZUP	53-U-10	†A-2259	Brush connecting No. 7 terminal	51	24628-D	.12
FEZUP	52-T-9	†A-2260	Brush connecting No. 8 terminal	51	24627-D	.12
KEZUP	53-R-16	†A-2261	Screw for terminal post Nos. 1, 2, 3, 5, 6	51	23743-D	.06
LEZUP	53-W-12	†A-2262	Screw, terminal and blade contact Nos. 5, 6, 1, 2, 3 to mounting	53-5-7	25903-D	.12
PEZUP	53-R-8	†A-2263	Bushing on screws which holds terminals Nos. 1 to 6 to back of switch (10 used)	51	28483-D	.06
SEZUP	53-R-18	†A-2264	Bushing on screw for attaching terminals Nos. 1, 2, 3	53-5-7	26500-D	.06
TEZUP	53-N-13	†A-2265	Screw for attaching No. 4 terminal	51-3-5-7	23741-D	.06
ZEZUP	53-S-11	†A-2266	Screw through ends of brass plate under No. 4 terminal.	51-3-5-7	23742-D	.06
CIZUP	52-R-60	†A-2267	Nut on screw in ends of plate connector under No. 4 terminal	51-3-5-7	23668-D	.06
FIZUP	53-W-12	†A-2268	Screw for terminal post No. 7 (2 used)	51	25903-D	.12
KIZUP	53-Q-15	†A-2269	Screws for terminal No. 7	53-5-7	26523-D	.06
LIZUP	53-Q-7	†A-2270	Screw for terminal post No. 8 on 51 and for long brush and No. 8 terminal on 53	51-3	24633-D	.06
PIZUP	53-W-12	†A-2271	Screw for long brush and No. 8 terminal	55-7	25903-D	.12
RIZUP	52-H-5	†A-2272	Stud insulator which separates brushes on No. 7, 8 terminals	51	26349-D	.12
TIZUP	53-W-9	†A-2273	Gear wheel complete	51	11353-D	.60
ZIZUP	53-M-14	†A-2274	Stud through gear assembly and retainer block	51	24631-D	.12
BOZUP	52-R-60	†A-2275	Nut for gear wheel stud	51	23668-D	.06
COZUP	53-T-16	†A-2276	Plate for gear supporting stud	51	23683-D	.06
DOZUP	52-S-12	†A-2277	Retainer block to hold rolls against blade	51	23695-D	.12
FOZUP	53-K-11	†A-2278	Retainer block to hold rolls against blade	53-5-7	27014-D	.12
KOZUP	53-R-9	†A-2279	Roll for notches in blade assembly	51	23680-D	.12
LOZUP	52-G-1	†A-2280	Roll for retainer	53-5-7	27013-D	.12
MOZUP	53-V-8	†A-2281	Stud, yoke to mounting	53-5-7	26654-D	.12
POZUP	53-V-17	†A-2282	Spring on mounting for roller stop	51-3-5-7	23774-D	.06
ROZUP	53-Q-12	†A-2283	Screw, spring to mounting	51-3-5-7	24616-D	.06
SOZUP	53-S-16	†A-2284	Nut	51-3-5-7	23707-D	.12
TOZUP	52-H-10	†A-2285	Terminal post on back of switch (8 used)	51-3-5-7	23898-D	.06
ZOZUP	53-S-10	†A-2286	Clip for terminals on back of switch	51-3-5-7	23450-D	.06
BUZUP	9-P-4	A-2287	Screw	51-3-5-7	19091	.05
CUZUP	9-P-4	A-2288	Nut	51-3-5-7	19093	.05
DUZUP	10-B-10	A-2289	Lock washer	51-3-5-7	19092	.05

CLAMP FOR COMBINATION SWITCH

FUZUP	37-C-63	A-2292	Clamp for combination switch (OC)	51	18882	.40
LUZUP	9-P-7	A-2294	Screw for combination switch clamp (OC)	51-3-5-7	10282	.08
MUZUP	38-B-8	A-2295	Nut	51-3-5-7	10889	.05
PUZUP	15-B-45	A-2296	Lock washer	51-3-5-7	11314	.05
RUZUP	39-B-65	A-2297	Clamp complete for switch (CC) LEFT steering	51-3	21839	1.25
SUZUP	38-B-140	A-2298	Clamp complete for combination switch (CC)	55-7	25733	2.75
TUZUP		A-2299	Clamp complete for combination switch (CC) RIGHT steering	53	21838	1.25
ZUZUP	9-B-11	A-2300	Screw for switch clamp (CC) (2″ long)	51-3	10338	.05

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Code Word	Sec.-Bin	Serial	Part Name	Type	Symbol	Price
BABAR	9-O-6	A-2301	Screw for switch clamp (CC) (1½" long)	51-3-5-7	11876	$ .10
CABAR	13-B-16	A-2302	Lock washer	51-3-5-7	11315	.05

AUTO HORN AND SUPPORT. BELL AND SHELL FOR HORN

TABAR	58-G-1	†A-2305	Auto horn with support	51-3-5-7	5312-D	25.30
ZABAR	58-A-1	†A-2306	Bell or projector on horn front	51-3-5-7	12090-D	7.30
BEBAR	58-B-18	†A-2307	Auto horn shell complete for rear of horn	51-3-5-7	13690-D	3.10
FEBAR	53-V-17	†A-2310	Name plate for horn shell	51-3-5-7	24719-D	.06
KEBAR	52-P-11	†A-2311	Rivet for name plate	51-3-5-7	27229-D	.06
LEBAR	53-W-16	†A-2312	Thumb nut in shell for horn	51-3-5-7	26678-D	.18
MEBAR	53-V-13	†A-2313	Lock washer	51-3-5-7	32857-D	.06
PEBAR	39-B-77	A-2314	Support for horn, all except (BL) on 51	51-3-5-7	32917	1.75
REBAR		A-2315	Support for horn on (BL)	51	30249	1.75
SEBAR	36-C-35	A-2316	Nut on horn support	51-3-5-7	6773	.10
TEBAR	38-D-39	A-2317	Lock washer on horn support nut	51-3-5-7	11320	.05
ZEBAR	17-C-160	A-2318	Rubber bushing for horn support	51-3	19356	.08
BIBAR	16-C-157	A-2319	Rubber bushing for horn support	55	31856	.08
CIBAR	16-C-128	A-2320	Rubber bushing for horn support	57	37568	.08

HOUSING, DIAPHRAGM AND TAPPER FOR HORN. ARMATURE, CONTACT SCREW, AND CONTACT SPRING FOR HORN

LIBAR	50-B-47	A-2322	Housing assembled for auto horn	51-3-5-7	13689-D	2.35
FIBAR	53-S-7	A-2323B	Stud in housing for shell	51-3-5-7	27036-D	.06
PIBAR	52-S-11	†A-2324	Bushing through housing for lower end of tapper	51-3-5-7	24690-D	.12
RIBAR	53-J-7	†A-2325	Screw, long, through shell for bracket	51-3-5-7	24696-D	.06
SIBAR	53-U-12	†A-2326	Screw, short, through shell for bracket	51-3-5-7	24695-D	.06
TIBAR	53-W-15	†A-2327	Nut	51-3-5-7	24674-D	.06
ZIBAR	53-G-8	†A-2328	Lock washer	51-3-5-7	26738-D	.06
BOBAR	51-C-1	†A-2329.	Core assembled in center of housing holding coil	51-3-5-7	12140-D	2.35
COBAR	53-T-11	†A-2330	Coil assembled on RIGHT prong of horn	51-3-5-7	11367-D	.95
DOBAR	52-S-11	†A-2331	Screw, core to housing	51-3-5-7	24694-D	.06
FOBAR	53-L-17	†A-2332	Resistance coil assembled on LEFT prong of housing	51-3-5	11370-D	1.15
KOBAR	52-Q-2	†A-2333	Resistance coil assembled on LEFT prong of housing	57	13695-D	1.25
LOBAR	52-J-12	†A-2334	Screw for resistance coil	57	30002-D	.06
MOBAR	10-B-10	A-2335	Lock washer	57	19092	.05
POBAR	53-U-15	†A-2336	Washer for screw	57	29777-D	.06
ROBAR	52-H-4	†A-2337	Retainer for coil on core	51-3-5-7	24668-D	.06
SOBAR	53-S-16	†A-2338	Nut	51-3-5	24314-D	.06
TOBAR	53-W-15	†A-2339	Nut	57	24674-D	.06
ZOBAR	53-S-16	†A-2340	Lock washer	51-3-5	24274-D	.06
BUBAR	53-G-8	†A-2341	Lock washer	57	26738-D	.06
CUBAR	52-J-12	†A-2342	Clip on end of field coil lead, small	51-3-5-7	24666-D	.06
DUBAR	53-S-10	†A-2343	Clip on screw, field coil terminal to housing	51-3-5-7	23450-D	.06
KUBAR	52-L-9	†A-2344	Terminal on end of lead from resistance coil	51-3-5-7	24685-D	.06
LUBAR	52-S-11	†A-2345	Screw, field coil terminal to housing	53-5-7	25705-D	.12
MUBAR	52-W-8	†A-2346	Nut for field coil screw	51-3-5-7	29485-D	.06
PUBAR	10-B-10	A-2347	Lock washer	51-3-57	19092	.05
RUBAR	53-Q-13	†A-2348	Washer between lock washer and terminal clip	53-5-7	23876-D	.06
SUBAR	52-M-9	†A-2349	Bushing on screw for field coil terminal clip	51-3-5-7	24672-D	.06
TUBAR	52-M-9	†A-2350	Pin in terminal base through housing	51-3-5-7	24671-D	.06
ZUBAR	52-G-4	†A-2351	Bushing for pin in terminal through housing	51-3-5-7	24692-D	.06

†Classify on order as electrical material.

Code Word	Sec.-Bin	Serial	Part Name	Type	Symbol	Price
BADAR	52-J-2	†A-2352	Insulator on each side of housing for field coil terminal screws	51-3-5-7	24669-D	$ .06
DADAR	52-K-12	†A-2353	Base of terminal under clip on side of housing	51-3-5-7	29484-D	.18
FADAR	54-F-5	†A-2354	Plate, diaphragm, between housing and shell	51-3-5-7	20747-D	1.15
KADAR	58-D-15	†A-2355	Ring, cork, between diaphragm and housing	51-3-5-7	25204-K	.08
LADAR	52-V-2	†A-2356	Protector for diaphragm	53-5-7	26427-D	.40
MADAR	53-H-18	†A-2357	Ring between diaphragm and protector	53-5-7	24264-D	.18
PADAR	53-J-14	†A-2358	Tapper for horn	51-3-5-7	24691-D	.30
RADAR	52-P-10	†A-2359	Armature assembled on tapper below springs	51-3-5-7	11178-D	.95
SADAR	53-V-7	†A-2360	Insulator between stop plate and armature	51-3-5-7	25507-D	.06
TADAR	53-W-12	†A-2361	Stop plate between insulators on tapper	51-3-5-7	24608-D	.06
ZADAR	52-L-16	†A-2362	Insulator between stop plate and armature	51-3-5-7	28334-D	.06
BEDAR	53-H-13	†A-2363	Plate spring operating tapper	51-3-5-7	24681-D	.12
CEDAR	52-P-12	†A-2364	Nut on upper end of tapper	51-3-5-7	24686-D	.06
DEDAR	53-S-15	†A-2365	Lock washer under nut on tapper	51-3-5-7	26586-D	.06
FEDAR	52-U-10	†A-2366	Clamp over each end of armature spring	51-3-5-7	24689-D	.06
KEDAR	52-P-8	†A-2367	Screw, spring clamp to housing	51-3-5-7	24698-D	.06
LEDAR	10-B-10	A-2368	Lock washer for spring clamp screw	51-3-5-7	19092	.05
MEDAR	52-V-5	†A-2369	Screw, contact plate and spring to housing	51-3-5-7	24697-D	.06
PEDAR	52-M-5	†A-2370	Bushing for screw for contact plate	51-3-5-7	24684-D	.06
REDAR	53-S-15	†A-2371	Lock washer for contact plate screw (2 used)	51-3-5-7	26586-D	.06
SEDAR	53-U-14	†A-2372	Plate for contact screw, "T" shaped	51-3-5-7	24680-D	.18
TEDAR	53-R-10	†A-2373	Contact screw assembled through contact plate	51-3-5-7	11372-D	1.15
ZEDAR	53-W-13	†A-2374	Nut, contact screw in plate	51-3-5-7	24705-D	.06
BIDAR	52-P-12	†A-2375	Lock washer	51-3-5-7	24953-D	.06
CIDAR	52-Q-9	†A-2376	Washer, thick, on screw under contact screw plate	51-3-5-7	24687-D	.12
FIDAR	52-M-6	†A-2377	Washer above contact spring on RIGHT screw	51-3-5-7	24675-D	.06
LIDAR	52-K-4	†A-2378	Insulating washer above contact spring	51-3-5-7	24677-D	.06
MIDAR	53-R-18	†A-2379	Contact spring assembled with point, "T" shaped	51-3-5-7	11366-D	1.00

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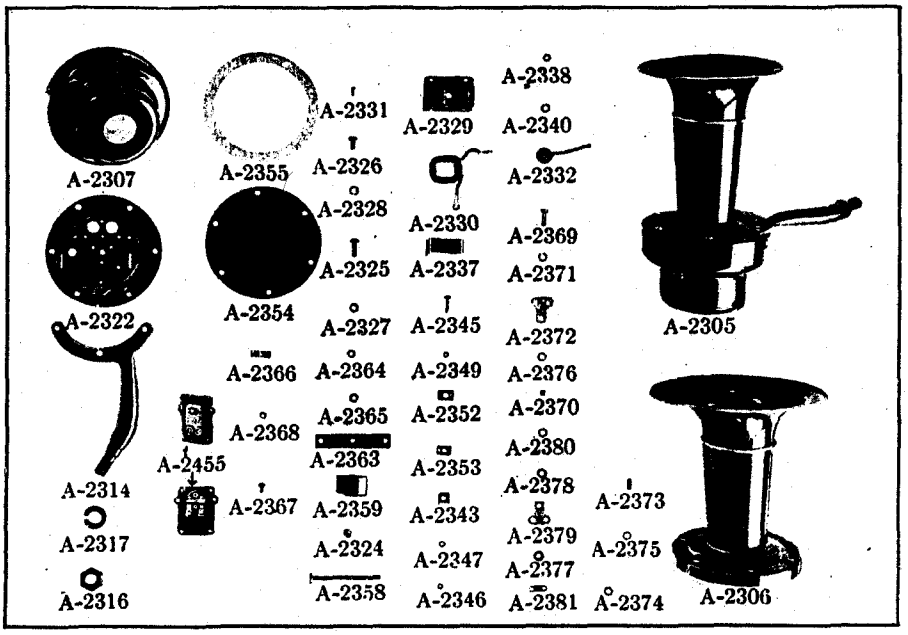

HORN

Code Word	Sec.-Bin	Serial	Part Name	Type	Symbol	Price
BAFAR	52-J-6	†A-2380	Washer, thin, between housing and contact spring	51-3-5-7	24678-D	$ .06
DAFAR	52-P-10	†A-2381	Block on screw for contact plate and spring	51-3-5-7	24688-D	.06
FAFAR	52-K-4	†A-2382	Insulator between block and housing	51-3-5-7	24676-D	.06

HORN WIRES

RAFAR	39-A-157	A-2386	Horn wire complete	51	40520	.60
SAFAR	9-S-16	A-2387	Collar for horn wire	51	19904	.05
TAFAR	10-O-19	A-2388	Leather washer for horn wire	51	11470	.05
ZAFAR	10-S-3	A-2389	Nut for grommet	51	6577	.05
BEFAR		A-2390	Lock washer	51	11345	.05
CEFAR	39-A-89	A-2391	Conduit with wire, horn switch to horn, LEFT steering	53	20979	1.50
DEFAR	39-A-158	A-2392	Wire only, horn switch to horn, LEFT steering	53	18727	.30
FEFAR	39-C-134	A-2393	Conduit with wire ,horn switch to horn, LEFT steering	55	22658	1.50
KEFAR	39-B-49	A-2394	Wire only, horn switch to horn, LEFT steering	55	33814	.15
LEFAR	39-B-29	A-2395	Conduit with wire, horn switch to generator, LEFT steering	53-5	20981	1.00
MEFAR		A-2396	Wire only, horn switch to generator, LEFT steering	53-5	18728	.25
PEFAR		A-2397	Conduit with wire, horn switch to horn, RIGHT steering	53	21725	1.25
REFAR		A-2398	Wire only, horn switch to horn, RIGHT steering	53	18770	.30
SEFAR		A-2399	Conduit with wire, horn switch to horn, RIGHT steering	55	22831	1.50
TEFAR		A-2400	Wire only, horn switch to horn	55	33813	.30
ZEFAR		A-2401	Conduit with wire, horn switch to generator, RIGHT steering	53-5	21732	1.00
CIFAR		A-2402	Wire only, horn switch to generator, RIGHT steering	53-5	18772	.30
DIFAR	39-E-12	A-2403	Conduit less wire, horn switch to horn, LEFT steering	57	23932	2.00
FIFAR	39-E-22	A-2404	Wire assembly less conduit, horn switch to horn, LEFT steering	57	23931	1.25
LIFAR	39-C-127	A-2405	Wire, only, horn switch to horn	57	33885	.50
MIFAR		A-2406	Conduit less wire, horn switch to horn, RIGHT steering	57	24256	1.75
PIFAR	39-B-8	A-2407	Wire assembly less conduit, horn switch to horn, RIGHT steering	57	24254	2.00
SIFAR		A-2408	Wire only, horn switch to horn, RIGHT steering	57	33867	.75
TIFAR	39-D-21	A-2409	Conduit with wire, generator to horn	57	23930	1.50
ZIFAR	39-A-146	A-2410	Wire only, generator to horn	57	33886	.40
BOFAR	53-G-18	†A-2411	Single spade terminal on wires	53-5-7	23374-D	.06
COFAR	9-T-6	A-2412	Rubber bushing for horn wire in dust shield	53-5-7	31350	.10
DOFAR	9-R-8	A-2413	Clip for horn conduit on generator	53-5-7	31338	.10
FOFAR	9-K-11	A-2414	Support for horn conduit	57	38092	.10
KOFAR	9-P-18	A-2415	Clamp screw for support on conduit	57	10559	.05
LOFAR	10-P-7	A-2416	Nut on screw	57	10887	.05
MOFAR	10-D-8	A-2417	Lock washer	57	11313	.05
POFAR	10-O-22	A-2418	Screw, conduit to steering gear	57	11617	.05
ROFAR	15-B-45	A-2419	Lock washer	57	11314	.05

TYPE 51 HORN PUSH BUTTON SWITCH. SPRING CONTACT AND WIRING FOR HORN PUSH BUTTON SWITCH

TOFAR	53-A-18	†A-2422	Push button switch for horn	51	36-K	1.25
BUFAR	53-V-15	†A-2424	Contact spring complete under push button	51	11499-D	.18
CUFAR	53-V-16	†A-2425	Contact spring complete, second one under push button	51	11500-D	.25
DUFAR		A-2426	Spring contact on door sill for horn (OC)	51	17979	.75
FUFAR	9-R-14	A-2427	Spring contact on door sill for horn (C) and (L)	51	16129	.75
KUFAR		A-2428	Casing for spring contact (OC)	51	19158	.25
LUFAR		A-2429	Casing for spring contact (C) and (L)	51	16853	.25
MUFAR	9-B-13	A-2430	Spring in casing for contact	51	16852	.15
PUFAR		A-2431	Plunger in casing for contact	51	16855	.15
RUFAR		A-2432	Cap for plunger in casing for spring contact	51	16856	.15
SUFAR		A-2433	Special nut for spring contact	51	11651	.05
TUFAR	10-T-22	A-2434	Flat washer for spring contact	51	11433	.05
ZUFAR	15-B-45	A-2435	Lock washer for spring contact	51	11314	.05

†Classify on order as electrical material.

Code Word	Sec.-Bin	Serial	Part Name	Type	Symbol	Price
BAGAR		A-2436	Wire No. 12 red, complete, upper door plunger to horn push button (OC)	51	40540	$ .50
DAGAR		A-2437	Wire only, No. 12 red, upper door plunger to push button (OC)	51	18599	.20
KAGAR		A-2438	Plate on door column for spring contact, all except (SD)	51	19131	.15
LAGAR	53-G-18	†A-2439	Single spade terminal for wire, door plunger to push button	51	23374-D	.06
PAGAR		A-2440	Wire complete, No. 12 green, switch to lower door plunger (OC)	51	40539	.50
SAGAR		A-2441	Wire only, No. 12 green, switch to lower door plunger (OC)	51	18598	.10
ZAGAR		A-2442	Wire complete, No. 12 black, lower door plunger to horn (OC)	51	40521	.35
CEGAR		A-2443	Wire only, No. 12 black, lower door plunger to horn (OC)	51	18558	.25
FEGAR		A-2444	Terminal on horn wire at spring contact	51	19994	.05
KEGAR		A-2445	Wire complete, No. 12 green, door plunger to push button	51	40538	.25
MEGAR		A-2446	Wire only, No. 12 green, door plunger to push button	51	18595	.10
PEGAR		A-2447	Wire complete, No. 12 red, push button to door plunger (BL)	51	40531	.25
SEGAR		A-2448	Wire only, No. 12 red, push button to door plunger	51	18581	.10
TEGAR		A-2449	Wire complete, No. 12 red, door plunger to push button (C) (L)	51	40507	.25
ZEGAR		A-2450	Wire only, No. 12 red, door plunger to push button (C) (L) (BL)	51	18527	.10
BIGAR		A-2451	Wire complete, No. 12 green, push button to door plunger (C) (L)	51	40508	.25
CIGAR		A-2452	Wire only, No. 12 green, push button to door plunger (C) (L) (BL)	51	18529	.10

TYPES 53-55 HORN SWITCH

KIGAR	50-D-73	†A-2455	Horn switch complete	53-5	1061-D	4.50
LIGAR	53-H-11	†A-2456	Housing with bushings for horn switch	53-5	12292-D	1.15
MIGAR	52-L-2	†A-2457	Plunger in cover for spring contact	53-5	13257-D	.60
PIGAR	52-V-12	†A-2458	Cap for end of plunger	53-5	26396-D	.35
RIGAR	53-U-13	†A-2459	Pin for holding cap on plunger	53-5	26397-D	.06
SIGAR	52-W-9	†A-2460	Screw, housing to base	53-5	26898-D	.06
TIGAR	53-R-15	†A-2461	Lock washer	53-5	25206-D	.06
ZIGAR	50-C-35	†A-2462	Assembly of base complete for horn switch	53-5	12077-D	1.95
BOGAR	52-V-2	†A-2463	Gasket for base	53-5	26389-D	.12
DOGAR		†A-2465	Curved terminal post complete	53-5	12076-D	.30
FOGAR	53-S-10	†A-2466	Clip on terminal post	53-5	23450-D	.06
KOGAR	9-P-4	A-2467	Screw holding clip on end of terminal post	53-5	19091	.05
LOGAR	9-P-4	A-2468	Nut	53-5	19093	.05
MOGAR	53-Q-12	†A-2469	Lock washer	53-5	23699-D	.06
POGAR	53-V-16	†A-2470	Spring contact, lower, on curved terminal post	53-5	11500-D	.25
ROGAR	53-V-15	†A-2471	Spring contact, upper, on straight terminal post	53-5	11499-D	.18
SOGAR	53-U-11	†A-2472	Circular bakalite insulator, upper, under contact springs	53-5	26381-D	.06
TOGAR	52-J-8	†A-2473	Insulator plate under spring contact on straight terminal post	53-5	24235-D	.06
BUGAR	52-G-8	†A-2474	Thin plate under spring contact on straight terminal post	53-5	25112-D	.12
CUGAR	53-W-14	†A-2475	Thin plate under spring contact on curved terminal post	53-5	28556-D	.18
DUGAR	53-T-18	†A-2476	Screw, spring contact and straight terminal post to insulator	53-5	26392-D	.06

IGNITION TUBES AND WIRES

RUGAR	39-F-20	A-2478	Ignition tube complete with distributor head, wires and connectors	51	40545	15.00
TUGAR	39-F-12	A-2479	Ignition tube, RIGHT, complete with wires and connectors	53	21856	10.00

†Classify on order as electrical material.

Code Word	Sec.-Bin	Serial	Part Name	Type	Symbol	Price
BAHAR	39-E-13	A-2480	Ignition tube, RIGHT, complete with wires and connectors	55	22330	$10.00
DAHAR	39-F-13	A-2481	Ignition tube, RIGHT, complete with wires and connectors	57	23708	11.00
KAHAR	39-E-19	A-2482	Ignition tube, LEFT, complete with wires and connectors	53	21857	9.00
LAHAR	39-C-86	A-2483	Ignition tube, LEFT, complete with wires and connectors	55	22331	9.00
MAHAR	39-F-1	A-2484	Ignition tube, LEFT, complete with wires and connectors	57	23901	10.00
PAHAR	39-A-53	A-2485	Flexible conduit with condulet from RIGHT ignition tube to dash	53	20986	1.50
SAHAR	39-C-94	A-2486	Flexible conduit with condulet from RIGHT ignition tube to dash	55	22329	1.50
ZAHAR	39-D-22	A-2487	Flexible conduit with condulet and wires from RIGHT ignition tube to dash	57	25479	3.00
CEHAR	10-B-3	A-2488	Screw, condulet to dash	53-5-7	10595	.05
DEHAR		A-2489	Screw, conduit to intake manifold	51	11850	.05
FEHAR	15-B-45	A-2490	Lock washer	53-5-7	11314	.05
KEHAR	13-B-39	A-2491	Bracket on cylinder supporting ignition tube	53	31034	1.10
LEHAR	14-C-125	A-2492	Bracket on cylinder supporting ignition tube	55	32615	.95
MEHAR	14-B-113	A-2493	Bracket on cylinder supporting ignition tube	57	42168	.40
PEHAR	15-D-74	A-2494	Nut on stud attaching bracket	53-5-7	11696	.05
REHAR	15-B-35	A-2495	Lock washer	53-5-7	11324	.05
SEHAR	12-B-29	A-2496	Clip on ignition tube for bracket	53-5-7	31026	.50
TEHAR	9-H-21	A-2497	Screw, clip to bracket	53-5-7	11870	.05
ZEHAR	9-M-10	A-2498	Nut	53-5-7	11674	.05
BIHAR	9-O-3	A-2499	Lock washer	53-5-7	11511	.05
CIHAR	39-A-75	A-2500	Secondary wire to No. 1 or No. 3 cylinder	51	18612	.30
DIHAR	39-A-131	A-2501	Secondary wire to No. 1 cylinder	53-5	18732	.20
FIHAR		A-2502	Secondary wire to No. 1 cylinder	57	33853	.25
KIHAR	39-A-136	A-2503	Secondary wire to No. 2 cylinder	51-3-5	18610	.25
LIHAR	39-A-133	A-2504	Secondary wire to No. 2 cylinder	53-5	18733	.30
MIHAR		A-2505	Secondary wire to No. 2 cylinder	57	33854	.30
PIHAR	39-B-92	A-2506	Secondary wire to No. 3 cylinder	53-5	18734	.35
RIHAR		A-2507	Secondary wire to No. 3 cylinder	57	33855	.35
SIHAR	39-C-96	A-2508	Secondary wire to No. 4 cylinder	51	18675	.30
TIHAR	39-A-95	A-2509	Secondary wire to No. 4 cylinder	53-5	18735	.25
ZIHAR		A-2510	Secondary wire to No. 4 cylinder	57	33856	.25
BOHAR	39-B-96	A-2511	Secondary wire to No. 5 cylinder	51	18611	.35
COHAR	39-C-110	A-2512	Secondary wire to No. 5 cylinder	53-5	18736	.35
DOHAR		A-2513	Secondary wire to No. 5 cylinder	57	7428	.35
FOHAR	39-A-6	A-2514	Secondary wire to No. 6 cylinder	51	18613	.25
KOHAR		A-2515	Secondary wire to No. 6 cylinder	53-5	18737	.35
LOHAR	39-C-110	A-2516	Secondary wire to No. 6 cylinder	57	18736	.35
MOHAR	39-A-82	A-2517	Secondary wire to No. 7 cylinder	51	18614	.30
POHAR	39-A-136	A-2518	Secondary wire to No. 7 cylinder	53-5	18610	.25
ROHAR		A-2519	Secondary wire to No. 7 cylinder	57	33857	.25
SOHAR	39-C-90	A-2520	Secondary wire to No. 8 cylinder	51	18609	.30
TOHAR	39-A-129	A-2521	Secondary wire to No. 8 cylinder	53-5	18739	.40
ZOHAR		A-2522	Secondary wire to No. 8 cylinder	57	33858	.35
CUHAR	39-C-33	A-2524	Terminal for spark plug on secondary wire	51-3-5-7	31297	.10
DUHAR	39-B-32	A-2525	Bushing on secondary wires to cylinders 1, 3, 4, 5	55-7	34274	.10
FUHAR	39-A-63	A-2526	Secondary wire, distributor to ignition coil	53	18740	.60
KUHAR		A-2527	Secondary wire, distributor to ignition coil	55	33804	.60
LUHAR	39-A-66	A-2528	Secondary wire, distributor to ignition coil	57	33849	.60
MUHAR		A-2529	Primary wire, No. 12 black, distributor to ignition coil	53	18741	.35
PUHAR	39-A-77	A-2530	Primary wire, No. 12 black, distributor to ignition coil	55	33805	.35
RUHAR	39-A-27	A-2531	Primary wire, distributor to ignition coil	57	33850	.45
SUHAR	53-K-10	†A-2532	Terminal clip on coil end of primary wire	53-5	23360-D	.06
TUHAR	10-L-11	A-2533	Fibre ferrule for terminal clip on primary wire	53-5	19916	.05
ZUHAR	53-G-18	†A-2534	Terminal on distributor end of primary wire	53-5	23374-D	.06

†Classify on order as electrical material.

IGNITION COIL

Code Word	Sec-Bin	Serial	Part Name	Type	Symbol	Price
BAKAR	50-H-10	†A-2537	Ignition coil	51-3-5-7	2115-D	$11.80
CAKAR	50-B-12	†A-2538	Bracket for ignition coil	51-3-5-7	10663-D	.45
DAKAR	9-P-17	A-2539	Rivet, ignition coil bracket to dash (OC)	53-5-7	17728	.05
FAKAR	10-N-13	A-2540	Screw, ignition coil bracket to dash	51	10276	.05
KAKAR	10-N-2	A-2541	Screw, ignition coil bracket to dash (CC)	53-5-7	10273	.05
LAKAR	38-B-8	A-2542	Nut on screws	51-3-5-7	10889	.05
MAKAR	15-B-45	A-2543	Lock washer	51-3-5-7	11314	.05
PAKAR	53-R-12	†A-2544	Nut on stud at each end of coil	51-3-5-7	33727-D	.12
RAKAR	53-V-9	†A-2545	Lock washer	51-3-5-7	26511-D	.12
SAKAR	52-K-1	†A-2546	Special nut for terminal on side of coil	51-3-5-7	23771-D	.06
TAKAR	53-V-13	†A-2547	Lock washer	51-3-5-7	26362-D	.06

TYPE 51 COWL WIRES—ALL CARS. WIRES FOR TAIL LAMP—OPEN CARS

MEKAR	39-E-7	A-2550	Cowl wires complete with conduits, terminals and connectors, less automatic switch (OC)	51	20959	12.00
REKAR		A-2551	Cowl wires complete with conduits, terminals and connectors, less automatic switch (SD)	51	20962	12.00
TEKAR		A-2552	Cowl wires complete with conduits, terminals and connectors, less automatic switch (C)	51	20961	12.00
BIKAR		A-2553	Cowl wires complete with conduits, terminals and connectors, less automatic switch (L) (BL)	51	20960	12.00
DIKAR	10-N-2	A-2554	Screw, conduit assembly to dash	51	10273	.05
FIKAR	10-H-16	A-2555	Flat washer	51	2801	.05
KIKAR	38-B-8	A-2556	Nut	51	10889	.05
LIKAR	15-B-45	A-2557	Lock washer	51	11314	.05
MIKAR	9-P-15	A-2558	Terminal for large stud on ammeter	51	19101	.05
PIKAR	9-N-16	A-2559	Terminal for small stud on ammeter	51	19100	.05
RIKAR	53-H-18	†A-2560	Terminal on wire at horn	51	23364-D	.06
SIKAR	39-D-65	A-2561	Shell connector on dash for head lamp	51	16658	.60
TIKAR	39-B-4	A-2562	Plug connector on hood shelf for head lamp	51	33012	.40
ZIKAR	39-C-39	A-2563	Plug connector for instrument board, side and tail lamps	51	33011	.40
BOKAR	53-K-10	†A-2564	Double spade terminal clip for wire	51	23375-D	.06
COKAR		A-2565	Wire, No. 14 black, with terminals, coil to generator	51	40544	.20
DOKAR		A-2566	Wire, No. 9 M. M., secondary, with terminals, coil to distributor	51	40541	.45
KOKAR		A-2567	Wire, No. 12 red, with terminals, ammeter to generator (OC)	51	40517	.30
MOKAR		A-2568	Wire, No. 12 red, with terminals, ammeter to generator (SD)	51	40563	.35
ROKAR		A-2569	Wire, No. 12 red, with terminals, ammeter to generator (C)	51	40559	.25
TOKAR		A-2570	Wire, No. 12 red, with terminals, ammeter to generator (L) and (BL)	51	40555	.25
BUKAR		A-2571	Wire, No. 12 black (oak tracer), with terminals, instrument board lamp to tail lamp (OC)	51	40513	1.00
DUKAR		A-2572	Wire, No. 12 yellow, with connectors, No. 1 on switch to side lamps (OC)	51	40511	1.50
KUKAR		A-2573	Wire, No. 12 yellow, with connectors, No. 1 on switch to side lamps (SD)	51	40546	1.75
MUKAR		A-2574	Wire, No. 12 yellow, with terminals, No. 1 on switch to connectors at dash for side lamps (C)	51	40548	1.50
RUKAR	39-B-11	A-2575	Wire, No. 12 black (oak tracer), with terminals, No. 2 on switch to instrument board lamp	51	40512	.65
TUKAR		A-2576	Wire, No. 12 black, with terminals, No. 3 on switch to head lamp connectors on dash (OC)	51	40510	2.00

†Classify on order as electrical material.

Code Word	Sec.-Bin	Serial	Part Name	Type	Symbol	Price
BALAR		A-2577	Wire, No. 12 black, with terminals, No. 3 on switch to head lamp connectors on dash (SD)	51	40547	$ 2.00
DALAR		A-2578	Wire, No. 12 black, with terminals, No. 3 on switch to head lamp connectors on dash (C)	51	40549	2.00
KALAR		A-2579	Wire, No. 12 red, with terminals, No. 4 on switch to circuit breaker and horn (5P) (7P) (R)	51	40541	.45
MALAR		A-2580	Wire, No. 12 red, with terminals, No. 4 on switch to circuit breaker, to handy lamp and to ground (SL)	51	40563	.35
RALAR		A-2581	Wire, No. 12 red, with terminals, No. 4 in switch to circuit breaker, to handy lamp and to ground (SD)	51	40564	1.50
TALAR		A-2582	Wire, No. 12 red, with terminals, No. 4 on switch to circuit breaker, to handy lamp and to ground (C)	51	40566	1.50
BELAR		A-2583	Wire, No. 12 red, with terminals, No. 4 on switch to circuit breaker, to handy lamp and to ground (L) and (BL)	51	40565	1.50
FELAR		A-2584	Wire, No. 14 yellow (red tracer), with terminals, No. 5 on switch to coil, all except (C) (SD)	51	40516	.25
LELAR		A-2585	Wire, No. 14 yellow (red tracer), with terminals, No. 5 on switch to coil (SD)	51	40560	.20
PELAR		A-2586	Wire, No. 14 yellow (red tracer), with terminals, No. 5 on switch to coil (C)	51	40556	.15
SELAR		A-2587	Wire, No. 14 green, with terminals, No. 6 on switch to dry cell box cover (OC)	51	40515	.50
ZELAR		A-2588	Wire, No. 14 green, with terminals, No. 6 on switch to dry cell box cover (SD)	51	40561	.35
CILAR		A-2589	Wire, No. 14 green, with terminals, No. 6 on switch to dry cell box cover (C)	51	40557	.35
FILAR		A-2590	Wire, No. 14 green, with terminals, No. 6 on switch to dry cell box cover (L) and (BL)	51	40527	.35
LILAR		A-2591	Wire, No. 12 green (oak tracer), with terminals, No. 7 on switch from circuit breaker, No. 12 red, circuit breaker to ammeter (OC)	51	40509	.35
RILAR		A-2592	Wire, No. 12 green (oak tracer), with terminals, No. 7 on switch to circuit breaker, No. 12 red, circuit breaker to ammeter (SD)	51	40568	.35
ZILAR		A-2593	Wire, No. 12 green (oak tracer), with terminals, No. 7 on switch to circuit breaker, No. 12 red, circuit breaker to ammeter (C)	51	40567	.30
DOLAR		A-2594	Wire No. 12 green (oak tracer), with terminals, No. 7 on switch to circuit breaker, No. 12 red circuit breaker to ammeter (L) (BL)	51	40554	.30
LOLAR		A-2595	Wire, No. 12 green (oak tracer), with terminals, No. 8 on switch to generator, all except (C) (SD)	51	40514	.20
POLAR		A-2596	Wire, No. 12 green (oak tracer), with terminals, No. 8 on switch to generator (SD)	51	40562	.25
SOLAR		A-2597	Wire, No. 12 green (oak tracer), with terminals, No. 8 on switch to generator (C)	51	40558	.15

TYPE 53 COWL WIRES—ALL CARS. WIRES FOR TAIL AND TONNEAU LAMPS—OPEN CARS

BULAR		A-2600	Wires complete for dash with conduit, terminals and connectors, less combination switch (SL) (7P)	53	21721	14.80
DULAR		A-2601	Wires complete for dash with conduit, terminals and connectors, less combination switch (MT)	53	21217	14.80
KULAR		A-2602	Wires complete for dash with conduit, terminals and connectors, less switch (V)	53	21720	14.80
MULAR		A-2603	Wires complete for dash with conduit,terminals and connectors, less switch (C)	53	22069	14.80
RULAR		A-2604	Wires complete for dash with conduit,terminals and connectors, less switch (B)	53	21719	14.80
TULAR		A-2605	Wires complete for dash with conduit,connectors and terminals, less switch (L) (BL) before engine No.	53	21721-A	14.80

Code Word	Sec.-Bin	Serial	Part Name	Type	Symbol	Price
BAMAR	39-E-16	A-2606	Wires complete for dash with conduit,connectors and terminals, less switch (LB) (BL) after engine No.	53	21718	$14.80
DAMAR		A-2607	Wires complete for dash with conduit,terminals and connectors, less switch (R)	53	21722	14.80
KAMAR	39-C-131	A-2608	Fibre spacer for wires at switch	51-3	32961	.10
LAMAR		A-2609	Bracket, conduit to instrument board (OC)	53	31407	.15
MAMAR		A-2610	Bracket, conduit to instrument board (OC), RIGHT steering	53	31406	.15
RAMAR		A-2611	Bracket for upper conduit on dash, LEFT steering (CC) except (C)	53	31919	.15
TAMAR		A-2612	Bracket for upper conduit on dash, RIGHT steering (CC) except (C)	53	31920	.15
BEMAR		A-2613	Bracket, conduit to instrument board (C)	53	32222	.15
CEMAR	9-N-12	A-2614	Clamp screw in brackets, upper section of conduit to lower	53	10277	.05
FEMAR	10-P-23	A-2615	Clamp screw for bracket on conduit	51-3	10271	.05
KEMAR	38-B-8	A-2616	Nut	51-3	10889	.05
LEMAR	15-B-45	A-2617	Lock washer	51-3	11314	.05
MEMAR	53-G-18	†A-2618	Single spade terminal for wires	51-3	23374-D	.06
PEMAR	53-K-10	†A-2619	Double spade terminal for wires	53	23375-D	.06
REMAR	53-K-10	†A-2620	Terminal clip, generator end of wire	53	26786-D	.06
SEMAR	10-M-6	A-2621	Rubber insulator on wire, switch to ammeter	51-3	16985	.05
ZEMAR	39-B-137	A-2622	Plug connector on wire, circuit breaker to handy lamp	51-3	17272	.70
BIMAR	53-K-10	†A-2623	Terminal clip for coil end of wire	53	23360-D	.06
CIMAR	39-B-4	A-2624	Plug connector at each end of hood shelf wire	51-3	33012	.40
DIMAR	39-D-65	A-2625	Connector for head lamp wire at hood shelf	51-3	16658	.60
FIMAR	39-C-39	A-2626	Plug connector, speedometer lamp and tail lamp wire at jumper	51-3	33011	.40
LIMAR	10-H-12	A-2627	Clip on dash for head lamp connector	51-3	16999	.05
MIMAR	9-P-18	A-2628	Screw for clip on dash	51-3	10559	.05
PIMAR	10-P-7	A-2629	Nut on clip screw	51-3	10887	.05
RIMAR	10-D-8	A-2630	Lock washer	51-3	11313	.05
SIMAR	39-D-62	A-2631	Plug connector on wire to tail lamp jumper	51-3	16660	.85
TIMAR		A-2632	Wire complete with connectors No. 1 on switch to side and clock lamps	53	20964	1.50
BOMAR		A-2633	Wire only No. 1 on switch to RIGHT side lamp, LEFT steering and to LEFT side lamp on RIGHT steering	53	18712	.75
DOMAR		A-2634	Wire only No. 1 on switch to LEFT side lamp, LEFT steering and to RIGHT side lamp on RIGHT steering	53	18713	.15
KOMAR		A-2635	Wire only No. 19 yellow, side lamp wire to clock lamp.	53	18743	.30
LOMAR	53-K-10	†A-2636	Terminal clip on switch end of side lamp wires	53	23375-D	.06
MOMAR	39-C-39	A-2637	Plug connector for side and clock lamps	51-3	33011	.40
POMAR		A-2638	Wire No. 12 black, with connectors No. 2 on switch to speedometer lamp	53	20966	.65
SOMAR		A-2639	Wire only, No. 12 black, No. 2 on switch to speedometer lamp	53	18714	.35
ZOMAR	39-E-25	A-2640	Wires complete, No. 3 on switch to hood shelf for headlamps	53	20963	2.40
CUMAR	39-B-110	A-2641	Wire No. 12 black, No. 3 on switch to RIGHT or LEFT head lamp (2 used)	53	18711	.60
FUMAR	39-D-65	A-2642	Connector on head lamp end of wire	51-3	16658	.60
KUMAR		A-2643	Wire complete, No. 4 on switch to circuit breaker, all except (L) (BL)	53	20976	.50
MUMAR		A-2644	Wire only, No. 12 red, No. 4 on switch to circuit breaker, all except (L) (BL)	53	18725	.40
PUMAR		A-2645	Wire complete, No. 4 on switch to circuit breaker (L) (BL)	53	21676	.50
RUMAR		A-2646	Wire only, No. 12 red, No. 4 on switch to circuit breaker (L) (BL)	53	18533	.40
SUMAR	39-A-121	A-2647	Wire complete, No. 5 on switch to circuit breaker and to large stud on ammeter, all except (L) (BL)	53	20972	.80
TUMAR		A-2648	Wire, No. 12 green, No. 5 on switch to circuit breaker, all except (L) (BL)	53	18720	.35
ZUMAR		A-2649	Wire, No. 12 red, No. 5 on switch to large stud on ammeter, all except (L) (BL)	53	18721	.35

†Classify on order as electrical material.

Code Word	Sec.-Bin	Serial	Part Name	Type	Symbol	Price
BAPAR		A-2650	Wire complete, No. 5 on switch to circuit breaker and to large stud on ammeter (L) (BL)	53	21679	$ .80
DAPAR		A-2651	Wire only, No. 12 red, No. 5 on switch to circuit breaker (L) (BL)	53	18766	.35
KAPAR		A-2652	Wire only, No. 14 yellow, No. 5 on switch to large stud on ammeter (L) (BL)	53	18765	.35
MAPAR	39-C-43	A-2653	Wire complete, No. 6 on switch to generator, all except (L) (BL)	53	20978	.70
RAPAR		A-2654	Wire only, No. 12 green, No. 6 on switch to generator, all except (L) (BL)	53	18726	.60
TAPAR		A-2655	Wire complete, No. 6 on switch to generator (L) (BL)	53	21717	.70
ZAPAR		A-2656	Wire only, No. 12 green, No. 6 on switch to generator (L) (BL)	53	18654	.60
CEPAR	39-A-152	A-2657	Wire complete, No. 7 on switch to ignition coil, all except (L) (BL)	53	20975	.50
FEPAR		A-2658	Wire only, No. 12 yellow, No. 7 on switch to ignition coil, all except (L) (BL)	53	18724	.40
LEPAR		A-2659	Wire complete, No. 7 on switch to ignition coil (L) (BL)	53	21678	.50
PEPAR		A-2660	Wire only, No. 14 yellow, No. 7 on switch to ignition coil (L) (BL)	53	18768	.20
SEPAR	39-A-113	A-2661	Wire complete, No. 8 on switch to generator, all except (L) (BL)	53	20974	.60
ZEPAR		A-2662	Wire only, No. 12 green, No. 8 on switch to generator, all except (L) (BL)	53	18723	.50
CIPAR		A-2663	Wire only, No. 12 green, No. 8 on switch to generator (L) (BL)	53	18763	.60
FIPAR		A-2664	Wire complete, No. 8 on switch to generator (L) (BL)	53	21681	.50
KIPAR		A-2665	Wire complete, circuit breaker to handy lamp (R) (V) (B)	53	20999	.70
MIPAR		A-2666	Wire only, No. 12 green, circuit breaker to handy lamp, all except (L) (BL)	53	18719	.40
RIPAR		A-2667	Wire complete, circuit breaker to handy lamp connector (L) (BL)	53	21677	.85
TIPAR		A-2668	Wire only, No. 12 green, from circuit breaker to handy lamp (L) (BL)	53	18767	.20
BOPAR	39-C-66	A-2669	Wire complete, circuit breaker to generator	53	20973	.40
COPAR		A-2670	Wire only, No. 12 yellow, circuit breaker to generator	53	18722	.30
DOPAR	39-A-154	A-2671	Wire complete, generator to small stud on ammeter, all except (L) (BL)	53	20977	.50
KOPAR	39-A-28	A-2672	Wire only, No. 12 red, generator to small stud on ammeter, all except (L) (BL)	53	18744	.40
MOPAR		A-2673	Wire complete, generator to small stud on ammeter (L) (BL)	53	21680	.40
ROPAR		A-2674	Wire only, No. 12 red, generator to small stud on ammeter (L) (BL)	53	18764	.35
TOPAR		A-2675	Wire No. 12, complete, speedometer lamp to tail lamp box (SL) (7P)	53	20967	1.75
BUPAR		A-2676	Wire only, No. 12 black, speedometer lamp to tail lamp box (SL) (7P)	53	18715	1.15
DUPAR		A-2677	Wire complete, speedometer lamp to box for tail lamp (R)	53	21803	1.50
KUPAR		A-2678	Wire only, No. 12 black, speedometer lamp to tail lamp box (R)	53	18773	.75
LUPAR		A-2679	Wire complete, speedometer lamp to jumper wire for tail lamp (MT)	53	20997	1.75
MUPAR		A-2680	Wire only, No. 12 black, speedometer lamp to jumper wire for tail lamp (V)	53	18751	1.25
PUPAR	39-C-37	A-2681	Wire with terminal, speedometer lamp to dash (B) (L) (BL)	53	20991	.35
RUPAR		A-2682	Wire only, No. 12 black, speedometer lamp to dash (B) (L) (BL)	53	18745	.30
TUPAR	39-B-146	A-2683	Wire complete, tonneau lamp to circuit breaker to handy lamp (SL) (7P)	53	20971	1.25

Code Word	Sec.-Bin	Serial	Part Name	Type	Symbol	Price
BASAR		A-2684	Wire complete, tonneau lamp to circuit breaker to handy lamp (MT)	53	21212	$ 1.25
DASAR		A-2685	Wire only, No. 12 green, tonneau lamp to circuit breaker (SL) (7P)	53	18718	.65

TYPE 55 COWL WIRES—ALL CARS. WIRES FOR TAIL AND TONNEAU LAMPS—OPEN CARS

KASAR	39-F-19	A-2688	Wires complete on dash with conduit, terminals and connectors, less switch (T) (P) (S) (M) (A)	55	22361	14.80
MASAR	39-F-6	A-2689	Wires complete on dash with conduit, terminals and connectors, less switch (R) (CR)	55	22652	14.80
RASAR		A-2690	Wires complete on dash with conduit, terminals and connectors, less switch (CV)	55	23577	14.80
TASAR		A-2691	Wires complete on dash with conduit, terminals and connectors, less switch (B) (V)	55	22335	14.80
BESAR		A-2692	Wires complete on dash with conduit, terminals and connectors, less switch (C)	55	23539	14.80
DESAR		A-2693	Wires complete on dash with terminals and connectors, less switch (I) (L) (LD)	55	23538	14.80
KESAR	39-C-131	A-2694	Fibre spacer for wires at dash	55	32961	.10
LESAR	10-L-12	A-2695	Clamp screw in bracket, upper section of conduit to lower	55	10278	.05
PESAR	38-B-8	A-2696	Nut	55	10889	.05
RESAR	15-B-45	A-2697	Lock washer	55	11314	.05
SESAR		A-2698	Felt washer on flexible cable for opening in generator cover, all except (P) (R) (CR)	53-5	31434	.05
BISAR	10-U-6	A-2700	Steel washer for conduit opening in cover in generator, all except (P) (R) (CR)	53-5	11507	.05
DISAR	39-C-28	A-2701	Bracket, conduit to instrument board (OC)	55	33391	.15
FISAR	39-B-25	A-2702	Bracket, conduit to instrument board (CC)	55	33009	.15
KISAR	10-N-2	A-2703	Screw, bracket on conduit	55	10273	.05
LISAR	38-B-8	A-2704	Nut	55	10889	.05
MISAR	15-B-45	A-2705	Lock washer	55	11314	.05
PISAR		A-2706	Wire only, switch to clock lamp, all except (C) (CV) (CR)	55	18787	.45
SISAR		A-2707	Wire only, switch to clock lamp (C)	55	33828	.45
TISAR		A-2708	Wire only, switch to clock lamp (CV)	55	33831	.45
ZISAR		A-2709	Wire only, switch to clock lamp (CR)	55	33847	.30
BOSAR		A-2710	Wire only, No. 1 on switch to RIGHT side lamp on LEFT steering and to LEFT side lamp on RIGHT steering, all except (C) (CV) (CR) on 55	53-5	18712	.75
FOSAR		A-2711	Wire only, No. 1 on switch to RIGHT side lamp on LEFT steering and to LEFT side lamp on RIGHT steering (C) (CV)	55	33820	.50
MOSAR		A-2712	Wire only, No. 1 on switch to RIGHT side lamp (CR)	55	33835	.60
ROSAR		A-2713	Wire only, No. 1 on switch to LEFT side lamp LEFT steering and to RIGHT side lamp RIGHT steering, all except (CR) on 55	53-5	18713	.15
ZOSAR		A-2714	Wire only, No. 1 on switch to LEFT side lamp (CR)	55	33841	.30
BUSAR		A-2715	Wire only, No. 2 on switch to speedometer lamp all except (C) on 53 and (CR) on 55	53-5	18714	.35
DUSAR		A-2716	Wire only, No. 2 on switch to speedometer lamp (CR)	55	33843	.15
FUSAR	39-C-39	A-2717	Plug connector for side, clock and speedometer lamps	55	33011	.40
KUSAR	53-G-18	†A-2718	Single spade terminal on switch end of wire for clock and speedometer lamps	51-3-5	23374-D	.06
MUSAR	53-K-10	†A-2719	Double spade terminal on switch end of side lamp wire	51-3-5	23375-D	.06
RUSAR	39-B-110	A-2720	Wire only, No. 3 on switch to hood shelf for head lamps, RIGHT or LEFT, all except (C) (CV) (CR) on 55	53-5	18711	.60
TUSAR		A-2721	Wire only, No. 3 on switch to hood shelf for head lamps, RIGHT or LEFT (C) (CV)	55	33826	.60

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Code Word	Sec.-Bin	Serial	Part Name	Type	Symbol	Price
BATAR		A-2722	Wire only, No. 3 on switch to hood shelf for head lamps, RIGHT or LEFT (CR)	55	33842	$ .50
CATAR	39-D-65	A-2723	Connector on hood shelf end of wire	51-3-5	16658	.60
DATAR	53-K-10	†A-2724	Double spade terminal on switch end of head lamp wire	53-5	23375-D	.06
KATAR		A-2725	Wire with terminals, No. 4 on switch to circuit breaker, all except (L) (I) (LD) (C) (CR)	55	20976	.50
MATAR		A-2726	Wire with terminals, No. 4 on switch to circuit breaker (L) (I) (LD)	55	24513	.50
RATAR		A-2727	Wire with terminals, No.4 on switch to circuit breaker (C)	55	22918	.50
SATAR		A-2728	Wire with terminals, No. 4 on switch to circuit breaker (CR)	55	23652	.40
ZATAR		A-2729	Wire only, No. 5 on switch to circuit breaker, all except (C) (L) (I) (LD) (CV) (CR)	53-5	18720	.35
CETAR		A-2730	Wire only, circuit breaker to large stud on ammeter, all except (L) (C) (CV) (CR) (I) (LD)	55	18721	.35
FETAR		A-2731	Wire only, No. 5 on switch to circuit breaker (L) (I) (LD)	55	18764	.35
KETAR		A-2732	Wire only, circuit breaker to large stud on ammeter (L) (I) (LD)	55	18796	.35
METAR		A-2733	Wire only, No. 5 on switch to circuit breaker (C)	55	18766	.35
PETAR		A-2734	Wire only, circuit breaker to large stud on ammeter (C)	55	33823	.35
RETAR		A-2735	Wire only, No. 5 on switch to circuit breaker (CV)	55	33833	.35
SETAR		A-2736	Wire only, circuit breaker to large stud on ammeter (CV)	55	33832	.35
TETAR		A-2737	Wire only, No. 5 on switch to circuit breaker (CR)	55	33845	.30
ZETAR		A-2738	Wire only, circuit breaker to ammeter (CR)	55	18638	.25
BITAR	10-M-6	A-2739	Insulator on wire to ammeter	51-3-5	16985	.05
CITAR	9-P-15	A-2740	Terminal on ammeter end of wire from No. 5 on switch	51-3-5	19101	.05
DITAR	39-C-43	A-2741	Wire with terminals, No. 6 on switch to generator, all except (L) (I) (LD) (C) (CV) (CR)	55	20978	.70
KITAR		A-2742	Wire with terminals, No. 6 on switch to generator (L) (I) (LD)	55	22697	.70
MITAR		A-2743	Wire with terminals, No. 6 on switch to generator (C) (CV)	55	22914	.70
RITAR		A-2744	Wire with terminals, No. 6 on switch to generator (CR)	55	23648	.50
SITAR	39-A-152	A-2745	Wire with terminals, No. 7 on switch to ignition coil, all except (L) (I) (LD) (C) (CV) (CR)	55	20975	.50
ZITAR		A-2746	Wire with terminals, No. 7 on switch to ignition coil (L) (I) (LD)	55	22699	.50
COTAR		A-2747	Wire with terminals, No. 7 on switch to ignition coil (C) (CV)	55	22917	.50
FOTAR		A-2748	Wire with terminals, No. 7 on switch to ignition coil (CR)	55	23653	.45
KOTAR	53-K-10	†A-2749	Terminal clip for coil end of wire from switch	53	23360D	.06
LOTAR	10-L-11	A-2750	Ferrule for terminal clip	53-5	19916	.05
MOTAR	39-A-113	A-2751	Wire with terminals, No. 8 on switch to generator, all except (L) (I) (LD) (C) (CV) (CR)	55	20974	.60
ROTAR		A-2752	Wire with terminals, No. 8 on switch to generator (L) (I) (LD)	55	22722	.60
TOTAR		A-2753	Wire with terminals, No. 8 on switch to generator (C)	55	22922	.60
ZOTAR		A-2754	Wire with terminals, No. 8 on switch to generator (CV)	55	21681	.50
BUTAR		A-2755	Wire with terminals, No. 8 on switch to generator (CR)	55	23647	.45
CUTAR		A-2757	Tail lamp wire with terminal, speedometer lamp to tail lamp jumper (T) (P)	55	22610	1.00
DUTAR		A-2758	Wire only, speedometer lamp to tail lamp jumper (T) (P)	55	18788	.90
FUTAR		A-2759	Tail lamp wire with terminals, speedometer lamp to tail lamp jumper (R) (CR)	55	22912	1.00
KUTAR		A-2760	Tail lamp wire only, speedometer lamp to tail lamp jumper (R) (CR)	55	33815	.90
LUTAR		A-2761	Tail lamp wire only, speedometer lamp to tail lamp jumper (CV)	55	33835	.60
MUTAR		A-2762	Wire, combination switch to splice on dash for tail lamp wire, except (C)	55	18745	.30
RUTAR	39-B-42	A-2763	Wires, circuit breaker to handy lamp and tonneau lamp (T) (P)	55	22608	.60
TUTAR		A-2764	Wire only, circuit breaker to tonneau lamp (T) (P)	55	18786	1.00
ZUTAR		A-2765	Wire only, circuit breaker to tonneau lamp (CV)	55	33839	.50

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Code Word	Sec.-Bin	Serial	Part Name	Type	Symbol	Price
BAZAR		A-2766	Wire only, circuit breaker to handy lamp, all except (L) (I) (LD) (C) (CV) (CR)	55	18719	$ .40
DAZAR		A-2767	Wire only, circuit breaker to handy lamp (C) (CV)	55	33827	.40
FAZAR		A-2768	Wire only, circuit breaker to handy lamp (CR)	55	33844	.40
KAZAR		A-2769	Wire only, circuit breaker to handy lamp (L) (I) (LD)	55	18795	.40
LAZAR	39-C-66	A-2770	Wire with terminals, generator to circuit breaker	53-5	20973	.40
MAZAR		A-2771	Wire only, generator to circuit breaker	55	18722	.30
PAZAR	39-A-28	A-2772	Wire only, generator to small stud on ammeter, all except (C) (CV) (L) (I) (LD) (CR)	55	18744	.40
SAZAR		A-2773	Wire only, generator to small stud on ammeter (CR)	55	33825	.35
TAZAR		A-2775	Wire only, generator to small stud on ammeter (C)	55	33822	.40
ZAZAR		A-2776	Wire only, generator to small stud on ammeter (CV)	55	18533	.40
BEZAR		A-2778	Wire only, generator to small stud on ammeter (L) (I) (LD)	55	33803	.40

TYPE 57 COWL WIRES—ALL CARS. WIRES FOR TAIL AND TONNEAU LAMPS—OPEN CARS

FEZAR	39-G-7	A-2781	Wires complete on cowl with conduit terminals and connectors less switch (7P) (S) (M) (A) (P1)	57	23405	18.00
LEZAR	39-G-9	A-2782	Wires complete on cowl with conduit, terminals and connectors less switch (P-2)	57	24367	18.00
PEZAR		A-2783	Wires complete on cowl with conduit, terminals and connectors less combination switch (R-1)	57	23927	18.00
SEZAR	39-F-25	A-2784	Wires complete on cowl with conduit, terminals and connectors less switch (R-2)	57	24365	18.00
ZEZAR		A-2785	Wires complete on cowl with conduit, terminals and connectors less switch (B-1) (B-2) (V-1) (V-2)	57	23410	18.00
CIZAR		A-2786	Wires complete on cowl with terminals and connectors less switch (L) (I) (LD) (TL) (TLD) (7-B)	57	23460	18.00
FIZAR		A-2787	Wires complete on cowl with terminals and connectors less switch (SB-1) (SB-2)	57	24509	18.00
LIZAR	39-C-131	A-2788	Fibre spacer for wires at dash	55-7	32961	.10
MIZAR	10-L-12	A-2789	Clamp screw in bracket holding upper section of conduit to lower	55-7	10278	.05
RIZAR	38--B-8	A-2790	Nut	55-7	10889	.05
SIZAR	15-B-45	A-2791	Lock washer	55-7	11314	.05
TIZAR	39-C-28	A-2792	Bracket, conduit to instrument board (OC)	55-7	33391	.15
ZIZAR	39-B-25	A-2793	Bracket, conduit to instrument board (CC)	55-7	33009	.15
BOZAR	10-P-23	A-2794	Screw, conduit bracket to instrument board (OC)	51-3-5-7	10271	.05
COZAR	10-N-2	A-2795	Clamp screw, bracket on conduit (OC)	51-3-5-7	10273	.05
DOZAR	38-B-8	A-2796	Nut	51-3-5-7	10889	.05
FOZAR	15-B-45	A-2797	Lock washer	51-3-5-7	11314	.05
KOZAR	37-C-49	A-2798	Wires, No. 1 on switch to side lamps	55-7	24497	1.60
LOZAR		A-2799	Wire only, No. 1 on switch to RIGHT side lamp on LEFT steering and to LEFT side lamp on RIGHT steering	53-5-7	33897	.75
ROZAR		A-2800	Wire only, No. 1 on switch to LEFT side lamp LEFT steering and RIGHT side lamp RIGHT steering	53-5-7	18713	.15
TOZAR		A-2801	Wire with connectors, No. 2 on switch to speedometer lamp	55-7	24502	.75
BUZAR		A-2802	Wire only, No. 2 on switch to speedometer lamp	53-5-7	38313	.35
CUZAR	39-C-39	A-2803	Plug connector for side, clock and speedometer lamp	55-7	33011	.40
DUZAR	53-G-18	†A-2804	Single spade terminal on switch end of wire for clock and speedometer lamp	51-3-5-7	23374-D	.06
KUZAR	53-K-10	†A-2805	Double spade terminal on switch end of side lamp wire	51-3-5-7	23375-D	.06
MUZAR		A-2806	Wire complete, No. 3 on switch to hood shelf for head lamps	53-5-7	24501	2.40
RUZAR		A-2807	Wire only, No. 3 on switch to hood shelf for head lamp RIGHT or LEFT	57	38312	.60
TUZAR	53-K-10	†A-2808	Double spade terminal on switch end of head lamp wire	51-3-5-7	23375-D	.06
ZUZAR	39-D-65	A-2809	Connector on hood shelf end of wire	51-3-5-7	16658	.60

†Classify on order as electrical material

Code Word	Sec.-Bin	Serial	Part Name	Type	Symbol	Price
BABAS		A-2810	Wire with terminals, No. 4 on switch to circuit breaker	55-7	24513	$ .50
CABAS		A-2811	Wire complete, No. 5 on switch to circuit breaker and large terminal on ammeter, all except (SB-1) (SB-2)	55-7	22701	.80
FABAS		A-2812	Wire complete, No. 5 on switch to circuit breaker and large terminal on ammeter (SB-1) (SB-2)	57	24499	.80
LABAS		A-2813	Wire only, No. 5 on switch to circuit breaker	55-7	18764	.35
MABAS		A-2814	Wire only, circuit breaker to large stud on ammeter	55-7	33899	.35
PABAS	10-M-6	A-2815	Insulator on wire to ammeter	51-3-5-7	16985	.05
RABAS	9-P-15	A-2816	Large terminal on ammeter end of wire from No. 5 on switch	51-3-5-7	19101	.05
TABAS	39-A-109	A-2817	Wire with terminals, No. 6 on switch to generator	57	24512	.75
ZABAS		A-2818	Wire only, No. 6 on switch to generator	57	7288	.50
BEBAS		A-2819	Wire with terminals, No. 7 on switch to ignition coil	55-7	24500	.50
CEBAS	53-K-10	†A-2820	Terminal clip for coil end of wire from switch	53-5-7	23360-D	.06
DEBAS	10-L-11	A-2821	Ferrule for terminal clip	53-5-7	19916	.05
FEBAS	39-A-74	A-2822	Wire with terminals, No. 8 on switch to generator	57	24511	.60
KEBAS		A-2823	Wire only, generator to No. 8 on switch	57	7249	.50
LEBAS		A-2824	Tail lamp wire with terminals, speedometer lamp to tail lamp jumper (OC) (S) (M) (A)	57	23403	1.50
PEBAS		A-2825	Tail lamp wire with terminals, speedometer lamp to tail lamp jumper (R-1) (R-2)	55-7	22912	1.00
SEBAS		A-2826	Wire with connectors, switch to clock lamp	55-7	24503	1.00
TEBAS		A-2827	Wire only, switch to clock lamp	55-7	38314	.45
ZEBAS	39-C-128	A-2828	Wires, circuit breaker to handy lamp and tonneau lamp (7-P) (P-1) (P-2)	57	23402	2.00
CIBAS		A-2829	Wire only, circuit breaker to tonneau lamp (7-P) (P-1) (P-2)	55-7	18786	1.00
FIBAS		A-2830	Wire complete, circuit breaker to handy lamp, all except (SB-1) (SB-2)	55-7	22703	1.00
LIBAS		A-2831	Wire complete,circuit breaker to handy lamp(SB-1)(SB-2)	57	24505	.35
MIBAS		A-2832	Wire only, circuit breaker to handy lamp	57	33877	.50
PIBAS		A-2833	Wire with terminals, generator to circuit breaker	57	24498	.40
RIBAS		A-2834	Wire complete, generator to small stud on ammeter	57	24496	.50
SIBAS		A-2835	Wire only, generator to small stud on ammeter	57	33896	.40
TIBAS	9-N-16	A-2836	Terminal for small stud on ammeter	51-3-5-7	19100	.05
ZIBAS	53-K-10	†A-2837	Double spade terminal clips for wire	51-3-5-7	23375D	.06

AMMETER

COBAS	Ac. S.	A-2841	Ammeter complete	51-3-5-7	19280	3.50
KOBAS	39-D-18	A-2844	Clamp for ammeter (OC)	51-3-5-7	19259	.30
LOBAS	9-Q-5	A-2845	Clamp for ammeter (CC)	51-3-5-7	19260	.25
MOBAS	9-P-4	A-2846	Nut on large stud of ammeter	51-3-5-7	11671	.05
POBAS	9-P-18	A-2847	Nut on small stud of ammeter	51-3-5-7	11672	.05
ROBAS	9-Q-15	A-2848	Lock washer for large nut	51-3-5-7	11500	.05
SOBAS	9-Q-20	A-2849	Lock washer for small nut	51-3-5-7	11501	.05
TOBAS	9-P-15	A-2850	Terminal for large stud	53-5-7	19101	.05
ZOBAS	9-N-16	A-2851	Terminal for small stud	53-5-7	19100	.05
BUBAS	10-M-6	A-2852	Insulator for terminal	53-5-7	16985	.05

HEAD LAMPS

LUBAS	20-D-61	A-2855	Head lamp complete with bulb	51	21033	21.00
MUBAS	20-D-55	A-2856	Head lamp complete with bulb	53	21800	19.50
PUBAS	20-D-46	A-2857	Head lamp complete with bulb (black and nickel)	55	22348	21.00
RUBAS	26-F-1	A-2858	Head lamp complete with bulb (special, all nickel)	55	22349	24.50
SUBAS	20-D-16	A-2859	Head lamp complete with bulb (black and nickel) (door hinged at top)	57	25255	21.00
ZUBAS	26-A-16	A-2860	Head lamp complete with bulb (special all nickel) (door hinged at top)	57	25256	23.50

†Classify on order as electrical material.

Code Word	Sec.-Bin	Serial	Part Name	Type	Symbol	Price
BADAS	26-E-12	A-2861	Door less glass for head lamp	51	B3244-GD	9.00
CADAS	26-D-35	A-2862	Door less glass for head lamp	53	B4244-GD	8.00
DADAS	26-E-2	A-2863	Door less glass for head lamp (black and nickel)	55	B254-GD	8.00
FADAS	26-E-1	A-2864	Door less glass for head lamp(black and nickel) (hinged at either side)	57	B44-GD	8.00
LADAS	26-G-12	A-2865	Door less glass for head lamp (black and nickel) (hinged at top)	57	P475-GD	8.00
PADAS	26-D-20	A-2866	Door less glass for head lamp (special all nickel) (hinged at either side)	55-7	B44-AN	8.50
SADAS	26-B-31	A-2867	Door less glass for head lamp (special all nickel) (hinged at top)	57	P475-AN	8.50
ZADAS	26-G-7	A-2868	Glass for head lamp	51-3-5-7	31233	1.25
BEDAS	26-C-3	A-2869	Packing ring for head lamp glass	51-3-5-7	B47-GD	.20
CEDAS	26-B-1	A-2870	Clip for head lamp glass	51-3-5-7	B482-GD	.10
DEDAS	10-M-2	A-2871	Screw for head lamp glass	51-3-5-7	11948	.05
FEDAS	17-D-15	A-2872	Cotton packing for head lamp glass	51-3-5-7	33996	.08
KEDAS	26-G-10	A-2873	Parabolic reflector for head lamp	51-3-5	B248-GD	9.00
LEDAS	26-G-9	A-2874	Parabolic (tilting) reflector complete for head lamp	57	B42-GD	9.00
MEDAS	26-D-30	A-2875	Adjustment complete for head lamp reflector	51-3-5	B41-GD	1.50
PEDAS	39-D-15	A-2876	Ediswan receptable complete with wire for bulb	51-3-5-7	52872	2.85
ZEDAS	Ac. S.	A-2881	Bulb for head lamp, 7 V, 18 C. P	51-3-5	31184	.25
BIDAS	Ac. S.	A-2882	Bulb for head lamp, 7 V, 18 C. P	57	38188	.25
CIDAS	9-H-6	A-2883	Screw for side hinges for head lamp door	51-3-5-7	P653-GD	.10
DIDAS	10-N-7	A-2884	Screw for top hinge for head lamp door	57	P654-GD	.15
FIDAS	10-I-17	A-2885	Eye bolt and clamp nut B11-GD for head lamp door	57	52870	.70
LIDAS	38-G-11	A-2886	Fork for head lamp	51-3-5-7	18481	2.40
MIDAS	38-D-25	A-2887	Screw, head lamp fork to fender iron	51-3	11634	.10
PIDAS	38-D-40	A-2888	Screw, head lamp fork to fender iron	55-7	11882	.20
RIDAS	10-J-6	A-2889	Lock washer	51-3-5-7	11317	.05
SIDAS	36-D-27	A-2890	Acorn nut on head lamp forks	51-3-5-7	9479	.30
XIDAS	10-E-4	A-2890-A	Lock washer	51-3-5-7	11486	.05
TIDAS	36-E-21	A-2891	Tie rod for head lamp fork, 16" long	51-3-5-7	22910	1.00
ZIDAS	35-D-67	A-2892	Tie rod for head lamp fork, 16½" long	51-3-5-7	22911	1.00
BODAS	37-D-3	A-2893	Clamp complete for license tag on tie rod	51-3-5-7	20254	.75
CODAS	39-A-138	A-2894	Wire, No. 12 black, in hood shelf for head lamp (2 used)	51	18519	.25
DODAS	39-B-136	A-2895	Wire, No. 12 black, in hood shelf for head lamp (2 used)	53-5-7	18716	.45
FODAS	39-B-4	A-2896	Plug connector at either end of hood shelf wire	51-3-5-7	33012	.40

TYPE 57 HEAD LAMP REFLECTOR CONTROL

MODAS	31-D-56	A-2900	Support for housing tube and head lamp control with bushings, cap, cover and plunger (7-P) (PI) (RI) (S)	57	24287	7.50
PODAS	31-D-10	A-2901	Support for housing tube and head lamp control with bushings, cap, cover and plunger (P-2) (R-2)	57	41730	7.50
SODAS	31-D-21	A-2902	Support for housing tube and head lamp control with bushings, cap, cover and plunger (V-1) (V-2) (B-2)	57	24370	7.50
ZODAS	31-C-17	A-2903	Housing for head lamp control on steering tube with bushings, cap, cover and plunger (M) (A) (CC) except (V-1) (V-2) (B-2)	57	24369	7.50
DUDAS	35-B-4	A-2904	Cover with bushing for support or housing	57	24288	1.65
FUDAS	10-M-13	A-2905	Screw, cover to housing or support	57	11610	.05
KUDAS	9-S-2	A-2906	Bushing in cover for lock plunger	57	37955	.25
LUDAS	9-U-3	A-2907	Plunger in cover for lock	57	37947	.35
MUDAS	9-O-23	A-2908	Spring in plunger for lock	57	37937	.05
PUDAS	9-U-2	A-2909	Screw for plunger guide	57	37978	.05
RUDAS	9-R-18	A-2910	Pipe plug in support or housing (M) (A) and (CC) except (V-1) (V-2) (B-2)	57	30471	.05
TUDAS	9-S-2	A-2911	Bushing in housing for support for control shaft and rod end (2 used)	57	37957	.25
ZUDAS	9-S-2	A-2912	Anchor pin for bushing in housing or support	57	37958	.05

Code Word	Sec.-Bin	Serial	Part Name	Type	Symbol	Price
BAFAS	15-B-93	A-2913	Hand lever with shaft for head lamp control	57	23434	$ 1.50
CAFAS	10-G-6	A-2914	Lever in housing with slot for lock plunger	57	37969	1.60
DAFAS	9-M-9	A-2915	Shaft in housing or support for levers	57	37941	.10
FAFAS	9-N-4	A-2916	Taper pin for levers on shaft	57	15002	.05
KAFAS	9-U-3	A-2917	End for control shifter rod in housing or support	57	37953	.35
LAFAS	37-B-95	A-2918	Control shifter rod with washer, housing to lower support on steering column (7-P) (P-1) (R-1) (V-1) (V-2) (S)	57	23359	.40
PAFAS	12-A-11	A-2919	Control shifter rod with washer, housing to lower support on steering column (P-2) (R-2)	57	24280	.40
SAFAS	38-B-160	A-2920	Control shifter rod with washer, housing to lower support on steering column (M)(A) and (CC)except (V-1)(V-2) (SB-1) (SB-2)	57	23360	.40
BEFAS		A-2921	Control shifter rod with washer, housing to lower support on steering column (SB-1) (SB-2)	57	24428	.40
DEFAS	9-U-3	A-2922	Nut on upper end of shifter rod	57	37936	.05
FEFAS	37-B-34	A-2923	Protection tube for control shifter rod (7-P) (P-1) (R-1) (V-1) (S)	57	37946	.60
LEFAS	37-B-81	A-2924	Protection tube for control shifter rod (P-2) (R-2)	57	38270	.60
MEFAS	27-C-3	A-2925	Protection tube for control shifter rod(M)(A) and(CC) except (V-1) (V-2) (B-2)	57	37945	.60
REFAS	37-B-29	A-2925-B	Protection tube for control shifter rod (V-2) (B-2)	57	38681	.60
SEFAS	9-N-4	A-2926	Taper pin, tube to housing or support	57	15002	.05
TEFAS	10-M-13	A-2927	Clamp supporting protection on tube (2 used)	57	37954	.15
ZEFAS	10-P-15	A-2928	Screw through clamp	57	11985	.08
BIFAS	10-C-9	A-2929	Nut	57	38018	.08
CIFAS	9-U-2	A-2930	Sleeve for tension spring on lower end of shifter rod	57	37973	.45
DIFAS	9-U-1	A-2931	Tension spring on lower end of shifter rod	57	37938	.05
LIFAS	9-Q-19	A-2931B	Special flat washer for spring	57	11533	.05
FIFAS	9-U-1	A-2932	Nut on sleeve for tension spring	57	37952	.25
KIFAS	31-D-47	A-2933	Bracket, lower, with shaft and levers on steering column, LEFT steering	57	23943	4.00
MIFAS	31-B-11	A-2934	Bracket, lower, with shaft and levers on steering column, RIGHT steering	57	23944	5.00
RIFAS	9-L-16	A-2935	Bushing in lower bracket for shaft	57	37956	.10
SIFAS	9-Q-13	A-2936	Shaft in lower bracket for control rod levers	57	37939	.10
TIFAS	9-T-1	A-2937	Lever on lower bracket for shifter rod	57	37949	.60
ZIFAS	35-C-7	A-2938	Lever on shaft in lower bracket for head lamp control rod	57	38149	.60
FOFAS	32-A-87	A-2940	Rod, bracket on steering column to rocker shaft lever on radiator	57	23358	.75
LOFAS	37-D-1	A-2942	Clevis on control rods (3 used)	57	16843	.35
MOFAS	9-P-6	A-2943	Lock nut for clevis on rod	57	11734	.05
POFAS	10-L-5	A-2944	Pin for clevis on levers	57	13726	.05
ROFAS	10-B-16	A-2945	Cotter pin	57	15251	.05
SOFAS	36-C-127	A-2946	Casing and bushing for rocker shaft on radiator	57	23355	1.25
TOFAS	9-E-2	A-2947	Bushing in casing (2 used)	57	7580	.05
ZOFAS	34-A-41	A-2948	Rocker shaft on radiator for head lamp control	57	37940	.25
BUFAS	9-F-4	A-2949	Lever, long, for rocker shaft on radiator	57	37968	.75
CUFAS	31-D-34	A-2950	Lever, short, for rocker shaft on radiator	57	37950	.50
DUFAS	37-C-103	A-2951	Bracket for rocker shaft on radiator, RIGHT	57	25343	.75
FUFAS	38-B-145	A-2952	Bracket for rocker shaft on radiator, LEFT	57	25344	.75
KUFAS	26-C-5	A-2953	Clamp for bracket	57	38660	.10
LUFAS	10-O-22	A-2954	Screw for clamp	57	11617	.05
MUFAS	38-B-8	A-2955	Nut	57	10889	.05
PUFAS	15-B-45	A-2956	Lock washer	57	11314	.05
RUFAS	14-C-35	A-2957	Rod, rocker shaft lever to head lamp, RIGHT or LEFT	57	23356	.40

SIDE LAMPS

SUFAS	26-B-9	A-2958	Side lamp with bulb, RIGHT or LEFT	51	21034	6.00
TUFAS	26-D-18	A-2959	Side lamp with bulb, RIGHT	53	21801	6.00
ZUFAS	9-F-22	A-2960	Side lamp with bulb, LEFT	53	21802	6.00

Code Word	Sec.-Bin	Serial	Part Name	Type	Symbol	Price
BAGAS	26-D-4	A-2961	Side lamp with bulb, RIGHT (black and nickel), all except (R) (P) (CR)	55	23986	6.25
DAGAS		A-2962	Side lamp with bulb, RIGHT (black and nickel) (R) (P) (CR)	55	22352	6.25
KAGAS	26-D-26	A-2963	Side lamp with bulb, RIGHT (special, all nickel) (CC) except (V-2) (B-2) (SB-2) on 57, all except (R) (P) (CR) on 55	55-7	22354	6.50
MAGAS	26-B-29	A-2964	Side lamp with bulb, RIGHT (special, all nickel) (R) (P) (CR)	55	22356	6.50
RAGAS	26-D-5	A-2965	Side lamp with bulb, LEFT (black and nickel), all except (R) (P) (CR)	55	23987	6.25
TAGAS		A-2966	Side lamp with bulb, LEFT (black and nickel) (R) (P) (CR)	55	22353	6.25
BEGAS	26-D-11	A-2967	Side lamp with bulb, LEFT (special all nickel) all except (R) (P) (CR) on 55 all (CC) except (V-2) (B-2) (SB-2) on 57	55-7	22355	6.50
DEGAS	26-B-35	A-2968	Side lamp with bulb, LEFT (special all nickel) (R) (P) (CR)	55	22357	6.50
KEGAS	26-F-11	A-2969	Side lamp with bulb, RIGHT (black and nickel) (P-1) (R-1) (S) (M) (A) (7-P)	57	23820	6.25
MEGAS	26-C-17	A-2970	Side lamp with bulb, RIGHT (black and nickel) (P-2) (R-2) (V-2) (B-2) (SB-2)	57	24397	6.25
REGAS	26-D-4	A-2971	Side lamp with bulb, RIGHT (black and nickel) (CC) except (V-2) (B-2) (SB-2)	57	23986	6.25
SEGAS	26-D-23	A-2972	Side lamp with bulb, RIGHT (special all nickel) (7-P) (P-1) (R-1) (S) (M) (A)	57	24395	6.50
ZEGAS	26-C-73	A-2973	Side lamp with bulb, RIGHT (special all nickel) (P-2) (R-2) (V-2) (B-2) (SB-2)	57	25321	6.50
CIGAS	26-F-12	A-2974	Side lamp with bulb, LEFT (black and nickel) (7-P) (P-1) (R-1) (S) (M) (A)	57	23821	6.25
FIGAS	26-B-7	A-2975	Side lamp with bulb, LEFT (black and nickel) (P-2) (R-2) (V-2) (B-2) (SB-2)	57	24398	6.25
KIGAS	26-D-5	A-2976	Side lamp with bulb, LEFT (black and nickel) (CC) ... except (V-2) (B-2) (SB-2)	57	23987	6.25
LIGAS	26-D-24	A-2977	Side lamp with bulb, LEFT (special all nickel) (7-P) (P-1) (R-1) (S) (M) (A)	57	24396	6.50
PIGAS	26-D-22	A-2978	Side lamps with bulb, LEFT (special all nickel) (P-2) (R-2) (V-2) (B-2) (SB-2)	57	25322	6.50
MUGAS	9-K-20	A-2994	Screw for side lamp door	51-3-5-7	52867	.10
PUGAS	26-B-13	A-2995	Glass for side lamp door, all except (R) (P) (CR) on 55 and (P-2) (R-2) (V-2) (B-2) (SB-2) on 57	51-3-5-7	31230	.15

Code Word	Sec.-Bin	Serial	Part Name	Type	Symbol	Price
BAHAS	26-D-13	A-2996	Glass for side lamp door (R) (P) (CR) (P-2) (R-2) (V-2) (B-2) (SB-2)	55-7	31229	$.15
CAHAS	10-S-11	A-2997	Glass in side of side lamp	51	P3275-GD	.60
DAHAS	9-N-19	A-2998	Glass in side of side lamp (Jewel)	53-5-7	52868	.40
XAHAS	Ac. S.	A-3000	Bulb for side lamp, 8 V, 6 C. P	51-3-5-7	31185	.18
FAHAS	26-C-41	A-3001	Reflector complete for side lamp	51	B3261-GD	2.40
CEHAS	39-D-75	A-3008	Receptacle for side lamp	51-3-5-7	16756	.60
DEHAS	36-D-42	A-3009	Bolt, side lamp to body (OC) (S) (M) (A)	51-3-5-7	33967	.50
FEHAS	37-C-141	A-3010	Bolt, side lamp to body (CC)	51	30172	1.00
KEHAS	9-B-13	A-3011	Bolt, side lamp to body (CC)	53	31518	1.00
LEHAS	9-B-13	A-3012	Bolt, side lamp to body (CC) except (C)	55-7	31518	1.00
MEHAS	36-D-30	A-3013	Bolt, side lamp to body (C)	55	37061	.50
PEHAS	9-C-11	A-3014	Flat washer	51	11481	.15
REHAS	9-B-8	A-3015	Lock washer	51-3-5-7	11342	.05
SEHAS	9-J-18	A-3016	Special lock washer	53-5-7	31175	.08

SPEEDOMETER AND CLOCK LAMPS

TEHAS	39-B-133	A-3018	Flange for speedometer and clock lamps (OC)	51-3-5-7	18893	1.00
ZEHAS	39-A-137	A-3019	Flange for speedometer and clock lamps (CC)	51-3-5-7	18894	1.50
BIHAS	39-D-14	A-3020	Flat washer for clock lamp flange	53-5-7	11513	.15
CIHAS	39-F-22	A-3021	Housing for speedometer lamp	51-3-5-7	18892	.35
DIHAS	39-E-6	A-3022	Housing for clock lamp	53-5-7	31848	.35
FIHAS	39-A-10	A-3023	Shut off for speedometer and clock lamps	51-3-5-7	18891	.20
KIHAS	39-D-75	A-3024	Shell connector for speedometer and clock lamps	51-3-5-7	16756	.60
LIHAS	10-F-3	A-3025	Special nut for flange on speedometer and clock lamps	51-3-5-7	11658	.10
MIHAS		A-3026	Bushing for speedometer lamp (CV)	55	34887	.35
PIHAS	9-P-14	A-3027	Flat insulator for speedometer lamp (OC)	51-3-5-7	18890	.05
RIHAS	9-Q-15	A-3028	Insulator with shoulder for speedometer lamp	51-3-5-7	18889	.20
SIHAS	39-C-35	A-3029	Terminal bracket assembly (CC)	53-5-7	22649	.30
TIHAS	39-D-63	A-3030	Terminal bracket for speedometer lamp all cars, and for clock lamp on (CC)	51-3-5-7	18888	.10
BOHAS	53-S-10	†A-3031	Clamp for wire terminal on speedometer and clock lamps	51-3-5-7	23450-D	.06
COHAS	9-P-4	A-3032	Screw for terminal on speedometer and clock lamps	51-3-5-7	19091	.05
DOHAS	10-B-10	A-3033	Lock washer	51-3-5-7	19092	.05
FOHAS	9-P-4	A-3034	Nut	51-3-5-7	19093	.05
KOHAS	Ac. S.	A-3035	Bulb for speedometer lamp	51-3-5-7	31133	.20
LOHAS	Ac. S.	A-3036	Bulb for clock lamp	53-5-7	38231	.18
POHAS	39-C-39	A-3038	Plug connector for speedometer and clock lamp	51-3-5-7	33011	.40
ROHAS	53-G-18	†A-3039	Single spade terminal for speedometer and clock lamp connections	51-3-5-7	23374-D	.06

TONNEAU LAMP

CUHAS	Ac. S.	A-3042	Tonneau lamp with bulb and jumper wire (7-P) (SL) (T) (P) (P-1) (P-2) (CV), LEFT steering	53-5-7	22359	3.00
FUHAS	Ac. S.	A-3043	Tonneau lamp with bulb and jumper wire (7-P) (SL) (T) (P) (P-1) (P-2) (CV), RIGHT steering	53-5-7	22358	3.00
LUHAS	Ac. S.	A-3044	Tonneau lamp less bulb and jumper wire (7-P) (SL) (T) (P) (P-1) (P-2) (CV), LEFT steering	53-5-7	31244	1.75
PUHAS	Ac. S.	A-3045	Tonneau lamp less bulb and jumper wire (7-P) (SL) (T) (P) (P-1) (P-2) (CV), RIGHT steering	53-5-7	31942	1.75
SUHAS	Ac. S.	A-3046	Bulb for tonneau lamp	53-5-7	38231	.18
TUHAS	39-D-60	A-3047	Jumper wire with connectors for tonneau lamp	53-5-7	20970	1.00
ZUHAS		A-3048	Jumper wire for tonneau lamp	53-5-7	18717	.15

†Classify on order as electrical material.

Code Word	Sec.-Bin	Serial	Part Name	Type	Symbol	Price
BAKAS	39-D-67	A-3049	Connector for tonneau lamp jumper wire	53-5-7	31137	.55
CAKAS	26-C-27	A-3050	Glass for tonneau lamp	53-5-7	52763	.35
DAKAS	9-S-17	A-3051	Retainer for glass	53-5-7	52823	.10
FAKAS	26-C-35	A-3052	Tension spring under glass	53-5-7	52822	.10

HANDY LAMP AND CONNECTIONS

MAKAS	Ac. S.	A-3055	Handy lamp complete	51-3-5-7	21814	4.00
PAKAS	Ac. S.	A-3056	Bulb for handy lamp 8 V, 6 C. P	51-3-5-7	38231	.18
RAKAS	38-B-133	A-3057	Bracket on dash for handy lamp connector (with two screw holes)	51-3-5-7	18885	.05
TAKAS	9-C-9	A-3058	Bracket for ground terminal on handy lamp	51-3-5-7	18886	.10
ZAKAS	39-B-137	A-3059	Connector for handy lamp	51-3-5-7	17272	.70
BEKAS	10-Q-16	A-3060	Special flat washer for handy lamp connector (OC) (S) (M) (A)	51-3-5-7	11480	.05
DEKAS	10-R-16	A-3061	Lock washer on handy lamp connector	51-3-5-7	12136	.05
FEKAS		A-3062	Terminal clip for door plunger on wire for handy lamp, all except (SL) (SD)	51	19994	.05
LEKAS	10-L-11	A-3063	Ferrule for handy lamp wire clip	51	19916	.05
MEKAS		A-3064	Wire, No. 12 red, handy lamp to upper door plunger (OC)	51	40543	1.00
PEKAS		A-3065	Wire only, No. 12 red, handy lamp connector to door plunger	51	18606	.10
SEKAS	53-S-10	†A-3066	Clamp for terminal on handy lamp connector (CC)	51-3-5-7	23450-D	.06
TEKAS	9-P-4	A-3067	Screw for terminal handy lamp connector (CC)	51-3-5-7	19091	.05
ZEKAS	10-B-10	A-3068	Lock washer	51-3-5-7	19092	.05
BIKAS	9-P-4	A-3069	Nut	51-3-5-7	19093	.05
CIKAS		A-3070	Ground wire with terminals for handy lamp connection (CC)	55-7	24504	.25

TAIL LAMPS

TIKAS	26-F-13	A-3073	Tail lamp complete with license tag holder, all with wood wheels except (R) (R-1) (R-2) (C) (V) (V-1)	51-3-5-7	22363	7.50
BOKAS	26-G-6	A-3074	Tail lamp complete with license tag holder (R) (R-1) (R-2) (C) (V) (V-1) and all with wire wheels	51-3-5-7	21799	7.00
DOKAS	26-D-14	A-3075	Tail lamp shell only with bracket and riveted parts, all with wood wheels except (R) (R-1) (R-2) (C) (V) (V-1)	51-3-5-7	22362	4.00
KOKAS	26-C-39	A-3076	Tail lamp shell only with bracket and riveted parts (R) (R-1) (R-2) (C) (V) (V-1) and all with wire wheels	51-3-5-7	20415	3.50
MOKAS	33-B-5	A-3077	Clamp screw for lamp on tube	51-3-5-7	10008	.10
POKAS	13-B-16	A-3078	Lock washer	51-3-5-7	11315	.05
ROKAS	Ac. S.	A-3079	Bulb for tail lamp 4 V, 2 C. P	51-3-5-7	31133	.20
SOKAS	26-E-11	A-3080	Red glass for tail lamp	51-3-5-7	18457	.15
TOKAS	26-B-39	A-3081	Plain glass for tail lamp	51-3-5-7	18454	.20
ZOKAS	9-M-1	A-3082	Small plain glass in rear of tail lamp, all with wood wheels except (R) (R-1) (R-2) (C) (V)(V-1)	55-7	32936	.15
CUKAS	26-B-75	A-3083	Clamp with ear and nut for red glass	51-3-5-7	28581	.50
DUKAS	10-J-3	A-3084	Screw for clamp	51-3-5-7	55304	.08
FUKAS	9-P-22	A-3085	Cover retaining large plain glass in shell	51-3-5-7	18458	.05
KUKAS	9-N-1	A-3086	Retainer for small plain glass in shell,all with wood wheels except (R) (R-1) (R-2) (C) (V) (V-1)	55-7	32937	.08
MUKAS	10-A-18	A-3087	Screw for cover and retainer for plain glasses	51-3-5-7	18453	.05
PUKAS	35-C-87	A-3088	Step bolt for license tag	51-3-5-7	6728	.05
RUKAS	16-B-111	A-3089	Leather washer	51-3-5-7	11441	.05
SUKAS	9-M-15	A-3090	Flat washer	51-3-5-7	11442	.05
TUKAS	15-B-45	A-3091	Lock washer	51-3-5-7	11314	.05
ZUKAS	37-C-51	A-3092	Wing nut on bolt for license tag holder	51-3-5-7	8929	.10

†Classify on order as electrical material.

TUBE AND JUMPER WIRE FOR TAIL LAMP

Code Word	Sec.-Bin	Serial	Part Name	Type	Symbol	Price
DALAS	36-C-91	A-3096	Tube only for tail lamp jumper wire and license tag bracket all except (R) (V)	51-3	18467	$ 1.50
KALAS	37-C-47	A-3097	Tube only for tail lamp jumper wire (R) (V)	51-3	30182	.50
LALAS	39-C-12	A-3098	Tube only for tail lamp jumper wire, all with standard wheels except (R) (R-1) (R-2) (C) (V) (V-1) (V-2)	55-7	32941	2.00
PALAS	36-E-22	A-3099	Tube only for tail lamp jumper wire, all with wire wheels except (R) (R-2) (R-1) (C) (V) (V-1) (V-2)	51-3-5-7	33577	2.25
SALAS	36-C-143	A-3099A	Tube only for tail lamp jumper wire, all wire wheels RIGHT steering	57	38325	2.50
TALAS	38-B-155	A-3100	Tube only for tail lamp jumper wire, all with MM. wheels except (V-1) (R-1) (R-2)	57	38105	3.25
BELAS		A-3101	Jumper wire only (special No. 12 black) for tail lamp (C) (SD) (OC)	51	18631	.10
DELAS		A-3102	Jumper wire only for tail lamp (L) (BL)	51	18636	.15
FELAS	39-C-149	A-3103	Jumper wire only for tail lamp, used with wire wheels (R) on 51 (R) (C) (V) on 55, and (R-1) (R-2) (V-1) (V-2) on 57	51-5-7	18627	.25
MELAS		A-3104	Jumper wire only for tail lamp all except (R) (C) (SD), RIGHT steering	51	18701	.15
RELAS	39-A-67	A-3105	Jumper wire only for tail lamp (7-P) on 53, (C) (T) (V) (R) (S) on 55, (7-P) (V-1) (R-1) (R-2) (S) (M) (A) on 57	53-5-7	18742	.25
TELAS	39-A-124	A-3106	Jumper wire only for tail lamp (SL) (L) (BL)	53	18750	.30
ZELAS		A-3107	Jumper wire only for tail lamp (CV) (CR) (P) (P-2) (B) (B-1) (B-2) (L) (I) (LD) (TL) (TLD) (SB-1) (SB-2) (7-B) (V-2)	55-7	33810	.25
DILAS	9-T-6	A-3108	Rubber bushing for jumper wire in fender (R) (R-1) (R-2) (C) (V) (V-1)	55-7	31350	.10
KILAS	39-B-31	A-3109	Connector on tail lamp jumper wire at lamp	51-3-5-7	16974	.50
LILAS	39-C-26	A-3110	Connector in tail lamp for jumper wire	51-3-5-7	19856	.50
MILAS	10-N-11	A-3111	Set screw for connector in tail lamp	51-3-5-7	11254	.05
RILAS	39-C-39	A-3113	Plug connector for tail lamp jumper wire at body	51-3-5-7	33011	.40
SILAS	39-D-62	A-3114	Connector No. 6 in body for tail lamp jumper wire	51-3-5-7	16660	.85
TILAS	10-R-16	A-3115	Lock washer on tail lamp connector in body	55-7	12136	05
ZILAS	38-C-111	A-3116	Box for tail lamp connectors (CC) on 51, all except (SL) (7-P) on 53, (CR) (R) (R-1) (R-2) (C) (V) and all with wire wheels on 55 and 57	51-3-5-7	33064	.50

TAIL LAMP ATTACHMENTS ON CROSS TUBE AND FENDER

ROLAS	38-D-81	A-3133	Shoe with ball for tail lamp tube on rear cross tube	51-3-5-7	21813	.35
SOLAS	10-O-9	A-3134	Ball in shoe for tail lamp tube	51-3-5-7	3821	.05
TOLAS	37-B-80	A-3135	Clamp, lower, for tail lamp tube on rear cross tube	51-3-5-7	18466	.30
ZOLAS	38-B-151	A-3136	Eye for tail lamp tube	51-3-5-7	18464	.45
BULAS	36-C-145	A-3137	Screw, lower clamp to eye bolt	51-3-5-7	10352	.08
CULAS	36-D-21	A-3138	Lock washer	51-3-5-7	11316	.05
DULAS	36-D-36	A-3139	Bracket for tail lamp and license tag holder (R) (V)	53	31664	3.00
FULAS	36-B-63	A-3140	Bracket for tail lamp and license tag holder (R) (R-1) (R-2) (V) (V-1)	55-7	33576	3.00
LULAS	37-D-25	A-3141	Plate for tail lamp bracket (C) (SD) (R) (V)	51-3	30183	.50
MULAS	39-B-130	A-3142	Support on fender for tail lamp tube, all with wire wheels except (R) (R-1) (R-2) (C) (V) (V-1)	55-7	33574	.65
RULAS	9-G-23	A-3143	Reinforcement for tail lamp support, all with wire wheels except (R) (R-1) (R-2) (C) (V) (V-1)	53-5-7	31686	.08
TULAS	37-B-16	A-3144	Screw, reinforcement to support	53-5-7	56198	.08
ZULAS	10-F-7	A-3145	Lock washer	53-5-7	11306	.05

Code Word	Sec.-Bin	Serial	Part Name	Type	Symbol	Price
BAMAS	10-N-2	A-3146	Screw, tail lamp bracket to fender	51-3-5-7	10273	$ .05
CAMAS	15-B-45	A-3147	Lock washer	51-3-5-7	11314	.05

QUARTER, DOME, AND PILLAR LAMPS

Parts not listed, furnished by Fisher Body Corporation

CEMAS	Ac. S.	A-3159	Bulb for quarter lamp	51-3-5-7	38231	.18
DEMAS	Ac. S.	A-3160	Bulb for dome lamp	51-3-5-7	38231	.18
FEMAS		A-3161	Terminal bracket back of dome and quarter lamps (CC)	51	18489	.05
LEMAS	53-S-10	†A-3162	Clamp for terminal on quarter and dome lamps	53-5-7	23450-D	.06
MEMAS	9-P-4	A-3163	Screw	53-5-7	19091	.05
PEMAS	9-P-4	A-3164	Nut	53-5-7	19093	.05
REMAS	10-B-10	A-3165	Lock washer	53-5-7	19092	.05
SEMAS	10-H-16	A-3166	Washer for ground connections (V) (B) (L) (I) (LD) (TL) (TLD)	55-7	2801	.05
ZEMAS	26-D-1	A-3167	Pillar lamp complete (L) (BL)	51	21035	10.00
RIMAS		A-3176	Screw for pillar lamp bracket (BL)	51	11833	.05
SIMAS		A-3177	Screw for pillar lamp bracket (L)	51	11841	.05
TIMAS		A-3178	Acorn nut	51	11693	.15

TYPES 55-57 VICTORIA—SWITCH FOR DOME LAMP

Parts not listed, furnished by Fisher Body Corporation

SOMAS	52-V-1	†A-3183	Push button switch on instrument board for dome lamp (V) (V-1) (V-2)	55-7	44-K	3.75

†Classify on order as electrical material.

TRANSMISSION CASES. END AND BOTTOM COVERS FOR TRANSMISSION

Code Word	Sec.-Bin	Serial	Part Name	Type	Symbol	Price
BAPAS	18-G-15	A-3197	Transmission case with studs and bushings, LEFT steering	51	20832	$68.50
DAPAS	18-G-26	A-3198	Transmission case with studs and bushings, all except (C), LEFT steering	53	21707	68.50
KAPAS	18-G-20	A-3199	Transmission case with studs and bushings, LEFT steering (C)	53	22081	70.00
MAPAS	18-G-6	A-3200	Transmission case with studs and bushings, LEFT steering	55	22942	68.50
RAPAS	18-G-16	A-3201	Transmission case with studs and bushings, LEFT steering	57	23806	68.50
TAPAS	18-G-5	A-3202	Transmission case with studs and bushings, RIGHT steering	51	20833	70.00
BEPAS	18-G-9	A-3203	Transmission case with studs and bushings, all except (C), RIGHT steering	53	21706	70.00
DEPAS	18-G-22	A-3204	Transmission case with studs and bushings, RIGHT steering	55	22941	70.00
KEPAS	18-G-12	A-3205	Transmission case with studs and bushings, RIGHT steering	57	24237	70.00
MEPAS	31-C-67	A-3206	Screw, transmission to crank case	51-3-5-7	10048	.10
PEPAS	13-D-8	A-3207	Nut	51-3-5-7	11675	.05
REPAS	10-Q-21	A-3208	Lock washer	51-3-5-7	11326	.05
SEPAS	10-O-11	A-3210	Stud in transmission case for hand brake ratchet	57	31793	.05
TEPAS	10-O-10	A-3211	Stud in side of transmission case for pedal bracket and hand brake ratchet	51-3-5	18959	.05
BIPAS	19-B-85	A-3212	Stud in transmission case for hand brake ratchet, RIGHT steering	51-3-5	30394	.05
DIPAS	37-B-50	A-3213	Stud in side of transmission case for tire pump	55	30958	.05
FIPAS	10-O-11	A-3214	Stud in transmission case for pedal bracket (1 used)	53-5	31793	.05
KIPAS	10-B-21	A-3215	Stud in side of transmission case for pedal bracket and tire pump	57	37273	.05
MIPAS	25-C-27	A-3216	Bushing for clutch release shaft (2 used on 51-3-7), RIGHT side of case, LEFT steering and in LEFT side RIGHT steering on 55	51-3-5-7	18966	.90
SIPAS	10-G-17	A-3217	Bushing for clutch release shaft in LEFT side of case, LEFT steering and in RIGHT side, RIGHT steering.	55	32874	.60
ZIPAS	10-B-21	A-3218	Overflow plug in side of transmission case	51-3-5	19900	.10
BOPAS	18-B-28	A-3219	Overflow plug in side of transmission case	57	6117	.10
COPAS	18-B-71	A-3220	Drain plug in bottom of transmission case	51-3-5-7	2896	.20
DOPAS	18-D-20	A-3221	Cover for rear end of transmission case	51-3-5	18850	4.00
FOPAS	16-D-61	A-3222	Gasket for rear end cover of transmission	51-3-5	19899	.10
KOPAS	19-D-76	A-3223	Cover for bottom of transmission case	57	37243	3.00
LOPAS	16-D-80	A-3224	Gasket for bottom cover	57	37244	.05
MOPAS	11-D-54	A-3225	Screw for transmission rear cover	51-3-5	10026	.08
POPAS	9-B-12	A-3226	Screw, 2½" long, for rear cover (1 used)	55	11898	.05
ROPAS	9-L-20	A-3227	Stud for transmission bottom cover	57	37270	.05
SOPAS	9-D-2	A-3228	Nut	57	11676	.05
TOPAS	36-D-21	A-3229	Lock washer for screw	51-3-5	11316	.05
ZOPAS	13-B-16	A-3230	Lock washer on stud	57	11315	.05
BUPAS	14-C-9	A-3231	Threaded dowel for end and top cover on case	51-3-5	19545	.10
DUPAS	19-D-8	A-3233	Hand hole cover for top of transmission case	51-3-5	18855	.15
FUPAS	37-B-94	A-3234	Screw	51-3-5	10024	.05
KUPAS	18-B-17	A-3235	Hand hole cover for top of transmission case	57	37240	.10
LUPAS	9-M-17	A-3236	Screw	57	37271	.05

TYPES 51-53-55 CLUTCH CONNECTION FOR TRANSMISSION. BEARINGS AND RETAINERS ON CLUTCH CONNECTIONS

Code Word	Sec.-Bin	Serial	Part Name	Type	Symbol	Price
BARAS	23-D-13	A-3239	Clutch connection for transmission	51-3-5	18452	$20.00
CARAS	19-B-117	A-3240	Collar for clutch connection bearing, front	51-3-5	30704	.40
DARAS	18-C-45	A-3241	Nut for clutch connection bearing on connection having thread 1" long on front end	51	18841	2.00
KARAS	10-E-7	A-3242	Woodruff key for collar on clutch connection	51	11354	.05
LARAS	10-R-18	A-3243	Woodruff key for collar on clutch connection after engine A-16001	51-3-5	30706	.10
PARAS	19-D-14	A-3244	Check nut for clutch connection, front bearing collar	51-3-5	18840	.40
RARAS	18-C-41	A-3245	Locking wire for clutch connection check nut	51-3-5	18839	.05
SARAS	19-C-41	A-3246	Nut on clutch end of clutch connection	51-3-5-7	18804	.45
TARAS	18-D-79	A-3247	Lock washer	51-3-5-7	11323	.05
ZARAS	19-D-17	A-3248	Cap for clutch connection bearing, front, before engine A-16001	51	18847	1.25
CERAS	18-D-16	A-3249	Cap for clutch connection bearing, front, after engine A-16000	51-3-5	30754	2.00
FERAS	19-D-9	A-3250	Retainer for clutch connection bearing, before engine A-16001	51	18846	1.25
LERAS	19-C-87	A-3251	Retainer for clutch connection bearing, after engine A-16000	51-3-5	30755	1.25
PERAS	16-D-38	A-3252	Gasket between cap and retainer for bearing	51-3-5	30923	.05
RERAS	10-C-4	A-3253	Screw, long, clutch connection bearing cap and retainer to transmission case	51-3-5	10010	.05
TERAS	19-B-43	A-3254	Screw, short, clutch connection bearing cap to retainer	51-3-5	10004	.05
ZERAS	15-B-35	A-3255	Lock washer	51-3-5	11324	.05
BIRAS	25-F-23	xA-3256	Bearing for rear end of clutch connection	51-3-5-7	18901	8.70
CIRAS	16-D-65	A-3257	Felt washer for clutch connection bearing, front and rear	51	18836	.25
DIRAS	19-D-53	A-3258	Inner felt retainer for clutch connection bearing	51	30279	.15
FIRAS	19-C-21	A-3259	Retainer, front and rear for clutch connection bearing	51	18843	.05
KIRAS	10-L-22	A-3260	Steel ring either side of New Departure bearing	51-3-5	38513	.05
LIRAS	18-B-55	A-3261	Steel ring either side of Hess Bright bearing	53-5	30760	.10

TYPES 51-53-55 TRANSMISSION DRIVE SHAFT. SHIPPER GEARS AND BEARINGS ON DRIVE SHAFT

BORAS	19-F-21	A-3264	Transmission drive shaft with collar	51-3-5	20848	11.30
CORAS	10-D-11	A-3265	Collar on front end of drive shaft	51-3-5	18837	.10
DORAS	23-C-104	A-3266	Shipper gear on drive shaft for high and intermediate speeds, 24 teeth outside, 18 inside	51	18449	14.00
KORAS	23-E-7	A-3267	Shipper gear on drive shaft for high and intermediate speeds, 25 teeth outside, 18 inside	53-5	30859	14.00
MORAS	23-D-17	A-3268	Shipper gear on drive shaft for low and reverse speeds, 34 teeth	51-3-5	18444	14.50
RORAS	25-D-37	A-3269	Bearing (Hyatt Roller) for front end of transmission drive shaft	51-3-5	18835	2.25
TORAS	19-C-93	A-3270	Collar on rear end of drive shaft	51-3-5	18838	.30
ZORAS	25-F-23	xA-3271	Bearing for rear end of drive shaft	51-3-5	18901	8.70
BURAS	17-D-41	A-3272	Felt washer, front of rear bearing on drive shaft	51-3-5	11483	.20
CURAS	19-F-19	A-3273	Retainer, front, for felt washer, front of rear bearing on drive shaft	51-3-5	30280	.05
FURAS	19-D-53	A-3274	Retainer, rear, for felt washer, front of rear bearing	51-3-5	30279	.15
KURAS	19-C-21	A-3275	Retainer for felt washer, rear of bearing on drive shaft	51-3-5	18843	.05
LURAS	16-D-65	A-3276	Felt washer, rear of bearing on drive shaft	51-3-5	18836	.25
MURAS	19-D-16	A-3277	Cap for transmission drive shaft rear bearing	51-3-5	18849	1.25
PURAS	10-J-5	A-3278	Screw, rear cap to case	51-3-5	10006	.05
RURAS	15-B-35	A-3279	Lock washer	51-3-5	11324	.05
SURAS	21-D-44	A-3280	Flange on transmission drive shaft for universal joint	51-3-5	18845	4.50
TURAS	10-H-10	A-3281	Woodruff key	51-3-5	30505	.10
ZURAS	10-E-3	A-3282	Pin in flange for transmission drive shaft	51-3-5	18833	.05

x Indicates subject to special discount.

Code Word	Sec.-Bin	Serial	Part Name	Type	Symbol	Price
BATAS	10-D-4	A-3283	Set screw for pin in flange	51-3-5	18834	.05
DATAS	18-C-143	A-3285	Nut on transmission drive shaft for joint flange	51-3-5	6168	.10
FATAS	36-B-161	A-3286	Lock washer	51-3-5	11322	.05

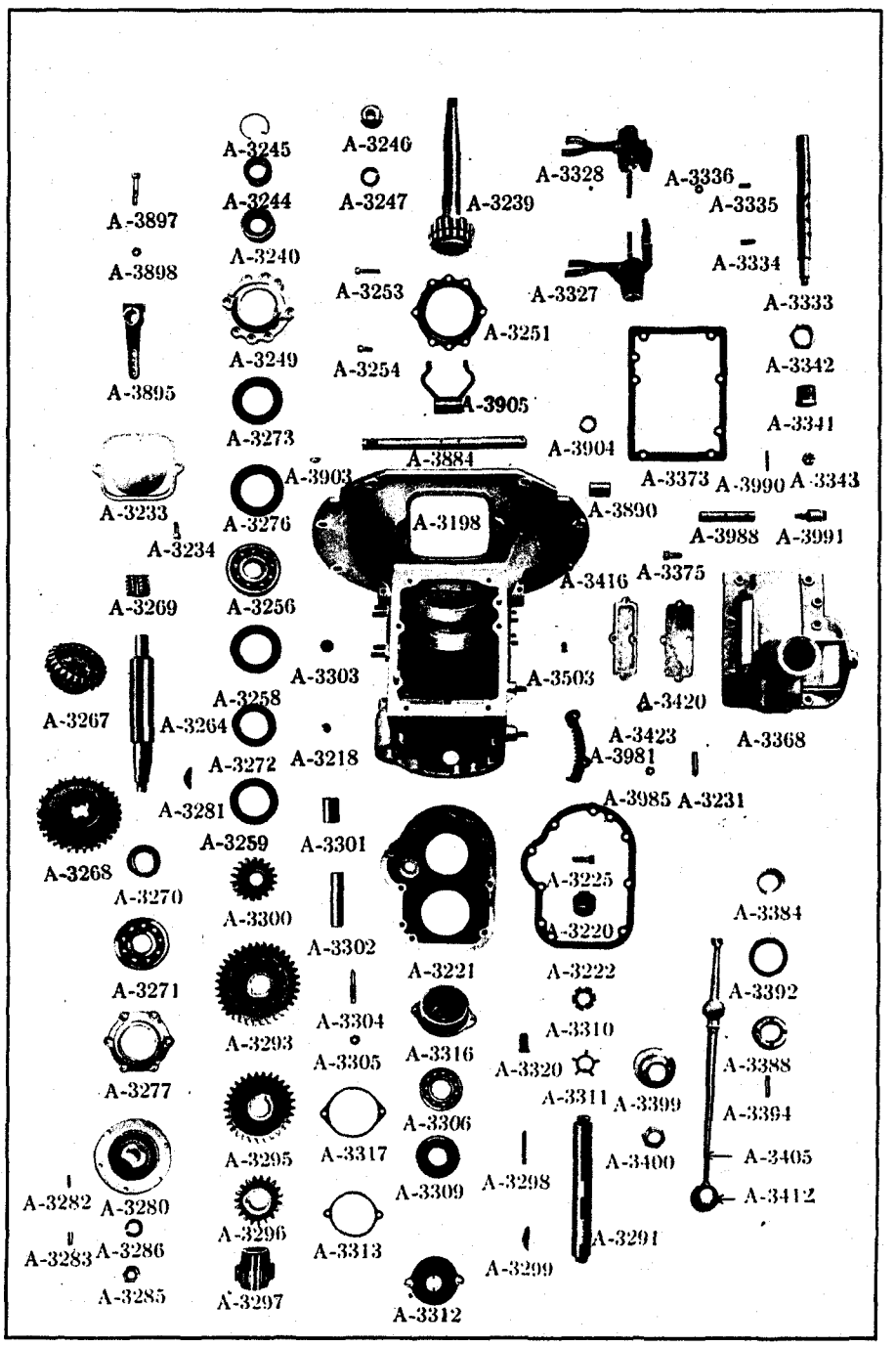
TYPES 51-53-55 JACKSHAFTS, GEARS AND BEARINGS

KATAS		A-3289	Jack shaft with gears	51	20846	42.00
LATAS	19-F-27	A-3290	Jack shaft with gears	53-5	21485	42.00
MATAS	23-C-147	A-3291	Jack shaft only	51-3-5	18451	4.00
PATAS	23-D-52	A-3292	Driven gear on jack shaft	51	18445	10.50
RATAS	23-E-15	A-3293	Driven gear with hub on jackshaft	53-5	21191	10.50
SATAS	23-E-12	A-3294	Gear, intermediate, on jackshaft, 29 teeth	51	18448	10.00
TATAS	23-G-6	A-3295	Gear, intermediate, on jackshaft, 28 teeth	53-5	30858	10.00
ZATAS	23-C-8	A-3296	Gear, low speed, on jackshaft, 19 teeth	51-3-5	18446	9.00
BETAS	23-C-62	A-3297	Gear, reverse speed, on jackshaft, 16 teeth	51-3-5	18447	9.00
CETAS	19-C-35	A-3298	Key, reverse gear to jackshaft	51-3-5	18830	.15
DETAS	10-H-10	A-3299	Key, all gears except reverse to jackshaft	51-3-5	30505	.10
FETAS	23-D-29	A-3300	Pinion with bushing for reverse speed, 18 teeth	51-3-5	20850	6.00
KETAS	19-D-22	A-3301	Bushing for reverse pinion	51-3-5	18828	1.00
LETAS	19-C-29	A-3302	Pin on shaft for reverse pinion	51-3-5	18842	.80
METAS	9-L-21	A-3303	Plug for reverse pinion pin	51-3-5	18829	.15
PETAS	19-B-31	A-3304	Set screw for reverse pinion pin	51-3-5	18832	.10
RETAS	9-B-22	A-3305	Lock nut	51-3-5	6076	.05
SETAS	25-C-127	xA-3306	Bearing for jackshaft, either end	51-3-5	18900	6.00
TETAS	16-B-83	A-3307	Felt washer for jackshaft bearing	51	11484	.05
ZETAS	18-B-9	A-3308	Felt oil retainer for jackshaft bearing	51	30281	.05
BITAS	9-M-21	A-3309	Retainer between bearing and gears on either end of jackshaft	51-3-5	18844	.10
DITAS	19-D-10	A-3310	Retainer nut for jackshaft bearing, either end	51-3-5	18852	.25
FITAS	19-B-35	A-3311	Special lock washer for retainer nut	51-3-5	18853	.05
KITAS	19-D-61	A-3312	Cap for jackshaft bearing, rear	51-3-5	18851	1.00
LITAS	16-B-75	A-3313	Paper gasket for rear jackshaft bearing cap	51-3-5	30066	.05
MITAS	9-B-12	A-3314	Screw, rear cap to transmission	51-3-5	10009	.05
PITAS	15-B-35	A-3315	Lock washer	51-3-5	11324	.05
RITAS	18-D-22	A-3316	Retainer for jackshaft bearing, front	51-3-5	18848	1.50
SITAS	9-E-5	A-3317	Gasket for front jackshaft bearing retainer	51-3-5	30065	.05
TITAS	14-D-21	A-3318	Screw for bearing retainer	51-3-5	10007	.05
ZITAS	15-B-35	A-3319	Lock washer	51-3-5	11324	.05
BOTAS	19-D-7	A-3320	Adjusting screw for jackshaft, either end	51-3-5	18831	.25
COTAS	14-D-71	A-3321	Cotter pin	51-3-5	15169	.05
DOTAS	31-C-67	A-3322	Screw, transmission to crank case	51-3-5	10048	.10
FOTAS	13-D-8	A-3323	Nut	51-3-5	11675	.05
TOTAS	10-Q-21	A-3324	Lock washer	51-3-5	11326	.05

TYPES 51-53-55 TRANSMISSION SHIFTER FORKS AND SHIFTER SHAFTS

ZOTAS	18-B-146	A-3327	Shifter fork complete for high and intermediate speeds, all except (C) on 53	51-3-5	20597	4.25
CUTAS	19-B-13	A-3328	Shifter fork complete for low and reverse speed, all except (C) on 53	51-3-5	20596	4.25
FUTAS	19-C-91	A-3329	Bar, interlocker for gear shifter forks, all except (C) on 53.	51-3-5	18947	.40
KUTAS	10-C-11	A-3330	Rivet (4 used), interlocker bar to shifter fork, all except (C) on 53	51-3-5	17690	.05
MUTAS	10-F-8	A-3331	Taper pin, interlocker bars, all except (C) on 53	51-3-5	15021	.05
RUTAS	19-C-3	A-3332	Shaft for shifter forks	51	18956	2.75
SUTAS	19-D-43	A-3333	Shaft for shifter forks, all except (C) on 53	53-5	31464	2.75
TUTAS	10-D-15	A-3334	Plunger through shaft for interlocker bars	51-3-5	18946	.10
ZUTAS	9-L-21	A-3335	Guide screw for shifter fork on shaft, all except (C) on 53	51-3-5	18942	.05

x Indicates subject to special discount.



TYPES 51-53-55. TRANSMISSION AND CONTROL

Code Word	Sec.-Bin	Serial	Part Name	Type	Symbol	Price
BADAT	10-B-5	A-3336	Lock nut on guide screw, all except (C) on 53	51-3-5	3798	$ .05
CADAT	13-B-16	A-3337	Lock washer	51-3-5	11315	.05
DADAT	10-L-4	A-3338	Ball for stop in shifter fork, all except (C) on 53	51-3-5	6127	.05
FADAT	19-C-15	A-3339	Plunger in shifter forks for stop, all except (C) on 53	51-3-5	18945	.05
KADAT	9-E-5	A-3340	Spring for plunger in shifter forks, all except (C) on 53	51-3-5	6161	.05
LADAT	19-B-9	A-3341	Adjusting nut for shifter shaft	51-3-5	18935	1.00
MADAT	19-B-116	A-3342	Lock nut for adjusting nut	51-3-5	11662	.15
PADAT	19-C-159	A-3343	Castle nut on end of shifter shaft	51-3-5	11661	.10
RADAT	10-D-7	A-3344	Cotter pin for castle nut	51-3-5	15166	.05
SADAT	19-D-30	A-3345	Shifter shaft, RIGHT, for low and reverse speeds (C)	53	32087	3.00
TADAT	19-D-58	A-3346	Shifter shaft, LEFT, for high and intermediate speeds (C)	53	32080	3.00
ZADAT	10-E-8	A-3347	Bracket, rear end of either shifter shaft for control lever (2 used) (C)	53	32079	1.25
CEDAT	10-E-7	A-3348	Woodruff key, bracket to shaft (C)	53	11354	.05
DEDAT		A-3349	Nut, bracket on shaft (C)	53	3699	.10
FEDAT	10-F-9	A-3350	Lock washer	53	11318	.05
KEDAT	10-D-15	A-3351	Plunger between shifter shafts (C)	53	18946	.10
LEDAT		A-3352	Plunger for shifter shafts (2 used) (C)	53	32088	.10
MEDAT	10-L-4	A-3353	Ball for plunger on shifter shaft (C)	53	6127	.05
PEDAT	9-E-5	A-3354	Spring for plunger (C)	53	6161	.05
REDAT		A-3355	Screw for shifter shaft plunger (2 used) (C)	53	32095	.10
SEDAT	19-D-55	A-3356	Shifter arm for high and intermediate speeds (C)	53	32078	3.20
TEDAT	19-D-60	A-3357	Shifter arm for low and reverse speeds (C)	53	32077	3.20
ZEDAT	10-K-16	A-3358	Clamp screw for shifter arm (C)	53	10032	.10
BIDAT	30-D-60	A-3359	Nut	53	11678	.05
CIDAT	36-D-21	A-3360	Lock washer	53	11316	.05
DIDAT	9-N-14	A-3361	Bushing for shifter shafts, front (C)	53	32073	.75
FIDAT	9-N-13	A-3362	Bushing for shifter shafts, rear (C)	53	32074	1.00
KIDAT		A-3363	Bushing for plunger between shifter shafts (C)	53	32093	.15
LIDAT	9-H-17	A-3364	Bushing in top cover for plunger and ball in shifter shaft (2 used) (C)	53	32072	.15

TYPES 51-53-55 TRANSMISSION TOP COVERS AND CONTROL LEVERS

RIDAT	19-F-18	A-3367	Top cover for transmission	51	18902	12.00
SIDAT	19-B-29	A-3368	Top cover with ball seat for transmission, all except (C), LEFT steering	53	21837	12.00
ZIDAT	19-E-19	A-3369	Top cover with bushings and studs for transmission (C), LEFT steering	53	22028	15.00
CODAT	19-E-26	A-3370	Top cover with ball seat for transmission, LEFT steering	55	22380	12.00
DODAT	18-C-127	A-3371	Top cover with ball seat for transmission, all except (C), RIGHT steering	53	21836	15.00
KODAT	19-G-17	A-3372	Top cover with ball seat for transmission, RIGHT steering	55	22756	12.00
MODAT	16-D-58	A-3373	Gasket for top cover on transmission case	51-3-5	18278	.05
PODAT	31-C-129	A-3374	Screw, top cover to case	53	10035	.15
RODAT	37-B-94	A-3375	Screw, top cover to transmission	51-3-5	10024	.05
SODAT	10-E-10	A-3376	Lock washer	51-3-5	11325	.05
TODAT	10-K-16	A-3377	Breather for transmission top cover	51-3-5	30713	.20
ZODAT	19-B-145	A-3378	Extension with seat and studs for transmission top cover (C)	53	21853	9.00
BUDAT	9-J-9	A-3379	Stud, extension to top cover	53	19711	.05
CUDAT	10-P-7	A-3380	Stud in extension for top cover (C)	53	19777	.05
DUDAT	30-D-60	A-3381	Nut	53	11678	.05
FUDAT	36-D-21	A-3382	Lock washer	53	11316	.05
KUDAT	19-C-19	A-3383	Seat for control lever, lower	51	18951	.50
LUDAT	12-D-42	A-3384	Seat for control lever, lower	53-5-7	30906	.65
MUDAT	10-B-9	A-3385	Pin, seat in top cover	53-5-7	30908	.05
PUDAT	18-D-23	A-3386	Spring for control lever on seat	51	18949	.10
RUDAT	19-B-59	A-3387	Upper seat for control lever	51	18950	.75
SUDAT	10-B-23	A-3388	Upper seat for lock for control lever	53-5-7	30905	.35
TUDAT	9-B-6	A-3389	Steel washer for control lever seat	51	11496	.05
ZUDAT	17-C-36	A-3390	Felt washer, thin, for control lever, upper seat	51	18948	.05

Code Word	Sec.-Bin	Serial	Part Name	Type	Symbol	Price
BAFAT	16-B-157	A-3391	Felt washer for control lever seat	51	3695	$ .10
CAFAT	16-F-13	A-3392	Felt washer between upper and lower seat	53-5-7	11506	.10
DAFAT	9-S-21	A-3393	Lock pin for control lever in seat	51	30349	.15
FAFAT	10-B-8	A-3394	Pin for control lever in seat	53-5-7	30904	.10
KAFAT	10-G-3	A-3395	Screw, lock pin for control lever	51	11838	.05
LAFAT	19-B-7	A-3396	Check nut for control lever, lower	51	11663	.20
MAFAT	18-C-101	A-3397	Check nut for control lever, upper	51	18940	.30
PAFAT	18-C-103	A-3398	Cap for ball seat on control lever	51	18952	.30
RAFAT	19-B-75	A-3399	Cap for ball seat on control lever	53-5-7	30903	.50
SAFAT	9-N-7	A-3400	Lock nut for cap on control lever	53-5-7	30907	.35
TAFAT	18-C-1	A-3401	Control lever less hand ball, all except (C) (SD)	51	19074	4.50
ZAFAT	19-D-28	A-3402	Control lever less hand ball (C)	51	19999	4.50
BEFAT	19-D-46	A-3403	Control lever less hand ball (SD)	51	30350	4.50
CEFAT	19-E-16	A-3404	Control lever less hand ball (R) (V) (MT) (SL)	53	32061	4.50
DEFAT	19-D-40	A-3405	Control lever less hand ball (7-P) (L) (BL)	53	30860	4.50
FEFAT	19-D-25	A-3406	Control lever less hand ball (B)	53	32060	4.50
KEFAT	18-E-6	A-3407	Control lever less hand ball (C)	53	32324	5.00
LEFAT	18-B-66	A-3408	Control lever less hand ball (T) (S) (CV) (V)	55	33709	4.50
MEFAT	18-B-64	A-3409	Control lever less hand ball (R) (P) (CR) (C)	55	33712	4.50
PEFAT	19-B-61	A-3410	Control lever less hand ball (B) (M) (A)	55	33711	4.50
REFAT	19-B-133	A-3411	Control lever less hand ball (L) (I) (LD)	55	33710	4.50
SEFAT	19-D-19	A-3412	Hand ball for control lever	51-3-5-7	42333	.75
TEFAT	18-B-43	A-3413	Cover for hand hole in top cover, all except (C), LEFT steering	51	19114	.50
BIFAT	19-D-63	A-3414	Cover for hand hole in top cover, LEFT steering (C)	51	30181	2.00
CIFAT	19-B-151	A-3415	Cover for hand hole in top cover LEFT steering, before engine A-26482 and all RIGHT steering	53-5	30821	1.25
FIFAT	18-B-153	A-3416	Cover for hand hole in top cover with busing for accelerator pedal, all except (C) after engine A-26482, LEFT steering	53-5	21835	2.00
MIFAT	19-D-34	A-3417	Cover for hand hole on transmission top cover (C)	53	32076	1.50
PIFAT	19-B-91	A-3418	Cover for hand hole cover on top cover, RIGHT steering	51	30342	.10
RIFAT	16-B-149	A-3419	Gasket for hand hole cover on top cover	51	19993	.05
SIFAT	16-B-127	A-3420	Gasket for hand hole cover on top cover	53-5	30847	.05
TIFAT	10-T-4	A-3421	Bowen oiler in hand hole cover for accelerator shaft, LEFT steering	53-5-7	30772	.20
BOFAT	19-B-43	A-3422	Screw for hand hole cover, LEFT steering	51	10004	.05
COFAT	14-B-17	A-3423	Screw for hand hole cover, all except (C) on 53	53-5	11626	.05
DOFAT	15-C-115	A-3424	Screw for hand hole cover (C)	53	10272	.05
FOFAT	10-S-18	A-3425	Screw for hand hole cover, RIGHT steering	51	10003	.05
LOFAT	13-B-16	A-3426	Lock washer	51	11315	.05
MOFAT	10-A-22	A-3427	1½" pipe plug in transmission top cover	55	32890	.75

TYPE 57 TRANSMISSION SHAFTS, GEARS, BEARINGS AND RETAINERS

ROFAT	19-G-14	A-3430	Clutch connection for transmission	57	41960	20.00
SOFAT	25-E-8	xA-3431	Rear bearing for clutch connection (No. 1309 N.D.)	57	37236	8.50
TOFAT	18-D-63	A-3432	Retainer for clutch connection rear bearing	57	37220	2.00
ZOFAT	18-C-139	A-3433	Steel ring either side of rear clutch connection bearing	57	37235	.10
BUFAT	18-C-157	A-3434	Check nut for rear clutch connection bearing	57	37238	.75
CUFAT	9-E-9	A-3435	Locking wire for check nut	57	37239	.05
DUFAT	19-D-74	A-3436	Cap for clutch connection main bearing	57	37237	1.75
FUFAT	16-D-40	A-3437	Gasket between cap and retainer	57	37219	.05
KUFAT	9-E-11	A-3438	Screw, cap and retainer to transmission case	57	37264	.05
LUFAT	13-B-16	A-3439	Lock washer	57	11315	.05
MUFAT	19-C-41	A-3440	Nut on clutch end of clutch connection	51-3-5-7	18804	.45
PUFAT	18-D-79	A-3441	Lock washer	51-3-5-7	11323	.05
RUFAT	18-D-9	A-3442	Transmission drive shaft with collar	57	24181	12.00
SUFAT	10-O-23	A-3443	Collar for front end of transmission drive shaft	57	37233	.15
TUFAT	25-D-32	xA-3444	Hyatt bearing in end of clutch connection for transmission drive shaft	57	37234	2.45
ZUFAT	9-R-15	A-3445	Spacer in clutch connection end for drive shaft bearing	57	37268	.25

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Code Word	Sec.-Bin	Serial	Part Name	Type	Symbol	Price
BAGAT	25-F-23	xA-3446	Bearing for rear end of transmission drive shaft	51-3-5-7	18901	$ 8.70
CAGAT	18-D-63	A-3447	Retainer for rear drive shaft bearing	57	37220	2.00
DAGAT	10-L-22	A-3448	Throw off ring front and rear of drive shaft rear bearing.	57	38513	.05
FAGAT	19-C-115	A-3449	Spacing ring for drive shaft rear bearing	57	37214	.25
KAGAT	18-B-26	A-3450	Retainer for spacing ring	57	37218	.10
LAGAT	16-D-40	A-3451	Gasket between retainers	57	37219	.05
MAGAT	19-C-157	A-3452	Cap for rear drive shaft bearing	57	37217	.25
PAGAT	16-B-76	A-3453	Felt washer under rear drive shaft bearing cap	57	37272	.30
RAGAT	14-D-21	A-3454	Screw, cap and retainer to transmission case	57	10007	.05
SAGAT	13-B-16	A-3455	Lock washer	57	11315	.05
TAGAT	21-D-41	A-3456	Flange on transmission drive shaft for universal joint	57	37266	4.50
ZAGAT	19-B-115	A-3457	Screw, flange to drive shaft	57	37216	.15
BEGAT	18-C-131	A-3458	Flat washer	57	37215	.05
CEGAT	36-B-145	A-3459	Lock washer	57	11340	.05
DEGAT	23-E-5	A-3460	Shipper gear on drive shaft for high and intermediate speeds, 22 teeth, 16 grooves	57	37231	12.00
KEGAT	23-E-26	A-3461	Shipper gear on drive shaft for low and reverse speeds (29 teeth)	57	37227	13.50
MEGAT	23-G-9	A-3462	Jack shaft gears assembled (high, intermediate, low and reverse gear with oil scoop and spacer)	57	23635	40.00
REGAT	23-G-12	A-3463	Jack shaft gears only (intermediate, low and reverse with oil scoop and spacer)	57	41735	30.00
TEGAT	23-D-39	A-3464	Driven or high gear only for jack shaft gear assembly (31 teeth)	57	37241	12.50
BIGAT	32-D-2	A-3465	Rivet, driven gear to jack shaft gears	57	17627	.05
CIGAT	10-L-10	A-3466	Scoop in gears, oiling jack shaft bearings	57	37630	.10
DIGAT	23-D-50	A-3467	Pinion with bushing for reverse speed (16 teeth)	57	23804	10.00
FIGAT	19-B-41	A-3468	Bushing for reverse pinion	57	37261	.80
KIGAT	19-D-69	A-3469	Shaft for reverse pinion	57	38905	1.50
LIGAT	18-B-73	A-3470	Set screw for reverse pinion shaft	57	37263	.15
MIGAT	9-Q-16	A-3471	Spacing collar on reverse pinion shaft	57	37259	.45
PIGAT	9-N-18	A-3472	Dowel in case anchoring collar	57	37223	.05
RIGAT	18-D-8	A-3473	Jack shaft only	57	37749	2.50
SIGAT	25-D-60	xA-3474	Hyatt bearing on jack shaft for gear (2 used)	57	37747	2.60
TIGAT	19-D-50	A-3475	Spacer between jack shaft bearings	57	37748	1.00
ZIGAT	9-M-19	A-3476	Set screw in transmission case for jack shaft	57	37257	.10
BOGAT	9-G-6	A-3477	Lock nut on set screw	57	H1700	.05
COGAT	19-B-157	A-3478	Spacing collar on jack shaft, front and rear	57	37224	.60
DOGAT	9-N-18	A-3479	Dowel in case anchoring jack shaft collar, front and rear.	57	37223	.05
KOGAT	18-B-74	A-3480	Cover for end of jack shaft, front and rear	57	37221	.50
LOGAT	9-K-12	A-3481	Gasket for jack shaft end cover	57	37269	.05
MOGAT	9-T-11	A-3482	Stud for attaching jack shaft end cover	57	37202	.05
POGAT	9-M-10	A-3483	Nut	57	11674	.05
ROGAT	13-B-16	A-3484	Lock washer	57	11315	.05

TYPE 57 TRANSMISSION CONTROL

SOGAT	19-E-22	A-3487	Top cover for transmission with ball seat and shaft for hand brake lever, LEFT steering	57	23735	11.00
ZOGAT	19-D-2	A-3488	Top cover for transmission with ball seat and shaft for hand brake lever, RIGHT steering	57	24240	11.00
CUGAT	16-C-117	A-3489	Gasket for top cover	57	38104	.05
DUGAT	10-B-23	A-3490	Screw for top cover	57	11848	.10
FUGAT	9-N-2	A-3491	Breather in top cover for transmission	57	37750	.20
KUGAT	12-D-42	A-3492	Seat for control lever	53-5-7	30906	.65
LUGAT	10-B-9	A-3493	Dowel pin for seat in top cover	53-5-7	30908	.05
MUGAT	16-F-13	A-3494	Felt washer on control lever seat	53-5-7	11506	.10
PUGAT	10-B-23	A-3495	Lock nut for control lever in seat	53-5-7	30905	.35
RUGAT	10-B-8	A-3496	Pin for control lever in seat	53-5-7	30904	.10
SUGAT	19-B-75	A-3497	Cap for ball seat of control lever	53-5-7	30903	.50
TUGAT	9-N-7	A-3498	Nut retaining cap on control lever	53-5-7	30907	.35
ZUGAT	19-B-89	A-3499	Control lever less hand ball (OC) (S) (V1) (V2) (SB-1) (SB-2) (B-2)	57	37486	4.50

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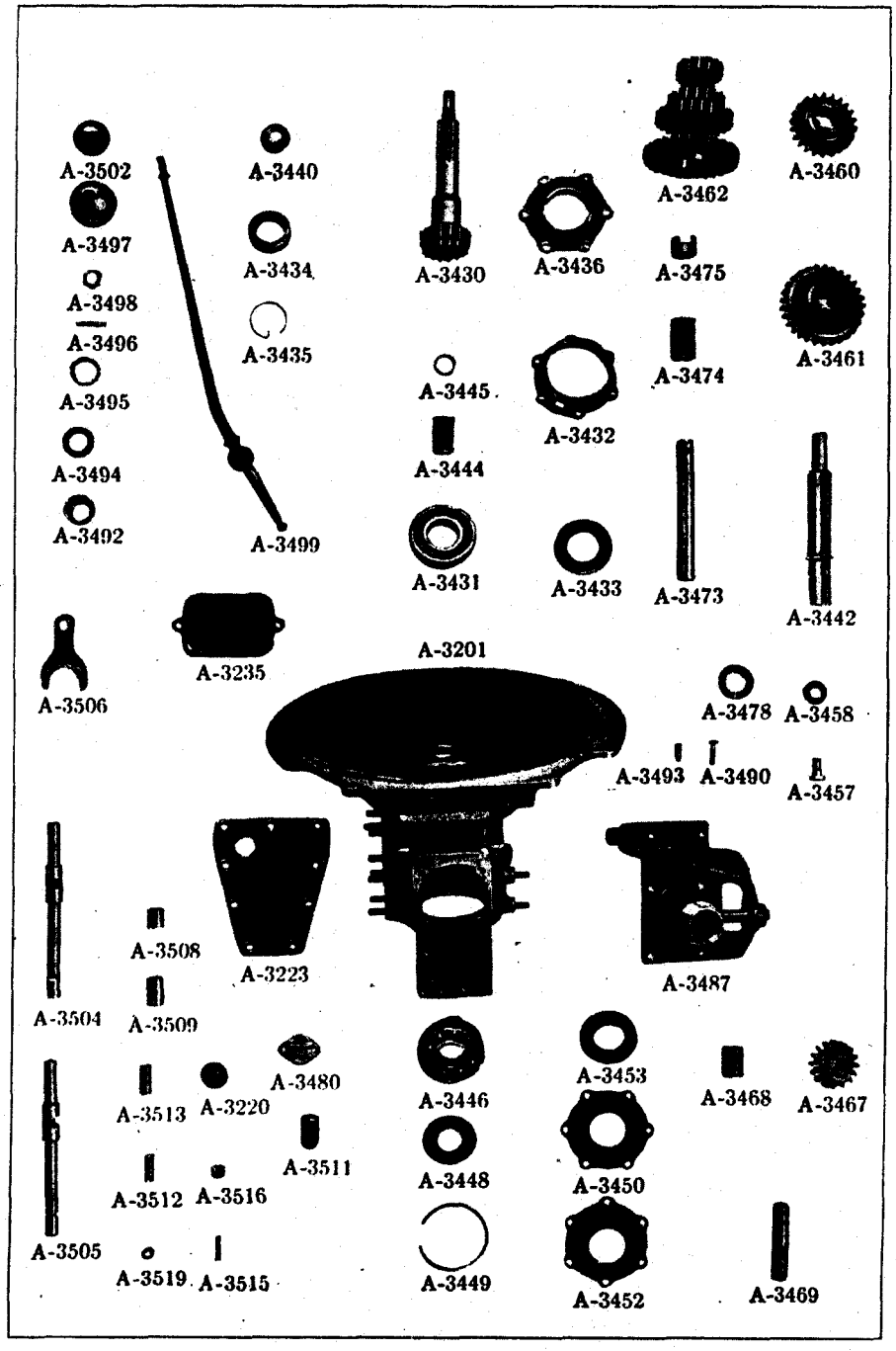


TYPE 57. TRANSMISSION AND CONTROL

Code Word	Sec.-Bin	Serial	Part Name	Type	Symbol	Price
BAKAT	18-D-73	A-3500	Control lever less hand ball (I) (L) (LD) (TL) (TLD)	57	37849	$ 4.50
CAKAT	18-B-36	A-3501	Control lever less hand ball (B-1) (M) (A)	57	37488	4.50
DAKAT	19-D-19	A-3502	Hand ball for control lever	51-3-5-7	42333	.75
FAKAT	10-T-4	A-3503	Oiler on top cover for accelerator pedal shaft, LEFT steering	53-5-7	30772	.20
KAKAT	18-B-49	A-3504	Shaft only for shifter fork, high and intermediate speed	57	37249	2.85
LAKAT	18-B-161	A-3505	Shaft only for shifter fork, low and reverse speed	57	37248	2.60
MAKAT	19-D-80	A-3506	Shifter fork only for all speeds	57	37229	2.25
PAKAT	9-E-13	A-3507	Taper pin in shifter fork	57	37831	.08
RAKAT	9-E-8	A-3508	Bushing for either shifter shaft, front	57	37251	.50
SAKAT	9-F-8	A-3509	Bushing for either shifter shaft, rear	57	37213	.75
TAKAT	9-N-18	A-3510	Set screw for shifter shaft rear bushing	57	37212	.05
ZAKAT	10-F-11	A-3511	Cap for rear end of shifter shafts	57	38099	.20
BEKAT	19-B-109	A-3512	Plunger for locking shifter shaft, either side	57	37255	.60
CEKAT	19-C-39	A-3513	Bushing for plunger, either side	57	37254	.70
DEKAT	9-T-20	A-3514	Dowel pin for bushing	57	18162	.05
FEKAT	9-P-14	A-3515	Spring in plunger, either side	57	37256	.05
KEKAT	9-N-6	A-3516	Cap covering plunger and spring, either side	57	37253	.10
LEKAT	12-D-59	A-3517	Cotter pin through cap and plunger	57	15165	.05
MEKAT	10-N-3	A-3518	Ball between shifter shafts	57	37252	.05
PEKAT	10-O-4	A-3519	Bushing for ball between shifter shafts	57	37250	.10

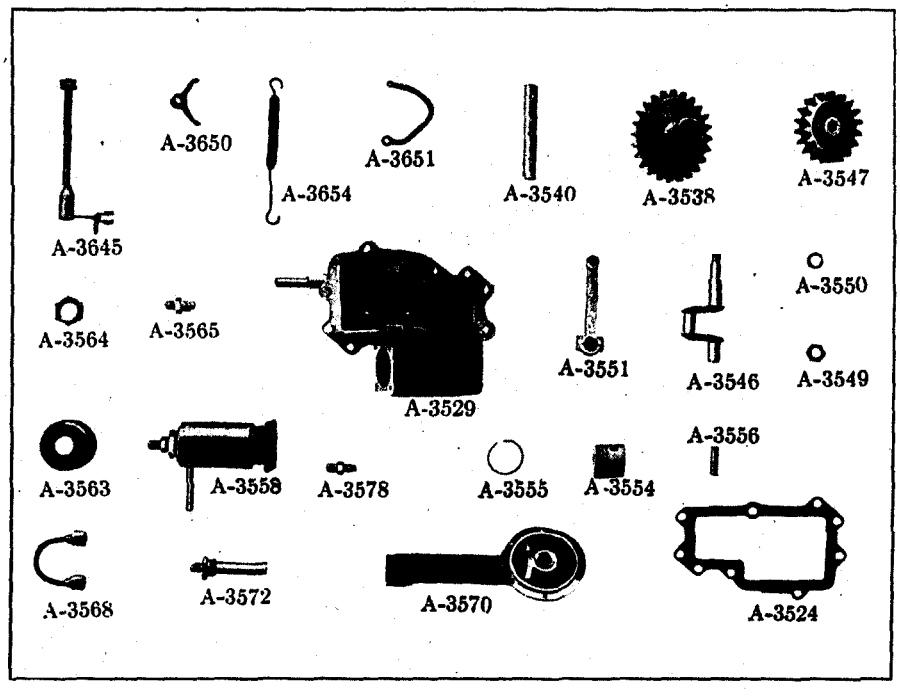
TYPE 53 TIRE PUMP

REKAT	15-E-9	A-3522	Tire pump complete, LEFT hand steering	53	21884	33.00
SEKAT	14-E-11	A-3523	Tire pump complete, RIGHT hand steering	53	21883	33.00
TEKAT	16-C-74	A-3524	Gasket between tire pump base and transmission	53	30961	.05
ZEKAT	10-H-7	A-3525	Screw, tire pump to transmission	53	31800	.10
BIKAT		A-3526	Dowel for tire pump on case	53-5	31101	.05
CIKAT	9-D-2	A-3527	Nut on stud, tire pump to transmission	53-5	11676	.05
DIKAT	13-B-16	A-3528	Lock washer	53-5	11315	.05
FIKAT	11-D-72	A-3529	Base with bushings and shifter fork, LEFT steering	53	21692	10.00
KIKAT	13-B-157	A-3530	Base with bushings and shifter fork, RIGHT steering	53	21693	10.00
LIKAT	10-B-1	A-3531	Shaft for shifter fork	53-5	30879	.30
MIKAT		A-3532	Shifter fork with pins	53-5	21691	.75
PIKAT	10-F-2	A-3533	Taper pin, shifter on shaft	53-5	15015	.05
RIKAT	19-B-101	A-3534	Bushing for shifter shaft	53-5	30880	.45
SIKAT	9-T-20	A-3535	Dowel, bushings in air pump	51-3-5	18162	.05
TIKAT	10-D-1	A-3536	Drain plug for base, ⅛" pipe (1st type)	53	3467	.05
ZIKAT	9-C-18	A-3537	Drain plug for base, ¼" pipe (2nd type)	53	9123	.05
BOKAT	23-D-5	A-3538	Shifter gear with bushing	53-5	21451	2.75
COKAT		A-3539	Bushing for shifter gear	53-5	30884	.75
DOKAT	18-B-147	A-3540	Shaft for shifter gear	53	30877	.75
FOKAT	10-F-3	A-3541	Taper pin for shaft in base	53-5	15029	.05
KOKAT	14-E-14	A-3542	Grease cup on shaft	53-5	17054	.50
LOKAT	10-G-9	A-3543	Elbow for grease cup, RIGHT steering	53	B600	.15
MOKAT	13-B-97	A-3544	Bushing in base for crank shaft, rear	53	31013	.60
POKAT	25-D-31	A-3545	Bushing for crank shaft, front	51-3	16589	.50
ROKAT	12-B-73	A-3546	Crank shaft for tire pump	53	30867	4.00
SOKAT	23-D-58	A-3547	Driven gear on crank shaft	53	30865	2.50
TOKAT	10-S-17	A-3548	Woodruff key, gear on crank shaft	53-5	11355	.05
ZOKAT	10-S-5	A-3549	Nut, gear on crank shaft	53-5	6999	.05
BUKAT	10-J-6	A-3550	Lock washer	53-5	11317	.05
CUKAT	15-F-8	A-3551	Connecting rod and cap for pump	53	21302	1.25
DUKAT		A-3552	Screw for connecting rod cap	51-3	11637	.08
FUKAT		A-3553	Lock wire for screw	51-3	19895	.05
KUKAT	15-B-3	A-3554	Piston with rings for pump	53	21697	1.40
LUKAT	14-B-94	A-3555	Piston ring for pump	53	30869	.10
MUKAT	12-C-149	A-3556	Piston pin	53	30883	.20
PUKAT	9-H-21	A-3557	Fibre for end of piston pin	53	31014	.05
RUKAT	15-B-145	A-3558	Cylinder with casing and intake pipe (2nd type)	53	21822	3.50
SUKAT	10-R-3	A-3559	Baffle plate between cylinder and crank case, used with No. 21822	53	32041	.10
TUKAT	10-S-1	A-3560	Screw, cylinder and oil trap to base	51-3	10560	.05
ZUKAT	10-D-8	A-3561	Lock washer	51-3	11313	.05

Code Word	Sec.-Bin	Serial	Part Name	Type	Symbol	Price
BALAT		A-3562	Casing with flange (2nd type) for cylinder on tire pump.	53	21821	$ .65
CALAT		A-3563	Cap for cylinder on tire pump used with 1st type case only.	53	31209	.15
DALAT	10-B-2	A-3564	Nut, cap on cylinder	53	31212	.20
FALAT	10-B-1	A-3565	Nipple for cylinder outlet	53	30875	.20
KALAT	10-L-4	A-3566	Steel ball for cylinder outlet	53	6127	.05
LALAT	10-M-5	A-3567	Spring for check valve on cylinder outlet	51-3	16595	.05
MALAT	24-B-147	A-3568	Pipe with union nuts, cylinder to oil trap	53	21300	.30
PALAT	36-C-101	A-3569	Union nut for air pipe	51-3	18286	.15
RALAT	14-D-17	A-3570	Oil trap with bearing and partition	53	21696	3.50
SALAT	9-G-9	A-3571	Gasket between oil trap and base	53	30868	.05
TALAT	15-C-29	A-3572	Nipple and tube for oil trap inlet	51-3	20459	.40
ZALAT		A-3573	Partition in oil trap body	51-3	16602	.05
BELAT	10-R-4	A-3574	Steel ball for oil check valve	51-3	17455	.05
CELAT	9-K-4	A-3575	Spring for oil check valve	53	31795	.05
DELAT	10-P-18	A-3576	Adjusting screw for oil check valve	53	31211	.05
FELAT		A-3577	Check nut for adjusting screw	53	11699	.08
KELAT	10-P-17	A-3578	Nipple for oil trap outlet	53	30964	.10

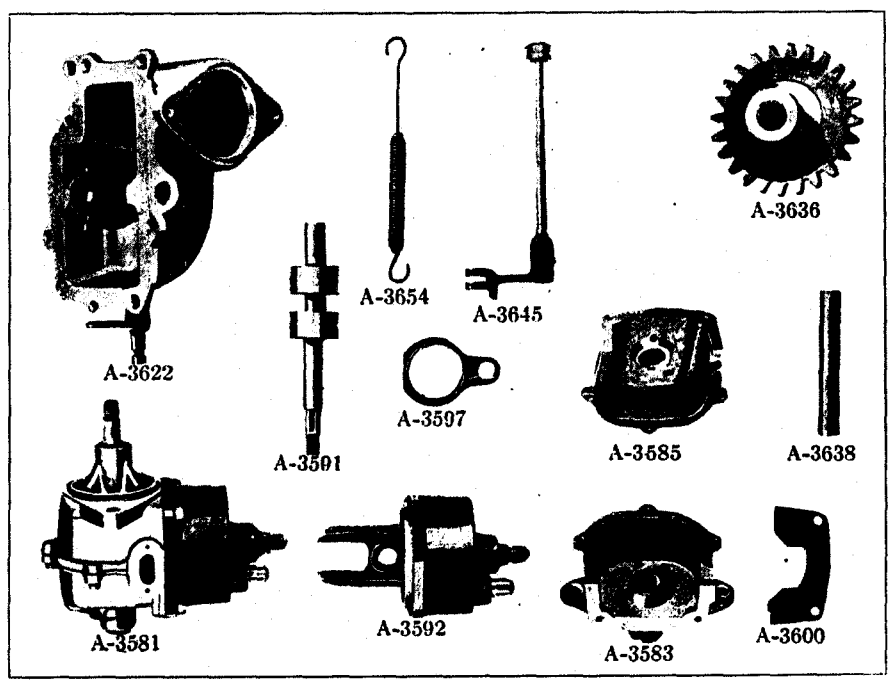
TYPE 55 TIRE PUMP

LELAT	13-D-65	A-3581	Kellog tire pump complete, less breather, intake pipe and attachments, LEFT steering (model 101, symbol No. 20)	55	32441	15.00
RELAT	13-D-65	A-3582	Kellog tire pump complete, less breather, intake pipe and attachments, RIGHT steering (model 101)	55	32441	15.00
TELAT	11-B-71	A-3583	Pump case, front half, with bearing 2938-KP for cam shaft	55	2838-F-KP	3.80
BILAT	10-M-3	A-3584	Bushing in front half of pump case for cam shaft	55	2938-KP	.30



TYPE 53. TIRE PUMP AND CONTROL

Code Word	Sec.-Bin	Serial	Part Name	Type	Symbol	Price
BAMAT	11-C-33	A-3585	Pump case, rear half, with bearing 2856-KP for cam shaft and oil overflow clip, LEFT steering	55	46129	$2.25
DAMAT	12-C-11	A-3586	Pump case, rear half, with bearing, 2856-KP for cam shaft and oil overflow clip, RIGHT steering	55	3145-KP	2.00
KAMAT	10-M-2	A-3587	Bushing in rear half of pump case for cam shaft	55	2856-KP	.30
LAMAT	9-J-11	A-3588	Gasket between front and rear pump case	55	2939-KP	.10
MAMAT	10-N-24	A-3589	Screw for halves of pump case	55	10237	.05
PAMAT	10-D-8	A-3590	Lock washer	55	11313	.05
RAMAT	31-C-153	A-3591	Camshaft for tire pump	55	2936-KP	2.00
SAMAT	14-D-43	A-3592	Cylinder head complete with piston 1728-KP and rings (not sold separately)	55	1731-KP	4.00
ZAMAT	16-C-92	A-3593	Paper gasket between cylinder head and pump case	55	1958-KP	.10
BEMAT	10-N-2	A-3594	Screw, cylinder head to pump case	55	10273	.05
CEMAT	15-B-45	A-3595	Lock washer	55	11314	.05
DEMAT	10-M-3	A-3596	Piston rings (3 used)	55	1777-KP	.10
FEMAT	11-B-75	A-3597	Link with babbitt lining, 2322-KP for piston	55	2063-KP	1.20
KEMAT	10-C-23	A-3598	Babbitt lining for link	55	2322-KP	.35
LEMAT	10-C-23	A-3599	Wrist pin	55	2398-KP	.15
MEMAT	11-B-67	A-3600	Baffle plate with felt oiler, 1778-KP	55	2839-KP	.30
PEMAT		A-3601	Felt oilers for piston	55	1778-KP	.10
REMAT	10-L-2	A-3602	Nozzle in cylinder head for air connection	55	2937-KP	.65
SEMAT	10-M-4	A-3603	Outlet valve for tire pump	55	1801-KP	.15
TEMAT	10-O-1	A-3604	Outlet valve spring for tire pump	55	1803-KP	.05
ZEMAT	10-L-4	A-3605	Inlet valve for tire pump	55	1257-KP	.30
BIMAT	10-O-1	A-3606	Inlet valve spring for tire pump	55	1749-KP	.10
CIMAT	10-L-19	A-3607	Inlet valve guide for tire pump	55	3880-KP	.08
DIMAT	9-Q-1	A-3608	Washer for inlet valve spring	55	1212-KP	.10
FIMAT	10-E-9	A-3609	Cotter pin	55	15150	.05
KIMAT		A-3610	Oil overflow clip for pump case	55	2777-KP	.10
LIMAT	9-Q-10	A-3611	Leather washer for oil overflow clip	55	2940-KP	.05
MIMAT	10-M-5	A-3612	Spring for oil overflow clip	55	2941-KP	.05
PIMAT	9-F-5	A-3613	Air intake pipe for tire pump	55	32447	.25



TYPE 55. TIRE PUMP AND CONTROL

Code Word	Sec.-Bin	Serial	Part Name	Type	Symbol	Price
BAPAT	15-B-89	A-3614	Breather with tube for tire pump, LEFT steering	55	22643	$ .60
CAPAT	10-E-2	A-3615	Breather with tube for tire pump, RIGHT steering	55	22642	.60
DAPAT		A-3616	Gasket for tire pump breather	55	34114	.05
FAPAT	10-R-22	A-3617	Screw, breather to pump	55	10505	.05
KAPAT	10-D-18	A-3618	Lock washer	55	11343	.05
LAPAT	12-A-32	A-3619	Oiler in breather	55	30789	.20

TYPE 55 HOUSING FOR TIRE PUMP DRIVEN GEAR. TYPES 53-55 TIRE PUMP CONTROL

PAPAT	14-B-68	A-3622	Housing for tire pump driven and shifter gears, with shifter shaft and fork, LEFT steering	55	22620	6.00
SAPAT	12-C-33	A-3623	Housing for tire pump driven and shifter gears, with shifter shaft and fork, RIGHT steering	55	22621	6.00
ZAPAT	16-B-122	A-3624	Gasket between housing and transmission case	55	32444	.05
BEPAT	9-D-2	A-3625	Nut on stud attaching housing to transmission	53-5	11676	.05
CEPAT	13-B-16	A-3626	Lock washer	53-5	11315	.05
DEPAT		A-3627	Dowel, housing to transmission	53-5	31101	.05
FEPAT	16-B-77	A-3628	Gasket between housing and tire pump	55	32443	.05
KEPAT	13-C-89	A-3629	Screw, tire pump to housing	55	10005	.05
LEPAT	10-D-7	A-3630	Lock washer	55	11335	.05
MEPAT	10-B-1	A-3631	Shaft for shifter fork	53-5	30879	.30
PEPAT		A-3632	Shifter fork with pins	53-5	21691	.75
REPAT	10-F-2	A-3633	Taper pin for shifter on shaft	53-5	15015	.05
SEPAT	19-B-101	A-3634	Bushing for shifter shaft	53-5	30880	.45
TEPAT	9-T-20	A-3635	Dowel, shifter shaft bushing	51-3-5	18162	.05
ZEPAT	23-D-5	A-3636	Shifter gear with bushing	53-5	21451	2.75
BIPAT		A-3637	Bushing for shifter gear	53-5	30884	.75
CIPAT	18-B-108	A-3638	Shaft for shifter gear	55	32449	.40
DIPAT	10-F-3	A-3639	Taper pin for shaft in base	55	15029	.05
FIPAT	23-D-137	A-3640	Driven gear on cam shaft for tire pump	55	32445	1.50
KIPAT	10-S-17	A-3641	Woodruff key, driven gear on cam shaft	53-5	11355	.05
LIPAT	10-S-5	A-3642	Nut, gear on cam shaft	53-5	6999	.05
MIPAT	10-J-6	A-3643	Lock washer	53-5	11317	.05
PIPAT		A-3644	Rod with button on floor board to start pump (C)	53	21892	.90
RIPAT	14-B-153	A-3645	Rod with button on floor board to start pump, all except (C) on 53, all except (C) (CV) on 55	53-5	22927	1.00
TIPAT		A-3646	Rod with button in floor board to start pump (C)	55	22926	.90
ZIPAT		A-3647	Rod with button in floor board to start pump (CV)	55	22925	1.00
BOPAT	16-C-6	A-3648	Rubber washer for button on starter rod	53-5	31164	.05
COPAT	37-B-22	A-3649	Thimble in floor board for starting rod, all except (C)	53-5	31316	.20
DOPAT	10-Q-12	A-3650	Lever operating shifter shaft	53-5	30870	.25
FOPAT	12-B-146	A-3651	Link connecting lever and spring	53-5-7	30871	.50
KOPAT	10-Q-11	A-3652	Pin for operating lever and link	53-5-7	30872	.15
LOPAT	10-D-6	A-3653	Cotter pin	53-5-7	15153	.05
MOPAT	15-E-21	A-3654	Spring operating tire pump shifting lever	53-5-7	31314	.10
POPAT	10-Q-8	A-3655	Bracket on side bar for spring, LEFT steering	53-5-7	31293	.10
ROPAT		A-3656	Bracket on side bar for spring, RIGHT steering	53-5	31629	.25

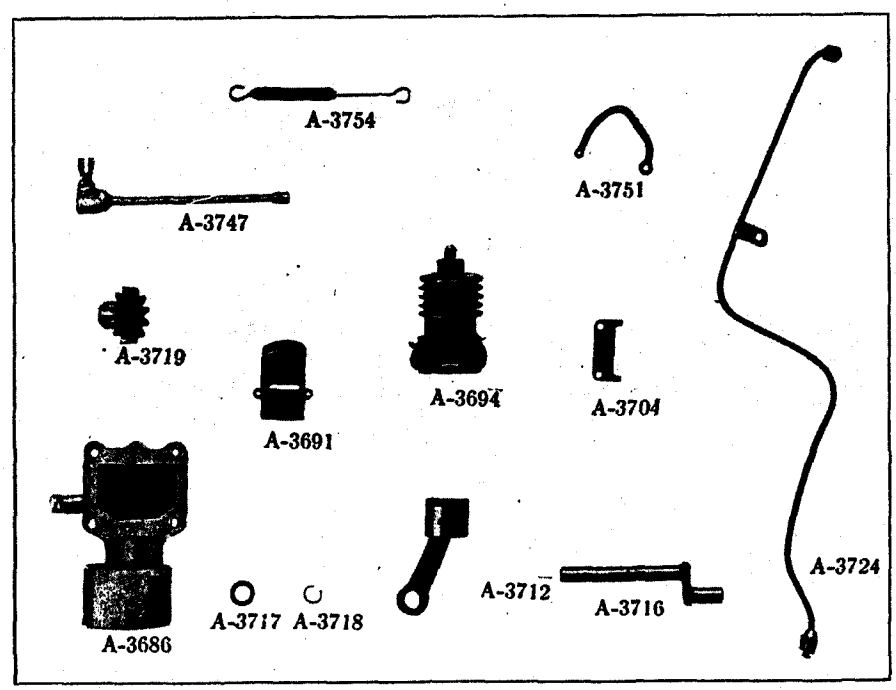
TYPES 53-55 AIR PIPE, HOSE AND GAUGE FOR TIRE PUMP

DUPAT	24-B-149	A-3659	Air pipe, tire pump to tool box, LEFT steering	53	21339	1.00
FUPAT	24-B-153	A-3660	Air pipe, tire pump to tool box, LEFT steering	55	22102	1.00
KUPAT		A-3661	Air pipe, tire pump to tool box, RIGHT steering	53-5	21340	1.50
LUPAT	36-C-101	A-3662	Union nut for air pipe connection	53-5	18286	.15
MUPAT	15-B-77	A-3663	Nipple for tire pump connection in tool box, used on Standard Tread cars only	53-5-7	31201	.60
RUPAT	10-M-8	A-3664	Nipple for tire pump connection in tool box, used on Wide Tread cars	53-5	33987	.70
TUPAT	9-G-5	A-3665	Felt washer on nipple for connection in tool box	53-5-7	31204	.05
ZUPAT	10-O-16	A-3666	Steel washer	53-5-7	31206	.05

Code Word	Sec.-Bin	Serial	Part Name	Type	Symbol	Price
BARAT	9-J-3	A-3667	Leather washer	53-5-7	31207	.05
CARAT	10-P-13	A-3668	Nut, nipple in tool box	53-5-7	12744	.05
DARAT	10-O-23	A-3669	Cap with gasket for nipple	53-5-7	25918	.05
FARAT	10-A-5	A-3670	Gasket in cap	53-5-7	12804	.05
KARAT	Ac. S.	A-3671	Air hose and gauge complete	51-3-5-7	37669	4.00
LARAT	37-C-101	A-3672	Air pressure gauge for tire pump	51-3-5	16970	2.00
MARAT	17-B-157	A-3673	Hose for tire pump, short	51-3-5	50649	.40
PARAT	17-B-159	A-3674	Hose for tire pump, long	51-3-5	50247	1.50
RARAT	10-U-1	A-3675	Clamp for air hose	51-3-5	16966	.05
SARAT		A-3676	Hose connection complete with nut, washer and nipple	51-3-5	22019	.35
TARAT		A-3677	Nipple for hose connection	51-3-5	16965	.15
ZARAT		A-3678	Fibre washer in hose connection	51-3-5	16967	.05
BERAT		A-3679	Hose connection only for tire pump	51-3-5	16968	.10
CERAT		A-3680	Retaining nut for hose connection	51-3-5	16963	.05

TYPE 57 TIRE PUMP AND CONTROL

MERAT	12-C-51	A-3683	Kellogg tire pump complete (Model 201)	57	37300	15.00
PERAT	30-D-60	A-3684	Nut on stud attaching tire pump	57	11678	.05
RERAT	36-D-21	A-3685	Lock washer	57	11316	.05
SERAT	15-B-1	A-3686	Base for tire pump with bushings, shifter fork and shaft.	57	23918	9.00
TERAT	10-G-20	A-3687	Bushing in center of base for crank shaft (2 used)	57	2948-KP	20
ZERAT	10-J-19	A-3688	Bushing in base for end of crankshaft	57	3392-KP	.20
BIRAT	10-B-3	A-3689	Button head screw in hole from which taper pin is removed from shifter fork	57	10595	.05
DIRAT	15-B-35	A-3690	Lock washer	57	11324	.05
FIRAT	10-S-9	A-3691	End cover and name plate for base	57	52689	.20
KIRAT	10-Q-23	A-3692	Button head screw attaching end cover	57	11851	.05



TYPE 57. TIRE PUMP AND CONTROL

Code Word	Sec.-Bin	Serial	Part Name	Type	Symbol	Price
BATAT	16-C-43	A-3693	Gasket between tire pump base and transmission case	57	37709	$ .05
CATAT	15-D-27	A-3694	Cylinder with outlet valve, nipple, piston and intake valve	57	42115	3.75
DATAT	10-H-20	A-3695	Felt in cylinder wall (2 used)	57	3121-KP	.05
FATAT		A-3696	Oil hole cover on cylinder (2 used)	57	3561-KP	.05
KATAT		A-3697	Pin attaching oil hole cover	57	9236-KP	.05
LATAT	9-E-5	A-3698	Nipple in top of cylinder	57	52685	.40
MATAT	10-I-18	A-3699	Outlet valve in cylinder	57	3627-KP	.10
PATAT	10-L-19	A-3700	Guide for outlet valve in cylinder	57	3880-KP	.08
RATAT	10-H-20	A-3701	Spring on outlet valve stem	57	3678-KP	.10
SATAT	10-I-20	A-3702	Screw for cylinder head	57	52679	.05
TATAT	10-I-20	A-3703	Lock washer	57	52704	.05
ZATAT	10-H-19	A-3704	Baffle plate with felt (3120-KP)	57	3115-KP	.20
BETAT		A-3705	Baffle plate felt	57	3120-KP	.10
DETAT	10-I-18	A-3707	Piston ring	57	52694	.05
FETAT	9-P-1	A-3708	Intake valve in piston	57	3093-KP	.10
KETAT	10-I-18	A-3709	Guide for intake valve	57	3583-KP	.08
LETAT	10-H-20	A-3710	Valve spring for inlet valve	57	3678-KP	.10
METAT	10-H-18	A-3711	Intake valve washer retaining spring	57	3128-KP	.05
PETAT	14-B-133	A-3712	Connecting rod with bushing (52674) for tire pump	57	52695	.85
RETAT	10-K-19	A-3713	Connecting rod bushing	57	52674	.45
SETAT	10-H-19	A-3714	Wrist pin	57	52688	.15
TETAT	10-F-9	A-3715	Cotter pin through wrist pin	57	15175	.05
ZETAT	15-C-151	A-3716	Crank shaft only for tire pump	57	3391-KP	1.50
BITAT	10-H-19	A-3717	Thrust collar on crank shaft	57	2276-KP	.05
CITAT	10-J-20	A-3718	Thrust ring on crank shaft	57	2277-KP	.05
DITAT	23-B-119	A-3719	Shifter gear in tire pump	57	38052	2.20
FITAT	10-K-10	A-3720	Key for shifter gear	57	52684	.08
KITAT	10-G-4	A-3721	Shifter fork	57	52706	.45
LITAT	10-Q-21	A-3722	Taper pin in shifter fork	57	15008	.05
MITAT	10-C-23	A-3723	Shifter shaft only	57	3460-KP	.50
PITAT	24-D-46	A-3724	Air pipe, tire pump to tool box in RIGHT dust shield	57	23386	1.25
RITAT	24-G-13	A-3725	Air pipe, tire pump to dush shield, used on cars without tool box in dust shield	57	25925	1.25
SITAT	36-C-101	A-3726	Union nut for air pipe connection	53-5-7	18286	.15
TITAT	10-N-2	A-3727	Screw for air pipe clip, used on cars without tool box in dust shield	57	10273	.05
ZITAT	38-B-8	A-3728	Nut	57	10889	.05
BOTAT	15-B-45	A-3729	Lock washer	57	11314	.05
COTAT	15-B-77	A-3730	Nipple for air hose connection in tool box	53-5-7	31201	.60
DOTAT	9-G-5	A-3731	Felt washer on nipple in tool box	53-5-7	31204	.05
FOTAT	10-O-16	A-3732	Steel washer	53-5-7	31206	.05
KOTAT	9-J-3	A-3733	Leather washer	53-5-7	31207	.05
LOTAT	9-S-23	A-3734	Nipple for tire pump connection through dust shield, used on cars without tool box in dust shield	57	38218	.30
MOTAT	9-L-17	A-3735	Flat washer, inner, between nipple shoulder and shield, used on cars without tool box in dust shield	57	11502	.05
POTAT	9-K-8	A-3736	Flat washer, outer, between nut and shield, used on cars without tool box in dust shield	57	11537	.05
ROTAT	10-P-13	A-3737	Nut, nipple in tool box and dust shield	53-5-7	12744	.05
SOTAT	10-O-23	A-3738	Cap with gasket for nipple	53-5-7	25918	.05
TOTAT	10-A-5	A-3739	Gasket in cap	53-5-7	12804	.05
ZOTAT	Ac. S.	A-3740	Air hose and gauge complete	51-3-5-7	37669	4.00
BUTAT	10-K-21	A-3741	Air pressure gauge for tire pump with connection 552-KP (200 lb. gauge)	57	50648	2.00
CUTAT	17-B-157	A-3742	Hose for tire pump, short	57	50649	.40
DUTAT	17-B-159	A-3743	Hose for tire pump, long	57	50247	1.50
FUTAT	10-G-20	A-3744	Plain hose connection on tire pump end of hose	57	50774	.20
KUTAT	9-N-23	A-3745	Valve lifting thumb lock complete for air hose	57	50653	.60
LUTAT	10-G-19	A-3746	Ferrule, hose on connections	57	50773	.10
MUTAT	14-C-23	A-3747	Rod with button in floor board to start pump	57	23794	1.50
PUTAT	9-T-19	A-3748	Lock screw, rod to shifter shaft	57	11272	.05
RUTAT	18-B-16	A-3749	Nut	57	R-4-701	.05
SUTAT	36-D-21	A-3750	Lock washer	57	11316	.05
TUTAT	12-B-146	A-3751	Link for lever and spring	53-5-7	30871	.50
ZUTAT	10-Q-11	A-3752	Pin for operating lever and link	57	30872	.15

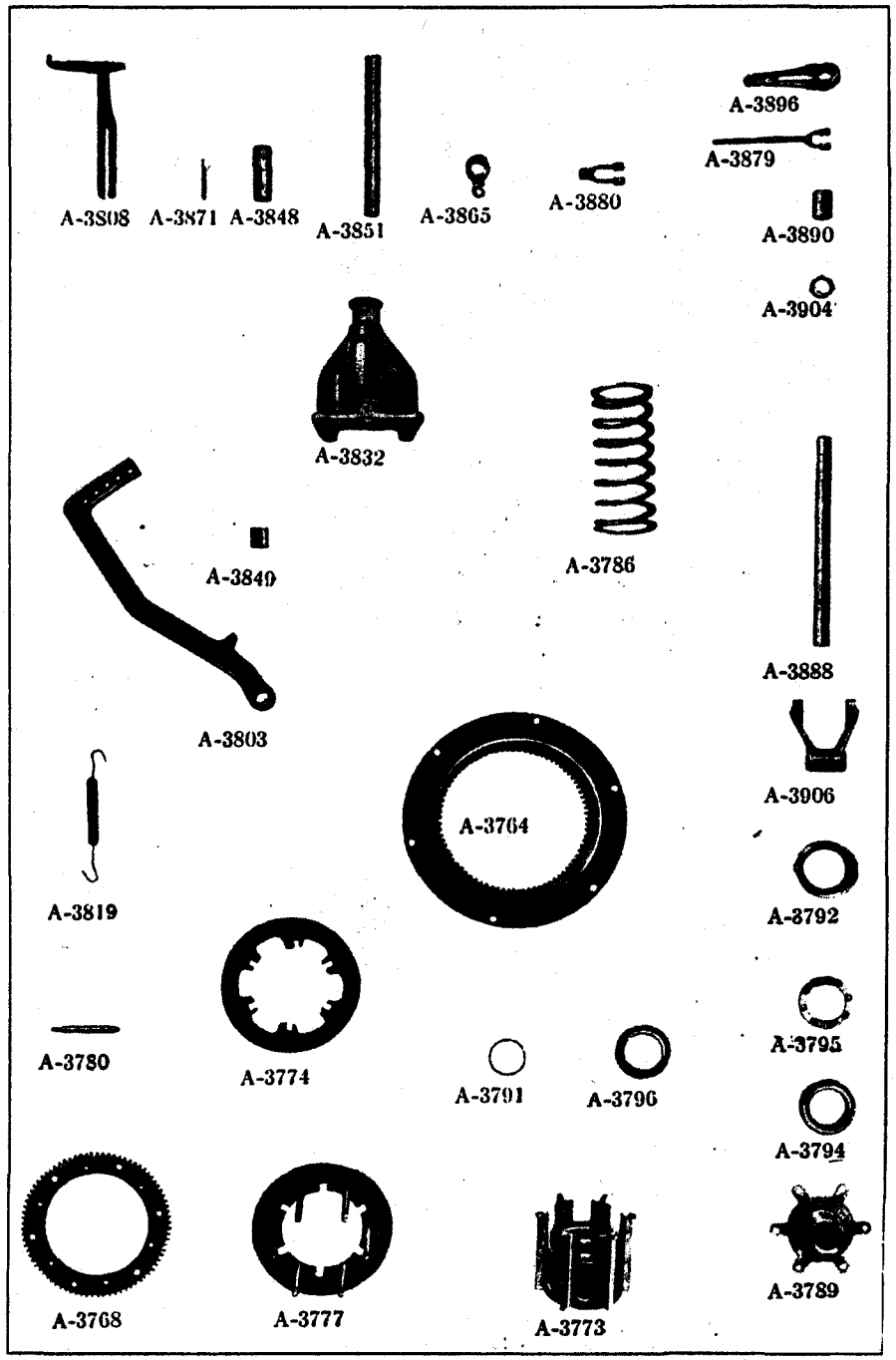
Code Word	Sec.-Bin	Serial	Part Name	Type	Symbol	Price
BABAX	10-D-6	A-3753	Cotter pin	53-5-7	15153	.05
CABAX	15-E-21	A-3754	Spring operating tire pump shifter lever	53-5-7	31314	.10
DABAX	10-Q-8	A-3755	Bracket on transmission case for spring	53-5-7	31293	.10
FABAX	9-L-18	A-3756	Screw for bracket	57	11647	.05
KABAX	13-B-16	A-3757	Lock washer	57	11315	.05

MULTIPLE DISC CLUTCH

LABAX	18-F-9	A-3760	Multiple disc clutch complete	51-3	21070	65.00
MABAX	19-D-47	A-3761	Multiple disc clutch complete	55	22659	65.00
PABAX	19-F-14	A-3762	Multiple disc clutch complete	57	23726	75.00
RABAX	18-F-5	A-3763	Clutch driver with keys for drive disc	51-3	20621	11.20
SABAX	14-E-25	A-3764	Clutch driver for drive discs	55-7	32883	10.20
TABAX	19-C-51	A-3765	Key for clutch driver disc	51-3	18826	.80
ZABAX	10-O-16	A-3766	Rivet, key to driver	51-3	17687	.05
BEBAX	18-E-25	A-3767	Drive disc with facings, lugs and rivets	51-3	21460	3.00
CEBAX	19-G-8	A-3768	Drive disc with facings, lugs and rivets	55-7	22242	2.00
DEBAX	19-G-9	A-3769	Woven facing for drive disc (16 used)	51-3-5-7	18821	.50
FEBAX	10-P-6	A-3770	Rivet for facing	51-3	19232	doz.10
KEBAX	9-U-11	A-3771	Rivet for facing	55-7	33206	doz.10
LEBAX	18-G-21	A-3772	Driver for clutch driven discs	51-3-5	18809	20.00
MEBAX	19-G-25	A-3773	Driver for clutch driven discs	57	37247	24.50
PEBAX	18-E-13	A-3774	Driven discs with lugs	51-3-5-7	20713	1.25
REBAX	18-E-12	A-3775	Front retainer plate with studs for discs	51-3	20743	2.50
SEBAX	19-G-24	A-3776	Front retainer plate with studs for discs	55	22167	2.00
TEBAX	19-G-21	A-3777	Front retainer plate with studs for discs	57	23690	3.00
ZEBAX	19-B-111	A-3778	Stud, front retainer plate to spider	51-3	18806	.15
BIBAX	10-C-12	A-3779	Stud, front retainer plate to spider	55	32879	.15
CIBAX	10-S-18	A-3780	Stud, front retainer plate to spider	57	38923	.30
DIBAX	10-B-5	A-3781	Nut	51-3-5	3798	.05
FIBAX	9-D-2	A-3782	Nut	57	11676	.05
KIBAX	13-B-16	A-3783	Lock washer	51-3-5-7	11315	.05
LIBAX	19-C-95	A-3784	Rear retainer plate for discs	51-3-5-7	18811	.95
MIBAX	19-F-15	A-3785	Spring for clutch	51-3-5	18817	3.00
PIBAX	19-G-12	A-3786	Spring for clutch	57	37267	3.00
RIBAX	19-B-139	A-3787	Spider with bushing for clutch	51-3	20279	5.50
SIBAX	19-D-44	A-3788	Spider with bushing for clutch	55	22124	5.50
TIBAX	19-D-23	A-3789	Spider with bushing for clutch	57	23723	5.00
ZIBAX	19-F-12	A-3790	Ball race complete for spider	51-3-5-7	20594	5.00
BOBAX	9-M-23	A-3791	Ring, retainer for clutch spider bearing	51-3-5-7	18807	.05
COBAX	19-C-43	A-3792	Brass retainer for ball bearing	51-3-5-7	20410	.45
DOBAX	9-R-18	A-3793	⅛" pipe plug in brass retainer	51-3-5-7	30471	.05
FOBAX	19-D-1	A-3794	Inner ball race for clutch spider, front (beveled edge)	51-3-5-7	18815	1.70
KOBAX	19-D-20	A-3795	Retainer with balls for clutch spider bearing	51-3-5-7	18813	.60
LOBAX	19-B-45	A-3796	Outer ball race for clutch spider	51-3-5-7	18816	1.80
MOBAX	19-C-41	A-3797	Nut, clutch on clutch connection	51-3-5-7	18804	.45
POBAX	18-D-79	A-3798	Lock washer	51-3-5-7	11323	.05
ROBAX	9-B-6	A-3799	Woodruff key, clutch on clutch connection	51-3-5	11385	.10

CLUTCH CONTROL

DUBAX	19-D-26	A-3802	Pedal only for clutch, all 51-3-5, and all (CC) except (V-1) (V-2) (B-2) (SB-1) (SB-2) on 57, LEFT steering	51-3-5-7	18974	4.75
KUBAX	19-B-125	A-3803	Pedal only for clutch, all (OC) (B-2) (V-1) (V-2) (SB-1) (SB-2) (S) (M) (A), LEFT steering	57	37282	4.75
MUBAX	19-C-79	A-3804	Pad for clutch pedal, all except (C) on 51-53, all except (R) (P) (CR) (C) on 55, all (CC) except (V-1) (V-2) (SB-1) (SB-2) (B-2) on 57, LEFT steering	51-3-5-7	18971	2.25
SUBAX		A-3805	Pad for clutch pedal (C), LEFT steering	51	30033	2.25
TUBAX		A-3806	Pad for clutch pedal (C), LEFT steering	53	32103	2.25
ZUBAX		A-3807	Pad for clutch pedal (P) (R) (CR) (C), LEFT steering	55	34206	2.25



CLUTCH AND CONTROL

Code Word	Sec.-Bin	Serial	Part Name	Type	Symbol	Price
BAFAX	18-D-13	A-3808	Pad for clutch pedal (V-1) (V-2) (SB-1)(SB-2) (B-2) (S) (M) (A), LEFT steering	57	37288	$2.25
DAFAX	19-D-26	A-3809	Pedal only for clutch, RIGHT steering	51	18975	4.00
FAFAX	19-B-87	A-3810	Pedal only for clutch all 53-55, all (CC) except (V-1) (V-2) (SB-1) (SB-2) (B-2) on 57, RIGHT steering	53-5-7	31017	4.75
LAFAX	18-D-18	A-3811	Pedal only for clutch all (OC) (V-1) (V-2) (B-2) (SB-1) (SB-2) (S) (M) (A), RIGHT steering	57	37286	6.75
PAFAX	19-D-36	A-3812	Pad for clutch pedal all 53, all except (P) (R) (CR) (C) on 55, all (CC) except (V-1) (V-2) (SB-1) (SB-2) (B-2) on 57, RIGHT steering	53-5-7	31016	2.75
TAFAX		A-3813	Pad for clutch pedal (P) (R) (CR) (C), RIGHT steering.	55	34205	2.25
ZAFAX	38-D-43	A-3814	Pad for clutch pedal (OC) (V-1) (V-2) (SB-1) (SB-2) (B-2) (S) (M) (A), RIGHT steering	57	37290	2.25
CEFAX	10-M-4	A-3815	Clamp screw for clutch pedal	51-3-5-7	12602	.10
DEFAX	34-C-7	A-3816	Sleeve nut for clamp screw	51-3-5-7	17426	.10
FEFAX	18-B-34	A-3817	Retracting spring for clutch pedal all except (C), on 51, LEFT steering	51-3	19873	.15
LEFAX		A-3818	Retracting spring for clutch pedal (C), LEFT steering	51	30585	.10
MEFAX	19-D-51	A-3819	Retracting spring for clutch pedal, LEFT steering	55-7	32513	.15
PEFAX		A-3820	Retracting spring for clutch pedal all except (C), RIGHT steering	51	30607	.15
REFAX	18-B-65	A-3821	Retracting spring for clutch pedal, RIGHT steering	53	31539	.10
SEFAX		A-3822	Retracting spring for clutch pedal (M), RIGHT steering.	53	31936	.10
TEFAX	18-B-156	A-3823	Retracting spring for clutch pedal all 55 and (F) on 57, RIGHT steering	55-7	34579	.40
ZEFAX	19-E-15	A-3824	Retracting spring for clutch pedal (G), RIGHT steering.	57	37545	.25
BIFAX	37-B-16	A-3825	Screw, retracting spring to side bar	53	56198	.08
CIFAX	30-D-60	A-3826	Nut	53	11678	.05
DIFAX	36-D-21	A-3827	Lock washer	53	11316	.05
FIFAX	10-C-2	A-3828	Bracket for retracting spring, LEFT steering only on 57.	55-7	32423	.10
KIFAX	18-D-24	A-3829	Bracket for pedal shaft on transmission, LEFT steering.	51	19238	5.00
LIFAX	19-D-79	A-3830	Bracket for pedal shaft on transmission, all except (C) on 53, LEFT steering	53-5	30834	5.00
MIFAX	18-D-6	A-3831	Bracket for pedal shaft on transmission (C)	53	32089	5.00
PIFAX	18-D-15	A-3832	Bracket for pedal shaft on transmission, LEFT steering.	57	26933	4.70
RIFAX		A-3833	Bracket for pedal shaft, RIGHT steering	51	30348	4.00
SIFAX	18-C-105	A-3834	Bracket for pedal shaft, RIGHT steering	53	31003	4.00
TIFAX	19-D-31	A-3835	Bracket for clutch and brake pedal shaft with accelerator pedal bushing, all except (CV),RIGHT steering	55	22778	5.00
ZIFAX		A-3836	Bracket for clutch and brake pedal shaft (CV), RIGHT steering	55	34578	4.00
BOFAX	18-B-7	A-3837	Bracket for pedal shaft, inner, RIGHT steering	57	37695	2.50
COFAX	18-B-151	A-3838	Bracket for pedal shaft, outer, RIGHT steering	57	37696	7.50
DOFAX	30-D-60	A-3839	Nut on stud attaching bracket to transmission case	51-3-5-7	11678	.05
FOFAX	36-D-21	A-3840	Lock washer	51-3-5-7	11316	.05
KOFAX	14-D-47	A-3841	Taper dowel, pedal shaft bracket to transmission, RIGHT steering	51-3-5	19680	.15
MOFAX	10-B-22	A-3842	Screw for outer pedal bracket, RIGHT steering	57	10046	.08
POFAX	10-Q-21	A-3843	Lock washer	57	11326	.05
ROFAX	14-D-21	A-3844	Screw for inner pedal bracket, RIGHT steering	57	10007	05
SOFAX	13-B-16	A-3845	Lock washer	57	11315	.05
TOFAX		A-3846	Clamp screw on inner bracket, RIGHT steering	57	11979	.05
ZOFAX	38-D-12	A-3847	Nut	57	10892	.05
BUFAX	19-B-3	A-3848	Bushing, long, in pedal shaft bracket, LEFT steering	51-3-5-7	19233	1.50
CUFAX	9-A-20	A-3849	Bushing, short, in pedal shaft bracket, LEFT steering	51-3-5-7	18967	.85
DUFAX	18-D-25	A-3850	Shaft for clutch and brake pedal, LEFT steering	51-3-5	18963	.60
FUFAX	18-C-5	A-3851	Shaft for clutch and brake pedal, LEFT steering	57	37281	.70
KUFAX	18-D-26	A-3852	Shaft for clutch and brake pedal, RIGHT steering	51-3-5	18964	.60
LUFAX	18-B-139	A-3853	Shaft for clutch and brake pedal, RIGHT steering	57	37685	.70
MUFAX	19-C-57	A-3854	Taper pin, shaft in transmission case, RIGHT steering	55	15071	.05
PUFAX		A-3855	Spacer for pedal shaft, RIGHT steering	51	18968	.15
RUFAX		A-3856	Spacer for pedal shaft, RIGHT steering	53	30972	.15
SUFAX	24-D-20	A-3857	Spacer for pedal shaft, RIGHT steering	55-7	33734	.15
TUFAX		A-3858	Brace for pedal shaft, RIGHT steering	51	30392	1.00
ZUFAX		A-3859	Brace for pedal shaft, RIGHT steering	53-5	31140	1.00

Code Word	Sec.-Bin	Serial	Part Name	Type	Symbol	Price
BAGAX	10-D-4	A-3860	Screw in end of pedal shaft for brace on outer bracket, RIGHT steering	51-3-5-7	18960	$ .05
DAGAX	36-D-21	A-3861	Lock washer	51-3-5-7	11316	.05
FAGAX	10-C-18	A-3862	Flat washer	57	9793	.05
LAGAX	30-D-60	A-3863	Nut for brace on transmission case, RIGHT steering	53-5	11678	.05
MAGAX	36-D-21	A-3864	Lock washer	53-5	11316	.05
PAGAX	10-C-18	A-3865	Arm on pedal shaft operating clutch release rod, LEFT steering	51-3-5-7	30816	1.00
SAGAX	19-C-57	A-3866	Taper pin, arm and pedal on shaft, LEFT steering	51-3-5-7	15071	.05
TAGAX	10-T-21	A-3867	Stop pin for clutch release arm	51	19312	.10
ZAGAX	15-C-45	A-3868	Cotter pin	51	15171	.05
BEGAX	19-C-81	A-3869	Stop screw for clutch release arm	53-5	30851	.10
CEGAX	35-D-21	A-3870	Lock nut	53-5	B1366	.05
DEGAX	9-E-10	A-3871	Stop screw for clutch release arm	57	37279	.10
FEGAX	10-B-5	A-3872	Lock nut	57	3798	.05
KEGAX	10-T-21	A-3873	Pin in arm for yoke end	53-5-7	19312	.10
LEGAX	15-C-45	A-3874	Cotter pin	51-3-5-7	15171	.05
MEGAX	19-C-89	A-3875	Rod, arm on pedal shaft to clutch release shaft lever, all except (C)	51	20826	.45
REGAX		A-3876	Rod, arm on pedal shaft to clutch release shaft lever (C)	51	21279	.45
SEGAX	19-B-97	A-3877	Rod, arm on pedal shaft to clutch release lever, all except (C) on 53	53-5	21538	.45
ZEGAX	37-B-38	A-3878	Rod, arm on pedal shaft to clutch release lever (C)	53	21877	.85
BIGAX	18-B-3	A-3879	Rod, arm on pedal shaft to clutch release lever	57	29193	.60
CIGAX	31-B-73	A-3880	Yoke on clutch pedal rod	51-3-5-7	H952	.55
DIGAX	9-J-10	A-3881	Lock nut	51-3-5-7	H1702	.05
FIGAX	34-D-6	A-3882	Pin in yoke	51-3-5-7	19165	.05
KIGAX	15-C-45	A-3883	Cotter pin	51-3-5-7	15171	.05
LIGAX	18-C-37	A-3884	Shaft for clutch release, all except (C) on 53	51-3	18965	.50
MIGAX	18-D-37	A-3885	Shaft for clutch release (C)	53	32085	.50
PIGAX	19-D-5	A-3886	Shaft for clutch release, LEFT steering	55	32512	.50
RIGAX	19-D-39	A-3887	Shaft for clutch release, RIGHT steering	55	33905	.50
SIGAX	19-C-47	A-3888	Shaft for clutch release, LEFT steering	57	37280	.50
TIGAX	18-B-111	A-3889	Shaft for clutch release, RIGHT steering	57	37684	.50
ZIGAX	25-C-27	A-3890	Bushing in transmission case for clutch release shaft (2 used 51-3-7) and RIGHT side of case, LEFT steering, and LEFT side of case RIGHT steering, on 55	51-3-5-7	18966	.90
DOGAX	10-G-17	A-3891	Bushing in transmission case for clutch release shaft, LEFT side for LEFT steering, RIGHT side for RIGHT steering	55	32874	.60
LOGAX	10-T-4	A-3892	Bowen oiler for clutch release shaft	51-3-5	30772	.20
MOGAX		A-3893	Tube for clutch release shaft oiler	55	34133	.20
POGAX	10-U-8	A-3894	Bowen oiler (2D-Vertical) for pedal bracket	51-3-5-7	32303	.20
ROGAX	19-D-12	A-3895	Lever for clutch release shaft	51-3-5	18970	1.50
SOGAX	18-B-6	A-3896	Lever for clutch release shaft	57	37277	1.90
TOGAX	10-K-16	A-3897	Clamp screw for clutch release lever	51-3-5	10032	.10
ZOGAX	12-D-47	A-3898	Nut	51-3-5	10893	.05
BUGAX	10-R-2	A-3899	Clamp screw for clutch release lever	57	6356	.05
CUGAX	30-D-60	A-3900	Nut	57	11678	.05
DUGAX	36-D-21	A-3901	Lock washer	51-3-5-7	11316	.05
FUGAX	10-G-2	A-3902	Woodruff key, lever on shaft	51	11361	.05
KUGAX	10-F-1	A-3903	Woodruff key, lever on shaft	53-5-7	11363	.05
LUGAX	19-B-73	A-3904	Collar for clutch release shaft	51-3-5-7	18918	.10
MUGAX	19-D-6	A-3905	Fork on shaft for clutch release	51-3-5	18819	1.50
PUGAX	18-D-34	A-3906	Fork on shaft for clutch release	57	37276	2.00
RUGAX	10-R-2	A-3907	Taper pin, collar and fork on clutch release shaft	51-3-5-7	15041	.05

PEDALS AND PADS FOR BRAKE CONTROL

SUGAX	18-C-39	A-3910	Pedal for brake, LEFT steering	51	18987	4.00
TUGAX	18-C-33	A-3911	Pedal for brake, RIGHT steering	51	18988	4.00
ZUGAX	18-D-28	A-3912	Pedal for brake, all cars 53-5, and all (CC) except (VI) (V2) (SB-1) (SB-2) (B-2) on 57, LEFT steering	53-5-7	30913	5.25

Code Word	Sec.-Bin	Serial	Part Name	Type	Symbol	Price
BAHAX	18-C-49	A-3913	Pedal for brake, all cars 53-55, and all (CC) except (V-1) (V-2) (B-2) (SB-1) (SB-2) on 57, RIGHT steering	53-5-7	31018	$ 5.00
DAHAX	19-D-49	A-3914	Pedal for brake, (OC) (V-1) (V-2) (SB-1) (SB-2) (B-2) (S) (M) (A), LEFT steering	57	50072	5.75
KAHAX	19-B-77	A-3915	Pedal for brake, (OC) (V-1) (V-2) (SB-1) (SB-2) (B-2) (S) (M) (A), RIGHT steering	57	37287	5.25
MAHAX	18-C-25	A-3916	Pad for brake pedal, all except (C) on 51, all 55 except (R) (P) (C) (CR), all (CC) except (V-1) (SB-1) (SB-2) (B-2) on 57, RIGHT steering	51-3-5-7	18983	2.25
SAHAX		A-3917	Pad for brake pedal (C)	51	30034	2.25
TAHAX	18-D-11	A-3918	Pad for brake pedal all except (C) on 53, (R) (P) (C) and (CR) on 55, and all (CC) except (V-1) (V-2) (SB-1) (SB-2) (B-2) on 57, LEFT steering	53-5-7	30917	2.25
CEHAX		A-3919	Pad for brake pedal (C)	53	32102	2.25
DEHAX		A-3920	Pad for brake pedal (P) (R) (C) (CR), LEFT steering	55	34204	2.25
FEHAX		A-3921	Pad for brake pedal (R) (P) (C) (CR), RIGHT steering	55	34203	2.25
KEHAX	38-D-2	A-3922	Pad for brake pedal (OC) (V-1) (V-2) (SB-1) (SB-2) (B-2) (S) (M) (A), LEFT steering	57	37289	2.25
MEHAX	18-B-60	A-3923	Pad for brake pedal all (OC) (V-1) (V-2) (SB-1) (SB-2) (B-2) (S) (M) (A), RIGHT steering	57	37291	2.25
PEHAX		A-3924	Screw for brake pedal stop	51	11836	.05
REHAX	38-D-12	A-3925	Check nut for stop screw	51	10892	.05
SEHAX		A-3926	Spacer for pedal pad (C)	51	30591	.10
TEHAX	19-E-15	A-3927	Retracting spring for brake pedal	57	37545	.25
ZEHAX	10-M-4	A-3928	Clamp screw for pad on pedal	51-3-5-7	12602	.10
BIHAX	34-C-7	A-3929	Sleeve nut for clamp screw	51-3-5-7	17426	.10
CIHAX	10-T-4	A-3930	Bowen oiler in brake pedal	51-3-5	30772	.20
DIHAX	10-U-8	A-3931	Bowen oiler (No. 2D Vertical) in brake pedal	57	32303	.20

HAND BRAKE LEVERS

FIHAX	18-C-35	A-3934	Hand brake lever, all except (C) (R)	51	18989	6.00
KIHAX	18-E-22	A-3935	Hand brake lever (R)	51	30232	6.00
LIHAX		A-3936	Hand brake lever (C)	51	19644	6.00
MIHAX	18-E-21	A-3937	Hand brake lever (7P) (L) (BL), LEFT steering	53	30819	6.00
PIHAX		A-3938	Hand brake lever (SL) (V) (R) (MT), LEFT steering	53	32062	6.00
RIHAX		A-3939	Hand brake lever (B) (C), LEFT steering	53	32063	6.00
SIHAX	18-E-25	A-3940	Hand brake lever (7P) (L) (BL), RIGHT steering	53	31124	6.00
TIHAX		A-3941	Hand brake lever (SL) (R) (V), RIGHT steering	53	32065	6.00
ZIHAX		A-3942	Hand brake lever (B), RIGHT steering	53	32064	6.00
BOHAX	18-C-115	A-3943	Hand brake lever (T) (V) (CV) (S), LEFT steering	55	32533	6.00
COHAX		A-3944	Hand brake lever (R) (C), LEFT steering	55	33700	6.00
DOHAX	18-E-24	A-3945	Hand brake lever (P) (CR), LEFT steering	55	37595	6.00
FOHAX		A-3946	Hand brake lever (B) (M) (A), LEFT steering	55	33702	6.00
KOHAX		A-3947	Hand brake lever (L) (I) (LD), LEFT steering	55	33701	6.00
LOHAX	18-D-77	A-3948	Hand brake lever (T) (V) (CV) (S), RIGHT steering	55	33361	6.00
MOHAX		A-3949	Hand brake lever (B) (M) (A), RIGHT steering	55	34462	6.00
POHAX		A-3950	Hand brake lever (L) (I) (LD), RIGHT steering	55	34463	6.00
ROHAX		A-3951	Hand brake lever (R) (C), RIGHT steering	55	33699	7.50
SOHAX		A-3952	Hand brake lever (P) (CR), RIGHT steering	55	37594	6.00
TOHAX	18-D-66	A-3953	Hand brake lever (7-P) (V-1) (V-2) (SB-1) (SB-2) (B-2) (P-2) (P-1) (R-1) (R-2) (S), LEFT steering	57	51274	6.00
ZOHAX	18-B-157	A-3954	Hand brake lever (I) (L) (LD) (TL) (TLD) (7-B) (B-1) (M) (A), LEFT steering	57	37483	6.50
BUHAX	18-B-123	A-3955	Hand brake lever (7-P) (V-1) (V-2) (P-1) (SB-1) (SB-2) (R-1) (S), RIGHT steering	57	37484	9.50
CUHAX		A-3956	Hand brake lever (R-2) (P-2) (B-2), RIGHT steering	57	38132	8.00
DUHAX	38-B-77	A-3957	Hand brake lever (I) (L) (LD) (TL) (TLD) (7-B) (B-1) (M) (A), RIGHT steering	57	37485	9.50
FUHAX	9-O-7	A-3958	Plunger for hand brake lever rod	51	18977	.15
KUHAX	9-I-9	A-3959	Spring for plunger	51	18980	.05
LUHAX	18-B-158	A-3960	Grip with stop for hand brake lever	53-5-7	21458	1.50
MUHAX	10-A-19	A-3961	Stop pin for grip	53-5-7	56185	.05
PUHAX	10-B-7	A-3962	Fulcrum pin for grip	53-5-7	56187	.05
RUHAX	18-C-27	A-3963	Rod for hand brake lever, all except (R) (C)	51	18984	.40
SUHAX	18-B-150	A-3964	Rod for hand brake lever (C)	51	30171	.40
TUHAX	14-B-14	A-3965	Rod for hand brake lever (R)	51	30243	.40

Code Word	Sec.-Bin	Serial	Part Name	Type	Symbol	Price
BAKAX	35-D-1	A-3966	Rod for hand brake lever, all except (R) (P) (C) (CR) on 55	53-5	33926	$ .30
CAKAX	35-D-72	A-3967	Rod for hand brake lever (R) (P) (C) (CR)	55	33708	.25
DAKAX	35-B-151	A-3968	Rod for hand brake lever (OC) (S) (SB-1) (SB-2) (V-1) (V-2) (B-2)	57	37491	.25
FAKAX	35-B-151	A-3969	Rod for hand brake lever (M) (A) and (CC) except (V-1) (V-2) (SB-1) (SB-2) (B-2)	57	37491	.25
LAKAX	10-A-6	A-3970	End for rod at grip	53-5-7	58982	.25
MAKAX	10-A-6	A-3971	Pin, rod end in grip	53-5-7	56761	.05
PAKAX	34-C-133	A-3972	Spring for hand brake lever rod	53-5-7	3022	.05
RAKAX	10-A-8	A-3973	Flat washer for spring	53-5-7	11499	.05
SAKAX	10-N-21	A-3974	Yoke on lower end of hand brake lever rod	51-3-5-7	18981	.50
TAKAX	10-P-7	A-3975	Lock nut	51-3-5-7	10887	.05
ZAKAX	9-O-6	A-3976	Pawl for hand brake lever rod	51-3-5-7	18976	.65
BEKAX	9-O-6	A-3977	Pin through yoke end and pawl	51-3-5-7	18978	.10
CEKAX	10-E-9	A-3978	Cotter pin	51-3-5-7	15150	.05
DEKAX	18-B-59	A-3979	Pin through lever and pawl	51-3-5-7	12076	.08
FEKAX	15-C-45	A-3980	Cotter pin	51-3-5-7	15171	.05
KEKAX	18-C-23	A-3981	Ratchet for hand brake lever on 51-55 and all LEFT steering except (C) on 53	51-3-5	18982	.60
MEKAX	34-D-60	A-3982	Ratchet for hand brake lever (C), LEFT steering	53	32081	1.00
PEKAX	10-A-10	A-3983	Ratchet for hand brake lever, RIGHT steering	53	31141	.40
REKAX	34-B-131	A-3984	Ratchet for hand brake lever	57	37284	.40
SEKAX	30-D-60	A-3985	Nut on stud attaching ratchet	51-3-5-7	11678	.05
TEKAX	36-D-21	A-3986	Lock washer	51-3-5-7	11316	.05
BIKAX	10-A-10	A-3988	Shaft for hand brake lever	51-3-5	18979	.85
CIKAX	10-E-7	A-3989	Shaft for hand brake lever	57	37283	1.00
DIKAX	10-R-18	A-3990	Taper pin for shaft in top cover	51-3-5-7	15032	.05
FIKAX	14-E-14	A-3991	Grease cup for end of shaft	51-3-5	17054	.50
KIKAX	33-C-41	A-3992	Elbow for grease cup	51-3-5	32719	.65
LIKAX	10-O-12	A-3993	3/8" pipe plug in end of shaft	57	30121	.05

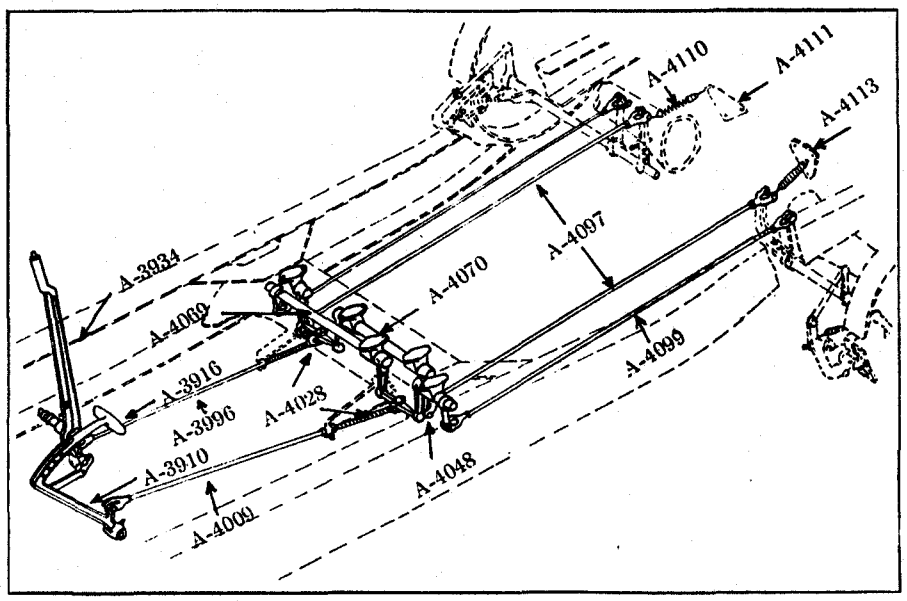
BRAKE RODS FROM HAND BRAKE LEVER AND FOOT PEDAL TO EQUALIZING BAR

PIKAX	32-C-81	A-3996	Rod, hand brake to equalizing bar, all LEFT steering on 53 except (C)	51-3	20777	1.25
SIKAX		A-3997	Rod, hand brake to equalizing bar (C), LEFT steering	53	21894	1.25
TIKAX		A-3998	Rod, hand brake to equalizing bar (G), LEFT steering	53	21416	1.50
ZIKAX	28-A-17	A-3999	Rod, hand brake to equalizing bar (H), LEFT steering	53	22336	1.75
BOKAX		A-4000	Rod, hand brake to equalizing bar all except (C), RIGHT steering	53	21348	1.60
COKAX		A-4001	Rod, hand brake to equalizing bar (G), RIGHT steering	53	21420	1.50
DOKAX		A-4002	Rod, hand brake to equalizing bar (H), RIGHT steering	53	21421	1.75
FOKAX	18-B-130	A-4003	Rod, hand brake to equalizing bar (F)	55	22122	1.25
KOKAX	28-A-52	A-4004	Rod, hand brake to equalizing bar (G)	55	22226	1.50
LOKAX	28-A-12	A-4005	Rod, hand brake to equalizing bar (H)	55	22225	1.75
MOKAX	32-A-72	A-4006	Rod, hand brake to equalizing bar (F)	57	23711	1.25
POKAX	18-E-20	A-4007	Rod, hand brake to equalizing bar (G)	57	23712	1.25
ROKAX	12-A-70	A-4008	Rod, hand brake to equalizing bar (H)	57	23713	1.25
SOKAX	32-C-81	A-4009	Rod, foot brake pedal to equalizing bar, except (C)	51	20777	1.25
TOKAX	34-D-78	A-4010	Rod, foot brake pedal to equalizing bar (C)	51	20774	1.60
ZOKAX	28-E-21	A-4011	Rod, foot brake pedal to equalizing bar, except (C)	53	21346	1.25
BUKAX	34-C-145	A-4012	Rod, foot brake pedal to equalizing bar (C)	53	21991	1.25
CUKAX	26-A-15	A-4013	Rod, foot brake pedal to equalizing bar (G)	53	21419	1.50
DUKAX		A-4014	Rod, foot brake pedal to equalizing bar (H)	53	21417	1.75
FUKAX	28-A-28	A-4015	Rod, foot brake pedal to equalizing bar (F)	55-7	22338	1.25
KUKAX	28-A-9	A-4016	Rod, foot brake pedal to equalizing bar (G)	55-7	22337	1.25
LUKAX	28-A-17	A-4017	Rod, foot brake pedal to equalizing bar (H)	55-7	22336	1.75
MUKAX	9-Q-7	A-4018	Buffer for foot brake rod (H)	55-7	5353	.15
PUKAX	31-B-73	A-4019	Yoke on end of hand and foot brake rods to equalizing bar	51-3-5-7	H952	.55
RUKAX	9-J-10	A-4020	Lock nut for yoke	51-3-5-7	H1702	.05
SUKAX	34-D-6	A-4021	Pin in yokes on brake rods	51-3-5-7	19165	.05
TUKAX	15-C-45	A-4022	Cotter pin	51-3-5-7	15171	.05
ZUKAX	9-N-17	A-4023	Stop collar for foot brake rod	51-3-5-7	19340	.40

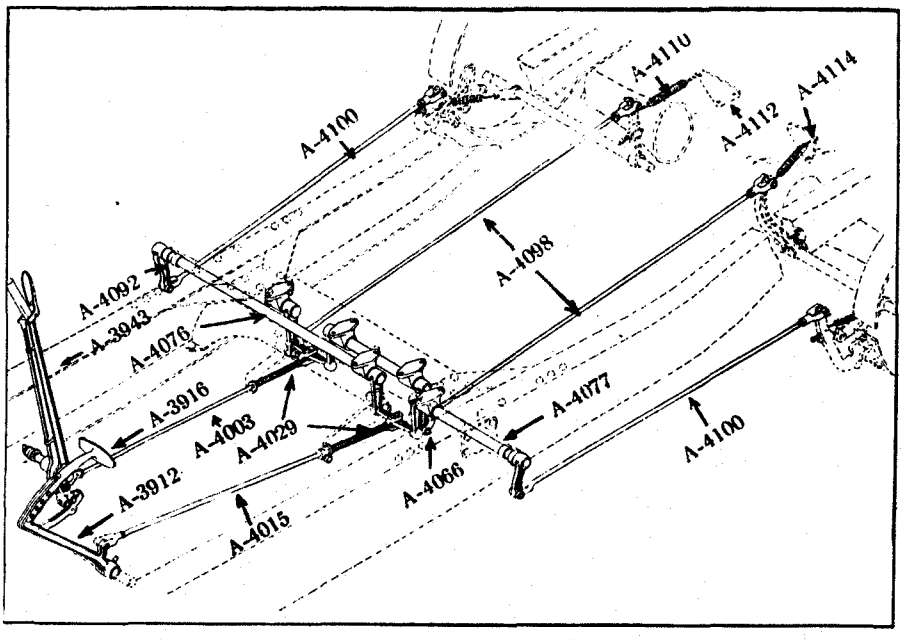
Code Word	Sec.-Bin	Serial	Part Name	Type	Symbol	Price
BALAX	14-D-21	A-4024	Clamp screw in collar	51-3-5-7	10007	$ .05
CALAX	38-D-12	A-4025	Nut	51-3-5-7	10892	.05
DALAX	13-B-16	A-4026	Lock washer	51-3-5-7	11315	.05
FALAX		A-4027	Rubber washer between stop collar and bracket on foot brake rod	53-5-7	31165	.05
LALAX	35-B-64	A-4028	Retracting spring for hand and foot brake rod	51-3	19339	.10
MALAX	34-D-48	A-4029	Retracting spring for hand and foot brake rod	55-7	34184	.10
PALAX	10-B-14	A-4030	Washer, flat, for retracting spring on all brake rods except hand brake rod on 57	51-3-5-7	H1675	.05
SALAX	21-B-36	A-4031	Washer, flat, for retracting spring on hand brake rod	57	59882	.05
ZALAX	10-N-16	A-4032	Bracket for hand brake rod retracting spring, RIGHT steering	53	31160	.20
CELAX		A-4033	Bracket for retracting spring on hand brake pull rod	55	33593	.10
DELAX	33-C-33	A-4034	Bracket for retracting spring on hand brake pull rod, LEFT steering	57	37512	.25
KELAX	32-B-103	A-4035	Bracket for retracting spring on hand brake pull rod, RIGHT steering	57	37513	.50
MELAX	38-C-119	A-4036	Bracket for retracting spring on foot brake pull rod	55-7	33592	.30

EQUALIZING BARS, LEVERS AND ROCKER SHAFTS FOR BRAKE RODS

RELAX	18-C-31	A-4039	Equalizing bar for brakes (E)	51-3	18985	1.00
SELAX	10-C-17	A-4040	Equalizing bar for brakes (G) (H)	51-3	30405	1.00
TELAX	18-B-35	A-4041	Equalizing bar for brakes	55-7	32527	1.00
ZELAX		A-4042	Spacer for hand brake equalizer (E), LEFT steering	51-3	18917	.10
BILAX		A-4043	Spacer for hand brake equalizer (G), LEFT steering	51-3	30399	.15
CILAX		A-4044	Spacer for hand brake equalizer (G) (H), RIGHT steering	53	31937	.10
DILAX	34-C-145	A-4045	Clamp lever for brake rocker shaft	51-3	18924	.80
FILAX	34-D-62	A-4046	Idler lever for brake rocker shaft, one used RIGHT, and two, LEFT steering	51-3	18926	.60
LILAX	18-B-30	A-4047	Idler lever for foot brake on rocker shaft, RIGHT steering	51-3	30003	.75
MILAX	34-B-133	A-4048	Lever on rocker shaft for foot and hand brake rods	51-3	18925	.80
PILAX	10-K-16	A-4049	Clamp screw for rocker shaft levers	51-3	10032	.10
RILAX	12-D-47	A-4050	Nut	51-3	10893	.05
SILAX	36-D-21	A-4051	Lock washer	51-3	11316	.05
TILAX	10-F-4	A-4052	Key for rocker shaft levers	51-3	11363	.05
ZILAX	32-B-11	A-4053	Pin for brake rod yoke on equalizing bar	55-7	50769	.10
BOLAX	10-B-14	A-4054	Washer on yoke pin	57	H1675	.05
COLAX		A-4055	Stud or pin for hand brake equalizing lever	55	33586	.15
DOLAX	18-B-154	A-4056	Stud or pin for hand brake equalizing lever	57	37699	.25
FOLAX	33-C-51	A-4057	Bracket on cross member for lever stud	55	33589	1.30
KOLAX	34-D-16	A-4058	Bracket on cross member for lever stud	57	37702	1.00
LOLAX	10-D-8	A-4059	Taper pin for stud in bracket	55-7	15031	.05
MOLAX	37-B-94	A-4060	Screw, stud bracket to cross member	55-7	10024	.05
POLAX	30-D-60	A-4061	Nut	55-7	11678	.05
ROPAX	36-D-21	A-4062	Lock washer	55-7	11316	.05
SOLAX	34-B-149	A-4063	Lever on stud with bushing for hand brake equalizing bar, (1 used)	55-7	42000	2.20
TOLAX	10-E-13	A-4064	Bushing in lever	55-7	33587	.50
ZOLAX	35-D-80	A-4065	Rocker shaft for hand brake equalizing lever	55-7	33591	1.00
BULAX	34-C-41	A-4066	Lever on brake rocker shaft for equalizing bar, (3 used)	55-7	32530	1.25
CULAX	10-D-8	A-4067	Taper pin for lever on shaft	55-7	15031	.05
DULAX	38-B-127	A-4068	Lever on hand brake rocker shaft, rod to brakes	55-7	33588	1.50
FULAX	34-C-39	A-4069	Rocker shaft for foot brake on equalizer cross member, LEFT steering	51-3	18920	.75
LULAX	18-C-53	A-4070	Rocker shaft for hand brake on equalizer cross member (E)	51-3	18921	.75
PULAX		A-4071	Rocker shaft for hand brake (G) (H), LEFT steering	51-3	30428	.75
RULAX		A-4072	Rocker shaft for hand brake (G) (H), RIGHT steering	53	31594	.75
SULAX	18-B-148	A-4073	Rocker shaft for foot brake on equalizer cross member, RIGHT steering	51-3	30005	.75
ZULAX	32-D-48	A-4074	Rocker shaft for hand brake on equalizer cross member, RIGHT steering	51	30006	.75



TYPE 51. BRAKE CONTROL

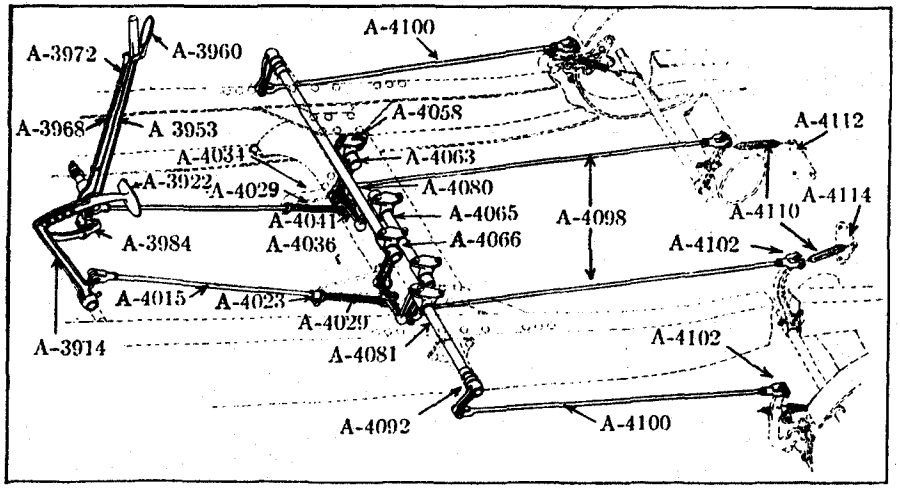


TYPE 55. BRAKE CONTROL

Code Word	Sec.-Bin	Serial	Part Name	Type	Symbol	Price
BADEF	35-D-14	A-4075	Rocker shaft for hand brake on equalizer cross member, RIGHT steering	53	31089	$ .75
DADEF	35-E-3	A-4076	Rocker shaft, RIGHT, on cross member for foot brake equalizer and lever, LEFT steering	55	32526	1.00
KADEF	32-C-7	A-4077	Rocker shaft, LEFT, on cross member for foot brake equalizer and lever, LEFT steering	55	32525	1.00
MADEF	18-B-160	A-4078	Rocker shaft, RIGHT, on cross member for foot brake equalizer and lever, RIGHT steering	55	33639	1.00
RADEF	38-A-42	A-4079	Rocker shaft, LEFT, on cross member for foot brake equalizer and lever, RIGHT steering	55	33640	1.25
TADEF	34-F-7	A-4080	Rocker shaft, RIGHT, on cross member for foot brake equalizer and lever, LEFT steering	57	37722	1.50
BEDEF	34-C-67	A-4081	Rocker shaft, LEFT, on cross member for foot brake equalizer, LEFT steering	57	37721	1.00
DEDEF		A-4082	Rocker shaft, RIGHT, on cross member for foot brake equalizer and lever, RIGHT steering	57	37719	.75
KEDEF		A-4083	Rocker shaft, LEFT, on cross member for foot brake equalizer and lever, RIGHT steering	57	37720	1.50
MEDEF	19-B-73	A-4084	Collar for brake rocker shaft, 1 used LEFT, and 2 RIGHT steering	51-3	18918	.10
REDEF	10-R-2	A-4085	Taper pin	51-3	15041	.05
SEDEF	9-L-16	A-4086	Shim for brake rocker shaft	57	38161	.05
TEDEF	9-H-4	A-4087	Spacing collar between brackets and lever on brake rocker shaft	57	37796	.10
BIDEF	14-E-14	A-4088	Grease cup for rocker shaft	51-3-7	17054	.50
CIDEF	10-H-6	A-4089	Extension for grease cup on rocker shaft bracket	57	37987	.20
DIDEF	14-B-21	A-4090	Coupling for grease cup and extension	57	19754	.10
FIDEF	34-C-41	A-4091	Lever on foot brake rocker shaft for equalizing bar	55	32530	1.25
KIDEF	35-C-161	A-4092	Lever on outer end of foot brake rocker shaft	55-7	32531	1.50
LIDEF	10-D-8	A-4093	Taper pin for levers on shaft	55-7	15031	.05

RODS FROM ROCKER SHAFTS TO REAR AXLE

MIDEF	28-A-27	A-4097	Rod for hand brake, rocker shaft to rear axle	51-3	20776	.60
PIDEF	32-A-56	A-4098	Rod for hand brake, rocker shaft to internal brake (2 used)	55-7	22635	1.50
RIDEF		A-4099	Rod, foot brake rocker shaft to rear axle	51-3	20775	.60
SIDEF	19-F-22	A-4100	Rod, foot brake rocker shaft lever to external brake, standard tread on 55, all 57 (2 used)	55-7	41997	.75



TYPE 57. BRAKE CONTROL

Code Word	Sec.-Bin	Serial	Part Name	Type	Symbol	Price
BADEK	32-A-103	A-4101	Rod, foot brake rocker shaft lever to external brake (2 used) wide tread cars	55	22775	$ .60
DADEK	31-B-73	A-4102	Yoke for internal and external brake rod ends	51-3-5-7	H952	.55
FADEK	9-J-10	A-4103	Lock nut for yoke	51-3-5-7	H1702	.05
KADEK	32-B-11	A-4104	Pin for brake rod yoke	51-3	50769	.10
LADEK	10-B-13	A-4105	Pin for brake rod end at rear axle	51-3	7408	.15
MADEK	34-D-6	A-4106	Pin for rod end and yoke	55-7	19165	.05
PADEK	10-B-14	A-4107	Flat washer for pin through brake rod at rear axle	51-3	H1675	.05
SADEK	15-C-45	A-4108	Cotter pin, $\frac{1}{8}$", in pin	51-3-5-7	15171	.05
TADEK	10-E-9	A-4109	Cotter pin, $\frac{1}{16}$", in yoke pin	51-3	15150	.05
ZADEK	29-D-54	A-4110	Retracting spring for internal or hand brake rods at rear axle	51-3-5-7	30233	.10
CEDEK	32-C-91	A-4111	Bracket, RIGHT, on rear axle for brake rod retracting spring	51-3	19378	.15
FEDEK	9-J-22	A-4112	Bracket, RIGHT, on rear axle for internal brake rod retracting spring	55-7	33669	.10
LEDEK	32-C-19	A-4113	Bracket, LEFT, on rear axle for brake rod retracting spring	51-3	19379	.15
PEDEK	9-J-20	A-4114	Bracket, LEFT, on rear axle for internal brake rod retracting spring	55-7	33670	.10

RADIATOR

REDEK	302-A-33	*A-4117	Radiator complete	51	21211	90.00
SEDEK	302-A-32	*A-4118	Radiator complete	53-5	22189	90.00
ZEDEK	302-A-31	*A-4120	Radiator complete	57	24233	97.00
BIDEK		*A-4121	Outside casing for radiator	51	40438	10.00
CIDEK		*A-4122	Outside casing with clips and emblem	53-5	22188	12.00
FIDEK		*A-4124	Outside casing with clips and emblem	57	23983	15.00
KIDEK	10-H-15	A-4125	Screw for radiator casing	51-3-5-7	10758	.05
VIDEK	Ac. S.	A-4125-B	Emblem for radiator casing	55-7	33036	2.00
LIDEK	10-H-16	A-4126	Nut	51-3-5-7	B1350	.05
MIDEK	10-D-8	A-4127	Lock washer	51-3-5-7	11313	.05
PIDEK		*A-4128	Radiator complete, less casing	51	20458	80.00
RIDEK		*A-4129	Radiator complete, less casing	53-5	21439	80.00
SIDEK		*A-4130	Radiator complete, less casing	57	23461	83.00
TIDEK	37-G-4	A-4131	Filler cap for radiator	51-3-5-7	37531	1.25
ZIDEK	16-D-56	A-4132	Gasket for filler cap	51-3-5-7	7679	.10
BODEK	37-D-14	A-4133	Discs for radiator filler cap	55-7	23428	.20
CODEK	37-C-41	A-4134	Strainer complete for radiator filler	51	20030	1.50
DODEK	37-C-29	A-4135	Strainer complete for radiator filler	53-5	26672	1.00
FODEK	37-B-62	A-4136	Stud in bottom of radiator	51-3-5	14056	.20
KODEK	18-C-153	A-4137	Stud in bottom plate of radiator	57	37521	.20
LODEK	37-C-109	A-4138	Spring for radiator stud	51-3-5-7	14057	.10
MODEK	16-D-75	A-4139	Leather washer for stud in bottom plate	51-3-5	14060	.05
PODEK	17-D-14	A-4140	Leather washer for stud in bottom plate	57	37523	.05
RODEK	13-C-15	A-4141	Steel washer ($\frac{1}{16}$" thick) on radiator stud	57	37524	.05
SODEK	13-C-13	A-4142	Steel washer ($\frac{1}{8}$" thick) on radiator stud	57	37525	.05
TODEK	38-D-45	A-4143	Retainer for washer on radiator stud	57	37522	.05
ZODEK	33-C-69	A-4144	Nut on stud	51-3-5-7	14054	.15
BUDEK	10-O-13	A-4145	Cotter pin in end of stud	51-3-5-7	15167	.05
CUDEK	38-C-23	A-4146	Spacer on radiator stud (used as required)	51-3-5-7	30179	.05
DUDEK	32-A-22	A-4147	Tie rod between radiator and dash	51	20778	.25
FUDEK	38-E-18	A-4148	Tie rod between radiator and dash	53-5-7	41996	.60
KUDEK	10-S-18	A-4149	Screw, tie rod to radiator	51-3-5-7	10003	.05
LUDEK	38-D-12	A-4150	Nut on dash end of tie rod (2 used)	51-3-5-7	10892	.05
MUDEK	13-B-16	A-4151	Lock washer for nut and screw	51-3-5-7	11315	.05
PUDEK	38-B-79	A-4152	Bracket on dash for tie rod (OC) on 51	51-3-5-7	18412	.10
RUDEK	37-B-149	A-4153	Bracket on dash for tie rod (CC)	51	30364	.10
SUDEK	9-O-3	A-4154	Bracket for rear end of hood hinge rod (OC)	51	18379	.15
TUDEK	10-A-13	A-4155	Bracket on cowl for rear end of hood hinge rod (OC) on 53, (OC) (S) (M) (A) (CV) on 55	53-5	31125	.25

*Classify on order as crated material.

Code Word	Sec.-Bin	Serial	Part Name	Type	Symbol	Price
BADEL	38-B-69	A-4156	Bracket on cowl for rear end of hood hinge rod (CC)	51	18213	$ .25
CADEL		A-4157	Bracket on cowl for rear end of hood hinge rod (CC)	53-5	31332	.25
DADEL	9-O-17	A-4158	Bracket on cowl for hood hinge rod	57	37207	.50
FADEL	10-Q-17	A-4159	Rivet, bracket to dash (OC) on 51	51-3-5-7	17605	.05
KADEL	10-N-13	A-4160	Screw, tie rod bracket to dash (CC)	51	10276	.05
LADEL	38-D-12	A-4161	Nut on screw	51	10892	.05
MADEL	10-K-16	A-4162	Bracket on radiator for hood hinge rod	51-3-5-7	18214	.25
PADEL		A-4163	Rivet for bracket	51-3-5	17701	.05
RADEL	9-M-23	A-4164	Rivet for bracket	57	17611	.05
SADEL	12-E-6	A-4165	Guard on radiator for fan	51-3-5-7	8288	.30
ZADEL	34-D-69	A-4167	Rivet for webbing	51	17706	dz. .10
BEDEL	17-E-10	A-4168	Lace on radiator for hood	51-3-5-7	30702	.20
CEDEL	9-B-1	A-4169	Clip for end of lace	51-3-5-7	32272	.05
DEDEL	24-D-48	A-4170	Strainer for radiator outlet	53-5	21457	.35
FEDEL	37-D-41	A-4171	Strainer for radiator outlet	57	23725	.40
KEDEL	9-I-21	A-4172	Ring retaining strainer in outlet	53-5	30028	.15
LEDEL	36-D-3	A-4173	Plug for radiator outlet	57	37518	.65
MEDEL	9-R-17	A-4174	Gasket for plug	57	37520	.05

RADIATOR CONDENSER TANK AND PIPING

PEDEL	37-G-27	A-4177	Condenser tank only, all except (C) (V)	55-7	23536	5.00
REDEL	36-G-26	A-4178	Condenser tank only (C) (V)	55-7	23566	5.00
SEDEL	37-D-75	A-4179	Support bracket for tank, front	55-7	34486	.25
TEDEL	37-C-159	A-4180	Support bracket for tank, rear	55-7	34487	.25
ZEDEL	37-B-16	A-4181	Screw, support to tank	55-7	56198	.08
BIDEL	36-D-21	A-4182	Lock washer	55-7	11316	.05
CIDEL	26-B-155	A-4183	Screw, condenser tank brackets to side bar	55-7	11967	.05
DIDEL	36-D-21	A-4184	Lock washer	55-7	11316	.05
FIDEL	12-D-47	A-4185	Nut	55-7	10893	.05
KIDEL	15-B-121	A-4186	Plug for condenser tank filler	55-7	34490	.35
LIDEL	24-C-93	A-4187	Elbow for condenser pipes	55-7	23683	1.25
MIDEL	10-D-1	A-4188	Plug in elbow to drain tank	55-7	3467	.05
PIDEL	14-A-1	A-4189	Pipe, long, from elbow to radiator overflow tube	55-7	37788	2.25
RIDEL	37-D-45	A-4190	Reinforcement for long pipe	55-7	34915	.15
SIDEL	15-B-38	A-4191	Support for condenser tank pipe	55	34913	.10
TIDEL	10-P-19	A-4192	Support for condenser tank pipe	57	37789	.10
ZIDEL	36-B-155	A-4193	Clamp screw for support on pipe	55-7	10274	.05
BODEL	38-B-8	A-4194	Nut	55-7	10889	.05
CODEL	15-B-45	A-4195	Lock washer	55-7	11314	.05
DODEL	10-P-18	A-4196	Screw for upper end of support	55-7	11962	.05
FODEL	16-D-22	A-4197	Hose connection for pipes (2 used)	55-7	34656	.30
KODEL	13-D-73	A-4198	Clamp for hose connections	55-7	34817	.10
LODEL	10-L-13	A-4199	Cover for condenser tank filler in auxiliary seat well (C) and (V)	55-7	34648	.05

GASOLINE TANK

ZODEL		*A-4202	Gasoline tank complete (SL) (R) (5-P) (C)	51	17978	40.00
BUDEL		*A-4203	Gasoline tank complete, all cars on 53, (7-P) (SD) (L) (BL) on 51	51-3	21367	40.00
DUDEL		*A-4204	Gasoline tank complete (U. S. gallons)	55	23746	40.00
FUDEL		*A-4205	Gasoline tank complete (Imperial gallons)	55	23516	40.00
KUDEL		*A-4206	Gasoline tank complete (Liter gallons)	55	23518	40.00
LUDEL		*A-4207	Gasoline tank complete (U. S. gallons)	57	23746	40.00
MUDEL		*A-4208	Gasoline tank complete (Liter gallons)	57	23912	40.00
PUDEL		*A-4209	Gasoline tank complete (Imperial gallons)	57	23910	40.00
RUDEL	24-D-25	A-4210	Filler cap with leather washer (not used with thumb screw)	51-3	20800	1.00
TUDEL	37-D-37	A-4211	Filler cap with thumb screw, plate and leather gasket for gasoline tank	51-3-5-7	29380	2.00
ZUDEL	16-D-27	A-4212	Gasket for filler cap	51-3-5-7	16373	.10

*Classify on order as crated material.

Code Word	Sec.-Bin	Serial	Part Name	Type	Symbol	Price
BADEM	38-B-93	A-4213	Thumb screw for filler cap	51-3-5-7	32795	$ .50
CADEM	33-B-157	A-4214	Clamp plate in filler cap	51-3-5-7	32803	.10
DADEM	37-B-161	A-4215	Support stud for gasoline tank, front	51-3	18441	1.00
FADEM	38-D-30	A-4216	Clamp on cross member for gasoline tank hanger	55-7	32410	.25
KADEM	36-B-44	A-4217	Screw through clamp and hanger	55-7	52344	.05
LADEM	12-D-47	A-4218	Nut	55-7	10893	.05
MADEM	10-F-7	A-4219	Lock washer	55-7	11306	.05
PADEM	32-B-93	A-4220	Hanger for gasoline tank, front (2 used)	55-7	32806	1.00
RADEM	37-C-123	A-4221	Support bolt for gasoline tank, rear	51-3-5-7	18433	.15
SADEM	37-B-151	A-4222	Lock washer on rear support only	51-3-5-7	11308	.05
TADEM	10-F-12	A-4223	Flat washer on rear support bolt (use when required)	53-5	11453	.05
BEDEM	10-K-14	A-4224	Castle nut for gasoline tank support stud	51-3-5-7	11681	.10
CEDEM	10-Q-20	A-4225	Cotter pin for castle nut	51-3-5-7	15164	.05
DEDEM	9-N-6	A-4226	Concave washer for gasoline tank supports and hangers	51-3-5-7	11456	.05
FEDEM	9-N-14	A-4227	Convex washer, thin, for gasoline tank supports and hangers	51-3-5-7	11455	.05
LEDEM	24-C-95	A-4228	Convex washer, thick, for front gasoline tank support	51-3	11466	.05
MEDEM	36-G-6	A-4229	Gasoline gauge frame complete, with dial pointer and float, in gasoline tank (U. S. gallons)	51-3-5-7	38527	1.75
REDEM	38-D-13	A-4230	Frame, dial and pinion for gasoline gauge	51-3-5-7	1204U.S.	.90
SEDEM	38-C-31	A-4231	Float with rod and gear for gasoline gauge	51-3-5-7	321	.50
TEDEM	36-B-11	A-4232	Bolt, gear to frame	51-3-5-7	55643	.20
ZEDEM	10-L-19	A-4233	Nut for bolt (2 used)	51-3-5-7	55644	.08
BIDEM	16-B-129	A-4234	Gasket for gasoline gauge	51-3-5-7	30646	.05
CIDEM	37-D-67	A-4235	Octagonal cap for gasoline gauge	51-3-5-7	19166	1.00
DIDEM	17-D-7	A-4236	Cork gasket for glass	51-3-5-7	19169	.05
FIDEM	38-B-70	A-4237	Glass for gasoline gauge	51-3-5-7	19167	.20
KIDEM	9-D-12	A-4238	¼" plug for settling chamber drain	51-3-5-7	55750	.10
LIDEM		A-4239	Stem for gasoline tank valve (SL) (R) (5P) (C)	51	16726	.50
MIDEM		A-4240	Stem for gasoline tank valve (7-P) (SD) (L) (BL)	51	19136	.50
PIDEM	18-B-32	A-4241	Stem for gasoline tank valve	53	30935	.40
			NOTE—Type 55 first type valve stem was used with a snap ring as a stop to prevent the stem from turning out of the connection on tank and the second type was used with a cotter pin.			
TIDEM	38-B-41	A-4242	Stem for gasoline tank valve (1st type)	55	32801	.30
ZIDEM	37-C-95	A-4243	Stem for gasoline tank valve (2nd type)	55	34446	.30
BODEM	38-D-15	A-4244	Stem for gasoline tank valve	57	37475	.35
CODEM	10-E-7	A-4245	Cotter pin in valve stem for stop	55-7	15173	.05
DODEM	37-B-91	A-4246	Wing nut on valve stem	51-3-5	16724	.10
FODEM	9-A-12	A-4247	Wing nut on valve stem	57	37472	.25
KODEM	10-F-2	A-4248	Taper pin for wing nut	51-3-5	15015	.05
LODEM		A-4249	Taper pin for wing nut	57	15023	.05
MODEM	37-B-123	A-4250	Packing nut on valve stem	51-3-5	16721	.15
PODEM	9-A-21	A-4251	Packing nut on valve stem	57	37473	.35
RODEM	9-B-22	A-4252	Packing for valve stem nut	51-3-5	16987	.05
SODEM	38-C-113	A-4253	Packing for valve stem nut	57	37471	.05
TODEM	10-M-7	A-4254	Conical washer for packing on 1st type stem	55	50054	.05
ZODEM	9-Q-18	A-4255	Snap ring on 1st type valve stem for stop	55	32799	.10
BUDEM	24-C-161	A-4256	Connection only with pipe and strainer for gasoline line	51-3	20378	3.50
CUDEM	24-C-149	A-4257	Connection only on tank with pipe and strainer for gasoline line (1st type)	55	22375	3.50
FUDEM	24-D-71	A-4258	Connection on tank with pipe and strainer for gasoline line (2nd type)	55	23510	3.50
LUDEM	24-C-83	A-4259	Connection on tank with pipe and strainer for gasoline line	57	23744	4.50
PUDEM	10-C-21	A-4260	Lead gasket for gasoline connection on tank	51-3-5-7	16383	.05
RUDEM	13-C-89	A-4261	Screw, connection for gasoline line to tank	51-3	10005	.05
SUDEM	9-C-11	A-4262	Screw, connection for gasoline line to tank	55-7	11884	.05
TUDEM	13-B-16	A-4263	Lock washer	51-3-5-7	11315	.05
ZUDEM	Ac. S.	A-4264	Extension pipe for filling gasoline tank, all except (C) (SD) on 51 and (R) (V) (C) on 53-5	51-3-5	21931	4.50

GASOLINE AND AIR PIPES. CLIPS AND SUPPORTS FOR PIPES

Code Word	Sec.-Bin	Serial	Part Name	Type	Symbol	Price
BADEP	24-C-81	A-4267	Gasoline pipe complete, gasoline tank to strainer on side bar	51	20681	$ 2.00
DADEP	24-G-25	A-4268	Gasoline pipe complete, gasoline tank to strainer on side bar (E)	53	21710	2.00
KADEP	24-E-12	A-4269	Gasoline pipe complete, gasoline tank to strainer on side bar (F)	55-7	25671	2.00
MADEP	24-D-73	A-4270	Gasoline pipe complete, tank to strainer on side bar (G)	53	21708	2.25
PADEP	24-C-143	A-4271	Gasoline pipe complete, tank to strainer on side bar (G)	55-7	21709	2.25
RADEP		A-4272	Gasoline pipe complete, tank to strainer on side bar (H)	53	21712	2.50
SADEP	24-F-5	A-4273	Gasoline pipe complete, tank to strainer on side bar (H)	55-7	22416	2.50
TADEP	24-D-9	A-4274	Gasoline pipe complete, strainer on side bar to carburetor	51	20678	1.25
ZADEP	24-D-56	A-4275	Gasoline pipe complete, strainer on side bar to carburetor	53	21331	1.25
BEDEP	24-E-16	A-4276	Gasoline pipe complete, strainer to carburetor	55-7	25676	1.25
CEDEP		A-4277	Gasoline pipe complete, strainer to elbow on dash	51	20676	1.25
DEDEP	24-F-24	A-4278	Gasoline pipe complete, strainer to elbow on dash	53	21337	1.25
FEDEP	24-C-141	A-4279	Gasoline pipe complete, strainer to elbow on dash	55	22771	1.25
KEDEP	24-E-15	A-4280	Gasoline pipe complete, strainer to elbow on dash	57	23389	1.35
LEDEP	24-B-135	A-4281	Gasoline pipe complete, elbow on dash to gauge	51	25669	.75
MEDEP	24-D-45	A-4282	Gasoline pipe complete, elbow on dash to gauge, all except (CV) (CR) (SB-1) (SB-2) (V-2) (B-2)	53-5-7	22413	.75
REDEP	24-B-141	A-4283	Gasoline pipe complete, elbow on dash to gauge (CV)	55	23666	.75
SEDEP	24-D-62	A-4284	Gasoline pipe complete, elbow on dash to gauge (CR)	55	23668	.75
TEDEP	24-B-135	A-4285	Gasoline pipe complete, elbow on dash to gauge (SB-1) (SB-2) (V-2 (B-2)	57	25669	.75
BIDEP		A-4286	Air pipe complete, tank to tee on side bar	51	20682	2.00
CIDEP	24-D-29	A-4287	Air pipe complete, tank to tee on side bar (E)	53	21711	2.00
DIDEP	24-E-9	A-4288	Air pipe complete, tank to tee on side bar (F)	55-7	25672	2.00
FIDEP	24-C-143	A-4289	Air pipe complete, tank to tee on side bar (G)	53	21709	2.25
KIDEP	24-D-74	A-4290	Air pipe complete, tank to tee on side bar (G)	55-7	22409	2.25
LIDEP		A-4291	Air pipe complete, tank to tee on side bar (H)	53	21713	2.50
MIDEP	24-D-81	A-4292	Air pipe complete, tank to tee on side bar (H)	55-7	22410	2.50
PIDEP	24-C-79	A-4293	Air pipe complete, tee to air pump on cam shaft	51	25724	1.25
RIDEP	24-G-23	A-4294	Air pipe complete, tee on side bar to pump on cam shaft	53	21332	1.50
SIDEP	24-D-68	A-4295	Air pipe complete, tee on side bar to pump on cam shaft	55-7	22407	1.25
TIDEP		A-4296	Air pipe complete, tee on side bar to hand air pump on dash (OC)	51	20675	1.25
BODEP	24-F-24	A-4297	Air pipe complete, tee on side bar to elbow on dash	53	21337	1.25
CODEP	24-B-131	A-4298	Air pipe complete, tee to hand air pump on dash (CC)	51	20684	1.25
DODEP	24-F-24	A-4299	Air pipe complete, tee to elbow on dash	55	21337	1.25
FODEP	24-C-5	A-4300	Air pipe complete, relief valve on side bar to elbow on dash	57	23390	1.35
LODEP	24-D-76	A-4301	Air pipe complete, elbow on dash to hand pump, all except (CV) (CR) (SB-1) (SB-2) (V-2) (B-2)	53-5-7	22412	.75
PODEP	24-B-79	A-4302	Air pipe complete, elbow on dash to hand pump (CV)	55	23665	.75
RODEP	24-B-89	A-4303	Air pipe complete, elbow on dash to hand pump (CR)	55	23667	.75
SODEP	24-C-157	A-4304	Air pipe complete, elbow on dash to hand pump (SB-1) (SB-2) (V-2) (B-2)	57	25250	.75
ZODEP	36-C-101	A-4305	Nut for copper pipe union on gasoline and air lines	51-3-5-7	18286	.15
BUDEP	14-C-141	A-4306	Elbow on dash for gasoline and air pipe connection (OC) on 51	51-3-5-7	19134	.50
DUDEP	14-B-41	A-4307	Elbow on dash for gasoline pipe connection (CC)	51	30118	.40
FUDEP	14-D-52	A-4308	Nut, elbow on dash	51-3-5-7	11656	.15
KUDEP	10-E-9	A-4309	Lock washer	57	11338	.05
LUDEP	9-P-13	A-4310	Support complete for pipes at gasoline tank	51-3	20606	.50
MUDEP	38-B-62	A-4311	Fibre blocks for pipe clip at gasoline tank	51-3-5-7	19995	.05
PUDEP	37-D-59	A-4312	Bolt for pipe clip at gasoline tank	51-3	19997	.05
RUDEP	9-C-4	A-4313	Bolt for pipe clip at gasoline tank	55-7	33424	.10
SUDEP	9-A-5	A-4314	Spring on bolt for pipe clip at gasoline tank (2 used)	51-3	19996	.10
TUDEP	9-R-11	A-4315	Spring on bolt for pipe clips at gasoline tank (2 used)	55-7	33423	.05
ZUDEP	38-D-12	A-4316	Nut on bolt for pipe clips	51-3-5-7	10892	.05

Code Word	Sec.-Bin	Serial	Part Name	Type	Symbol	Price
BADER	13-B-16	A-4317	Lock washer	51-3-5-7	11315	$ .05
CADER	24-B-101	A-4318	Double clip for gasoline and air pipes	51-3-5-7	19333	.05
DADER	10-C-7	A-4319	Square thin fibre washer for double clip on gasoline and air pipe lines	51-3-5-7	19332	.05
KADER	10-B-22	A-4320	Double fibre block for pipe lines	51-3-5-7	64820	.05
LADER	16-C-138	A-4321	Double fibre block for gasoline air pipes ($1\frac{1}{32}$" thick)	51-3-5-7	30606	.20
MADER	10-A-12	A-4322	Single clip for gasoline pipe	51-3-5	19330	.05
PADER	10-A-12	A-4323	Fibre block for single clip on gasoline pipe	51-3-5	19329	.05
RADER	10-A-8	A-4324	Double fibre block for pipe clip at dash and on transmission	51-3-5-7	19870	.10
TADER	9-H-20	A-4325	Double fibre block for pipe clip on dash, countersunk (1 used) (OC) (V-1) (V-2) (S) (M) (A) (SB-1) (SB-2)	57	38115	.15
BEDER	9-U-19	A-4326	Clip for air pipe on fan housing	51	30272	.05
DEDER	31-C-41	A-4328	Support for pipes on valve adjusting cover	51	30144	.20
FEDER		A-4329	Clip for air pipes on cylinders	53	31399	.05
KEDER		A-4330	Support for pipes on transmission	53	31391	.05
LEDER	9-P-20	A-4331	Clip on air pipe from tee on side bar to pump on cam shaft	55-7	37057	.05
MEDER	9-P-7	A-4332	Screw, $1\frac{7}{8}$" long, clips to frame	51-3-5	10282	.08
PEDER	10-P-11	A-4333	Screw, $1\frac{3}{8}$" long, for pipe clips	51-3-5-7	10279	.05
REDER	36-B-155	A-4334	Screw, double pipe clip at dash and single clip on gasoline line	51-3-5	10274	.05
TEDER	10-N-2	A-4335	Screw, pipe clips at gasoline tank	51	10273	.05
ZEDER	31-B-135	A-4336	Screw for floating clip, clip on support 51-3, pipe clip on transmission case 57	51-3-7	10275	.05
CIDER	9-O-18	A-4337	Screw, upper clip to dash (OC) (V-1) (S) (M) (A) (SB-1) (SB-2)	57	10797	.05
FIDER	9-N-21	A-4338	Screw, upper clip to dash (CC), except (V-1) (V-2) and lower clip (OC) (S) (M) (A)	57	10600	.05
LIDER	10-E-14	A-4339	Screw, lower clip to dash (CC), except (SB-1) (SB-2)	57	36359	.05
PIDER	38-B-8	A-4340	Nut	51-3-5-7	10889	.05
RIDER	9-E-18	A-4341	Special nut on screw attaching clip	57	11739	.05
SIDER	15-B-45	A-4342	Lock washer	51-3-5-7	11314	.05
TIDER		A-4343	Bracket with countersunk hole for pipe lines on dash (CC), except (C) and (CV)	55	31853	.10
BODER	10-P-18	A-4344	Bracket for pipe lines on dash	51-3-5	19872	.10

GASOLINE STRAINERS. TYPE 57 AIR PRESSURE RELIEF VALVE

LODER		A-4347	Body of gasoline strainer	51-3	19135	1.75
MODER	24-C-129	A-4348	Body of gasoline strainer	55-7	33721	1.75
PODER	13-D-32	A-4349	Plug with gauze for strainer	51-3	20258	.85
RODER	36-B-3	A-4350	Plug with gauze for strainer	55-7	22641	.90
SODER	37-B-159	A-4351	Lead washer for strainer plug	51-3-5-7	3145	.05
TODER	37-D-54	A-4352	Tee on side bar for air pipes	51-3-5	19133	.50
ZODER	14-D-21	A-4353	Screw, strainer and tee to side bar	51-3-5	10007	.05
BUDER	9-D-2	A-4354	Nut	51-3-5	11676	.05
CUDER	13-B-16	A-4355	Lock washer	51-3-5	11315	.05
DUDER	13-F-3	A-4356	Air pressure relief valve complete	57	23455	5.50
FUDER	9-G-16	A-4357	Cover for air pressure relief valve	57	37453	.15
KUDER	10-M-9	A-4358	Needle for air pressure relief valve	57	37457	.30
LUDER	10-K-12	A-4359	Spring on needle in air pressure relief valve	57	37458	.05
MUDER	9-G-20	A-4360	Seat for relief valve needle	57	37459	.20
PUDER	10-L-17	A-4361	Gland nut for relief valve	57	37798	.10
RUDER	16-C-151	A-4362	Packing for relief valve	57	38116	.05
SUDER	10-J-5	A-4363	Screw, strainer and regulator to side bar	57	10006	.05
TUDER	13-B-16	A-4364	Lock washer	57	11315	.05

GASOLINE AIR PRESSURE GAUGE

Code Word	Sec.-Bin	Serial	Part Name	Type	Symbol	Price
BADES	14-F-20	A-4367	Gasoline air pressure gauge on instrument board	51-3-5-7	32811	$ 2.00
CADES	26-B-61	A-4368	Glass for air pressure gauge	51-3-5-7	754	.20
DADES	9-U-20	A-4369	Spacing ring for glass on air gauge	51-3-5-7	821	.10
FADES	9-T-21	A-4370	Ring retainer for glass on gauge	51-3-5-7	1425	.20
KADES	35-C-65	A-4371	Strap for air gauge (OC) (S) (M) (A)	51-3-5-7	18874	.10
LADES	10-Q-13	A-4372	Strap for air gauge (CC)	51-3-5-7	18875	.10
MADES	9-S-12	A-4373	Alignment strap for pressure gauges	57	37090	.05
PADES	10-K-8	A-4374	Nut for air gauge	51-3-5-7	10888	.05
RADES	15-B-45	A-4375	Lock washer	51-3-5-7	11314	.05
SADES	13-C-3	A-4376	Flat washer for air pressure gauge (CC)	53-5	31463	.05

GASOLINE AIR PRESSURE PUMP

DEDES	14-G-8	A-4379	Gasoline air pressure pump complete on cam shaft less check valve	51-3-5-7	21205	6.00
KEDES	9-M-10	A-4380	Nut on stud, pump to front end cover	51-3-5-7	11674	.05
LEDES	15-B-45	A-4381	Lock washer	51-3-5-7	11314	.05
MEDES	14-B-46	A-4382	Plug for top of gasoline air pump body	51-3-5-7	30563	.50
PEDES	9-U-23	A-4383	Gasket for plug	51-3-5-7	30562	.05
REDES	15-E-7	A-4384	Connecting rod for air pressure pump	51-3-5-7	19469	.75
SEDES	10-S-2	A-4385	Wrist pin for pump	51-3-5-7	19470	.10
TEDES	12-C-43	A-4386	Check valve complete for gasoline air line	51-3-5-7	21327	1.00
CIDES		A-4389	Cap for check valve	51	30521	.15
DIDES	9-D-15	A-4390	Cap for check valve	53-5-7	30955	.10
FIDES	10-M-20	A-4391	Needle for check valve on air line	51-3-5-7	13392	.20
KIDES	14-C-77	A-4392	Eccentric nut with plug and oil tube for air pump	51-3-5-7	20753	1.75
LIDES	9-K-20	A-4393	Oil tube for eccentric nut	51-3-5-7	30412	.05

HAND AIR PRESSURE PUMP

ZIDES	36-D-6	A-4396	Hand air pump complete (OC)	51	17984	3.50
BODES	35-F-18	A-4397	Hand air pump complete (OC)	53-5-7	31267	3.50
CODES	36-D-51	A-4398	Hand air pump complete with flange (CC), except (C)	51	20628	4.00
DODES	37-D-6	A-4399	Hand air pump complete with flange (C)	51	20627	4.00
FODES	37-D-16	A-4400	Hand air pump complete (CC)	53-5-7	31267½	3.50
KODES	37-D-48	A-4401	Bracket for hand air pump (OC)	51	19853	.50
LODES	10-P-23	A-4402	Screw, hand pump bracket to dash (OC)	51	10271	.05
MODES	15-B-45	A-4403	Lock washer	51	11314	.05
PODES	10-J-5	A-4404	Clamp screw, bracket on pump (OC)	51	10006	.05
RODES	13-B-16	A-4405	Lock washer	51	11315	.05
SODES	38-D-37	A-4406	Nut on hand pump bearing flange (CC) on 51	51-3-5-7	11659	.25
TODES	37-B-46	A-4407	Flat washer for hand pump bearing flange (CC)	51-3-5-7	30946	.05
ZODES	37-D-23	A-4408	Barrel for hand pump with nipple	51	21019	1.75
BUDES	38-D-65	A-4409	Barrel for hand pump with end and flange (OC)	53-5-7	21783	2.25
CUDES	37-D-33	A-4410	Barrel for hand pump with end and flange (CC)	53-5-7	21784	2.50
DUDES	38-B-148	A-4411	Knob with end, plunger rod, and cap with bushing for hand pump	51	41364	1.80
FUDES	36-C-49	A-4412	Knob for hand pump	53-5-7	31264	.35
KUDES	36-D-8	A-4413	Collar for knob	53-5-7	31260	.25
LUDES	9-E-16	A-4414	Pin for knob	53-5-7	31261	.10
MUDES	9-D-19	A-4415	Nut for knob	51	19125	.10
PUDES	35-F-3	A-4416	Cap with bushing for hand pump	53-5-7	21785	.55
RUDES	9-O-11	A-4417	Spring for plunger rod	51-3-5-7	19116	.10
SUDES	37-B-42	A-4418	Plunger rod for hand pump	53-5-7	31265	.30
TUDES	9-O-10	A-4419	Steel washer for hand pump plunger above fibre washer	51-3-5-7	11451	.10
ZUDES	9-I-14	A-4420	Fibre washer for hand pump plunger	51-3-5-7	11452	.15

Code Word	Sec.-Bin	Serial	Part Name	Type	Symbol	Price
BADET	16-D-25	A-4421	Leather washer for hand pump expanding spring	51-3-5-7	19117	$ .10
CADET	9-A-14	A-4422	Steel washer retaining leather washer on plunger	51-3-5-7	11450	.05
DADET	38-C-43	A-4423	Expanding spring for hand pump plunger	51-3-5-7	19124	.05
FADET	9-O-11	A-4424	Seat for expanding spring on plunger	51-3-5-7	19118	.08
KADET	10-P-6	A-4425	Nut on lower end of plunger rod	51-3-5-7	11680	.05
LADET	9-G-1	A-4426	Packing for valve on hand pump	51-3-5-7	19120	.05
MADET	9-P-21	A-4427	Valve for hand pump nipple	51-3-5-7	19121	.10
PADET	37-D-17	A-4428	Spring for hand pump nipple valve	51-3-5-7	32153	.05
RADET	36-C-53	A-4429	Elbow for hand pump	51-3-5-7	31454	.40

FRAME SIDE BARS AND OUTRIGGERS

NOTE—Prices on frames complete will be quoted on application.

FEDET	*A-4434	Side bar, RIGHT, with outriggers, LEFT steering	51	21167	26.50
LEDET	*A-4435	Side bar, LEFT, with outriggers, LEFT steering	51	21168	26.50
PEDET	*A-4436	Side bar, RIGHT, with outriggers (SL) (R) (5-P), RIGHT steering	51	21169	26.50
SEDET	*A-4437	Side bar, LEFT, with outriggers (SL) (R) (5-P), RIGHT steering	51	21170	26.50
ZEDET	*A-4438	Side bar, RIGHT, with outriggers (7-P) (CC), RIGHT steering	51	21171	26.50
CIDET	*A-4439	Side bar, RIGHT, with outriggers (7-P) (CC), RIGHT steering	51	21172	26.50
FIDET	*A-4440	Side bar, RIGHT, with outriggers (E), LEFT steering	53	21304	26.50
KIDET	*A-4441	Side bar, LEFT, with outriggers (E), LEFT steering	53	21305	26.50
LIDET	*A-4442	Side bar, LEFT, with outriggers (G), LEFT steering	53	21589	30.50
MIDET	*A-4443	Side bar, RIGHT, with outriggers (G), LEFT steering	53	21588	30.50
PIDET	*A-4444	Side bar, RIGHT, with outriggers (A), LEFT steering	53	21586	36.50
RIDET	*A-4445	Side bar, LEFT, with outriggers (A), LEFT steering	53	21587	36.50
SIDET	*A-4446	Side bar, RIGHT, with outriggers (E), RIGHT steering	53	21342	26.50
TIDET	*A-4447	Side bar, LEFT, with outriggers (E), RIGHT steering	53	21343	26.50
ZIDET	*A-4448	Side bar, RIGHT, with outriggers (G), RIGHT steering	53	21596	30.50
BODET	*A-4449	Side bar, LEFT, with outriggers (G), RIGHT steering	53	21597	30.50
CODET	*A-4450	Side bar, RIGHT, with outriggers (A), RIGHT steering	53	21598	36.50
DODET	*A-4451	Side bar, LEFT, with outriggers (A), RIGHT steering	53	21599	36.50
FODET	*A-4452	Side bar, RIGHT with outriggers, brackets and bushing for spring shackles (F), LEFT steering	55-7	22109	36.50
LODET	*A-4453	Side bar, LEFT, with outriggers, brackets and bushing for spring shackles (F), LEFT steering	55-7	22110	36.50
PODET	*A-4454	Side bar, RIGHT, with outriggers, brackets and bushing for spring shackles (G), LEFT steering	55-7	22455	40.50
SODET	*A-4455	Side bar, LEFT, with outriggers, brackets and bushing for spring shackles (G), LEFT steering	55-7	22456	40.50
ZODET	*A-4456	Side bar, RIGHT, with outriggers, brackets and bushing for spring shackles (H), LEFT steering	55-7	22556	46.50
CUDET	*A-4457	Side bar, LEFT, with outriggers, brackets and bushing for spring shackles (H), LEFT steering	55-7	22557	46.50
FUDET	*A-4458	Side bar, RIGHT, with outriggers, brackets and bushing for spring shackles (F), RIGHT steering	55-7	22111	36.50
LUDET	*A-4459	Side bar, LEFT, with outriggers, brackets and bushing for spring shackles (F), RIGHT steering	55-7	22112	36.50
PUDET	*A-4460	Side bar, RIGHT, with outriggers, brackets and bushing for spring shackles (G), RIGHT steering	55-7	22453	40.50
SUDET	*A-4461	Side bar, LEFT, with outriggers, brackets and bushing for spring shackles (G), RIGHT steering	55-7	22454	40.50
ZUDET	*A-4462	Side bar, RIGHT, with outriggers, brackets and bushing for spring shackles (H), RIGHT steering	55-7	22558	46.50

*Classify on order as crated material.

Code Word	Sec.-Bin	Serial	Part Name	Type	Symbol	Price
BADEX		*A-4463	Side bar, LEFT, with outriggers, brackets and bushing for spring shackles (H), RIGHT steering	55-7	22559	$46.50
DADEX	34-D-67	A-4464	Outrigger, front, RIGHT	51-3	18051	2.50
FADEX	33-C-3	A-4465	Outrigger, front, LEFT	51-3	18052	2.50
KADEX	32-D-13	A-4466	Outrigger, front, RIGHT	55-7	51247	6.50
LADEX	32-D-10	A-4467	Outrigger, front, LEFT	55-7	51248	6.50
MADEX	33-D-66	A-4468	Outrigger, rear, RIGHT	51-3	31166	3.00
PADEX	33-D-59	A-4469	Outrigger, rear, LEFT	51-3	31167	3.00
RADEX	33-B-73	A-4470	Outrigger, rear, RIGHT	55-7	32406	5.50
SADEX	32-D-6	A-4471	Outrigger, rear, LEFT	55-7	51246	5.50
TADEX		A-4472	Plug for taper hole in rear outrigger (C) (SD) on 51,(R) (V) on 53	51-3	17240	.25
BEDEX	33-C-39	A-4473	Plug for taper hole in rear outrigger (V) (C) (V-1) (V-2)	55-7	32431	.75
CEDEX	38-C-65	A-4474	Screw for plug	51-3-5-7	10598	.05
DEDEX	9-M-16	A-4475	Flat washer	51-3-5-7	11478	.05
FEDEX	15-B-45	A-4476	Lock washer	51-3-5-7	11314	.05

BRACKETS AND HANGERS ON SIDE BARS

KEDEX	32-D-36	A-4479	Bracket on side bar for front fender irons	51	18060	.60
LEDEX	37-D-73	A-4480	Bracket, front, for rear fender iron (C) on 51—(V) on 53	51-3	19054	.50
MEDEX	32-D-42	A-4481	Bracket, rear, for rear fender iron (C) on 51—(V) on 53	51-3	19053	.50
PEDEX	33-B-121	A-4482	Bracket on side bar for fender iron, front all cars, rear (V) (R) (V-1) (R-1) (R-2)	53-5-7	31000	1.25
SEDEX	36-C-39	A-4483	Flange on side bar for hood pull, front	53-5-7	30979	.35
TEDEX	37-B-124	A-4484	Flange on side bar for hood pull, rear	53	30980	.35
ZEDEX	38-B-63	A-4485	Flange on side bar for hood pull, rear	55-7	32429	.35
BIDEX	34-D-35	A-4486	Bracket with bushing for front spring shackle	51-3	41579	3.20
CIDEX	34-D-13	A-4487	Bracket only for front spring shackle	55-7	32430	1.75
DIDEX	33-F-9	A-4488	Bushing in bracket for front spring shackle	51-3	30427	.75
FIDEX	32-G-6	A-4489	Bushing in bracket for front spring shackle	55-7	32403	.80
KIDEX	32-B-45	A-4490	Bracket for rear side spring	51-3	18062	7.00
LIDEX	33-D-43	A-4491	Bracket for front end of rear side spring	55-7	32425	6.50
MIDEX	35-D-13	A-4492	Reinforcement for rear side spring bracket	51-3	30595	.30
PIDEX		A-4493	Bracket on side bar for horn support	51	19881	1.50
RIDEX		A-4494	Bracket on side bar for horn support	53	31310	1.50
SIDEX	33-C-49	A-4495	Bracket on side bar for horn support	55-7	32422	1.50
TIDEX	9-C-16	A-4496	Plug inside bar for adjusting wrench on eccentric bushing	51-3-5-7	30512	.20
BODEX	31-C-121	A-4497	Bracket for rear engine support, RIGHT	51-3	31195	5.00
CODEX	32-B-15	A-4498	Bracket with plate for rear engine support, RIGHT	55-7	22105	3.50
DODEX	31-C-121	A-4499	Bracket for rear engine support, LEFT	51-3	31195	5.00
FODEX	33-B-47	A-4500	Bracket with plate for rear engine support, LEFT	55-7	22106	3.50
KODEX	16-C-7	A-4501	Felt pad for engine support bracket	51-3	31803	.05
LODEX	9-J-4	A-4502	Wick for rear engine support brackets	55-7	32416	.05
MODEX	33-E-21	A-4503	Hanger for running board	51-3	18063	1.00
PODEX	32-E-8	A-4504	Hanger for running board and attaching body to frame, Standard Tread cars	55-7	54015	1.75
SODEX	33-E-16	A-4505	Hanger for running board and attaching body to frame, Wide Tread cars	55	33397	1.75
ZODEX	33-C-91	A-4506	Rear bracket, body to frame, two on (R) (C) (V), six on all others	51-3	18065	.25
CUDEX	33-C-51	A-4507	Bracket, front, body to frame	53	31286	.15
DUDEX		A-4508	Bracket, center, body to frame (R)	51	30130	.15
KUDEX	33-C-67	A-4510	Bracket, body to frame, four on (R) (R-1) (R-2) (V) (V-1) (C) (CR), two all others	55-7	32434	.30
MUDEX	32-D-14	A-4511	Hanger for rear end of muffler, RIGHT	51-3	18068	.15
PUDEX	33-D-63	A-4512	Hanger for rear end of muffler, RIGHT except (H)	55-7	32427	.60
RUDEX	32-B-3	A-4513	Hanger for rear end of muffler, RIGHT, (H) LEFT steering	57	37757	1.20
SUDEX	34-D-23	A-4514	Hanger for rear end of muffler, LEFT	51-3	19804	.15
TUDEX	33-D-68	A-4515	Hanger for rear end of muffler, LEFT, except (H)	55-7	32428	.60
ZUDEX		A-4516	Hanger for rear end of muffler, LEFT (H)	57	37758	1.00

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Code Word	Sec.-Bin	Serial	Part Name	Type	Symbol	Price
BADEZ		A-4517	Hanger for rear end of muffler, RIGHT (H), RIGHT steering	57	38067	$ .65
DADEZ		A-4518	Washer for rear muffler hanger (H)	57	11530	.10
FADEZ	32-B-137	A-4519	Bracket for muffler outlet pipes	51-3	19983	.15
KADEZ	33-D-67	A-4520	Bracket for muffler outlet pipes (2 used)	55	32426	.25
LADEZ	32-C-5	A-4521	Bracket for muffler outlet pipes (2 used)	57	37640	.40
MADEZ	10-C-2	A-4522	Bracket on side bar for clutch pedal retracting spring	55-7	32423	.10

FRAME CROSS MEMBERS AND BRACKETS

PADEZ	26-A-1	A-4525	Tubular cross member between front outriggers	55-7	32408	5.50
RADEZ	37-B-155	A-4526	Bracket on front tubular cross member for starter crank extension	55	34348	1.50
TADEZ	9-B-14	A-4527	Screw, bracket to cross member	55	34347	.30
ZADEZ	32-G-21	A-4528	Cross member for radiator with brackets for front engine support	51	20568	14.00
CEDEZ	32-G-15	A-4529	Cross member under radiator with bracket and cap for front engine support	53-5-7	22107	14.00
FEDEZ	34-C-89	A-4530	Bracket with cap and screws on cross member for front engine support	51-3-5-7	20285	4.50
LEDEZ	10-J-8	A-4531	Screw, cap to bracket for engine support	51-3-5-7	10066	.10
MEDEZ	10-F-9	A-4532	Lock washer	51-3-5-7	11318	.05
PEDEZ	14-E-14	A-4533	Grease cup for front engine support bracket	51-3-5-7	17054	.50
REDEZ	14-B-21	A-4534	Extension for grease cup	55-7	19754	.10
SEDEZ	30-B-12	A-4535	Nipple for grease cup extension	55-7	30383	.20
TEDEZ	33-D-34	A-4536	Gusset, RIGHT, for front cross member	51-3-5-7	19003	1.00
ZEDEZ	33-C-43	A-4537	Gusset, LEFT, for front cross member	51-3-5-7	19004	1.75
BIDEZ	34-G-7	A-4538	Cross member with brackets for rocker shafts and equalizer, LEFT steering	51-3	20619	18.00
DIDEZ		A-4539	Cross member with gusset plates and brackets for rocker shafts and equalizer, LEFT steering	55	22108	18.00
KIDEZ	33-G-27	A-4540	Cross member with gusset plates and brackets for rocker shafts and equalizer, LEFT steering	57	23705	18.00
MIDEZ		A-4541	Cross member with brackets for rocker shafts and equalizer, RIGHT steering	51-3	21037	18.00
RIDEZ	32-G-25	A-4542	Cross member with gusset plates and brackets for rocker shafts and equalizer, RIGHT steering	55	22741	18.00
TIDEZ		A-4543	Cross member with gusset plates and brackets for rocker shaft and equalizer, RIGHT steering	57	23860	18.00
BODEZ		A-4544	Gusset plates for equalizer cross member (G) (H)	51-3	30390	.50
CODEZ	33-C-79	A-4545	Gusset plate for equalizer cross member (2 used)	55-7	32418	.90
DODEZ	32-D-51	A-4546	Bracket with cap on equalizer cross member for rocker shaft	51-3	20695	2.40
KODEZ	37-C-149	A-4547	Screw, cap to bracket for rocker shaft	51-3	10028	.10
LODEZ	36-D-21	A-4548	Lock washer	51-3	11316	.05
MODEZ	38-B-31	A-4549	Single bracket and cap, RIGHT, complete for brake rocker shaft (2 used), RIGHT steering	51-3	20599	2.25
RODEZ		A-4550	Dowel for rocker shaft bracket, RIGHT steering	51-3	30027	.05
TODEZ	9-L-22	A-4551	Key for brake rocker shaft bracket, 2 on LEFT, 1 on RIGHT steering	51-3	19139	.05
BUDEZ	14-E-14	A-4552	Grease cup on cap for brake rocker shaft	51-3	17054	.50
CUDEZ	33-C-9	A-4553	Bracket with bushings on cross member for hand and foot brake rocker shaft	55	22405	1.75
FUDEZ	33-C-31	A-4554	Bushing for brake rocker shaft brackets	55	32520	.40
KUDEZ	32-C-125	A-4555	Bracket with bushings on cross member for hand and foot brake rocker shaft	57	26927	1.30
MUDEZ	32-C-57	A-4556	Bushing for brake rocker shaft brackets	57	52084	.30
PUDEZ	34-D-16	A-4557	Bracket on cross member for hand brake rocker shaft (1 used)	57	37702	1.00
SUDEZ		A-4558	Bracket with bushing for foot brake rocker shaft, RIGHT steering	55	33638	1.50
TUDEZ	9-F-20	A-4559	Bracket with bushing for foot brake rocker shaft, RIGHT steering	57	26930	2.65
ZUDEZ	10-D-8	A-4560	Taper pin in rocker shaft brackets and levers	55-7	15031	.05

Code Word	Sec.-Bin	Serial	Part Name	Type	Symbol	Price
BAFEF	32-B-107	A-4561	Outer support bracket on side bar for foot brake rocker shaft	55	22971	$ 3.75
DAFEF	38-C-91	A-4562	Outer support bracket on side bar for foot brake rocker shaft	57	37700	1.50
LAFEF		A-4564	Cross member, center (A)	51-3	30391	5.00
MAFEF	33-C-1	A-4565	Bracket for torsion arm pivot on cross member	51-3	18916	2.00
PAFEF	32-D-44	A-4566	Bracket on equalizing cross member for torsion arm	55-7	32421	3.50
RAFEF	32-D-66	A-4567	Bracket, RIGHT, on cross member for hand brake rod retracting spring	51-3	19343	.10
TAFEF		A-4568	Bracket on cross member for hand brake retracting spring	55	33593	.10
ZAFEF	33-C-33	A-4569	Bracket on cross member for hand brake retracting spring, LEFT steering	57	37512	.25
CEFEF	32-B-103	A-4570	Bracket on cross member for hand brake retracting spring, RIGHT steering	57	37513	.50
FEFEF	32-D-45	A-4571	Bracket, LEFT, on equalizer cross member for foot brake rod retracting spring, LEFT steering	53	19342	.20
LEFEF	38-C-119	A-4572	Bracket on cross member for foot brake retracting spring.	55-7	33592	.30
MEFEF	34-C-147	A-4573	Bracket, LEFT, on equalizer cross member brake rod retracting spring, RIGHT steering	51-3	30004	.15
REFEF	33-G-6	A-4574	Tubular cross member in front of gasoline tank and between rear outriggers	55-7	32409	6.50
TEFEF	32-B-92	A-4575	Bracket on side bar for tubular cross member in front of gasoline tank	55-7	38324	3.25
BIFEF	26-A-19	A-4576	Tube for rear cross spring in rear outrigger	51-3	18192	4.50
CIFEF	34-G-6	A-4577	Tube for rear cross spring (H)	51-3	30402	4.50
DIFEF	9-Q-1	A-4578	Plug for rear outrigger, thin	55-7	31799	.05
FIFEF	33-D-24	A-4579	Plug for rear outrigger, thick	51-3-5-7	16250	.10

REAR AXLE BUMPERS AND REBOUND STRAPS

KIFEF	17-D-66	A-4582	Rubber bumper for rear axle	51-3	13339	.40
LIFEF	17-D-53	A-4583	Rubber bumper for rear axle	55	32680	.60
MIFEF	16-D-73	A-4584	Rubber bumper for rear axle	57	37642	.75
PIFEF	33-D-35	A-4585	Pocket for rubber bumper for rear axle rebound	51-3	18066	.15
RIFEF	33-C-53	A-4586	Support bracket on frame for rear axle bumper	57	37643	.35
XIFEF	31-C-103	A-4587	Screw, rubber bumper to side bar	55-7	33469	.10
SIFEF	10-F-12	A-4588	Flat washer	55-7	11453	.05
TIFEF	36-D-21	A-4589	Lock washer	55-7	11316	.05
ZIFEF	30-D-60	A-4590	Nut	55-7	11678	.05
BOFEF	17-E-12	A-4591	Rebound strap for rear axle	51-3-7	38323	1.60
DOFEF	32-D-78	A-4593	Hanger for rebound strap	51-3-7	18409	1.25
FOFEF	32-B-143	A-4594	Pin in hanger for rebound strap	51-3-7	16243	.10
KOFEF	10-E-8	A-4595	Cotter pin	51-3-7	15161	.05
LOFEF	29-B-149	A-4596	Nut on hanger	51-3-7	11660	.15
MOFEF	12-D-59	A-4597	Cotter pin	51-3-7	15165	.05
POFEF	32-B-85	A-4598	Cup for spring on rebound strap hanger	51-3-7	18407	.05
ROFEF	35-B-141	A-4599	Seat for spring	57	38322	.10
SOFEF	30-D-53	A-4600	Spring on hanger for rebound strap	51-3-7	18406	.15
TOFEF	10-O-6	A-4601	Leather washer in cup for rebound strap	51-3-7	18408	.05
ZOFEF	33-C-36	A-4602	Spacer for rebound strap hanger	51-3-7	16848	.10

ATTACHMENTS FOR SNUBBERS

PUFEF	34-C-27	A-4609	Bracket on front axle for snubber belt	55	33420	.75
RUFEF	35-B-147	A-4610	Clamp screw for bracket	55	33421	.10
SUFEF	33-C-137	A-4611	Nut	55	11731	.05
TUFEF	36-D-21	A-4612	Lock washer	55	11316	.05
ZUFEF	36-D-146	A-4613	Reinforcement plate for snubber bracket on frame	55-7	33468	.10

Code Word	Sec.-Bin	Serial	Part Name	Type	Symbol	Price
BAHEF	10-M-10	A-4614	Screw, ¾" long, snubber to side bar (1 used each snubber)	55-7	11903	$ .05
DAHEF	37-C-151	A-4615	Screw, 1" long, snubber to side bar (2 used each snubber)	55-7	11904	.05
FAHEF	36-D-21	A-4616	Lock washer	55-7	11316	.05
SAHEF	10-H-9	A-4622	Clamp plate for end of snubber belt	55-7	33572	.35
TAHEF	9-A-14	A-4623	Staple bolt for clamping end of snubber strap	55-7	33573	.25
ZAHEF	38-B-8	A-4624	Nut, staple bolt in clamp	55-7	10889	.05
BEHEF	9-G-17	A-4625	Lock washer	55-7	11336	.05
CEHEF	10-O-5	A-4626	Clip or guide for snubber belt on rear axle	55-7	33470	.10
DEHEF		A-4627	Screw for clip	55-7	11902	.05
FEHEF	15-B-45	A-4628	Lock washer	55-7	11314	.05

TYPES 51-53-55, TIRE CARRIERS (36 x 4½ RIMS)

LEHEF	450-B-4	*A-4631	Tire carrier complete with supports (R)	51	20740	22.50
MEHEF		*A-4632	Tire carrier complete with supports (7-P) (L) (BL)	51-3	21763	22.50
PEHEF		*A-4633	Tire carrier complete with supports (SL)(5-P) on 51 (SL) (B) on 53, (P) (R) CR) (B) (L) (I) (LD) on 55	51-3-5	21762	22.50
SEHEF		*A-4634	Tire carrier complete with supports (T) (CV) (S) (M) (A)	55	22198	22.50
TEHEF	26-B-121	A-4635	Ring for tire carrier (SL) (R) (5-P) on 51, (SL) (B) on 53, (P) (R) (CR) (B) (L) (I) (LD) on 55	51-3-5	19273	3.15
BIHEF	26-G-19	A-4636	Ring for tire carrier (7-P) (L) (BL) on 51-53 (T) (CV) (S) (M) (A) on 55	51-3-5	19284	3.15
DIHEF	26-D-68	A-4637	Support for tire carrier, RIGHT, (R)	51	30051	2.75
FIHEF	26-B-115	A-4638	Support for tire carrier, RIGHT, (7-P) (L) (BL)	51-3	19285	3.20
KIHEF	26-E-26	A-4639	Support for tire carrier, RIGHT, (SL) (5-P) on 51, (SL) (B) on 53, (P) (R) (CR) (L) (I) (LD) on 55	51-3-5	19274	3.15
MIHEF	26-D-75	A-4640	Support for tire carrier, RIGHT, (T) (CV) (S) (M) (A)	55	32944	3.20
PIHEF	26-C-106	A-4641	Support for tire carrier, LEFT (R)	51	30052	2.75
RIHEF	26-F-15	A-4642	Support for tire carrier, LEFT, (7-P) (L) (BL)	51-3	19286	3.20
SIHEF	26-G-27	A-4643	Support for tire carrier, LEFT, (SL) (5-P) on 51, (SL) (B) on 53, (P) (R) (CR) (B) (L) (I) (LD) on 55	51-3-5	19275	3.15
ZIHEF	26-C-101	A-4644	Support for tire carrier, LEFT (T) (CV) (S) (M) (A)	55	32945	3.20
BOHEF	36-C-35	A-4645	Nut on upper supports in outriggers	51-3-5-7	6773	.10
COHEF	38-D-39	A-4646	Lock washer	51-3-5-7	11320	.05
DOHEF		A-4647	Support, lower, complete for tire carrier (R)	51	20608	8.00
FOHEF	26-E-27	A-4648	Support, lower, complete for tire carrier (7-P) (L) (BL)	51-3	20573	8.00
KOHEF	26-B-107	A-4649	Support, lower, complete for tire carrier (SL) (5-P) on 51, (SL) (B) on 53, (P) (R) (CR) (B) (L) (I) (LD) on 55, (R-1) (R-2) (P-1) (P-2) (CC) except (V-1) on 57	51-3-5-7	20572	8.00
POHEF	26-D-60	A-4650	Support, lower, complete with clamp screws for tire carrier (T) (CV) (7-P) (S) (M) (A)	55-7	22193	8.00
SOHEF	26-D-69	A-4651	Support only, lower, for tire carrier (R)	51	30053	3.50
TOHEF	26-D-51	A-4652	Support only, lower, (7-P) (L) (BL)	51-3	19283	3.50
ZOHEF	26-D-74	A-4653	Support only, lower, for tire carrier, (SL) (5-P) on 51, (SL) (B) on 53, (P) (R) (CR) (B) (L) (I) (LD) on 55, (R-1) (R-2) (P-1) (P-2) (CC) except (V-1) on 57	51-3-5-7	19272	3.50
DUHEF	26-C-131	A-4654	Support only, lower, for tire carrier (T) (7-P) (CV) (S) (M) (A)	55-7	32943	3.50
KUHEF	32-D-52	A-4655	Rivet, supports to ring	51-3-5-7	17638	.05
LUHEF	26-G-22	A-4656	Clamp screw in lower support for tire carrier lock	51-3-5-7	23551	2.00
MUHEF	38-F-20	A-4657	Foot on clamp screw in lower support	51-3-5-7	19271	.15
PUHEF	10-F-6	A-4658	Taper pin, foot on screw	51-3-5-7	15030	.05
RUHEF	16-C-122	A-4659	Anti-rattler on clamp screw	51-3-5-7	30117	.05
SUHEF		A-4660	Yale lock (less keys) on clamp screws for tire carrier (specify lock No.)	51-3	19289	4.50
ZUHEF		A-4661	Sargent lock (less keys) on clamp screws for tire carrier (specify Lock No.)	55	37581	3.75

*Classify on order as crated material.

Code Word	Sec.-Bin	Serial	Part Name	Type	Symbol	Price
BAKEF	33-G-23	A-4662	Plate on rear cross spring for lower support, all except (C) (SD) on 51, (C) (V) (R) on 53, (C) (V) on 55, (V-1) on 57	51-3-5-7	19269	$ 3.00
FAKEF	26-D-49	A-4663	Screw, lower support to spring plate	51-3-5-7	11611	.35
KAKEF	38-D-17	A-4664	Flat washer	51-3-5-7	11457	.10
LAKEF	18-D-79	A-4665	Lock washer	51-3-5-7	11323	.05
MAKEF	33-C-93	A-4666	Shim for rear cross spring plate (R) (V), when equipped with (7-P) Standard Tire carrier	53	54074	1.00

TYPES 53–55–57 TIRE CARRIER. (FOR 34 x 4½ RIMS, SPECIAL ON TYPES 53-55)

BEKEF		*A-4670	Tire carrier complete with supports (T) (CV) (7P) (SB-2) (S) (M) (A) (Special on V-1)	53-5-7	22838	22.50
DEKEF	40	*A-4671	Tire carrier complete with supports (P) (R) (CR) (B) (L) (I) (LD) on 55, and (R1) (R2) (P1) (P2) (CC) except (SB-2) (V1) on 57	55-7	22856	22.50
LEKEF		*A-4672	Tire carrier complete with supports (V1) (Special)	57	22838	22.50
MEKEF	26-G-23	A-4673	Ring for tire carrier all except (V) (C) (R) on 53, and (V) (C) on 55	53-5-7	33220	3.15
TEKEF	26-C-151	A-4676	Support for tire carrier, RIGHT, (7P) (T) (CV) (S) (M) (A) (Special on V-1)	53-5-7	33221	3.20
BIKEF	26-C-155	A-4677	Support for tire carrier, LEFT, (7P) (T) (CV) (S) (M) (A) (Special on V-1)	53-5-7	33222	3.20
DIKEF	26-E-18	A-4678	Support for tire carrier, RIGHT, (R) (P) (CR) (B) (L) (I) (LD) on 55, (R1) (R2) (P1) (P2) (V2) (G) (H) on 57	55-7	33223	3.45
LIKEF	26-E-13	A-4679	Support for tire carrier, LEFT, (P) (R) (CR) (B) (L) (I) (LD) on 55, (R1) (R2) (P1) (P2) (V2) (G) (H) on 57	55-7	33224	3.45
PIKEF	26-C-151	A-4680	Support for tire carrier, RIGHT, (V1) (Special)	57	33221	3.20
RIKEF	26-C-155	A-4681	Support for tire carrier, LEFT, (V1) (Special)	57	33222	3.20
SIKEF	26-C-131	A-4682	Support for tire carrier, lower, (V1) (Special)	57	32943	3.50
TIKEF		A-4683	Sargent lock (less keys) on clamp screws for tire carrier (specify lock number)	57	37581	3.75

NOTE:—Parts not listed above are the same as those used on types 51-53-55 standard size tire carrier.

TIRE CARRIER FOR 895 x 135 MILLIMETER TIRES

ROKEF		*A-4686	Tire carrier complete with supports (R)	51	20739	23.25
SOKEF	450-A-5	*A-4687	Tire carrier complete with supports (7P) (L) (BL) on 51-3, (T) (CV) (7P) (S) (M) (A) on 55-57	51-3-5-7	21765	22.50
ZOKEF	450-A-6	*A-4688	Tire carrier complete with supports (SL) (5P) on 51, (SL) (B) on 53, (P) (R) (CR) (B) (L) (I) (LD) on 55, (R1) (R2) (P1) (P2) (CC) except (V1) on 57	51-3-5-7	21764	22.50
DUKEF	26-E-20	A-4689	Ring for tire carrier (7P) (L) (BL) on 51-53,(T) (CV) (7P) (S) (M) (A) on 55-57	51-3-5-7	19978	3.15
KUKEF	26-G-25	A-4690	Ring for tire carrier (SL) (5P) (R) on 51, (SL) (B) on 53, (P) (R) (CR) (B) (L) (I) (LD) on 55, (R1) (R2) (P1) (P2) (CC) except (V1) on 57	51-3-5-7	19979	3.15
PUKEF		A-4691	Support for tire carrier, RIGHT (R)	51	30380	3.85
RUKEF		A-4692	Support for tire carrier, LEFT (R)	51	30381	3.85
SUKEF	26-D-63	A-4693	Support for tire carrier, RIGHT (7P) (L) (BL) on 51-53, (T) (CV) (7P) (S) (M) (A) on 55-57	51-3-5-7	19974	3.50
ZUKEF	26-C-159	A-4694	Support for tire carrier, LEFT (7P) (L) (BL) on 51-53, (T) (CV) (7P) (S) (M) (A) on 55-57	51-3-5-7	19975	3.50

*Classify on order as crated material.

Code Word	Sec.-Bin	Serial	Part Name	Type	Symbol	Price
BALEF	26-D-43	A-4695	Support for tire carrier, RIGHT (SL) (5P) on 51, (SL) (B) on 53, (P) (R) (CR) (B) (L) (I) (LD) on 55, (R1) (R2) (P1) (P2) (CC) except (V1) on 57	51-3-5-7	19976	$ 3.50
FALEF	26-D-55	A-4696	Support for tire carrier, LEFT (SL) (5P) on 51, (SL) (B) on 53, (P) (R) (CR) (B) (L) (I) (LD) on 55, (R1) (R2) (P1) (P2) (CC) except (V1) on 57	51-3-5-7	19977	3.50

NOTE:—Parts not listed for millimeter carrier are the same as those used on types 51-53-55-57 standard size tire carrier.

TYPE 51 WIRE WHEEL CARRIER

SALEF	33-D-64	A-4701	Plate for rear cross spring for tire carrier	51	30294	2.00
TALEF		A-4702	Upper support for tire carrier, RIGHT (SL) (5P)	51	16500	1.50
ZALEF		A-4703	Upper support for tire carrier, LEFT (SL) (5P)	51	16501	1.50
BELEF		A-4704	Support, lower, for tire carrier, all except (R) (C) (SD)	51	16479	1.50
CELEF		A-4705	Upper support for tire carrier, RIGHT (R)	51	17254	2.40
DELEF	26-D-67	A-4706	Upper support for tire carrier, LEFT (R)	51	17255	2.40
FELEF		A-4707	Lower support for tire carrier (R)	51	17253	2.00
KELEF		A-4708	Upper support for tire carrier, RIGHT (7P) (L) (BL)	51	16513	2.00
LELEF		A-4709	Upper support for tire carrier, LEFT (7P) (L) (BL)	51	16514	2.00
MELEF		A-4710	Upper support for tire carrier, RIGHT (SD)	51	17266	1.50
PELEF		A-4711	Upper support for tire carrier, LEFT (SD)	51	17267	1.50
RELEF		A-4712	Lower support for tire carrier (SD)	51	17270	2.00
SELEF		A-4713	Upper support for tire carrier, RIGHT (5P) (SL) on 37 x 5 tires	51	17513	1.50
ZELEF		A-4714	Upper support for tire carrier, LEFT (5P) (SL) on 37 x 5 tires	51	17514	1.50
CILEF		A-4715	Upper support for tire carrier, RIGHT (R) on 37 x 5 tires	51	17509	1.50
FILEF		A-4716	Upper support for tire carrier, LEFT (R) on 37 x 5 tires	51	17510	1.50
KILEF		A-4717	Upper support for tire carrier, RIGHT (7P) (L) (BL) on 37 x 5 tires	51	17515	1.50
MILEF		A-4718	Upper support for tire carrier, LEFT (7P) (L) (BL) on 37 x 5 tires	51	17516	1.50
RILEF		A-4719	Upper support for tire carrier, RIGHT (SD) on 37 x 5 tires	51	17511	1.50
TILEF		A-4720	Upper support for tire carrier, LEFT (SD) on 37 x 5 tires	51	17512	1.50
ZILEF	37-B-55	A-4721	Hinge upper, RIGHT or LEFT, complete with pin	51	21954	2.50
BOLEF		A-4722	Hinge, upper, male half, RIGHT or LEFT, all except (C)	51	16620	1.25
COLEF		A-4723	Hinge, upper, female half, RIGHT or LEFT, all except (C)	51	16619	1.25
FOLEF		A-4724	Pin for upper hinge	51	16481	.05
KOLEF	26-C-147	A-4725	Hinge, lower, complete for tire carrier, all except (C)	51	20525	3.00
LOLEF		A-4726	Hinge, lower, male, for tire carrier, all except (C)	51	16622	1.50
MOLEF		A-4727	Hinge, lower, female, for tire carrier, all except (C)	51	16621	1.50
POLEF		A-4728	Pin for lower hinge	51	16480	.05

TYPES 53-55-57 RUDGE-WHITWORTH WIRE WHEEL CARRIERS

DULEF		*A-4731	Wheel carrier complete for one wire wheel (7P) (L) (BL)	53	22035	45.00
FULEF		*A-4732	Wheel carrier complete for one wire wheel (R) (SL) (V) (B) (C)	53	22033	45.00
LULEF	450-A-9	*A-4733	Wheel carrier complete for one wire wheel (7P) (T) (CV) (S) (M) (A)	55-7	22220	45.00
PULEF	301-A-33	*A-4734	Wheel carrier complete for one wire wheel (R) (P) (CR) (B) (C) (V) (L) (I) (LD) on 55, (R1) (R2) (P1) (P2) (CC) except (V1) on 57	55-7	22219	45.00
TULEF		*A-4735	Wheel carrier complete for two wire wheels (7P) (L) (BL)	53	22036	60.00
ZULEF		*A-4736	Wheel carrier complete for two wire wheels (R) (SL) (V) (B) (C)	53	22034	60.00

*Classify on order as crated material.

Code Word	Sec.-Bin	Serial	Part Name	Type	Symbol	Price
BAMEF	450-A-8	*A-4737	Wheel carrier complete for two wire wheels (7P) (T) (CV) (S) (M) (A)	55-7	22221	$60.00
DAMEF	450-A-7	*A-4738	Wheel carrier complete for two wire wheels (P) (R) (CR) (B) (C) (V) (L) (I) (LD) on 55, (P1) (P2) (R1) (R2) (CC) except (V1) on 57	55-7	22218	60.00
LAMEF	26-E-22	A-4739	Upper support for wheel carrier (attaching to outriggers) (7P) (L) (BL)	53	32110	12.00
PAMEF	26-E-15	A-4740	Upper support for wheel carrier (attaching to outriggers) (SL) (R) (V) (B) (C)	53	32109	12.00
SAMEF	26-E-24	A-4741	Upper support for wheel carrier (attaching to outriggers) (7P) (T) (CV) (S) (M) (A)	55-7	33018	12.00
ZAMEF	26-E-21	A-4742	Upper support for wheel carrier (attaching to outriggers) (P) (R) (CR) (B) (C) (V) (L) (I) (LD) on 55, (P1) (P2) (R1) (R2) (CC) except (V1) on 57	55-7	33017	12.00
DEMEF	26-D-62	A-4743	Lower support for wheel carrier (attaching to spring plate) (7P) (L) (BL)	53	32111	7.00
KEMEF	26-D-50	A-4744	Lower support for wheel carrier (attaching to spring plate) (7P) (T) (CV) (S) (M) (A)	55-7	33016	7.00
MEMEF	26-C-161	A-4745	Lower support for wheel carrier (attaching to spring plate) (SL) (R) (V) (B) (C) on 53, (P) (R) (CR) (B) (C) (V) (L) (I) (LD) on 55, (P1) (P2) (R1) (R2) (CC) except (V1) on 57	53-5-7	32112	7.00
ZEMEF	36-G-5	A-4747	Hub only for single wire wheel carrier	53-5-7	32105	14.00
CIMEF	26-C-147	A-4749	Hub only for double wire wheel carrier	53-5-7	32108	18.00
DIMEF		A-4750	Plate with clip in hub for wire wheel carrier	53	22072	2.00
FIMEF	37-B-49	A-4751	Plate with clip in hub for wire wheel carrier	55-7	22209	1.75
KIMEF	36-E-4	A-4752	Nut holding wire wheel on hub (1 used on single, 2 on double carrier)	53-5-7	32106	7.60
MIMEF	30-D-11	A-4753	Rivet, hub to supports (5 used)	53-5-7	17752	.05
PIMEF	32-C-105	A-4754	Rivet, hub to supports (1 used)	53-5-7	17753	.05

NOTE:—Tire lock and attachments for lower support are the same as used on standard tire carriers.

TYPE 55. HOUK WIRE WHEEL CARRIERS

SIMEF		*A-4757	Wheel carrier complete for one wire wheel (T) (CV) (S) (M) (A)	55	23620	40.00
ZIMEF		*A-4758	Wheel carrier complete for one wire wheel (P) (R) (CR) (V) (C) (B) (L) (I) (LD)	55	23614	40.00
COMEF		*A-4759	Wheel carrier complete for two wire wheels (T) (CV) (S) (M) (A)	55	23621	55.00
FOMEF		*A-4760	Wheel carrier complete for two wire wheels (P) (R) (CR) (B) (L) (T) (LD) (C) (V)	55	23615	55.00
LOMEF		A-4761	Hub only for one wire wheel	55	34525	18.00
MOMEF	26-D-65	A-4762	Hub only for two wire wheels	55	34526	25.00
POMEF	10-A-12	A-4763	Plate with clip in end of hub	55	23613	2.00
ROMEF	34-D-1	A-4764	Nut holding wire wheel on hub (1 used on single, 2 used on double)	55	34524	8.00
TOMEF	Ac. S.	A-4765	Wrench for nut on hub of wheel carrier	55	23851	5.00
ZOMEF	9-C-18	A-4766	Screw in end of wrench	55	34528	.10
BUMEF	10-F-4	A-4767	Lock washer	55	11307	.05

NOTE:—Supports and other parts for Houk wheel carriers not listed above, are the same as those used on Rudge-Whitworth wire wheel carriers.

HOLDERS FOR TIRES UNDER DECK

TUMEF	37-B-153	A-4770	Footman's loop for short tire strap (C) (SD) on 51, (R) (V) (C) on 53, (C) (V) on 55, and (VI) on 57	51-3-5-7	30234	.10

*Classify on order as crated material.

Code Word	Sec.-Bin	Serial	Part Name	Type	Symbol	Price
BAPEF	9-S-22	A-4771	Tug loop for short tire strap (C) (SD) on 51, (R) (V) (C) on 53, (C) (V) on 55, and (VI) on 57	51-3-5-7	30236	$ .05
CAPEF	37-B-93	A-4772	Reinforcement on floor for footman loop (C) (SD) on 51, (R) (V) (C) on 53, (C) (V) on 55, and (VI) on 57	51-3-5-7	30239	.05
FAPEF		A-4773	Screw, loop to floor boards (C) (SD) on 51, (R) (V) (C) on 53, (V) on 55, (VI) on 57	51-3-5-7	10799	.05
LAPEF		A-4774	Screw, loop to floor board (C)	55	10800	.05
MAPEF	38-B-8	A-4775	Nut	51-3-5-7	10889	.05
PAPEF	15-B-45	A-4776	Lock washer	51-3-5-7	11314	.05
RAPEF	9-M-16	A-4777	Flat washer	51-3-5-7	11478	.05
SAPEF	26-D-49	A-4778	Bracket for extra tire (C) (SD) on 51, (R) (V) (C) on 53, (C) (V) on 55, (VI) on 57	51-3-5-7	17146	2.50
ZAPEF	9-O-18	A-4779	Reinforcement for bracket	51-3-5-7	17148	.10
BEPEF	9-B-12	A-4780	Screw, bracket to floor board (C) (SD) on 51, (V) (C) (R) on 53	51-3	10009	.05
DEPEF	9-G-18	A-4781	Screw, bracket to reinforcement (V) on 55, (VI) on 57	55-7	10012	.05
FEPEF	36-B-133	A-4782	Screw, bracket to reinforcement (C)	55	10016	.05
KEPEF	38-D-12	A-4783	Nut	51-3-5-7	10892	.05
LEPEF	13-B-16	A-4784	Lock washer	51-3-5-7	11315	.05

FRONT SPRINGS AND LEAVES

PEPEF	20-N-end	A-4788	Front spring all except (H)	51-3	19320	10.00
REPEF	34-A-29	A-4789	Eye leaf (No. 1) with bushings	51-3	35501	2.70
BIPEF	36-A-51	A-4793	No. 5 leaf	51-3	35734	1.10
KIPEF	33-E-1	A-4797	No. 9 leaf	51-3	35738	.40
LIPEF	18-A-51	A-4798	Front spring (H)	51-3	19920	10.00
MIPEF	34-A-29	A-4799	Eye leaf (No. 1) with bushings	51-3	35501	2.70
TIPEF	36-A-17	A-4803	No. 5 leaf	51-3	35595	1.10
BOPEF	33-B-127	A-4805	No. 7 leaf	51-3	35825	.75
COPEF	33-B-132	A-4806	No. 8 leaf with clips	51-3	35598	1.00
FOPEF	18-N-end	A-4808	Front spring (F) (G)	55-7	32700	9.00
KOPEF	30-A-45	A-4809	Eye leaf (No. 1) with bushings	55-7	35730	2.70
LOPEF	22-A-53	A-4810	No. 2 leaf	55-7	35731	1.80
MOPEF	26-A-23	A-4811	No. 3 leaf with clips	55-7	35732	1.60
POPEF	33-F-2	A-4812	No. 4 leaf	55-7	35733	1.25
ROPEF	36-A-51	A-4813	No. 5 leaf	55-7	35734	1.10
SOPEF	33-E-6	A-4814	No. 6 leaf	55-7	35735	1.00
TOPEF	33-E-5	A-4815	No. 7 leaf	55-7	35736	.75
ZOPEF	34-G-15	A-4816	No. 8 leaf with clips	55-7	35737	1.00
BUPEF	33-E-1	A-4817	No. 9 leaf	55-7	35738	.40
CUPEF	20-A-37	A-4818	Front spring (H)	55-7	32710	10.00
DUPEF	30-A-45	A-4819	Eye leaf (No. 1) with bushings	55-7	35730	2.70
FUPEF	26-A-17	A-4820	No. 2 leaf	55-7	35820	1.80
MUPEF	33-E-20	A-4823	No. 5 leaf	55-7	35823	1.10
PUPEF	21-E-5	A-4824	No. 6 leaf	55-7	35824	1.00
RUPEF	33-B-127	A-4825	No. 7 leaf	55-7	35825	.75
SUPEF	33-B-85	A-4826	No. 8 leaf with clips	55-7	35826	1.00
TUPEF	34-C-156	A-4827	No. 9 leaf	55-7	35838	.50

REAR SIDE SPRINGS AND LEAVES

Code Word	Sec.-Bin	Serial	Part Name	Type	Symbol	Price
BAREF	12-A-73	A-4831	Rear side spring, RIGHT (7-P) (G) (L) (BL)	51-3	19322	$11.00
CAREF	16-A-15	A-4832	Eye leaf (No. 1) with bushings	51-3	35510	3.40
DAREF	30-A-31	A-4833	No. 2 leaf	51-3	35511	2.20
KAREF	28-A-29	A-4835	No. 4 leaf with clips	51-3	35513	1.95
LAREF	36-G-17	A-4836	No. 5 leaf with clips	51-3	35514	1.60
MAREF	36-A-53	A-4837	No. 6 leaf	51-3	35515	1.30
PAREF	30-A-29	A-4838	No. 7 leaf	51-3	35516	1.15
RAREF	36-A-54	A-4839	No. 8 leaf	51-3	35517	1.00
SAREF	33-E-25	A-4840	No. 9 leaf	51-3	35518	.80
TAREF	33-B-81	A-4841	No. 10 leaf with clips	51-3	35519	1.00
ZAREF	33-E-1	A-4842	No. 11 leaf	51-3	35738	.40
BEREF	14-A-7	A-4843	Rear side spring, LEFT (7-P) (G) (L) (BL)	51-3	30440	11.00
CEREF	26-A-3	A-4844	Eye leaf (No. 1) with bushings	51-3	35521	3.40
DEREF	24-A-33	A-4845	No. 2 leaf	51-3	35522	2.20
FEREF	24-A-22	A-4846	No. 3 leaf with clip	51-3	35523	2.25
KEREF	24-A-5	A-4847	No. 4 leaf with clip	51-3	35524	1.95
LEREF	24-A-11	A-4848	No. 5 leaf with clip	51-3	35525	1.60
MEREF	24-A-41	A-4849	No. 6 leaf	51-3	35526	1.30
PEREF	32-E-9	A-4850	No. 7 leaf	51-3	35527	1.15
REREF	37-C-132	A-4851	No. 8 leaf	51-3	35528	1.00
SEREF	32-F-8	A-4852	No. 9 leaf	51-3	35529	.80
TEREF	33-D-55	A-4853	No. 10 leaf with clips	51-3	35530	1.00
ZEREF	33-E-1	A-4854	No. 11 leaf	51-3	35738	.40
BIREF	18-A-15	A-4855	Rear side spring, RIGHT (SL) (5-P) (SD) on 51, (SL) (C) (B) on 53	51-3	19324	11.00
DIREF	26-A-3	A-4856	Eye leaf (No. 1) with bushings	51-3	35521	3.40
FIREF	31-A-43	A-4857	No. 2 leaf	51-3	35542	2.20
KIREF		A-4858	No. 3 leaf with clip	51-3	35543	2.25
LIREF		A-4859	No. 4 leaf with clip	51-3	35544	1.95
MIREF		A-4860	No. 5 leaf with clip	51-3	35545	1.60
PIREF		A-4861	No. 6 leaf	51-3	35546	1.25
RIREF		A-4862	No. 7 leaf	51-3	35547	1.05
SIREF		A-4863	No. 8 leaf	51-3	35548	.90
TIREF		A-4864	No. 9 leaf with clips	51-3	35549	1.10
ZIREF	33-B-129	A-4865	No. 10 leaf	51-3	35550	.50
BOREF	34-A-12	A-4866	Rear side spring, LEFT (SL) (5-P) (SD) on 51, (SL) (C) (B) on 53	51-3	30441	11.00
DOREF	26-A-3	A-4867	Eye leaf (No. 1) with bushings	51-3	35521	3.40
FOREF	34-A-46	A-4868	No. 2 leaf	51-3	35552	2.20
KOREF	24-A-31	A-4869	No. 3 leaf with clip	51-3	35553	2.25
LOREF		A-4870	No. 4 leaf with clip	51-3	35554	1.95
MOREF		A-4871	No. 5 leaf with clip	51-3	35555	1.60
POREF		A-4872	No. 6 leaf	51-3	35556	1.25
ROREF	35-C-45	A-4873	No. 7 leaf	51-3	35557	1.05
SOREF		A-4874	No. 8 leaf	51-3	35548	.90
TOREF	33-D-42	A-4875	No. 9 leaf with clips	51-3	35559	1.10
ZOREF	33-B-129	A-4876	No. 10 leaf	51-3	35550	.50
BUREF	18-A-47	A-4877	Rear side spring, RIGHT (R) (C) on 51, (R) (V) on 53.	51-3	19326	10.00
CUREF	16-A-27	A-4878	Eye leaf (No. 1) with bushings	51-3	35569	3.40
DUREF	24-A-23	A-4879	No. 2 leaf	51-3	35570	2.30
FUREF		A-4880	No. 3 leaf with clip	51-3	35571	2.10
KUREF	16-A-13	A-4881	No. 4 leaf with clip	51-3	35572	1.60
LUREF		A-4882	No. 5 leaf	51-3	35573	1.20
MUREF	33-B-155	A-4883	No. 6 leaf with clip	51-3	35574	1.25
PUREF	33-D-6	A-4884	No. 7 leaf with clip	51-3	35575	.90
RUREF	33-B-95	A-4885	No. 8 leaf	51-3	35576	.50
SUREF	14-A-53	A-4886	Rear side spring, LEFT (R) (C) on 51, (R) (V) on 53	51-3	30442	10.00
TUREF	16-A-27	A-4887	Eye leaf (No. 1) with bushings	51-3	35569	3.40
ZUREF	24-A-25	A-4888	No. 2 leaf	51-3	35578	2.30

Code Word	Sec.-Bin	Serial	Part Name	Type	Symbol	Price
BASEF	24-A-22	A-4889	No. 3 leaf with clip	51-3	35579	$ 2.10
CASEF	26-A-25	A-4890	No. 4 leaf with clip	51-3	35580	1.60
DASEF		A-4891	No. 5 leaf	51-3	35581	1.20
FASEF		A-4892	No. 6 leaf with clip	51-3	35582	1.25
KASEF		A-4893	No. 7 leaf with clips	51-3	35583	1.10
LASEF		A-4894	No. 8 leaf	51-3	35584	.50
MASEF	18-A-25	A-4895	Rear side spring, RIGHT (H)	51-3	19922	13.00
PASEF	16-A-15	A-4896	Eye leaf (No. 1) with bushings	51-3	35510	3.40
RASEF		A-4897	No. 2 leaf	51-3	35610	2.20
SASEF		A-4898	No. 3 leaf with clip	51-3	35611	2.25
TASEF		A-4899	No. 4 leaf with clip	51-3	35612	1.95
ZASEF		A-4900	No. 5 leaf with clip	51-3	35613	1.60
BESEF		A-4901	No. 6 leaf	51-3	35614	1.30
CESEF		A-4902	No. 7 leaf	51-3	35615	1.15
DESEF		A-4903	No. 8 leaf	51-3	35616	1.00
FESEF		A-4904	No. 9 leaf	51-3	35617	.80
KESEF		A-4905	No. 10 leaf with clips	51-3	35618	1.00
LESEF		A-4906	No. 11 leaf	51-3	35619	.40
MESEF	30-A-21	A-4907	Rear side spring, LEFT (H)	51-3	30443	13.00
PESEF		A-4908	Eye leaf (No. 1) with bushings	51-3	35620	3.40
RESEF		A-4909	No. 2 leaf	51-3	35621	2.20
SESEF		A-4910	No. 3 leaf with clip	51-3	35622	2.25
TESEF		A-4911	No. 4 leaf with clip	51-3	35623	1.95
ZESEF		A-4912	No. 5 leaf with clip	51-3	35624	1.60
BISEF		A-4913	No. 6 leaf	51-3	35625	1.30
CISEF		A-4914	No. 7 leaf	51-3	35626	1.15
DISEF		A-4915	No. 8 leaf	51-3	35627	1.00
FISEF		A-4916	No. 9 leaf	51-3	35628	.80
KISEF		A-4917	No. 10 leaf with clips	51-3	35629	1.00
LISEF		A-4918	No. 11 leaf	51-3	35630	.40
MISEF	14-A-51	A-4919	Rear side spring, RIGHT (S) (M)	55-7	32701	11.00
PISEF	26-A-43	A-4920	Eye leaf (No. 1) with bushings	55-7	35750	3.40
RISEF	26-A-7	A-4921	No. 2 leaf	55-7	35740	2.20
SISEF	36-A-26	A-4922	No. 3 leaf with clip	55-7	35741	2.25
TISEF	18-A-49	A-4923	No. 4 leaf with clip	55-7	35742	1.95
ZISEF	30-A-17	A-4924	No. 5 leaf with clip	55-7	35743	1.60
BOSEF	26-A-41	A-4925	No. 6 leaf	55-7	35744	1.30
COSEF	21-A-51	A-4926	No. 7 leaf	55-7	35745	1.15
DOSEF	21-E-20	A-4927	No. 8 leaf	55-7	35746	1.00
FOSEF	34-D-75	A-4928	No. 9 leaf	55-7	35747	.80
KOSEF	32-D-12	A-4929	No. 10 leaf with clips	55-7	35748	1.00
LOSEF	33-E-1	A-4930	No. 11 leaf	55-7	35738	.40
MOSEF	14-A-45	A-4931	Rear side spring, LEFT (S) (M)	55-7	32702	11.00
POSEF	26-A-43	A-4932	Eye leaf (No. 1) with bushings	55-7	35750	3.40
ROSEF	24-A-34	A-4933	No. 2 leaf	55-7	35751	2.20
SOSEF	36-A-26	A-4934	No. 3 leaf with clip	55-7	35741	2.25
TOSEF	26-A-30	A-4935	No. 4 leaf with clip	55-7	35753	1.95
ZOSEF	24-A-43	A-4936	No. 5 leaf with clip	55-7	35754	1.60
BUSEF	33-E-2	A-4937	No. 6 leaf	55-7	35755	1.30
CUSEF	34-A-3	A-4938	No. 7 leaf	55-7	35756	1.15
DUSEF	33-C-5	A-4939	No. 8 leaf	55-7	35757	1.00
FUSEF	34-D-75	A-4940	No. 9 leaf	55-7	35747	.80
KUSEF	32-D-11	A-4941	No. 10 leaf with clips	55-7	35759	1.00
LUSEF	33-E-1	A-4942	No. 11 leaf	55-7	35738	.40
MUSEF	12-N-end	A-4943	Rear side spring, RIGHT (CV) (T) (7-P) (B) (B1) (B2) (L) (I) (LD) (TL) (TLD) (SB1) (SB2) (7B)	55-7	32714	11.00
PUSEF	34-A-17	A-4944	Eye leaf (No. 1) with bushings	55-7	35859	3.40
RUSEF	34-A-50	A-4945	No. 2 leaf	55-7	35860	2.20
SUSEF	14-A-5	A-4946	No. 3 leaf with clip	55-7	35873	2.50
TUSEF	32-A-91	A-4947	No. 4 leaf	55-7	35862	1.30
ZUSEF	34-A-32	A-4948	No. 5 leaf	55-7	35863	1.25
BYSEF	30-A-25	A-4949	No. 6 leaf with clip	55-7	35864	2.40
CYSEF	32-F-6	A-4950	No. 7 leaf	55-7	35877	1.05
DYSEF	21-D-80	A-4951	No. 8 leaf	55-7	35866	.90
FYSEF	34-B-12	A-4952	No. 9 leaf	55-7	35867	.75
KYSEF	33-D-60	A-4953	No. 10 leaf	55-7	35880	.70

Code Word	Sec.-Bin	Serial	Part Name	Type	Symbol	Price
BATEF	34-C-9	A-4954	No. 11 leaf with clips	55-7	35869	$ .85
CATEF	34-B-95	A-4955	No. 12 leaf	55-7	35870	.40
XATEF	18-A-6	A-4955-B	Reinforcing plate for rear side spring (use as required)	55-7	56291	1.60
DATEF	16-N-end	A-4956	Rear side spring, LEFT (T) (CV) (7-P) (B) (B1) (B2) (L) (I) (LD) (TL) (TLD) (SB1) (SB2) (7B)	55-7	32715	11.00
FATEF	34-A-44	A-4957	Eye leaf (No. 1) with bushings	55-7	35871	3.40
KATEF	36-A-48	A-4958	No. 2 leaf	55-7	35872	2.20
LATEF	14-A-5	A-4959	No. 3 leaf with clips	55-7	35873	2.50
MATEF	36-A-20	A-4960	No. 4 leaf	55-7	35874	1.30
PATEF	36-A-44	A-4961	No. 5 leaf	55-7	35875	1.25
RATEF	34-E-27	A-4962	No. 6 leaf with clip	55-7	35876	1.30
SATEF	32-F-6	A-4963	No. 7 leaf	55-7	35877	1.05
TATEF	33-C-37	A-4964	No. 8 leaf	55-7	35878	.90
ZATEF	32-C-71	A-4965	No. 9 leaf	55-7	35879	.75
BETEF	33-D-60	A-4966	No. 10 leaf	55-7	35880	.70
CETEF	34-D-78	A-4967	No. 11 leaf with clips	55-7	35881	.85
DETEF	34-B-95	A-4968	No. 12 leaf	55-7	35870	.40
YETEF	18-A-8	A-4968-B	Reinforcing plate for rear side spring (use as required)	55-7	56292	1.60
FETEF	14-A-31	A-4969	Rear side spring, RIGHT (P) (P1) (P2) (C) and after engine 57-T-323 on (V1) (V2) (R2)	55-7	32704	11.00
KETEF	22-A-50	A-4970	Eye leaf (No. 1) with bushings	55-7	35770	3.40
LETEF		A-4971	No. 2 leaf	55-7	35771	2.20
METEF	30-A-23	A-4972	No. 3 leaf with clip	55-7	35772	2.25
PETEF	34-A-53	A-4973	No. 4 leaf with clip	55-7	35773	1.80
RETEF		A-4974	No. 5 leaf with clip	55-7	35774	1.50
SETEF	32-E-25	A-4975	No. 6 leaf	55-7	35775	1.10
TETEF		A-4976	No. 7 leaf	55-7	35776	1.20
ZETEF	33-C-129	A-4977	No. 8 leaf with clips	55-7	35786	1.10
BITEF	33-E-1	A-4978	No. 9 leaf	55-7	35738	.40
YITEF	18-A-4	A-4978-B	Reinforcing plate for rear side spring (use as required)	55-7	56290	2.00
CITEF	14-A-29	A-4979	Rear side spring, LEFT (P) (P1) (P2) (C) and after engine 57-T-323 on (V1) (V2) (R2)	55-7	32705	11.00
DITEF	22-A-49	A-4980	Eye leaf (No. 1) with bushings	55-7	35779	3.40
FITEF		A-4981	No. 2 leaf	55-7	35780	2.20
KITEF		A-4982	No. 3 leaf with clip	55-7	35781	2.25
LITEF	30-A-52	A-4983	No. 4 leaf with clip	55-7	35782	1.80
MITEF	34-A-45	A-4984	No. 5 leaf with clip	55-7	35783	1.50
PITEF	32-E-12	A-4985	No. 6 leaf	55-7	35784	1.10
RITEF	32-C-67	A-4986	No. 7 leaf	55-7	35785	1.90
SITEF	33-C-129	A-4987	No. 8 leaf with clips	55-7	35786	1.10
TITEF	33-E-1	A-4988	No. 9 leaf	55-7	35738	.40
YOTEF	18-A-12	A-4988-B	Reinforcing plate for rear side spring (use as required)	55-7	56293	2.00
ZITEF	20-A-35	A-4989	Rear side spring, RIGHT (CR) (R) (V) and before engine 57-T-323 on (R1) (R2) (V1)	55-7	32707	11.00
BOTEF	34-A-17	A-4990	Eye leaf (No. 1) with bushings	55-7	35859	3.40
COTEF	36-A-48	A-4991	No. 2 leaf	55-7	35872	2.20
DOTEF	14-A-9	A-4992	No. 3 leaf with clips	55-7	35797	1.80
FOTEF		A-4993	No. 4 leaf	55-7	35798	1.30
KOTEF		A-4994	No. 5 leaf	55-7	35799	1.20
LOTEF		A-4995	No. 6 leaf	55-7	35800	1.05
MOTEF	32-C-63	A-4996	No. 7 leaf	55-7	35801	.80
POTEF	34-B-91	A-4997	No. 8 leaf with clips	55-7	35811	1.00
ROTEF	34-B-93	A-4998	No. 9 leaf	55-7	35812	.40
SOTEF	14-A-23	A-4999	Rear side spring, LEFT (CR) (R) (V) and before engine 57-T-323 on (R1) (R2) (V1)	55-7	32708	11.00
TOTEF	34-A-14	A-5000	Eye leaf (No. 1) with bushings	55-7	35804	3.40
ZOTEF	36-A-39	A-5001	No. 2 leaf	55-7	35805	2.20
BUTEF	34-A-39	A-5002	No. 3 leaf with clips	55-7	35806	1.80
CUTEF	36-A-45	A-5003	No. 4 leaf	55-7	35807	1.30
DUTEF	36-A-22	A-5004	No. 5 leaf	55-7	35808	1.20
FUTEF	34-A-9	A-5005	No. 6 leaf	55-7	35809	1.05
KUTEF	32-B-105	A-5006	No. 7 leaf	55-7	35810	.80
LUTEF	34-B-91	A-5007	No. 8 leaf with clips	55-7	35811	1.00
MUTEF	34-B-93	A-5008	No. 9 leaf	55-7	35812	.40
PUTEF	34-A-54	A-5009	Rear side spring, RIGHT (H)	55-7	32711	13.00
RUTEF	34-A-10	A-5010	Eye leaf (No. 1) with bushings	55-7	35828	3.40

Code Word	Sec.-Bin	Serial	Part Name	Type	Symbol	Price
SUTEF	18-A-39	A-5011	No. 2 leaf	55-7	35829	$ 2.20
TUTEF	18-A-43	A-5012	No. 3 leaf with clip	55-7	35830	2.25
ZUTEF	16-A-11	A-5013	No. 4 leaf with clip	55-7	35831	1.95
YUTEF	18-A-29	A-5014	No. 5 leaf with clip	55-7	35832	1.60
BAZEF	32-E-11	A-5015	No. 6 leaf	55-7	35833	1.30
CAZEF	32-A-100	A-5016	No. 7 leaf	55-7	35834	1.15
DAZEF	34-D-79	A-5017	No. 8 leaf	55-7	35835	1.00
FAZEF	32-B-83	A-5018	No. 9 leaf	55-7	35836	.80
KAZEF		A-5019	No. 10 leaf with clips	55-7	35837	1.00
LAZEF	34-C-156	A-5020	No. 11 leaf	55-7	35838	.50
MAZEF	18-A-41	A-5021	Rear side spring, LEFT (H)	55-7	32712	13.00
PAZEF	30-A-37	A-5022	Eye leaf (No. 1) with bushings	55-7	35839	3.40
RAZEF	26-A-37	A-5023	No. 2 leaf	55-7	35840	2.20
SAZEF	38-A-11	A-5024	No. 3 leaf with clip	55-7	35841	2.25
TAZEF	26-A-45	A-5025	No. 4 leaf with clip	55-7	35842	1.95
ZAZEF	24-A-53	A-5026	No. 5 leaf with clip	55-7	35843	1.60
BEZEF	26-A-29	A-5027	No. 6 leaf	55-7	35844	1.30
CEZEF	24-A-45	A-5028	No. 7 leaf	55-7	35845	1.15
DEZEF	33-C-27	A-5029	No. 8 leaf	55-7	35846	1.00
FEZEF	33-B-79	A-5030	No. 9 leaf	55-7	35847	.80
KEZEF	33-C-121	A-5031	No. 10 leaf with clips	55-7	35848	1.00
LEZEF	34-C-156	A-5032	No. 11 leaf	55-7	35838	.50

REAR CROSS SPRINGS AND LEAVES

MEZEF	12-A-76	A-5036	Rear cross spring (7P) (L) (BL) (MT)	51-3	19323	9.00
PEZEF	26-A-49	A-5037	Eye leaf (No 1) with bushings	51-3	35532	2.50
REZEF	26-A-47	A-5038	No. 2 leaf	51-3	35884	1.60
SEZEF	36-A-33	A-5039	No. 3 leaf	51-3	35534	1.30
TEZEF	32-G-70	A-5040	No. 4 leaf with clips	51-3	35535	1.40
ZEZEF	35-E-5	A-5041	No. 5 leaf	51-3	35536	1.05
BIZEF	35-D-15	A-5042	No 6 leaf	51-3	35792	.90
CIZEF	33-D-58	A-5043	No. 7 leaf	51-3	35538	.75
FIZEF	33-B-109	A-5045	No. 9 leaf	51-3	35540	.40
KIZEF	12-A-75	A-5046	Rear cross spring (SL) (5P) (SD) on 51, (SL) (C) (B) on 53	51-3	19325	7.50
MIZEF		A-5047	Eye leaf (No. 1) with bushings	51-3	35561	2.50
PIZEF	36-A-52	A-5048	No. 2 leaf	51-3	35562	1.60
RIZEF	26-A-27	A-5049	No. 3 leaf	51-3	35563	1.30
SIZEF		A-5050	No. 4 leaf with clips	51-3	35564	1.40
TIZEF		A-5051	No. 5 leaf	51-3	35565	1.05
ZIZEF	33-D-57	A-5052	No. 6 leaf	51-3	35566	.80
BOZEF		A-5053	No. 7 leaf with clips	51-3	35567	1.00
DOZEF	18-A-45	A-5055	Rear cross spring (R) (C) on 51, (R) (V) on 53	51-3	19327	7.00
FOZEF	28-A-13	A-5056	Eye leaf (No. 1) with bushings	51-3	35585	2.50
KOZEF	34-A-1	A-5057	No. 2 leaf	51-3	35586	1.35
LOZEF		A-5058	No. 3 leaf with clips	51-3	35587	1.40
MOZEF	24-B-129	A-5059	No. 4 leaf	51-3	35588	1.05
POZEF	15-F-12	A-5060	No. 5 leaf with clips	51-3	35589	1.15
ROZEF	36-C-29	A-5061	No. 6 leaf	51-3	35590	.50
SOZEF	18-A-53	A-5062	Rear cross spring (H)	51-3	19923	9.00
TOZEF	20-A-3	A-5063	Eye leaf (No. 1) with bushings	51-3	35631	2.50
ZOZEF		A-5064	No. 2 leaf	51-3	35632	1.60
BUZEF		A-5065	No. 3 leaf	51-3	35633	1.30
CUZEF		A-5066	No. 4 leaf with clips	51-3	35634	1.40
DUZEF		A-5067	No. 5 leaf	51-3	35635	1.05
FUZEF		A-5068	No. 6 leaf	51-3	35636	.90
KUZEF		A-5069	No. 7 leaf	51-3	35637	.75
LUZEF	33-D-41	A-5070	No. 8 leaf	51-3	35638	.60
PUZEF	14-A-41	A-5072	Rear cross spring (S) (M)	55-7	32703	9.00
RUZEF	28-A-32	A-5073	Eye leaf (No. 1) with bushings	55-7	35883	2.50
SUZEF	26-A-47	A-5074	No. 2 leaf	55-7	35884	1.60
TUZEF	34-E-25	A-5075	No. 3 leaf	55-7	35763	1.30

Code Word	Sec.-Bin	Serial	Part Name	Type	Symbol	Price
BAFEK	20-A-54	A-5077	No. 5 leaf	55-7	35765	$ 1.05
CAFEK	34-C-161	A-5078	No. 6 leaf	55-7	35766	.90
DAFEK	35-D-6	A-5079	No. 7 leaf	55-7	35767	.75
FAFEK	33-B-133	A-5080	No. 8 leaf with clips	55-7	35768	.85
KAFEK	33-C-131	A-5081	No. 9 leaf	55-7	35794	.40
LAFEK	17-N-end	A-5082	Rear cross spring (T) (CV) (7-P) (L) (I) (LD) (TL) (TLD) (B) (B1) (B2) (SB1) (SB2) (7B)	55-7	32716	9.00
PAFEK	28-A-32	A-5083	Eye leaf (No. 1) with bushings	55-7	35883	2.50
RAFEK	26-A-47	A-5084	No. 2 leaf	55-7	35884	1.60
SAFEK	24-A-47	A-5085	No. 3 leaf	55-7	35885	1.25
TAFEK	36-G-25	A-5086	No. 4 leaf with clips	55-7	35886	1.40
ZAFEK	28-A-37	A-5087	No. 5 leaf	55-7	35887	1.05
BEFEK	37-C-25	A-5088	No. 6 leaf	55-7	35888	1.00
CEFEK	33-D-61	A-5089	No. 7 leaf	55-7	35889	.80
DEFEK	32-C-61	A-5090	No. 8 leaf	55-7	35890	.70
FEFEK	33-B-89	A-5091	No. 9 leaf with clips	55-7	35891	.85
KEFEK	33-B-11	A-5092	No. 10 leaf	55-7	35892	.40
LEFEK		A-5093	Rear cross spring (C) (P) (P1) (P2) and after engine 57-T-323 on (V1) (V2) (R2)	55-7	32706	6.50
PEFEK	34-A-28	A-5094	Eye leaf (No. 1) with bushings	55-7	35788	2.50
REFEK	36-A-30	A-5095	No. 2 leaf	55-7	35789	1.60
SEFEK	35-G-18	A-5096	No. 3 leaf with clips	55-7	35790	1.45
TEFEK	32-E-13	A-5097	No. 4 leaf	55-7	35791	2.10
ZEFEK	35-D-15	A-5098	No. 5 leaf	55-7	35792	.90
BIFEK	34-B-151	A-5099	No. 6 leaf with clips	55-7	35793	1.10
CIFEK	33-C-131	A-5100	No. 7 leaf	55-7	35794	.40
DIFEK	14-A-21	A-5101	Rear cross spring (CR) (R) (V) and before engine 57-T-323 on (R1) (R2) (V1)	55-7	32709	7.50
KIFEK	30-A-35	A-5102	Eye leaf (No. 1) with bushings	55-7	35813	2.50
LIFEK	33-F-23	A-5103	No. 2 leaf	55-7	35814	1.60
MIFEK	30-A-10	A-5104	No. 3 leaf with clips	55-7	35815	1.40
PIFEK	34-B-133	A-5105	No. 4 leaf	55-7	35816	1.00
RIFEK	33-B-71	A-5106	No. 5 leaf with clips	55-7	35817	1.15
SIFEK	33-C-135	A-5107	No. 6 leaf	55-7	35818	.50
TIFEK	36-A-29	A-5108	Rear cross spring (H)	55-7	32713	10.00
ZIFEK	30-A-39	A-5109	Eye leaf (No. 1) with bushings	55-7	35850	2.50
BOFEK	24-A-51	A-5110	No. 2 leaf	55-7	35851	1.60
COFEK	24-A-49	A-5111	No. 3 leaf	55-7	35852	1.30
DOFEK	24-A-21	A-5112	No. 4 leaf with clips	55-7	35853	1.40
FOFEK	26-A-33	A-5113	No. 5 leaf	55-7	35854	1.05
KOFEK	33-B-77	A-5114	No. 6 leaf	55-7	35855	.90
LOFEK	33-B-75	A-5115	No. 7 leaf	55-7	35856	.75
MOFEK		A-5116	No. 8 leaf with clips	55-7	35857	.85
POFEK	33-C-25	A-5117	No. 9 leaf	55-7	35858	.40

BUSHINGS FOR EYE LEAVES. CENTER BOLT AND BOLTED CLAMP FOR LEAVES

TOFEK	32-F-18	A-5121	Bushing for eye leaf, small, front end of front, rear end of rear side and either end of rear cross springs (6 used)	51-3	32676	.70
BUFEK	32-E-7	A-5122	Bushing for eye leaf, large, rear end of front and front end of rear side springs (4 used)	51-3	32675	.75
DUFEK	32-G-2	A-5123	Bushing for eye leaf (2 used each spring)	55-7	32677	.40
FUFEK	33-B-31	A-5124	Center bolt, 4" long, under head	51-3	35442	.15
KUFEK	33-B-9	A-5125	Center bolt, 3¾" long, under head	55-7	35441	.15
LUFEK	33-B-35	A-5126	Center bolt, 3½" long, under head	51-3-5-7	35440	.12
MUFEK	33-D-19	A-5127	Center bolt, 3¼" long, under head	51-3-5-7	35439	.10
PUFEK	33-E-15	A-5128	Center bolt, 3" long, under head	51-3-5-7	35438	.10
RUFEK	31-E-18	A-5129	Center bolt, 2¾" long, under head	51-3-5-7	35437	.10
SUFEK	33-C-95	A-5130	Center bolt, 2½" long, under head	55-7	35436	.15
TUFEK	33-D-14	A-5131	Center bolt, 2" long, under head	51-3-5-7	35434	.10
ZUFEK	32-D-23	A-5132	Nut for center bolt	51-3-5-7	B-1363	.05

Code Word	Sec.-Bin	Serial	Part Name	Type	Symbol	Price
			NOTE:—The "depth" of bolted clamps is measured from the center of U to center of hole.			
DAFEL	33-D-15	A-5133	Bolted clamp (1⅛" deep) for spring leaves	51-3-5-7	35453	$ .10
FAFEL	33-D-13	A-5134	Bolted clamp (1$\frac{3}{16}$" deep) for spring leaves	51-3-5-7	35454	.10
KAFEL	33-D-81	A-5135	Bolted clamp (1¼" deep) for spring leaves	51-3-5-7	35455	.10
LAFEL	33-F-12	A-5136	Bolted clamp (1$\frac{5}{16}$" deep) for spring leaves	55-7	35456	.20
MAFEL	33-B-115	A-5137	Bolted clamp (1⅜" deep) for spring leaves	51-3-5-7	35457	.10
PAFEL	33-B-29	A-5138	Bolted clamp (1$\frac{7}{16}$" deep) for spring leaves	51-3-5-7	35458	.15
RAFEL	33-D-79	A-5139	Bolted clamp (1½" deep) for spring leaves	51-3-5-7	35459	.10
SAFEL	33-D-25	A-5140	Bolted clamp (1$\frac{9}{16}$" deep) for spring leaves	51-3	35460	.10
TAFEL	33-D-45	A-5141	Bolted clamp (1⅝" deep) for spring leaves	51-3-5-7	35461	.10
ZAFEL	33-D-36	A-5142	Bolted clamp (1$\frac{11}{16}$" deep) for spring leaves	51-3-5-7	35462	.10
BEFEL	33-D-44	A-5143	Bolted clamp (1¾" deep) for spring leaves	51-3-5-7	35463	.15
CEFEL	33-D-37	A-5144	Bolted clamp (1$\frac{13}{16}$" deep) for spring leaves	51-3	35464	.10
DEFEL	33-D-47	A-5145	Bolted clamp (1⅞" deep) for spring leaves	55-7	35465	.15
FEFEL	33-D-48	A-5146	Bolted clamp (2$\frac{1}{16}$" deep) for spring leaves	51-3	35468	.15
KEFEL	33-D-26	A-5147	Bolted clamp (2⅛" deep) for spring leaves	51-3	35469	.15
LEFEL	33-D-39	A-5148	Bolted clamp (2¼" deep) for spring leaves	55-7	35471	.15
MEFEL	33-D-69	A-5149	Bolted clamp (2⅜" deep) for spring leaves	51-3	35473	.15
PEFEL	33-D-77	A-5150	Bolted clamp (2$\frac{7}{16}$" deep) for spring leaves	51-3-5-7	35474	.15
REFEL	32-C-97	A-5151	Bolted clamp (2½" deep) for spring leaves	55-7	35475	.15
SEFEL	33-C-125	A-5152	Bolted clamp (2$\frac{9}{16}$" deep) for spring leaves	51-3-5-7	35476	.15
TEFEL	33-B-93	A-5153	Bolted clamp (2⅝" deep) for spring leaves	51-3-5-7	35477	.15
ZEFEL	33-D-40	A-5154	Bolted clamp (2$\frac{11}{16}$" deep) for spring leaves	51-3	35478	.15
BIFEL	33-D-46	A-5155	Bolted clamp (3" deep) for spring leaves	51-3-5-7	35483	.15
CIFEL	33-D-38	A-5156	Bolted clamp (3⅛" deep) for spring leaves	51-3	35485	.20
DIFEL	33-B-39	A-5157	Bolted clamp (3$\frac{3}{16}$" deep) for spring leaves	55-7	35486	.15
FIFEL	33-B-69	A-5158	Bolt for clamp	51-3-5-7	11880	.08
KIFEL	32-D-41	A-5159	Nut for bolt	51-3-5-7	11719	.05
LIFEL	33-C-11	A-5160	Spacer for bolted clamps	51-3-5-7	35500	.05
MIFEL	33-D-1	A-5161	Rivet for clamp	51-3-5-7	17651	.05

SPRING CLIPS.
BUMPER ON SPRING CLIP FOR FRONT AXLE

TIFEL	34-D-46	A-5165	Single clip for front spring	51-3	19031	1.00
ZIFEL	32-G-22	A-5166	Double clip for front spring	55-7	32688	5.10
BOFEL	33-F-7	A-5167	Single clip for rear cross spring (7P) (L) (BL) on 51-53, all except (V) (V1) (C) (H) on 55-57	51-3-5-7	19810	1.00
DOFEL	33-C-83	A-5168	Single clip for rear cross spring (SL) (5P) (SD) on 51, (SL) (B) on 53, (C) on 55	51-3-5	19032	1.00
KOFEL	34-D-76	A-5169	Single clip for rear cross spring (R) (V) (C) on 51-3, (V) (V1) on 55-7	51-3-5-7	30199	1.00
MOFEL	33-C-81	A-5170	Single clip for rear cross spring (H)	51-3-5-7	19548	1.00
POFEL	33-G-1	A-5171	Double clip for rear side spring all except (P) (P1) (P2) (R) (R1) (R2) (V) (V1) (V2) (C) (CR)	55-7	32687	5.85
SOFEL	32-E-17	A-5172	Double clip for rear side spring (P) (P1) (P2) (R) (R1) (R2) (V) (V1) (V2) (C) (CR)	55-7	32717	5.85
ZOFEL	16-D-74	A-5173	Bumper for front axle	51-3	18302	.20
BUFEL	16-D-26	A-5174	Bumper on spring clip for front axle	55-7	32679	.30
DUFEL	9-P-6	A-5176	Screw, bumper to clip	55-7	37003	.05
FUFEL	10-D-7	A-5177	Lock washer	55-7	11335	.05
KUFEL	9-P-8	A-5178	Retainer for screw	55-7	37004	.05
LUFEL	34-D-39	A-5179	Nut for spring clip, all except (H) rear side on 55	51-3-5-7	5009	.10
MUFEL	32-F-23	A-5180	Lock washer	51-3-5-7	11310	.05
PUFEL		A-5181	Special nut on rear side spring clip (H)	55	32698	.25
RUFEL		A-5182	Cotter pin for special nut	55	15252	.05
SUFEL	32-B-41	A-5183	Top plate for front spring	51-3	18301	.50
TUFEL	32-B-96	A-5184	Plate for rear side spring	51-3	19113	1.25
ZUFEL	33-D-65	A-5185	Plate for rear cross spring (C) (SD) on 51, (R) (V) on 53, (V) (C) on 55, (V1) on 57	51-3-5-7	19141	1.25

Code Word	Sec.-Bin	Serial	Part Name	Type	Symbol	Price
BAFEM	33-G-23	A-5186	Plate for rear cross spring (all with outside tire carriers)...	51-3-5-7	19269	$ 3.00
CAFEM	33-C-93	A-5187	Shim for rear cross spring plate (P) (P1) (P2) (R) (R1) (R2) (CR) (V) (V1) (V2).....	55-7	54074	1.00
FAFEM	33-C-119	A-5188	Perch for rear cross spring on tube.....	51-3-5-7	19112	1.75
KAFEM	9-E-14	A-5189	Screw, spring perch to tube.....	51-3-5-7	10326	.05
LAFEM	9-Q-18	A-5190	Dowel, spring perch to tube.....	51-3-5-7	16428	.05

SPRING SHACKLES

MAFEM	33-F-1	A-5194	Link, plain, for front spring shackle.....	51-3	18299	1.00
PAFEM	32-D-35	A-5195	Link, threaded, for front spring shackle.....	51-3	18300	1.25
RAFEM	33-D-56	A-5196	Link, inner, plain, for front spring.....	55-7	32682	.80
SAFEM	33-E-9	A-5197	Link, outer, with boss, for front shackle.....	55-7	32683	1.10
TAFEM	33-F-9	A-5198	Bushing in bracket for front spring shackle bolt.....	51-3	30427	.75
ZAFEM	32-G-6	A-5199	Bushing in bracket for front spring shackle bolt.....	55-7	32403	.80
BEFEM	32-E-19	A-5200	Spring shackle, RIGHT, for front spring (special, U type)	51-3	34811	2.60
CEFEM	33-F-19	A-5201	Spring shackle, LEFT, for front spring (special, U type)..	51-3	34812	2.60
DEFEM	32-B-43	A-5202	Cap screw in front spring shackle.....	51-3	11964	.08
FEFEM	37-B-151	A-5203	Lock washer	51-3	11308	.05
KEFEM	32-D-5	A-5204	Pocket for front spring shackle.....	51	19055	.25
LEFEM	37-C-83	A-5205	Pocket for front spring shackle.....	53	31197	.25
MEFEM	37-C-137	A-5206	Pocket for front spring shackle.....	57	39908	.35
PEFEM	10-N-2	A-5207	Screw, front spring shackle pocket.....	51-3	10273	.05
REFEM	38-B-8	A-5208	Nut.....	51-3	10889	.05
SEFEM	15-B-45	A-5209	Lock washer	51-3	11314	.05
TEFEM	37-B-134	A-5210	Screw, pocket to side bar	57	55325	.05
ZEFEM	36-C-5	A-5211	Nut.....	57	11653	.05
BIFEM	15-B-45	A-5212	Lock washer	57	11314	.05
CIFEM	33-E-14	A-5213	Spring shackle RIGHT, for rear cross spring, all except (R) on 51.....	51-3	20262	4.00
FIFEM	32-F-16	A-5214	Spring shackle, RIGHT, for rear cross spring, (used with oiler) all except (R).....	55	22952	6.25
LIFEM	32-F-16	A-5215	Spring shackle, RIGHT, for rear cross spring, (used with grease cup) all except (R) (R1) (R2).....	55-7	22952	6.25
PIFEM	33-D-22	A-5216	Spring shackle, RIGHT, with step for rear cross spring (R).....	51	20794	6.25
SIFEM	32-B-9	A-5217	Spring shackle, RIGHT, with step for rear cross spring (R) (R1) (R2).....	55-7	22852	7.00
ZIFEM	31-E-16	A-5218	Spring shackle, LEFT, for rear cross spring, all except (R) on 51.....	51-3	20263	4.00
COFEM	33-E-23	A-5219	Spring shackle, LEFT, for rear cross spring (used with oiler) all except (R)	55	22953	6.25
FOFEM	33-E-23	A-5220	Spring shackle, LEFT, for rear cross spring (used with grease cup) all except (R) (R1) (R2)	55-7	22953	6.25
LOFEM	33-C-149	A-5221	Spring shackle, LEFT, with step for rear cross spring (R).	51	20795	6.25
MOFEM	32-B-5	A-5222	Spring shackle, LEFT, with step for rear cross spring (R) (R1) (R2).....	55-7	22853	7.00
ROFEM	33-E-8	A-5223	Link, plain, for rear side spring shackle.....	51-3	18303	.40
SOFEM	33-D-78	A-5224	Link, threaded, for rear side spring shackle.....	51-3	18304	.40
TOFEM	33-C-155	A-5225	Link, inner, plain for rear spring shackle (not used on upper shackle for (R) (R1) (R2)).....	55-7	32672	1.00
BUFEM	33-E-27	A-5226	Link, outer, with boss for rear spring shackle (not used on upper shackle for (R) (R1) (R2)).....	55-7	32684	1.00
DUFEM	32-C-35	A-5227	Link, inner, plain with step for upper rear spring shackle (R) (R1) (R2).....	55-7	33950	1.75
KUFEM	32-B-23	A-5228	Link, outer, with boss and step for upper rear spring shackle (R) (R1) (R2).....	55-7	33949	1.75
LUFEM		A-5229	Step, LEFT, for spring shackle (R).....	51	30241	2.00
MUFEM		A-5230	Step, RIGHT, for spring shackle (R).....	51	30240	2.00
PUFEM	33-E-22	A-5231	Knuckle for spring shackle.....	51-3	18305	1.85
SUFEM	33-D-73	A-5233	Knuckle for rear spring shackle (used with grease cup).	55-7	32721	1.85
TUFEM	33-D-4	A-5234	Pin through knuckle for shackle links.....	51-3	18306	.25
ZUFEM	32-G-55	A-5235	Pin through knuckle for shackle links.....	55-7	32693	.30

BOLTS FOR SPRINGS AND SPRING SHACKLES. GREASE CUPS. SPACING WASHERS FOR SPRING BOLTS

Code Word	Sec.-Bin	Serial	Part Name	Type	Symbol	Price
BAFEP	33-G-14	A-5236	Bolt, rear end of front spring and front end of rear side spring	51-3	18307	$ .75
DAFEP	33-G-15	A-5237	Bolt, front end of front spring, rear end of rear side springs and either end of rear cross spring	51-3	18309	.75
KAFEP	33-G-9	A-5238	Bolt, front spring shackle to frame (special U type)	51-3	34810	.75
LAFEP	34-C-93	A-5239	Bolt, rear spring shackle (R)	51	30242	.45
MAFEP	33-G-7	A-5240	Bolt, front end of front, rear end of rear side and either end of rear cross springs	55-7	32722	.75
RAFEP	32-G-7	A-5241	Bolt, front end of rear side spring	55-7	32723	.75
SAFEP	33-G-13	A-5242	Bolt, rear end of front spring and front spring shackle	55-7	32720	.75
TAFEP	33-C-71	A-5243	Nut for bolt 18307	51-3	11657	.20
ZAFEP	37-D-56	A-5244	Lock washer	51-3	11341	.05
BEFEP	33-C-115	A-5245	Nut for bolt 18309	51-3	6411	.10
CEFEP	32-F-23	A-5246	Lock washer	51-3	11310	.05
DEFEP	33-C-29	A-5247	Nut for spring and shackle bolts, except front end of rear side spring	55-7	32678	.15
KEFEP	36-B-19	A-5248	Cotter pin for nut	55-7	32695	.05
LEFEP	18-C-143	A-5249	Nut on bolt for front end of rear side spring	55-7	6168	.10
MEFEP	36-B-161	A-5250	Lock washer	55-7	11322	.05
PEFEP	33-D-27	A-5251	Nipple for grease cup extension	51-3	16385	.15
REFEP	14-B-21	A-5252	Coupling for grease cup extension at front of rear side spring	51-3	19754	.10
TEFEP	10-G-9	A-5253	Elbow for grease cup at front of rear side spring	51-3	B-600	.15
FIFEP	14-E-14	A-5256	Grease cup on front end of rear side spring	51-3-5-7	17054	.50
KIFEP	14-F-19	A-5257	Grease cup (wingless, not used with extension)	55-7	32724	.50
LIFEP	33-C-41	A-5258	Elbow for grease cup in bolt for rear cross spring shackle	51-3-5-7	32719	.65
MIFEP	38-B-61	A-5259	Oiler for spring bolts, all except front end of rear side springs	55	32696	.30
RIFEP	9-P-2	A-5260	Oiler for spring bolt, front end of rear side spring and knuckle in front spring shackle	55	30774	.35
TIFEP	32-D-1	A-5261	Spacing washer (.095 thick) for spring bolt	55-7	55326	.08
ZIFEP	32-C-83	A-5262	Spacing washer (.100 thick) for spring bolt	55-7	32697-B	.08
BOFEP	33-C-45	A-5263	Spacing washer (.105 thick) for spring bolt	55-7	32697-C	.08
COFEP	32-B-17	A-5264	Spacing washer (.115 thick) for spring bolt	55-7	32697-E	.08
DOFEP	33-B-1	A-5265	Spacing washer (.125 thick) for spring bolt	55-7	32697-G	.08
FOFEP	33-C-159	A-5266	Spacing washer (.130 thick) for spring bolt for front spring shackle	51-3	37046	.08
LOFEP	32-C-151	A-5267	Spacing washer (.135 thick) for spring bolt for front spring shackle	51-3	37047	.08
POFEP	32-C-157	A-5268	Spacing washer (.140 thick) for spring bolt for front spring shackle	51-3	37048	.08
SOFEP	33-B-3	A-5269	Spacing washer (.145 thick) for spring bolt for front spring shackle	51-3	37049	.08
ZOFEP	18-B-131	A-5270	Spacing washer (.150 thick) for spring bolt for front spring shackle	51-3	37050	.08
CUFEP	34-D-19	A-5271	Spacing washer (.155 thick) for spring bolt for front spring shackle	51-3	37051	.08

TYPES 51-53-55
MUFFLER (1ST TYPE ON 55)

Code Word	Sec.-Bin	Serial	Part Name	Type	Symbol	Price
			NOTE—Two types of mufflers were used on type 55 cars. The first type was 31½" and the 2nd type 25" from front to rear hanger. A drain plug was used in the front end connection on first type only.			
LAFER	20-G-2	A-5272	Muffler complete	51-3-5	22316	$12.50
MAFER	32-G-10	A-5273	Center casing for muffler	51-3-5	22254	1.65
PAFER	34-G-5	A-5274	Baffle plate for muffler, large (2 used on each)	51-3-5	22318	.60
RAFER	32-G-27	A-5275	Baffle plate for muffler, medium (2 used on each)	51-3-5	22319	.40
SAFER	37-D-46	A-5276	Baffle plate for muffler, small (2 used on each)	51-3-5	22320	.30
TAFER	12-B-3	A-5277	Screw, baffle plates to end and center casing (20 used on each)	51-3-5	11878	.05
BEFER	15-B-45	A-5278	Lock washer	51-3-5	11314	.05
CEFER	9-L-17	A-5279	Nut	51-3-5	11726	.05
DEFER	32-G-26	A-5280	Front connection for muffler with casing and baffle tube	51-3-5	22297	4.75
FEFER	32-G-24	A-5281	Rear connection for muffler with casing	51-3-5	22298	4.25
KEFER	32-D-77	A-5282	Clamp screw in front connection for exhaust pipe	51-3-5	10036	.20
LEFER	31-C-129	A-5283	Clamp screw in rear connection for outlet pipe	51-3-5	10035	.15
MEFER	12-D-47	A-5284	Nut	51-3-5	10893	.05
PEFER	36-D-21	A-5285	Lock washer	51-3-5	11316	.05
REFER	18-D-69	A-5286	Hanger for front end of muffler (E)	51-3	18067	.10
SEFER		A-5287	Hanger for front end of muffler (G)	53	31820	.20
TEFER	10-C-16	A-5288	Hanger for front end of muffler (H)	51-3	30403	.20
ZEFER	34-B-25	A-5289	Hanger for front end of muffler	55	32757	.35
BIFER	37-B-16	A-5290	Screw, front hanger to RIGHT side bar	51-3-5	56198	.08
CIFER	37-B-94	A-5291	Screw, front hanger to LEFT side bar	51-3-5	10024	.05
DIFER	33-B-5	A-5292	Screw, muffler to rear hanger	51-3-5	10008	.10
FIFER	38-D-12	A-5293	Nut	51-3-5	10892	.05
KIFER	13-B-16	A-5294	Lock washer	51-3-5	11315	.05
LIFER	32-B-151	A-5295	Pipe plug in front end connection of muffler	51-3-5	19811	.45

TYPES 55-57
MUFFLER (2ND TYPE ON 55)

(See Note Under Types 51-53-55 Muffler)

KOFER	20-G-8	A-5297	Muffler complete	55-7	29345	8.00
LOFER	32-G-10	A-5298	Center casings for muffler	55-7	22254	1.65
MOFER	34-G-23	A-5299	Casing with baffle nozzle for front end of muffler	55-7	23482	1.75
POFER	32-G-8	A-5300	Casing for rear end of muffler	55-7	34228	1.25
ROFER	32-D-20	A-5301	Baffle plate for muffler, Nos. 2 and 5 on 55, 1st type 57 and No. 4 on 2nd type 57	55-7	34152	.20
TOFER	34-D-81	A-5302	Baffle plate for muffler (saucer shape) No. 1 on 55, and 1st type 57	55-7	37085	.30
BUFER	34-D-74	A-5303	Baffle plate for muffler (saucer shape) Nos. 3 and 6 on 55, 1st type 57 and No. 5 on 2nd type 57	55-7	34153	.25
DUFER	34-F-5	A-5304	Baffle plate for muffler (saucer shape) Nos. 4 and 7 on 55, 1st type 57 and No. 6 on 2nd type 57	55-7	34151	.35
KUFER	37-D-46	A-5305	Baffle plate for muffler No. 1 (conical), 2nd type	57	22320	.30
LUFER	32-G-27	A-5306	Baffle plate for muffler No. 2 (conical), 2nd type	57	22319	.40
MUFER	34-G-5	A-5307	Baffle plate for muffler No. 3 (conical), 2nd type	57	22318	.60
PUFER	12-B-3	A-5308	Screw, muffler ends and baffle plates to center casing	55-7	11878	.05
RUFER	9-L-17	A-5309	Nut	55-7	11726	.05
SUFER	15-B-45	A-5310	Lock washer	55-7	11314	.05
TUFER	38-D-16	A-5311	Clamp for front end of muffler	55-7	34264	.15
ZUFER	34-D-27	A-5312	Hanger for front end of muffler	55-7	37059	.20

Code Word	Sec.-Bin	Serial	Part Name	Type	Symbol	Price
BAFES	9-A-7	A-5313	Reinforcement for front muffler hanger (H)	57	37060	$ .05
CAFES	11-D-54	A-5314	Screw for hanger and clamp on front end casing	55-7	10026	.08
DAFES	37-B-16	A-5315	Screw, front muffler hanger to frame	55-7	56198	.08
FAFES	13-B-103	A-5316	Screw in rear clamp for exhaust pipe in muffler	55-7	10025	.05
KAFES	12-D-47	A-5317	Nut	55-7	10893	.05
LAFES	36-D-21	A-5318	Lock washer	55-7	11316	.05
MAFES	34-C-157	A-5319	Bracket for muffler support, rear	55-7	33398	.35
PAFES	32-C-149	A-5320	Clamp screw for rear hanger on muffler pipe	55	10033	.10
RAFES	9-G-18	A-5321	Clamp screw for rear hanger on muffler pipe	57	10012	.05
SAFES		A-5322	Flat washer at rear muffler support on side bar (H)	57	11530	.10
TAFES	10-S-18	A-5323	Screw, rear bracket to hanger	55-7	10003	.05
ZAFES	38-D-12	A-5324	Nut	55-7	10892	.05
BEFES	13-B-16	A-5325	Lock washer	55-7	11315	.05

MUFFLER PIPES

NOTE—Muffler pipes (manifold to muffler) as listed have asbestos covering and flange.

LEFES	20-A-21	A-5326	Pipe, manifold to muffler, RIGHT (E)	51	20592	5.80
MEFES	36-A-16	A-5327	Pipe, manifold to muffler, LEFT (E)	51	20593	5.80
PEFES		A-5328	Pipe, manifold to muffler, RIGHT (H)	51	41561	5.00
REFES		A-5329	Pipe, manifold to muffler, LEFT (H)	51	41562	5.00
SEFES	20-A-5	A-5330	Pipe, manifold to muffler, RIGHT (E)	53	21434	3.75
TEFES	28-A-50	A-5331	Pipe, manifold to muffler, LEFT (E)	53	21435	3.75
ZEFES	20-A-17	A-5332	Pipe, manifold to muffler, RIGHT (G)	53	21683	6.00
BIFES	34-A-26	A-5333	Pipe, manifold to muffler, LEFT (G)	53	21684	6.00
CIFES	32-A-81	A-5334	Pipe, manifold to muffler, RIGHT (H)	53	21685	6.00
DIFES	32-A-76	A-5335	Pipe, manifold to muffler, LEFT (H)	53	21686	6.00
FIFES	32-A-20	A-5336	Pipe, manifold to 1st type muffler, RIGHT (F)	55	22134	3.75
KIFES	28-A-44	A-5337	Pipe, manifold to 1st type muffler, LEFT) F)	55	22135	3.75
LIFES		A-5338	Pipe, manifold to 1st type muffler, RIGHT (G)	55	22670	5.00
MIFES		A-5339	Pipe, manifold to 1st type mufflerr, LEFT (G)	55	22671	5.00
PIFES		A-5340	Pipe, manifold to 1st typemuffler, RIGHT (H)	55	22672	5.00
RIFES		A-5341	Pipe, manifold to 1st type muffler, LEFT (H)	55	22673	5.00
SIFES	30-A-41	A-5342	Pipe, manifold to 2nd type muffler, RIGHT (G)	55	23703	6.00
TIFES	20-A-2	A-5343	Pipe, manifold to 2nd type muffler, LEFT (G)	55	23704	6.00
ZIFES	22-A-31	A-5344	Pipe, manifold to 2nd type muffler, RIGHT (H)	55	23629	6.00
BOFES	22-A-29	A-5345	Pipe, manifold to 2nd type muffler, LEFT (H)	55	23630	6.00
COFES	14-A-13	A-5346	Pipe, manifold to muffler, RIGHT, with 2nd type muffler on 55 (F) and (F) (H) on 57	55-7	23701	6.00
FOFES	20-A-31	A-5347	Pipe, manifold to muffler, LEFT, with 2nd type muffler on 55 (F) and (F) (H) on 57	55-7	23702	6.00
LOFES	30-A-41	A-5348	Pipe, manifold to muffler, RIGHT (G)	57	23703	6.00
MOFES	20-A-2	A-5349	Pipe, manifold to muffler, LEFT (G)	57	23704	6.00
POFES	34-B-1	A-5350	Flange for exhaust pipe	51-3-5-7	19803	.50
ROFES	16-D-3	A-5351	Gasket for exhaust pipe flange	51-3-5-7	19802	.05
SOFES	33-B-159	A-5352	Special bolt, exhaust pipe flange to manifold	51-3	30226	.10
TOFES	32-C-149	A-5353	Bolt, exhaust pipe flange to manifold	51-3-5-7	10033	.10
ZOFES	9-B-10	A-5354	Nut	51-3-5-7	12926	.10
BUFES	10-M-1	A-5355	Check nut for nut	51-3-5-7	12927	.10
CUFES	33-B-53	A-5356	Reinforcement for exhaust pipe	51-3-5-7	19805	.10
DUFES	16-E-19	A-5357	Asbestos covering for exhaust pipe	51-3-5-7	19773	.50
KUFES	20-A-39	A-5359	Exhaust pipe for muffler outlet, RIGHT	51-3	19931	4.25
LUFES	20-A-49	A-5360	Exhaust pipe for muffler outlet, LEFT	51-3	19944	4.25
MUFES	20-G-25	A-5361	Exhaust pipe for 1st type muffler outlet, RIGHT	55	32764	4.25
PUFES	20-A-33	A-5362	Exhaust pipe for 1st type muffler outlet, LEFT	55	32765	4.25
RUFES	20-A-19	A-5363	Exhaust pipe for muffler outlet, RIGHT, with 2nd type muffler on 55 (F) (G) on 57	55-7	37500	4.25
TUFES	20-A-7	A-5364	Exhaust pipe for muffler outlet, LEFT, with 2nd type muffle on 55 (F) (G) on 57	55-7	37501	4.25
ZUFES	32-A-18	A-5365	Exhaust pipe for muffler outlet, RIGHT (H)	57	37754	4.25

Code Word	Sec.-Bin	Serial	Part Name	Type	Symbol	Price
BAFET	20-A-53	A-5366	Exhaust pipe for muffler outlet, LEFT (H)	57	37755	$ 4.25
CAFET	34-C-45	A-5367	Clip for muffler outlet pipe	51-3-5-7	19984	.25
DAFET	38-D-12	A-5368	Nut on clip	51-3-5-7	10892	.05
FAFET	13-B-16	A-5369	Lock washer	51-3-5-7	11315	.05
KAFET	16-C-67	A-5370	Asbestos covering for RIGHT exhaust pipe under condenser tank	55-7	37693	.45

STEERING WHEEL AND SPIDER

PAFET	31-G-10	A-5374	Steering wheel complete with rim, spider, hub and latches.	51-3-5-7	21533	19.50
RAFET	31-G-1	A-5375	Steering wheel only	51-3-5-7	41745	12.00
SAFET	31-B-17	A-5376	Hub only, with dowels for steering wheel	51-3-5-7	20781	5.40
TAFET	10-C-7	A-5377	Dowel pin for latch	51-3-5-7	16306	.05
ZAFET	9-B-11	A-5378	Key, hub to steering wheel	51-3-5-7	17149	.15
BEFET	31-D-64	A-5379	Cover plate with guides for latches	51-3-5-7	20043	.70
CEFET	9-U-8	A-5380	Latch, RIGHT, for steering wheel	51-3-5-7	16303	1.00
DEFET	9-U-10	A-5381	Latch, LEFT, for steering wheel	51-3-5-7	16550	1.00
FEFET	9-U-8	A-5382	Spring for latch	51-3-5-7	16308	.08
KEFET	9-U-10	A-5383	Screw for latch cover (2 used)	51-3-5-7	11551	.05
LEFET	10-D-8	A-5384	Lock washer	51-3-5-7	11313	.05
MEFET	9-S-21	A-5385	Screw for hinge of steering wheel	51-3-5-7	11550	.20
PEFET	9-T-12	A-5386	Flat washer	51-3-5-7	11430	.05
REFET	9-D-14	A-5387	Spherical washer for hinge screw	51-3-5-7	11426	.05
SEFET	9-T-19	A-5388	Special nut for hinge screw	51-3-5-7	11650	.15

HOUSING TUBE FOR STEERING GEAR

KIFET	38-A-32	A-5391	Housing tube with bushings (SL) (5P) (7P)	51	20384	5.00
LIFET	32-A-30	A-5392	Housing tube with bushings (R)	51	20670	5.00
MIFET	32-A-83	A-5393	Housing with bushings and collar (C)	51	20631	5.50
PIFET	38-A-49	A-5394	Housing tube with collar and bushings (SD)	51	20618	5.50
RIFET	31-F-26	A-5395	Housing tube with collar and bushings (L) (BL)	51	20641	5.50
SIFET	31-F-27	A-5396	Housing tube with bushings, all (OC) (SB-1) (SB-2) (V-1) (V-2) (S) on 57, (G) on 53 and all except (B) (L) (C) (I) (LD) (H) on 53-55	53-5-7	21320	5.40
BOFET	31-E-25	A-5397	Housing tube with bushings and bracket for air control lever (B) (L) (H)	53	21539	5.00
DOFET		A-5398	Housing tube with bushings and brackets for air control lever (C)	53	21997	5.00
KOFET	32-A-93	A-5399	Housing tube with bushings and bracket for air control lever (C)	55	23606	5.50
MOFET	32-A-25	A-5400	Housing tube with bushings (B) (L) (I) (LD) (M) (H) on 55, (M) (A) and all (CC) except (V-1) (V-2) (SB-1) (SB-2) on 57	55-7	22253	5.10
SOFET	31-C-65	A-5401	Bushing with internal taper for housing tube	51-3-5-7	9907	.80
TOFET	31-B-149	A-5402	Bushing with external taper for housing tube	51-3-5-7	9906	.85
ZOFET	31-D-39	A-5403	Bushing for lower end of housing tube	51-3-5-7	9086	.80
BUFET	9-I-1	A-5404	Felt washer at top of housing tube	57	11529	.05

SUPPORT FOR (STEERING GEAR) HOUSING TUBE

PUFET		A-5407	Support for housing tube on instrument board (used approximately on first 400 cars) (SL) (5P) (7-P)	51	32932	3.00
SUFET	31-D-74	A-5408	Support for housing tube on instrument board (after first 400 cars) (SL) (5-P) (7-P)	51	30150	3.00
TUFET	31-D-19	A-5409	Support for housing tube on instrument board (R)	51	30185	3.00
ZUFET	31-B-1	A-5410	Support for housing tube on instrument board (SD)	51	30168	3.00

Code Word	Sec.-Bin	Serial	Part Name	Type	Symbol	Price
BAFEX	31-D-73	A-5411	Support for housing tube on instrument board (L) (BL)	51	30158	$ 3.00
CAFEX	31-C-23	A-5412	Flange on toe board for housing tube (C)	51	30067	2.75
DAFEX	31-B-105	A-5413	Support for housing tube on instrument board (1st type, attaches on lower edge of instrument board) (7-P) (SL)	53	30947	3.00
KAFEX	31-D-53	A-5414	Support for housing tube on instrument board (3rd type attaches on face of instrument board) 5½" overall length (7-P) (SL)	53	31758	4.00
LAFEX	31-B-41	A-5414B	Support for housing tube on instrument board (2nd type) 6" overall length (7-P) (SL)	53	38975	4.00
MAFEX	31-D-7	A-5415	Support for housing tube on instrument board (MT)	53	32270	3.50
PAFEX	31-C-49	A-5416	Support for housing tube on instrument board (R)	53	31761	3.50
RAFEX	31-D-8	A-5417	Support for housing tube on instrument board (V)	53	31766	3.50
SAFEX	31-C-5	A-5418	Support for housing tube on instrument board (B)	53	31767	3.50
TAFEX	31-C-21	A-5419	Support for housing tube on instrument board (L)	53	31762	3.50
ZAFEX	31-C-61	A-5420	Support for housing tube on instrument board (BL)	53	31764	3.50
BEFEX	31-C-36	A-5421	Support for housing tube on instrument board (C)	53	32224	3.50
CEFEX	31-C-137	A-5422	Support for housing tube on instrument board with stud for air control lever (T) (S)	55	22858	3.50
FEFEX	31-D-27	A-5423	Support for housing tube on instrument board with stud for air control lever (P) (R) (CR)	55	22862	3.50
LEFEX	31-D-30	A-5424	Support for housing tube on instrument board with stud for air control lever (V)	55	22861	3.50
PEFEX	31-B-108	A-5425	Support for housing tube on instrument board with stud for air control lever (B)	55	22860	3.50
SEFEX	31-C-29	A-5426	Support for housing tube on instrument board with stud for air control lever (L) (I) (LD)	55	22866	3.50
ZEFEX	31-B-127	A-5427	Support for housing tube on instrument board with stud for air control lever (CV)	55	22865	3.50
BIFEX	31-B-66	A-5428	Support for housing tube on instrument board with stud for air control lever (G) (H)	55	22863	3.50
CIFEX		A-5429	Support with cap for housing tube on instrument board (C)	55	23604	3.50
FIFEX	31-D-56	A-5430	Support for housing tube and headlight control with bushings, cap, cover and plunger (7-P) (P-1) (R-1) (S)	57	24287	7.50
KIFEX	31-D-10	A-5431	Support for housing tube and headlight control with bushings, cap, cover and plunger (P-2) (R-2)	57	41730	7.50
LIFEX	31-D-21	A-5432	Support for housing tube and headlight control with bushings, cap, cover and plunger (V-1) (V-2) (B-2)	57	24370	7.50
MIFEX	31-B-15	A-5433	Support with cap for housing tube (B-1)	57	23765	3.45
RIFEX	31-B-13	A-5434	Support with cap for housing tube (I) (L) (LD) (7-B)	57	23766	3.45
SIFEX	31-B-7	A-5435	Support with cap for housing tube (TL) (TLD)	57	23483	3.80
TIFEX	31-D-24	A-5436	Support with cap for housing tube (SB-1) (SB-2)	57	24427	3.80
ZIFEX	31-B-5	A-5437	Support with cap for housing tube (M) (A)	57	23764	3.50
BOFEX	9-H-14	A-5438	Screw, cap to support (C) on 55, all 57	55-7	11968	.10
COFEX	10-D-7	A-5439	Lock washer	55-7	11335	.05
DOFEX	31-D-15	A-5440	Clamp screw for support, all except (R) (C) (SD)	51	11832	.05
FOFEX		A-5441	Clamp screw for flange (C)	51	12950	.05
KOFEX		A-5442	Clamp screw for support (SD)	51	10350	.05
LOFEX		A-5443	Clamp screw for support (R) on 51, all 53	51-3	11849	.05
MOFEX	9-B-5	A-5444	Clamp screw for support, all except (C)	55	11271	.10
POFEX	9-N-4	A-5445	Pivot stud in support for air control lever	55-7	33599	.30
ROFEX	10-L-9	A-5446	Stop pin for air control lever	55-7	33598	.05
SOFEX	9-Q-8	A-5447	Taper pin anchoring pivot stud	57	34603	.05
TOFEX	37-B-94	A-5448	Screw, support to instrument board (OC) (S) on 51-3-5-7 and (SB-1) (SB-2) (M) (A) on 57 only	51-3-5-7	10024	.05
ZOFEX	36-D-21	A-5449	Lock washer	51-3-5-7	11316	.05
BUFEX	13-C-89	A-5450	Screw, support to instrument board (M) (A) on 51-3-5 and (CC) except (C) (SB-1) (SB-2) on 53-5-7	51-3-5-7	10005	.05
CUFEX	13-B-16	A-5451	Lock washer	51-3-5-7	11315	.05
DUFEX	33-C-153	A-5452	Screw, support to instrument board (C)	53	10031	.10
FUFEX	10-K-16	A-5453	Screw, support to instrument board (C)	55	10032	.10
KUFEX	36-D-21	A-5454	Lock washer	53	11316	.05
LUFEX	9-C-22	A-5455	Acorn nut on screw (C)	53	9790	.20
MUFEX		A-5456	Reinforcement for housing tube support (SD)	51	30170	1.00
PUFEX	31-B-83	A-5457	Reinforcement for housing tube flange (C)	51	30068	.75
RUFEX		A-5458	Screw, flange to toe board (C)	51	12966	.15
SUFEX	12-D-47	A-5459	Nut	51	10893	.05
TUFEX	36-D-21	A-5460	Lock washer	51	11316	.05
ZUFEX	37-D-51	A-5461	Reinforcement for housing tube support (OC)	51-3	19824	.15

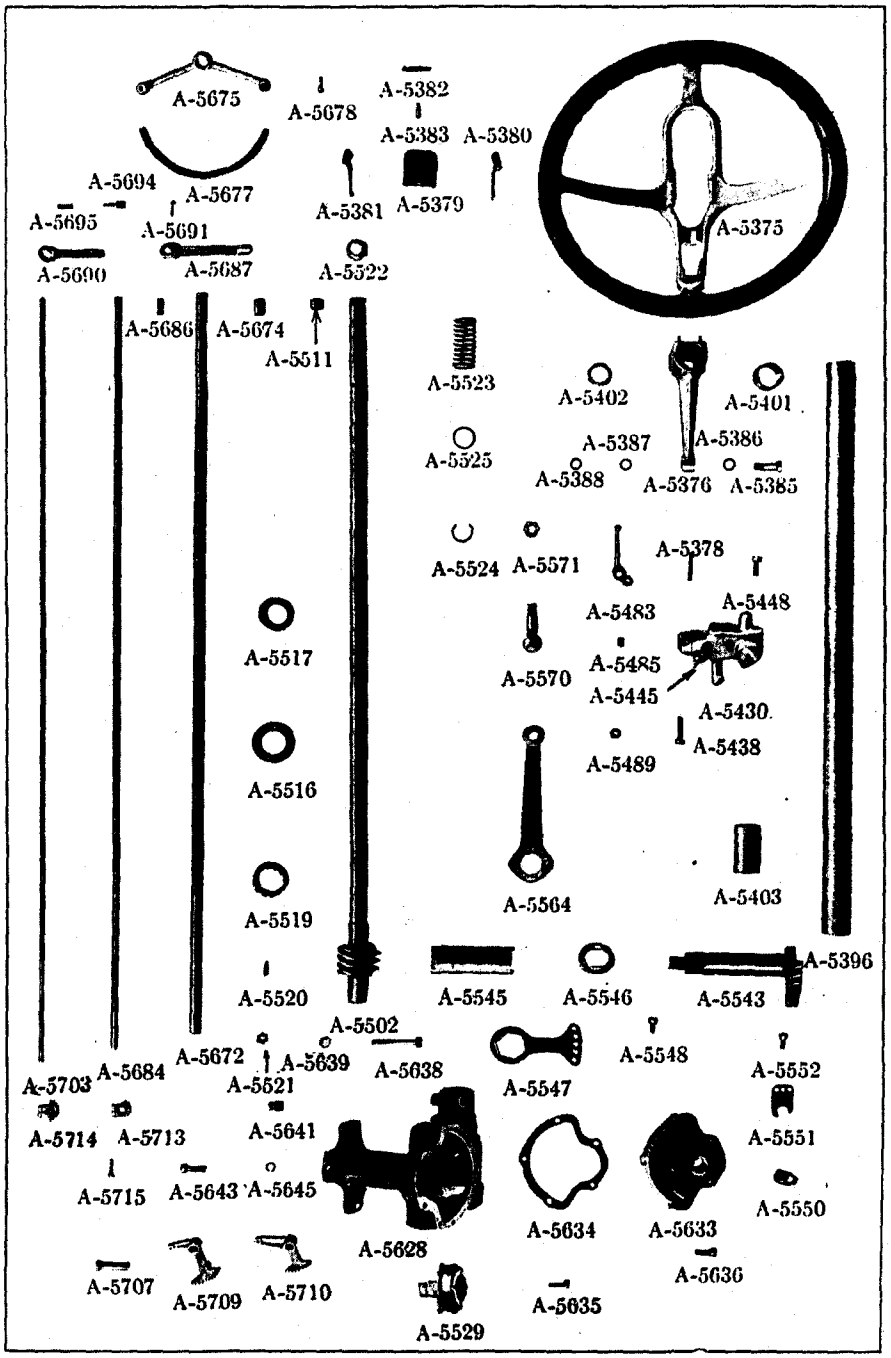
Code Word	Sec.-Bin	Serial	Part Name	Type	Symbol	Price
BAFEZ		A-5462	Reinforcement for housing tube support (B)	53	31768	$ .50
CAFEZ		A-5463	Reinforcement for housing tube support (L)	53	31763	.30
DAFEZ	31-D-62	A-5464	Reinforcement with bushing for housing tube support (SL) (R) (7-P) on 53, (T) (P) (R) (CR) (S) on 55, and (OC) (S) (M) (A) on 57	53-5-7	21716	.25
LAFEZ		A-5465	Reinforcement for housing tube support (C)	53	32223	.30
MAFEZ		A-5466	Reinforcement for housing tube support (B) (B-1)	55-7	33771	.10
PAFEZ		A-5467	Reinforcement for housing tube support (V) on 53, (CV) on 55	53-5	34210	.25
SAFEZ	9-C-13	A-5468	Reinforcement for housing tube support (L) (LD) (V-1) (V-2) (I) (SB-1) (SB-2) (B-2) (7-B)	55-7	33770	.20
ZAFEZ		A-5469	Reinforcement for housing tube support (TL) (TLD)	57	37786	.15
BEFEZ	31-F-4	A-5470	Spacer for steering column support (M) (A)	53-5	31996	1.50
CEFEZ		A-5471	Clamp for support on bracket (C)	55	34198	.25

AIR CONTROL LEVER. BRACKET FOR AIR CONTROL LEVER

LEFEZ	12-C-31	A-5474	Bracket on dash for housing tube support (C)	55	34197	1.50
MEFEZ	38-E-12	A-5475	Step bolt, bracket to instrument board (C)	55	19297	.05
PEFEZ	38-D-12	A-5476	Nut on step bolt (C)	55	10892	.05
REFEZ	31-B-27	A-5477	Bracket on instrument board for air control lever (L) (BL)	51	30157	1.00
TEFEZ	31-B-63	A-5478	Bracket on instrument board for air control lever (V) (BL)	53	31765	1.00
BIFEZ	31-C-97	A-5479	Air control lever, all except (SD) (C) on 51, (B) (L) (C) (MT) on 53	51-3	19957	.75
DIFEZ	31-D-65	A-5480	Air control lever (SD) (C) on 51, (B) (L) on 53	51-3	30173	.75
FIFEZ	31-D-5	A-5481	Air control lever (MT)	53	32269	.85
KIFEZ	31-D-2	A-5482	Air control lever (C)	53	32245	.75
LIFEZ	31-D-18	A-5483	Air control lever	55-7	33603	.75
MIFEZ	10-R-16	A-5484	Spring for air control lever	51-3	13727	.10
PIFEZ	9-Q-17	A-5485	Spring for air control lever	55-7	33600	.08
RIFEZ	10-M-7	A-5486	Flat washer for air control lever spring	51-3	50054	.05
SIFEZ	9-P-17	A-5487	Flat washer for air control lever spring	55-7	11521	.05
TIFEZ	10-I-6	A-5488	Nut on air control lever stud	51-3	13719	.15
ZIFEZ	9-Q-17	A-5489	Nut for air control lever stud	55-7	33596	.15
BOFEZ	9-A-19	A-5490	Pin for nut	51-3	16859	.05
COFEZ	10-L-3	A-5491	Pin for nut	55-7	33597	.05

STEERING TUBE WITH WORM, SUPPORT FOR STEERING TUBE AND WORM

SOFEZ	32-A-43	A-5494	Steering tube with worm and bushing (SL) (7-P) (5-P), LEFT steering	51	20396	10.00
ZOFEZ		A-5495	Steering tube with worm and bushing (R), LEFT steering	51	20717	10.00
BUFEZ	32-A-37	A-5496	Steering tube with worm and bushing (C), LEFT steering	51	20612	10.00
CUFEZ	32-A-64	A-5497	Steering tube with worm and bushing (SD) (L) (BL), LEFT steering	51	20616	10.00
FUFEZ	32-A-47	A-5498	Steering tube with worm, bushing and cup for bearing, before engine A-25315, LEFT steering	53	21353	10.00
LUFEZ	32-A-1	A-5499	Steering tube with worm and bushing (C), after engine A-25314, LEFT steering	53	21926	10.00
PUFEZ	20-A-41	A-5500	Steering tube with worm and bushing, except (C) on 53, after engine A-25314, (T) (P) (R) (CR) (V) (CV) (C) (S) on 55, LEFT steering	53-5	23769	10.00
TUFEZ	32-A-90	A-5501	Steering tube with worm and bushing (B) (I) (LD) (M) (L) (A) on 55, (M) (A) and (CC) except (V-1) (V-2) (SB-1) (SB-2) on 57, LEFT steering	55-7	22688	10.00



STEERING GEAR

Code Word	Sec.-Bin	Serial	Part Name	Type	Symbol	Price
BAHEL	20-A-41	A-5502	Steering tube with worm and bushing (OC) (V-1) (V-2) (SB-1) (SB-2) (S), LEFT steering	57	23769	$10.00
DAHEL		A-5503	Steering tube with worm and bushing (SL) (5-P) (7-P), RIGHT steering	51	20395	10.00
KAHEL	32-A-55	A-5504	Steering tube with worm and bushing (R), RIGHT steering	51	20718	10.00
MAHEL	32-A-45	A-5505	Steering tube with worm and bushing (SD) (L) (BL), RIGHT steering	51	20808	10.00
RAHEL		A-5506	Steering tube with worm and bushing (C), RIGHT steering	51	20809	10.00
TAHEL		A-5507	Steering tube with worm, bushing and cup for bearing, before engine A-25315, RIGHT steering	53	21354	10.00
BEHEL	32-A-34	A-5508	Steering tube with worm and bushing, after engine A-25314 on 53, (T) (P) (R) (CR) (V) (CV) (C) (S) on 55, RIGHT steering	53-5	23770	10.00
FEHEL	32-A-60	A-5509	Steering tube with worm and bushing, (L) (B) (I) (LD) (M) (A) on 55, (M) (A) and (CC) except (V-1) (V-2) (SB-1) (SB-2) on 57, RIGHT steering	55-7	23555	10.00
MEHEL	32-A-31	A-5510	Steering tube with worm and bushing (OC) (V-1) (V-2) (SB-1) (SB-2) (S), RIGHT steering	57	23770	10.00
REHEL	31-D-76	A-5511	Bushing in upper end of steering tube	51-3-5-7	3181	.15
SEHEL	9-N-16	A-5512	Pin for bushing in tube	51-3-5-7	32376	.05
TEHEL	31-C-131	A-5513	Cup for bearing on steering tube, above or below worm, before engine A-25315	51-3	18031	.75
BIHEL	25-D-80	A-5514	Ball retainer with balls for bearing on steering tube, before engine A-25315	51-3	18034	.60
DIHEL	31-C-99	A-5515	Cone for bearing on steering tube above or below worm, before engine A-25315	51-3	18032	.75
KIHEL	25-B-71	A-5516	Race for bearing, above or below worm, after engine A-25314	53-5-7	6012	.65
MIHEL	25-D-49	A-5517	Ball retainer with balls, above or below worm on tube, after engine A-25314	53-5-7	6026	.50
RIHEL	31-B-147	A-5518	Adjusting nut for steering tube, before engine A-25315	51-3	30956	.75
SIHEL	31-D-75	A-5519	Adjusting nut for steering tube, after engine A-25314	53-5-7	31982	1.50
TIHEL	31-C-85	A-5520	Set screw for adjusting nut, (2 used)	51-3-5-7	3167	.05
ZIHEL	18-B-16	A-5521	Lock nut (2 used)	51-3-5-7	R-4-701	.05
BOHEL	31-B-93	A-5522	Nut on end of steering tube	51-3-5-7	3213	.45
COHEL	31-D-60	A-5523	Spring on tube for housing bushing	51-3-5-7	9909	.10
DOHEL	9-C-13	A-5524	Ring on steering tube for spring	51-3-5-7	9908	.05
FOHEL	9-B-4	A-5525	Flat washer for spring on steering tube	51-3-5-7	9910	.05
KOHEL	31-B-123	A-5526	Support on bottom of housing for steering tube	51	18033	2.00
LOHEL	31-C-3	A-5527	Support with studs on bottom of housing for steering tube, before engine A-25315	53	21748	2.50
POHEL	31-D-69	A-5528	Support with studs on bottom of housing for steering tube, after engine A-25314	53-5	21854	2.50
SOHEL	31-B-153	A-5529	Support on bottom of housing for steering tube	57	37470	4.00
TOHEL	10-J-5	A-5530	Clamp screw in support	51-3-5-7	10006	.05
ZOHEL	13-B-16	A-5531	Lock washer	51-3-5-7	11315	.05
BUHEL	37-B-94	A-5532	Screw, support to housing	51-3-5-7	10024	.05
CUHEL	36-D-21	A-5533	Lock washer	51-3-5-7	11316	.05
DUHEL	10-S-21	A-5534	Stud in support for horn switch	53-5	31079	.10
FUHEL	38-D-12	A-5535	Nut on stud	53-5	10892	.05
KUHEL	13-B-16	A-5536	Lock washer	53-5	11315	.05

STEERING GEAR SECTOR

LUHEL	23-D-7	A-5539	Sector for worm on steering tube, LEFT steering	51	18914	12.00
MUHEL	31-C-107	A-5540	Sector for worm on steering tube, RIGHT steering	51	18025	12.00
PUHEL	31-E-23	A-5541	Sector for worm on steering tube, LEFT steering	53-5	30941	12.00
RUHEL	23-D-8	A-5542	Sector for worm on steering tube, RIGHT steering	53-5	31353	16.60
SUHEL	23-F-3	A-5543	Sector for worm on steering tube, LEFT steering	57	37415	16.00
TUHEL	23-D-21	A-5544	Sector for worm on steering tube, RIGHT steering	57	37416	16.00
ZUHEL	31-F-12	A-5545	Eccentric bushing to adjust sector	51-3-5-7	18026	2.00

Code Word	Sec.-Bin	Serial	Part Name	Type	Symbol	Price
BAHEM	31-C-37	A-5546	Thrust ring for eccentric bushing on sector	51-3-5-7	18099	$ .35
CAHEM	31-C-1	A-5547	Adjusting wrench on side bar for eccentric bushing	51-3-5-7	18101	.25
DAHEM	10-B-23	A-5548	Screw, wrench to side bar	51-3-5-7	11848	.10
FAHEM	13-B-16	A-5549	Lock washer	51-3-5-7	11315	.05
KAHEM	9-N-16	A-5550	Adjusting screw for sector in housing cover	51-3-5-7	18098	.40
LAHEM	9-P-10	A-5551	Wrench for sector adjusting screw	51-3-5-7	18097	.05
MAHEM	19-B-43	A-5552	Screw, wrench to housing cover	51-3-5-7	10004	.05
PAHEM	13-B-16	A-5553	Lock washer	51-3-5-7	11315	.05
RAHEM	14-E-14	A-5554	Grease cup in sector	51-3-5-7	17054	.50

STEERING GEAR ARM AND CONNECTING ROD

SAHEM	31-C-71	A-5557	Arm for steering gear	51	18024	2.85
TAHEM	31-D-1	A-5558	Arm for steering gear, all except (B) (L) (BL), RIGHT or LEFT steering	53	30899	2.85
BEHEM	31-D-51	A-5559	Arm for steering gear (B) (L) (BL), LEFT steering	53	31979	2.85
CEHEM		A-5560	Arm for steering gear (B) (L) (BL), RIGHT steering	53	31977	2.85
DEHEM	31-D-40	A-5561	Arm for steering gear (T) (CV) (V) (C) (S), RIGHT or LEFT steering	55	32910	2.85
KEHEM	31-D-45	A-5562	Arm for steering gear (P) (R) (CR), LEFT steering, (L) (B) (I) (LD) (M) (A), RIGHT steering	55	33981	2.85
MEHEM	31-C-127	A-5563	Arm for steering gear (L) (B) (I) (LD) (M) (A), LEFT steering, (P) (CR) (R), RIGHT steering	55	32911	2.85
REHEM	31-B-85	A-5564	Arm for steering gear	57	37419	4.00
MIHEM	31-D-80	A-5570	Pivot with castle nut for steering arm	51-3-5-7	42110	1.50
PIHEM	31-D-79	A-5571	Castle nut on pivot	51-3-5-7	53513	.08
RIHEM	10-F-9	A-5572	Cotter pin	51-3-5-7	15175	.05
SIHEM	31-B-95	A-5573	Clamp bolt for steering arm on sector	51-3-5	11607	.40
TIHEM	34-D-39	A-5574	Nut	51-3-5	5009	.10
ZIHEM	38-D-39	A-5575	Lock washer	51-3-5	11320	.05
BOHEM	31-C-149	A-5576	Nut, steering arm on sector	57	37468	.25
COHEM	31-B-139	A-5577	Lock washer	57	37469	.05
FOHEM	31-F-25	A-5579	Steering connecting rod complete, RIGHT steering	51-3	20418	12.20
KOHEM	32-A-90	A-5580	Steering connecting rod complete, (WIDE TREAD) LEFT steering	51-3-5	20799	12.20
TOHEM	32-A-27	A-5584	Steering connecting rod complete, (WIDE TREAD) RIGHT steering	51-3-5	22678	14.00
BUHEM	31-G-13	A-5585	Steering connecting rod complete, (STANDARD TREAD) LEFT steering	51-3-5-7	22510	14.00
DUHEM	32-A-16	A-5586	Steering connecting rod complete, (STANDARD TREAD) RIGHT steering	55-7	22511	14.00

Code Word	Sec.-Bin	Serial	Part Name	Type	Symbol	
KAHEP	31-B-69	A-5593	Bearing for pivot, front, for steering connecting rod (2 used)	51-3-5-7	9202	$ .55
MAHEP	31-D-11	A-5594	Bearing for pivot, rear, for steering connecting rod (2 used)	51-3-5-7	9200	.70
RAHEP	31-B-67	A-5595	Plug in either end of connecting rod	51-3-5-7	9203	.40
SAHEP	27-C-67	A-5596	Cotter pin for plug in tube	51-3-5-7	15183	.05
TAHEP	31-B-109	A-5597	Spring for either end of connecting rod	51-3-5-7	9199	.10
ZAHEP	31-D-4	A-5598	Disc or spring seat in connecting rod	51-3-5-7	9201	.05
BEHEP	14-E-14	A-5599	Grease cup for rod	51-3-5-7	17054	.50
CEHEP	10-G-9	A-5600	Elbow for grease cup	55-7	B-600	.15
DEHEP	17-G-13	A-5601	Leather boot on front end of connecting rod joint, LEFT steering	51-3-5-7	30464	.50
KEHEP	16-G-19	A-5602	Leather boot on rear end of connecting rod joint, LEFT steering	51-3-5-7	55493	.50
MEHEP	16-C-156	A-5603	Leather boot on front end of connecting rod joint, RIGHT steering	51-3-5-7	12214	.60
REHEP	16-B-94	A-5604	Leather boot for rear end of connecting rod joint, RIGHT steering	51-3-5-7	30467	.50
TEHEP	Ac. S.	A-5605	Lace for leather boots	51-3-5-7	19185	.05

HOUSING FOR STEERING WORM AND SECTOR

LIHEP	31-F-19	A-5608	Housing for steering worm and sector (SL) (5-P) (7-P), LEFT steering	51	18913	8.00
PIHEP	31-E-15	A-5609	Housing for steering worm and sector (R), LEFT steering	51	30288	8.00
RIHEP	31-E-27	A-5610	Housing for steering worm and sector (L) (BL), LEFT steering	51	30290	8.00
TIHEP		A-5611	Housing for steering worm and sector (C), LEFT steering	51	30289	8.00
ZIHEP	31-G-23	A-5612	Housing for steering worm and sector (SD), LEFT steering	51	30292	8.00
COHEP	31-D-26	A-5613	Housing for steering worm and sector (SL) (5-P) (7-P), RIGHT steering	51	18021	8.00
FOHEP		A-5614	Housing for steering worm and sector (R), RIGHT steering	51	30282	8.00
LOHEP	31-F-6	A-5615	Housing for steering worm and sector (SD), RIGHT steering	51	30286	8.00
POHEP		A-5616	Housing for steering worm and sector (C), RIGHT steering	51	30283	8.00
SOHEP		A-5617	Housing for steering worm and sector (L) (BL), RIGHT steering	51	30284	8.00
ZOHEP	31-G-8	A-5618	Housing for steering worm and sector (SL) (7-P) (MT), LEFT steering	53	30930	8.00
CUHEP	31-E-12	A-5619	Housing for steering worm and sector (R) (V), LEFT steering	53	30931	8.00
DUHEP	31-D-17	A-5620	Housing for steering worm and sector (C), LEFT steering	53	31254	8.00
KUHEP	31-D-81	A-5621	Housing for steering worm and sector (B) (L) (BL) (M) (A), LEFT steering	53	30929	8.00
LUHEP	31-C-117	A-5622	Housing for steering worm and sector (SL) (7-P), RIGHT steering	53	30933	8.00
MUHEP		A-5623	Housing for steering worm and sector (R) (V), RIGHT steering	53	30934	8.00
PUHEP	31-G-11	A-5624	Housing for steering worm and sector (B) (L) (BL) (M) (A), RIGHT steering	53	30932	8.00
SUHEP	31-F-5	A-5625	Housing for steering worm and sector (T) (CV) (V) (C) (S), LEFT steering	55	41945	12.50
ZUHEP	31-E-21	A-5626	Housing for steering worm and sector (P) (P-2) (R) (R-2) (CR), LEFT steering	55-7	41946	12.50

Code Word	Sec.-Bin	Serial	Part Name	Type	Symbol	Price
BAHER	31-D-22	A-5627	Housing for steering worm and sector (M) (A) and (CC) except (V) (V-1) (V-2) (C) (CV) (SB-1) (SB-2), LEFT steering	55-7	41947	$12.50
FAHER	31-F-11	A-5628	Housing for steering worm and sector (S) (7-P) (P-1) (R-1) (V-1) (V-2) (SB-1) (SB-2), LEFT steering	57	42024	12.00
LAHER	31-C-73	A-5629	Housing for steering worm and sector (T) (CV) (V) (C) (S), RIGHT steering	55	41949	12.50
PAHER	31-C-89	A-5630	Housing for steering worm and sector (P) (P-2) (R) (R-2) (CR), RIGHT steering	55-7	41950	12.50
SAHER	31-G-6	A-5631	Housing for steering worm and sector (M) (A) and (CC) except (V) (V-1) (V-2) (C) (CV) (SB-1) (SB-2), RIGHT steering	55-7	41951	12.50
BEHER	31-B-119	A-5632	Housing for steering worm and sector (7-P) (P-1) (R-1) (V-1) (V-2) (SB-1) (SB-2) (S), RIGHT steering	57	37426	12.50
DEHER	31-B-125	A-5633	Cover for housing	51-3-5-7	18100	1.75
FEHER	16-D-46	A-5634	Gasket for housing cover	51-3-5-7	19959	.10
KEHER	10-J-5	A-5635	Screw, 1" long, cover to housing (5 on 51-3-5 and 1 on 57)	51-3-5-7	10006	.05
MEHER	19-B-43	A-5636	Screw, ¾" long, cover to housing (4 used)	57	10004	.05
PEHER	13-B-16	A-5637	Lock washer	51-3-5-7	11315	.05
REHER	31-C-129	A-5638	Clamp screw in housing for tube	51-3-5-7	10035	.15
SEHER	12-D-47	A-5639	Nut	51-3-5-7	10893	.05
TEHER	36-D-21	A-5640	Lock washer	51-3-5-7	11316	.05
ZEHER	10-D-3	A-5641	⅜" pipe plug in housing	51-3-5-7	3466	.05
BIHER	10-D-1	A-5642	⅛" pipe plug in housing	57	3467	.05
CIHER	10-L-12	A-5643	Screw, housing to side bar	51-3-5-7	37035	.05
DIHER	12-D-47	A-5644	Nut	51-3-5-7	10893	.05
FIHER	36-D-21	A-5645	Lock washer	51-3-5-7	11316	.05

HORN SWITCH ON STEERING GEAR

LIHER	31-D-35	A-5648	Push button for horn switch	53-5	31032	.45
MIHER	9-M-12	A-5649	Spring for horn push button	53-5	31104	.25
PIHER	10-P-14	A-5650	Snap ring for button on spark rod	53-5	31033	.08
RIHER	32-A-10	A-5651	Push rod for horn switch (C)	53	32052	.25
SIHER	32-A-7	A-5652	Push rod for horn switch, all except (C) on 53, (T) (P) (R) (CR) (V) (C) (CV) (S) on 55	53-5	31080	.25
ZIHER	32-A-32	A-5653	Push rod for horn switch (L) (B) (I) (LD) (M) (A)	55	32891	.25
BOHER	10-P-14	A-5654	Guide for push button rod	53-5	31081	.05
COHER	50-F-35	†A-5655	Button with stud, spring and bushing for horn switch	57	33900-K	.70
DOHER	51-A-7	†A-5656	Button only for horn switch	57	33890-K	.25
FOHER	9-N-17	A-5657	Set screw in spark lever retaining horn switch button	57	37436	.05
LOHER	53-H-7	†A-5658	Spring for horn switch button	57	33895-K	.15
MOHER	53-P-13	†A-5659	Stud with contact point for horn button	57	42987-K	.15
POHER	52-L-8	†A-5660	Lock washer	57	20495-D	.06
ROHER	53-H-8	†A-5661	Brass bushing on stud for horn button	57	33898-K	.20
SOHER	10-T-3	A-5662	Brass contact for wire to horn button	57	53053	.15
TOHER	10-T-3	A-5663	Bakelite bushing for wire to horn button	57	38498	.30
ZOHER	10-N-6	A-5664	Bakelite bushing between brass bushing and contact for horn wire	57	51146	.25

SPARK AND THROTTLE CONTROL ON STEERING GEAR

RUHER	32-A-52	A-5667	Staff with bushings for spark and throttle control segment (SL) (5-P) (7-P)	51	20786	1.50
TUHER	32-A-2	A-5668	Staff with bushings for spark and throttle control segment (R)	51	20787	1.50

†Classify on order as electrical material.

Code Word	Sec.-Bin	Serial	Part Name	Type	Symbol	Price
BAHES		A-5669	Staff with bushings for spark control segment (C)	51	20788	$ 1.50
CAHES	12-A-32	A-5670	Staff with bushings for spark and throttle control segment (SD) (L) (BL)	51	20789	1.50
FAHES	32-A-68	A-5671	Staff with bushings for spark and throttle control segment (C)	53	40661	1.50
LAHES	32-A-4	A-5672	Staff with bushings for spark and throttle control segment except (C) on 53, (L) (BL) (I) (LD) (B) (M) (A) on 55, (OC) (V-1) (V-2) (SB-1) (SB-2) (S) on 57, (B-2) on 57	53-5-7	21743	1.50
RAHES	32-A-54	A-5673	Staff with bushings for spark and throttle control segment (I) (L) (B) (BL) (LD) (M) (A) on 55, (M) (A) and (CC) except (V-1) (V-2) (SB-1) (SB-2) on 57, (B-2) on 57	55-7	23553	1.50
ZAHES	9-E-2	A-5674	Bushing in staff for spark and throttle control segment	51-3-5-7	H-827	.15
BEHES	31-D-72	A-5675	Segment arm on staff for spark and throttle control	51-3-5-7	16422	2.00
CEHES	10-L-10	A-5676	Taper pin, segment arm on staff	51-3-5-7	11274	.05
DEHES	31-B-121	A-5677	Controller segment for spark and throttle levers	51-3-5-7	39084	1.75
FEHES	9-F-23	A-5678	Screw, controller segment to arm	51-3-5-7	H-870	.08
KEHES	32-A-23	A-5679	Throttle tube with bushings (SL) (5-P) (7-P)	51	20790	1.70
LEHES	32-A-98	A-5680	Throttle tube with bushings (R)	51	20791	2.50
MEHES	32-A-78	A-5681	Throttle tube with bushings (C)	51	20792	1.85
PEHES	32-A-21	A-5682	Throttle tube with bushings (SD) (L) (BL)	51	20793	1.70
REHES	32-A-67	A-5683	Throttle tube with bushings (C)	53	40662	1.85
SEHES	32-A-50	A-5684	Throttle tube with bushings, all except (C) on 53, (T)(P) (R) (CR) (V) (C) (CV) (S) on 55, (OC) (V-1) (V-2) (SB-1) (SB-2) (S) on 57, (B-2) on 57	53-5-7	21742	1.70
BIHES	32-A-11	A-5685	Throttle tube with bushings (I) (L) (LD) (B) (BL) (M) (A) on 55, (M) (A) and (CC) except (V-1) (V-2) (SB-1) (SB-2) on 57, (B-2) on 57	55-7	23552	1.70
FIHES	9-E-2	A-5686	Bushing for throttle tube	51-3-5-7	7580	.05
KIHES	31-B-3	A-5687	Lever on steering gear for throttle control	51-3-5-7	16423	1.00
LIHES	31-C-53	A-5688	Lever on steering gear for spark control rod	51	16424	.75
MIHES	31-C-27	A-5689	Lever on steering gear for spark control tube	53-5	31015	1.20
PIHES	31-D-63	A-5690	Lever on steering gear for spark control tube	57	37467	1.00
RIHES	9-T-9	A-5691	Clamp screw for throttle lever	51-3-5-7	12816	.05
SIHES	9-B-4	A-5692	Taper pin, spark lever on rod	51	15014	.05
TIHES	9-Q-8	A-5693	Pin anchoring spark lever	57	34603	.05
ZIHES	31-B-77	A-5694	Plunger for spark and throttle lever	51-3-5-7	7570	.20
BOHES	9-E-5	A-5695	Spring for plunger	51-3-5-7	6161	.05
COHES	32-A-65	A-5696	Spark control rod (SL) (5-P) (7-P)	51	18036	.50
DOHES	34-A-15	A-5697	Spark control rod (R)	51	30174	.50
FOHES	12-A-26	A-5698	Spark control rod (SD) (L) (BL)	51	30073	.50
KOHES	32-A-31	A-5699	Spark control rod (C)	51	30145	.50
LOHES	32-A-49	A-5700	Spark control tube (C)	53	32054	1.60
MOHES	32-A-77	A-5701	Spark control tube, all except (C) on 53, used on (T) (P) (R) (CR) (V) (C) (CV) (S) on 55	53-5	30893	1.60
ROHES	12-A-72	A-5702	Spark control tube (LD) (L) (I) (B) (M) (A)	55	32892	1.70
SOHES	32-A-106	A-5703	Spark control tube (OC) (V-1) (V-2) (SB-1) (SB-2) (S) (one end notched)	57	37442	1.15
TOHES	32-A-57	A-5704	Spark control tube (M) (A) and (CC) except (SB-1) (SB-2) (V-1) (V-2) (one end notched)	57	37443	1.15
XOHES	32-A-107	A-5704B	Spark control tube (both ends notched) (OC) (SB-1) (SB-2) (B.2) (V-1) (V-2)	57	38511	1.25
POHES	32-A-44	A-5704C	Spark control tube (both ends notched) (M) (A) and all (CC) except (SB-1) (SB-2) (B-2) (V-1) (V-2)	57	38512	1.25
ZOHES	10-M-15	A-5705	Collar on upper end of spark control tube (with plain hole)	57	37447	.10
XUHES	9-P-8	A-5705B	Collar on upper end of spark control tube (notched hole)	57	38510	.15
BUHES	10-M-11	A-5706	Pin anchoring collar on tube	57	32793	.05
CUHES	31-C-159	A-5707	Stud for spark and throttle control gears	51-3-5-7	19071	.25
DUHES	9-B-4	A-5708	Taper pin	51-3-5-7	15014	.05
FUHES	23-E-6	A-5709	Gear for spark control, LEFT steering	51-3-5-7	37310	1.15
KUHES	23-E-11	A-5710	Gear for throttle control, LEFT steering	51-3-5-7	37308	.95
LUHES	23-C-143	A-5711	Gear for spark control, RIGHT steering	51-3-5-7	37302	1.15
MUHES	23-C-139	A-5712	Gear for throttle control, RIGHT steering	51-3-5-7	37309	.95
PUHES	23-C-9	A-5713	Pinion on lower end of throttle control tube	51-3-5-7	37306	.70
RUHES		A-5714	Pinion on lower end of spark control tube	51-3-5-7	37307	.80
SUHES	31-D-33	A-5715	Clamp screw for spark and throttle pinions	51-3-5-7	13584	.05
TUHES	15-B-45	A-5716	Lock washer	51-3-5-7	11314	.05
ZUHES	10-P-2	A-5717	Thrust washer for throttle control pinion	57	38201	.05

HOODS. HOOD PANELS AND HINGES

Code Word	Sec.-Bin	Serial	Part Name	Type	Symbol	Price
			NOTE: Specify engine number when ordering hoods or hood parts that we may supply parts painted the proper color. The type 55 hood complete is being supplied for use on type 53 cars.			
SAHET		*A-5721	Hood complete (OC) (CC)	51	40894	$50.00
ZAHET	302-A-42	*A-5723	Hood complete (OC) (CC)	53-5	22133	50.00
FEHET		*A-5727	Hood complete (OC) (CC)	57	24421	50.00
LEHET	302-B-11	*A-5732	Top panel, RIGHT, with one-half of each hinge	51	20403	10.00
MEHET		*A-5733	Top panel, LEFT, with one-half of each hinge	51	20404	10.00
PEHET	302-A-13	*A-5734	Side panel, RIGHT, with hood handles, hooks and one-half of side hinge	51	20872	11.00
SEHET	302-B-13	*A-5735	Side panel, LEFT, with hood handles, hooks and one-half of side hinge	51	20873	11.00
			NOTE:—The following panels are for hoods having bead around outer edge.			
DIHET	302-A-7	*A-5736	Top panel, RIGHT, with one-half of each hinge	53	21736	10.00
FIHET	302-B-11	*A-5737	Top panel, LEFT, with one-half of each hinge	53	21737	10.00
KIHET		*A-5738	Side panel, RIGHT, with hood handle, hooks and one-half of side hinge	53	21842	11.00
MIHET		*A-5739	Side panel, LEFT, with hood handle, hooks and one-half of side hinge	53	21843	11.00
			NOTE:—The following panels are for hoods without bead.			
TIHET	302-A-11	*A-5740	Top panel, RIGHT, with one-half of each hinge	53-5	22126	10.00
ZIHET	302-B-11	*A-5741	Top panel, LEFT, with one-half of each hinge	53-5	22127	10.00
BOHET	302-A-13	*A-5742	Side panel, RIGHT, with hood handle, hooks and one-half of side hinge	53-5	22131	11.00
DOHET	302-B-13	*A-5743	Side panel, LEFT, with hood handle, hooks and one-half of side hinge	53-5	22132	11.00
			NOTE:—The following panels are for hoods having a bead around outer edge and nine louvres in each side panel.			
SOHET	302-A-7	*A-5744	Top panel, RIGHT, with one half of each hinge	57	41740	11.50
TOHET	302-B-11	*A-5745	Top panel, LEFT, with one-half of each hinge	57	41741	11.50
ZOHET	302-A-13	*A-5746	Side panel, RIGHT, with hood handle, hooks and one half of side hinge	57	24272	13.00
CUHET	302-B-13	*A-5747	Side panel, LEFT, with hood handle, hooks and one-half of side hinge	57	24273	13.00
			NOTE:—The following panels are for hoods having nine or twenty-five louvres in each side panel but without bead.			
PUHET	302-A-9	*A-5748	Top panel, RIGHT, with one half of each hinge	57	41742	15.00
RUHET	302-B-9	*A-5749	Top panel, LEFT, with one half of each hinge	57	41743	15.00
SUHET	302-A-13	*A-5750	Side panel, RIGHT, with hood handle, hooks and one-half of side hinge (9 louvres)	57	41738	13.00

*Classify on order as crated material.

Code Word	Sec.-Bin	Serial	Part Name	Type	Symbol	Price
BAHEX	302-B-13	*A-5751	Side panel, LEFT, with hood handle, hooks and one-half of side hinge (9 louvres)	57	41739	$13.00
DAHEX	302-A-13	*A-5752	Side panel, RIGHT, with hood handle, hooks and one-half of side hinge (25 louvres)	57	41736	13.00
KAHEX	302-B-13	*A-5753	Side panel, LEFT, with hood handle, hooks and one-half of side hinge (25 louvres)	57	41737	13.00
MAHEX	10-R-1	A-5754	Leather protector on corner of hood, RIGHT	55	34615	.10
PAHEX	9-G-4	A-5755	Leather protector on corner of hood, LEFT	55	34616	.10
TAHEX	36-A-38	A-5758	Top hinge for hood, RIGHT	53-5	31191	1.25
ZAHEX	36-A-27	A-5759	Top hinge for hood, LEFT	53-5	31192	1.25
BEHEX	35-F-14	A-5760	Top hinge for hood (2 used)	57	37635	1.60
CEHEX		A-5761	Side hinge for top panel	51	19807	1.20
DEHEX		A-5762	Side hinge for side panel	51	19808	1.20
FEHEX		A-5763	Side hinge for hood (4 used)	53-5	31925	1.25
KEHEX	38-A-1	A-5764	Side hinge for hood (4 used) on hood with 9 louvres	57	37637	1.20
LEHEX	38-E-10	A-5765	Side hinge for hood (4 used) on hood with 25 louvres	57	38215	1.20
MEHEX		A-5766	Rod for top hinge	51	18422	.30
PEHEX	36-F-13	A-5767	Rod for top hinge	53-5	31115	.30
REHEX	35-F-15	A-5768	Rod for top hinge	57	37636	.35
SEHEX		A-5769	Rod for either side hinge	51	18421	.20
TEHEX		A-5770	Rod for either side hinge	53-5	31931	.20
ZEHEX	36-A-31	A-5771	Rod for either side hinge	57	37638	.15
BIHEX	9-J-14	A-5772	Rivet 1/4 in. (countersunk head), side hinge to top panel	57	17710	doz. .10
DIHEX	10-K-6	A-5773	Rivet 5/16 in. (countersunk head), hinge to side panel	51-3-5-7	17712	doz. .10
KIHEX	9-D-21	A-5774	Rivet 5/16 in. (round head), side hinge to top panel (8 used), late type hood	51-3-5-7	17717	doz. .10
MIHEX	10-P-8	A-5775	Rivet 5/16 in. (flat head), top hinge to panel (8 used)	51-3-5-7	17715	doz. .10
RIHEX	9-D-15	A-5776	Rivet 1/4 in. (flat head), top hinge to panel (26 used)	51-3-5-7	17713	doz. .10
TIHEX	38-D-79	A-5777	Handle for hood	51-3-5-7	18420	.50
ZIHEX	9-H-20	A-5778	Reinforcement for hood handle	51-3-5-7	18419	.05
BOHEX	35-B-37	A-5779	Hook on hood for hood pull	51	18868	.65
COHEX	36-D-65	A-5780	Hook on hood for hood pull	53-5-7	30981	.65
DOHEX	10-K-6	A-5781	Rivet, hook and handle to hood	51-3-5-7	8891	.05

HOOD PULL

LOHEX	35-D-74	A-5785	Hood pull complete, front	51	40429	2.30
MOHEX	36-D-58	A-5786	Hood pull complete, rear	51	40430	2.30
POHEX	37-D-58	A-5787	Hood pull handle, complete	51	20462	2.00
ROHEX	37-F-7	A-5788	Hood pull handle, complete	53-5-7	21330	2.30
SOHEX	38-C-69	A-5789	Screw, eye bolt in flange front and rear	51	11598	.05
ZOHEX	10-D-8	A-5790	Lock washer	51	11313	.05
BUHEX		A-5791	Dowel for hood pull	51	19288	.05
CUHEX	38-C-79	A-5792	Flange for hood pull, front	51	18867	.60
DUHEX	36-C-39	A-5793	Flange for hood pull, front	53-5-7	30979	.35
FUHEX	37-D-12	A-5794	Flange for hood pull, rear	51	18866	.70
KUHEX	37-B-124	A-5795	Flange for hood pull, rear	53	30980	.35
LUHEX	38-B-63	A-5796	Flange for hood pull, rear	55-7	32429	.35
MUHEX	9-B-10	A-5797	Screw, flange to side bar, front and rear	51	10332	.05
PUHEX	10-Q-14	A-5798	Screw, hood pull to flange	53-5-7	55818	.05
RUHEX	10-D-7	A-5799	Lock washer	51	11335	.05
SUHEX	15-B-45	A-5800	Lock washer	53-5-7	11314	.05
TUHEX	38-B-6	A-5801	Spacer for screw for flange, front and rear	51	18865	.10
ZUHEX	13-B-16	A-5802	Lock washer on lower end of screw, used on front only	51	11315	.05

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Code Word	Sec.-Bin	Serial	Part Name	Type	Symbol	Price
BAHEZ	38-D-12	A-5803	Nut on lower end of screw for front flange	51	10892	$ .05
CAHEZ	35-B-62	A-5804	Block on lower end of screw attaching rear flange	51	30024	.15
FAHEZ	9-O-19	A-5808	Stop for hood, front	51	41902	.10
KAHEZ	35-D-44	A-5809	Stop for hood, rear	51	41903	.10
LAHEZ	9-O-22	A-5810	Pad for hood stop, front and rear	51	18861	.05
MAHEZ	9-O-20	A-5811	Rivet for hood stop	51	17696	doz. .10

HOOD SHELVES

NOTE:—The first hole in the front end of the first type 51 hood shelf was $\frac{3}{16}$" from the inside edge to center of hole while on the second type it was $\frac{13}{16}$".

BEHEZ	38-A-24	A-5812	Hood shelf, RIGHT, less head lamp wire, 1st type	51	20492	2.25
CEHEZ	38-A-29	A-5813	Hood shelf, RIGHT, less head lamp wire, 2nd type	51	21157	2.25
DEHEZ	14-A-18	A-5814	Hood shelf, RIGHT, less head lamp wire	53-5-7	22181	2.25
FEHEZ	38-A-21	A-5815	Hood shelf, LEFT, less head lamp wire, 1st type	51	20493	2.25
KEHEZ	38-A-18	A-5816	Hood shelf, LEFT, less head lamp wire, 2nd type	51	21158	2.25
LEHEZ	14-A-27	A-5817	Hood shelf, LEFT, less head lamp wire	53-5-7	22182	2.25
MEHEZ	38-D-26	A-5818	Screw, hood shelf to frame	51-3	59287	.05
PEHEZ	37-C-17	A-5819	Screw, hood shelf to frame	55-7	32451	.10
REHEZ	38-D-12	A-5820	Nut	51	10892	.05
SEHEZ	13-B-16	A-5821	Lock washer	51-5-7	11315	.05
TEHEZ	35-B-157	A-5822	Conical washer on screw for hood shelf	53	11514	.05
ZEHEZ	36-B-17	A-5823	Spacer for hood shelf, center	51	30726	.08
BIHEZ	36-B-101	A-5824	Round spacer for hood shelf	51-3	18864	.08
CIHEZ	37-B-76	A-5825	Spacer for hood shelf	55-7	32450	.08
DIHEZ	16-B-30	A-5826	Anti-squeak under hood shelf	51	30418	.15
FIHEZ	16-D-57	A-5827	Anti-squeak between hood shelf and frame	53	31369	.20
KIHEZ	16-C-32	A-5828	Anti-squeak between splash shield and hood shelf	55-7	34476	.20
LIHEZ	16-B-53	A-5829	Anti-squeak between side bar, dust shield and hood shelf	55-7	39477	.08
MIHEZ	17-C-151	A-5830	Anti-squeak between hood shelf and front fender apron	55-7	34395	.15
PIHEZ	17-G-5	A-5831	Lace on cowl for hood, all except (C) on 55	51-3-5	30703	.20
RIHEZ	16-E-23	A-5832	Lace on cowl for hood (C)	55	34383	.40
SIHEZ	17-G-8	A-5833	Anti-squeak or webbing on cowl for hood, all except (P-2) (R-2)	57	37441	.25
ZIHEZ		A-5834	Anti-squeak or webbing on cowl for hood (P-2) (R-2)	57	37785	.40
BOHEZ	34-D-69	A-5835	Rivet, lace or anti-squeak to cowl (CC)	51-3-5-7	17706	doz. .10
COHEZ	35-C-1	A-5836	Rivet, anti-squeak to splash shield	55-7	55796	doz. .10
DOHEZ	9-L-22	A-5837	Rivet, anti-squeak to dust shield	57	17755	.05
FOHEZ	9-M-23	A-5838	Cap for rivet	57	17756	.05
KOHEZ	9-B-1	A-5839	Clip for end of lace (OC)	51-3-5	32272	.05
LOHEZ	10-P-1	A-5840	Clip for anti-squeak on cowl	57	38112	.05
MOHEZ	9-H-18	A-5841	Screw, clip and anti-squeak to cowl (OC)	57	11987	.05
POHEZ	9-O-3	A-5842	Bracket on cowl for hood hinge rod (OC)	51	18379	.15
ROHEZ	38-B-69	A-5843	Bracket on cowl for hood hinge rod (CC)	51	18213	.25
SOHEZ	10-A-13	A-5844	Bracket on cowl for hood hinge rod (OC) on 53, (OC) (S) (M) (A) (CV) on 55	53-5	31125	.25
ZOHEZ		A-5845	Bracket on cowl for hood hinge rod, (CC) except (C) (CV)	53-5	31332	.25
BUHEZ		A-5846	Bracket on cowl for hood hinge rod (C)	53-5	32180	.30
CUHEZ	9-O-17	A-5847	Bracket on cowl for hood hinge rod	57	37207	.50
DUHEZ	10-Q-17	A-5848	Rivet, $\frac{3}{8}$" round head for bracket	57	17605	.05
FUHEZ		A-5849	Lock for hood (special)	51	19207	4.00

FRONT FENDERS

SUHEZ		*A-5853	Front fender, RIGHT (STANDARD TREAD)	51	40841	36.00
TUHEZ		*A-5854	Front fender, LEFT (STANDARD TREAD)	51	40842	36.00
ZUHEZ		*A-5855	Front fender, RIGHT (WIDE TREAD)	51	41853	36.00

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Code Word	Sec.-Bin	Serial	Part Name	Type	Symbol	Price
BALEK		*A-5856	Front fender, LEFT (WIDE TREAD)	51	41854	$36.00
CALEK		*A-5857	Front fender, RIGHT (STANDARD TREAD)	53	21950	36.00
DALEK		*A-5858	Front fender, LEFT (STANDARD TREAD)	53	21951	36.00
FALEK		*A-5859	Front fender, RIGHT (WIDE TREAD)	53	22048	36.00
KALEK		*A-5860	Front fender, LEFT (WIDE TREAD)	53	22049	36.00
LALEK		*A-5861	Front fender, RIGHT (STANDARD TREAD)	55	22177	36.00
MALEK		*A-5862	Front fender, LEFT (STANDARD TREAD)	55	22178	36.00
PALEK		*A-5863	Front fender, RIGHT (WIDE TREAD)	55	22445	38.00
RALEK		*A-5864	Front fender, LEFT (WIDE TREAD)	55	22446	38.00
SALEK		*A-5865	Front fender, RIGHT	57	23871	36.00
TALEK		*A-5866	Front fender, LEFT	57	23872	36.00

REAR FENDERS

ZALEK		*A-5870	Rear fender, RIGHT (SL) (5P) (STANDARD TREAD)	51	40892	20.00
BELEK		*A-5871	Rear fender, LEFT (SL) (5P) (STANDARD TREAD)	51	40893	20.00
CELEK		*A-5872	Rear fender, RIGHT (7P) (STANDARD TREAD)	51	40880	20.00
DELEK		*A-5873	Rear fender, LEFT (7P) (STANDARD TREAD)	51	40881	20.00
FELEK		*A-5874	Rear fender, RIGHT (R) STANDARD TREAD)	51	41204	36.00
KELEK		*A-5875	Rear fender, LEFT (R) (STANDARD TREAD)	51	41205	36.00
LELEK		*A-5876	Rear fender, RIGHT (C) (STANDARD TREAD)	51	40816	35.00
MELEK		*A-5877	Rear fender, LEFT (C) (STANDARD TREAD)	51	40817	35.00
PELEK		*A-5878	Rear fender, RIGHT (SD) (STANDARD TREAD)	51	40901	28.50
RELEK		*A-5879	Rear fender, LEFT (SD) (STANDARD TREAD)	51	40902	28.50
SELEK		*A-5880	Rear fender, RIGHT (L) (BL) (STANDARD TREAD)	51-3	21940	20.00
TELEK		*A-5881	Rear fender, LEFT (L) (BL) (STANDARD TREAD)	51-3	21941	20.00
ZELEK		*A-5882	Rear fender, RIGHT (SL) (5P) (WIDE TREAD)	51	41148	20.00
BILEK		*A-5883	Rear fender, LEFT (SL) (5P) (WIDE TREAD)	51	41149	20.00
CILEK		*A-5884	Rear fender, RIGHT (7P) (WIDE TREAD)	51	41056	20.00
DILEK		*A-5885	Rear fender, LEFT (7P) (WIDE TREAD)	51	41057	20.00
FILEK		*A-5886	Rear fender, RIGHT (R) (WIDE TREAD)	51	30153	20.00
KILEK		*A-5887	Rear fender, LEFT (R) (WIDE TREAD)	51	30154	20.00
LILEK		*A-5888	Rear fender, RIGHT (C) (WIDE TREAD)	51	30626	20.00
MILEK		*A-5889	Rear fender, LEFT (C) (WIDE TREAD)	51	30627	20.00
PILEK		*A-5890	Rear fender, RIGHT (SD) (WIDE TREAD)	51	30687	20.00
RILEK		*A-5891	Rear fender, LEFT (SD) (WIDE TREAD)	51	30688	20.00
SILEK		*A-5892	Rear fender, RIGHT (L) (BL) (WIDE TREAD)	51-3	30696	20.00
TILEK		*A-5893	Rear fender, LEFT (L) (BL) (WIDE TREAD)	51-3	30697	20.00
ZILEK		*A-5894	Rear fender, RIGHT (SL) (STANDARD TREAD)	53	21934	20.00
BOLEK		*A-5895	Rear fender, LEFT (SL) (STANDARD TREAD)	53	21935	20.00
COLEK		*A-5896	Rear fender, RIGHT (7P) (STANDARD TREAD)	53	21936	20.00
DOLEK		*A-5897	Rear fender, LEFT (7P) (STANDARD TREAD)	53	21937	20.00
FOLEK		*A-5898	Rear fender, RIGHT (MT) (STANDARD TREAD)	53	22022	20.00
KOLEK		*A-5899	Rear fender, LEFT (MT) (STANDARD TREAD)	53	22023	20.00
LOLEK		*A-5900	Rear fender, RIGHT (R) (STANDARD TREAD)	53	21938	35.00
MOLEK		*A-5901	Rear fender, LEFT (R) (STANDARD TREAD)	53	21939	35.00
POLEK		*A-5902	Rear fender, RIGHT (V) (STANDARD TREAD)	53	21944	33.00
ROLEK		*A-5903	Rear fender, LEFT (V) (STANDARD TREAD)	53	21945	33.00
SOLEK		*A-5904	Rear fender, RIGHT (C) (STANDARD TREAD)	53	21987	20.00
TOLEK		*A-5905	Rear fender, LEFT (C) (STANDARD TREAD)	53	21988	20.00
ZOLEK		*A-5906	Rear fender, RIGHT (B) (STANDARD TREAD)	53	21942	20.00
BULEK		*A-5907	Rear fender, LEFT (B) (STANDARD TREAD)	53	21943	20.00
CULEK		*A-5908	Rear fender, RIGHT (L) (BL) (STANDARD TREAD)	51-3	21940	20.00
DULEK		*A-5909	Rear fender, LEFT (L) (BL) (STANDARD TREAD)	51-3	21941	20.00
FULEK		*A-5910	Rear fender, RIGHT (SL) (WIDE TREAD)	53	22046	20.00
KULEK		*A-5911	Rear fender, LEFT (SL) (WIDE TREAD)	53	22047	20.00
LULEK		*A-5912	Rear fender, RIGHT (7P) (WIDE TREAD)	53	22044	20.00
MULEK		*A-5913	Rear fender, LEFT (7P) (WIDE TREAD)	53	22045	20.00
PULEK		*A-5914	Rear fender, RIGHT (R) (WIDE TREAD)	53	22094	20.00
RULEK		*A-5915	Rear fender, LEFT (R) WIDE TREAD)	53	22095	20.00
SULEK		*A-5916	Rear fender, RIGHT (V) (WIDE TREAD)	53	31719	20.00
TULEK		*A-5917	Rear fender, LEFT (V) (WIDE TREAD)	53	31720	20.00
ZULEK		*A-5918	Rear fender, RIGHT (B) (WIDE TREAD)	53	31567	20.00

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Code Word	Sec.-Bin	Serial	Part Name	Type	Symbol	Price
BALEL		*A-5919	Rear fender, LEFT (B) (WIDE TREAD)	53	31568	$20.00
CALEL		*A-5920	Rear fender, RIGHT (L) (BL) (WIDE TREAD)	51-3	30696	20.00
DALEL		*A-5921	Rear fender, LEFT (L) (BL) (WIDE TREAD)	51-3	30697	20.00
FALEL		*A-5922	Rear fender, RIGHT (T) (CV) (S) (M) (A) (STANDARD TREAD)	55	22179	25.00
LALEL		*A-5923	Rear fender, LEFT (T) (CV) (S) (M) (A) (STANDARD TREAD)	55	22180	25.00
PALEL		*A-5924	Rear fender, RIGHT (P) (STANDARD TREAD)	55	22429	25.00
RALEL		*A-5925	Rear fender, LEFT (P) (STANDARD TREAD)	55	22430	25.00
SALEL		*A-5926	Rear fender, RIGHT (R) (V) (STANDARD TREAD	55	22432	28.00
TALEL		*A-5927	Rear fender, LEFT (R) (V) (STANDARD TREAD)	55	22434	28.00
ZALEL		*A-5928	Rear fender, RIGHT (CR) (STANDARD TREAD)	55	23574	28.00
BELEL		*A-5929	Rear fender, LEFT (CR) (STANDARD TREAD)	55	23575	28.00
CELEL		*A-5930	Rear fender, RIGHT (B) (STANDARD TREAD)	55	22435	25.00
DELEL		*A-5931	Rear fender, LEFT (B) (STANDARD TREAD)	55	22436	25.00
FELEL		*A-5932	Rear fender, RIGHT (C) (STANDARD TREAD)	55	22967	25.00
KELEL		*A-5933	Rear fender, LEFT (C) (STANDARD TREAD)	55	22968	25.00
LELEL		*A-5934	Rear fender, RIGHT (L) (I) (LD) (STANDARD TREAD)	55	22437	25.00
PELEL		*A-5935	Rear fender, LEFT (L) (I) (LD) (STANDARD TREAD)	55	22438	25.00
RELEL		*A-5936	Rear fender, RIGHT (MT) (STANDARD TREAD)	55	23344	25.00
SELEL		*A-5937	Rear fender, LEFT (MT) (STANDARD TREAD)	55	23345	25.00
TELEL		*A-5938	Rear fender, RIGHT (T) (M) (A) WIDE TREAD)	55	22439	25.00
ZELEL		*A-5939	Rear fender, LEFT (T) (M) (A) (WIDE TREAD)	55	22440	25.00
BILEL		*A-5940	Rear fender, RIGHT (P) (WIDE TREAD)	55	22441	30.00
CILEL		*A-5941	Rear fender, LEFT (P) (WIDE TREAD)	55	22442	30.00
DILEL		*A-5942	Rear fender, RIGHT (R) (V) (WIDE TREAD)	55	22443	33.00
FILEL		*A-5943	Rear fender, LEFT(R) (V) (WIDE TREAD)	55	22444	33.00
KILEL		*A-5944	Rear fender, RIGHT (7-P) (S) (M) (A)	57	23863	25.00
LILEL		*A-5945	Rear fender, LEFT (7-P) (S) (M) (A)	57	23864	25.00
MILEL		*A-5946	Rear fender, RIGHT (P-1)	57	23875	25.00
PILEL		*A-5947	Rear fender, LEFT (P-1)	57	23876	25.00
RILEL		*A-5948	Rear fender, RIGHT (P-2)	57	24425	25.00
SILEL		*A-5949	Rear fender, LEFT (P-2)	57	24426	25.00
TILEL		*A-5950	Rear fender, RIGHT (R-1) (R-2) (V-1), LEFT steering.	57	23996	25.00
ZILEL		*A-5951	Rear fender, LEFT (R-1) (R-2) (V-1), LEFT steering	57	23997	25.00
BOLEL		*A-5952	Rear fender, RIGHT (R-1) (R-2) (V-1), RIGHT steering.	57	24414	25.00
COLEL		*A-5953	Rear fender, LEFT (R-1) (R-2) (V-1), RIGHT steering	57	25971	25.00
DOLEL		*A-5954	Rear fender, RIGHT (V-2)	57	25354	25.00
FOLEL		*A-5955	Rear fender, LEFT (V-2)	57	25355	25.00
KOLEL		*A-5956	Rear fender, RIGHT (B-1)	57	23879	25.00
LOLEL		*A-5957	Rear fender, LEFT (B-1)	57	23880	25.00
MOLEL		*A-5958	Rear fender, RIGHT (B-2)	57	25362	25.00
POLEL		*A-5959	Rear fender, LEFT (B-2)	57	25363	25.00
ROLEL		*A-5960	Rear fender, RIGHT (L) (I) (LD) (7-B)	57	23883	25.00
SOLEL		*A-5961	Rear fender, LEFT (L) (I) (LD) (7-B)	57	23884	25.00
TOLEL		*A-5962	Rear fender, RIGHT (TL) (TLD)	57	24137	25.00
ZOLEL		*A-5963	Rear fender, LEFT (TL) (TLD)	57	24138	25.00
BULEL		*A-5964	Rear fender, RIGHT (SB-1)	57	24471	25.00
CULEL		*A-5965	Rear fender, LEFT (SB-1)	57	24472	25.00
DULEL		*A-5966	Rear fender, RIGHT (SB-2)	57	25360	25.00
FULEL		*A-5967	Rear fender, LEFT (SB-2)	57	25361	25.00
KULEL		*A-5968	Rear fender, RIGHT (hearse, ambulance and patrol)	57	24259	25.00
LULEL		*A-5969	Rear fender, LEFT (hearse, ambulance and patrol)	57	24260	25.00

CORNER SHIELDS FOR REAR FENDERS

MULEL	37-G-14	A-5973	Shield, RIGHT, between rear fender and body (SL) (5-P)	51	41932	2.00
PULEL	36-F-19	A-5974	Shield, LEFT, between rear fender and body (SL) (5-P)	51	41933	2.00
RULEL	35-G-27	A-5975	Shield, RIGHT, between rear fender and body (7-P)	51	41409	3.00
SULEL	35-D-75	A-5976	Shield, LEFT, between rear fender and body (7-P)	51	41410	3.00
TULEL	37-D-26	A-5977	Shield, RIGHT, between rear fender and body (SL)	53	42013	2.00
ZULEL	37-C-133	A-5978	Shield, LEFT, between rear fender and body (SL)	53	42014	2.00

*Classify on order as crated material.

Code Word	Sec.-Bin	Serial	Part Name	Type	Symbol	Price
BALEM	37-E-20	A-5979	Shield, RIGHT, between rear fender and body (7-P)	53	21610	$ 2.50
CALEM	37-F-9	A-5980	Shield, LEFT, between rear fender and body (7-P)	53	21611	2.50
DALEM	35-D-26	A-5981	Shield, RIGHT, between rear fender and body (MT)	53	41884	2.00
FALEM	35-C-91	A-5982	Shield, LEFT, between rear fender and body (MT)	53	41885	2.00
KALEM	37-C-67	A-5983	Shield, RIGHT, between rear fender and body (B)	53	42011	2.00
LALEM	37-C-89	A-5984	Shield, LEFT, between rear fender and body (B)	53	42012	2.00
MALEM	36-F-18	A-5985	Shield, RIGHT, between rear fender and body (T) (CV) (STANDARD TREAD)	55	46011	2.00
RALEM	35-C-29	A-5986	Shield, LEFT, between rear fender and body (T) (CV) (STANDARD TREAD)	55	46012	2.00
TALEM	35-E-6	A-5987	Shield, RIGHT, between rear fender and body (P) (STANDARD TREAD)	55	41893	3.50
BELEM	35-G-4	A-5988	Shield, LEFT, between rear fender and body (P) (STANDARD TREAD)	55	41894	3.50
DELEM	37-C-121	A-5989	Shield, RIGHT, between rear fender and body (B)	55	41890	3.00
FELEM	35-C-31	A-5990	Shield, LEFT, between rear fender and body (B)	55	41891	3.00
KELEM	37-E-14	A-5991	Shield, RIGHT, between rear fender and body (L) (I) (LD)	55	33303	2.00
MELEM	37-D-80	A-5992	Shield, LEFT, between rear fender and body (L) (I) (LD)	55	33304	2.00
PELEM	37-D-24	A-5993	Shield, RIGHT, between rear fender and body (T) (WIDE TREAD)	55	33958	2.00
SELEM	37-D-29	A-5994	Shield, LEFT, between rear fender and body (T) (WIDE TREAD)	55	33959	2.00
ZELEM		A-5995	Shield, RIGHT, between rear fender and body (P) (WIDE TREAD)	55	33960	2.00
CILEM		A-5996	Shield, LEFT, between rear fender, and body (P) (WIDE TREAD)	55	33961	2.00
FILEM	37-B-115	A-5997	Shield, RIGHT, between rear fender and body (7-P) (S) (M) (A)	57	24077	1.50
LILEM	37-F-18	A-5998	Shield, LEFT, between rear fender and body (7-P) (S) (M) (A)	57	24078	1.50
PILEM	37-F-14	A-5999	Shield, RIGHT, between rear fender and body (P-1)	57	24079	3.00
RILEM	37-F-12	A-6000	Shield, LEFT, between rear fender and body (P-1)	57	24080	3.00
SILEM	37-E-27	A-6001	Shield, RIGHT, between rear fender and body (P-2)	57	24391	3.50
TILEM	37-E-12	A-6002	Shield, LEFT, between rear fender and body (P-2)	57	24392	3.50
ZILEM	37-E-18	A-6003	Shield, RIGHT, between rear fender and body (B-1)	57	24083	3.40
BOLEM	37-F-13	A-6004	Shield, LEFT, between rear fender and body (B-1)	57	24084	3.40
COLEM	37-E-15	A-6005	Shield, RIGHT, between rear fender and body (B-2)	57	25366	2.50
DOLEM	36-D-67	A-6006	Shield, LEFT, between rear fender and body (B-2)	57	25367	2.50
FOLEM	36-C-95	A-6007	Shield, RIGHT, between rear fender and body (L) (I) (LD) (7-B)	57	24081	3.40
LOLEM	37-F-15	A-6008	Shield, LEFT, between rear fender and body (L) (I) (LD) (7-B)	57	24082	3.40
POLEM	37-D-81	A-6009	Shield, RIGHT, between rear fender and body (TL) (TLD)	57	24252	2.80
SOLEM	37-F-11	A-6010	Shield, LEFT, between rear fender and body (TL) (TLD)	57	24253	2.80
ZOLEM	37-E-17	A-6011	Shield, RIGHT, between rear fender and body (SB-1)	57	24479	2.50
BULEM	36-B-73	A-6012	Shield, LEFT, between rear fender and body (SB-1)	57	24480	2.50
CULEM	37-F-16	A-6013	Shield, RIGHT, between rear fender and body (SB-2)	57	25356	2.50
DULEM	37-C-71	A-6014	Shield, LEFT, between rear fender and body (SB-2)	57	25357	2.50
FULEM	36-G-21	A-6015	Shield, RIGHT, between rear fender and body (V-2)	57	25351	2.50
KULEM	37-F-19	A-6016	Shield, LEFT, between rear fender and body (V-2)	57	25349	2.50

ATTACHMENTS FOR FENDERS AND FENDER SHIELDS

LULEM	36-C-35	A-6020	Nut for fender iron	51-3-5-7	6773	.10
MULEM	32-F-23	A-6021	Lock washer	51-3-5-7	11310	.05
PULEM	38-C-65	A-6022	Screw (¾" long), front fender to dust shield	51	10598	.05
RULEM	38-D-24	A-6023	Screw (¾" long), front fender apron to dust shield	51	11615	.05
TULEM	38-B-8	A-6024	Nut	51	10889	.05
ZULEM	15-B-45	A-6025	Lock washer	51	11314	.05

Code Word	Sec.-Bin	Serial	Part Name	Type	Symbol	Price
BALEP	36-D-56	A-6026	Screw (¾" long), fender to running board	51-3	8733	$ .10
CALEP	36-D-21	A-6027	Lock washer	51	11316	.05
DALEP	38-D-54	A-6028	Screw (1" long), rear fender to body all except (V) on 53	51-3	11602	.10
FALEP	38-D-24	A-6029	Screw (¾" long), fender to dust shield and corner shield	53	11615	.05
LALEP	38-D-18	A-6030	Screw (1" long), front fender to dust shield	53	11874	.05
MALEP	10-T-22	A-6031	Flat washer	53	11433	.05
PALEP	36-C-5	A-6032	Nut	53	11653	.05
RALEP	15-B-45	A-6033	Lock washer	53	11314	.05
SALEP	9-M-15	A-6034	Flat washer (small) on screw, shield to body	53	11442	.05
TALEP	10-B-13	A-6035	Flat washer (large) on screw, shield to body	53	R-4-347	.05
ZALEP	36-D-56	A-6036	Screw (¾" long), rear fender to body (SL) (7-P) (B)	53	8733	.10
BELEP	33-C-117	A-6037	Screw (1¾" long), rear fender to body (2 used) (R)	53	10030	.10
CELEP	12-D-47	A-6038	Nut (2 used) (R)	53	10893	.05
DELEP	37-D-38	A-6040	Screw (⅝" long), front fender to dust shield	55	10795	.05
FELEP	9-M-15	A-6041	Flat washer	55	11442	.05
KELEP	36-C-5	A-6042	Nut	55	11653	.05
LELEP	15-B-45	A-6043	Lock washer	55	11314	.05
MELEP	36-B-143	A-6044	Screw (¾" long), front fender to running board	55-7	10022	.05
PELEP	36-D-56	A-6045	Screw (¾" long), rear fender to running board	55-7	8733	.10
RELEP	36-D-21	A-6046	Lock washer	55-7	11316	.05
SELEP	38-D-24	A-6047	Screw (¾" long), corner shield to fender, all except (C) (R) (R-1) (R-2) (CR) (V) (V-1)	55-7	11615	.05
ZELEP	36-C-5	A-6048	Nut	55-7	11653	.05
BILEP	9-M-16	A-6049	Flat washer	55-7	11478	.05
CILEP	15-B-45	A-6050	Lock washer	55-7	11314	.05
DILEP	36-D-56	A-6051	Screw (¾" long), corner shield to body (T) (P) (B) (CV) (L) (I) (LD) 55, all (CC) except (V-1) on 57	55-7	8733	.10
KILEP	10-B-13	A-6052	Flat washer, large	53-5-7	R-4-347	.05
LILEP	9-R-6	A-6053	Screw (¾" long), corner shield to body (7-P) (P-1) (P-2)	57	11981	.10
MILEP	10-B-14	A-6054	Flat washer	57	H-1675	.05
PILEP	13-B-16	A-6055	Lock washer	55-7	11315	.05
RILEP	38-D-54	A-6056	Screw (1" long), rear fender to body (R-1) (R-2) (V-1) (V-2) (B-1) (B-2) (TL) (TLD) (SB-1) (SB-2)	55-7	11602	.10
TILEP	36-D-56	A-6057	Screw (¾" long), rear fender to body (I) (L) (LD) (7-B)	57	8733	.10
ZILEP	36-D-21	A-6058	Lock washer	55-7	11316	.05
BOLEP	38-C-37	A-6059	Screw (1" long), rear fender to body (7-P) (P-1) (P-2)	57	11982	.10
COLEP	13-B-16	A-6060	Lock washer	57	11315	.05
DOLEP	38-C-85	A-6061	Special lock washer on screws, rear fender to body	55	34769	.05
KOLEP	36-B-2	A-6062	Special lock washer on screws, rear fender to body	57	11531	.05
MOLEP	10-G-4	A-6063	Screw (¾" long, flat head), fender to dust shield	55-7	10796	.05
ROLEP	38-D-24	A-6064	Screw (¾" long, fillister head), fender to dust shield	55-7	11615	.05
TOLEP	38-D-18	A-6065	Screw (1" long, fillister head), fender to dust shield	55-7	11874	.05
ZOLEP	36-C-5	A-6066	Nut	55-7	11653	.05
BULEP	15-B-45	A-6067	Lock washer	55-7	11314	.05
CULEP	9-M-15	A-6068	Flat washer	55-7	11442	.05

ANTI-SQUEAK FOR FENDERS, CORNER SHIELDS, DUST SHIELDS AND RUNNING BOARDS

LULEP	16-B-114	A-6073	Anti-squeak, fender to body (SL) (5-P) (7-P)	51	30416	.25
MULEP	9-T-10	A-6074	Anti-squeak, corner shield to body (7-P)	51	30415	.15
PULEP		A-6075	Anti-squeak, rear fender to corner shield (7-P)	51	30414	.05
RULEP	16-B-155	A-6076	Anti-squeak, rear fender to dust shield (SL) (5-P) (7-P) on 51, all except (R) (V) on 53	51-3	30417	.05
SULEP	16-B-47	A-6077	Anti-squeak, front fender to dust shield	53	31404	.10
ZULEP	16-D-69	A-6079	Anti-squeak, rear fender to body (7-P)	53	31854	.20

Code Word	Sec.-Bin	Serial	Part Name	Type	Symbol	Price
FALER		A-6083	Anti-squeak, corner shield to body (7-P)	53	31405	$ .05
KALER	17-C-151	A-6084	Anti-squeak, front fender to hood shelf	55-7	34395	.15
LALER	16-D-6	A-6085	Anti-squeak, front fender to frame	55-7	32855	.35
MALER	17-C-21	A-6086	Anti-squeak, front fender to dust shield	55-7	39586	.15
PALER	16-B-113	A-6087	Anti-squeak, rear fender to body (T) (CV) (P)	55	33556	.25
SALER	17-D-64	A-6089	Anti-squeak, rear fender to body (R) (R-1) (R-2) (V) (V-1) (CR)	55-7	33555	.25
ZALER	16-B-96	A-6090	Anti-squeak, rear fender to body (B)	55	33554	.15
BELER		A-6091	Anti-squeak, rear fender to body (L) (I) (LD)	55	33624	.15
CELER	16-C-162	A-6092	Anti-squeak, corner shield to body (T) (CV)	55	33553	.08
DELER	16-C-28	A-6093	Anti-squeak, corner shield to body (P)	55	33924	.08
KELER		A-6095	Anti-squeak, corner shield to body (L) (I) (LD)	55	33762	.05
LELER	16-B-72	A-6096	Anti-squeak, rear fender to corner shield (T) (CV)	55	34399	.08
MELER		A-6097	Anti-squeak, rear fender to corner shield (P)	55	34398	.05
PELER		A-6098	Anti-squeak, rear fender to corner shield (B)	55	34397	.05
RELER		A-6099	Anti-squeak, rear fender to corner shield (L) (I) (LD)	55	34396	.05
SELER	17-D-81	A-6100	Anti-squeak, rear fender to dust shield all except (R) (R-1) (R-2) (CR) (V) (V-1) (C) (SB-2)	55-7	33552	.08
TELER	16-C-134	A-6101	Anti-squeak, rear fender to dust shield (R) (R-1) (R-2) (CR) (V) (V-1) (C) (SB-2)	55-7	32839	.10
ZELER	16-F-22	A-6102	Anti-squeak, rear fender to body (7-P)	57	37713	.25
BILER		A-6103	Anti-squeak, rear fender to body (P-1)	57	37725	.20
CILER	16-B-43	A-6104	Anti-squeak, rear fender to body (P-2)	57	38179	.20
DILER	16-C-47	A-6105	Anti-squeak, rear fender to body (B-1)	57	37809	.25
FILER		A-6106	Anti-squeak, rear fender to body (B-2)	57	38710	.30
KILER	17-D-55	A-6107	Anti-squeak, rear fender to body (L) (LD) (I) (7-B)	57	37901	.35
LILER		A-6108	Anti-squeak, rear fender to body (V-2)	57	38718	.40
MILER		A-6109	Anti-squeak, rear fender to body (SB-1)	57	38289	.30
PILER	17-D-17	A-6110	Anti-squeak, rear fender to body (SB-2)	57	38724	.30
SILER	9-I-3	A-6112	Anti-squeak, corner shield to body (7-P)	57	37714	.08
TILER		A-6113	Anti-squeak, corner shield to body (P-1)	57	37726	.05
ZILER		A-6114	Anti-squeak, corner shield to body (P-2)	57	38180	.10
BOLER		A-6115	Anti-squeak, corner shield to body, RIGHT, (B-1)	57	38009	.10
COLER		A-6116	Anti-squeak, corner shield to body, LEFT, (B-1)	57	38010	.10
DOLER		A-6117	Anti-squeak, corner shield to body (B-2)	57	38728	.10
FOLER		A-6118	Anti-squeak, corner shield to body (L) (I) (LD) (7-B)	57	38011	.15
KOLER		A-6119	Anti-squeak, corner shield to body (TL) (TLD)	57	68428	.05
LOLER		A-6120	Anti-squeak, corner shield to body (SB-1)	57	38297	.10
MOLER		A-6121	Anti-squeak, corner shield to body (SB-2)	57	38719	.05
POLER		A-6122	Anti-squeak, corner shield to body (V-2)	57	38720	.08
ROLER	9-A-8	A-6123	Anti-squeak, rear fender to corner shield (7-P)	57	37715	.20
SOLER	9-E-4	A-6124	Anti-squeak, rear fender to corner shield (P-1)	57	37724	.05
TOLER	16-C-51	A-6125	Anti-squeak, rear fender to corner shield (P-2)	57	38178	.08
ZOLER	16-C-114	A-6126	Anti-squeak, rear fender to corner shield (B-1) (V-2)	57	38012	.10
BULER		A-6127	Anti-squeak, rear fender to corner shield (B-2)	57	38711	.05
CULER	16-C-81	A-6128	Anti-squeak, rear fender to corner shield (L) (I) (LD) (7-B)	57	38013	.10
DULER		A-6129	Anti-squeak, rear fender to corner shield (SB-1)	57	38298	.05
FULER		A-6130	Anti-squeak, rear fender to corner shield (SB-2)	57	38725	.08
KULER		A-6131	Anti-squeak, rear fender to corner shield (TL) (TLD)	57	38069	.05
LULER	16-B-84	A-6132	Anti-squeak, running board to dust shield (E) except (R) (V) (C)	53	30503	.15
MULER		A-6133	Anti-squeak, running board to dust shield (R) (V) (C)	53	30504	.10
PULER		A-6134	Anti-squeak, running board to dust shield (H)	53	31537	.15
RULER	17-C-15	A-6135	Anti-squeak, dust shield to running board (7P) (T) (P) (P-1) (P-2) (B) (B-1) (B-2) (CV) (V-2) (S)	55-7	51039	.40
SULER	17-D-38	A-6136	Anti-squeak, dust shield to running board (R) (R-1) (R-2) (CR) (V) (V-1) (C)	55-7	33078	.10
TULER	17-C-27	A-6137	Anti-squeak, dust shield to running board (G)	55-7	33084	.30
ZULER	17-D-149	A-6138	Anti-squeak, dust shield to running board (H)	55-7	33090	.35

Code Word	Sec.-Bin	Serial	Part Name	Type	Symbol	Price
BALES		A-6139	Anti-squeak, running board to bracket	55	34724	$ .15
CALES	16-B-53	A-6140	Anti-squeak, hood shelf to dust shield to frame	55-7	39477	.08

DUST SHIELDS

NOTE:—Dust shields as listed do not include Tool Box, Battery Box or Covers.

PALES	357-C-8	*A-6144	Dust shield only, RIGHT except (R) (C)	51	21203	19.00
RALES	356-G-6	*A-6145	Dust shield only, LEFT except (R) (C)	51	21204	19.00
SALES	357-A-8	*A-6146	Dust shield only, RIGHT (R) (C)	51	41895	17.50
TALES	357-G-9	*A-6147	Dust shield only, LEFT (R) (C)	51	41955	17.50
ZALES	356-B-6	*A-6148	Dust shield only, RIGHT (E) except (R) (V) (C)	53	21653	19.00
BELES	356-A-6	*A-6149	Dust shield only, LEFT (E) except (R) (V) (C)	53	21654	19.00
CELES	357-E-7	*A-6150	Dust shield only, RIGHT (R) (V) (C)	53	21655	17.50
DELES	357-D-7	*A-6151	Dust shield only, LEFT (R) (V) (C)	53	21656	17.50
FELES	357-A-7	*A-6152	Dust shield only, RIGHT (G)	53	21657	19.50
KELES	357-B-7	*A-6153	Dust shield only, LEFT (G)	53	21658	19.50
LELES	357 over A-5	*A-6154	Dust shield only, RIGHT (H)	53	21659	21.00
MELES		*A-6155	Dust shield only, LEFT (H)	53	21660	21.00
PELES	356-G-5	*A-6156	Dust shield only, RIGHT (T) (P) (B) (CV) (S) (STANDARD TREAD)	55	22171	19.00
SELES	356-C-5	*A-6157	Dust shield only, LEFT (T) (P) (B) (CV) (S) (STANDARD TREAD)	55	22172	19.00
ZELES	356-F-5	*A-6158	Dust shield only, RIGHT (R) (CR) (V) (C) (STANDARD TREAD)	55	22169	17.50
CILES	357-H-7	*A-6159	Dust shield only, LEFT (R) (CR) (V) (C) (STANDARD TREAD)	55	22170	17.50
FILES	356-B-5	*A-6160	Dust shield only, RIGHT (G) (STANDARD TREAD)	55	22173	19.50
KILES	356-A-5	*A-6161	Dust shield only, LEFT (G) (STANDARD TREAD)	55	22174	19.50
LILES		*A-6162	Dust shield only, RIGHT (H) (STANDARD TREAD)	55	22175	21.00
MILES	357 over A-6	*A-6163	Dust shield only, LEFT (H) (STANDARD TREAD)	55	22176	21.00
PILES	357-A-9	*A-6164	Dust shield only, RIGHT (T) (P) (S) (WIDE TREAD)	55	22449	19.00
RILES	357-A-9	*A-6165	Dust shield only, LEFT (T) (P) (S) (WIDE TREAD)	55	22450	19.00
SILES		*A-6166	Dust shield only, RIGHT (R)(CR)(V)(WIDE TREAD)	55	22451	17.50
TILES	357-B-9	*A-6167	Dust shield only, LEFT (R) (CR) (V) (WIDE TREAD)	55	22452	17.50
ZILES		*A-6168	Dust shield only, RIGHT (H) (WIDE TREAD)	55	22950	21.00
BOLES		*A-6169	Dust shield only, LEFT (H) (WIDE TREAD)	55	22951	21.00
COLES	357-H-5	*A-6170	Dust shield only, RIGHT (7P) (B1) (P1) (S) (used with tool box in dust shield)	57	23777	19.00
FOLES	357-A-6	*A-6171	Dust shield with reinforcement, RIGHT (7P) (B1) (B2) (V2) (P2) (S) (used when tool box is under front cushion)	57	24441	18.00
LOLES	357-D-4	*A-6172	Dust shield only, LEFT (7P) (P1) (P2) (B1) (B2) (V2) (S)	57	23778	18.00
POLES	357-A-5	*A-6173	Dust shield only, RIGHT (R1) (V1) (used with tool box in dust shield)	57	23779	17.50
SOLES	356-H-4	*A-6174	Dust shield with reinforcements, RIGHT (R2) (V1) (used when tool box is under front cushion)	57	24442	16.50
ZOLES	356-G-4	*A-6175	Dust shield only, LEFT (R1) (R2) (V1)	57	23780	17.50
BULES	356-A-4	*A-6176	Dust shield only, RIGHT (G) (used with tool box in dust shield)	57	23781	19.50
DULES	356-C-4	*A-6177	Dust shield with reinforcements, RIGHT (G) (used when tool box is under front cushion)	57	24443	18.50
KULES	357-A-3	*A-6178	Dust shield only, LEFT (G)	57	23782	18.50
LULES	357 over A-3	*A-6179	Dust shield only, RIGHT (H) (used with tool box in dust shield)	57	23783	21.00
PULES	357 over A-3	*A-6180	Dust shield with reinforcements, RIGHT (H) (used when tool box is under front cushion)	57	24444	19.00
SULES		*A-6181	Dust shield only, LEFT (H)	57	23784	21.00
TULES	9-B-14	A-6182	Cover for hand hole in dust shield	51-3	18908	.10
ZULES	37-B-127	A-6183	Cover complete with hinge, lock screw and clip for hand hole, RIGHT	55	23721	.75

*Classify on order as crated material.

Code Word	Sec.-Bin	Serial	Part Name	Type	Symbol	Price
BALET	37-B-129	A-6184	Cover, complete with hinge, lock screw and clip for hand hole, LEFT	55	23722	$ .75
DALET	37-D-60	A-6185	Cover with hinge for hand hole in dust shield, RIGHT	55-7	22296	.55
FALET	37-E-6	A-6186	Cover with hinge for hand hole in dust shield, LEFT	55-7	22757	.55
KALET	10-J-11	A-6187	Screw for dust shield hole cover	51-3	11599	.05
LALET	10-D-8	A-6188	Lock washer	51-3	11313	.05
MALET	9-G-20	A-6189	Hinge pin for hand hole cover	55-7	15180	.05
PALET	9-O-1	A-6190	Locking clip for hand hole cover to dust shield	55-7	34806	.05
RALET	9-R-4	A-6191	Bolt for locking clip on hand hole cover	55-7	34805	.08
SALET	9-D-4	A-6192	Flat washer	55-7	13685	.05
TALET	15-B-45	A-6193	Lock washer	55-7	11314	.05
ZALET	10-P-7	A-6194	Nut	55-7	10887	.05
BELET	37-D-38	A-6195	Screw, dust shield to frame (not used with tool box in dust shield)	57	10795	.05
DELET	36-C-5	A-6196	Nut	57	11653	.05
FELET	9-G-2	A-6197	Flat washer	57	11454	.05
KELET	15-B-45	A-6198	Lock washer	57	11314	.05

TOOL BOX IN DUST SHIELD

PELET	303-A-11	*A-6202	Tool box complete less cover in RIGHT dust shield	51-3	21362	5.25
RELET	303-A-11	*A-6203	Tool box complete less cover in RIGHT dust shield (STANDARD TREAD on 55)	55-7	22155	5.25
TELET		*A-6204	Tool box complete less cover in RIGHT dust shield (WIDE TREAD)	55	22876	5.50
BILET	36-G-18	A-6205	Cover complete less locks for tool box in dust shield	51-3	21026	5.00
CILET	37-G-25	A-6206	Cover complete less locks for tool box in dust shield	55-7	22154	5.00
DILET		A-6207	Yale lock for tool box less keys (specify lock number when ordering lock or key)	51-3	19207	4.00
KILET		A-6208	Sargent lock for tool box less keys (specify lock number when ordering lock or key)	55	32736	2.75
MILET		A-6209	Sargent lock for tool box less keys (specify lock number when ordering lock or key)	57	37579	3.00
RILET		A-6210	Strap for tool box lock	51	19210	.05
SILET	9-B-12	A-6211	Screw, lock to cover	51-3	11846	.05
TILET	10-D-8	A-6212	Lock washer	51-3	11313	.05
ZILET	38-B-83	A-6213	Hinge pin for tool box cover	51-3-5-7	19211	.05
BOLET	10-A-9	A-6214	Screw, tool box to support	51-3-5-7	11614	.05
COLET	16-C-124	A-6215	Gasket for tool box support, front end	51-3	19200	.15
DOLET	16-B-132	A-6216	Gasket for tool box support, rear end on 51-3, front and rear on 55-7	51-3-5-7	19201	.05
KOLET	36-C-5	A-6217	Nut on screw attaching tool box ends	51-3-5-7	11653	.05
LOLET	15-B-45	A-6218	Lock washer	51-3-5-7	11314	.05
MOLET	16-C-40	A-6219	Packing for top of tool box	51-3-5-7	19296	.10
POLET	10-J-11	A-6220	Screw, tool box ends to dust shield	51-3-5-7	11599	.05
ROLET	15-B-45	A-6221	Lock washer	51-3-5-7	11314	.05
SOLET	26-B-155	A-6222	Screw, tool box and condenser to frame (STANDARD TREAD)	51-3-5-7	11967	.05
CULET	9-J-4	A-6225	Felt washer on screw	53-5-7	31205	.05
FULET	10-O-16	A-6227	Flat washer	53-5-7	31206	.05
KULET	12-D-47	A-6228	Nut on screw	51-3-5-7	10893	.05
LULET	36-D-21	A-6229	Lock washer	51-3-5-7	11316	.05
MULET	37-D-38	A-6230	Screw, tool box to dust shield	51-3-5-7	10795	.05
PULET	9-G-2	A-6231	Flat washer	51-3-5-7	11454	.05
RULET	36-C-5	A-6232	Nut	51-3-5-7	11653	.05
SULET	15-B-45	A-6233	Lock washer	51-3-5-7	11314	.05
ZULET		A-6234	Bracket, tool box to running board	51-3-5-7	19204	.10

*Classify on order as crated material.

TYPE 57 TOOL COMPARTMENT UNDER FRONT SEAT

Parts not listed, furnished by Fisher Body Corporation

Code Word	Sec.-Bin	Serial	Part Name	Type	Symbol	Price
BALEX		A-6238	Lid and retainer for tool compartment under front cushion (7-P)	57	25026	$1.45
DALEX	22-D-16	A-6239	Lid and retainer for tool compartment under front cushion (P2) (R2)	57	26087	3.00
KALEX		A-6240	Retainer for tool compartment lid (7-P)((P2) (R2)	57	68386	.30
BELEX		A-6246	Sargent lock for tool compartment lid under cushion (specify lock number when ordering lock or key)	57	38339	2.50

BATTERY BOX

RELEX	303-A-10	*A-6250	Battery box complete less cover in LEFT dust shield	51-3	20629	5.35
SELEX		*A-6251	Battery box complete less cover (STANDARD TREAD on 55)	55-7	22251	5.35
ZELEX	303-A-15	*A-6252	Battery box complete less cover (WIDE TREAD)	55	22877	5.75
BILEX	37-E-25	A-6253	Cover with slotted nuts for battery box	51-3	20731	4.25
CILEX	38-G-13	A-6254	Cover for battery box, less slotted nuts	55-7	22282	4.25
DILEX	35-D-30	A-6255	Slotted nut for battery box cover	51-3	16694	.50
FILEX	36-C-89	A-6256	Special bolt for battery box cover	55-7	32818	.40
KILEX	9-T-12	A-6257	Washer for battery box slotted nuts	51-3	11430	.05
LILEX	36-B-15	A-6258	Nut or bracket on battery box for slotted nuts	55-7	32817	.35
MILEX	35-C-43	A-6259	Screw for battery box cover	51-3	16695	.55
PILEX	10-C-9	A-6260	Screw, battery box to support on dust shield	51-3-5-7	11613	.05
RILEX	10-K-13	A-6261	Flat head screw, battery box to dust shield	53-5-7	10794	.05
SILEX	36-C-5	A-6262	Nut	51-3-5-7	11653	.05
TILEX	15-B-45	A-6263	Lock washer	51-3-5-7	11314	.05
ZILEX	37-B-16	A-6264	Screw, 7/8" long, battery box to frame (STANDARD TREAD on 55)	51-3-5-7	56198	.05
COLEX	11-D-54	A-6265	Screw, 1¼" long, battery box to frame (STANDARD TREAD on 55)	55-7	10026	08
FOLEX	32-C-149	A-6266	Screw, 2¼" long, battery box to frame (WIDE TREAD)	55	10033	.10
KOLEX	12-D-47	A-6267	Nut for screws	51-3-5-7	10893	.05
LOLEX	36-D-21	A-6268	Lock washer	51-3-5-7	11316	.05
MOLEX	10-B-13	A-6269	Flat washer	53-5-7	R-4-347	.05
POLEX	39-E-2	A-6270	Stay or hold down bolt for battery	51-3-5-7	19183	.15
ROLEX	38-C-81	A-6271	Nut for battery hold down bolt	51-3-5-7	19181	.15
SOLEX	39-E-1	A-6272	Hold down clamp for battery	51-3-5-7	19184	.20
TOLEX	13-B-16	A-6273	Lock washer for hold down clamp and nut	51-3-5-7	11315	.05
ZOLEX	10-H-22	A-6274	Stop, locating battery box	51-3-5-7	18905	.10
BULEX	9-D-13	A-6275	Locating angles for battery box	51-3-5-7	16698	.05

SPLASH SHIELDS

PULEX	303-A-17	*A-6279	Splash shield between front fenders	53-5	22717	11.50
RULEX	303-A-23	*A-6280	Splash shield between front fenders	57	23484	11.75
SULEX	15-B-40	A-6281	Cap for starting crank shaft	51	20490	1.75
TULEX	37-E-11	A-6282	Cap for starting crank hole in splash shield	53-5	31294	1.75
ZULEX	36-E-9	A-6283	Cap for starting crank hole in splash shield	57	53970	1.00

*Classify on order as crated material.

Code Word	Sec.-Bin	Serial	Part Name	Type	Symbol	Price
BALEZ	303-A-11	*A-6284	Splash shield under radiator and front end of engine	51-3	21231	$5.00
CALEZ	303-A-15	*A-6285	Splash shield under radiator and front end of engine (on cars equipped with front snubbers)	55	22422	7.50
FALEZ	303-A-13	*A-6286	Splash shield under radiator and front end of engine (on cars *without front snubbers) before engine 55-L-101*	55	22949	7.00
LALEZ	303-A-10	*A-6287	Splash shield under radiator and front end of engine after engine 55-L-100	55	23691	7.00
PALEZ	35-E-7	A-6288	Splash shield, RIGHT, under front of engine	51	30045	2.20
RALEZ	35-G-9	A-6289	Splash shield, LEFT, under front of engine	51	30046	2.20
SALEZ	38-A-40	A-6290	Splash shield, RIGHT, under rear of engine	51	18370	2.00
TALEZ	36-A-40	A-6291	Splash shield, LEFT, under rear of engine	51	18371	2.00
ZALEZ	38-A-36	A-6292	Splash shield, RIGHT, under engine	53	21749	2.00
BELEZ	36-F-22	A-6293	Splash shield, RIGHT, under engine	55	22423	2.00
CELEZ	38-A-48	A-6294	Splash shield, LEFT, under engine	53	21750	2.00
DELEZ	38-A-38	A-6295	Splash shield, LEFT, under engine	55	22424	2.00
FELEZ	301-A-28	A-6296	Splash shield complete under radiator and engine	57	23971	14.75
KELEZ	13-D-10	A-6297	Screw, splash shield to side bar	51-3-5	11641	.08
LELEZ	9-D-19	A-6298	Nut	51-3-5	11673	.10
MELEZ	37-B-20	A-6299	Screw, splash shield to crank case	51-3-5	11606	.05
PELEZ	13-B-16	A-6300	Lock washer	51-3-5	11315	.05
RELEZ	10-I-2	A-6301	Special screw to attach splash shield after engine No. 55-L-100	55	34908	.10
TELEZ	9-O-22	A-6302	Lock washer	55	11305	.05
ZELEZ	10-Q-18	A-6303	Screw, splash shield to radiator cross member	53	11863	.05
BILEZ	36-B-155	A-6304	Screw, splash shield to cross member	51	10274	.05
CILEZ	36-C-5	A-6305	Nut	51	11653	.05
DILEZ	10-O-4	A-6306	Screw, fastening sections of splash shields	51	10236	.05
FILEZ	10-P-7	A-6307	Nut	51	10887	.05
KILEZ	15-B-45	A-6308	Lock washer	51-3	11314	.05
LILEZ	37-C-17	A-6309	Screw, splash shield to hood shelf	57	32451	.10
MILEZ	13-B-16	A-6310	Lock washer	57	11315	.05
PILEZ	38-B-111	A-6311	Clamp, splash shield to cross member	57	37095	.20
RILEZ	9-M-15	A-6312	Rivet, clamp to splash shield	57	17675	.05
SILEZ	9-Q-22	A-6313	Screw for clamp, mud pan to cross member	57	11612	.05
TILEZ	13-B-16	A-6314	Lock washer	57	11315	.05
ZILEZ	34-B-79	A-6315	Plate supporting splash shield, front, RIGHT	57	37890	.30
BOLEZ	34-C-77	A-6316	Plate supporting splash shield, front, LEFT	57	37891	.30
COLEZ	37-B-37	A-6317	Plate supporting splash shield, rear, RIGHT	57	37892	.30
DOLEZ	38-C-35	A-6318	Plate supporting splash shield, rear, LEFT	57	37893	.30
FOLEZ	13-D-10	A-6319	Screw, support plates to side bar	57	11641	.08
KOLEZ	9-D-19	A-6320	Nut	57	11673	.10
LOLEZ	13-B-16	A-6321	Lock washer	57	11315	.05
MOLEZ	38-F-6	A-6322	Pull handle for mud pan	57	37888	.20
POLEZ	36-D-81	A-6323	Spring on pull handle	57	37887	.05
ROLEZ	9-K-22	A-6324	Nut on pull handle	57	38027	.10
SOLEZ	10-G-6	A-6325	Cotter pin retaining nut	57	15154	.05
TOLEZ	16-B-52	A-6326	Anti-squeak, front support plate to side bar	57	38014	.10
ZOLEZ		A-6327	Anti-squeak, rear support plate to side bar	57	38022	.08
BULEZ	16-C-111	A-6328	Anti-squeak, front side of mud pan	57	38020	.05
CULEZ		A-6329	Anti-squeak, center side of mud pan	57	38021	.08
DULEZ		A-6330	Anti-squeak, rear side of mud pan	57	38023	.08
FULEZ	9-L-22	A-6331	Rivet for anti-squeaks	57	17755	.05
KULEZ	9-M-23	A-6332	Cap for rivet	57	17756	.05

RUNNING BOARDS

MULEZ	300-B-2	*A-6336	Running board complete, RIGHT (E) except (R) (V) (C) (STANDARD TREAD)	51-3	20701	13.00
RULEZ	300-B-1	*A-6337	Running board complete, LEFT (E) except (R) (V) (C) (STANDARD TREAD)	51-3	20700	13.00
TULEZ	300-A-15	*A-6338	Running board complete, RIGHT (R) (V) (C) (STANDARD TREAD)	51-3	21053	11.00

*Classify on order as crated material.

Code Word	Sec.-Bin	Serial	Part Name	Type	Symbol	Price
BAMEK	300-A-13	*A-6339	Running board, complete, LEFT (R) (V) (C) (STANDARD TREAD)	51-3	21054	$11.00
DAMEK	301 Top 23	*A-6340	Running board, complete, RIGHT (H) (STANDARD TREAD)	51-3	21965	16.50
KAMEK	301 Top 23	*A-6341	Running board complete, LEFT (H) (STANDARD TREAD)	51-3	21966	16.50
MAMEK	300-A-16	*A-6342	Running board complete, RIGHT (G) (STANDARD TREAD)	53	21967	14.50
RAMEK	300-A-8	*A-6343	Running board complete, LEFT (G) (STANDARD TREAD)	53	21968	14.50
TAMEK	300-B-8	*A-6344	Running board complete, RIGHT (E) except (R) (V) (C) (WIDE TREAD)	51-3	21031	13.00
BEMEK	301-B-10	*A-6345	Running board complete, LEFT (E) except (R) (V) (C) WIDE TREAD)	51-3	21032	13.00
DEMEK	300-A-12	*A-6346	Running board complete, RIGHT (R) (V) (C) (WIDE TREAD)	51-3	21055	11.00
KEMEK		*A-6347	Running board complete, LEFT (R) (V) (C) (WIDE TREAD)	51-3	21056	11.00
MEMEK		*A-6348	Running board complete, RIGHT (H) (WIDE TREAD)	51-3	21969	16.50
PEMEK		*A-6349	Running board complete, LEFT (H) (WIDE TREAD)	51-3	21970	16.50
REMEK	300-A-11	*A-6350	Running board complete, RIGHT (T) (P) (B) (CV) (S)	55	22786	13.00
SEMEK	300-B-12	*A-6351	Running board complete, LEFT (T) (P) (B) (CV) (S)	55	22787	13.00
TEMEK	300-B-8	*A-6352	Running board complete, RIGHT (G)	55	22790	14.50
ZEMEK		*A-6353	Running board complete, LEFT (G)	55	22791	14.50
BIMEK	301 Top 21	*A-6354	Running board complete, RIGHT (H)	55	22792	16.50
CIMEK	301 Top 22	*A-6355	Running board complete, LEFT (H)	55	22793	16.50
DIMEK	300-A-8	*A-6356	Running board complete, RIGHT (R) (R1) (R2) (CR) (V) (V1) (C)	55-7	24115	11.00
KIMEK	300-B-8	*A-6357	Running board complete, LEFT (R) (R1) (R2) (CR) (V) (V1) (C)	55-7	24116	11.00
MIMEK	300-B-9	*A-6358	Running board complete, RIGHT (7P) (P1) (P2) (V2) (B1) (B2) (S)	57	24113	13.00
RIMEK	300-B-5	*A-6359	Running board complete, LEFT (7P) (P1) (P2) (V2) (B1) (B2) (S)	57	24114	13.00
TIMEK	300-B-7	*A-6360	Running board complete, RIGHT (G)	57	24117	14.50
ZIMEK	300-A-11	*A-6361	Running board complete, LEFT (G)	57	24118	14.50
BOMEK	301-B-11	*A-6362	Running board complete, RIGHT (H)	57	24119	16.50
COMEK	300-A-12	*A-6363	Running board complete, LEFT (H)	57	24120	16.50

MATS, BINDINGS AND ATTACHMENTS FOR RUNNING BOARDS

CEMEL		A-6396	Mat for running board (R) (C) (V) (**standard tread**)	51-3	30367	1.25
DEMEL	16-Top 45	A-6397	Mat for running board (G) (**standard tread**)	51-3-5-7	51040	1.60
FEMEL		A-6398	Mat for running board (H) (**standard tread**)	51-3-5-7	30397	1.75
KEMEL		A-6399	Mat for running board (E) except (R)(V)(C)(**wide tread**)	51-3	30250	1.50
MEMEL		A-6400	Mat for running board (R) (V) (C) (**wide tread**)	51-3	30673	1.25
PEMEL		A-6401	Mat for running board (H) (**wide tread**)	51-3	30670	1.75
SEMEL		A-6403	Mat for running board (R) (R1) (R2) (CR) (V) (V1) (C)	55-7	33079	1.25
BIMEL	16-Top 32	A-6406	Mat for running board (E) except (R) (V) (C) on 51-3, used on (T) (P) (B) (CV) (S) on 55, and on (7P) (P1) (P2) (B1) (B2) (V2) (S) on 57	51-3-5-7	37448	1.50
ZIMEL	10-D-12	A-6416	Screw, binding to running board	51-3-5-7	36779	.05
BOMEL	37-D-8	A-6417	Scraper on running board	51-3	16704	1.00
COMEL	37-G-20	A-6418	Bracket, fender to running board (**standard tread**)	51-3-5-7	32777	.75
DOMEL	38-C-75	A-6419	Bracket, fender to running board (**wide tread**)	51-3	19224	.70
KOMEL	37-B-53	A-6421	Bolt, fender bracket to running board	51-3-5-7	19358	.05
LOMEL	36-C-5	A-6422	Nut on bolt	51-3-5-7	11653	.05
MOMEL	15-B-45	A-6423	Lock washer	51-3-5-7	11314	.05
POMEL	38-E-12	A-6424	Step bolt, running board to dust shield, tool box, battery box and hangers	51-3-5-7	19297	.05
SOMEL	38-D-35	A-6425	Nut on step bolt	51-3-5-7	11733	.05
TOMEL	10-J-23	A-6426	Square washer	51-3-5-7	13184	.05
ZOMEL	38-D-27	A-6427	Flat washer	51-3	11447	.05
BUMEL	13-B-16	A-6428	Lock washer	51-3-5-7	11315	.05

*Classify on order as crated material.

TYPE 51 TOPS, TOP COVERING AND DUST HOODS

Parts not listed, furnished by Fisher Body Corporation

Code Word	Sec.-Bin	Serial	Part Name	Type	Symbol	Price
ZUMEL	38-D-38	A-6436	Wing nut, sockets to front body iron	51-3-5-7	11682	$ .50
BAMEM	36-B-151	A-6437	Pike lock nut for wing nut	51-3-5-7	8667	.10
ZEMEM		A-6460	Bracket on bow for center curtain	51	19910	.10
BIMEM		A-6461	Bracket on bow for rear curtain	51	19911	.10
KIMEM	9-F-23	A-6465	Anchor on body for back stay	51	19144	.20
LIMEM		A-6466	Reinforcement for back stay anchor	51	19843	.25
MIMEM	9-G-16	A-6467	Screw fastening back stay anchor	51	10806	.10
PIMEM	10-N-14	A-6468	Loop for back stay	51-3-5-7	39370	.15
RIMEM	37-C-13	A-6469	Screw for back stay loop	51	14212	.25
SIMEM		A-6470	Lock washer	51	11348	.05

TYPE 51 CURTAINS, CURTAIN RODS AND ENVELOPES

Parts not listed, furnished by Fisher Body Corporation

SUMEM	36-A-49	A-6497	Curtain rod on rear door (SL) (5-P) (7-P)	51	21005	.75
TUMEM	35-B-149	A-6498	Curtain rod on front door (5-P) (7-P)	51	21006	.75
ZUMEM	37-D-79	A-6499	Curtain rod on door (R)	51	21022	.75
BAMEP	36-D-53	A-6500	Screw, curtain rod to door	51	11640	.10
CAMEP	36-D-21	A-6501	Lock washer	51	11316	.05
DAMEP		A-6502	Stud through door for curtain rod screw	51	19162	.25
FAMEP	10-B-14	A-6503	Flat washer	51	H-1675	.05
KAMEP	13-B-16	A-6504	Lock washer	51	11315	.05
LAMEP	38-D-12	A-6505	Nut	51	10892	.05

TYPE 51 WOOD BOWS

Parts not listed, furnished by Fisher Body Corporation

TYPE 51 METAL BOW SOCKETS

Parts not listed, furnished by Fisher Body Corporation

TYPE 51 PROP SUPPORTS

SAMER	38-C-133	A-6567	Prop support complete, RIGHT (R)	51	17917	4.00
TAMER	38-B-131	A-6568	Prop support complete, LEFT (R)	51	17918	4.00
BEMER		A-6570	Lever with spring for clamping prop support, RIGHT (R)	51	45051	.50
CEMER		A-6571	Lever with spring for clamping prop support, LEFT (R)	51	45284	.50
DEMER	37-D-36	A-6572	Prop support complete, RIGHT (SL) (5-P) (7-P)	51	17922	3.00
FEMER	38-D-75	A-6573	Prop support complete, LEFT (SL) (5-P) (7-P)	51	17923	3.00
KEMER		A-6574	Prop support with pad and expanding spring, RIGHT (SL) (5-P) (7-P)	51	40351	2.50
MEMER		A-6575	Prop support with pad and expanding spring, LEFT (SL) (5-P) (7-P)	51	40352	2.50
REMER	37-B-147	A-6576	Leather pad for prop support	51	19842	.10

Code Word	Sec.-Bin	Serial	Part Name	Type	Symbol	Price
TEMER	16-C-159	A-6578	Leather pad for clamp	51	30630	$ .05
ZEMER		A-6579	Shoe for clamp rod with pad	51	40353	.25
BIMER	10-L-6	A-6580	Steel ball for clamp shoe	51	30642	.05
CIMER	9-A-14	A-6581	Spring for ball in shoe on clamp rod	51	30629	.05
DIMER		A-6582	Nut on clamp rod	51	11697	.05
KIMER	10-E-11	A-6584	Lock washer	51	11337	.05
MIMER	10-P-8	A-6586	Pin for clamp rod sleeve	51	30645	.05
SIMER	9-U-12	A-6589	Lever for clamp rod (SL) (5-P) (7-P)	51	30631	.25
TIMER		A-6590	Fulcrum pin for lever	51	30637	.05
ZIMER	10-A-5	A-6591	Pin through ends of link	51	30632	.05
BOMER		A-6592	Screw, prop support to body iron	51-3-5-7	11630	.25
COMER	36-D-21	A-6593	Lock washer	51-3-5-7	11316	.05
DOMER	36-C-69	A-6594	Cone plug for expanding pin	51-3-5-7	39495	.20

TYPE 51 TOP IRONS ON BODY

ROMER		A-6598	Channel for front top iron (SL) (5-P)	51	19108	.50
SOMER		A-6599	Channel for front top iron (7P)	51	19806	.50
TOMER		A-6600	Head only, for front top irons (SL) (5-P) (7-P)	51	19107	1.00
ZOMER	36-D-73	A-6601	Body iron for top, front, RIGHT (R)	51	30373	1.60
BUMER		A-6602	Body iron for top, front, LEFT (R)	51	30374	1.60
CUMER		A-6603	Body iron for top, rear (SL) (5-P)	51	19264	1.00
DUMER	37-G-11	A-6604	Body iron for top, rear (7-P)	51	19896	1.00
FUMER	36-A-43	A-6605	Body iron for top, rear (R)	51	30455	.50
KUMER		A-6606	Head, RIGHT, for rear body iron (SL) (5-P) (7-P)	51	30444	1.00
LUMER		A-6607	Head, LEFT, for rear body iron (SL) (5-P) (7-P)	51	30445	1.00
MUMER	36-F-7	A-6608	Head, RIGHT, for rear body iron (R)	51	30453	1.00
PUMER	37-D-49	A-6609	Head, LEFT, for rear body iron (R)	51	30454	1.00
RUMER	9-G-16	A-6610	Screw, head to body	51	10806	.10
SUMER	10-S-14	A-6611	Rivet ¾" long, head to iron	51	50635	.05
TUMER	36-D-9	A-6612	Rivet ⅝" long, head to iron	51	17607	.05
ZUMER	10-M-24	A-6613	Washer on rivet for head	51	11485	.05

TYPE 53 TOPS, TOP COVERING AND DUST HOODS

Parts not listed, furnished by Fisher Body Corporation

KAMES	38-D-38	A-6621	Wing nut, bow socket to body	51-3-5-7	11682	.50
LAMES	36-B-151	A-6622	Pike's lock nut for wing nut	51-3-5-7	8667	.10
SAMES	9-L-14	A-6626	Grommet, dust hood to top iron	53-5-7	19898	.05
TAMES	9-C-14	A-6627	Washer for grommet	53-5-7	11468	.05
CEMES		A-6630	Front valance for top (MT)	53	21256	3.20
MOMES	9-F-23	A-6659	Anchor on body for back stay strainer	53	19144	.20
POMES	9-G-16	A-6660	Screw attaching back stay anchor	53-5-7	10806	.10
ROMES	15-B-45	A-6661	Lock washer	53-5-7	11314	.05
SOMES	38-B-8	A-6662	Nut	53	10889	.05
TOMES	10-N-14	A-6663	Loop for back stay strainer (SL) (7P) (R)	51-3-5-7	39370	.15
ZOMES		A-6664	Loop for back stay strainer (MT)	53	32323	.35
BUMES	37-C-13	A-6665	Screw for strainer loop	53	14212	.25
CUMES		A-6666	Lock washer	53	11348	.05
DUMES		A-6667	Reinforcement for back strainer loop (SL) (7P) (R)	53	31333	.20
FUMES		A-6668	Reinforcement for back strainer loop (MT)	53	32318	.60

TYPE 53 CURTAINS, CURTAIN RODS AND ENVELOPES

Parts not listed, furnished by Fisher Body Corporation

MEMET	10-B-16	A-6693	Murphy fastener, No. 6 single, with flange end	53	8670	.05
PEMET	10-P-17	A-6694	Murphy fastener, No. 7 double, with flange end	53	8671	.10
SEMET	9-A-6	A-6695	Murphy fastener, No. 6 single, with stud end	53	14911	.05
TEMET	9-A-6	A-6696	Grommet in curtains for Murphy fastener	53	9923	.05
ZEMET	9-A-6	A-6697	Washer for grommet in curtain	53	9924	.05

Code Word	Sec.-Bin	Serial	Part Name	Type	Symbol	Price
BIMET	9-C-17	A-6698	Screw stud for glove fastener, $\frac{5}{16}$" long	53	14936	$ .05
CIMET	10-M-18	A-6699	Screw stud for glove fastener, $\frac{7}{16}$" long	53	31607	.05
PIMET	37-G-23	A-6705	Curtain rod on front door for side curtain (7P) (MT)	53	21309	1.75
RIMET	37-E-21	A-6706	Curtain rod on rear door for side curtain (SL) (7P) (MT)	53	21310	1.75
SIMET	38-D-67	A-6707	Curtain rod on door (R)	53	21766	1.75
TIMET	36-D-53	A-6708	Screw, curtain rod to door	53	11640	.10
ZIMET	36-D-21	A-6709	Lock washer	51-3	11316	.05
BOMET		A-6710	Stud in door for curtain rod screw	51-3	19162	.25
COMET	38-D-12	A-6711	Nut on stud	51-3	10892	.05
DOMET	21-B-36	A-6712	Flat washer on stud	53	59882	.05
FOMET	36-D-21	A-6713	Lock washer on stud	53	11316	.05

TYPE 53 WOOD BOWS

Parts not listed, furnished by Fisher Body Corporation

TYPE 53 METAL BOW SOCKETS

Parts not listed, furnished by Fisher Body Corporation

TYPE 53 PROP SUPPORT FOR TOP

CEMEZ	35-G-15	A-6792	Prop support complete, RIGHT (SL) (7P) (MT)	53-5	33385	5.00
DEMEZ	37-G-19	A-6793	Prop support complete, LEFT (SL) (7P) (MT)	53-5	33386	5.00
FEMEZ	17-C-153	A-6794	Rubber pad for prop support (SL) (7P) (MT)	53-5	45792	1.25
KEMEZ		A-6795	Expanding screw with tapered point, prop support to top iron (not used with cone plug) (SL) (7P) (MT)	53	45353	.40
MEMEZ	36-B-13	A-6796	Expanding screw, prop support to top iron (used with cone plug) (SL) (7P) (MT)	53-5	33384	.20
REMEZ	38-D-41	A-6797	Expanding cone plug ($\frac{5}{8}$") for prop support screw (SL) (7P) (MT)	53-5-7	25533	.20
TEMEZ	36-C-69	A-6798	Expanding cone plug ($\frac{11}{16}$)" for prop support screw (SL) (7P) (MT)	51-3-5-7	39495	.20
BIMEZ		A-6799	Lever and link, clamping prop support (SL) (7P) (MT)	53	45286	.70
CIMEZ	36-D-12	A-6800	Prop support, complete, RIGHT (R)	53	31258	4.50
DIMEZ	36-D-26	A-6801	Prop support, complete, LEFT (R)	53	31259	4.50
FIMEZ		A-6802	Expanding screw, prop support to top iron (R)	53	45341	.35
LIMEZ		A-6804	Lever and link, RIGHT, clamping prop support (R)	53	45350	.50
MIMEZ		A-6805	Lever and link, LEFT, clamping prop support (R)	53	45351	.50
PIMEZ		A-6806	Expanding sleeve for prop support (OC)	51-3-5	19836	.50

TYPE 53 TOP IRONS ON BODY

BOMEZ	37-B-128	A-6808	Body iron with head, RIGHT front, top to body (SL)	53	31173	1.60
COMEZ	36-C-151	A-6809	Body iron with head, LEFT front, top to body (SL)	53	31174	1.60
DOMEZ	36-C-157	A-6810	Body iron with head, RIGHT front, top to body (7P)	53	31182	1.60
FOMEZ	36-D-49	A-6811	Body iron with head, LEFT front, top to body (7P)	53	31183	1.60
KOMEZ		A-6812	Body iron, RIGHT front, top to body (MT)	53	32319	1.00
LOMEZ		A-6813	Body iron, LEFT front, top to body (MT)	53	32320	1.00
MOMEZ		A-6814	Body iron with head, RIGHT front, top to body (R)	53	31581	1.60
POMEZ		A-6815	Body iron with head, LEFT front, top to body (R)	53	31582	60

Code Word	Sec.-Bin	Serial	Part Name	Type	Symbol	Price
ROMEZ	35-B-100	A-6816	Body iron, RIGHT rear, for prop support (SL)	53	31246	$ 1.60
SOMEZ	36-C-147	A-6817	Body iron, LEFT rear, for prop support (SL)	53	31248	1.60
TOMEZ	36-F-14	A-6818	Body iron, RIGHT rear, for prop support (7P)	53	31666	1.60
ZOMEZ		A-6819	Body iron, LEFT rear, for prop support (7P)	53	31668	1.60
BUMEZ		A-6820	Body iron, RIGHT rear, for prop support (R)	53	31578	1.60
CUMEZ		A-6821	Body iron, LEFT rear, for prop support (R)	53	31580	1.60
DUMEZ		A-6822	Head for body iron, RIGHT (MT)	53-5	32321	1.25
FUMEZ	36-B-12	A-6823	Head for body iron, LEFT (MT)	53-5	32322	1.25
KUMEZ		A-6824	Channel for rear top iron (MT) (2 used)	53	32377	.50
LUMEZ	36-D-9	A-6825	Rivet, head to channel (MT)	53	17607	.05
MUMEZ	9-G-15	A-6826	Screw, body iron head to body	53	10802	.05
PUMEZ	10-S-21	A-6827	Screw, lower end of body iron to body	53	10798	.10
RUMEZ	38-B-8	A-6828	Nut on screw	53	10889	.05
SUMEZ	15-B-45	A-6829	Lock washer	53	11314	.05
TUMEZ	36-B-57	A-6830	Stud in front body iron (MT)	53-5-7	32317	.25
ZUMEZ	16-B-39	A-6831	Rubber bushing on stud (MT)	53-5	32268	.05

TYPE 55 TOPS, TOP COVERING AND DUST HOODS

Parts not listed, furnished by Fisher Body Corporation

KAPEK	38-D-38	A-6839	Wing nut, sockets to body	51-3-5-7	11682	.50
LAPEK	36-B-151	A-6840	Pike lock nut for wing nut	51-3-5-7	8667	.10
TAPEK	9-L-14	A-6845	Grommet, dust hood to top	53-5-7	19898	.05
ZAPEK	9-C-14	A-6846	Washer for grommet	53-5-7	11468	.05
POPEK	36-C-77	A-6878	Anchor on body for back stay strainer	55-7	33388	.35
ROPEK	9-P-19	A-6879	Screw for back stay anchor	55-7	11942	.10
SOPEK	38-B-8	A-6880	Nut	53-5-7	10889	.05
TOPEK	15-B-45	A-6881	Lock washer	53-5-7	11314	.05
ZOPEK	10-N-14	A-6882	Loop for back stay strainer	51-3-5-7	39370	.15
BUPEK	37-C-13	A-6883	Screw, loop to anchor	55	14212	.25
CUPEK		A-6884	Lock washer	51-3-5-7	11348	.05
DUPEK	9-H-18	A-6885	Reinforcement for back stay strainer loop	55-7	33422	.15

TYPE 55 CURTAINS, CURTAIN RODS AND ENVELOPES

Parts not listed, furnished by Fisher Body Corporation

SEPEL	9-P-14	A-6913	Brass washer on screw, back curtain to body	55-7	34307	.05
TEPEL	36-D-33	A-6914	Curtain rod on doors (T)	55	33211	1.50
ZEPEL	36-F-2	A-6915	Curtain rod on doors (R) (P) (CR)	55	33450	1.00
BIPEL	36-D-52	A-6916	Socket for curtain rod on door	55	33212	1.00
CIPEL	37-B-36	A-6917	Clamp or plate on door for socket	55	33210	.10
DIPEL	10-M-15	A-6918	Screw, socket to plate	55	10781	.05

TYPE 55 WOOD BOWS

Parts not listed, furnished by Fisher Body Corporation

MUPEL	9-R-4	A-6948	Cap on end of binding for top	55-7	34168	.15

TYPE 55 METAL BOW SOCKETS, TOURING

Parts not listed, furnished by Fisher Body Corporation

TYPE 55 METAL BOW SOCKETS, PHAETON

Parts not listed, furnished by Fisher Body Corporation

TYPE 55 METAL BOW SOCKETS, ROADTSER

Parts not listed, furnished by Fisher Body Corporation

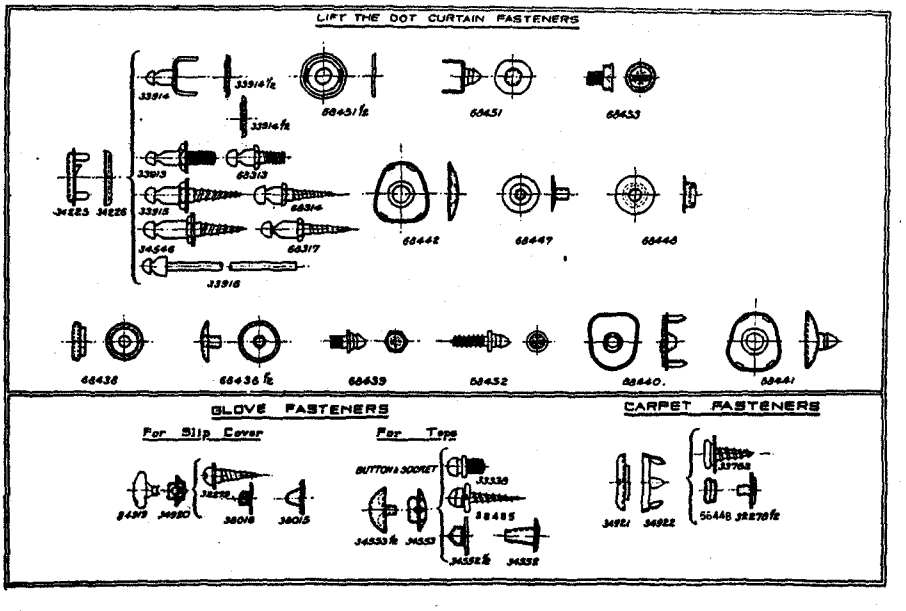
TYPE 55 METAL BOW SOCKETS, CLUB ROADSTER

Parts not listed, furnished by Fisher Body Corporation

TYPE 55 PROP SUPPORT

Parts not listed, furnished by Fisher Body Corporation

Code Word	Sec.-Bin	Serial	Name Part	Type	Symbol	Price
TOPEP	35-G-15	A-7040	Prop support complete, RIGHT (T)	53-5	33385	$ 5.00
ZOPEP	37-G-19	A-7041	Prop support complete, LEFT (T)	53-5	33386	5.00
BUPEP	38-C-161	A-7042	Prop support complete, RIGHT (P)	55	34325	4.00
CUPEP	38-D-6	A-7043	Prop support complete, LEFT (P)	55	34326	4.00
DUPEP	36-D-47	A-7044	Prop support complete, RIGHT (R)	55	33997	4.50
FUPEP	36-D-17	A-7045	Prop support complete, LEFT (R)	55	33998	4.50
KUPEP	37-D-77	A-7046	Prop support complete, RIGHT (CR)	55	34403	6.00
LUPEP	37-D-76	A-7047	Prop support complete, LEFT (CR)	55	34404	6.00
MUPEP	36-B-13	A-7048	Screw, prop support to body iron (T) (R)	55	33384	.20
PUPEP	36-D-46	A-7049	Screw, prop support to body iron (P)	55	34850	.10
RUPEP		A-7050	Screw, prop support to body iron (CR)	55	9964	.10



NOTE—These fasteners are not listed. Order parts by name and symbol.

Code Word	Sec.-Bin	Serial	Part Name	Type	Symbol	Price
SUPEP	36-D-21	A-7051	Lock washer	55	11316	$ .05
TUPEP	38-D-41	A-7052	Expanding plug (5/8") for prop support screw	53-5-7	25533	.20
ZUPEP	36-C-69	A-7053	Expanding plug (11/16") for prop support screw	51-3-5-7	39495	.20
BAPER	17-C-153	A-7054	Rubber pad for prop support (T)	55	45792	1.25
CAPER	16-C-154	A-7055	Rubber pad for prop support (P)	55	45793	1.25
DAPER		A-7056	Rubber pad for prop support (R)	55	45794	1.25
FAPER		A-7057	Rubber pad for prop support (CR)	55	45795	1.25
KAPER	35-D-76	A-7058	Lever and link for prop support	55	45796	.70

TYPE 55 TOP IRONS ON BODY

MAPER	37-B-116	A-7061	Body iron, RIGHT front, top to body (T)	55	33056	1.25
PAPER	37-B-119	A-7062	Body iron, LEFT front, top to body (T)	55	33057	1.25
RAPER		A-7063	Body iron, RIGHT front, top to body (P)	55	33671	1.25
SAPER	36-B-61	A-7064	Body iron, LEFT front, top to body (P)	55	33672	1.25
TAPER	36-C-9	A-7065	Body iron, RIGHT front, top to body (R)	55	33579	2.10
ZAPER	36-C-33	A-7066	Body iron, LEFT front, top to body (R)	55-7	33580	2.10
BEPER	36-B-85	A-7067	Body iron, RIGHT front, top to body (CR)	55	34432	2.00
CEPER	37-C-97	A-7068	Body iron, LEFT front, top to body (CR)	55	34433	2.00
DEPER	38-C-151	A-7069	Body iron with head, RIGHT rear, for prop support (T)	55	22480	2.00
FEPER	37-E-19	A-7070	Body iron with head, LEFT rear, for prop support (T)	55	22481	2.00
KEPER		A-7071	Body iron with head, RIGHT rear, for prop support (P)	55	22482	2.00
LEPER		A-7072	Body iron with head, LEFT rear, for prop support (P)	55	22483	2.00
MEPER		A-7073	Body iron with head, RIGHT rear, for prop support (R)	55	22485	2.00
PEPER		A-7074	Body iron with head, LEFT rear, for prop support (R)	55	22486	2.00
REPER		A-7075	Body iron with head, RIGHT rear, for prop support (CR)	55	23541	2.00
SEPER		A-7076	Body iron with head, LEFT rear, for prop support (CR)	55	23542	2.00
TEPER		A-7077	Head, RIGHT, rear body iron (T) (P) (R) (CR)	53-5	32321	1.25
ZEPER	36-B-12	A-7078	Head, LEFT, rear body iron (T) (P) (R) (CR)	53-5	32322	1.25
BIPER	36-B-57	A-7079	Stud in front body irons, top to body (T)	53-5-7	32317	.25
CIPER	38-C-117	A-7080	Stud in front body irons, top to body (P) (R)	55-7	34244	.25
DIPER	35-B-127	A-7081	Stud in front body irons, top to body (CR)	55	37644	.25
FIPER	16-B-39	A-7082	Rubber bushing on stud in body iron (T) (P) (R) (CR)	53-5-7	32268	.05

TYPE 57 TOPS, TOP COVERING AND DUST HOODS

Parts not listed, furnished by Fisher Body Corporation

NOTE: First type Tops for Seven Passengers or (7 P) have a spring in No. 3 or Main Bow Socket. Second Type Tops do not have springs in the bow sockets.

Three Types of Tops were used on the Phaetons. The First Type Top which had a spring in No. 3 or main bow socket was used exclusively on the First Type Phaetons or (P 1).

Two types of Tops were used on the Second Type Phaetons or (P 2). Neither of these have a spring in No. 3 or Main Bow Socket. Shipment of (P2) cars with first type tops was concluded March 31, 1919.

Three Types of Tops were used on the Roadsters.

The First Type Top was used on all First Type Roadsters or (R 1).

Two Types of Tops were used on the Second Type Roadsters or (R 2). Shipment of (R-2) cars with first type tops was concluded April 9, 1919.

KEPES	38-D-38	A-7091	Wing nut, sockets to body	51-3-5-7	11682	.50
LEPES	36-B-151	A-7092	Pike lock nut for wing nut	51-3-5-7	8667	.10
ZEPES	9-L-14	A-7098	Grommet in dust hood for strap	53-5-7	19898	.05
BIPES	9-C-14	A-7099	Washer for dust hood grommet	53-5-7	11468	.05
KOPES	36-C-77	A-7115	Anchor on body for back stay strainer	55-7	33388	.35
LOPES	9-P-19	A-7116	Screw to attach back stay anchor	55-7	11942	.10
MOPES	38-B-8	A-7117	Nut	53-5-7	10889	.05
POPES	15-B-45	A-7118	Lock washer	53-5-7	11314	.05
ROPES	10-N-14	A-7119	Loop for back stay strainer	51-3-5-7	39370	.15
SOPES	9-H-18	A-7120	Reinforcement for back stay strainer loop	55-7	33422	.15
TOPES	9-G-21	A-7121	Screw for loop on anchor	57	11989	.10
ZOPES		A-7122	Lock washer	51-3-5-7	11348	.05

TYPE 57 CURTAINS, CURTAIN RODS AND ENVELOPES

Parts not listed, furnished by Fisher Body Corporation

Code Word	Sec.-Bin	Serial	Part Name	Type	Symbol	Price
DEPEX	10-E-13	A-7204	Screw, back curtain to body	57	36819	$ .05
FEPEX	9-P-14	A-7205	Special washer on screw	55-7	34307	.05
BIPEX	36-E-18	A-7214	Curtain rod, RIGHT front door (7-P)	57	39544	1.25
DIPEX	36-E-27	A-7215	Curtain rod, LEFT front door (7-P)	57	39545	1.25
CIPEX	36-E-21	A-7215B	Curtain rod on RIGHT rear door (7-P)	57	39546	1.25
FIPEX	36-B-125	A-7215C	Curtain rod on LEFT rear door (7-P)	57	39547	1.25
KIPEX	36-C-105	A-7216	Curtain rod, RIGHT front door (R-1) (R-2) (P-1) (P-2)	57	39540	1.25
MIPEX	37-B-154	A-7217	Curtain rod, LEFT front door (R-1) (R-2) (P-1) (P-2).	57	39541	1.25
LIPEX	36-B-47	A-7217B	Curtain rod, RIGHT rear door (P-1) (P-2)	57	39542	1.25
PIPEX	36-D-37	A-7217C	Curtain rod, LEFT rear door (P-1) (P-2)	57	39543	1.25
RIPEX	36-D-52	A-7218	Socket for curtain rod on door	55-7	33212	1.00
SIPEX	37-B-36	A-7219	Clamp or plate on door for socket	55-7	33210	.10
TIPEX	10-M-15	A-7220	Screw, socket to plate	55-7	10781	.05

TYPE 57 WOOD BOWS

Parts not listed, furnished by Fisher Body Corporation

RAPEZ	9-R-4	A-7256	Cap on end of binding for top	55-7	34168	.15
SAPEZ	10-E-14	A-7257	Screw for cap	57	36815	.05

TYPE 57 FIRST TYPE, METAL BOW SOCKETS, SEVEN PASSENGER

Parts not listed, furnished by Fisher Body Corporation

TYPE 57 SECOND TYPE, METAL BOW SOCKETS SEVEN PASSENGER

Parts not listed, furnished by Fisher Body Corporation

TYPE 57 METAL BOW SOCKETS, FIRST TYPE, PHAETON

Parts not listed, furnished by Fisher Body Corporation

TYPE 57 METAL BOW SOCKETS, SECOND TYPE, PHAETON

(1st or 2nd Type Tops)

Parts not listed, furnished by Fisher Body Corporation

TYPE 57 METAL BOW SOCKETS, FIRST TYPE, ROADSTER

Parts not listed, furnished by Fisher Body Corporation

TYEE 57 METAL BOW SOCKETS, SECOND TYPE, ROADSTER

Parts not listed, furnished by Fisher Body Corporation

TYPE 57 PROP SUPPORTS FOR TOP

Code Word	Sec.-Bin	Serial	Part Name	Type	Symbol	Price
MIREM	36-C-87	A-7428	Prop support complete, RIGHT (used with 1st type top) (7-P)	57	68183	$ 4.00
RIREM	38-F-14	A-7429	Prop support complete, LEFT (used with 1st type top) (7-P)	57	68184	4.00
TIREM	36-G-10	A-7430	Prop support complete, RIGHT (used with 2nd type top) (7-P)	57	68390	5.00
BOREM	36-E-109	A-7431	Prop support complete, LEFT (used with 2nd type top) (7-P)	57	68391	5.00
DOREM	35-G-10	A-7432	Prop support complete, RIGHT (P-1)	57	68204	3.50
FOREM	37-D-68	A-7433	Prop support complete, LEFT (P 1)	57	68205	3.50
KOREM	35-E-2	A-7434	Prop support complete, RIGHT (P-2)	57	68369	6.00
LOREM	35-G-3	A-7435	Prop support complete, LEFT (P-2)	57	68370	6.00
MOREM	38-C-93	A-7436	Prop support complete, RIGHT (R-1) and 1st type top on (R-2)	57	68264	4.50
ROREM	35-D-64	A-7437	Prop support complete, LEFT (R-1) and 1st type top on (R-2)	57	68265	4.50
TOREM	38-F-12	A-7437-B	Prop support complete, RIGHT, 2nd type top on (R-2)	57	68449	3.75
ZOREM	38-E-11	A-7437-C	Prop support complete, LEFT, 2nd type top on (R-2)	57	68450	3.75
BUREM	36-D-46	A-7438	Screw, prop support to body iron	55-7	34850	.10
CUREM	36-D-21	A-7439	Lock washer	55-7	11316	.05
DUREM	38-D-41	A-7440	Expanding plug for prop support screw ($\frac{9}{16}$")	55-7	25533	.20
FUREM	36-C-69	A-7441	Expanding plug for prop support screw ($\frac{11}{16}$")	51-3-5-7	39495	.20
XUREM	37-B-40	A-7441B	Expanding sleeve for prop support	57	46010	.50
KUREM		A-7442	Rubber pad for prop support (P-2) and (7-P) 1st type top	57	38247	1.10
LUREM		A-7443	Rubber pad for prop support (7-P) 2nd type top	57	68429	.95
MUREM		A-7444	Rubber pad for prop support (P-1)	57	38248	.95
PUREM		A-7445	Rubber pad for prop support (R-1) (R-2)	57	38249	1.00
RUREM	35-D-48	A-7446	Clamping lever for prop support (7-P (P-1) (P-2)	57	45969	.40
SUREM	35-B-73	A-7447	Link for clamping lever (7-P) (P-1) (P-2)	57	45970	.30
TUREM	9-Q-1	A-7448	Tension spring for link (7-P) (P-1) (P-2) and 2nd type on (R-2)	57	45971	.15
BAREP	37-C-119	A-7449	Clamping lever for prop support (R-1) and 1st type on (R2)	57	45967	.40
DAREP	35-C-103	A-7450	Link or spring for clamping lever (R-1) and 1st type on (R-2)	57	45968	.25
KAREP	35-D-48	A-7451	Clamping lever for prop support (R2) 2nd type	57	45969	.40
LAREP	37-B-18	A-7452	Link for clamping lever (R-2) 2nd type	57	46004	.40
CAREP	35-B-53	A-7452B	Plug in head of body iron when prop support is not used	57	39033	.75
FAREP	10-O-16	A-7452C	Screw for plug	57	39032	.15
XAREP	38-D-41	A-7452D	Cone with pin	57	25533	.20

TYPE 57 TOP IRONS ON BODY

MAREP	35-B-89	A-7453	Body iron, front RIGHT, top to body (7-P)	57	68321	1.60
PAREP	35-C-89	A-7454	Body iron, front LEFT, top to body (7-P)	57	68322	1.60
RAREP		A-7455	Body iron, front RIGHT, top to body (P-1)	57	68331	1.60
SAREP		A-7456	Body iron, front LEFT, top to body (P-1)	57	68332	1.60

Code Word	Sec.-Bin	Serial	Part Name	Type	Symbol	Price
TAREP	35-B-119	A-7457	Body iron, front RIGHT, top to body (P-2)	57	68371	$ 1.60
ZAREP	37-C-57	A-7458	Body iron, front LEFT, top to body (P-2)	57	68372	1.60
BEREP	37-B-126	A-7459	Body iron, front RIGHT, top to body (R-1)	57	68214	1.60
CEREP		A-7460	Body iron, front LEFT, top to body (R-1)	57	68215	1.60
DEREP	36-C-9	A-7461	Body iron, front RIGHT, top to body (R-2)	55-7	33579	2.10
FEREP	36-C-33	A-7462	Body iron, front LEFT, top to body (R-2)	55-7	33580	2.10
KEREP		A-7463	Body iron, rear RIGHT, for prop support (7-P)	57	23814	2.10
LEREP	35-D-16	A-7464	Body iron, rear LEFT, for prop support (7-P)	57	23815	2.10
MEREP		A-7465	Body iron, rear RIGHT, for prop support (P-1)	57	23301	2.10
PEREP		A-7466	Body iron, rear LEFT, for prop support (P-1)	57	23302	2.10
REREP	37-B-162	A-7467	Body iron, rear RIGHT, for prop support (P-2)	57	25011	2.10
SEREP		A-7468	Body iron, rear LEFT, for prop support (P-2)	57	25012	2.10
TEREP	37-B-113	A-7469	Body iron, rear RIGHT, for prop support (R-1) (R-2)	57	23463	2.10
ZEREP	37-D-52	A-7470	Body iron, LEFT, for prop support (R-1) (R-2)	57	23464	2.10
BIREP	36-B-57	A-7471	Stud in front body irons attaching top to body (7-P)	53-5-7	32317	.25
CIREP	38-C-117	A-7472	Stud in front body irons attaching top to body (P-1) (P-2) (R-1) (R-2)	55-7	34244	.25
FIREP	16-B-39	A-7473	Rubber bushing on stud in body iron (OC)	53-5-7	32268	.05

BRACKETS TO ATTACH TOP TO WINDSHIELD, OPEN CARS

ZIREP	38-C-105	A-7476	Bracket complete, top to windshield	51-3-5-7	25776	4.00
BOREP	9-U-15	A-7477	Bracket only, top to windshield	51-3-5-7	19314	1.00
COREP	9-U-15	A-7478	Adjusting nut on eye bolt for top bracket	51-3-5-7	19315	.35
DOREP	9-K-14	A-7479	Eye bolt for windshield top bracket	51-3-5-7	19907	.60
FOREP	36-D-54	A-7480	Wing nut on eye bolt for top bracket	51-3-5-7	39512	.60
KOREP	9-Q-15	A-7481	Flat washer	51-3-5-7	11497	.05
LOREP	10-R-12	A-7482	Plate, top bracket to bow	51-3-5-7	39329	1.45
MOREP	36-B-103	A-7483	Screw, short, windshield top bracket to bow	51-3-5-7	11965	.05
POREP	9-A-8	A-7484	Screw, long, windshield top bracket to bow	51-3-5-7	11966	.10
ROREP	9-L-17	A-7485	Flat washer	51-3-5-7	11502	.05
SOREP	13-B-16	A-7486	Lock washer on screw and eye bolt	51-3-5-7	11315	.05

FRONT AXLE, SPINDLES AND BEARINGS

KUREP		*A-7490	Front axle with yokes and upper bearing mountings 3620 (STANDARD TREAD)	51	L-5666	37.00
MUREP		*A-7491	Front axle with yokes and upper bearing mountings 3620 (WIDE TREAD)	51-5	L-5705	40.00
RUREP		*A-7492	Front axle with yokes, upper and lower bushings (STANDARD TREAD)	53	L-5509	43.00
TUREP		*A-7493	Front axle with yokes, upper and lower bushings (WIDE TREAD)	53	L-5542	40.00
BARER		*A-7494	Front axle with yokes and upper bearing mountings 50290 (STANDARD TREAD)	55-7	L-5666	37.00
DARER	25-E-10	A-7495	Steel bushing for lower front axle yoke	51	L-2165	.65
FARER	27-D-22	A-7496	Bronze bushing for lower front axle yoke	53	32737	1.10
KARER	27-F-8	A-7497	Steel bushing for upper front axle yoke	53	L-5530	2.00
LARER	27-G-6	A-7498	Steel bushing for lower front axle yoke	55-7	50289	.55
ZARER	27-E-2	A-7498B	Steel bushing for lower front axle yoke (**.002 oversize**)	55-7	53222	.40
MARER	10-M-11	A-7499	Leather washer in lower bushing	53	33946	.05
PARER	16-C-5	A-7500	Felt washer in upper front axle yoke	53	11820	.10
RARER	9-C-1	A-7501	Plug (tapped for oiler) in upper front axle yoke	53	L-5531	.30
SARER	10-T-1	A-7502	Winkley oiler (No. 4-D) in plug	53	30773	.20
TARER	25-F-8	A-7503	Bronze bearing and oil retainer between spindle and upper bushing	53	L-5533	2.00
BERER	10-A-18	A-7504	Dowel for bronze bearing	53	L-5517	.08
CERER	25-E-7	xA-7505	Roller bearing, upper, for front axle yoke	51-5-7	50318	3.57
DERER	25-G-4	xA-7506	Mounting in upper axle yoke for bearing	51-5-7	50290	1.79
FERER	27-B-8	A-7507	Cap for upper bearing in front axle yoke	51-5-7	50317	.30

*Classify on order as crated material.

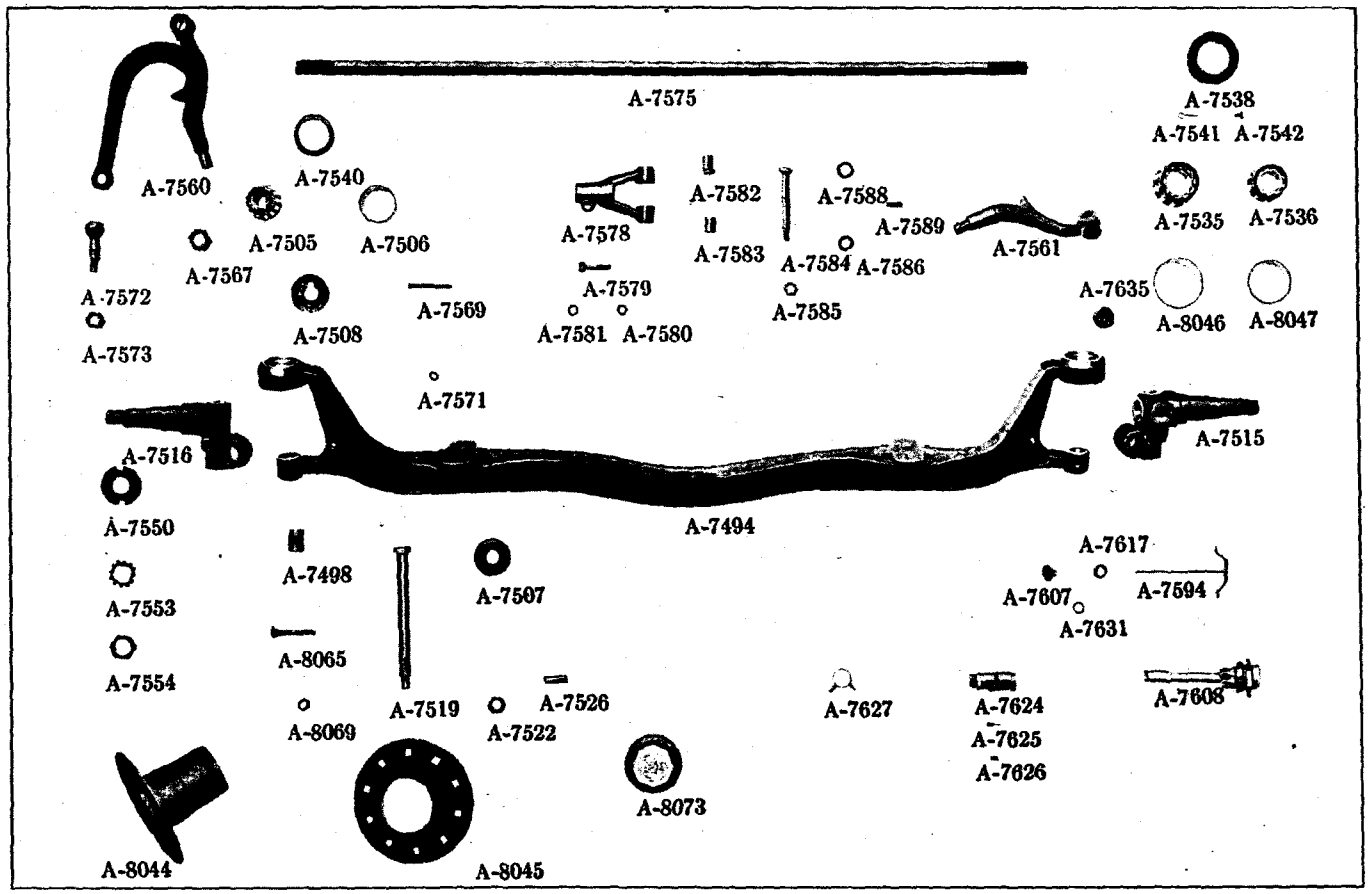
x Indicates subject to special discount.

Code Word	Sec.-Bin	Serial	Part Name	Type	Symbol	Price
KERER	27-D-34	A-7508	Dust cap, lower	51-5-7	50320	$ .15
LERER	9-Q-17	A-7509	Key for dust cap	51	L-5880	.20
MERER	9-Q-16	A-7510	Key for dust cap	55-7	50319	.20
PERER	27-G-7	A-7511	Spindle RIGHT	51	L-5166	13.50
RERER	27-D-26	A-7512	Spindle LEFT	51	L-5165	9.75
SERER	27-E-25	A-7513	Spindle RIGHT	53	L-5508	14.00
TERER	27-F-15	A-7514	Spindle LEFT	53	L-5507	12.75
ZERER	27-F-6	A-7515	Spindle RIGHT	55-7	L-5684	14.50
BIRER	27-F-23	A-7516	Spindle LEFT	55-7	L-5683	10.00
CIRER	27-G-27	A-7517	Spindle bolt	51	L-2694	2.00
DIRER	29-C-27	A-7518	Spindle bolt	53	L-5532	2.00
FIRER	27-G-5	A-7519	Spindle bolt	55-7	50316	1.60
KIRER	27-D-25	A-7520	Washer on lower end of spindle bolt	51-5-7	50325	.05
LIRER	29-D-50	A-7521	Nut on lower end of spindle bolt	51	50201	.10
MIRER	30-C-45	A-7522	Nut for lower end of spindle bolt	55-7	50326	.15
PIRER	10-K-9	A-7523	Cotter pin	51-5-7	15178	.05
RIRER	14-E-14	A-7524	Grease cup for spindle bolt	51-5-7	17054	.50
SIRER	30-B-125	A-7525	Draw key for spindle bolt	51	X-990	.10
TIRER	30-D-23	A-7526	Draw key for spindle bolt	53-5-7	50322	.20
BORER	29-D-56	A-7528	Draw key for spindle bolt (when required)	55-7	50323	.10
CORER	30-C-69	A-7529	Draw key for spindle bolt (when required)	55-7	50324	.10
DORER	10-R-21	A-7530	Spacing washer (.050) between spindle and lower bushing	53	L-5582	.05
KORER	10-N-8	A-7531	Spacing washer (.058) between spindle and lower bushing	53	L-5538	.05
LORER	9-I-21	A-7532	Spacing washer (.065) between spindle and lower bushing	53	L-5539	.05
MORER	9-I-20	A-7533	Spacing washer (.072) between spindle and bronze bearing	53	L-5540	.05
PORER	9-J-20	A-7534	Spacing washer (.110) between spindle and bronze bearing	53	L-5581	.05
RORER	25-G-9	xA-7535	Roller bearing, inside for front axle spindle	51-3-5-7	50310	4.88
SORER	25-E-5	xA-7536	Roller bearing, outside for front axle spindle	51-3-5-7	50309	3.25
TORER	29-C-111	A-7537	Dust washer complete with retainers for spindle inner bearing	51-3	N-2054	1.25
ZORER	30-E-15	A-7538	Retainer with felt washer for inner bearing on spindle	55-7	42260	1.00
BURER	17-C-31	A-7539	Felt dust washer in retainer	55-7	50304	.10
CURER	29-B-11	A-7540	Dust shield for spindle inner bearing	55-7	50308	.05
DURER	10-O-15	A-7541	Locking wire for dust washer	55-7	50305	.05
FURER	10-O-15	A-7542	Screw for locking wire	55-7	50306	.05
KURER	27-D-35	A-7543	Washer with dowel pins, L-2698, for outside bearing on front axe spindle	51-3	L-5209	.60
MURER	10-D-7	A-7544	Cotter pin	51-3	15151	.05
PURER	28-B-77	A-7545	Cap lock washer for spindle nut	51-3	L-5153	.10
RURER	27-B-30	A-7546	Hex. nut for RIGHT, front spindle	51-3	X-838	.15
SURER	27-C-149	A-7547	Flat steel washer with semi-circular hole for LEFT front spindle	51-3	L-5331	.25
ZURER	27-C-51	A-7548	Slotted hex. nut for LEFT front spindle	51-3	L-225	.25
BARET	9-A-11	A-7549	Cotter pin for slotted hex. nut for LEFT front spindle	51-3	15207	.05
CARET	27-B-3	A-7550	Adjusting nut with pin 50313, for RIGHT spindle bearing	55-7	27727	.85
FARET	27-D-57	A-7551	Adjusting nut with pin 50313, for LEFT spindle bearing	55-7	L-5685	.75
LARET	27-C-9	A-7553	Locking ring with 12 slots for spindle adjusting nut	55-7	50312	.10
MARET	30-B-161	A-7554	Jam nut, RIGHT, for spindle outer bearing	55-7	50314	.35
PARET	29-D-23	A-7555	Jam nut, LEFT, for spindle outer bearing	55-7	X-1225	.20
RARET	13-G-7	A-7556	Wrench for jam nut on spindle and hub cap	55-7	34011	.75

FRONT AXLE STEERING ARMS AND PARALLEL ROD

TARET	27-E-26	A-7560	Steering arm for LEFT spindle, double, (STANDARD TREAD) LEFT steering	51-3-5-7	L-5169	10.00
BERET	27-D-55	A-7561	Steering arm for RIGHT spindle, single, (STANDARD or WIDE TREAD) LEFT steering	51-3-5-7	L-5170	5.50
DERET	27-D-36	A-7562	Steering arm for RIGHT spindle, double, (STANDARD TREAD) RIGHT steering	51-3-5-7	L-2312	8.00

x Indicates subject to special discount.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Code Word	Sec.-Bin	Serial	Part Name	Type	Symbol	Price
KERET	27-D-79	A-7563	Steering arm for LEFT spindle, double, (WIDE TREAD) LEFT steering	51-3-5	L-5211	$ 8.00
MERET	28-D-14	A-7564	Steering arm for LEFT spindle, single, (STANDARD or WIDE TREAD) RIGHT steering	51-3-5-7	L-2309	5.50
RERET	27-D-1	A-7565	Steering arm for RIGHT spindle, double, (WIDE TREAD) RIGHT steering	51-3-5	L-2366	8.00
TERET	9-B-15	A-7566	Key for steering arm	51-3-5-7	6125	.05
ZERET	27-B-81	A-7567	Castle nut for steering arm	51-3-5-7	L-1608	.25
BIRET	9-A-11	A-7568	Cotter pin for castle nut	51-3-5-7	15207	.05
CIRET	27-C-32	A-7569	Stop screw to limit travel of steering arm	51-3-5-7	50291	.25
FIRET	10-H-13	A-7571	Nut on stop screw	51-3-5-7	50292	.05
KIRET	31-D-80	A-7572	Pivot with castle nut for double steering arm	51-3-5-7	42110	1.50
LIRET	31-D-79	A-7573	Castle nut for pivot	51-3-5-7	53513	.08
MIRET	10-K-9	A-7574	Cotter pin for castle nut	51-3-5-7	15178	.05
PIRET	28-A-23	A-7575	Parallel rod (STANDARD TREAD)	51-3-5-7	50332	6.00
RIRET	30-A-8	A-7576	Parallel rod (WIDE TREAD)	51-3-5	L-1173	4.25
TIRET	27-B-89	A-7578	Yoke with bushings for parallel rod	51-3-5-7	50293	2.60
ZIRET	29-B-79	A-7579	Clamp screw for yoke	51-3-5-7	50296	.08
BORET	29-C-77	A-7580	Nut for clamp screw	51-3-5-7	50061	.05
CORET	10-E-11	A-7581	Lock washer	51-3-5-7	11337	.05
DORET	27-E-8	A-7582	Upper bushing for parallel rod yoke	51-3-5-7	50294	.40
FORET	27-E-1	A-7583	Lower bushing for parallel rod yoke	51-3-5-7	50295	.40
KORET	27-G-12	A-7584	Bolt for parallel rod yoke	51-3-5-7	50327	.80
LORET	30-C-39	A-7585	Slotted hex. nut for bolt	51-3-5-7	50331	.08
MORET	27-C-1	A-7586	Washer	51-3-5-7	50330	.08
PORET	10-N-9	A-7587	Cotter pin	51-3-5-7	15174	.05
RORET	10-H-17	A-7588	Dust cap for bolt	51-3-5-7	50328	.05
SORET	28-C-1	A-7589	Draw key for bolt	51-3-5-7	50329	.08
TORET	14-E-14	A-7590	Grease cup for parallel rod	51-3-5-7	17054	.50

SPEEDOMETER DRIVING PARTS IN SPINDLE

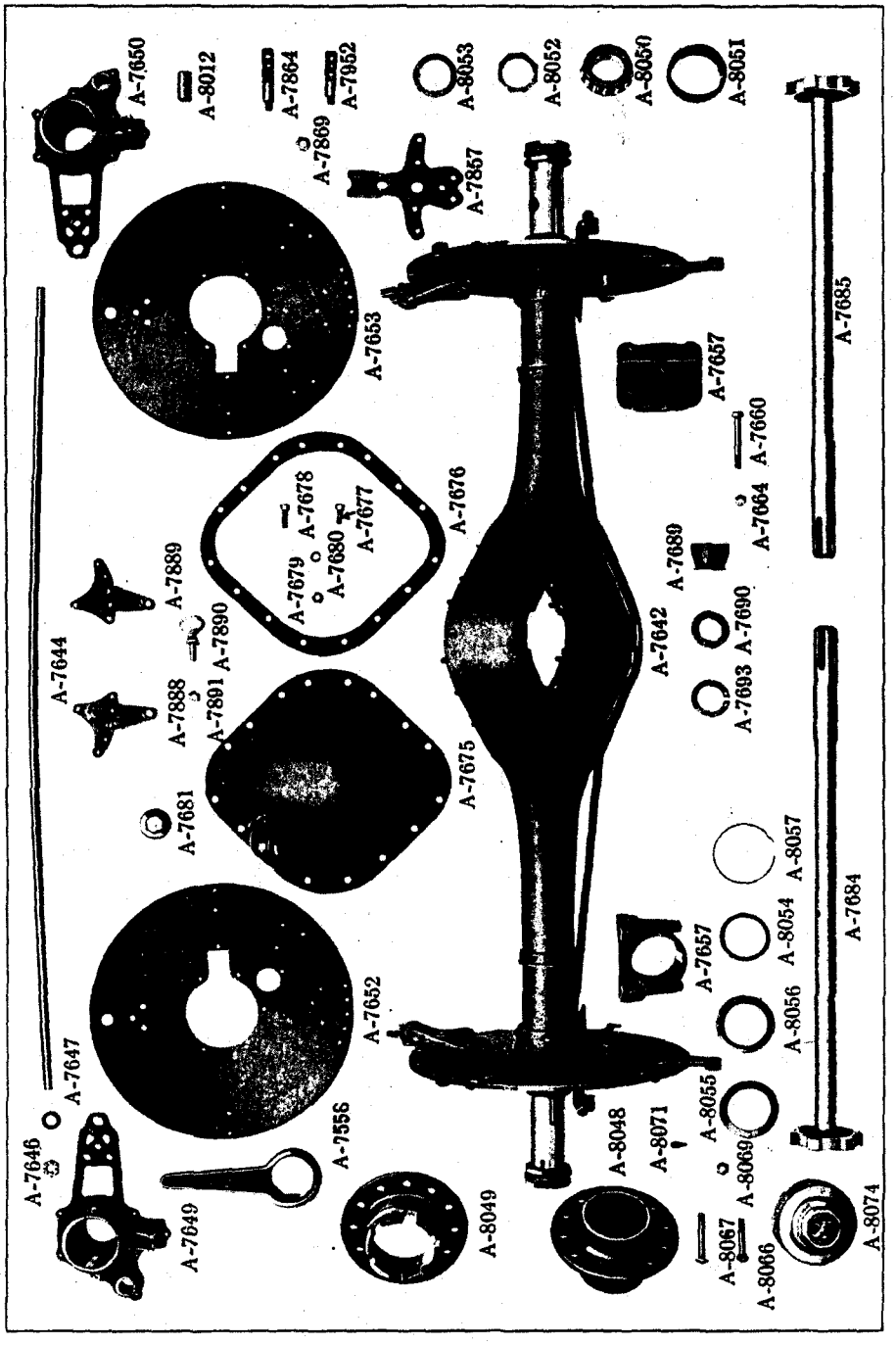
MURET	27-F-14	A-7594	Speedometer driving shaft and plate in RIGHT spindle	51-3-5-7	L-5989	.50
PURET	23-C-29	A-7595	Speedometer driving gear (17 teeth) used with 36x4½" Fabric or 35x5" Cord tires	51-3	L-5214	1.30
RURET	28-C-3	A-7596	Speedometer driven shaft with gear and bearing assembled, used with 36x4½" Fabric or 35x5" Cord tires	51-3	41858	3.50
TURET	23-D-69	A-7597	Speedometer driven gear (14 teeth) used with 36x4½" Fabric or 35x5" Cord tires	51-3	L-5215	1.00
BAREX	23-B-13	A-7598	Speedometer driving gear (19 teeth) used with 37x5" Fabric or 36x4½" Cord tires	51-3	L-5443	1.30
DAREX	28-B-37	A-7599	Speedometer driven shaft with gear and bearing assembled, used with 37x5" Fabric or 36x4½" Cord tires	51-3	41859	3.50
KAREX	23-B-141	A-7600	Speedometer driven gear (15 teeth) used with 37x5" Fabric or 36x4½" Cord tires	51-3	L-5444	1.00
MAREX	23-B-135	A-7601	Speedometer driving gear (17 teeth) used with 895x135 Millimeter tires	51-3	L-5436	1.30
RAREX	28-B-11	A-7602	Speedometer driven shaft with gear and bearing assembled, used with 895x135 Millimeter tires	51-3	41860	3.50
TAREX	23-B-143	A-7603	Speedometer driven gear (15 teeth) used with 895x135 Millimeter tires	51-3	L-5437	1.00
BEREX	23-C-125	A-7604	Speedometer driving gear (17 teeth) used with 37x5" Fabric or 36x4½" Cord tires	55	L-5986	1.30
DEREX	28-B-35	A-7605	Speedometer driven shaft with gear and bearing assembled, used with 37x5" Fabric or 36x4½" Cord tires	55	41863	3.50
KEREX	23-D-73	A-7606	Speedometer driven gear (9 teeth) used with 37x5" Fabric or 36x4½" Cord tires	55	L-5719	1.00
MEREX	23-C-135	A-7607	Speedometer driving gear (20 teeth) used with 34x4½" Fabric or 895x135 Millimeter tires	55-7	L-5984	1.30
REREX	28-C-11	A-7608	Speedometer driven shaft with gear and bearing assembled, used with 34x4½" Fabric or 895x135 Millimeter tires	55-7	41862	3.50
ZEREX	23-C-11	A-7609	Speedometer driven gear (12 teeth) used with 34x4½" Fabric or 895x135 Millimeter tires	55-7	L-5717	1.00

Code Word	Sec.-Bin	Serial	Part Name	Type	Symbol	Price
CIREX	23-C-37	A-7610	Speedometer driving gear (18 teeth) used with 36x4½" Fabric or 35x5" Cord tires	55-7	L-5987	$ 1.30
FIREX	28-D-5	A-7611	Speedometer driven shaft with gear and bearing assembled, used with 36x4½" Fabric or 35x5" Cord tires	55-7	41861	3.50
LIREX	23-B-15	A-7612	Speedometer driven gear (10 teeth) used with 36x4½" Fabric or 35x5" Cord tires	55-7	L-5711	1.00
PIREX	23-C-141	A-7613	Speedometer driving gear (19 teeth) used with 35x5" Fabric or 34x4½" Cord tires	55-7	L-5985	1.30
SIREX	28-C-9	A-7614	Speedometer driven shaft with gear and bearing assembled, used with 35x5" Fabric or 34x4½" Cord tires	55-7	41864	3.50
ZIREX	23-D-75	A-7615	Speedometer driven gear (11 teeth) used with 35x5" Fabric or 34x4½" Cord tires	55-7	L-5721	1.00
COREX	27-C-27	A-7616	Shaft only for speedometer driven gear in RIGHT spindle	51-3-5-7	L-5323	.25
DOREX	27-C-30	A-7617	Bushing for speedometer driven gear in RIGHT spindle	51-3-5-7	L-2704	.20
FOREX	9-E-13	A-7618	Pin, speedometer driven gear to shaft	51-3-5-7	X-900	.05
KOREX	9-M-20	A-7619	Collar for speedometer driven gear shaft	51-3-5-7	L-5325	.05
LOREX	9-G-22	A-7620	Pin anchoring collar	51-3-5-7	X-1073	.05
MOREX	23-D-65	A-7621	Front bearing in spindle for speedometer driven gear shaft	51-3	L-5326	.85
POREX	28-D-23	A-7622	Front bearing in spindle for speedometer driven gear shaft	55-7	L-5712	.60
ROREX	23-D-60	A-7623	Front cover for speedometer driven gear shaft	51-3-5-7	L-5327	.10
SOREX	27-C-94	A-7624	Rear bearing which screws into spindle for speedometer driven gear shaft	51-3-5-7	L-2906	2.75
TOREX	27-B-67	A-7625	Clamp bolt for rear bearing	51-3-5-7	L-2718	.10
ZOREX	27-D-67	A-7626	Nut	51-3-5-7	L-2880	.05
BUREX	30-D-26	A-7627	Wing washer for driven gear shaft bearing, front or rear.	51-3-5-7	X-836	.05
CUREX	10-O-13	A-7628	Spacer, thin, for driven gear shaft bearing, front or rear.	51-3-5-7	L-2859	.05
DUREX	10-O-11	A-7629	Spacer, thick, for driven gear shaft bearing, front or rear	53-5-7	L-3081	.05
FUREX	10-M-23	A-7630	Spacer, medium, for driven gear shaft bearing, front or rear	53-5-7	L-3080	.05
KUREX	9-T-6	A-7631	Spacer, thin, for driving gear bearing	53-5-7	L-3082	.05
LUREX	9-J-23	A-7632	Spacer, medium, for driving gear bearing	53-5-7	L-3083	.05
MUREX	9-T-7	A-7633	Spacer, thick, for driving gear bearing	53-5-7	L-3084	.05
PUREX	10-D-1	A-7634	Plug for speedometer gear chamber in RIGHT spindle	51-3-5-7	3467	.05
RUREX	27-D-66	A-7635	Cover for speedometer gear chamber	51-3-5-7	L-5234	.20
SUREX	27-C-67	A-7636	Cotter pin chamber through cover and spindle	51-3-5-7	15183	.05
TUREX	30-B-99	A-7637	Pressure spring in hub cap for speedometer shaft	51-3-5-7	30166	.20
ZUREX	9-E-17	A-7638	Pressure spring in front RIGHT wire wheel hub cap for speedometer shaft	51-3-5-7	17900	.25

REAR AXLE HOUSING AND COVER. REAR AXLE SHAFTS

BASEK		*A-7642	Rear axle housing with fixed parts, less differential covers, brakes and anchor pins (STANDARD TREAD)	51-3-5-7	42143	95.00
FASEK		*A-7643	Rear axle housing with fixed parts, less differential covers, brakes and anchor pins (WIDE TREAD)	51-3-5	T-6147	95.00
LASEK	30-A-33	A-7644	Truss rod for rear axle housing (STANDARD TREAD)	51-3-5-7	T-4205	1.25
MASEK	32-A-84	A-7645	Truss rod for rear axle housing (WIDE TREAD)	51-3-5	T-4278	1.40
PASEK	29-C-65	A-7646	Slotted hex. nut for truss rod	51-3-5-7	X-1098	.10
RASEK	27-D-25	A-7647	Washer for truss rod	51-3-5-7	50325	.05
SASEK	10-K-9	A-7648	Cotter pin	51-3-5-7	15178	.05
TASEK	27-F-16	A-7649	Brake support, RIGHT	51-3-5-7	R-5252	8.50
ZASEK	29-E-27	A-7650	Brake support, LEFT	51-3-5-7	R-5251	8.50
BESEK	38-C-95	A-7651	Rivet for brake support	51-3-5-7	17637	.05
CESEK	29-B-130	A-7652	Dust shield for brake support, RIGHT	51	R-1128	4.00
DESEK	30-F-12	A-7653	Dust shield for brake support, LEFT	51	R-1127	4.00
FESEK	29-B-124	A-7654	Dust shield for brake support, RIGHT	53-5-7	50165	4.50
KESEK	30-E-26	A-7655	Dust shield for brake support, LEFT	53-5-7	50164	4.50
LESEK	36-D-9	A-7656	Rivet, dust shield to brake support	51-3-5-7	17607	.05
MESEK	29-C-37	A-7657	Spring seat with bolts, nuts and washers (2 used)	51-3	T-5682	5.50
PESEK	29-C-145	A-7658	Spring seat with bolts, nuts and washers (2 used)	55	T-6460	8.00

*Classify on order as crated material.



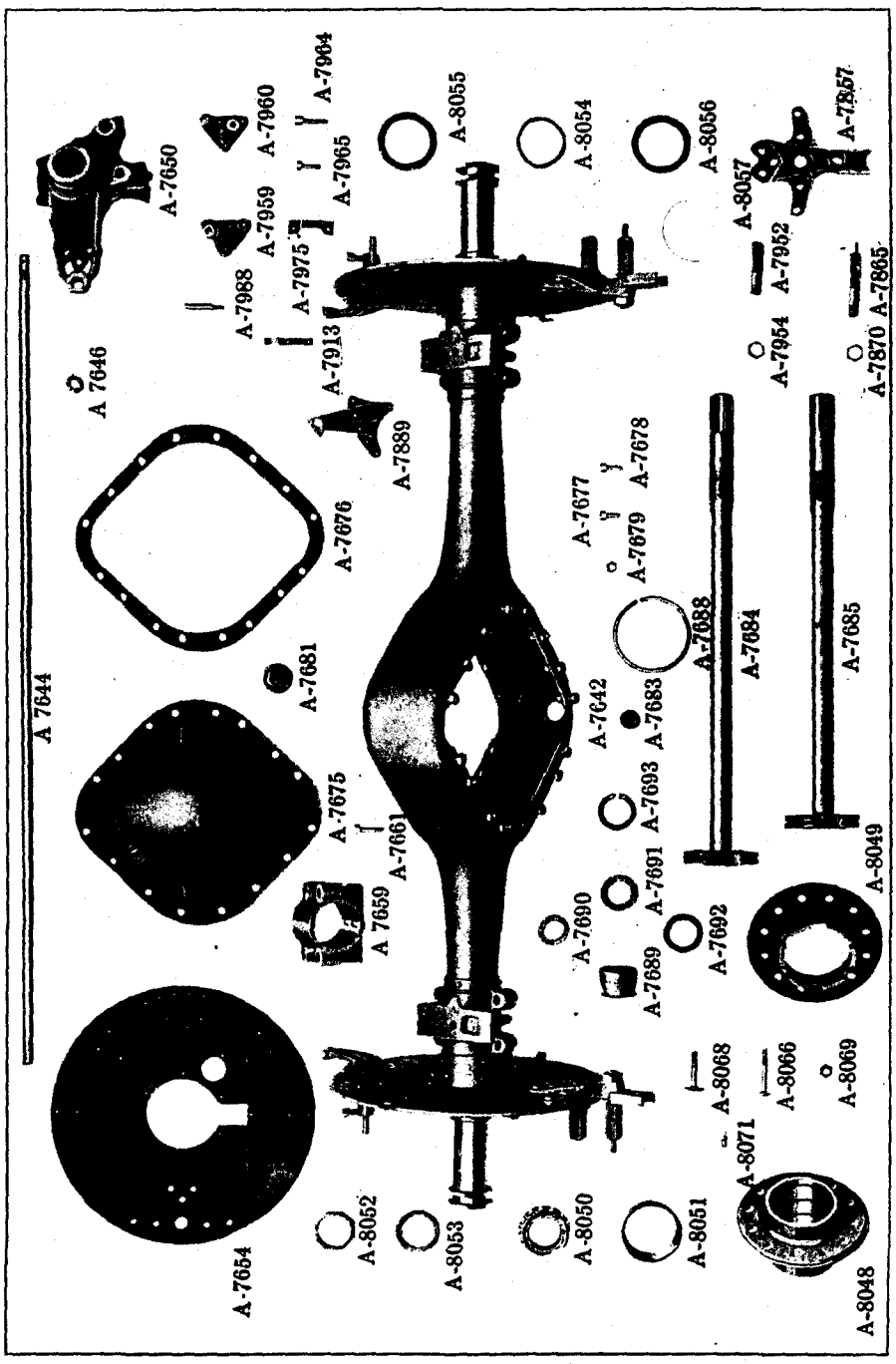
TYPES 51-53 REAR AXLE

Code Word	Sec.-Bin	Serial	Part Name	Type	Symbol	Price
RESEK	28-D-25	A-7659	Spring seat with bolts, nuts and washers (2 used)	In	27740	$ 6.20
SESEK	30-C-35	A-7660	Bolt for rear axle spring seat	51-3	X-522	.10
TESEK	27-B-2	A-7661	Bolt for rear axle spring seat	55-7	50173	.05
ZESEK	10-E-11	A-7662	Lock washer	51-3	11337	.05
BISEK	10-F-7	A-7663	Lock washer	55-7	11306	.05
CISEK	29-C-77	A-7664	Nut for spring seat bolt	51-3	50061	.05
DISEK	30-B-12	A-7665	Grease pipe for spring seat	51-3	30383	.20
FISEK	10-E-10	A-7666	Plug for grease pipe	51-3	7367	.05
KISEK	9-P-18	A-7667	Wick for grease pipe	53	32694	.10
LISEK	14-E-14	A-7668	Grease cup for spring seat	55-7	17054	.50
MISEK	29-D-20	A-7669	Stud in seat for rear side spring (7-P) (L) (BL)	51-3	19809	.60
PISEK	32-B-87	A-7670	Stud in seat for rear side spring (SL) (SD) (5-P) on 51 (SL) (B) on 53	51-3	19030	.60
SISEK	37-D-30	A-7671	Stud in seat for rear side spring (R) (C) on 51 (R) (V) on 53	51-3	30198	.60
ZISEK	10-P-8	A-7672	Pin, stud in spring seat	51-3	30387	.05
BOSEK	34-D-39	A-7673	Nut, spring seat stud	51-3	5009	.10
COSEK	32-F-23	A-7674	Lock washer	51-3	11310	.05
DOSEK	30-E-9	A-7675	Rear cover on housing for differential	51-3-5-7	50154	6.00
FOSEK	17-G-6	A-7676	Gasket for rear cover	51-3-5-7	30793	.20
KOSEK	30-D-24	A-7677	Cap screw (⅜" x 16 x ¾") for rear cover, used with new design housing	51-3-5-7	52415	.05
LOSEK	29-B-51	A-7678	Cap screw (⅜" x 16 x 1") for rear cover, used with old design housing	51-3-5-7	X-542	.05
MOSEK	28-D-44	A-7679	Nut for cap screw	51-3-5-7	X-189	.05
POSEK	10-F-7	A-7680	Lock washer	51-3-5-7	11306	.05
ROSEK	29-B-5	A-7681	Filler plug in rear cover	51-3-5-7	50160	.30
SOSEK	9-G-10	A-7682	Gasket for filler hole plug	51-3-5	T-5272	.05
TOSEK	9-G-12	A-7683	Drain plug in bottom of rear axle housing	53-5-7	X-433	.10
ZOSEK	30-G-23	A-7684	Axle shaft, RIGHT (STANDARD TREAD)	51-3-5-7	50225	12.00
BUSEK	30-G-16	A-7685	Axle shaft, LEFT (STANDARD TREAD)	51-3-5-7	50224	12.00
CUSEK	30-E-22	A-7686	Axle shaft, RIGHT (WIDE TREAD)	51-3-5	T-5688	13.50
DUSEK	30-F-22	A-7687	Axle shaft, LEFT (WIDE TREAD)	51-3-5	T-5689	13.50
FUSEK	29-E-5	A-7688	Lock wire for rear axle shaft and flange	57	50226	.08
KUSEK	29-B-91	A-7689	Oil retainer cup, inner, in rear axle housing sleeve	51-3-5-7	50169	.20
LUSEK	17-F-7	A-7690	Felt oil retainer in rear axle housing sleeve (SMALL)	51-3-5-7	38336	.10
MUSEK	16-E-9	A-7691	Felt oil retainer in rear axle housing sleeve (LARGE)	55-7	38337	.10
PUSEK	9-Q-4	A-7692	Flat washer between felts	55-7	50168	.05
RUSEK	10-I-13	A-7693	Flat retainer, outer, in rear axle housing sleeve	51-3-5-7	50170	.08
SUSEK	10-E-8	A-7694	Cotter pin, retainer in housing sleeve	55-7	15161	.05

REAR AXLE DIFFERENTIAL AND DRIVEN GEAR

BASEM		A-7698	Differential complete with driven gear 19057 for rear axle (Ratio 4 to 1)	51	42105	65.00
DASEM		A-7699	Differential complete with driven gear 19277 for rear axle (Ratio $4\frac{7}{16}$ to 1)	53-5-7	42107	65.00
FASEM		A-7699B	Differential complete with driven gear for rear axle (Ratio $5\frac{1}{14}$ to 1)	51-3-5-7	42106	65.00
KASEM	29-G-3	A-7700	Gear mount (halves not sold separately) with cap screws and locking wire No. 1 and 2 D	51-3-5-7	50117-8	24.00
MASEM	30-D-57	A-7701	Cap screw for gear mount (6D)	51-3-5-7	52378	.10
PASEM	23-F-14	A-7702	Driven gear for rear axle (Ratio 4 to 1) 71 teeth	51-3-5-7	19057	25.00
RASEM	23-G-22	A-7703	Driven gear for rear axle (Ratio $4\frac{7}{16}$ to 1) 71 teeth	51-3-5-7	19277	25.00
SASEM	23-G-19	A-7704	Driven gear for rear axle (Ratio $5\frac{1}{14}$ to 1) 71 teeth	51-3-5-7	19056	25.00
TASEM	28-F-8	A-7705	Rivet, driven gear to gear mount	51-3-5-7	50149	.05
BESEM		A-7707	Dowel for driven gear on gear mount	51	X-714	.05
CESEM	29-D-44	A-7708	Spider for rear axle differential (5-D)	51-3-5-7	50119	4.60
DESEM	23-D-15	A-7709	Pinion for rear axle differential (4-D)	51-3-5-7	52375	2.00
FESEM	23-F-20	A-7710	Equalizing gear for rear axle differential (3-D)	51-3-5-7	50121	6.00
KESEM	25-D-13	xA-7711	Roller bearing for RIGHT side of gear mount	51-3-5-7	50132	5.85
LESEM	25-E-11	xA-7712	Mounting for bearing on RIGHT side of gear mount	51-3-5-7	50133	4.23
MESEM	25-B-93	xA-7713	Roller bearing for LEFT side of gear mount	51-3-5-7	50130	8.30
PESEM	25-E-4	xA-7714	Mounting for bearing on LEFT side of gear mount	51-3-5-7	50131	6.17

x Indicates subject to special discount.



TYPES 55-57 REAR AXLE

Code Word	Sec.-Bin	Serial	Part Name	Type	Symbol	Price
RESEM	23-C-131	A-7715	Adjusting nut, RIGHT, for gear mount bearing	51-3	T-5266	$ 2.50
SESEM	29-D-73	A-7716	Adjusting nut, RIGHT, for gear mount bearing	55-7	50142	2.50
TESEM	29-D-60	A-7717	Adjusting nut, LEFT, for gear mount bearing	51-3	T-5267	2.75
ZESEM	29-C-98	A-7718	Adjusting nut, LEFT, for gear mount bearing	55-7	50141	2.75
BISEM	9-P-3	A-7719	Lock lever for adjusting nut	51-3	T-5510	.10
CISEM	10-R-23	A-7720	Lock lever for adjusting nut	55-7	50143	.20
DISEM	10-C-10	A-7721	Rivet for lock lever	51-3-5-7	50144	.05
FISEM	10-C-10	A-7722	Collar for differential bearing, RIGHT	57	50140	.70
KISEM	10-C-11	A-7723	Collar for differential bearing, LEFT	57	50139	.75

DRIVING PINION AND SHAFT. FLANGE FOR UNIVERSAL JOINT

SISEM	23-D-67	A-7727	Driving pinion for rear axle (Ratio 4 to 1) 18 teeth	51-3	19059	18.00
TISEM	23-E-13	A-7728	Driving pinion for rear axle (Ratio $4\frac{7}{16}$ to 1) 16 teeth	51-3	19278	18.00
ZISEM	23-E-20	A-7729	Driving pinion for rear axle (Ratio $5\frac{1}{14}$ to 1) 14 teeth	51-3	19058	18.00
YISEM	23-C-119	A-7729B	Driving pinion for rear axle (Ratio 4 to 1) Special 18 teeth	55	32931	18.00
BOSEM	23-D-78	A-7730	Driving pinion for rear axle (Ratio $4\frac{7}{16}$ to 1) 16 teeth	55	33049	18.00
COSEM	23-D-16	A-7731	Driving pinion for rear axle (Ratio $5\frac{1}{14}$ to 1) 14 teeth	55	33050	18.00
YOSEM	23-D-76	A-7731B	Driving pinion for rear axle (Ratio 4 to 1) Special 18 teeth	57	37740	18.00
DOSEM	23-F-23	A-7732	Driving pinion for rear axle (Ratio $4\frac{7}{16}$ to 1) 16 teeth	57	37741	18.00
FOSEM	23-E-24	A-7733	Driving pinion for rear axle (Ratio $5\frac{1}{14}$ to 1) 14 teeth	57	37742	18.00
KOSEM	29-D-47	A-7734	Shaft for driving pinion	55	T-6435	5.00
LOSEM	29-B-15	A-7735	Shaft for driving pinion	57	T-6744	6.00
MOSEM	27-D-17	A-7736	Nut, pinion on shaft	55-7	L-224	.15
POSEM	10-B-20	A-7737	Washer for nut	55-7	T-983	.05
ROSEM	9-A-11	A-7738	Cotter pin through nut and shaft	55-7	15207	.05
SOSEM	10-O-11	A-7739	Key for pinion on shaft	55-7	X-719	.15
TOSEM	21-E-8	A-7740	Flange on rear axle driving pinion shaft for universal joint	51-3-5-7	19382	4.50
ZOSEM	30-D-15	A-7741	Castle nut, flange on front end of pinion shaft	51-3-5	50198	.15
BUSEM	29-B-61	A-7742	Castle nut, flange on front end of pinion shaft	57	X-1274	.20
CUSEM	30-D-76	A-7743	Washer for castle nut	51-3-5	50199	.05
DUSEM	33-C-159	A-7744	Washer for castle nut	57	37046	.08
FUSEM	27-C-67	A-7745	Cotter pin for castle nut	51-3-5-7	15183	.05
KUSEM	10-O-13	A-7746	Key for universal joint flange on rear axle pinion shaft	51-3-5-7	19894	.20
LUSEM	10-I-14	A-7747	Special washer on pinion shaft for universal joint flange key	51-3-5-7	T-6357	.10

DIFFERENTIAL CARRIER. BEARINGS, MOUNTINGS AND ADJUSTING NUTS IN CARRIER. SHAFT FOR TORSION ARM

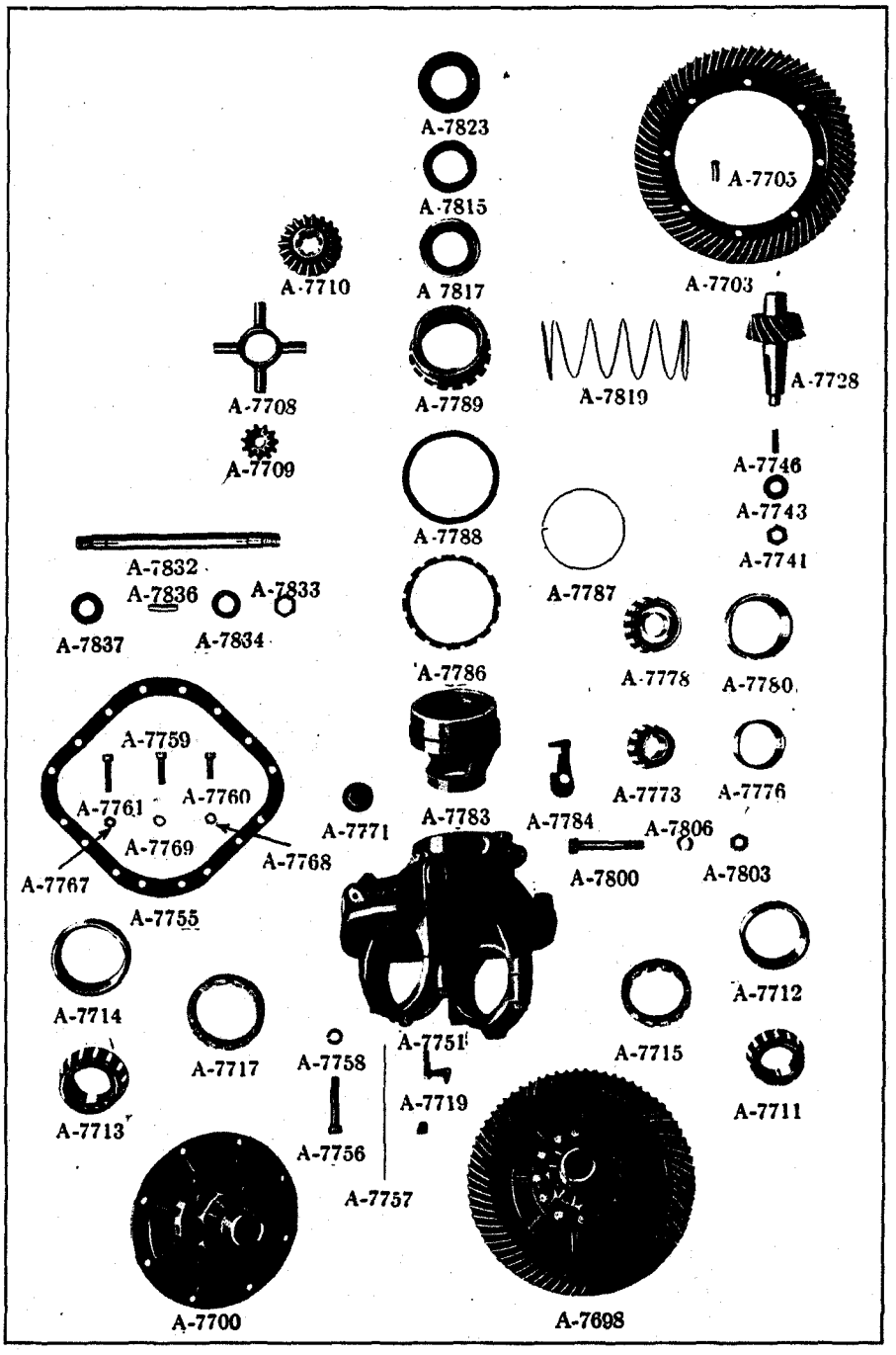
NOTE: On the Type 57 Cars, 3 Types of Differential Carriers were used. The first type carrier has adjusting port at top while the second and third types has adjusting port at side of carrier. The third type has two short slots under clamping bolts for adjusting nut.

The mountings for pinion are carried in the adjusting nut and collar instead of in the carrier.

RASEP	29-G-8	A-7751	Differential carrier	51-3	T-5478	48.00
ZASEP	29-G-14	A-7753	Differential carrier (3rd type) with adjusting collar, adjusting nut and mountings, front end cover, gasket and parts to replace 1st or 2nd type carrier	55-7	41865	100.00
DESEP	29-G-23	A-7754	Differential carrier only (3rd type) after engine 57-DD-314	57	AT-4912-2	65.00
FESEP	16-G-21	A-7755	Paper gasket for differential carrier	51-3-5-7	30794	.10
KESEP	30-D-22	A-7756	Cap screw for differential bearing cap	51-3-5-7	50136	.40
LESEP	29-C-53	A-7757	Locking wire through bearing cap screw	51-3-5-7	50138	.05
MESEP	10-C-6	A-7758	Lock washer	51-3-5-7	11319	.05
PESEP	29-C-79	A-7759	Bolt ($1\frac{11}{16}$" long) for differential carrier	51	X-1026	.05
RESEP	10-C-3	A-7760	Bolt ($1\frac{5}{16}$" long) for differential carrier	51-3	X-543	.05
SESEP	30-C-79	A-7761	Bolt (2" long) for differential carrier	51-3-5-7	X-1024	.05
TESEP	29-B-79	A-7762	Bolt ($1\frac{5}{8}$" long) for differential carrier	53-5-7	50296	.08

Code Word	Sec.-Bin	Serial	Part Name	Type	Symbol	Price
ZESEP	30-C-113	A-7763	Bolt ($1\frac{3}{16}$" long) for differential carrier	55-7	X-1235	$ .05
BISEP	28-C-37	A-7764	Bolt ($1\frac{3}{4}$" long) for differential carrier	57	X-788	.05
CISEP	10-C-12	A-7765	Stud, differential carrier to housing (2 used)	55-7	50125	.10
DISEP	9-Q-7	A-7766	Anchor pin for stud	55-7	50127	.05
FISEP	29-C-77	A-7767	Nut for differential carrier bolt	51-3-5-7	50061	.05
KISEP	10-C-19	A-7768	Flat washer (copper)	51-3-5-7	X-914	.05
LISEP	10-E-11	A-7769	Lock washer	51-3-5-7	11337	.05
MISEP	10-J-4	A-7770	Cup washer for lock washer	51-3-5-7	T-7053	.05
PISEP	29-B-5	A-7771	Peep hole plug in differential carrier	51-3	50160	.30
RISEP	30-D-29	A-7772	Peep hole plug in differential carrier	55-7	50145	.20
SISEP	25-F-21	xA-7773	Roller bearing for driving pinion, rear	51-3	50181	4.88
TISEP	25-D-13	xA-7774	Roller bearing for driving pinion, rear	55	50132	5.85
ZISEP	25-F-6	xA-7775	Roller bearing for driving pinion, rear	57	456	5.85
BOSEP	25-C-63	xA-7776	Mounting for pinion bearing, rear	51-3	50182	2.92
COSEP	25-E-11	xA-7777	Mounting for pinion bearing, rear	55-7	50133	4.23
DOSEP	25-D-25	xA-7778	Roller bearing for driving pinion, front	51-3	50183	5.85
FOSEP	25-F-25	xA-7779	Roller bearing for driving pinion shaft, front	55-7	415	4.88
KOSEP	25-E-11	xA-7780	Mounting for pinion bearing, front	51-3	50133	4.23
LOSEP	25-B-17	xA-7781	Mounting for pinion shaft bearing, front	55-7	414	2.60
MOSEP	15-D-43	A-7782	Grease cup for pinion shaft bearing	55-7	38476	.55
POSEP	29-G-25	A-7783	Cage for driving pinion	51-3	50185	18.00
ROSEP	30-D-30	A-7784	Locking finger for pinion bearing shell, front	51-3	50190	.45
SOSEP	10-N-9	A-7785	Cotter pin for locking finger	51-3	15174	.05
TOSEP	29-E-12	A-7786	Adjusting nut for pinion cage	51-3	50186	9.00
ZOSEP	29-C-107	A-7787	Locking wire for adjusting cup	51-3	50043	.08
BUSEP	29-D-26	A-7788	Locking ring for adjusting cup for pinion cage	51-3	50187	3.00
CUSEP	29-E-7	A-7789	Shell with mounting for pinion front bearing	51-3	42589	10.75
DUSEP	28-D-19	A-7790	Adjusting collar for pinion shaft bearing, front (with 1st or 2nd type carriers)	55-7	T-6441	4.50
KUSEP	29-C-33	A-7791	Adjusting collar with mounting 414-C for pinion shaft bearing (with 3rd type carrier)	57	T-7136	12.00
MUSEP	28-B-43	A-7792	Adjusting nut for pinion shaft bearing, rear (with 1st or 2nd type carriers)	55-7	T-6442	4.50
RUSEP	29-E-17	A-7793	Adjusting nut with mounting 454-C for pinion shaft bearing, rear (with 3rd type carrier)	57	T-7137	16.00
TUSEP	9-C-3	A-7794	Lock for adjusting collar (used with 1st type differential carrier)	55-7	T-6443	.30
BASES	10-C-6	A-7795	Lock for adjusting collar (used with 2nd or 3rd type differential carriers)	57	T-6802	.30
DASES	10-E-7	A-7796	Spacing ring No. 1 for pinion shaft bearing (.170 to .175)	55	T-6816	.40
FASES	10-E-3	A-7797	Spacing ring No. 2 for pinion shaft bearing (.180 to .185)	55	T-6817	.40
KASES	10-E-5	A-7798	Spacing ring No. 3 for pinion shaft bearing (.190 to .195)	55	T-6818	.40
LASES	10-E-6	A-7799	Spacing ring No. 4 for pinion shaft bearing (.200 to .205)	55	T-6819	.40
MASES	29-B-39	A-7800	Clamp bolt in carrier for adjusting nut	51-3	50200	.25
PASES	9-E-6	A-7801	Clamp bolt in carrier for adjusting collar (used with 1st type carrier on 57)	55-7	X-1197	.25
SASES	9-E-4	A-7802	Clamp bolt in carrier for adjusting collar (used with 2nd or 3rd type carrier)	57	X-997	.25
ZASES	29-D-50	A-7803	Nut for clamp bolt	51-3	50201	.10
BESES	9-F-12	A-7804	Nut for clamp bolt (used with 1st type carrier on 57)	55-7	X-429	.10
CESES	9-F-12	A-7805	Nut for clamp bolt (used with 2nd or 3rd type carrier)	57	X-726	.05
DESES	32-F-23	A-7806	Lock washer	51-3-7	11310	.05
FESES	12-D-59	A-7807	Cotter pin through nut and clamp bolt (used on 1st type carrier)	55-7	15165	.05
LESES	9-B-3	A-7808	Cover for adjusting port on carrier (used on top of 1st type carrier on 57)	55-7	T-6444	.15
MESES	29-B-13	A-7809	Cover for adjusting port on carrier marked, "Ratio $4\frac{1}{2}$ to 1," (used on side of 2nd or 3rd type carrier)	57	T-6823	.60
PESES	29-B-31	A-7810	Cover for adjusting port on carrier marked, "Ratio 5 to 1," (used on side of 2nd or 3rd type carrier)	57	T-6822	.60
RESES	16-C-76	A-7811	Felt for adjusting port (used with 1st type carrier on 57)	55-7	T-6445	.05
SESES	27-C-109	A-7812	Rivet, felt to cover (used with 1st type carrier on 57)	55-7	55004	.05
ZESES	9-J-4	A-7813	Gasket for adjusting port cover (used with 2nd or 3rd type carrier)	57	T-6801	.10
CISES	30-C-23	A-7814	Screw, adjusting port cover (used with 2nd or 3rd type carrier)	57	50078	.10

x Indicates subject to special discount.

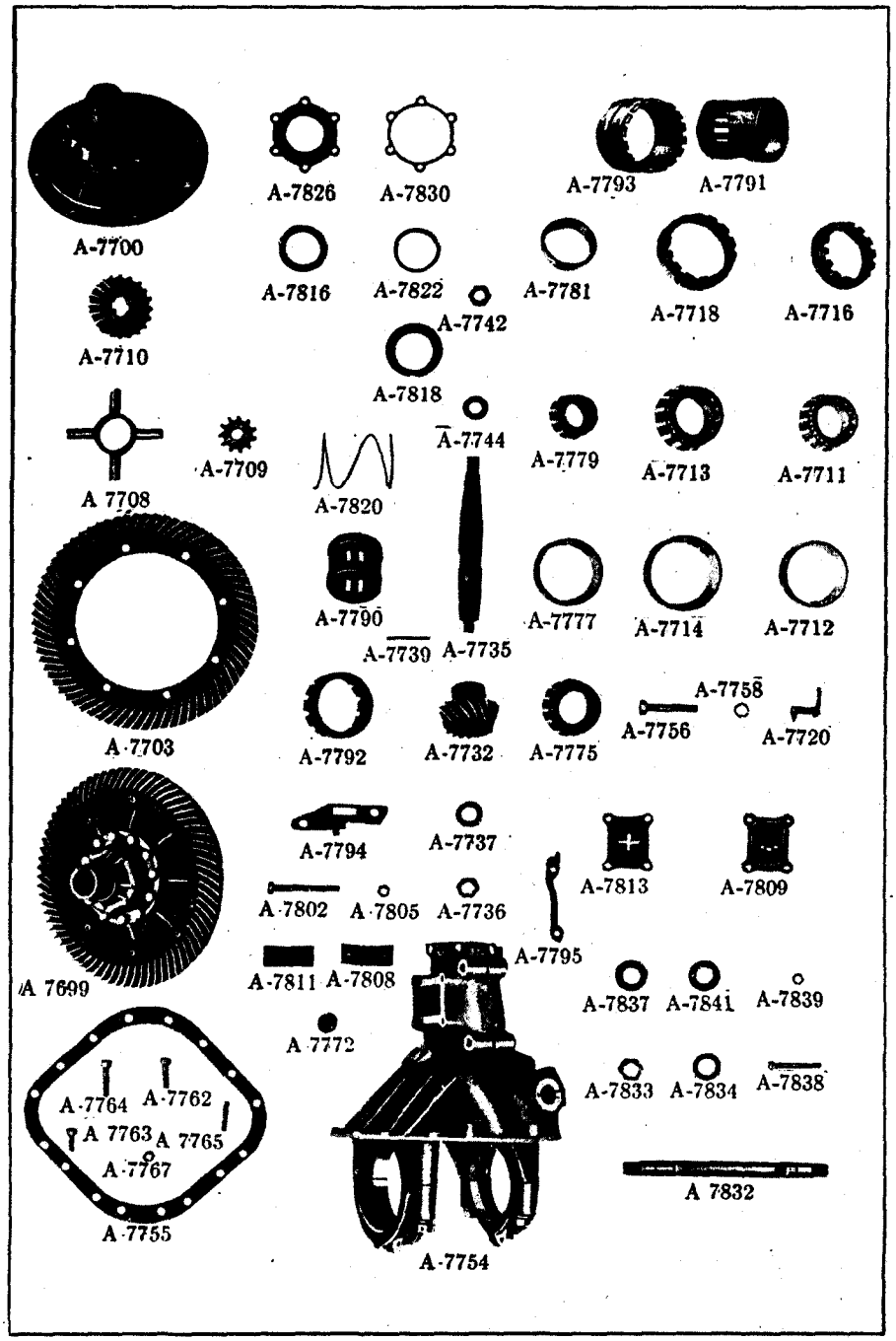


TYPE 51-53 DIFFERENTIAL AND CARRIER

Code Word	Sec.-Bin	Serial	Part Name	Type	Symbol	Price
FISES	29-D-75	A-7815	Packing for pinion front bearing	51-3	50191	$ .50
KISES	28-D-47	A-7816	Packing for pinion front bearing (2 pieces)	55-7	50607	.50
LISES	29-B-133	A-7817	Cup for pinion bearing packing	51-3	50193	.30
MISES	29-D-47	A-7818	Cup for pinion bearing packing	55-7	T-6436	.90
PISES	29-C-21	A-7819	Spring for packing cup	51-3	50194	.25
RISES	29-D-76	A-7820	Spring for packing cup	55-7	T-6437	.15
SISES	29-C-84	A-7821	Washer for packing for pinion front bearing	53	50192	.08
TISES	30-B-107	A-7822	Washer for packing for pinion front bearing	55-7	50608	.15
ZISES	29-D-34	A-7823	Jam nut for pinion front bearing packing	51-3	50195	1.40
BOSES	10-D-6	A-7824	Pin for jam nut	51-3	15153	.05
COSES	10-P-1	A-7825	Lock pin in front cover for packing cup	55-7	T-6961	.15
DOSES	30-D-7	A-7826	Cover on front end of carrier (with 1st or 2nd type carrier)	55-7	T-6438	.40
KOSES	27-D-16	A-7827	Cover on front end of carrier (with 3rd type carrier)	57	T-7138	.60
LOSES	10-M-16	A-7828	Screw for end cover of carrier	55-7	T-6439	.05
MOSES		A-7829	Locking wire for screws in end cover of carrier	55-7	T-4876	.05
POSES	16-D-2	A-7830	Paper gasket for front end cover of carrier (with 1st or 2nd type carrier)	55-7	T-6450	.05
SOSES	9-A-24	A-7831	Paper gasket for front end cover of carrier (with 3rd type carrier)	57	T-7139	.05
ZOSES	28-G-13	A-7832	Shaft for torsion arm in carrier	51-3-5-7	51725	3.00
ROSES	29-G-6	A-7832B	Shaft for torsion arm in carrier (.015 oversize)	51-3-5-7	39957	3.00
BUSES	29-C-15	A-7833	Castle nut on shaft	51-3-5-7	50203	.25
CUSES	30-D-45	A-7834	Washer on shaft	51-3-5-7	50204	.10
DUSES	9-A-11	A-7835	Cotter pin through nut and shaft	51-3-5-7	15207	.05
FUSES	10-L-6	A-7836	Draw key for shaft for torsion arm	51-3	T-5703	.30
KUSES	29-D-74	A-7837	Dust cap for upper end of shaft for torison arm	51-3-5-7	50207	.05
LUSES	30-D-12	A-7838	Clamp bolt for torsion shaft	55-7	50205	.15
MUSES	29-C-77	A-7839	Nut for clamp bolt	55-7	50061	.05
PUSES	10-E-11	A-7840	Lock washer	55-7	11337	.05
RUSES	30-D-54	A-7841	Spacing washer (.132) for torsion shaft	55-7	50208	.15
SUSES	10-L-5	A-7842	Spacing washer (.128) for torsion shaft	55-7	50209	.15
TUSES	30-D-35	A-7843	Spacing washer (.124) for torsion shaft	55-7	50210	.20
ZUSES	9-B-21	A-7844	Pin for spacing washer	55-7	50211	.05

EXTERNAL BRAKE BANDS

BASEX	28-E-14	A-7848	External brake band, RIGHT, with lining and end clips	51-3	40033	12.00
CASEX	28-E-15	A-7849	External brake band, LEFT, with lining and end clips	51-3	40035	12.00
DASEX	28-G-16	A-7850	External brake band, RIGHT, with lining and end clips	55-7	22939	8.00
FASEX	28-G-12	A-7851	External brake band, LEFT, with lining and end clips	55-7	22940	8.00
KASEX	30-A-11	A-7852	Lining with 28 rivets, 50922, for external brake band,	51-3-5-7	33528	2.40
MASEX	27-C-109	A-7853	Rivet, lining to external brake band	51-3-5-7	55004	.05
PASEX	29-C-149	A-7854	End clip, upper, for external brake band	51-3-5-7	50021	.40
RASEX	30-B-2	A-7855	End clip, lower, for external brake band	51-3-5-7	50022	.50
SASEX	34-D-26	A-7856	Rivet, end clip to external brake band	51-3-5-7	17610	.05
TASEX	29-C-161	A-7857	Anchor for external brake band	51-3-5-7	50019	2.50
ZASEX	38-C-95	A-7858	Rivet, anchor to external brake band	51-3-5-7	17637	.05
BESEX	29-C-3	A-7859	Anchor bracket for external brake band	51-3	R-1714	1.00
CESEX		A-7860	Anchor bracket for external brake band	55-7	50028	1.10
DESEX	34-D-26	A-7861	Rivet, anchor bracket to external brake band	51-3-5-7	17610	.05
FESEX	10-N-11	A-7862	Washer for anchor bracket (special)	55-7	50029	.05
KESEX	30-D-50	A-7863	Pin for anchor bracket	51	R-847	.50
LESEX	29-D-8	A-7864	Pin for anchor bracket	53	R-5676	.75
MESEX	27-B-111	A-7865	Pin for anchor bracket	55-7	57993	.65
PESEX	9-F-21	A-7866	Washer ($\frac{1}{16}$") for pin (as required)	55-7	50051	.05
RESEX	30-D-18	A-7867	Washer ($\frac{3}{32}$") for pin (as required)	55-7	50049	.05
SESEX	29-C-25	A-7868	Washer ($\frac{1}{8}$") for pin (as required)	55-7	50050	.08
TESEX	10-C-19	A-7869	Nut on pin for anchor bracket	51-3	X-443	.05
ZESEX	29-D-53	A-7870	Nut on pin for anchor bracket	55-7	50048	.08
BISEX	29-D-6	A-7871	Spring on pin for anchor bracket	55-7	50057	.05
CISEX	9-P-1	A-7872	Washer for spring	55-7	51754	.05
DISEX	10-N-11	A-7873	Retainer for spring	55-7	50058	.05
FISEX	9-M-11	A-7874	Cotter pin for spring	51-3-5-7	15162	.05
KISEX	28-C-75	A-7875	Adjusting stop screw in anchor bracket	51	R-651	.15

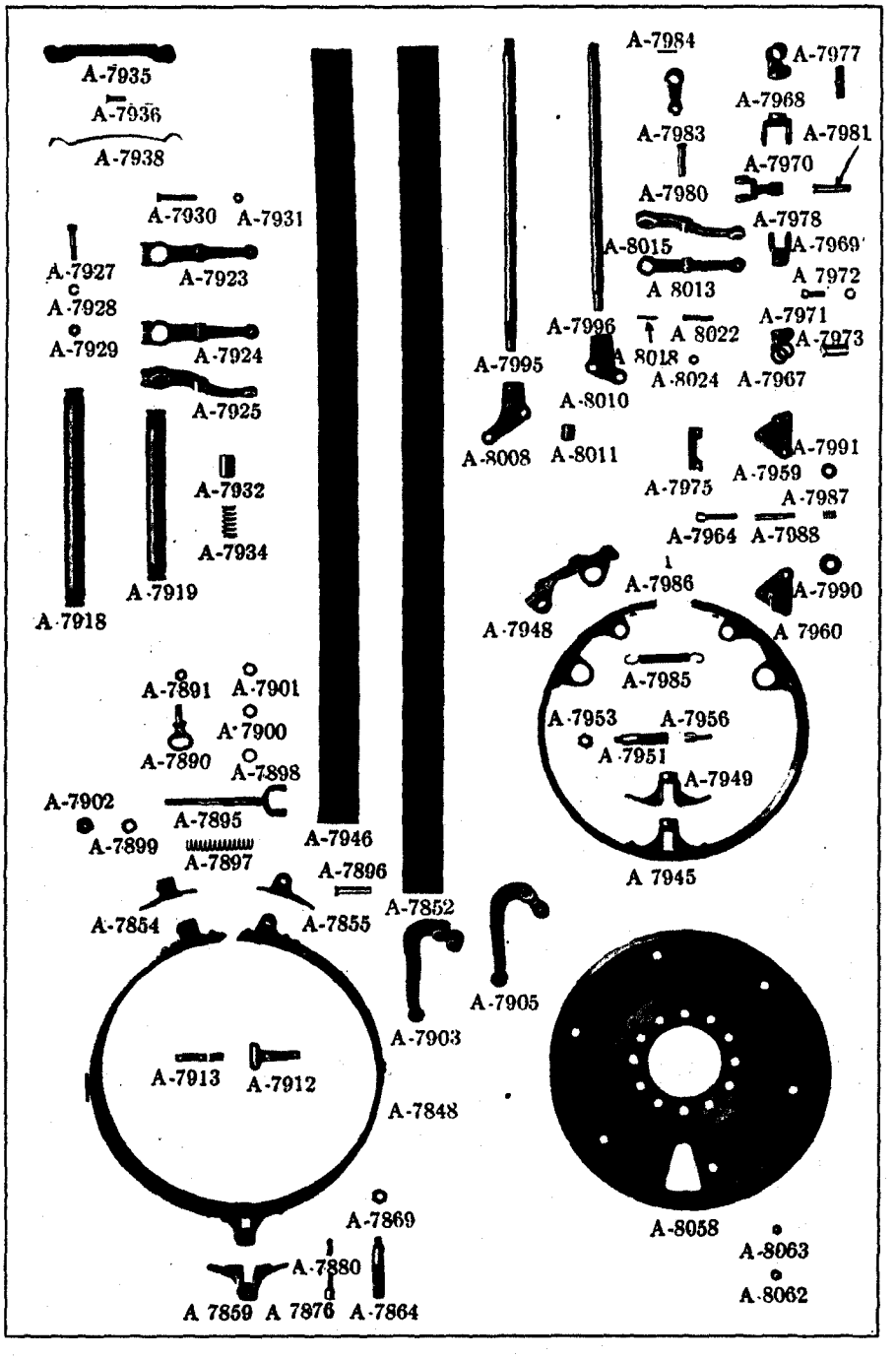


TYPES 55-57 DIFFERENTIAL AND CARRIER

Code Word	Sec.-Bin	Serial	Part Name	Type	Symbol	Price
LISEX	28-D-20	A-7876	Adjusting stop screw in anchor bracket	53	50104	$ .15
RISEX	30-C-41	A-7878	Adjusting stop screw in anchor bracket	55-7	50052	.20
ZISEX	29-D-19	A-7880	Spring for adjusting stop screw	51-3	R-413	.05
DOSEX	29-C-73	A-7882	Spring for adjusting stop screw	55-7	50053	.05
LOSEX	10-M-7	A-7884	Washer for spring	55-7	50054	.05
MOSEX	28-D-24	A-7885	Retainer for spring	55-7	50055	.05
POSEX	9-F-13	A-7886	Felt washer for adjusting stop screw	55-7	50056	.05
ROSEX	10-G-9	A-7887	Cotter pin for adjusting stop screw	51-3-5-7	15179	.05
SOSEX	30-B-113	A-7888	Supporting bracket, RIGHT, for external brake band	51-3-5-7	50023	.55
TOSEX	30-C-125	A-7889	Supporting bracket, LEFT, for external brake band	51-3-5-7	50025	.55
ZOSEX	30-C-141	A-7890	Eye bolt for supporting bracket	51-3-5-7	56585	.50
BUSEX	29-C-77	A-7891	Nut for eye bolt	51-3-5-7	50061	.05
CUSEX	10-E-11	A-7892	Lock washer	51-3-5-7	11337	.05
DUSEX	36-D-9	A-7893	Rivet, supporting bracket to external brake band ($\frac{5}{16}$" long)	51-3-5-7	17607	.05
KUSEX	10-Q-17	A-7894	Rivet, supporting bracket to external brake band ($\frac{1}{2}$" long)	51-3-5-7	17605	.05
MUSEX	30-F-6	A-7895	Yoke bolt for external brake band	51-3-5-7	50030	1.00
PUSEX	28-B-46	A-7896	Pin through yoke bolt and lever	51-3-5-7	50045	.15
RUSEX	38-D-41	A-7897	Expanding spring for external brake band	51-3-5-7	50059	.05
SUSEX	15-B-53	A-7898	Washer for expanding spring, upper	51-3-5-7	4526	.05
TUSEX	36-B-151	A-7899	Washer for expanding spring, lower	51-3-5-7	50035	.05
ZUSEX	30-C-71	A-7900	Jamb nut for yoke bolt	51-3-5-7	50032	.10
BATEK	30-C-33	A-7901	Lock nut for yoke bolt	51-3-5-7	50033	.05
CATEK	30-C-151	A-7902	Adjusting nut for yoke bolt	51-3-5-7	50031	.30
DATEK	30-B-153	A-7903	Lever, RIGHT, on band to operate external brake	51-3	R-640	1.60
FATEK	29-D-18	A-7904	Lever, RIGHT, on band to operate external brake	55-7	50039	1.30
KATEK	29-B-99	A-7905	Lever, LEFT, on band to operate external brake	51-3	R-639	1.60
LATEK	27-D-59	A-7906	Lever, LEFT, on band to operate external brake	55-7	50042	1.50
MATEK	28-B-46	A-7907	Pin for lever and end clip	51-3-5-7	50045	.15
PATEK	12-D-59	A-7908	Cotter pin	51-3-5-7	15165	.05
RATEK	10-H-13	A-7909	Stop screw for lever operating external brake	55-7	50040	.08
SATEK	32-D-41	A-7910	Check nut for stop screw	55-7	11719	.05
TATEK	29 G-18	A-7911	Pull back spring for lever operating external brake	55-7	38655	.10
ZATEK	30-B-9	A-7912	Steady bracket for external brake band on dust shield	51-3-5-7	50027	.05
BETEK	30-B-53	A-7913	Guide plate for steady bracket	51-3-5-7	50036	.05
CETEK	10-Q-17	A-7914	Rivet, guide plate to steady bracket	51-3-5-7	17605	.05

ROCKER TUBE AND LEVERS ON REAR AXLE FOR EXTERNAL BRAKE

FETEK	30-B-31	A-7918	Rocker tube, RIGHT, for external brake band (STANDARD TREAD)	51-3	R-5216	2.40
LETEK	30-B-35	A-7919	Rocker tube, LEFT, for external brake band (STANDARD TREAD)	51-3	R-5217	2.40
PETEK		A-7920	Rocker tube, RIGHT, for external brake band (WIDE TREAD)	51-3	R-5416	2.40
SETEK		A-7921	Rocker tube, LEFT, for external brake band (WIDE TREAD)	51-3	R-5417	2.40
ZETEK		A-7922	Rocker tube for external brake band (WIDE TREAD)	55	R-6010	.60
BITEK	28-B-75	A-7923	Inner lever for external brake rocker tube, RIGHT	51-3	R-5450	1.20
CITEK	29-B-107	A-7924	Inner lever for external brake rocker tube, LEFT	51-3	R-5477	1.00
DITEK	28-B-75	A-7925	Outer lever for external brake rocker tube	51-3	R-5450	1.20
FITEK	28-B-75	A-7926	Lever for external brake rocker tube (4 used) (WIDE TREAD)	55	R-5450	1.20
LITEK		A-7927	Clamp screw, arm on rocker tube	51-3-5	X-692	.10
MITEK	10-F-7	A-7928	Lock washer	51-3-5	11306	.05
PITEK	27-B-11	A-7929	Nut for clamp screw	51-3-5	50085	.05
RITEK	9-I-2	A-7930	Stop screw for rocker tube lever	51-3	X-658	.10
SITEK	9-I-2	A-7931	Check nut for stop screw	51-3	50087	.05
TITEK	9-I-2	A-7932	Bushing in rocker tube	51-3	X-1040	.60
ZITEK		A-7933	Bushing in rocker tube (WIDE TREAD)	55	R-6057	.30
BOTEK	10-H-4	A-7934	Spacing spring for external brake rocker tube	51-3	R-1077	.05

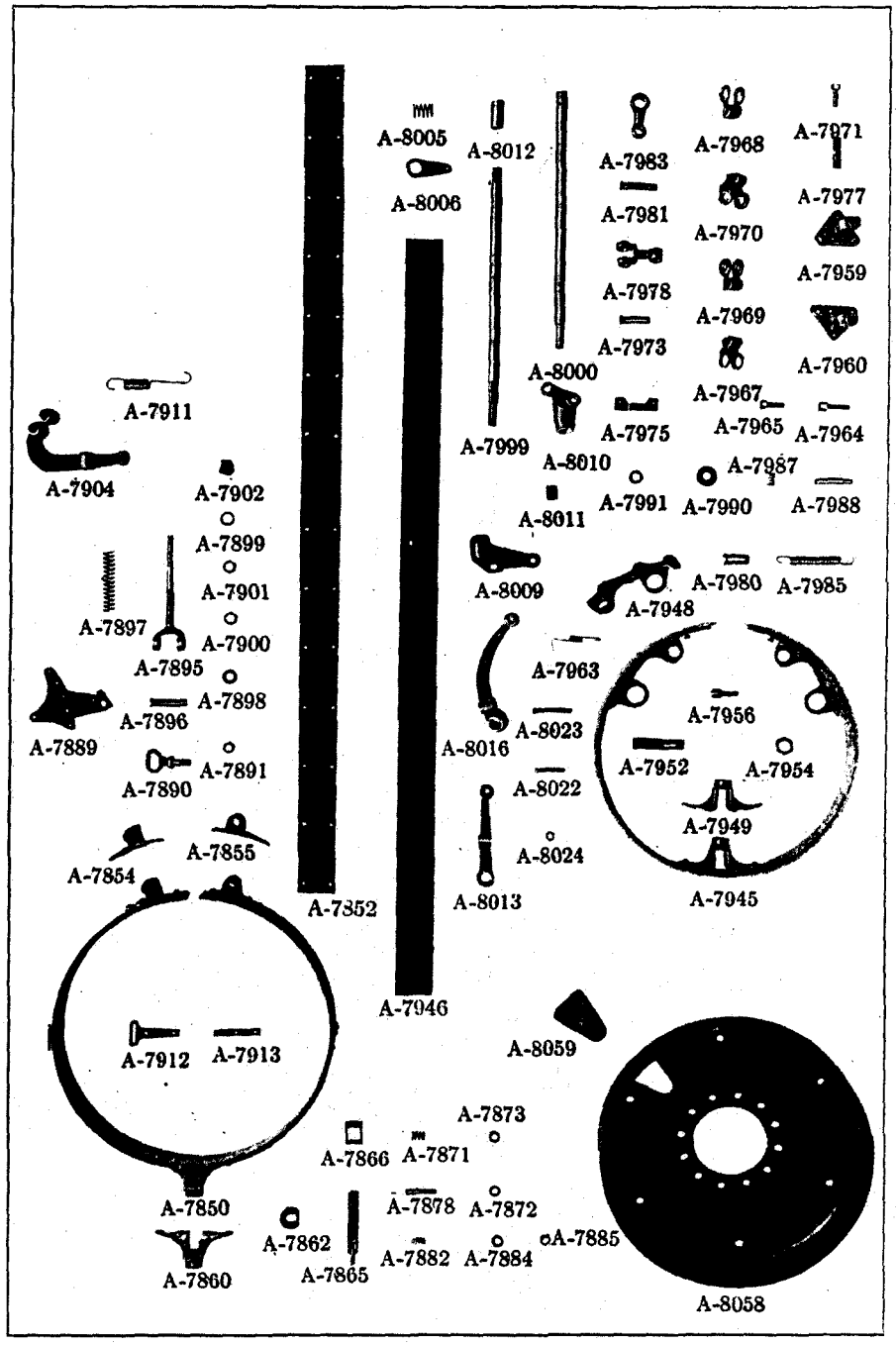


TYPES 51-53 INTERNAL AND EXTERNAL BRAKES

Code Word	Sec.-Bin	Serial	Part Name	Type	Symbol	Price
COTEK	30-B-81	A-7935	Link, rocker tube arm to lever operating external brake (WIDE TREAD only on 55)	51-3-5	R-1038	$ .30
FOTEK	9-B-3	A-7936	Pin for external brake lever link (WIDE TREAD on 55)	51-3-5	X-626	.10
KOTEK	10-E-8	A-7937	Cotter pin	51-3-5	15161	.05
LOTEK	30-B-7	A-7938	Anti-rattling spring for lever link (WIDE TREAD only on 55)	51-3-5	R-1109	.20
POTEK	35-B-55	A-7939	Oil pipe for brake rocker tube	53	32362	.15
ROTEK	10-E-10	A-7940	Cup for oil pipe	53	7367	.05
SOTEK	14-E-14	A-7941	Grease cup for brake rocker tubes and pin for anchor bracket	55	17054	.50

INTERNAL BRAKE BANDS

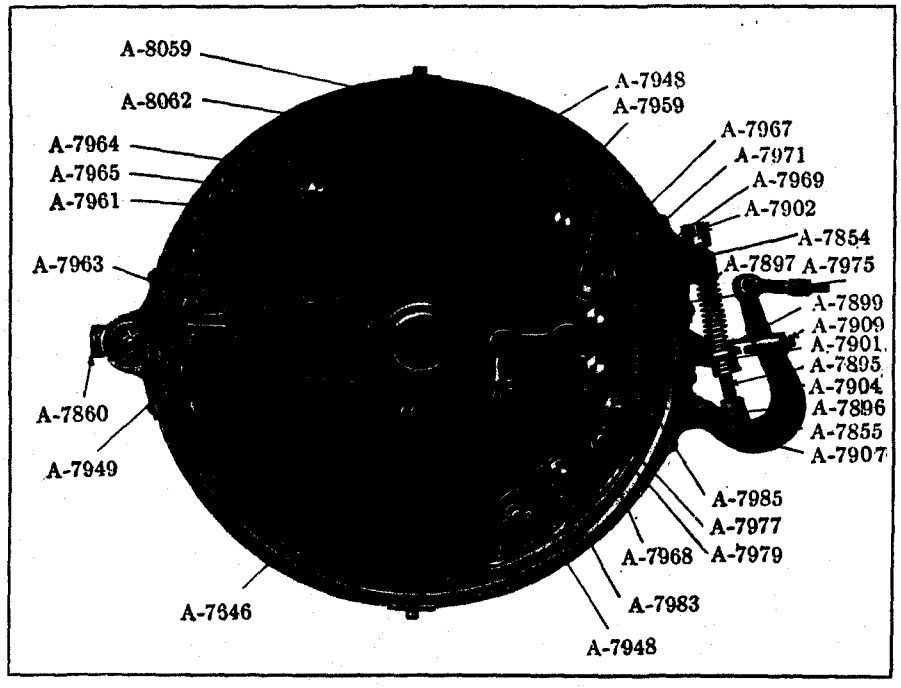
LUTEK	28-G-9	A-7945	Internal brake band with lining, end clips and anchor bracket	51-3-5-7	40418	8.00
PUTEK	30-A-15	A-7946	Lining with 22 rivets, (50922) for internal brake band.	51-3-5-7	33529	2.25
SUTEK	27-C-109	A-7947	Rivet, lining to internal brake band	51-3-5-7	55004	.05
TUTEK	29-B-159	A-7948	End clip for internal brake band	51-3-5-7	50079	.90
ZUTEK	27-D-77	A-7949	Anchor bracket for internal brake band	51-3-5-7	50063	.90
BATEM	10-M-17	A-7950	Rivet, end clip to anchor bracket	51-3-5-7	50064	.05
CATEM	30-C-157	A-7951	Pin for anchor bracket	51	R-832	.50
DATEM	27-B-109	A-7952	Pin for anchor bracket	53-5-7	54941	.35
FATEM	10-C-19	A-7953	Nut for anchor bracket pin	51	X-443	.05
KATEM	21-B-91	A-7954	Nut for anchor bracket pin	53-5-7	58038	.05
LATEM	28-C-75	A-7955	Adjusting screw in anchor bracket	51	R-651	.15
MATEM	28-D-20	A-7956	Adjusting screw in anchor bracket	53-5-7	50104	.15
PATEM	10-G-9	A-7957	Cotter pin through adjusting screw	51-3-5-7	15179	.05
RATEM	29-D-19	A-7958	Spring for adjusting screw in anchor bracket	51	R-413	.05
SATEM	30-B-73	A-7959	Steady bracket for internal brake band, upper RIGHT, lower LEFT	51-3-5-7	27744	.75
ZATEM	30-B-77	A-7960	Steady bracket for internal brake band, upper LEFT, lower RIGHT	51-3-5-7	27743	.75
CETEM	28-D-15	A-7961	Steady bracket for internal brake band, upper rear (2 used)	55-7	57992	.75
DETEM	36-D-9	A-7962	Rivet for steady bracket	51-3-5-7	17607	.05
FETEM	29-C-13	A-7963	Releasing spring for internal brake	53-5-7	50111	.05
KETEM	29-D-31	A-7964	Adjusting stop screw for internal brake band	51-3-5-7	55090	.10
LETEM	30-C-23	A-7965	Locking screw for adjusting stop screw	51-3-5-7	50078	.10
METEM	10-E-11	A-7966	Washer on locking screw	51-3-5-7	11337	.05
PETEM	28-D-35	A-7967	Toggle bracket, outer, upper RIGHT, lower LEFT for toggle adjusting screw	51-3-5-7	50075	.90
SETEM	29-B-157	A-7968	Toggle bracket, outer, upper LEFT, lower RIGHT for toggle adjusting screw	51-3-5-7	50074	.90
ZETEM	30-B-15	A-7969	Toggle bracket, inner, narrow fork, for adjusting screw	51-3-5-7	50077	.90
BITEM	30-B-143	A-7970	Toggle bracket, inner, wide fork, for adjusting screw	51-3-5-7	50076	.90
CITEM	30-C-23	A-7971	Clamp screw for toggle bracket	51-3-5-7	50078	.10
DITEM	36-D-21	A-7972	Lock washer for clamp screw	51-3-5-7	11316	.05
FITEM	30-B-123	A-7973	Pin for outer toggle bracket	51-3-5-7	50100	.15
KITEM	10-R-5	A-7974	Cotter pin for outer toggle pin	51-3-5-7	15176	.05
LITEM	10-I-13	A-7975	Stop lock to limit travel of toggles	51-3-5-7	50113	.08
MITEM	10-Q-17	A-7976	Rivet for stop lock	51-3-5-7	17605	.05
PITEM	30-D-39	A-7977	Adjusting screw for toggle	51-3-5-7	50103	.20
RITEM	30-C-147	A-7978	Link for toggle for internal brake	51-3-5-	R-1140	.60
SITEM	30-B-13	A-7979	Link for toggle for internal brake	57	50094	.70
TITEM	29-D-32	A-7980	Pin, upper, for link and toggle	51-3-5-7	50102	.15
ZITEM	30-D-37	A-7981	Pin, lower, for link and toggle	51-3-5-7	50101	.10
BOTEM	9-N-17	A-7982	Cotter pin for toggle link pins	51-3-5-7	15163	.05
COTEM	30-D-13	A-7983	Expansion lever for internal brake	51-3-5-7	50081	.60
DOTEM	10-F-6	A-7984	Taper pin for expansion lever	51-3-5-7	15030	.05
FOTEM	29-D-52	A-7985	Contracting spring for internal brake	51-3-5-7	50110	.08
KOTEM	30-C-109	A-7986	Stud for contracting spring	51-3-5-7	50115	.05
LOTEM	29-D-15	A-7987	Anti-rattling spring for internal brake	51-3-5-7	50109	.05
MOTEM	29-C-157	A-7988	Pin for anti-rattling spring	51-3-5-7	50097	.08
POTEM	10-E-7	A-7989	Cotter pin	51-3-5-7	15173	.05
ROTEM	30-B-139	A-7990	Inner washer for anti-rattling spring	51-3-5-7	50098	.05
SOTEM	15-B-53	A-7991	Outer washer for anti-rattling spring	51-3-5-7	4526	.05



TYPES 55-57. INTERNAL AND EXTERNAL BRAKES

SHAFTS AND LEVERS ON REAR AXLE FOR INTERNAL BRAKE

Code Word	Sec.-Bin	Serial	Part Name	Type	Symbol	Price
BUTEM	30-B-27	A-7995	Shaft for internal brake, RIGHT (STANDARD TREAD)	51-3	R-5212	$1.50
DUTEM	30-B-43	A-7996	Shaft for internal brake, LEFT (STANDARD TREAD)	51-3	R-5211	1.50
FUTEM		A-7997	Shaft for internal brake, RIGHT (WIDE TREAD)	51-3	R-5418	1.50
KUTEM		A-7998	Shaft for internal brake, LEFT (WIDE TREAD)	51-3	R-5419	1.50
LUTEM	30-B-159	A-7999	Shaft for internal brake, RIGHT (STANDARD TREAD)	55	R-6004	1.50
PUTEM	30-D-14	A-8000	Shaft for internal brake, LEFT (STANDARD TREAD)	55	R-6003	1.50
RUTEM		A-8001	Shaft for internal brake, RIGHT (WIDE TREAD)	55	R-6008	1.50
SUTEM		A-8002	Shaft for internal brake, LEFT (WIDE TREAD)	55	R-6009	1.50
TUTEM	30-C-28	A-8003	Shaft for internal brake, RIGHT	57	50108	1.70
ZUTEM	30-D-17	A-8004	Shaft for internal brake, LEFT	57	50107	1.70
BATEP	30-D-43	A-8005	Spacing spring on brake shaft	55-7	50112	.05
CATEP	29-C-81	A-8006	Washer on brake shaft for internal pull back spring	55-7	50116	.10
DATEP	10-R-5	A-8007	Cotter pin in shaft for washer	55-7	15176	.05
FATEP	28-C-69	A-8008	Bracket for internal brake shaft on carrier, RIGHT	51-3	R-5214	1.00
KATEP	29-C-67	A-8009	Bracket for internal brake shaft on carrier, RIGHT	55-7	50066	1.60
LATEP	30-D-77	A-8010	Bracket for internal brake shaft on carrier, LEFT	51-3-5-7	50065	1.60
MATEP	29-C-63	A-8011	Self-lubricating bushing in bracket for internal brake shaft (2 used)	51-3-5-7	50073	.60
RATEP	29-C-69	A-8012	Self-lubricating bushing in brake spider (2 used)	51-3-5-7	50163	.40
SATEP	29-C-117	A-8013	Lever on outer end of brake shaft, RIGHT	51-3-5	R-5448	1.00
TATEP	29-C-92	A-8014	Lever on outer end of brake shaft, RIGHT	57	50088	1.60
ZATEP	9-C-14	A-8015	Lever on outer end of brake shaft, LEFT	51-3	R-5478	1.00
BETEP	30-D-48	A-8016	Lever on outer end of brake shaft, LEFT	55	R-6005	2.20
CETEP	29-D-17	A-8017	Lever on outer end of brake shaft, LEFT	57	50083	2.20
DETEP	10-F-6	A-8018	Taper pin for operating lever	51-3-5	15030	.05
FETEP	30-C-75	A-8019	Clamp bolt for brake shaft lever	In	52495	.08
KETEP	27-B-11	A-8020	Nut on clamp bolt	57	50085	.05
LETEP	10-F-7	A-8021	Lock washer	57	11306	.05
METEP	30-C-43	A-8022	Stop screw, short, for operating lever	51-3-5-7	50091	.08
PETEP	27-C-32	A-8023	Stop screw, long, for operating lever	55-7	50291	.25
RETEP	9-I-2	A-8024	Nut for stop screw	51-3-5-7	50087	.05



INTERNAL AND EXTERNAL BRAKE BANDS

WHEELS

Code Word	Sec.-Bin	Serial	Part Name	Type	Symbol	Price
			NOTE—Specify engine number or color when ordering wheels that we may supply parts painted the proper color.			
BATER		*A-8029	Front wheel with hub, less rim and lugs (36 x 4½)	51	40021	$30.00
CATER		*A-8030	Front wheel with hub, less rim and lugs (36 x 4½)	53-5	21895	30.00
DATER		*A-8031	Rear wheel with hub and brake drum, less rim and lugs (36 x 4½)	51-3-5	21896	50.00
KATER		*A-8032	Front wheel with hub, less rim and lugs (34 x 4½, special size on 55)	55-7	22753	29.00
FATER		*A-8032B	Front wheel with hub less rim and lugs (34x4½ special size on 55) (natural wood finish)	55-7	22995	32.75
MATER		*A-8033	Rear wheel with hub and brake drum, less rim and lugs (34 x 4½, special size on 55)	55-7	22754	49.00
LATER		*A-8033B	Rear wheel with hub and brake drum, less rim and lugs (34x4½ special size on 55) (natural wood finish)	55-7	22996	52.75
RATER		*A-8034	Front wheel, wood parts and felloe band (36 x 4½)	51-3-5	30274	14.00
SATER		*A-8035	Rear wheel, wood parts and felloe band (36 x 4½)	51-3-5	30275	15.00
TATER		*A-8036	Front wheel, wood parts and felloe band (34 x 4½, special size on 55)	55-7	33410	13.00
BETER		*A-8037	Rear wheel, wood parts and felloe band (34 x 4½, special size on 55)	55-7	33409	14.00
CETER		*A-8037B	Front wheel wood parts and felloe band (34x4½ special size on 55) (natural wood finish	55-7	34857	16.75
FETER		*A-8037C	Rear wheel wood parts and felloe band (34x4½ special size on 55) (natural wood finish)	55-7	34858	17.75
DETER		*A-8038	Front wheel, wood parts and felloe band, M. M.	51-3-5-7	19229	14.00
KETER		*A-8039	Rear wheel, wood parts and felloe band, M. M.	51-3-5-7	19228	15.00
METER		*A-8040	Felloe band only (36 x 4½ wheel)	51-3-5	3461KW	3.40
PETER		*A-8041	Felloe band only (34 x 4½ wheel, special size on 55)	55-7	3467KW	3.00
RETER	27-C-161	A-8042	Hub (outside, having round bolt holes) with bearing mountings for front wheel	51-3	N-377	12.00
TETER	27-D-62	A-8043	Flange (inside, round bolt holes) for front wheel hub	51-3	W-91306	1.80
BITER	27-G-9	A-8044	Hub (inside, having round bolt holes) with bearing mountings for front wheel	53-5-7	52156	12.00
CITER	27-C-85	A-8045	Flange (outside, square bolt holes) for front wheel hub	53-5-7	52158	2.50
DITER	25-G-12	xA-8046	Mounting for inside bearing for front wheel	51-3-5-7	37915	2.92
FITER	25-G-11	xA-8047	Mounting for outside bearing for front wheel	51-3-5-7	37914	2.11
KITER	29-G-20	A-8048	Inside flange with bearing mountings for rear wheel hub	51-3-5-7	27954	11.00
LITER	29-G-11	A-8049	Outside flange for rear wheel	51-3-5-7	52159	9.00
XITER	29-C-103	A-8049B	Outside flange for rear wheel, slots .025 undersize	51-3-5-7	51947	9.00
MITER	25-G-6	xA-8050	Bearing for rear wheel	51-3-5-7	50212	4.23
PITER	25-F-9	xA-8051	Mounting for bearing for rear wheel	51-3-5-7	37916	2.92
RITER	30-D-31	A-8052	Adjusting nut for rear wheel bearing	51-3-5-7	57949	.50
SITER	29-C-17	A-8053	Adjusting washer for rear wheel bearing	51-3-5-7	55739	.15
TITER	17-G-9	A-8054	Dust felt for rear wheel inner bearing	51-3-5-7	11818	.15
ZITER	30-B-5	A-8055	Inner retainer for dust felt	51-3-5-7	50218	.10
BOTER	29-D-24	A-8056	Outer retainer for dust felt	51-3-5-7	50219	.15
COTER	30-E-11	A-8057	Wire retainer for dust felt	51-3-5-7	50220	.05
DOTER	28-G-25	A-8058	Brake drum for rear wheel	51-3-5-7	52160	6.75
FOTER	29-F-13	A-8059	Cover complete for peep hole in brake drum	51-3-5-7	26488	.90
MOTER	29-C-77	A-8062	Lock nut, large, for bolt	51-3-5-7	50061	.05
POTER	38-D-12	A-8063	Handle nut, small, for bolt	51-3-5-7	10892	.05
ROTER	27-D-5	A-8064	Bolt for front wheel hub	51	X-524	.08
SOTER	27-C-33	A-8065	Bolt for front wheel hub	53-5-7	33160	.05
TOTER	31-G-5	A-8066	Bolt for rear wheel hub	51-3-5-7	32380	.05
ZOTER	29-D-65	A-8067	Brake drum bolt for rear wheel	51	X-649	.10
BUTER	30-E-14	A-8068	Brake drum bolt for rear wheel	53-5-7	32382	.10
CUTER	29-C-39	A-8069	Nut for brake drum and hub bolts	51-3-5-7	58566	.05
DUTER	9-O-21	A-8070	Oiler in front wheel hub	51-3	X-639	.20
FUTER	28-C-5	A-8071	Oiler in rear wheel hub	51-3-5-7	50216	.15
LUTER	28-E-7	A-8073	Hub cap for front wheel	51-3-5-7	50411	1.50
MUTER	28-G-1	A-8074	Hub cap for rear wheel	51-3-5-7	50412	2.00
PUTER	13-G-7	A-8075	Wrench for hub cap and jamb nut on spindle	51-3-5-7	34011	.75

*Classify on order as crated material.

x Indicates subject to special discount.

RIMS FOR WHEELS

Code Word	Sec.-Bin	Serial	Part Name	Type	Symbol	Price
KATES		*A-8079	Kelsey straight side demountable rim with ring (36 x 4½)	51-3-5	18496	$ 9.70
BATES		*A-8081	Kelsey straight side demountable rim with ring (34 x 4½, special size on 55)	55-7	34044	7.50
MATES		*A-8083	Kelsey universal demountable rim with rings for (895 x 135) millimeter tires	51-3-5-7	51805	8.00
RATES		*A-8084	Outside locking ring for straight side dem. rim (36 x 4½)	51-3-5	3493-KW	3.00
TATES		*A-8085	Outside locking ring for universal dem. rim (36 x 4½)	51-3-5	3462-KW	3.60
BETES		*A-8086	Outside locking ring for straight side dem. rim (34 x 4½)	55-7	50625	3.00
DETES		*A-8087	Outside locking ring for universal dem. rim (34 x 4½)	55-7	3468-KW	3.40
KETES		*A-8088	Outside locking ring for universal demountable rim (895 x 135) millimeter tires	55-7	51806	2.45
METES		*A-8089	Inside ring for universal demountable rim (36 x 4½)	51-3-5	3463-KW	2.60
PETES		*A-8090	Inside ring for universal demountable rim (34 x 4½)	55-7	3469-KW	2.60
RETES		*A-8091	Inside ring for universal demountable rim (895 x 135) millimeter tires	55-7	51807	1.70
TETES		*A-8092	Clamping ring, straight side or universal demountable rim on wheel (36 x 4½)	51-3-5	3464-KW	.60
BITES		*A-8093	Clamping ring, straight side or universal dem. rim on wheel (34 x 4½ on 55-7)	51-3-5-7	50626	.60
RITES		*A-8093B	Clamping ring for universal demountable rim (895x135) millimeter tires	51-3-5-7	38519	.60
CITES	27-D-61	A-8094	Lock for outside locking ring	51-3-5-7	50623	.15
DITES	27-B-6	A-8095	Rivet to attach lock	51-3-5-7	50624	.05
FITES	27-G-2	A-8096	Bolt for rims	51-3-5-7	38515	.08
KITES	27-G-7	A-8097	Nut and wedge assembled for rims	51-3-5-7	52938	.17
LITES	27-D-60	A-8098	Stop pin for nut and wedge	51-3-5-7	3477-KW	.05
MITES	30-B-23	A-8099	Driving stud for rim	51-3-5-7	50622	.15

TORSION ARMS

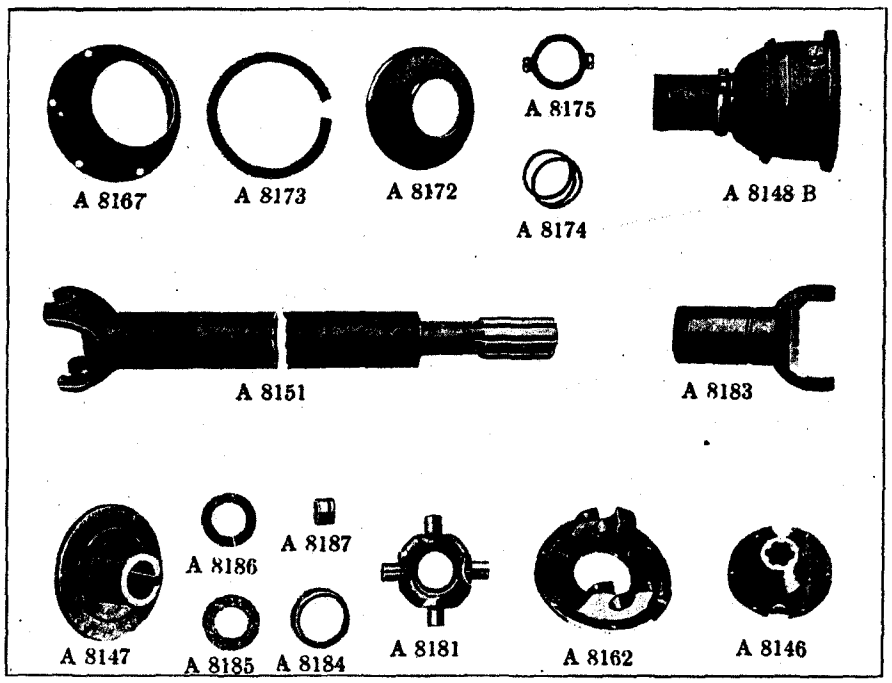
SITES	30-A-3	A-8103	Torsion arm with riveted parts and bushings	51	21047	18.50
TITES	26-A-35	A-8104	Torsion arm with riveted parts and bushings	53	21917	18.50
ZITES	28-A-42	A-8105	Torsion arm with riveted parts and bushings	55-7	23331	18.50
BOTES	33-F-20	A-8106	End, front, for torsion arm	51	19146	4.00
COTES	33-C-85	A-8107	End, front, for torsion arm	53-5-7	31805	3.50
DOTES	32-G-9	A-8108	Support for front end of torsion arm	51	9234	2.00
FOTES	28-G-5	A-8109	Support with bushing for front end of torsion arm	53-5-7	21508	3.50
KOTES	32-D-4	A-8110	Bushing for torsion arm support	53-5-7	30829	.30
LOTES	33-D-21	A-8111	Spring on torsion arm hanger	51	12469	.30
MOTES	33-F-8	A-8112	Spring on torsion arm support (2 used)	53-5-7	30833	.40
POTES	34-D-43	A-8113	Flat washer for torsion arm spring	51	9233	.05
ROTES	32-C-25	A-8114	Washer on lower end of support for spring	53-5-7	30828	.10
SOTES	31-D-79	A-8115	Castle nut on support	51-3-5-7	53513	.08
TOTES	10-F-9	A-8116	Cotter pin	51-3-5-7	15175	.05
ZOTES	33-G-16	A-8117	Seat above and below end on support for spring	53-5-7	30830	.60
BUTES	33-G-15	A-8118	Bolt, torsion arm support to cross member	51-3-5-7	18309	.75
CUTES	33-C-115	A-8119	Nut	51-3-5-7	6411	.10
DUTES	32-F-23	A-8120	Lock washer	51-3-5-7	11310	.05
FUTES	14-E-14	A-8121	Grease cup for bolt in front support and shaft at rear end of torsion arm	51-3-5-7	17054	.50
KUTES	33-B-111	A-8121A	Bracket with bushing, rear end of torsion arm	51-3	42004	4.80
YUTES	33-C-77	A-8121C	Bracket with bushing, rear end of torsion arm (2 used on 55, lower only on 57	55-7	42002	4.80
XUTES	33-C-73	A-8121D	Bracket with bushing, upper, rear end of torsion arm	57	42001	4.80
LUTES	33-G-2	A-8122	Bushings in rear end of torsion arm (2 used)	51-3-5-7	19145	.85
MUTES		A-8123	Stirrup for torsion arm	51-3	19344	.50
PUTES	37-B-16	A-8124	Screw, stirrup to cross member	51-3	56198	.08
RUTES	9-B-22	A-8125	Nut	51-3	6076	.05
SUTES	36-D-21	A-8126	Lock washer	51-3	11316	.05
TUTES	14-B-13	A-8127	Pipe extension for grease cup, at rear end of torsion arm	57	37751	.35
ZUTES	15-D-56	A-8128	Elbow for grease cup extension	57	30382	.15

*Classify on order as crated material.

Code Word	Sec.-Bin	Serial	Part Name	Type	Symbol	Price
BATET	14-B-21	A-8129	Coupling for grease cup extension	57	19754	$ .10
CATET	37-B-118	A-8130	Support for extension	57	37752	.05
DATET	10-C-9	A-8131	Screw to attach support	57	11613	.05
FATET	15-B-45	A-8132	Lock washer	57	11314	.05

UNIVERSAL JOINTS AND CASINGS

PATET	20-A-52	A-8136	Spicer universal joints complete with shaft (E)	51-3	18497	41.00
RATET	21-G-35	A-8137	Spicer universal joints complete with shaft (H)	51-3	17948	65.00
SATET	20-G-33	A-8138	Spicer universal joints complete with shaft (G)	53	31590	55.00
TATET	21-G-27	A-8139	Spicer universal joints complete with shaft (F)	55	32972	45.00
ZATET	20-G-27	A-8140	Spicer universal joints complete with shaft (G)	55	32973	55.00
BETET	20-G-25	A-8141	Spicer universal joints complete with shaft (H)	55	32974	65.00
CETET	21-G-29	A-8142	Spicer universal joints complete with shaft (F)	57	37539	41.00
DETET	20-G-31	A-8143	Spicer universal joints complete with shaft (G)	57	37540	55.00
FETET	20-G-35	A-8144	Spicer universal joints complete with shaft (H)	57	37541	65.00
KETET	21-D-44	A-8145	Flange on transmission drive shaft for universal joint	51-3-5	18845	4.50
LETET	21-D-41	A-8146	Flange on transmission drive shaft for universal joint	57	37266	4.50
METET	21-E-8	A-8147	Flange on rear axle pinion shaft for universal joint	51-3-5-7	19382	4.50
PETET	21-G-16	A-8148	Joint complete for front end of shaft	51-3	431	17.00
SETET	21-G-9	A-8148B	Joint complete for front end of shaft	55-7	431-A	17.00
RETET	22-A-9	A-8149	Shaft for joints with rear end ball joint 1786-SF and stub shaft 1785-SF (E)	51-3	1787-SF	16.00
TETET	22-A-38	A-8150	Shaft for joints with rear end ball joint 2365-SF, and stub shaft 2422-SF (F)	55	1901-SF	17.50
BITET	20-G-29	A-8151	Shaft for joints with rear end ball joint 2608-SF, and stub shaft 2607-SF (F)	57	2609-SF	17.50
DITET	20-G-26	A-8152	Shaft for joints with stub shafts (G)	53	41813	26.50
FITET	20-G-32	A-8153	Shaft for joints with stub shafts (G)	55	41815	26.50
KITET	21-G-32	A-8154	Shaft for joints with stub shafts (G)	57	41817	26.50
LITET	21-G-34	A-8155	Shaft for joints with stub shafts (H)	51-3	41814	35.00
MITET	20-G-30	A-8156	Shaft for joints with stub shafts (H)	55	41816	35.00
PITET	20-G-34	A-8157	Shaft for joints with stub shafts (H)	57	41818	35.00
RITET	21-D-27	A-8158	Ball yoke on shaft for rear joint (G) (H)	51-3	4-4-1	3.85



UNIVERSAL JOINTS

Code Word	Sec.-Bin	Serial	Part Name	Type	Symbol	Price
BATEX	21-D-37	A-8159	Ball yoke on shaft for rear joint (G)(H)	55-7	4–4–8	$ 3.85
CATEX	21-C-25	A-8160	Nut retaining ball yoke on shaft (G) (H)	51-3-5-7	54–16	.65
DATEX	14-D-71	A-8161	Cotter pin for nut on shaft (G) (H)	51-3-5-7	15169	.05
FATEX	21-E-2	A-8162	Yoke flange, either end	51-3-5	4-2-139	3.55
KATEX	21-D-22	A-8163	Bolt, attaching yoke flange	51-3-5-7	34030	.08
LATEX	21-C-9	A-8164	Nut	51-3-5-7	33426	.05
MATEX	13-B-16	A-8165	Lock washer	51-3-5-7	11315	.05
RATEX	21-F-7	A-8167	Inside casing with plug for joint, either end	51-3-5-7	2635-SF	.85
SATEX	21-B-9	A-8168	Oil hole plug (5/16") for inside casing	51-3-5	51–10	.05
TATEX	9-O-13	A-8169	Oil hole plug (5/8") for inside casing	57	50516	.05
ZATEX	10-G-9	A-8170	Cotter pin for oil hole plug	51-3-5	15179	.05
BETEX	10-F-9	A-8171	Cotter pin for oil hole plug	57	15175	.05
CETEX	21-D-24	A-8172	Outside casing for joint, either end	51-3-5-7	4–9–1	.90
DETEX	21-D-48	A-8173	Packing in outside casing	51-3-5-7	4–10–1	.15
FETEX	21-D-23	A-8174	Spring for outside casing	55-7	4–12–1	.10
KETEX	21-B-39	A-8175	Lock nut for spring against outside casing	55-7	5-13-12	.65
LETEX	9-O-14	A-8176	Screw for lock nut	55-7	4-73-1117	.05
YETEX	9-O-4	A-8176B	Nut for screw	55-7	4-74-11	.05
METEX	15-B-45	A-8177	Lock washer	51-3-5-7	11314	.05
PETEX	21-D-13	A-8178	Clamping nut for outside casing, either end	51-3	4–13–1	.65
RETEX	9-O-16	A-8179	Screw for clamping nut	51-3	53–4–12-F	.05
SETEX	15-B-45	A-8180	Lock washer	51-3	11314	.05
TETEX	21-G-13	A-8181	Cross for yoke, either end	51-3-5-7	50513	2.25
ZETEX	21-F-9	A-8182	Sleeve yoke on shaft for front joint	51-3	4–3–7	4.00
BITEX	21-F-2	A-8183	Sleeve yoke on shaft for front joint	55-7	4-3-31	7.00
CITEX	21-B-35	A-8184	Knurled dust cap for sleeve yoke	51-3-5-7	4–14–1	.85
DITEX	16-D-37	A-8185	Felt washer in dust cap for sleeve yoke	51-3-5-7	8776	.10
FITEX	21-B-37	A-8186	Flat split washer for retaining felt washer in dust cap	51-3-5-7	4–15–1	.10
KITEX	21-G-2	A-8187	Steel bushing in yoke for cross (4 used), either end	51-3-5-7	50509	.35
LITEX	21-B-27	A-8188	Wire retainer for bushing	51-3-5-7	50520	.05
MITEX	21-G-19	A-8189	Casing for front end of universal joint, all except (C) on 53-5	51-3-5	20758	1.25
RITEX	21-D-25	A-8190	Casing for front end of universal joint (C)	53-5	21891	1.25
SITEX	21-G-12	A-8191	Casing for front end of universal joint	57	37297	.70
TITEX	10-P-9	A-8192	Clip for casing	51-3-5	30030	.05
ZITEX	10-P-10	A-8193	Clip for casing with button (plain)	57	23773	.15
BOTEX	9-Q-19	A-8194	Clip for casing with button (tapped)	57	41770	.15
COTEX	10-C-17	A-8195	Rivet, casing to clip	51-3-5	17700	.05
DOTEX	9-P-11	A-8196	Screw, casing to clip	57	37496	.08
FOTEX	15-C-115	A-8197	Screw, clip to transmission	51-3-5	10272	.05
KOTEX	14-D-21	A-8198	Screw, clip to transmission	57	10007	.05
LOTEX	15-B-45	A-8199	Lock washer	51-3-5	11314	.05
MOTEX	13-B-16	A-8200	Lock washer	57	11315	.05
POTEX	21-B-17	A-8201	Cover for hole in casing	51-3-5	31647	.15
ROTEX	10-N-15	A-8202	Hook for cover	51-3-5	31645	.08
SOTEX	10-G-5	A-8203	Spring for cover	51-3-5	31646	.05

WINDSHIELDS, FRAMES AND GLASSES FOR WINDSHIELDS—OPEN CARS

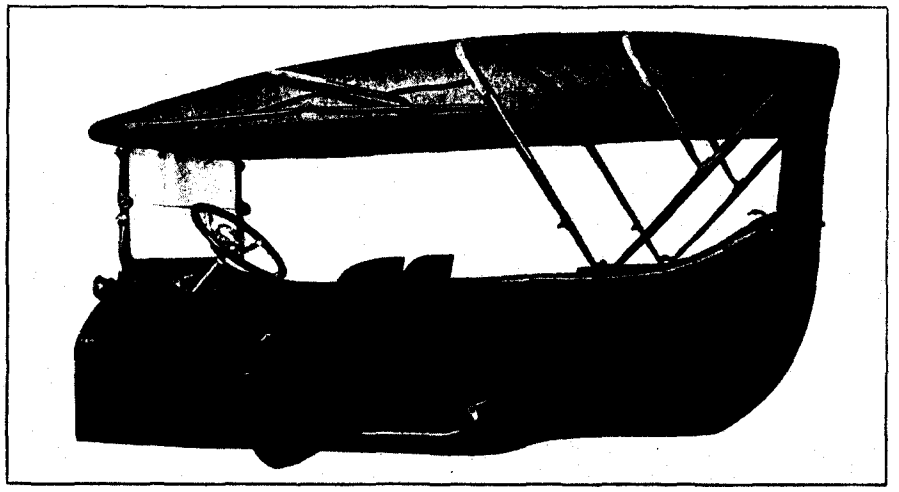
NOTE:—Two types of windshields were used on Type 57 (P-2) and (R-2). The upper glass is 9 1/2" wide on the first type and 7 1/2" wide on the second type. The latter was used on all (P-2) and (R-2), shipped after April 10, 1919. Specify engine number when ordering.

MUTEX	40-A-2	A-8207	Windshield complete (5-P) (7-P) (SL)	51	19397	55.00
PUTEX	40-A-3½	A-8208	Windshield complete (R)	51	30426	55.00
RUTEX	40-D-3	A-8209	Windshield complete (7-P) (SL)	53	31161	75.00
SUTEX	40-A-1	A-8210	Windshield complete (R)	53	31162	75.00
TUTEX	40-C-3	A-8211	Windshield complete (MT) (T)	53-5	32299	75.00
ZUTEX	40-D-4	A-8212	Windshield complete (R) (CR) (P)	55	33467	80.00

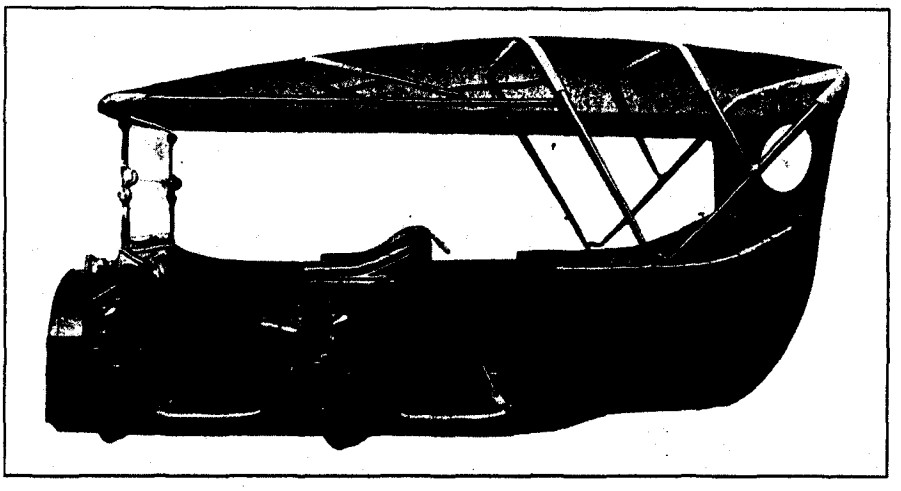
Code Word	Sec.-Bin	Serial	Part Name	Type	Symbol	Price
BATEZ	40-C-2	A-8213	Windshield complete (7-P) (P-1)	57	37400	$80.00
CATEZ	40-A-4	A-8214	Windshield complete (R-1)	57	38085	80.00
DATEZ	40-C-4	A-8215	Windshield complete (P-2) (R-2) 1st Type	57	38144	80.00
FATEZ	40-B-1	A-8216	Windshield complete (P-2) (R-2) 2nd Type	57	38633	80.00
KATEZ	40-G-6	A-8217	Frame with glass, upper, (5-P) (7-P) (SL)	51	41870	22.00
LATEZ	40-B-8	A-8218	Frame with glass, lower, (5-P) (7-P) (SL)	51	41871	22.50
MATEZ	40-F-8	A-8219	Frame with glass, upper, (R)	51	41872	22.00
PATEZ	40-F-6	A-8220	Frame with glass, lower (R)	51	41873	22.50
RATEZ	40-C-10	A-8221	Frame with glass, upper (SL) (7-P)	53	41695	23.50
SATEZ	40-C-8	A-8222	Frame with glass, lower, (SL) (7-P)	53	41874	24.00
TATEZ		A-8223	Frame with glass, upper, (R)	53	41875	23.50
ZATEZ		A-8224	Frame with glass, lower (R)	53	41876	24.00
BETEZ	40-E-5	A-8225	Frame with glass, upper (MT) (T)	53-5	21288	27.50
CETEZ	40-C-5	A-8226	Frame with glass, lower (MT) (T)	53-5	21290	24.00
DETEZ	40-H-8	A-8227	Frame with glass, upper (P) (R) (CR)	55	23672	25.00
FETEZ	40-F-5	A-8228	Frame with glass, lower (P) (R) (CR)	55	23674	26.00
KETEZ	40-D-8	A-8229	Frame with glass, upper (7-P) (P-1)	57	41779	37.00
LETEZ		A-8230	Frame with glass, upper (R-1)	57	41780	27.50
METEZ	40-D-10	A-8231	Frame with glass, lower (7-P) (P-1) (R-1)	57	41782	37.00
PETEZ	40-H-5	A-8232	Frame with glass, upper (P-2) (R-2) 1st Type	57	41781	24.00
RETEZ	40-F-10	A-8233	Frame with glass, upper (P-2) (R-2) 2nd Type	57	41877	24.00
SETEZ	40-B-10	A-8234	Frame with glass, lower (P-2) (R-2)	57	41783	22.00
TETEZ		A-8235	Glass for upper or lower frame (7-P) (5-P) (SL)	51	19245	12.00
ZETEZ	40-B-11	A-8236	Glass for upper or lower frame (R)	51	30325	12.00
BITEZ	40-C-11	A-8237	Glass for upper frame (7-P) (SL) (T) (MT)	53-5	31049	12.00
CITEZ	40-H-13	A-8238	Glass for lower frame (T) (MT)	53-5	32297	13.00
DITEZ	40-H-16	A-8239	Glass for lower frame (SL) (7-P)	53	31050	13.00
FITEZ	40-A-11	A-8240	Glass for upper frame (R)	53	31130	12.00
KITEZ	40-C-14	A-8241	Glass for lower frame (R)	53	31131	13.00
LITEZ	40-F-16	A-8242	Glass for upper frame (P) (R) (CR)	55	33457	12.00
MITEZ	40-D-14	A-8243	Glass for lower frame (P) (R) (CR)	55	33458	15.00
PITEZ	40-D-15	A-8244	Glass for upper frame (7-P) (P-1) ($9\frac{5}{32}$ x 40″)	57	37401	10.50
RITEZ		A-8245	Glass for upper frame (R-1)	57	38082	10.50
SITEZ	40-C-15	A-8246	Glass for lower frame (7-P) (P-1) (R-1) ($7\frac{7}{16}$ at center x 40″)	57	37402	10.50
TITEZ	40-H-15	A-8247	Glass for upper frame (P-2) (R-2) 1st Type ($9\frac{13}{32}$″ x 38″)	57	38148	13.00
ZITEZ	40-B-12	A-8248	Glass for upper frame (P-2) (R-2) 2nd Type ($7\frac{13}{32}$″ x 38″)	57	38629	11.00
BOTEZ	40-D-14	A-8249	Glass for lower frame (P-2) (R-2) ($6\frac{15}{32}$ x 38″)	57	33458	15.00
COTEZ	10-U-14	A-8250	Cap for corner of frame and glass (OC)	51-3-5-7	16569	.25
DOTEZ	10-G-16	A-8251	Screw, flat head, to attach corner caps	51-3-5-7	11553	.05
FOTEZ	17-D-42	A-8252	Felt packing for glass in frame	51-3-5-7	45356	.20
KOTEZ	10-J-20	A-8253	Handle for lower frame of windshield (OC) except (P-2) (R-2)	51-3-5-7	19244	.30
MOTEZ	9-B-11	A-8254	Handle for lower frame of windshield (P-2) (R-2)	57	38277	.25
POTEZ	10-G-8	A-8255	Screw for windshield handle	51-3-5-7	11867	.05
ROTEZ	10-Q-17	A-8256	Nut for windshield handle screw	51-3-5-7	19242	.05

SUPPORTS, LINKS AND CONES FOR WINDSHIELDS—OPEN CARS

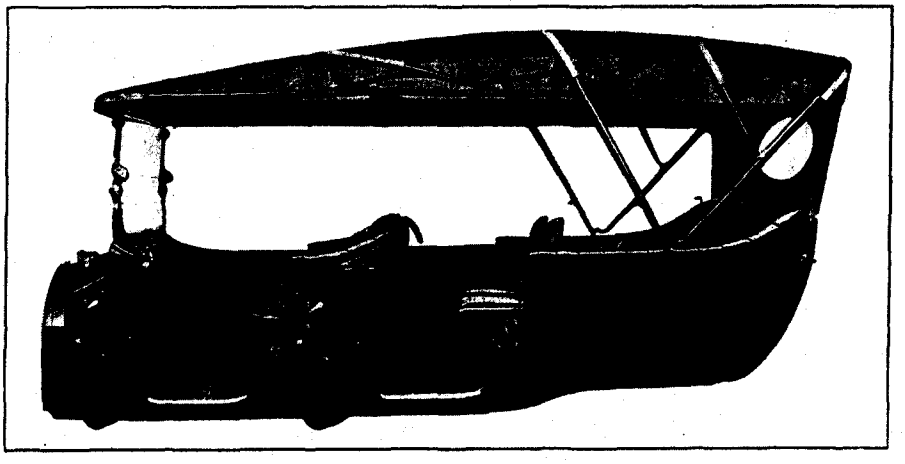
ZOTEZ		A-8260	Support for windshield, RIGHT (5-P) (7-P) (SL)	51	19250	6.00
BUTEZ		A-8261	Support for windshield, LEFT (5-P) (7-P) (SL)	51	19251	6.00
CUTEZ	35-B-144	A-8262	Support for windshield, RIGHT (R)	51	30323	3.00
DUTEZ	38-B-14	A-8263	Support for windshield, LEFT (R)	51	30324	3.00
FUTEZ	36-C-159	A-8264	Support for windshield, RIGHT (7-P) (SL)	53	31041	7.00
KUTEZ	36-E-8	A-8265	Support for windshield, LEFT (7-P) (SL)	53	31042	7.00
LUTEZ	36-B-58	A-8266	Support for windshield, RIGHT (R)	53	31126	8.00
MUTEZ	36-D-32	A-8267	Support for windshield, LEFT (R)	53	31127	8.00
PUTEZ	36-G-14	A-8268	Support for windshield, RIGHT (MT) (T)	53-5	32279	7.00
RUTEZ	36-G-13	A-8269	Support for windshield, LEFT (MT) (T)	53-5	32280	7.00
SUTEZ	36-D-50	A-8270	Support for windshield, RIGHT (P) (R) (CR)	55	33462	8.00
TUTEZ	36-D-14	A-8271	Support for windshield, LEFT (P) (R) (CR)	55	33463	8.00
ZUTEZ	36-G-11	A-8272	Support for windshield, RIGHT (7-P) (P-1)	57	38044	17.70



TYPE 51 SALON BODY, TOP AND WINDSHIELD



TYPE 51 FIVE PASSENGER BODY, TOP AND WINDSHIELD



TYPE 51 SEVEN PASSENGER TOURING BODY, TOP AND WINDSHIELD

Code Word	Sec.-Bin	Serial	Part Name	Type	Symbol	Price
BAZEL	35-F-10	A-8273	Support for windshield, LEFT (7-P) (P-1)	57	38045	$17.70
CAZEL		A-8274	Support for windshield, RIGHT (R-1)	57	38083	12.20
DAZEL		A-8275	Support for windshield, LEFT (R)	57	38084	12.20
FAZEL	38-F-8	A-8276	Support for windshield, RIGHT (P-2) (R-2) 1st type	57	38145	12.20
KAZEL	38-A-54	A-8277	Support for windshield, LEFT (P-2) (R-2) 1st type	57	38146	12.20
LAZEL	35-D-52	A-8278	Support for windshield, RIGHT (P-2) (R-2) 2nd type	57	38631	12.90
MAZEL	35-G-22	A-8279	Support for windshield, LEFT (P-2) (R-2) 2nd type	57	38632	12.90
PAZEL	36-D-38	A-8281	Nut, support to body (OC)	51-3-5-7	11686	.25
RAZEL	38-D-39	A-8282	Lock washer	51-3-5-7	11320	.05
SAZEL	38-D-76	A-8283	Bushing in cowl for windshield support	51-3-5-7	16362	.80
TAZEL		A-8284	Link between upper and lower frames, RIGHT (5-P) (7-P) (SL)	51	19248	4.00
BEZEL		A-8285	Link between upper and lower frames, LEFT (5-P) (7-P) (SL)	51	19249	4.00
DEZEL	37-B-16	A-8286	Link between upper and lower frames, RIGHT (R)	51	30328	4.00
FEZEL	37-D-39	A-8287	Link between upper and lower frames, LEFT (R)	51	30329	4.00
KEZEL	36-D-13	A-8288	Link between upper and lower frames, RIGHT (P) (R) (CR)	55	33459	4.00
MEZEL	37-B-67	A-8289	Link between upper and lower frames, LEFT (P) (R) (CR)	55	33460	4.00
REZEL	38-B-120	A-8290	Cone, loose, for upper or lower joints	51-3-5-7	16558	.60
SEZEL	9-A-17	A-8291	Cone for upper joints, fixed	51-3-5-7	16559	1.15
TEZEL	9-B-14	A-8292	Cone for lower joints, fixed	51-3-5-7	16560	1.00
ZEZEL	36-C-3	A-8293	Cone, loose, for center joint all (OC) on 51, (P) (R) (CR) on 55	51-5	16561	.80
CIZEL	38-D-80	A-8294	Wing nut for upper and lower joints	51-3-5-7	16564	.80
DIZEL	38-B-80	A-8295	Wing nut for center joints (OC) on 51, (P) (R) (CR) on 55	51-5	16565	.80
FIZEL	38-D-23	A-8296	Cap screw for studs in center of wing nuts (left hand thread)	51-3-5-7	11552	.15
LIZEL	10-O-9	A-8297	Lock washer on cap screw	51-3-5-7	11349	.05
MIZEL	10-H-14	A-8298	Plain washer for wing nuts at joints	51-3-5-7	11428	.10
PIZEL	10-E-9	A-8299	Lock washer on studs for wing nuts	51-3-5-7	11338	.05
RIZEL	9-T-23	A-8300	Stud for upper and lower joints	51-3-5-7	16562	.20
SIZEL	10-G-15	A-8301	Stud on center joints (OC) on 51, (P) (R) (CR) on 55	51-5	16563	.15

RAIN STRIP AND RUBBER MOULDING FOR WINDSHIELDS—OPEN CARS

BOZEL	17-G-2	A-8304	Rain strip between upper and lower glasses (OC) except (P) (R) (CR) on 55 and (P-2) (R-2) on 57	53-5-7	32040	.70
DOZEL	17-G-2	A-8305	Rain strip between upper and lower glasses (P) (P-2) (CR) (R) (R-2)	55-7	32040	.70
KOZEL	17-C-161	A-8306	Rubber moulding under windshield (OC)	51	19253	1.00
LOZEL	16-G-25	A-8307	Rubber moulding under windshield (7-P) (SL) (R)	53	31045	1.40
MOZEL	17-E-25	A-8308	Rubber moulding under windshield (MT) (T)	53-5	32281	1.30
POZEL	17-D-75	A-8309	Rubber moulding under windshield (P) (P-2) (R) (R-2) (CR)	55-7	33464	1.75
SOZEL	17-G-4	A-8310	Rubber moulding under windshield (7-P) (P-1) (R-1)	57	37393	1.30
TOZEL	35-E-25	A-8311	Reinforcement for moulding (OC)	51	19252	.75
ZOZEL	38-A-17	A-8312	Reinforcement for moulding under windshield (7-P) (SL) (R)	53	31046	1.00
CUZEL	36-F-26	A-8313	Reinforcement for moulding under windshield (MT) (T)	53-5	32295	1.00
DUZEL	38-G-3	A-8314	Reinforcement for moulding under windshield (P) (P-2) (R) (R-2) (CR)	55-7	33466	2.00
KUZEL	36-E-11	A-8315	Reinforcement for moulding under windshield (7-P) (P-1) (R-1)	57	37397	1.50
MUZEL	37-B-52	A-8316	Reinforcement for moulding on sides of windshield (2 used) (MT) (T)	53-5	32296	.50
RUZEL	36-B-149	A-8317	Reinforcement for moulding on sides of windshield (2 used) (P) (P-2) (R) (R-2) (CR)	55-7	33465	.50
TUZEL	35-C-147	A-8318	Reinforcement for moulding on sides of windshields (2 used) (7-P) (P-1) (R-1)	57	37396	.75

Code Word	Sec.-Bin	Serial	Part Name	Type	Symbol	Price
BAZEM	10-D-2	A-8319	Screw (½" long,) reinforcement to body	51-3-5-7	11835	$ .05
CAZEM	36-C-43	A-8320	Screw (⅝" long,) reinforcement to body	55-7	11899	.05
DAZEM	10-C-11	A-8321	Screw (⅞" long,) reinforcement to body	55-7	11988	.05
FAZEM	10-J-6	A-8322	Screw (1" long,) reinforcement to body	55	11947	.05
KAZEM	9-J-9	A-8323	Stud fasteners on windshield support for side curtains	55-7	33338	.05

RAIN VISION SHIELD—CLOSED CARS

Parts not listed, furnished by Fisher Body Corporation

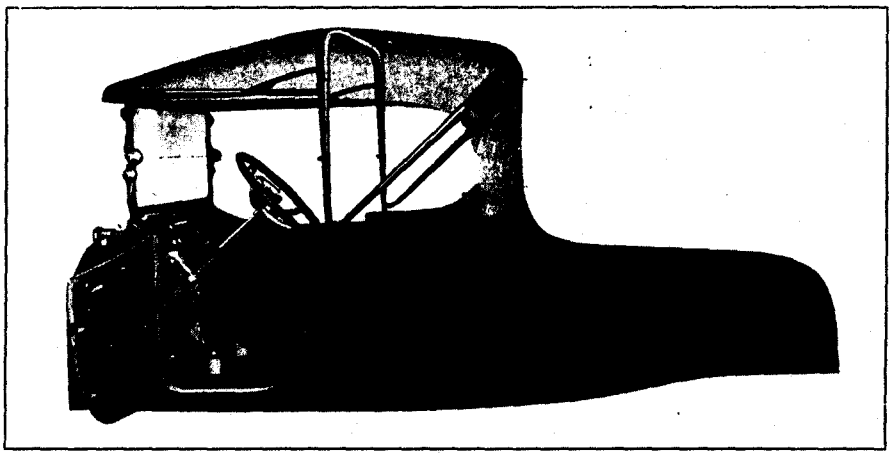
UPPER WINDSHIED FRAMES AND ATTACHMENTS—CLOSED CARS

Parts not listed, furnished by Fisher Body Corporation

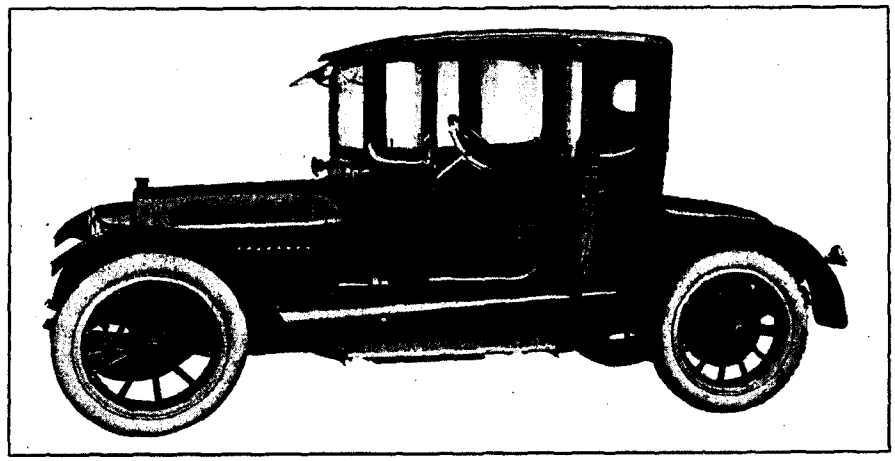
LOWER WINDSHIELD FRAMES AND ATTACHMENTS—CLOSED CARS

Parts not listed, furnished by Fisher Body Corporation

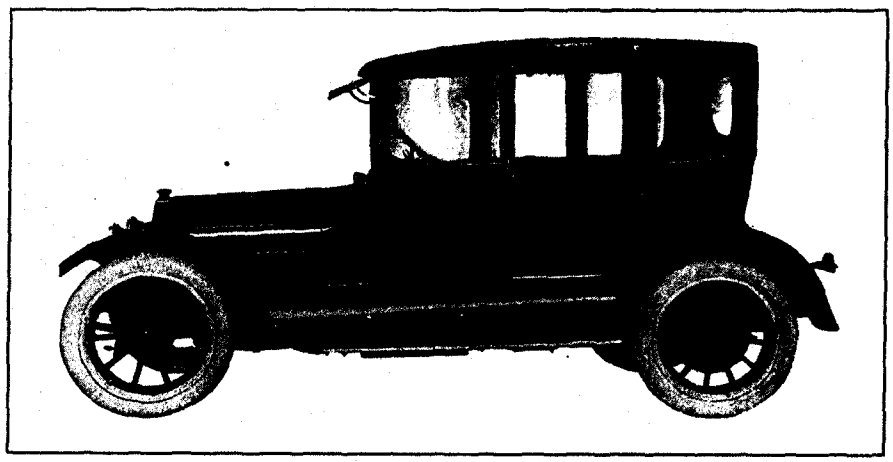
BOFIK	10-T-9	A-8604	Clamp lever with bolt No. 45673 for upper or lower frame hinge joint (CV)	55	45669	1.10
DOFIK		A-8605	Screw for clamp lever and bolt in joint (CV)	55	45664	.05
FOFIK		A-8606	Flat washer under clamp lever (CV)	55	45665	.05
KOFIK		A-8607	Clamp bolt (square head) for hinge joint inner ends of frames (CV)	55	45982	.20
MOFIK	10-T-9	A-8608	Screw for clamp bolt joints (CV)	55	45981	.10



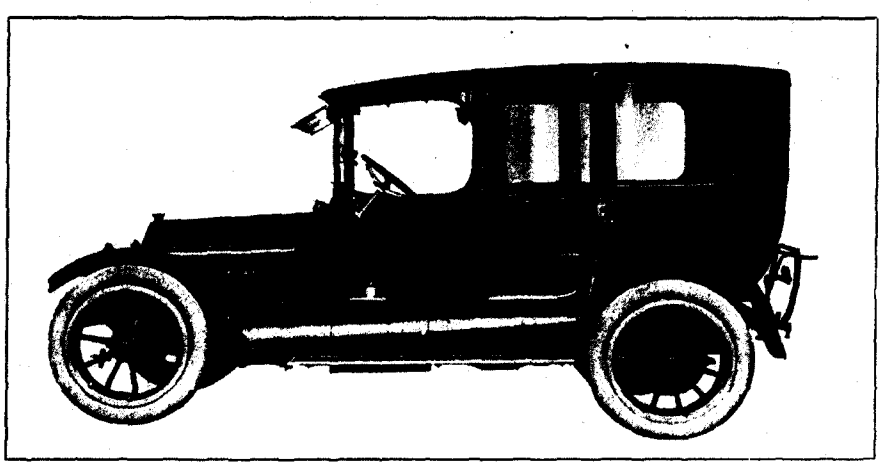
TYPE 51 ROADSTER BODY, TOP AND WINDSHIELD



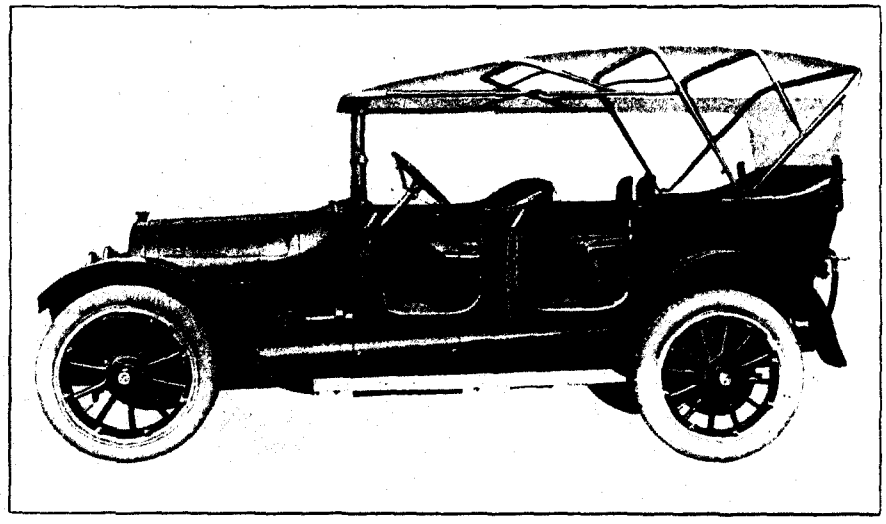
TYPE 51 COUPE



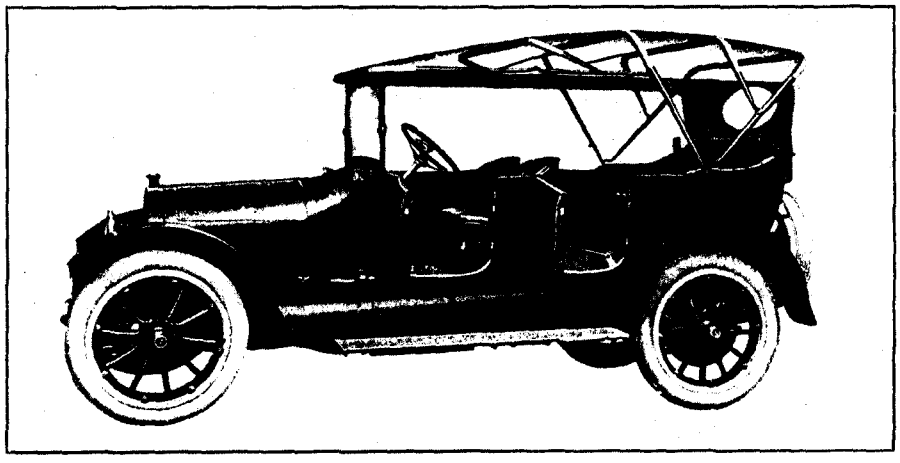
TYPE 51 SEDAN



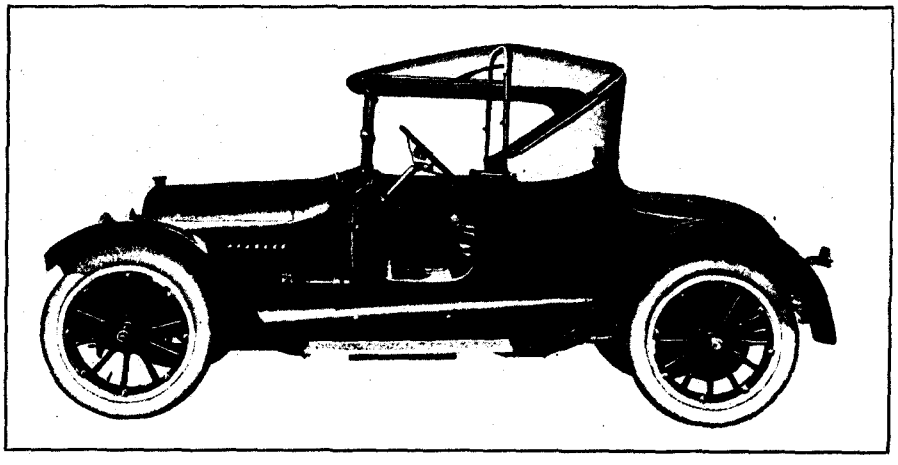
TYPE 51 LIMOUSINE



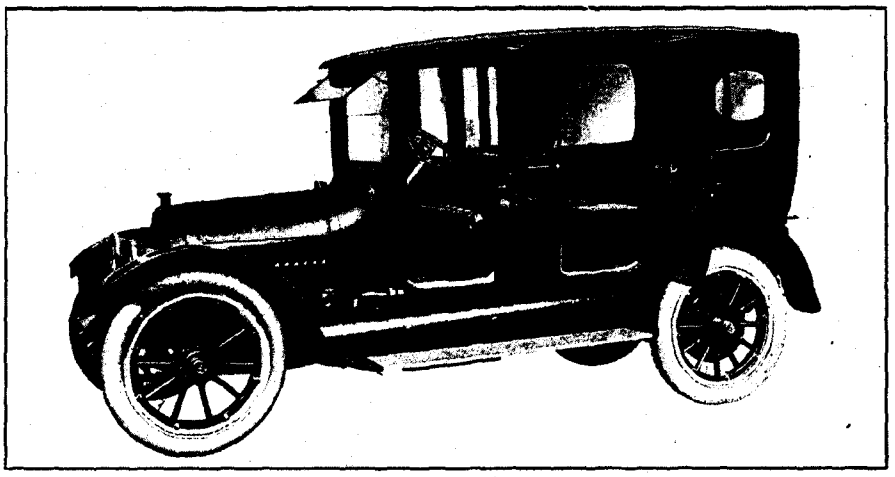
TYPE 53 SEVEN PASSENGER TOURING



TYPE 53 SALON



TYPE 53 ROADSTER



TYPE 53 BERLINE

WINDSHIELD STANDARDS AND WEATHER STRIPS CLOSED CARS

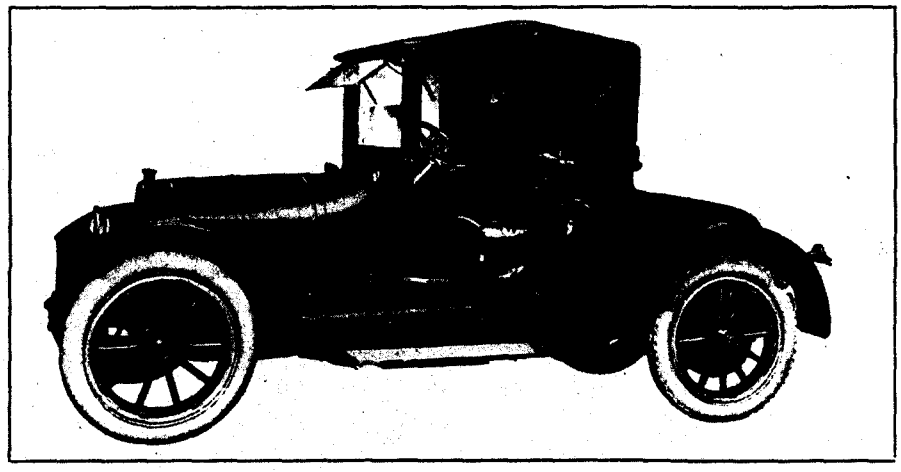
Parts not listed, furnished by Fisher Body Corporation

DOORS—OPEN CARS

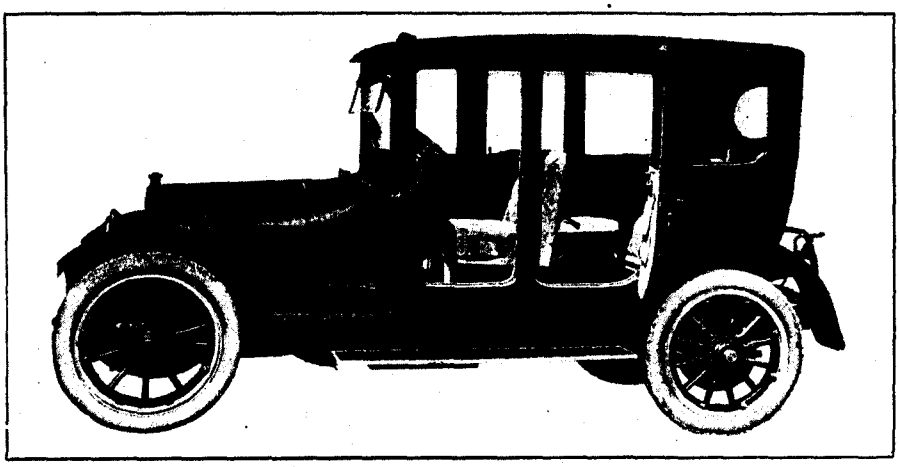
Parts not listed, furnished by Fisher Body Corporation

Code Word	Sec.-Bin	Serial	Part Name	Type	Symbol	Price
PEKIK		*A-8694	Front door complete, RIGHT (5-P) (7-P)	51	21144	$24.00
REKIK		*A-8695	Front door complete, LEFT (5-P) (7-P)	51	21145	24.00
SEKIK		*A-8696	Door complete, RIGHT (SL)	51	21150	24.00
TEKIK		*A-8697	Door complete, LEFT (SL)	51	21151	24.00
ZEKIK		*A-8698	Door complete, RIGHT (R)	51	21148	24.00
BIKIK		*A-8699	Door complete, LEFT (R)	51	21149	27.00
CIKIK		*A-8700	Front door complete, RIGHT (OC) except (MT)	53	21601	24.00
DIKIK		*A-8701	Front door complete, LEFT (OC) except (MT)	53	21602	24.00
FIKIK		*A-8702	Front door complete, RIGHT (1st type before Engine No. A-34147) (MT)	53	41405	25.00
LIKIK		*A-8703	Front door complete, LEFT (1st type before Engine No. A-34147) (MT)	53	41406	25.00
PIKIK		*A-8704	Front door complete, RIGHT (2nd type after Engine No. A-34146) (MT)	53	21291	25.00

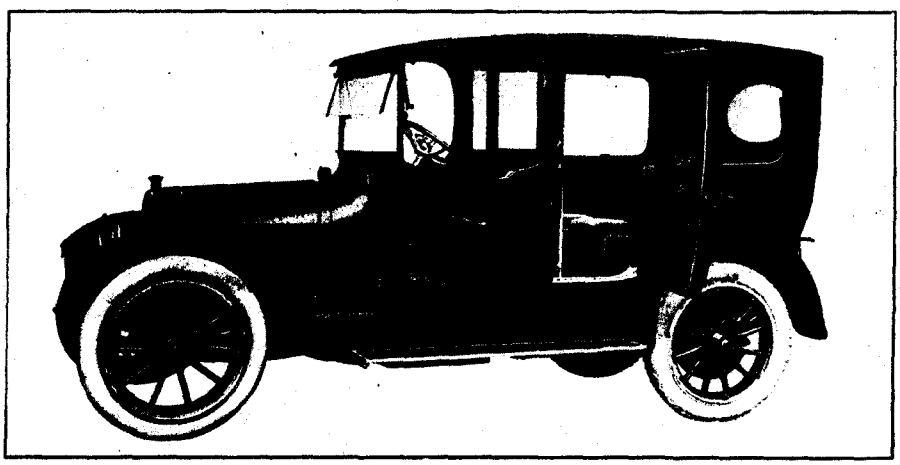
*Classify on order as crated material.



TYPE 53 VICTORIA



TYPE 53 BROUGHAM



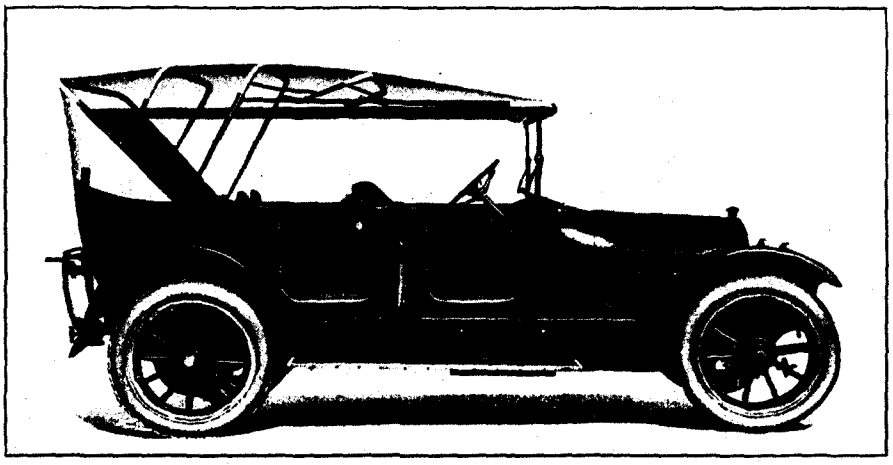
TYPE 53 LIMOUSINE

Code Word	Sec.-Bin	Serial	Part Name	Type	Symbol	Price
SIKIK		*A-8705	Front door complete, LEFT (2nd type after Engine No. A-34146) (MT)	53	21292	$25.00
ZIKIK		*A-8706	Front door complete, RIGHT (T)	55	22961	24.00
BOKIK		*A-8707	Front door complete, LEFT (T)	55	22962	25.00
COKIK		*A-8708	Front door complete, RIGHT (P)	55	23235	24.00
DOKIK		*A-8709	Front door complete, LEFT (P)	55	23236	25.00
FOKIK		*A-8710	Door complete, RIGHT (R)	55	23147	24.00
KOKIK		*A-8711	Door complete, LEFT (R)	55	23148	25.00
LOKIK		*A-8712	Door complete, RIGHT (CR)	55	23240	27.00
MOKIK		*A-8713	Door complete, LEFT (CR)	55	23241	28.50
POKIK		*A-8714	Front door complete, RIGHT (used on cars not equipped with removable tool panel in LEFT front door) (7-P) (P-1) (R-1)	57	23952	32.00
TOKIK		*A-8715	Front door complete, LEFT (used on cars not equipped with removable tool panel in LEFT front door) (7-P) (P-1) (R-1)	57	23953	32.00
CUKIK		*A-8716	Front door complete, RIGHT (used on cars with removable tool panel in LEFT door) (7-P)	57	25170	32.00
FUKIK		*A-8717	Front door complete, LEFT (with removable tool panel in LEFT front door) (7-P)	57	25171	42.00
LUKIK		*A-8718	Front door complete, RIGHT (P-2)	57	25028	32.00
MUKIK		*A-8719	Front door complete, LEFT (with removable tool panel (P-2)	57	25029	42.00
RUKIK		*A-8720	Door complete, RIGHT (R-2)	57	25032	32.00
SUKIK		*A-8721	Door complete, LEFT (with removable tool panel) (R-2)	57	25033	42.00
ZUKIK		*A-8722	Rear door complete, RIGHT (5-P) (7-P)	51	21146	24.00
BAMIK		*A-8723	Rear door complete, LEFT (5-P) (7-P)	51	21147	24.00
CAMIK		*A-8724	Rear door complete, RIGHT (SL) (7-P)	53	21603	24.00
DAMIK		*A-8725	Rear door complete, LEFT (SL) (7-P)	53	21604	24.00
FAMIK		*A-8726	Rear door complete, RIGHT (1st type before Engine No. A-34147) (MT)	53	41407	24.00
LAMIK		*A-8727	Rear door complete, LEFT (1st type before Engine No. A-34147) (MT)	53	41408	24.00
PAMIK		*A-8728	Rear door complete, RIGHT (2nd type after Engine No. A-34146) (MT)	53	21293	24.00
SAMIK		*A-8729	Rear door complete, LEFT (2nd type after Engine No. A-34146) (MT)	53	21294	24.00
ZAMIK		*A-8730	Rear door complete, RIGHT (T)	55	22963	24.00
BEMIK		*A-8731	Rear door complete, LEFT (T)	55	22964	24.00
CEMIK		*A-8732	Rear door complete, RIGHT (P)	55	23237	24.00
DEMIK		*A-8733	Rear door complete, LEFT (P)	55	23238	24.00
FEMIK		*A-8734	Rear door complete, RIGHT (7-P) (P-1)	57	25172	32.00
KEMIK		*A-8735	Rear door complete, LEFT (7-P) (P-1)	57	25173	32.00
LEMIK		*A-8736	Rear door complete, RIGHT (P-2)	57	25030	32.00
MEMIK		*A-8737	Rear door complete, LEFT (P-2)	57	25031	32.00
MIMIK		A-8749	Lock for panel, less key (specify lock number)	57	38339	2.50
PIMIK		A-8750	Key for lock (specify lock number)	57	46158	.35
RIMIK	9-F-22	A-8751	Collar for lock	57	34141	.15
SIMIK	9-P-8	A-8752	Grommet for lock, inner side of panel	57	34140	.05
TIMIK	9-Q-3	A-8753	Catch plate for lock	57	38240	.10
ZIMIK	10-R-8	A-8754	Rubber bumper on door for panel	57	68410	.05
BOMIK	10-P-1	A-8755	Washer on bumper	57	68399	.05
COMIK	9-P-22	A-8756	Hinge plate for tongue of panel	57	38238	.08

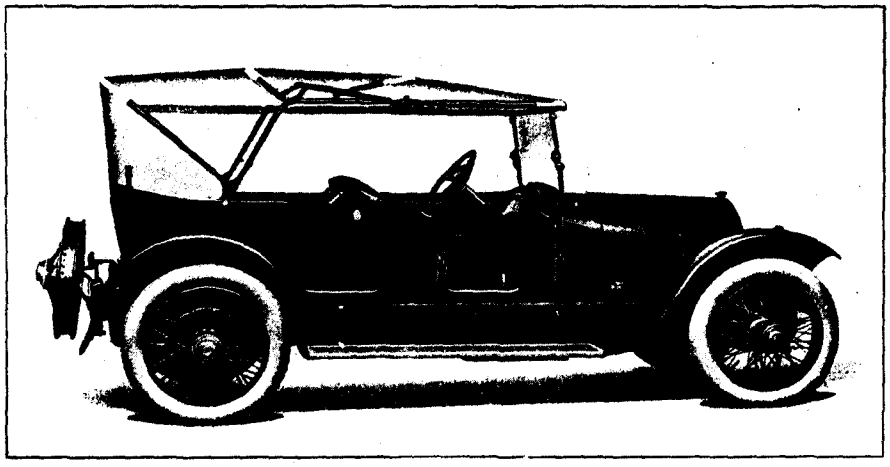
DOOR LOCKS AND HANDLES—OPEN CARS

LOMIK	35-C-55	A-8760	Door lock complete for RIGHT door (OC)	51-3	31143	2.25
MOMIK	36-C-55	A-8761	Door lock complete for LEFT door (OC)	51-3	31142	2.25
SOMIK	38-C-11	A-8764	Door lock complete for RIGHT door (OC)	55-7	50014	2.50
TOMIK	36-D-1	A-8765	Door lock complete for LEFT door (OC)	55-7	50015	2.50
ZOMIK	36-D-76	A-8766	Handle for door lock (OC)	51	8849	.60

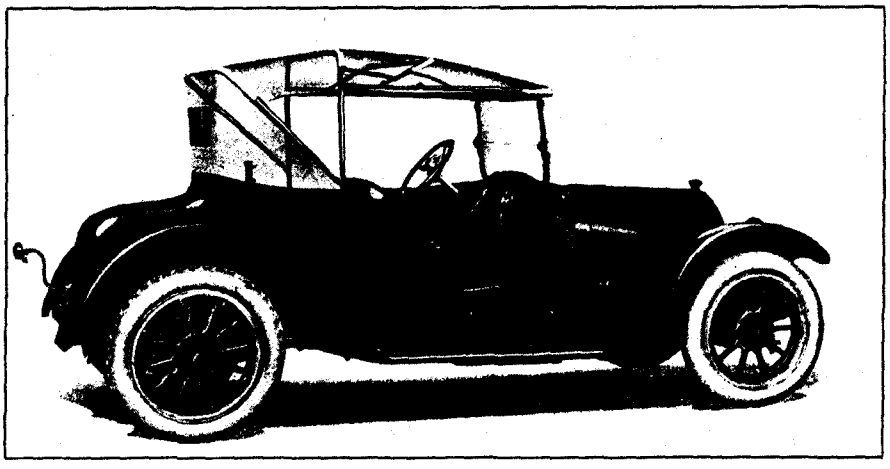
*Classify on order as crated material.



TYPE 55 TOURING



TYPE 55 PHAETON



TYPE 55 CLUB ROADSTER

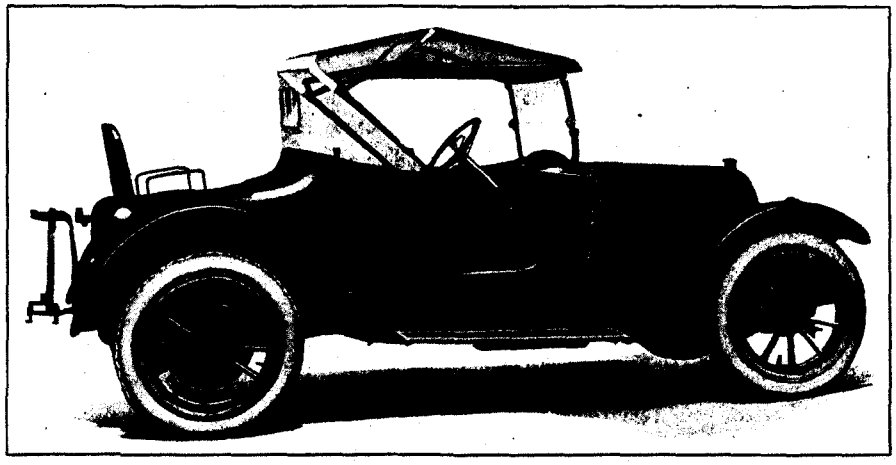
Code Word	Sec.-Bin	Serial	Part Name	Type	Symbol	Price
BUMIK	36-C-17	A-8767	Handle for RIGHT door lock (OC)	53	31957	$1.00
CUMIK	36-C-11	A-8768	Handle for LEFT door lock (OC)	53	31958	1.00
DUMIK	36-B-55	A-8769	Handle for RIGHT door lock (OC)	55-7	33767	1.00
FUMIK	36-D-61	A-8770	Handle for LEFT door lock (OC)	55-7	33768	1.00
KUMIK	38-B-8	A-8771	Nut for door lock handle (OC)	51-3-5	10889	.05
LUMIK	9-N-12	A-8772	Nut for door lock handle (OC)	57	11736	.10
MUMIK	9-F-16	A-8773	Plate for door lock handle (OC) except (MT)	51-3	31146	.30
PUMIK		A-8774	Plate for door lock handle (MT)	53	32349	.30
RUMIK	9-E-17	A-8775	Strike plate for door lock (T) (P-1) (R-1) and 1st type (7-P) on 55-7	51-3-5-7	13417	.55
SUMIK	9-N-13	A-8776	Strike plate for door lock (P) (R) (CR)	55	33985	.40
TUMIK	10-P-2	A-8777	Strike plate for door lock (P-2) and 2nd type (7-P)	57	68235	.65
ZUMIK		A-8778	Strike plate for door lock (R-2)	57	68415	.65

DOOR HINGES—OPEN CARS

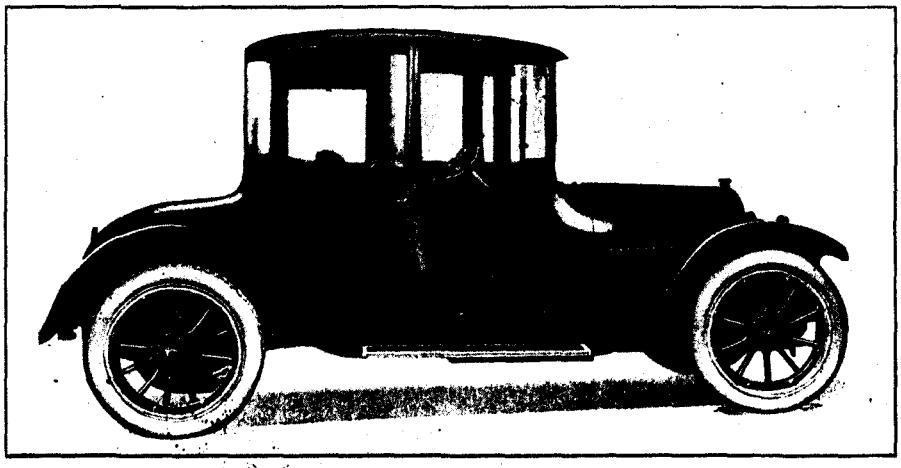
BAPIK	36-B-71	A-8782	Hinge, front doors (OC) on 51-3, (T) on 55	51-3-5	18484	2.00
CAPIK	38-C-7	A-8783	Hinge, rear doors (7-P) (5-P) on 51, (MT) (7-P) (SL) on 53, (T) on 55	51-3-5	17986	2.50
FAPIK	37-B-63	A-8784	Hinge for doors (P) (R) (CR)	55	34554	2.50
KAPIK	35-D-78	A-8785	Hinge for front door (housing flange $1\frac{11}{16}$" wide) (OC)	57	37574	2.25
LAPIK	2-B-24	A-8786	Hinge, upper and center, all doors (V) (SD) (SB) (I) rear door only (L) (TB)	55-7	F-25890	2.20
MAPIK	36-D-62	A-8787	Hinge for rear door (housing flange $1\frac{13}{16}$" wide) (7P) (P-1) (P-2)	57	37569	2.50
RAPIK	36-B-147	A-8788	Screw, support to housing flange	51-3-5-7	10327	.05
SAPIK	10-D-7	A-8789	Lock washer	51-3-5-7	11335	.05
TAPIK	9-C-15	A-8790	Hinge pin	51-3-5-7	12916	.10

RUBBER BUMPERS FOR DOORS—OPEN CARS

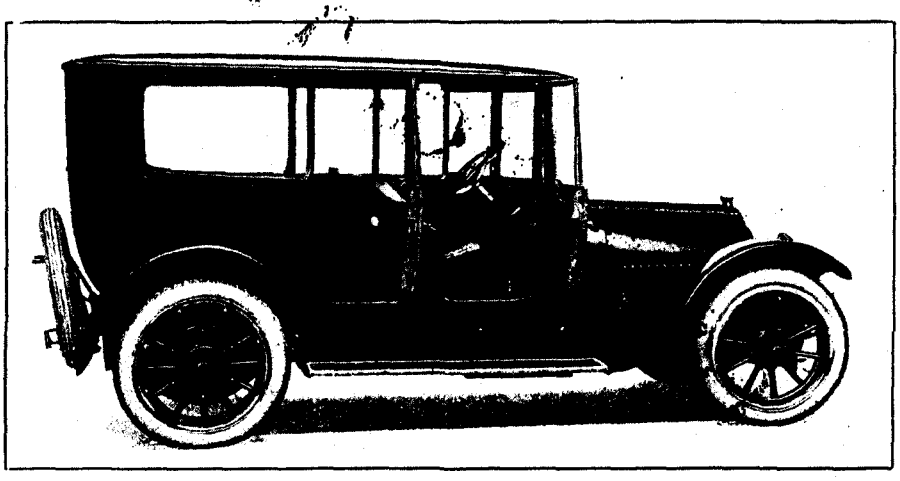
LEPIK	17-D-18	A-8794	Rubber bumper for door (OC) on 51-3, (T) on 55, 2nd type on (MT)	51-3-5	19173	.05
PEPIK	38-D-48	A-8795	Retainer for rubber bumper (OC) on 51-3, (T) on 55, 2nd type on (MT)	51-3-5	19172	.10
SEPIK	16-B-89	A-8796	Rubber bumper for door, single, 1st type on (MT)	53	32286	.05
TEPIK	37-B-54	A-8797	Retainer for rubber bumper, 1st type on (MT)	53	32285	.20
ZEPIK	16-D-35	A-8798	Rubber bumper for door, lower, (P) (R) (CR)	55	33994	.10
BIPIK	36-C-41	A-8799	Retainer for rubber bumper, lower, (P) (R) (CR)	55	33995	.35
CIPIK	16-D-13	A-8800	Rubber bumper for door, upper (P) (R) (CR) (P-2) (R-2)	55-7	34275	.10
DIPIK	38-B-117	A-8801	Retainer for bumper, upper RIGHT (P) (P-2)	55-7	34284	.65
FIPIK	37-B-87	A-8802	Retainer for bumper, upper LEFT (P) (P-2)	55-7	34285	.50
KIPIK	37-C-125	A-8803	Retainer for bumper, upper RIGHT (CR) (R) (R-2)	55-7	34286	.50
LIPIK	38-B-84	A-8804	Retainer for bumper, upper LEFT (CR) (R) (R-2)	55-7	34287	.50
MIPIK	16-C-44	A-8805	Rubber bumper for door, upper RIGHT (7-P) (P-1) (R-1)	57	68212	.10
PIPIK	16-D-20	A-8806	Rubber bumper for door, upper LEFT (7-P) (P-1) (R-1)	57	68213	.10
RIPIK	36-D-63	A-8807	Retainer for rubber bumper, upper RIGHT (7-P) (P-1) (R-1)	57	68208	.60
TIPIK	36-B-51	A-8808	Retainer for rubber bumper, upper LEFT (7-P) (P-1) (R-1)	57	68209	.60
BOPIK	17-B-48	A-8809	Rubber bumper for door, lower (OC) (used with retainer having 2 screw holes)	57	68206	.10
DOPIK	36-D-44	A-8810	Retainer for rubber bumper, lower (OC) (with 2 screw holes)	57	68207	.15
KOPIK	16-E-12	A-8811	Rubber bumper for door, lower (OC) (used with retainer having 1 screw hole)	57	68417	.05
MOPIK	35-B-91	A-8812	Retainer for rubber bumper, lower (OC) (with 1 screw hole)	57	68416	.05
ROPIK	35-B-83	A-8813	Dove tail striker on body for door (female half) (P-2) (R-2) and 2nd type (7-P)	57	68418	.40
TOPIK	35-B-40	A-8814	Dove tail striker on door (male half) (P-2) (R-2) and 2nd type (7-P)	57	68420	.15



TYPE 55 ROADSTER



TYPE 55 COUPE



TYPE 55 CONVERTIBLE

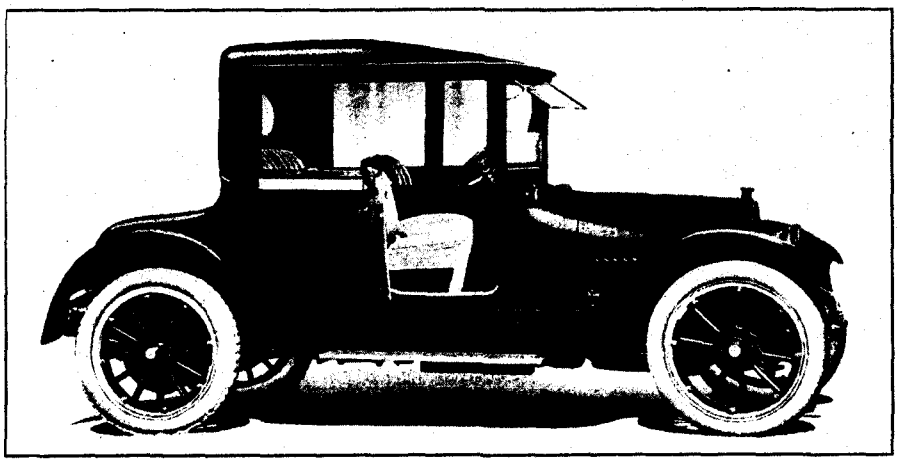
GUARDS FOR DOOR SILLS—OPEN CARS

Code Word	Sec.-Bin	Serial	Part Name	Type	Symbol	Price
MUPIK	37-C-67	A-8819	Guard for front door sill (5-P) (7-P) (R)	51	19179	$ .75
PUPIK	37-D-29	A-8820	Guard for front door sill (SL) on 51, (7-P) (SL) on 53	51-3	30533	.75
RUPIK	37-B-113	A-8821	Guard for rear door sill (5-P) (7-P) on 51, (7-P) (SL) (R) on 53	51-3	30532	.75
TUPIK	38-B-161	A-8822	Guard for front door sill (MT)	53	32358	.75
ZUPIK	37-B-144	A-8823	Guard for rear door sill (MT)	53	32359	.75
BASIK	38-B-92	A-8824	Guard for RIGHT front door sill (T)	55	34407	.75
CASIK	35-B-158	A-8825	Guard for RIGHT rear door sill (T)	55	34409	.75
DASIK	37-D-69	A-8826	Guard for LEFT front door sill (T)	55	34408	.75
FASIK	37-C-155	A-8827	Guard for LEFT rear door sill (T)	55	34410	.75
KASIK	38-B-103	A-8828	Guard for RIGHT front door sill (R) (CR) (P) (P-2) (R-2)	55-7	34341	.75
MASIK	38-B-101	A-8829	Guard for RIGHT rear door sill (P) (P-2)	55-7	34343	.75
PASIK	38-B-105	A-8830	Guard for LEFT front door sill (R) (CR) (P) (P-2) (R-2)	55-7	34342	.75
RASIK	37-D-78	A-8831	Guard for LEFT rear door sill (P) (P-2)	55-7	34344	.75
SASIK	35-D-54	A-8832	Guard for RIGHT front door sill (7-P) (P-1) (R-1)	57	68164	.75
TASIK	35-D-58	A-8833	Guard for RIGHT rear door sill (7-P) (P-1)	57	68166	.75
ZASIK	35-D-73	A-8834	Guard for LEFT front door sill (7-P) (P-1) (R-1)	57	68165	.75
BESIK	36-B-153	A-8835	Guard for LEFT rear door sill (7-P) (P-1)	57	68167	.75

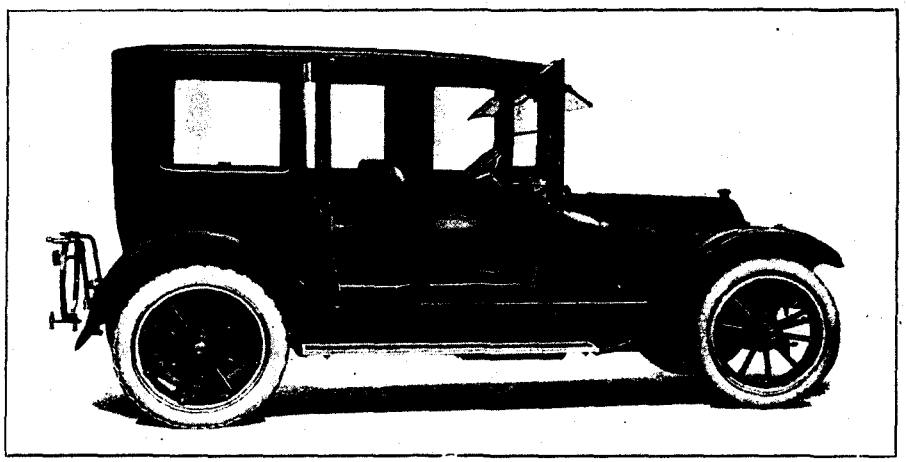
LATCH LOCKS FOR DOORS—CLOSED CARS

Parts not listed, furnished by Fisher Body Corporation

ENG'R'G. TESTS



TYPE 55 VICTORIA



TYPE 55 BROUGHAM

PILLAR (SAFETY) LOCKS AND PILLAR HANDLES—CLOSED CARS

Parts not listed, furnished by Fisher Body Corporation

PULL-TO HANDLES—CLOSED CARS

Parts not listed, furnished by Fisher Body Corporation

DOOR HINGES—CLOSED CARS

Parts not listed, furnished by Fisher Body Corporation

Code Word	Sec.-Bin	Serial	Part Name	Type	Symbol	Price
KOHOL	2-B-24	A-9031	Hinge, upper and center, all doors (V) (SD) (SB) (I), rear doors only (L) (TB)	55-7	F-25890	$ 2.20
ZOHOL	2-B-24	A-9036	Hinge, upper and center, all doors (V) (SD) (SB) (I), rear doors only (L) (TB)	55-7	F-25890	2.20
BUHOL	2-B-24	A-9036A	Hinge, upper and center, all doors (V) (SD) (SB) (I), rear doors only (L) (TB)	55-7	F-25890	2.20

RUBBER BUMPERS AND RETAINERS FOR DOORS—CLOSED CARS

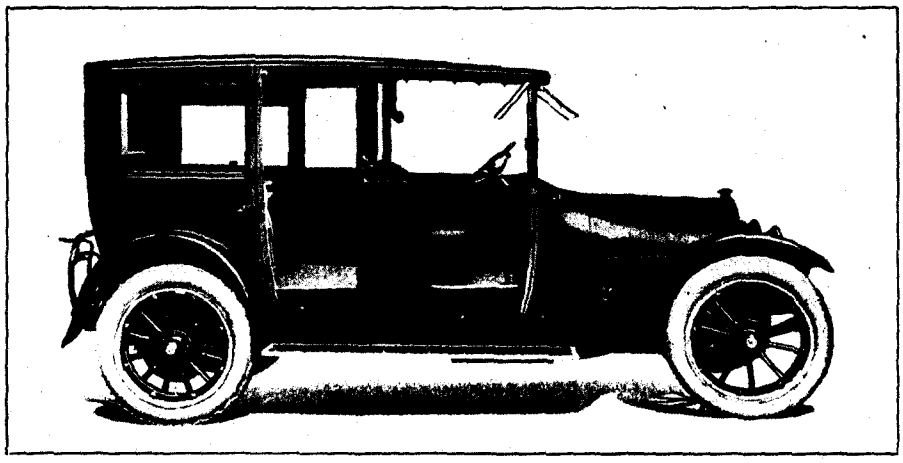
Parts not listed, furnished by Fisher Body Corporation

DOOR WINDOWS AND GLASSES—CLOSED CARS

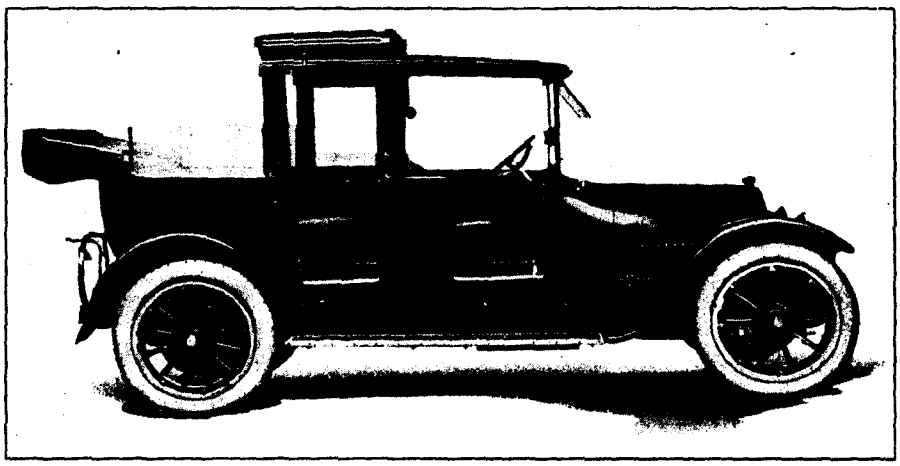
Parts not listed, furnished by Fisher Body Corporation

BODY WINDOWS AND GLASSES—CLOSED CARS

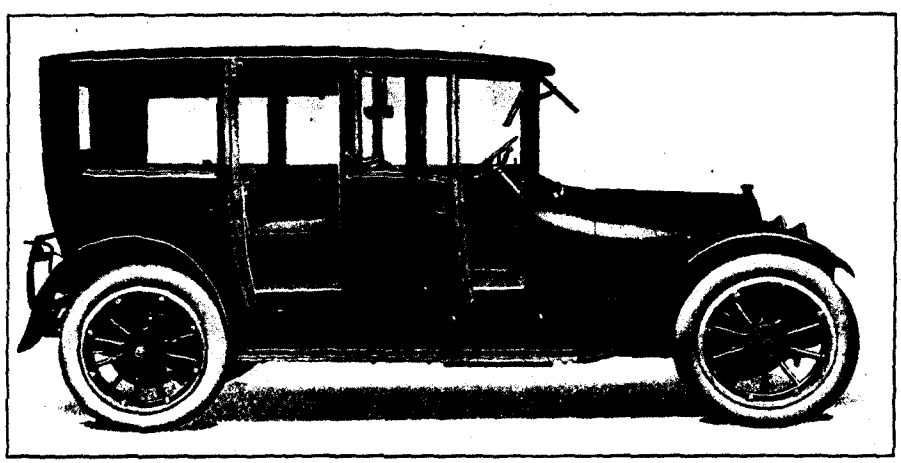
Parts not listed, furnished by Fisher Body Corporation



TYPE 55 LIMOUSINE



TYPE 55 LANDAULET



TYPE 55 IMPERIAL LIMOUSINE

SASH CHANNELS—CLOSED CARS

Parts not listed, furnished by Fisher Body Corporation

WINDOW LIFTS

Parts not listed, furnished by Fisher Body Corporation

FOLDING TOP PARTS—TYPE 53 VICTORIA

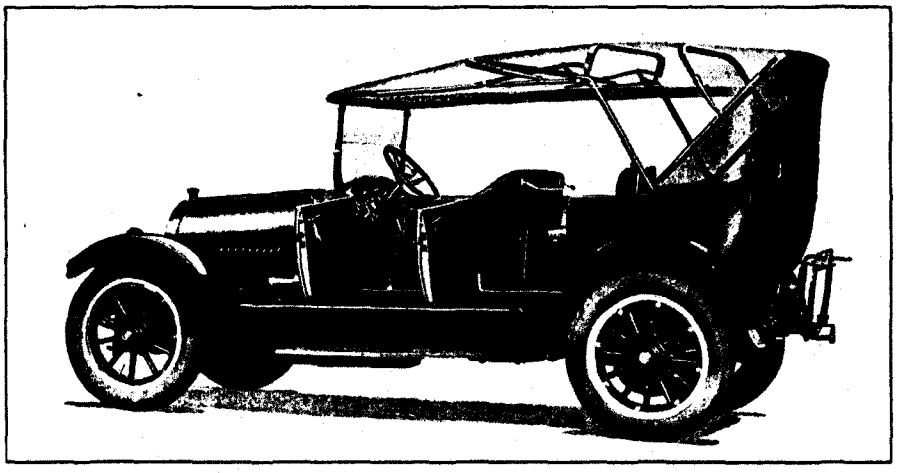
Parts not listed, furnished by Fisher Body Corporation

SEAT CUSHIONS

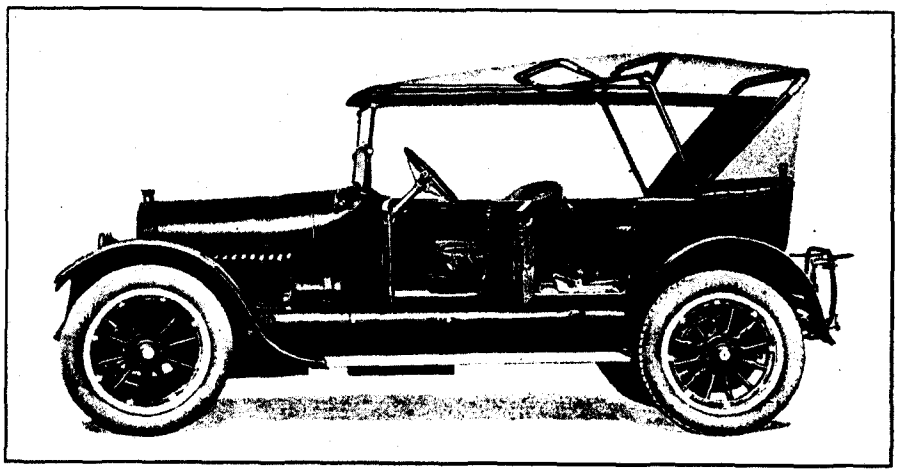
Parts not listed, furnished by Fisher Body Corporation

Code Word	Sec.-Bin	Serial	Part Name	Type	Symbol	Price
RETOL		*A-9377	Cushion complete, front RIGHT (SL)	51	45055	$10.00
SETOL		*A-9378	Cushion complete, front LEFT (SL)	51	45056	10.00
TETOL		*A-9379	Cushion complete, rear (SL)	51	45062	35.00
ZETOL		*A-9380	Cushion complete, front (5-P)	51	45054	35.00
BITOL		*A-9381	Cushion complete, rear (5-P)	51	45061	35.00
CITOL		*A-9382	Cushion complete, front (7-P)	51	45053	35.00
DITOL		*A-9383	Cushion complete, rear (7-P)	51	45060	35.00
FITOL		*A-9384	Cushion complete (R)	51	45059	35.00
ZITOL		*A-9392	Cushion complete, front RIGHT (SL)	53	21662	12.50
BOTOL		*A-9393	Cushion complete, front LEFT (SL)	53	21663	12.50
COTOL		*A-9394	Cushion complete, rear (SL)	53	21664	35.00
DOTOL		*A-9395	Cushion complete, front (7-P) (R)	53	21594	35.00
FOTOL		*A-9396	Cushion complete, rear (7-P)	53	21595	35.00
KOTOL		*A-9397	Cushion complete, front (MT)	53	41144	35.00
LOTOL		*A-9398	Cushion complete, rear (MT)	53	41145	35.00
LUTOL		*A-9410	Cushion complete, front (T)	55	22543	35.00
MUTOL		*A-9411	Cushion complete, rear (T)	55	22544	35.00
PUTOL		*A-9412	Cushion complete, front (P)	55	22545	35.00
RUTOL		*A-9413	Cushion complete, rear (P)	55	22546	35.00
SUTOL		*A-9414	Cushion complete (R)	55	23914	35.00
TUTOL		*A-9415	Cushion complete, front RIGHT (CR)	55	23167	15.00
ZUTOL		*A-9416	Cushion complete, front LEFT (CR)	55	23168	15.00
BADUS		*A-9417	Cushion complete, rear (CR)	55	23169	30.00
BEDUS		*A-9429	Cushion complete, front (7-P)	57	24045	43.50
CEDUS		*A-9430	Cushion complete, rear (7-P)	57	24046	43.50
DEDUS		*A-9431	Cushion complete, front (P-1) (P-2) (R-1) (R-2)	57	24106	40.00
FEDUS		*A-9432	Cushion complete, rear (P-1) (P-2)	57	24107	40.00
ZIDUS		*A-9452	Spring for front seat cushion (7-P)	57	68277	10.00
BODUS		*A-9453	Spring for rear seat cushion (7-P)	57	68279	11.50
CODUS		*A-9454	Spring for front seat cushion (P-1) (P-2) (R-1) (R-2)	57	68281	9.00
DODUS		*A-9455	Spring for rear seat cushion (P-1) (P-2)	57	68283	9.00

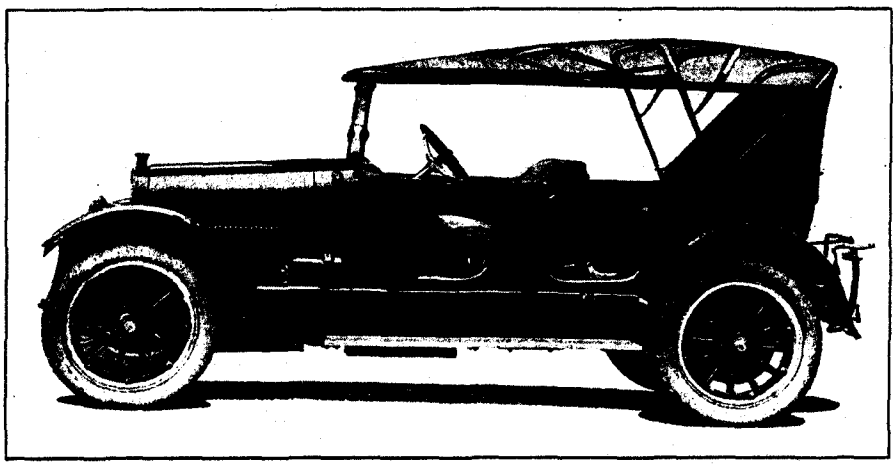
*Classify on order as crated material.



TYPE 57 SEVEN PASSENGER TOURING



TYPE 57 PHAETON, FIRST TYPE

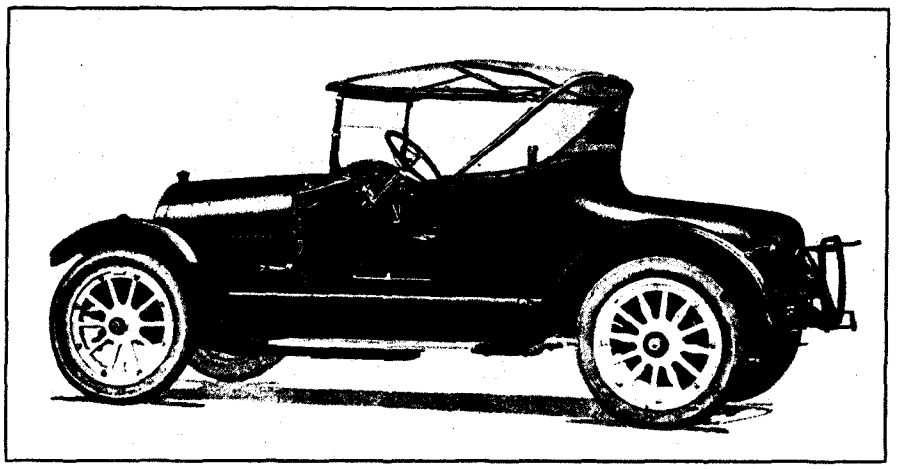


TYPE 57 PHAETON. SECOND TYPE

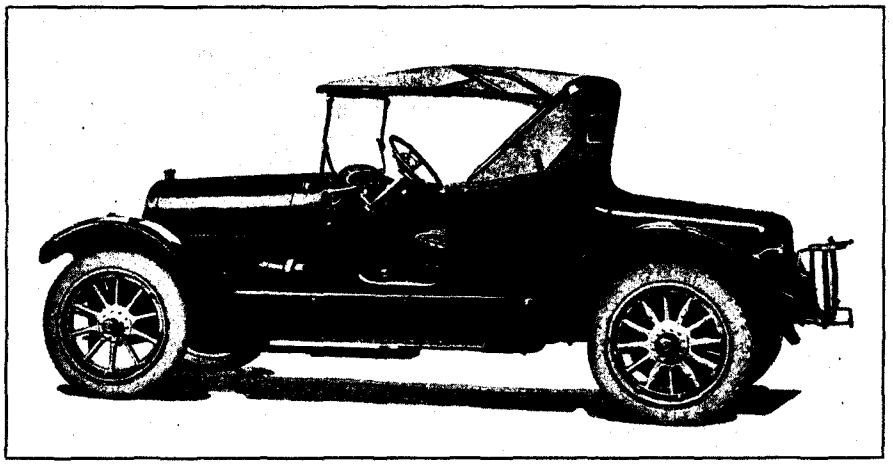
ROBE RAIL AND ROBE CORD

Parts not listed, furnished by Fisher Body Corporation

Code Word	Sec.-Bin	Serial	Part Name	Type	Symbol	Price
RODUS		A-9461	Bracket for robe rail support, RIGHT (5-P) (7-P)	51-3	19291	$ .35
SODUS		A-9462	Bracket for robe rail support, LEFT (5-P) (7-P)	51-3	19292	.35
ZODUS	9-G-15	A-9464	Screw, robe rail support to body (5-P) (7-P)	51-3	10802	.05
BUDUS	38-B-8	A-9465	Nut on screw (5-P) (7-P)	51-3	10889	.05
CUDUS	15-B-45	A-9466	Lock washer (5-P) (7-P)	51-3	11314	.05
LUDUS	9-Q-22	A-9470	Detachable bracket for robe cord (SL)	53	31681	1.00



TYPE 57 ROADSTER, FIRST TYPE



TYPE 57 ROADSTER, SECOND TYPE

Code Word	Sec.-Bin	Serial	Part Name	Type	Symbol	Price
MUDUS		A-9471	Plate on inner side of chair back for bracket (SL)	53	31702	$ .25
PUDUS	10-G-8	A-9472	Screw, bracket to plate (SL)	53	11867	.05
RUDUS	37-F-21	A-9473	Robe rail complete, back of front seat (MT) (T) on 53-5, (7-P) on 57	53-5-7	22183	4.75
TUDUS	9-I-7	A-9474	Bracket, for robe rail support (MT) (T) on 53-5, (7-P) on 57	53-5-7	32310	1.00
BAFUS	10-L-3	A-9475	Screw, robe rail support to body (MT) (T) on 53-5, (7-P) on 57	53-5-7	11891	.05
DAFUS	15-B-45	A-9476	Lock washer (MT) (T) on 53-5, (7-P) on 57	53-5-7	11314	.05
PAFUS		A-9481	Rivet for bracket (7-P) (P) (P-1) (P-2)	55-7	34043	.05
RAFUS	10-L-3	A-9482	Screw, attaching robe rail (P) (P-1) (P-2)	55-7	11891	.05
SAFUS	15-B-45	A-9483	Lock washer (P) (P-1) (P-2)	55-7	11314	.05
CEFUS	9-Q-22	A-9487	Detachable bracket for robe cord (CV)	55	31681	1.00
DEFUS	10-G-8	A-9488	Screw for robe cord (CV)	55	11867	.05

FOOT RAILS AND HASSOCKS

Parts not listed, furnished by Fisher Body Corporation

MAHUS		A-9496	Foot rail complete (R)	51	17916	4.50
RAHUS		A-9498	Foot rail complete (SL) (5-P) (7-P)	51-3	21855	6.25
SAHUS		A-9499	Foot rail complete (V)	53	21541	2.50
TAHUS		A-9500	Foot rail complete (R)	55	22295	5.00
BEHUS	14-A-37	A-9502	Foot rail complete (T) (CV) (7-P)	55-7	22184	7.00
CEHUS	38-A-53	A-9503	Foot rail complete (P) (P-1) (P-2)	55-7	23567	7.00

COWL PANELS AND KICK PADS—OPEN CARS

Parts not listed, furnished by Fisher Body Corporation

CARPETS

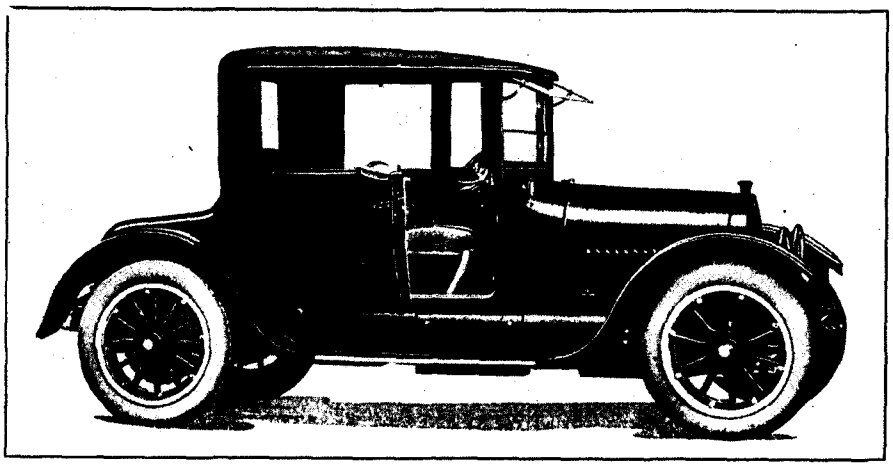
Parts not listed, furnished by Fisher Body Corporation

TYPE 51 TOE BOARDS—OPEN CARS

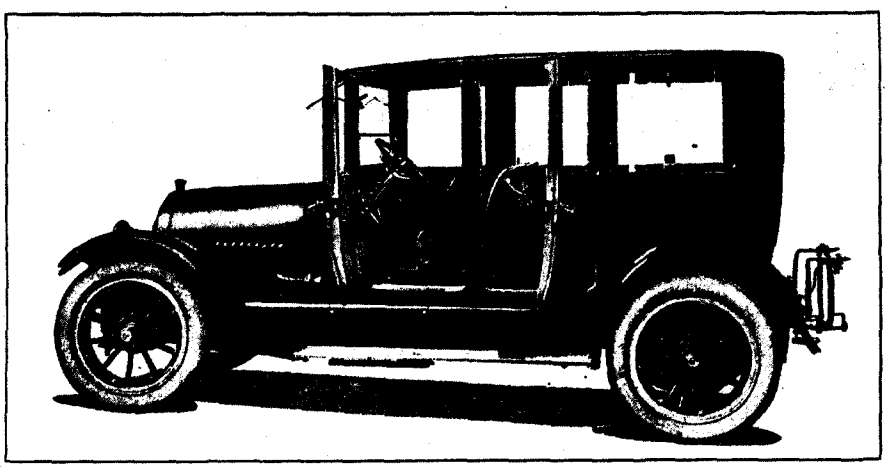
ZILUS	22-E-27	A-9642	Toe board, upper, with mat and binding (SL) (5-P) (7-P)	51	20698	3.00
BOLUS	22-F-19	A-9643	Toe board, lower, with mat and binding (SL) (5-P) (7-P)	51	20699	3.75
COLUS	22-G-25	A-9644	Toe board, upper, with mat and binding (R)	51	21057	3.00
DOLUS	22-E-23	A-9645	Toe board, lower, with mat and binding (R)	51	21058	3.75
FOLUS		A-9646	Mat for upper toe board (SL) (5-P) (7-P)	51	19306	.50
KOLUS		A-9647	Mat for lower toe board (SL) (5-P) (7-P)	51	19307	.60
LOLUS		A-9648	Mat for upper toe board (R)	51	30575	.50
MOLUS		A-9649	Mat for lower toe board (R)	51	30574	.60
POLUS	38-A-45	A-9650	Binding for bottom and sides of upper toe board (43" long) (OC)	51	46087	.50
SOLUS		A-9651	Binding for top of upper toe board (27" long) (OC)	51	46089	.30
TOLUS		A-9652	Binding for bottom of lower toe board (35" long) (OC)	51	46090	.40
ZOLUS	38-A-45	A-9653	Binding for top and sides of lower toe board (43" long) (OC)	51	46087	.50
CULUS	38-C-115	A-9654	Clamp, toe board to body (OC)	51	19313	.05
DULUS	9-J-21	A-9655	Bolt, clamp to toe board (OC)	51	19319	.05
FULUS	37-C-51	A-9656	Wing nut (OC)	51	8929	.10
KULUS	10-T-22	A-9657	Flat washer (OC)	51	11433	.05
LULUS	15-B-45	A-9658	Lock washer OC)	51	11314	.05

TYPE 51 FOOT BOARDS—OPEN CARS

Code Word	Sec.-Bin	Serial	Part Name	Type	Symbol	Price
BAMUS	22-G-23	A-9662	Foot board, front, with mat and binding (SL)(5-P)(7-P)	51	20696	$ 4.00
CAMUS	22-F-21	A-9663	Foot board, rear, with mat and binding (SL) (5-P)(7-P)	51	20697	3.25
DAMUS		A-9664	Foot board, front, with mat and binding (R)	51	21059	4.00
FAMUS	22-E-22	A-9665	Foot board, rear, with mat and binding (R)	51	21060	3.25
KAMUS		A-9666	Mat for front foot board (SL) (5-P) (7-P)	51	19310	.75
LAMUS		A-9667	Mat for rear foot board (SL) (5-P) (7-P)	51	19311	.75
MAMUS		A-9668	Mat for front foot board (R)	51	30576	.75
PAMUS		A-9669	Mat for rear foot board (R)	51	30573	.75
RAMUS	21-Col-D	A-9670	Binding for front or rear foot boards (91″ long) (OC)	51	46085	.90
SAMUS		A-9671	Handle for floor boards	51	16652	.50



TYPE 57 VICTORIA, TYPE A



TYPE 57, BROUGHAM, TYPE A

TYPE 51 PLATES ON TOE AND FOOT BOARDS

Code Word	Sec.-Bin	Serial	Part Name	Type	Symbol	Price
BAPUS		A-9674	Plate for steering post hole (SL) (5-P) (7-P)	51	19374	$ .50
CAPUS	9-Q-21	A-9675	Plate for steering post hole (R)	51	30163	.50
DAPUS	10-O-8	A-9676	Plate for steering post hole (SD)	51	30164	.85
FAPUS	37-C-51	A-9677	Plate for steering post hole (L) (BL)	51	30060	.85
KAPUS		A-9678	Plate for accelerator pedal hole	51	19084	.25
LAPUS		A-9679	Plate for starting plunger hole	51	19299	.15
MAPUS		A-9680	Plate for control lever hole	51	19303	.35
PAPUS		A-9681	Plate for brake and clutch pedal holes	51	19301	.05
RAPUS		A-9682	Felt pad for steering post plate (SL) (5-P) (7-P)	51	19373	.10
TAPUS		A-9684	Felt pad for steering post plate (SD)	51	30165	.10
BEPUS	16-B-144	A-9686	Felt pad for accelerator plate	51	19083	.05
CEPUS		A-9687	Felt pad for starting plunger plate	51	19298	.05
DEPUS		A-9688	Felt pad for control lever plate	51	19302	.10
FEPUS		A-9689	Felt pad for brake and clutch pedal plates	51	19300	.05

TYPE 53 TOE BOARDS—OPEN CARS

TEPUS	22-B-117	A-9693	Toe board, upper RIGHT, with mat and binding (OC) except (MT), LEFT steering	53	21804	2.50
BIPUS	22-B-115	A-9694	Toe board, upper LEFT, with mat and binding (OC) except (MT), LEFT steering	53	21805	2.50
DIPUS	22-C-25	A-9695	Toe board, lower, with mat and binding (OC) except (MT), LEFT steering	53	21806	3.00
KIPUS	22-B-112	A-9696	Toe board, upper RIGHT, with mat and binding (MT)	53	22310	2.00
LIPUS	22-B-116	A-9697	Toe board, upper LEFT, with mat and binding (MT)	53	22311	2.00
MIPUS		A-9698	Toe board, lower, with mat and binding (MT)	53	41303	3.00
PIPUS	22-D-24	A-9699	Toe board, upper RIGHT, with mat and binding (OC), RIGHT steering	53	21809	2.50
SIPUS		A-9700	Toe board, upper LEFT, with mat and binding (OC), RIGHT steering	53	21810	2.50
ZIPUS		A-9701	Toe board, lower, with mat and binding (OC), RIGHT steering	53	21811	3.00
COPUS		A-9702	Mat for upper toe board, RIGHT (OC) except (MT), LEFT steering	53	31442	.25
FOPUS		A-9703	Mat for upper toe board, LEFT (OC) except (MT), LEFT steering	53	31446	.25
LOPUS		A-9704	Mat for lower toe board (OC) except (MT), LEFT steering	53	31444	.60
POPUS		A-9705	Mat for upper toe board, RIGHT (MT)	53	32341	.25
ROPUS		A-9706	Mat for upper toe board, LEFT (MT)	53	32342	.25
SOPUS		A-9707	Mat for lower toe board (MT)	53	32340	.60
TOPUS		A-9708	Mat for upper toe board, RIGHT (OC), RIGHT steering	53	31513	.25
BUPUS		A-9709	Mat for upper toe board, LEFT (OC), RIGHT steering	53	31514	.25
CUPUS		A-9710	Mat for lower toe board (OC), RIGHT steering	53	31592	.60
DUPUS		A-9711	Binding on upper edge of upper toe board (OC) except (MT) (14" long)	53	32331	.20
KUPUS		A-9712	Binding on outer edges of upper toe board (OC) except (MT) (14" long)	53	46086	.15
MUPUS		A-9713	Binding on lower edge of upper RIGHT toe board, LEFT steering, and on upper LEFT toe board, RIGHT steering (14" long)	53	46086	.15
SUPUS		A-9714	Binding on lower edge of upper LEFT toe board, LEFT steering, and upper RIGHT toe board, RIGHT steering (2 used each board, 14" long) (OC)	53	46086	.15

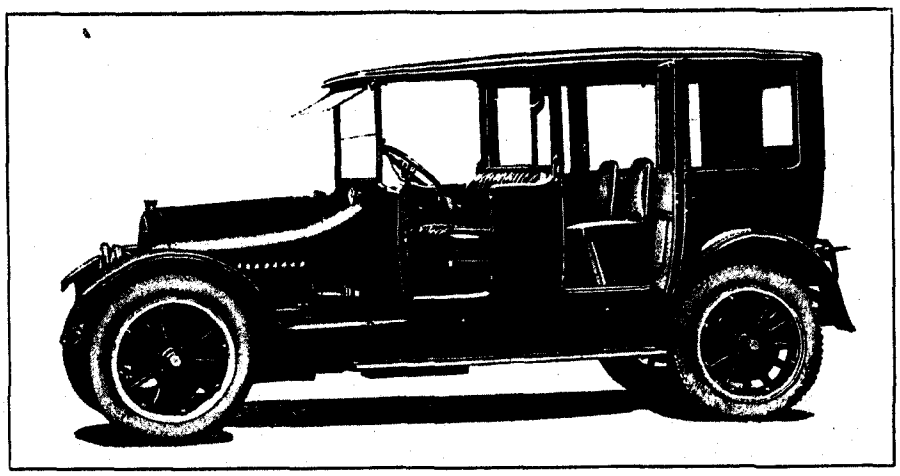
Code Word	Sec.-Bin	Serial	Part Name	Type	Symbol	Price
BARUS	38-B-125	A-9715	Binding on side and bottom of upper RIGHT toe board (MT)	53	32328	$ .35
DARUS		A-9716	Binding on side and bottom of upper LEFT toe board (MT)	53	46086	.15
KARUS		A-9717	Binding on top of upper RIGHT toe board (MT)	53	32331	.20
LARUS		A-9718	Binding on top of upper LEFT toe board (MT)	53	32331	.20
MARUS		A-9719	Binding on lower edge of upper LEFT toe board between generator cover and pedal plate (MT)	53	46086	.15
RARUS		A-9720	Binding on upper edge of lower toe board (2 used each board, 14" long) (OC) except (MT)	53	46086	.15
TARUS		A-9721	Binding on lower edge of lower toe board (35" long) (OC) except (MT)	53	46090	.40
BERUS		A-9722	Binding on ends of lower toe board (OC) except (MT) (14" long)	53	46086	.15
DERUS	38-B-125	A-9723	Binding on top and RIGHT side of lower toe board (MT)	53	32328	.35
FERUS	38-B-125	A-9724	Binding on top and LEFT side of lower toe board (MT)	53	32328	.35
KERUS		A-9725	Binding on lower edge of lower toe board (MT)	53	46090	.40
LERUS	9-J-21	A-9726	Bolt, toe board to bracket on body	51-3	19319	.05
MERUS	9-M-16	A-9727	Flat washer on bolt	53	11478	.05
PERUS	37-C-51	A-9728	Wing nut on bolt for toe board	51-3	8929	.10
RERUS	15-B-45	A-9729	Lock washer for wing nut	51-3	11314	.05

TYPE 53 FOOT BOARDS—OPEN CARS

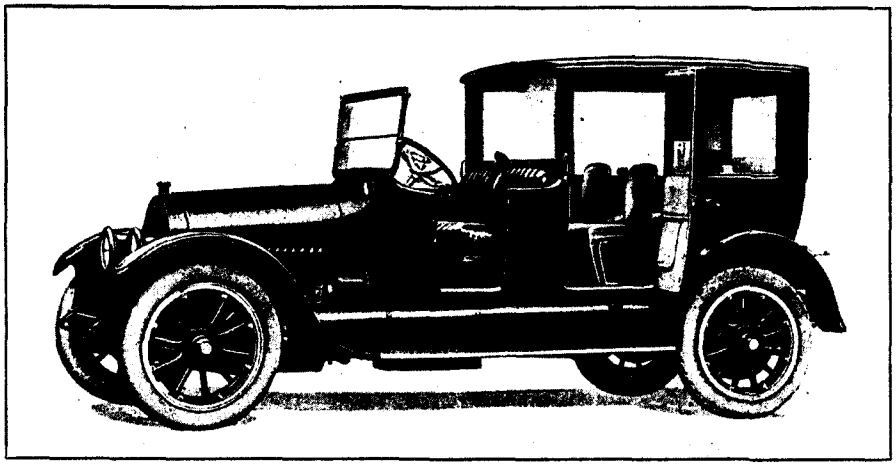
SERUS	22-C-1	A-9733	Foot board, front, with mat and binding (OC) except (MT), LEFT steering	53	21807	3.75
ZERUS	22-B-45	A-9734	Foot board, rear, with mat and binding (OC) except (MT), RIGHT or LEFT steering	53	21808	4.25
CIRUS	22-B-70	A-9735	Foot board, front, with mat and binding (MT)	53	41304	3.00
DIRUS		A-9736	Foot board, rear, with mat and binding (MT)	53	41305	3.25
FIRUS		A-9737	Foot board, front, with mat and binding (OC), RIGHT steering	53	21812	4.50
LIRUS		A-9738	Mat for front foot board (OC) except (MT), LEFT steering	53	31452	.75
PIRUS		A-9739	Mat for rear foot board (OC) except (MT)	53	31450	.75
RIRUS		A-9740	Mat for front foot board (MT)	53	32343	.75
SIRUS		A-9741	Mat for rear foot board (MT)	53	32336	.75
TIRUS		A-9742	Mat for front foot board (OC), RIGHT steering	53	31516	.75
ZIRUS	38-A-45	A-9743	Binding for either side of front or rear foot boards, (43" long) (OC) except (MT)	53	46087	.50
CORUS		A-9744	Binding for either end of front or rear foot boards, (14" long) (OC) except (MT)	53	46086	.15
FORUS	21-col-D	A-9745	Binding for front foot board (MT)	53	46085	.90
KORUS	21-col-D	A-9746	Binding for rear foot board (MT)	53	46085	.90
LORUS		A-9747	Handle for floor boards	51-3	16652	.50

TYPE 53 PLATES AND FELT PADS ON TOE AND FOOT BOARDS

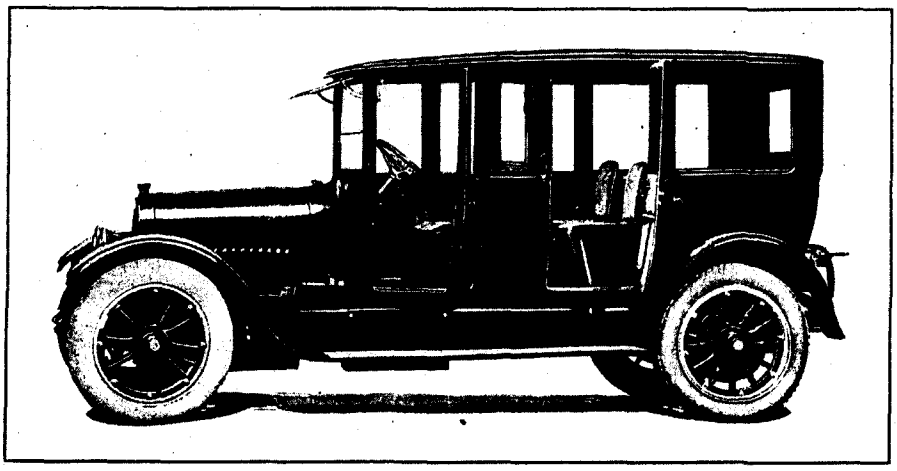
DURUS	37-B-41	A-9750	Aluminum plate with pad for steering post hole (R) (V), LEFT steering	53	21479	2.00
KURUS	37-B-35	A-9751	Aluminum plate with pad for steering post hole (B) (L) (BL), LEFT steering	53	21481	2.00
MURUS		A-9752	Aluminum plate with pad and retainer for steering post hole (C)	53	22018	3.00
RURUS	36-B-146	A-9753	Aluminum plate with pad for steering post hole (SL) (7-P), LEFT steering	53	21476	2.00
TURUS	37-C-133	A-9754	Aluminum plate with pad for steering post hole (SL) (7-P), RIGHT steering	53	21477	2.00



TYPE 57 LIMOUSINE



TYPE 57 TOWN LIMOUSINE



TYPE 57 IMPERIAL

Code Word	Sec.-Bin	Serial	Part Name	Type	Symbol	Price
BATUS		A-9755	Aluminum plate with pad for steering post hole (R) (V), RIGHT steering	53	21478	$ 2.00
CATUS	37-B-39	A-9756	Aluminum plate with pad for steering post hole (B) (L) (BL), RIGHT steering	53	21480	2.00
DATUS	16-B-145	A-9757	Felt pad for steering post hole, all except (C) on 53	53-5	31729	.05
KATUS		A-9759	Retainer for felt on plate (C)	53	32174	.05
LATUS	37-B-44	A-9760	Retainer for felt on plate, all except (C) on 53	53-5	31730	.05
MATUS	37-B-3	A-9761	Cover plate with felts and retainers on toe board for generator, 1st type, with hole for accelerator pedal, 2¾" from lower edge of plate, LEFT steering, before Engine A-26482	53	21444	5.50
PATUS	38-E-22	A-9762	Cover plate with felts and retainers on toe board for generator, 2nd type, with hole for accelerator pedal in extreme lower edge of plate, LEFT steering, after Engine A-26481	53	21767	5.50
TATUS		A-9763	Cover plate with felts and retainers on toe board for generator, all cars, RIGHT steering	53	21445	5.50
BETUS		A-9764	Felt retainer for starter pedal, LEFT steering, and starter or accelerator pedal, RIGHT steering	53	31974	.08
DETUS	9-B-11	A-9765	Felt washer for starter and accelerator pedal, used with No. 31974	53	31975	.05
KETUS		A-9766	Felt retainer for accelerator pedal, RIGHT steering	53	31619	.10
METUS	37-B-43	A-9768	Plate with pads on floor board for hand brake and control lever, all except (C), LEFT steering	53	21496	1.50
RETUS	37-B-45	A-9769	Plate with pads on floor board for hand brake and control lever, RIGHT steering	53	21495	1.50
TETUS	16-C-155	A-9770	Felt pad on plate for control lever hole	53-5	31734	.15
ZETUS	16-B-3	A-9771	Felt pad for hand brake lever hole in floor board	53	31736	.05
BITUS	9-C-17	A-9772	Retainer for control lever felt pad on floor board	53	31733	.10
CITUS	10-O-21	A-9773	Retainer for felt pad for brake lever hole	53	31735	.10
DITUS		A-9774	Plate on floor board with pads and retainer for control and hand brake levers (C)	53	22004	1.50
KITUS		A-9775	Plate with pads on floor boards for accelerator pedal (C)	53	22025	.75
RITUS	9-B-11	A-9779	Felt washer for starter pedal plate (C)	53	31975	.05
SITUS	36-B-3	A-9780	Thimble in floor board for starting rod (C)	53	32168	.80
TITUS	9-B-14	A-9781	Plate on tire pump starting rod (C)	53	34313	.75
ZITUS	10-O-9	A-9782	Screw attaching plate (C)	53	11889	.05
BOTUS	10-U-6	A-9783	Steel washer for conduit opening in cover for generator	53	11507	.05
DOTUS		A-9784	Felt washer for conduit opening in cover for generator	53	31434	.05
FOTUS	14-B-90	A-9785	Screw, long, generator cover plate to toe board (2 used)	53	31435	.25
KOTUS	9-M-11	A-9786	Screw, short, generator cover plate to toe board (1 used)	53	31436	.15
LOTUS	10-D-7	A-9787	Lock washer (3 used)	51-3	11335	.05
MOTUS	10-Q-7	A-9788	Anchor bracket on upper toe boards for generator cover screw	53	31437	.20
ROTUS	16-C-160	A-9789	Felt strip between side of generator cover and toe boards	53	31432	.05
SOTUS		A-9790	Retainer for felt on side of generator cover	53	31431	.05
TOTUS	16-C-136	A-9791	Felt strip between top of generator cover and toe board	53	31433	.05
ZOTUS		A-9792	Retainer for felt on top edge of generator cover	53	31430	.08
BUTUS	16-B-9	A-9793	Felt pad for clutch and brake pedal hole in floor board, all except (C)	53-5	31731	.05
DUTUS	9-H-21	A-9794	Plate for clutch and brake pedal holes in floor boards, all except (C)	53-5	31732	.05
KUTUS	9-N-11	A-9795	Rivet, retainer and felt to cover	53	17680	.05
LUTUS		A-9796	Plate on lower toe board supporting upper toe board	53	31426	.05
MUTUS		A-9797	Mat for toe board bracket and sill, RIGHT (OC) except (MT)	53	31705	.30
RUTUS		A-9798	Mat for toe board bracket and sill, RIGHT (MT)	53	32363	.35
SUTUS		A-9799	Mat for toe board bracket and sill, LEFT (OC) except (MT)	53	31706	.30
ZUTUS		A-9800	Mat for toe board bracket and sill, LEFT (MT)	53	32364	.35

Code Word	Sec.-Bin	Serial	Part Name	Type	Symbol	Price
BABUT	38-A-45	A-9801	Binding for toe board bracket, RIGHT (OC) (43" long)	53	46087	$ .50
CABUT	9-C-14	A-9802	Screw, binding to toe board bracket	53	10703	.05
DABUT		A-9803	Leather stop on toe board for brake pedal	53	32067	.05
FABUT		A-9804	Handle for floor boards	51-3	16652	.50

TYPE 55 TOE BOARDS

NOTE—Two pieces of "L" shaped binding are used between boards on approximately the first 5,000 Touring and Chassis. After the first 5,000 Touring and Chassis one piece of "T" shaped binding is used between boards.

TABUT	22-B-112	A-9808	Toe board, upper RIGHT, with mat and "L" shaped binding, LEFT steering (T) (S) (M) (A)	55	22310	2.00
BEBUT	22-B-116	A-9809	Toe board, upper LEFT, with mat and "L" shaped binding, LEFT steering (T) (S) (M) (A)	55	22311	2.00
DEBUT	22-B-87	A-9810	Toe board, lower, with mat and "L" shaped binding, LEFT steering (T) (S) (M) (A)	55	23692	3.00
KEBUT	22-B-178	A-9811	Toe board, upper RIGHT, with mat and "T" shaped binding, LEFT steering (T) (S) (M) (A)	55	22728	2.00
MEBUT	22-B-119	A-9812	Toe board, upper LEFT, with mat and "T" shaped binding, LEFT steering (T) (S) (M) (A)	55	22729	2.00
REBUT	22-F-15	A-9813	Toe board, lower, with mat and "T" shaped binding, LEFT steering (T) (S) (M) (A)	55	23693	3.00
TEBUT	22-B-135	A-9814	Toe board, upper, with mat and binding, LEFT steering (P) (R) (CR)	55	22748	4.50
BIBUT		A-9815	Toe board, lower, with mat and binding, LEFT steering (P) (R)(CR)	55	23694	3.00
DIBUT	22-B-178	A-9816	Toe board, upper RIGHT, with mat and binding, LEFT steering (CV)	55	22728	2.00
KIBUT	22-B-119	A-9817	Toe board, upper LEFT, with mat and binding, LEFT steering (CV)	55	22729	2.00
MIBUT	22-F-14	A-9818	Toe board, lower, with mat and binding, LEFT steering (CV)	55	23695	3.00
RIBUT		A-9819	Toe board only, upper, LEFT steering (C)	55	34422	1.00
SIBUT	22-B-25	A-9820	Toe board only, lower, LEFT steering (C)	55	34423	1.50
TIBUT		A-9821	Toe board, upper RIGHT, with mat and binding, RIGHT steering (T) (S) (M) (A)	55	22735	2.00
BOBUT		A-9822	Toe board, upper LEFT, with mat and binding, RIGHT steering (T) (S) (M) (A)	55	22736	2.00
DOBUT		A-9823	Toe board, lower, with mat and binding, RIGHT steering (T) (S) (M) (A)	55	23696	3.00
KOBUT		A-9824	Toe board, upper, with mat and binding, RIGHT steering (P) (R) (CR)	55	22744	2.00
MOBUT		A-9825	Toe board, lower, with mat and binding, RIGHT steering (P) (R) (CR)	55	23697	3.00
ROBUT		A-9826	Mat for upper RIGHT toe board, LEFT steering (T) (S) (M) (A)	55	34068	.40
TOBUT		A-9827	Mat for upper LEFT toe board, LEFT steering (T) (S) (M) (A)	55	34069	.40
BUBUT		A-9828	Mat for lower toe board, LEFT steering (T) (S) (M) (A)	55	34073	.60
CUBUT		A-9829	Mat for upper toe board, LEFT steering (P) (R) (CR)	55	34001	.60
DUBUT		A-9830	Mat for lower toe board, LEFT steering (P) (R) (CR)	55	33999	.60
FUBUT		A-9831	Mat for upper RIGHT toe board, LEFT steering (CV)	55	34692	.40
KUBUT		A-9832	Mat for upper LEFT toe board, LEFT steering (CV)	55	34693	.40
LUBUT		A-9833	Mat for lower toe board, LEFT steering (CV)	55	34695	.60
MUBUT		A-9834	Mat for upper RIGHT toe board, RIGHT steering (T) (S) (M) (A)	55	33901	.40
RUBUT		A-9835	Mat for upper LEFT toe board, RIGHT steering (T) (S) (M) (A)	55	33902	.40
TUBUT		A-9836	Mat for lower toe board, RIGHT steering (T) (S) (M) (A)	55	33789	.60
ZUBUT		A-9837	Mat for upper toe board, RIGHT steering (P) (R) (CR)	55	34007	.60

Code Word	Sec.-Bin	Serial	Part Name	Type	Symbol	Price
BADUT		A-9838	Mat for lower toe board, RIGHT steering (P) (R) (CR)	55	34008	$ .60
CADUT		A-9839	Binding, "L" shaped, for top edge of upper RIGHT toe board, LEFT steering (T) (S) (M) (A)	55	32331	.20
FADUT		A-9840	Binding, "L" shaped, for top edge of upper LEFT toe board, LEFT steering (T) (S) (M) (A)	55	32331	.20
LADUT	38-B-125	A-9841	Binding, "L" shaped, for side and bottom of upper RIGHT toe board, LEFT steering (T) (S) (M) (A)	55	32328	.35
PADUT		A-9842	Binding, "L" shaped, for side of upper LEFT toe board, LEFT steering (T) (S) (M) (A)	55	46086	.15
SADUT		A-9843	Binding, "L" shaped, for lower edge of upper LEFT toe board, LEFT steering (T) (S) (M) (A)	55	46086	.15
ZADUT	38-A-10	A-9844	Binding, "T" shaped, for top edge of upper RIGHT toe board (CV) (T) (S) (M) (A)	55	45586	.25
CEDUT	38-A-10	A-9845	Binding, "T" shaped, for side of upper RIGHT toe board (CV) (T) (S) (M) (A)	55	45586	.25
FEDUT	38-B-66	A-9846	Binding, "T" shaped, for lower edge of upper RIGHT toe board, LEFT steering (CV) (T) (S) (M) (A)	55	39481	.30
LEDUT	38 A-10	A-9847	Binding, "T" shaped, on top edge of upper LEFT toe board (T) (CV) (S) (M) (A)	55	45586	.25
PEDUT	38-A-10	A-9848	Binding, "T" shaped, for side of upper LEFT toe board (T) (CV) (S) (M) (A)	55	45586	.25
SEDUT	38-B-97	A-9849	Binding, "T" shaped, outer, on lower edge of upper LEFT toe board, LEFT steering (CV) (T) (S) (M) (A)	55	45593	.35
ZEDUT	38-B-97	A-9850	Binding, "T"shaped, inner, on lower edge of upper LEFT toe board, LEFT steering (CV) (T) (S) (M) (A)	55	45593	.35
CIDUT	38-B-66	A-9851	Binding, RIGHT HALF, on top edge of upper toe board (P) (R) (CR)	55	39481	.30
FIDUT	38-B-66	A-9852	Binding, LEFT HALF, on top edge of upper toe board (P) (R) (CR)	55	39481	.30
LIDUT	38-B-66	A-9853	Binding for RIGHT edge of upper toe board (P) (R) (CR)	55	39481	.30
MIDUT	38-B-66	A-9854	Binding for LEFT edge of upper toe board (P) (R) (CR)	55	39481	.30
PIDUT	38-B-21	A-9855	Binding, RIGHT HALF, on lower edge of upper toe board, LEFT steering (P) (R) (CR)	55	45609	.60
SIDUT	38-B-97	A-9856	Binding, LEFT HALF, on lower edge of upper toe board, LEFT steering (P) (R) (CR)	55	45593	.35
ZIDUT	38-B-97	A-9857	Binding, RIGHT HALF, on lower edge of upper RIGHT toe board, RIGHT steering (T) (S) (M) (A)	55	45593	.35
CODUT	38-B-97	A-9858	Binding, LEFT HALF, on lower edge of upper RIGHT toe board, RIGHT steering (T) (S) (M) (A)	55	45593	.35
FODUT	38-B-66	A-9859	Binding on lower edge of upper LEFT toe board, RIGHT steering (T) (S) (M) (A)	55	39481	.30
LODUT	38-B-97	A-9860	Binding, RIGHT HALF, on lower edge of upper toe board, RIGHT steering (P) (R)	55	45593	.35
PODUT	38-B-21	A-9861	Binding, LEFT HALF, on lower edge of upper toe board, RIGHT steering (P) (R)	55	45609	.60
SODUT	38-B-125	A-9862	Binding, "L" shaped, for top half and LEFT side of lower toe board, LEFT steering (T) (S) (M) (A)	55	32328	.35
ZODUT	38-B-125	A-9863	Binding, "L" shaped, top half and RIGHT side of lower toe board, LEFT steering (T) (S) (M) (A)	55	32328	.35
CUDUT		A-9864	Binding, "L" shaped, on lower edge of lower toe board, LEFT steering (T) (S) (M) (A)	55	46090	.40
FUDUT	38-B-97	A-9865	Binding, "T" shaped, on ends of lower toe board (T) (S) (M) (A) (P) (R) (CR)	55	45593	.35
LUDUT	38-B-97	A-9866	Binding for ends of lower toe board (CV)	55	45593	.35
MUDUT		A-9867	Plate for lower toe board supporting upper toe board, all cars except (P) (R) (CR) (C)	55	31426	.05
RUDUT	9-S-23	A-9868	Lifter handle for floor boards, all cars except (V) (C)	55	33387	.50

TYPE 55 FOOT BOARDS

Code Word	Sec.-Bin	Serial	Part Name	Type	Symbol	Price
BAFUT	22-B-93	A-9872	Foot board, front, with mat and "L" shaped binding, LEFT steering (T) (S) (M) (A)	55	22308	$ 4.00
DAFUT	22-G-13	A-9873	Foot board, rear, with mat and "L" shaped binding, LEFT steering (T) (S) (M) (A)	55	22309	4.00
KAFUT	22-A-42	A-9874	Foot board, front, with mat and "T" shaped binding, LEFT steering (T) (S) (M) (A)	55	22732	4.00
MAFUT	22-D-68	A-9875	Foot board, rear, with mat and "T" shaped binding, LEFT steering (T) (S) (M) (A) (P) (R)	55	22733	4.00
RAFUT	22-D-26	A-9876	Foot board, front, with mat and binding, LEFT steering (P) (R) (CR)	55	22750	4.00
PAFUT		A-9876B	Foot board rear, with mat and binding LEFT steering (CR)	55	23669	4.00
TAFUT		A-9877	Foot board, rear, with mat and binding, LEFT steering (CV)	55	23639	4.00
BEFUT		A-9878	Foot board, rear, with mat and binding (CV)	55	23640	3.00
CEFUT		A-9879	Foot board, front, with mat and binding, RIGHT steering (T) (S) (M) (A)	55	22739	4.00
FEFUT		A-9880	Foot board, rear, with mat and binding, RIGHT steering (T) (S) (M) (A)	55	22740	5.00
LEFUT		A-9881	Foot board, front, with mat and binding, RIGHT steering (P) (R) (CR)	55	22746	5.00
PEFUT		A-9882	Foot board only, front, LEFT steering (C)	55	34424	1.50
REFUT		A-9883	Foot board only, rear, LEFT steering (C)	55	34425	1.50
SEFUT		A-9884	Mat for front foot board, LEFT steering (T) (S) (M) (A)	55	34059	.60
TEFUT		A-9885	Mat for rear foot board, LEFT steering (T) (S) (M) (A) (P) (R)	55	34067	.60
BIFUT		A-9886	Mat for front foot board, LEFT steering (P) (R) (CR)	55	34061	.60
CIFUT		A-9887	Mat for rear foot board, LEFT steering (CR)	55	34891	.60
DIFUT		A-9888	Mat for front foot board, LEFT steering (CV)	55	34689	.60
FIFUT		A-9889	Mat for rear foot board, LEFT steering (CV)	55	34685	.60
KIFUT		A-9890	Mat for front foot board, RIGHT steering (T) (S) (M) (A)	55	33791	.60
MIFUT		A-9891	Mat for rear foot board, RIGHT steering (T) (S) (M) (A) (P) (R)	55	33794	.60
RIFUT		A-9892	Mat for front foot board, RIGHT steering (P) (R) (CR)	55	34063	.60
SIFUT	21-col-D	A-9893	Binding, "L" shaped, for front foot board, LEFT steering (T) (S) (M) (A)	55	46085	.90
ZIFUT	38-A-34	A-9894	Binding, "T" shaped, on front of front foot board (T) (S) (M) (A) (CV) (P) (R) (CR)	55	37358	.45
COFUT	38-A-10	A-9895	Binding, "T" shaped, on ends of front foot board (T) (S) (M) (A)	55	45586	.25
FOFUT	38-A-10	A-9896	Binding on ends of front foot board (P) (R) (CR)	55	45586	.25
KOFUT	38-A-10	A-9897	Binding on ends of front foot board (CV)	55	45586	.25
LOFUT	38-B-66	A-9898	Binding, "T" shaped, RIGHT HALF, on rear of front foot board, LEFT steering (OC) (CV)	55	39481	.30
POFUT	38-B-66	A-9899	Binding, "T" shaped, LEFT HALF, on rear of front foot board, LEFT steering (OC) (CV)	55	39481	.30
SOFUT	38-B-66	A-9900	Binding, RIGHT HALF on rear of front foot board, RIGHT steering (OC) (S) (M) (A)	55	39481	.30
ZOFUT	38-B-66	A-9901	Binding, LEFT HALF on rear of front foot board, RIGHT steering (OC) (S) (M) (A)	55	39481	.30
CUFUT	21-col-D	A-9902	Binding, "L" shaped, for rear foot board (T) (S) (M) (A)	55	46085	.90
DUFUT	38-B-66	A-9903	Binding, "T" shaped, for ends of rear foot board (T) (S) (M) (A) (P) (R)	55	39481	.30
KUFUT	38-A-10	A-9904	Binding for ends of rear foot board (CV)	55	45586	.25
LUFUT	38-B-66	A-9905	Binding for RIGHT end of rear foot board (CR)	55	39481	.30
MUFUT	38-B-66	A-9906	Binding for LEFT end of rear foot board (CR)	55	39481	.30
PUFUT		A-9907	Mat for toe board bracket and sill, RIGHT (T) (S) (M) (A)	55	32363	.35
SUFUT		A-9908	Mat for toe board bracket and sill, LEFT (T) (S) (M) (A)	55	32364	.35
TUFUT		A-9909	Mat for toe board bracket, RIGHT (P)	55	34560	.50
ZUFUT		A-9910	Mat for toe board bracket, LEFT (P)	55	34561	.50

Code Word	Sec.-Bin	Serial	Part Name	Type	Symbol	Price
BAHUT		A-9911	Mat for toe board bracket and sill, RIGHT (R)	55	34322	$ .50
CAHUT		A-9912	Mat for toe board bracket and sill, LEFT (R)	55	34323	.50
DAHUT		A-9913	Mat for toe board bracket, RIGHT (CR)	55	34888	.50
FAHUT		A-9914	Mat for toe board bracket, LEFT (CR)	55	34889	.50
KAHUT		A-9915	Mat for toe board bracket and sill, RIGHT (CV)	55	34638	.50
LAHUT		A-9916	Mat for toe board bracket and sill, LEFT (CV)	55	34639	.50
MAHUT	38-A-45	A-9917	Binding, "L" shaped, for sill mat, RIGHT (T) (S) (M) (A)	55	46087	.50
RAHUT	38-A-45	A-9918	Binding, "L" shaped, for sill mat, LEFT (T) (S) (M) (A)	55	46087	.50
SAHUT	9-C-14	A-9919	Screw, binding to toe board bracket (T) (S) (M) (A)	55	10703	.05
ZAHUT	9-J-21	A-9920	Bolt, toe and foot boards to bracket on body	51-3-5	19319	.05
BEHUT	9-M-16	A-9921	Flat washer	51-3-5	11478	.05
CEHUT	37-C-51	A-9922	Wing nut	51-3-5	8929	.10
DEHUT	15-B-45	A-9923	Lock washer	51-3-5	11314	.05
FEHUT	16-C-72	A-9924	Anti-squeak for floor boards (10' long)	55	34566	.75

TYPE 55 PLATES FOR TOE AND FOOT BOARDS

TEHUT	36-B-146	A-9928	Plate with pads for steering post hole (V) and before Engine 55-E-1 on (T) (S), LEFT steering	55	21476	2.00
BIHUT	38-D-64	A-9929	Plate with pads for steering post hole (C) (CV) and after Engine 55-E-1 on (T) (S), LEFT steering	55	22597	2.00
DIHUT	37-B-117	A-9930	Plate with pads for steering post hole, LEFT steering (P) (R) (CR)	55	22689	2.00
KIHUT	37-C-129	A-9931	Plate with pads for steering post hole, LEFT steering (B) (L) (LD) (I) (M) (A)	55	22604	2.00
MIHUT		A-9932	Plate with pads for steering post hole, RIGHT steering (T) (V) (M)	55	22684	2.00
RIHUT		A-9933	Plate with pads for steering post hole, RIGHT steering (P) (R) (CR) (C)	55	22693	2.00
TIHUT		A-9934	Plate with pads for steering post hole, RIGHT steering (L) (B) (I) (LD) (M) (A)	55	22603	2.00
BOHUT	16-B-145	A-9935	Felt pad for steering post plate	55	31729	.05
COHUT	37-B-44	A-9936	Retainer for felt pad on plate	53-5	31730	.05
DOHUT	16-B-9	A-9937	Felt pad on steering post plate for clutch and brake pedals	53-5	31731	.05
FOHUT	9-H-21	A-9938	Retainer for clutch and brake pedal felts	53-5	31732	.05
KOHUT	9-N-11	A-9939	Rivet, retainer and felt pad to plate	53-5	17680	.05
LOHUT	37-G-10	A-9940	Cover plate with pads and retainers on toe board for generator, LEFT steering, all except (P) (R) (CR) (C)	55	22229	8.00
POHUT	36-B-79	A-9941	Cover plate with pads and retainers on toe board for generator, RIGHT steering, all except (P) (R) (CR) (C)	55	22692	8.00
SOHUT	16-C-160	A-9942	Felt strip between sides of generator cover and toe boards, all except (P) (R) (CR) (C)	55	31432	.05
ZOHUT		A-9943	Retainer for felt on side cover, all except (P) (R) (CR) (C)	55	31430	.08
CUHUT	16-C-136	A-9944	Felt strip on top of cover, all except (P) (R) (CR) (C)	55	31433	.05
DUHUT		A-9945	Retainer for felt on top edge of cover, all except (P) (R) (CR) (C)	55	31431	.05
KUHUT	14-B-90	A-9946	Screw, long, cover plate to toe boards (2 used), all except (P) (R) (CR) (C)	55	31435	.25
LUHUT	9-M-11	A-9947	Screw, short, cover plate to toe board (1 used), all except (P) (R) (CR) (C)	55	31436	.15
MUHUT	10-Q-7	A-9948	Anchor bracket on toe board for cover plate screw, all except (P) (R) (CR) (C)	55	31437	.20
PUHUT	9-B-11	A-9949	Felt washer on cover plate for starter and accelerator pedal, all cars except (P) (R) (CR) (C)	55	31975	.05
SUHUT		A-9950	Retainer for felt on cover for starter and accelerator pedal, all except (P) (R) (CR) (C)	55	31974	.08

Code Word	Sec.-Bin	Serial	Part Name	Type	Symbol	Price
BAKUT		A-9952	Plate for accelerator pedal hole (P) (R) (CR) (C), LEFT and all except (P) (R) (CR) (C), RIGHT steering	55	31619	$ .10
DAKUT	35-B-133	A-9953	Plate for starter pedal hole in toe board (P) (R) (CR) (C)	55	33991	.15
FAKUT	36-B-3	A-9954	Thimble in floor board for tire pump starting rod (C)	53-5	32168	.80
KAKUT	9-B-14	A-9955	Aluminum plate on floor board for tire pump starting rod (C)	55	34313	.75
MAKUT	16-B-1	A-9956	Felt pad for starter pedal hole (P) (R) (CR) (C)	55	33992	.05
PAKUT	10-O-17	A-9957	Plate on cover on floor board for oiling starter gear shaft, all except (P) (R) (CR) (C)	55	33215	.25
SAKUT	9-O-12	A-9958	Screw, LEFT, oiler plate to cover, all except (P) (R) (CR) (C)	55	33214	.05
ZAKUT	9-O-1	A-9959	Screw, RIGHT, oiler plate to cover, all except (P) (R) (CR) (C)	55	33216	.05
FEKUT		A-9961	Plate for conduit hole in upper toe board (P) (R) (CR) (C)	55	31619	.10
KEKUT	16-B-9	A-9962	Felt pad for clutch and brake pedal hole in floor board, all except (C)	53-5	31731	.05
MEKUT	9-H-21	A-9963	Plate for clutch and brake pedal holes in floor boards, all except (C)	53-5	31732	.05
REKUT	9-N-11	A-9964	Rivet, pad to plate	53-5	17680	.05
SEKUT	36-B-1	A-9965	Plate, front half, with pad on floor board for hand brake and control lever, LEFT steering	55	22306	1.00
ZEKUT	37-D-50	A-9966	Plate, rear half, with pad on floor board for hand brake and control lever, LEFT steering	55	22307	1.00
CIKUT		A-9967	Plate, front half, with pad on floor board for hand brake and control lever, RIGHT steering	55	22690	1.00
FIKUT		A-9968	Plate, rear half, with pad on floor board for hand brake and control lever, RIGHT steering	55	22691	1.00
LIKUT		A-9969	Felt pad for control lever hole (2 used)	55	33486	.05
MIKUT		A-9970	Retainer for felt pad for control lever hole (2 used)	55	33483	.05
PIKUT		A-9971	Felt pad for brake lever hole, front half	55	33484	.05
RIKUT	10-M-23	A-9972	Retainer for felt pad for brake lever hole, front half	55	33485	.05
SIKUT		A-9973	Felt pad for brake lever hole, rear half	55	33488	.05
TIKUT		A-9974	Retainer for felt pad for brake lever hole, rear half	55	33487	.05
ZIKUT	9-N-11	A-9975	Rivet, retainer and pad to plate	55	17680	.05
BOKUT	38-B-139	A-9976	Hand hole cover in rear floor (T) (P) (CV) (B) (L) (I) (LD)	55	23706	.60

TYPE 57 TOE BOARDS, MATS AND BINDINGS

FOKUT	22-B-1	A-9980	Toe board, upper, with mat and binding, LEFT steering (OC) (S)	57	23435	4.75
LOKUT	22-D-1	A-9981	Toe board, upper, with mat and binding, LEFT steering (M) (A)	57	23478	4.75
POKUT	22-D-56	A-9982	Toe board, lower, with mat and binding, LEFT steering (7-P) (P-1) (R-1) (S)	57	23436	5.50
SOKUT	22-D-4	A-9983	Toe board, lower, with mat and binding, LEFT steering (P-2) (R-2)	57	24484	5.75
ZOKUT	22-C-7	A-9984	Toe board, lower, with mat and binding, LEFT steering (M) (A)	57	23479	5.75
CUKUT	22-B-7	A-9985	Toe board, upper, with mat and binding, RIGHT steering (OC) (S)	57	24486	5.25
FUKUT		A-9986	Toe board only, upper, with cleats, RIGHT steering (M) (A)	57	23379	1.75
LUKUT		A-9987	Toe board, lower, with mat and binding (7-P) (P-1) (R-1) (S), RIGHT steering	57	24487	5.50
PUKUT	22-E-15	A-9988	Toe board, lower, with mat and binding (P-2) (R-2) RIGHT steering	57	24485	5.50
RUKUT		A-9989	Toe board only, lower, with cleats, RIGHT steering (M) (A)	57	23381	1.65
TUKUT		A-9990	Mat for upper toe board, LEFT steering (OC) (S)	57	37348	.85
ZUKUT		A-9991	Mat for upper toe board, LEFT steering (M) (A)	57	37909	.85

Code Word	Sec.-Bin	Serial	Part Name	Type	Symbol	Price
BALUT		A-9992	Mat for lower toe board, LEFT steering (7-P) (P-1) (R-1) (S)	57	37347	$ .85
DALUT		A-9993	Mat for lower toe board, LEFT steering (P-2) (R-2)	57	38153	.85
FALUT		A-9994	Mat for lower toe board, LEFT steering (M) (A)	57	37908	.85
KALUT		A-9995	Mat for upper toe board, RIGHT steering (OC) (S)	57	37923	.85
LALUT		A-9996	Mat for upper toe board, RIGHT steering (M) (A)	57	37917	.85
MALUT		A-9997	Mat for lower toe board, RIGHT steering (7-P) (P-1) (R-1) (S)	57	37924	.85
RALUT		A-9998	Mat for lower toe board, RIGHT steering (P-2) (R-2)	57	38152	.85
SALUT		A-9999	Mat for lower toe board, RIGHT steering (M) (A)	57	37919	.85
TALUT	38-B-66	A-10000	Binding, RIGHT half, for top edge of upper toe board (OC) (S) (M) (A)	57	39481	.30
BELUT	38-B-66	A-10001	Binding, LEFT half, for top edge of upper toe board(OC) (S) (M) (A)	57	39481	.30
DELUT	38-A-10	A-10002	Binding for RIGHT side of upper toe board (OC) (S)	57	45586	.25
FELUT	38-A-10	A-10003	Binding for LEFT side of upper toe board (OC) (S)	57	45586	.25
KELUT	38-A-10	A-10004	Binding for RIGHT side of upper toe board (M) (A)	57	45586	.25
LELUT	38-A-10	A-10005	Binding for LEFT side of upper toe board (M) (A)	57	45586	.25
MELUT	38-B-21	A-10006	Binding, RIGHT half, for top edge of lower toe board, LEFT steering (OC)(S)	57	45609	.60
RELUT	38-B-97	A-10007	Binding, LEFT half, for top edge of lower toe board, LEFT steering (OC) (S)	57	45593	.35
TELUT	38-B-21	A-10008	Binding, RIGHT half, for top edge of lower toe board, LEFT steering (M) (A)	57	45609	.60
BILUT	38-B-97	A-10009	Binding, LEFT half, for top edge of lower toe board, LEFT steering (M) (A)	57	45593	.35
DILUT	38-B-97	A-10010	Binding, RIGHT half, for top edge of lower toe board, RIGHT steering (OC) (S)	57	45593	.35
KILUT	38-B-21	A-10011	Binding, LEFT half, for top edge of lower toe board, RIGHT steering (OC) (S)	57	45609	.60
MILUT	38-B-97	A-10012	Binding, RIGHT half, for top edge of lower toe board, RIGHT steering (M) (A)	57	45593	.35
RILUT	38-B-21	A-10013	Binding, LEFT half, for top edge of lower toe board, RIGHT steering (M) (A)	57	45609	.60
TILUT	38-A-10	A-10014	Binding for RIGHT side of lower toe board (OC) (S)	57	45586	.25
ZILUT	38-A-10	A-10015	Binding for LEFT side of lower toe board (OC) (S)	57	45586	.25
BOLUT	38-A-10	A-10016	Binding for RIGHT side of lower toe board (M) (A)	57	45586	.25
COLUT	38-A-10	A-10017	Binding for LEFT side of lower toe board (M) (A)	57	45586	.25
DOLUT	16-C-72	A-10018	Anti-squeak for floor boards (10′ long) (OC) (S) (M) (A)	55-7	34566	.75
KOLUT	9-J-21	A-10019	Bolt, boards to bracket on body (OC) (S) (M) (A)	51-3-5-7	19319	.05
LOLUT	9-M-16	A-10020	Flat washer (OC) (S) (M) (A)	51-3-5-7	11478	.05
MOLUT	37-C-51	A-10021	Wing nut (OC) (S) (M) (A)	51-3-5-7	8929	.10
POLUT	15-B-45	A-10022	Lock washer (OC) (S) (M) (A)	51-3-5-7	11314	.05

TYPE 57 FOOT BOARDS, MATS AND BINDINGS

ROLUT	22-F-26	A-10026	Foot board, front, with mat and bindings, LEFT steering (OC) (S) (M) (A)	57	23437	5.50
SOLUT	22-A-51	A-10027	Foot board, rear, with mat and bindings, LEFT steering (OC) (S) (M) (A)	57	23438	4.50
ZOLUT		A-10028	Foot board, front, with mat and bindings, RIGHT steering (OC) (S) (M) (A)	57	24488	5.50
CULUT		A-10029	Foot board, rear, with mat and bindings, RIGHT steering (OC) (S) (M) (A)	57	24489	4.50
FULUT		A-10030	Mat for front foot board, LEFT steering (OC) (S) (M) (A)	57	37600	.50
KULUT		A-10031	Mat for rear foot board, LEFT steering (OC) (S) (M) (A)	57	37599	1.00
LULUT		A-10032	Mat for front foot board, RIGHT steering (OC) (S) (M) (A)	57	37928	.60
PULUT		A-10033	Mat for rear foot board, RIGHT steering (OC) (S) (M) (A)	57	37927	1.00
SULUT	38-A-10	A-10034	Binding for either end of front foot board (OC) (S) (M) (A)	57	45586	.25
ZULUT	38-A-34	A-10035	Binding on front of front foot board (OC) (S) (M) (A)	57	37358	.45

Code Word	Sec.-Bin	Serial	Part Name	Type	Symbol	Price
BAPUT	38-B-66	A-10036	Binding, RIGHT half, for rear of front foot board, LEFT steering (OC) (S) (M) (A)	57	39481	$ .30
DAPUT	38-B-66	A-10037	Binding, LEFT half, for rear of front foot board, LEFT steering (OC) (S) (M) (A)	57	39481	.30
KAPUT	38-B-66	A-10038	Binding, RIGHT half, for rear of front foot board, RIGHT steering (OC) (S) (M) (A)	57	39481	.30
MAPUT	38-B-66	A-10039	Binding, LEFT half, for rear of front foot board, RIGHT steering (OC) (S) (M) (A)	57	39481	.30
RAPUT	38-B-66	A-10040	Binding for either end of rear foot board (OC) (S) (M) (A)	57	39481	.30
SAPUT		A-10041	Mat for toe board bracket and sill, RIGHT side (7-P) (P-1) (R-1) (S) (M) (A)	57	68216	.50
ZAPUT		A-10042	Mat for toe board bracket and sill, RIGHT side (P-2)	55-7	34560	.50
BEPUT		A-10043	Mat for toe board bracket and sill, RIGHT side (R-2)	55-7	34322	.50
CEPUT		A-10044	Mat for toe board bracket and sill, LEFT side (7-P) (P-1) (R-1) (S) (M) (A)	57	68217	.50
FEPUT		A-10045	Mat for toe board bracket and sill, LEFT side (P-2)	55-7	34561	.50
KEPUT		A-10046	Mat for toe board bracket and sill, LEFT side (R-2)	55-7	34323	.50
LEPUT	16-C-72	A-10047	Anti-squeak for floor boards (10' long) (OC) (S) (M) (A)	55-7	34566	.75
PEPUT	9-S-23	A-10048	Lifter for foot boards	55-7	33387	.50

TYPE 57 ALUMINUM PLATES ON TOE AND FOOT BOARDS

TEPUT	38-B-24	A-10052	Plate with pads for steering post, clutch and brake pedals, upper half, LEFT steering (7-P) (P-1) (R-1) (V-1) (SB-1) (SB-2) (S)	57	23420	1.60
CIPUT	37-C-11	A-10053	Plate with pads for steering post, clutch and brake pedals, upper half, LEFT steering (P-2) (R-2) (V-2) (B-2)	57	24463	1.60
FIPUT	38-B-48	A-10054	Plate with pads for steering post, clutch and brake pedals, upper half, LEFT steering (CC) except (V-1) (V-2) (SB-1) (SB-2) (B-2)	57	23415	1.60
MIPUT	38-B-52	A-10055	Plate with pads for steering post, clutch and brake pedals, upper half, LEFT steering (M) (A)	57	23413	1.45
RIPUT	38-B-42	A-10056	Plate with pads for steering post, clutch and brake pedals lower half, LEFT steering (7-P) (S) (P-1) (R-1) (V-1) (SB-1) (SB-2)	57	23421	1.65
ZIPUT	37-C-7	A-10057	Plate with pads for steering post, clutch and brake pedals, lower half, LEFT steering (P-2) (R-2) (B-2) (V-2)	57	24465	1.50
COPUT	38-B-54	A-10058	Plate with pads for steering post, clutch and brake pedals, lower half, LEFT steering (CC) (except (V-1) (V-2) (SB-1) (SB-2) (B-2)	57	23417	2.00
KOPUT	37-B-74	A-10059	Plate with pads for steering post, clutch and brake pedals, lower half, LEFT steering (M) (A)	57	23414	1.65
MOPUT	36-C-59	A-10060	Plate with pads for steering post, clutch and brake pedals, upper half, RIGHT steering (7-P) (P-1) (R-1) (V-1) (S) (SB-1) (SB-2)	57	23425	1.50
SOPUT	37-D-20	A-10061	Plate with pads for steering post, clutch and brake pedals, upper half, RIGHT steering (P-2) (R-2) (V-2) (B-2)	57	25643	2.00
ZOPUT	38-B-48	A-10062	Plate with pads for steering post, clutch and brake pedals, upper half, RIGHT steering (CC) except (V-1) (V-2) (SB-1) (SB-2) (B-2)	57	23415	1.60
DUPUT		A-10063	Plate with pads for steering post, clutch and brake pedals, upper half, RIGHT steering (M) (A)	57	23423	1.50
KUPUT	37-C-3	A-10064	Plate with pads for steering post, clutch and brake pedals, lower half, RIGHT steering (7-P) (P-1) (R-1) (V-1) (S)	57	23424	1.80
PUPUT	37-C-53	A-10065	Plate with pads for steering post, clutch and brake pedals, lower half, RIGHT steering (P-2) (R-2) (V-2) (B-2)	57	25642	2.00
SUPUT	38-B-26	A-10066	Plate with pads for steering post, clutch and brake pedals, lower half, RIGHT steering (CC) except (V-1) (V-2) (SB-1) (SB-2) (B-2)	57	23416	2.00

Code Word	Sec.-Bin	Serial	Part Name	Type	Symbol	Price
BARUT	38-B-46	A-10067	Plate with pads for steering post, clutch and brake pedals, lower half, RIGHT steering (M) (A)	57	23422	$ 2.00
CARUT	9-H-3	A-10068	Felt pad on upper half of plate for steering post	57	37959	.05
DARUT	16-C-34	A-10069	Felt pad on lower half of plate for steering post	57	37343	.05
FARUT	9-B-9	A-10070	Felt pad on upper half of plate for clutch and brake pedals (B-2) (OC) (V-1) (V-2) (S) (M) (A) (SB-1) (SB-2)	57	37680	.05
KARUT	16-C-158	A-10071	Felt pad on lower half of plate for clutch and brake pedals (B-2) (OC) (V-1) (V-2) (S) (M) (A) (SB-1) (SB-2)	57	37681	.05
PARUT	16-B-9	A-10072	Felt pad on lower half of plate for clutch and brake pedals (CC) except (V-1) (V-2) (SB-1) (SB-2) (B-2)	53-5-7	31731	.05
SARUT	10-R-15	A-10073	Retainer for pad on upper half of steering post plate	57	37960	.05
TARUT	10-R-14	A-10074	Retainer for pad on lower half of steering post plate	57	37344	.05
ZARUT	9-I-19	A-10075	Retainer for pad on upper half of plate for clutch and brake pedals (OC) (V-1) (V-2) (SB-1) (SB-2) (S) (M) (A) (B-2)	57	37678	.05
DERUT	9-O-23	A-10076	Retainer for pad on lower half of plate for clutch and brake pedals (OC) (V-1) (V-2) (SB-1) (SB-2) (S) (M) (A) (B-2)	57	37679	.05
LERUT	9-H-21	A-10077	Retainer for pad on upper half of plate for clutch and brake pedals (CC) except (V-1) (V-2) (SB-1) (SB-2) (B-2)	53-5-7	31732	.05
PERUT	9-N-11	A-10078	Rivet, retainer and pads to plate	57	17680	.05
RERUT	37-C-49	A-10079	Plate, front half, with felts and retainers on floor boards for control and hand brake levers, LEFT steering	57	25640	1.50
TERUT	37-C-143	A-10080	Plate, rear half, with felts and retainers on floor boards for control and hand brake levers, LEFT steering	57	25649	1.50
BIRUT	37-C-105	A-10081	Plate, front half, with felts and retainers on floor boards for control and hand brake levers, RIGHT steering	57	23426	1.25
DIRUT	37-C-9	A-10082	Plate, rear half, with felts and retainers on floor boards for control and hand brake levers, RIGHT steering	57	23427	1.25
KIRUT	16-C-73	A-10083	Felt pad for plate for control lever (2 used)	57	37586	.08
LIRUT	9-O-16	A-10084	Retainer for felt pad on plate for control lever (2 used)	57	37587	.05
MIRUT	9-A-11	A-10085	Felt pad on plate for brake lever (front half)	57	37746	.08
PIRUT	9-K-23	A-10086	Retainer for felt pad on plate for brake lever (front half)	57	37745	.05
SIRUT	9-T-11	A-10087	Felt pad on plate for brake lever (rear half)	57	37584	.05
TIRUT	10-G-14	A-10088	Retainer for felt pad on plate for brake lever (rear half)	57	37585	.05
BORUT	9-N-11	A-10089	Rivet, retainer and pad to plate	57	17680	.05
CORUT	37-G-10	A-10090	Cover plate with pads and retainers for generator on toe boards, LEFT steering (CC) except (V-1) (V-2) (SB-1) (SB-2) on 57	55-7	22229	8.00
KORUT	36-B-79	A-10091	Cover plate with pads and retainers for generator on toe boards, RIGHT steering (CC) except (V-1) (V-2) (SB-1) (SB-2) on 57	55-7	22692	8.00
PORUT	9-E-10	A-10092	Plug in cover plate (CC) except (V-1) (V-2) (SB-1) (SB-2)	55-7	37036	.20
RORUT	10-Q-7	A-10093	Anchor bracket on toe board for screw attaching cover (CC) except (V-1) (V-2) (SB-1) (SB-2) on 57	53-5-7	31437	.20
TORUT		A-10094	Felt strip on top edge of cover (CC) except (V-1) (V-2) (SB-1) (SB-2)	57	37990	.25
BURUT	16-C-160	A-10095	Felt strip between sides of generator cover and toe boards (CC) except (V-1) (V-2) (SB-1) (SB-2)	53-5-7	31432	.05
DURUT		A-10096	Retainer for felt on top edge of cover (CC) except (V-1) (V-2) (SB-1) (SB-2)	53-5-7	31431	.05
KURUT		A-10097	Retainer for felt on side of cover (CC) except (V-1) (V-2) (SB-1) (SB-2)	53-5-7	31430	.08
MURUT	14-B-90	A-10098	Screw, long, cover plate to toe boards (CC) except (V-1) (V-2) (SB-1) (SB-2)	53-5-7	31435	.25
RURUT	9-M-11	A-10099	Screw, short, cover plate to toe board (CC) except (V-1) (V-2) (SB-1) (SB-2)	53-5-7	31436	.15
TURUT	16-C-146	A-10100	Felt pad for conduit hole in upper toe board (OC) (V-1) (V-2) (SB-1) (SB-2) (S) (M) (A)	57	38054	.05

Code Word	Sec.-Bin	Serial	Part Name	Type	Symbol	Price
BASUT	38-D-88	A-10101	Plate for conduit hole in upper toe board (OC) (V-1) (V-2) (SB-1) (SB-2) (S) (M) (A)	57	38053	$ .08
DASUT	16-B-1	A-10102	Felt pad for starter and accelerator pedal (OC) (V-1) (V-2) (SB-1) (SB-2) (S) (M) (A)	55-7	33992	.05
KASUT	9-B-11	A-10103	Felt pad for starter and accelerator pedal (CC) except (V-1) (V-2) (SB-1) (SB-2)	55-7	31975	.05
MASUT	35-B-133	A-10104	Plate for felt on starter and accelerator pedal in toe boards (OC) (V-1) (V-2) (SB-1) (SB-2) (S) (M) (A)	55-7	33991	.15
RASUT	9-S-22	A-10105	Plate for accelerator pedal hole in toe boards, RIGHT steering (OC) (SB-1) (SB-2) (S) (M) (A)	57	37906	.15
TASUT		A-10106	Felt pad for accelerator pedal hole in toe boards, RIGHT steering (OC) (SB-1) (SB-2) (S) (M) (A)	57	37907	.05
BESUT	10-O-17	A-10107	Plate on toe boards for oiling starter gear shaft (OC) (V-1) (V-2) (SB-1) (SB-2) (S) (M) (A)	55-7	33215	.25
DESUT	9-O-1	A-10108	Screw, RIGHT, oiler plate to cover (OC) (V-1) (V-2) (SB-1) (SB-2) (S) (M) (A)	55-7	33216	.05
KESUT	9-O-12	A-10109	Screw, LEFT, oiler plate to cover (OC) (V-1) (V-2) (SB-1) (SB-2) (S) (M) (A)	55-7	33214	.05
MESUT	10-K-23	A-10110	Thimble for tire pump starting rod in floor boards	57	37711	.15
PESUT	38-B-139	A-10111	Hand hole cover on rear floor, all except (R-1) (R-2) (V-1) (V-2)	55-7	23706	.60

ACCELERATOR FOOT REST

TESUT	35-B-38	A-10115	Soft rubber cap for foot rest	51-3-5-7	19685	.10
ZESUT	13-D-38	A-10116	Retainer with supporting stud for foot rest	51-3-5-7	21018	.30
BISUT	37-D-66	A-10117	Special nut on stud for foot rest	51-3-5-7	30590	.20
CISUT	12-D-47	A-10118	Nut on stud for foot rest	51-3-5-7	10893	.05
DISUT	10-B-13	A-10119	Flat washer on stud for foot rest	51-3-5-7	R-4-347	.05
FISUT	36-D-21	A-10120	Lock washer for nut on foot rest screw	51-3-5-7	11316	.05

BOLTS, BODY TO FRAME

TISUT	38-C-63	A-10124	Bolt (2½" long), body to frame	51-3-5-7	56194	.15
BOSUT		A-10126	Bolt hex. head (2¾" long), body toframe (CC)	53	11623	.15
COSUT	36-B-127	A-10127	Bolt (3" long), body to frame	51-3-5-7	11624	.15
DOSUT	35-C-53	A-10128	Bolt (4 long), body to frame	51-3-5	11970	.20
FOSUT	38-C-61	A-10129	Bolt (3¼" long), body to frame	51-5-7	11830	.20
KOSUT	35-C-53	A-10130	Bolt hex. head (4" long), body to frame	51	11970	.20
LOSUT	36-B-107	A-10131	Bolt (1⅜" long), body to frame	53-5-7	11861	.10
MOSUT		A-10132	Bolt (2" long), body to frame	55	11960	.10
ROSUT	10-I-7	A-10134	Nut for body bolts	51-3-5-7	10894	.05
SOSUT	10-J-6	A-10135	Lock washer	51-3-5-7	11317	.05
TOSUT	10-L-7	A-10136	Flat washer with square hole	51-3-5-7	54367	.05
BUSUT	9-D-9	A-10138	Special washer for body bolts	51-7	37206	.05
CUSUT	9-D-21	A-10139	Special washer for body bolts	55-7	11527	.05
DUSUT	10-A-19	A-10140	Bolt (3½" long), body bracket to body	53	11560	.10
FUSUT	12-D-47	A-10141	Nut on body bracket bolt	53	10893	.05
KUSUT	36-D-21	A-10142	Lock washer	53	11316	.05
LUSUT		A-10143	Anti-squeak pad for body bracket (3" x 5")	53	19399	.10
MUSUT		A-10144	Anti-squeak pad for body bolt bracket (1¼" x 4")	53	31963	.10
PUSUT	16-C-3	A-10145	Anti-squeak between body and frame (69" long)	55	34628	.45
RUSUT		A-10146	Anti-squeak between body and frame (60" long)	57	68362	.35
SUSUT	10-C-16	A-10147	Anti-squeak pad for body brackets (2" x 3½")	57	38294	.05
TUSUT	10-K-7	A-10148	Anti-squeak pad for body brackets (2½" x 4")	55-7	32968	.08
ZUSUT	10-C-14	A-10149	Anti-squeak pad for front body brackets (1⅞" x 4")	55-7	32967	.05

TYPE 51 SEVEN PASSENGER AUXILIARY CHAIR

Parts not listed, furnished by Fisher Body Corporation

Code Word	Sec.-Bin	Serial	Part Name	Type	Symbol	Price
DATUT	37-B-94	A-10155	Screw for auxiliary chair back hinge (7-P)	51	10024	$ .05
FATUT	36-D-21	A-10156	Lock washer (7-P)	51	11316	.05
LATUT		A-10158	Side frame, RIGHT, for auxiliary chair (7-P)	51	19371	4.00
MATUT		A-10159	Side frame, LEFT, for auxiliary chair (7-P)	51	19372	4.00
PATUT		A-10160	Bracket, RIGHT,on floor for auxiliary chair support (7-P)	51	19364	1.25
RATUT		A-10161	Bracket, LEFT, on floor for auxiliary chair support (7-P)	51	19365	1.25
SATUT		A-10162	Pivot screw for auxiliary chair (7-P)	51	19363	.10
TATUT	10-F-9	A-10163	Lock washer, (7-P)	51	11318	.05
BETUT		A-10165	Floor in well for auxiliary chair, RIGHT (7-P)	51	19947	1.25
CETUT		A-10166	Floor in well for auxiliary chair, LEFT (7-P)	51	19948	1.25

TYPE 53 SEVEN PASSENGER AND 132" TOURING AUXILIARY CHAIR

Parts not listed, furnished by Fisher Body Corporation

TETUT	37-B-94	A-10170	Screw for auxiliary chair back hinge (7-P) (MT)	51-3	10024	.05
ZETUT	36-D-21	A-10171	Lock washer on screw (7-P) (MT)	51-3	11316	.05
BITUT		A-10172	Bracket on floor, RIGHT, for auxiliary chair support (7-P) (MT)	51-3	19364	1.25
DITUT		A-10173	Bracket on floor, LEFT, for auxiliary chair support (7-P) (MT)	51-3	19365	1.25
KITUT		A-10174	Support, RIGHT, for auxiliary chair (7-P)	53	31056	1.50
LITUT		A-10175	Support, LEFT, for auxiliary chair (7-P)	53	31057	1.50
MITUT		A-10176	Support, RIGHT, for auxiliary chair (MT)	53	32276	1.50
PITUT		A-10177	Support, LEFT, for auxiliary chair (MT)	53	32277	1.50
RITUT		A-10178	Pivot screw, auxiliary chair support to bracket(7-P)(MT)	51-3	19363	.10
SITUT	10-F-9	A-10179	Lock washer, (7-P) (MT)	51-3	11318	.05
TITUT		A-10180	Side frame, RIGHT, for auxiliary chair (7-P) (MT)	53	31058	2.00
ZITUT		A-10181	Side frame, LEFT, for auxiliary chair (7-P) (MT)	53	31059	2.00
BOTUT		A-10182	Hinge pin, chair support to side frame (7-P) (MT)	53	31052	.10
COTUT		A-10183	Metal seat for auxiliary chair (7-P) (MT)	53	31061	1.00
DOTUT		A-10184	Screw, seat to supports (7-P) (MT)	53	10772	.08
FOTUT	10-P-7	A-10185	Nut on screw (7-P) (MT)	53	10887	.05
KOTUT		A-10186	Lock washer (7-P) (MT)	53	11303	.05
LOTUT		A-10187	Floor in well, RIGHT, for auxiliary chair (7-P)	53	31617	1.00
MOTUT		A-10188	Floor in well, LEFT, for auxiliary chair (7-P)	53	31618	1.00
POTUT		A-10189	Metal floor in well for auxiliary chair (MT)	53	32288	1.00
ROTUT	9-J-21	A-10190	Handle (folding) for auxiliary seat, before Engine A-20501 (7-P) (MT)	53	31462	.50
TOTUT	10-G-22	A-10191	Handle (aluminum) for auxiliary seat, used from Engine A-20500 to A-22501 (7-P) (MT)	53	31995	.50
DUTUT	10-A-15	A-10193	Clip, leather handle to auxiliary seat (7-P) (MT)	53	31899	.20

TYPE 55 TOURING AUXILIARY CHAIR

Parts not listed, furnished by Fisher Body Corporation

SUTUT		A-10199	Bracket on floor for auxiliary chair, RIGHT, outside (T)	55	32981	85
TUTUT		A-10200	Bracket on floor for auxiliary chair, LEFT, outside (T).	55	32982	.85
ZUTUT		A-10201	Bracket on floor for auxiliary chair, LEFT, inside (T)..	55	32979	.35

Code Word	Sec.-Bin	Serial	Part Name	Type	Symbol	Price
BAZUT		A-10202	Bracket on floor for auxiliary chair, RIGHT, inside (T)	55	32978	$ .35
CAZUT	9-P-23	A-10203	Hinge stud in bracket for auxiliary chair (T)	55	32975	.15
DAZUT	10-Q-17	A-10204	Nut on hinge stud (T)	55	32976	.15
FAZUT	36-B-161	A-10205	Lock washer (T)	55	11322	.05

TYPE 57 SEVEN PASSENGER AUXILIARY CHAIR

Parts not listed, furnished by Fisher Body Corporation

LAZUT		A-10209	Bracket on floor for auxiliary chair, RIGHT, outside (hinge hole open), 1st type (7-P)	57	68173	2.10
PAZUT	35-C-17	A-10210	Bracket on floor for auxiliary chair, RIGHT, outside (hinge hole closed), 2nd type (7-P)	57	38243	2.10
SAZUT		A-10211	Bracket on floor for auxiliary chair, LEFT, outside (hinge hole open), 1st type (7-P)	57	68174	2.10
ZAZUT	37-B-138	A-10212	Bracket on floor for auxiliary chair, LEFT, outside (hinge hole closed), 2nd type (7-P)	57	38244	2.10
CEZUT		A-10213	Bracket on floor for auxiliary chair, RIGHT, inside (hinge hole open), 1st type (7-P)	57	68175	1.60
FEZUT	37-B-1	A-10214	Bracket on floor for auxiliary chair, RIGHT, inside (hinge hole closed), 2nd type (7-P)	57	38259	1.60
LEZUT		A-10215	Bracket on floor for auxiliary chair, LEFT, inside (hinge hole open), 1st type (7-P)	57	68176	1.60
PEZUT	35-C-69	A-10216	Bracket on floor for auxiliary chair, LEFT, inside (hinge hole closed), 2nd type (7-P)	57	38260	1.60
SEZUT		A-10217	Swivel rod for auxiliary chair, 1st type (7-P)	57	68179	1.40
TEZUT		A-10218	Pin on swivel rod auxiliary chair, 1st type 7-P)	57	68180	.05
BIZUT	9-P-23	A-10219	Hinge stud in bracket for auxiliary chair, 2nd type (7-P)	57	32975	.15
CIZUT	10-Q-17	A-10220	Nut for hinge stud, 2nd type (7-P)	57	32976	.15

TYPE 53 COUPE AUXILIARY CHAIR

Parts not listed, furnished by Fisher Body Corporation

BOZUT	A-10228	Side frame, RIGHT, for auxiliary chair (C)	53	32199	3.50
COZUT	A-10229	Side frame, LEFT, for auxiliary chair (C)	53	32200	3.50
DOZUT	A-10230	Seat board for auxiliary chair (C)	53	32239	.35
FOZUT	A-10231	Screw, seat board to frame (C)	53	10761	.05
KOZUT	A-10232	Heel board for auxiliary chair (C)	53	32238	.40
LOZUT	A-10233	Screw, heel board to chair frames (C)	53	10760	.05
MOZUT	A-10234	Bracket, RIGHT, on floor for auxiliary chair support (C)	53	32206	1.25
POZUT	A-10235	Bracket, LEFT, on floor for auxiliary chair support (C)	53	32164	1.25
ROZUT	A-10236	Reinforcement for auxiliary chair bracket, front (C)	53	32163	.15
SOZUT	A-10237	Support, front, for auxiliary chair bracket on body (C)	53	32165	1.50
TOZUT	A-10238	Support, rear, for auxiliary chair bracket on body (C)	53	32166	1.50
ZOZUT	A-10239	Metal floor under auxiliary chair (C)	53	32177	4.50

TYPE 55 COUPE AUXILIARY CHAIR

Parts not listed, furnished by Fisher Body Corporation

PUZUT	A-10241	Swivel bracket, lower, for auxiliary chair (C)	55	34248	4.25
RUZUT	A-10242	Pivot bracket, upper, for auxiliary chair (C)	55	34253	2.00
SUZUT	A-10243	Swivel post for auxiliary chair (C)	55	34247	1.00
TUZUT	A-10244	Dowel for swivel post in lower bracket (C)	55	34321	.05
ZUZUT	A-10245	Spring on swivel post for auxiliary chair (C)	55	34261	.20

Code Word	Sec.-Bin	Serial	Part Name	Type	Symbol	Price
BABUX		A-10246	Washer, lower, on post or spring (C)	55	11524	$ .05
CABUX		A-10247	Washer, upper, on post for spring	55	11523	.05
FABUX	12-D-59	A-10249	Cotter pin (C)	55	15165	.05

TYPE 55 CONVERTIBLE AUXILIARY CHAIR

Parts not listed, furnished by Fisher Body Corporation

MABUX	37-B-94	A-10254	Screw for auxiliary chair back hinge (CV)	55	10024	.05
PABUX	36-D-21	A-10255	Lock washer	55	11316	.05
RABUX	38-B-23	A-10256	Bracket on floor for auxiliary chair, RIGHT, outside (CV)	55	34187	.60
SABUX	38-B-7	A-10257	Bracket on floor for auxiliary chair, LEFT, outside (CV)	55	34188	.60
TABUX	35-B-20	A-10258	Bracket on floor for auxiliary chair, RIGHT, inside (CV)	55	34189	.40
ZABUX	37-B-143	A-10259	Bracket on floor for auxiliary chair, LEFT, inside (CV)	55	34190	.40
BEBUX		A-10260	Pivot screw for auxiliary chair (CV)	55	19363	.10
CEBUX	10-F-9	A-10261	Lock washer (CV)	55	11318	.05
DEBUX		A-10262	Hinge pin for auxiliary chair support to side frame CV)	55	31052	.10
KEBUX	10-A-15	A-10264	Clip for handle on chair (CV)	55	31899	.20

DECK LID FOR ROADSTER

ZEBUX	10-A-1	A-10268	Lock for deck lid (R)	51	17225	1.00
BIBUX	9-J-15	A-10269	Lock for deck lid (R) (R-1) (R-2)	55-7	34212	.40
CIBUX	9-C-4	A-10270	Key for deck lid lock (R)	51	17367	.40
DIBUX	38-C-21	A-10271	Key for deck lid lock (R) (R-1) (R-2)	55-7	17203	.85
FIBUX	10 R-19	A-10272	Cover for keyhole in deck (R) (R-1) (R-2)	51-5-7	17334	.50
KIBUX	9-D-15	A-10273	Screw, keyhole cover to deck (R)	51	11844	.05
LIBUX	9-N-12	A-10274	Screw, keyhole cover to deck (R) (R-1) (R-2)	55-7	11957	.05
MIBUX	9-J-15	A-10275	Striker plate for lock (R) (R-1) (R-2)	55-7	34211	.05
PIBUX	16-D-77	A-10276	Rubber bumper for deck lid (R) (R-1) (R-2)	51-5-7	5118	.05
RIBUX		A-10277	Retainer for rubber bumper (R) (R-1) (R-2)	51-5-7	30458	.05
SIBUX		A-10278	Screw for retainer (R) (R-1) (R-2)	51-5-7	10808	.10
TIBUX	38-B-8	A-10279	Nut on screw (R) (R-1) (R-2)	51-5-7	10889	.05
ZIBUX	15-B-45	A-10280	Lock washer (R) (R-1) (R-2)	51-5-7	11314	.05
COBUX	9-I-17	A-10282	Retracting spring for deck lid (R-1) (R-2) .7	57	33557	.35
DOBUX		A-10283	Pivot screw for deck seat hinge (R)	51	11837	.05
FOBUX	12-D-47	A-10284	Nut on screw (R)	51	10893	.05
KOBUX	9-G-18	A-10285	Screw for deck seat hinge (R)	51	10012	.05
LOBUX	38-D-12	A-10286	Nut for screw (R)	51	10892	.05
MOBUX	13-B-16	A-10287	Lock washer (R)	51	11315	.05
POBUX	37-C-91	A-10288	Spring for raising deck seat (R)	51	30360	.10
ROBUX	9-Q-6	A-10289	Stud for deck seat spring (R)	51	30194	.10
SOBUX	36-D-21	A-10290	Lock washer (R)	51	11316	.05
ZOBUX	9-B-22	A-10292	Nut on stud (R)	51	6076	.05
BUBUX		A-10293	Pin for deck seat arm (R)	51	30331	.05
CUBUX		A-10294	Link for deck seat arm (R)	51	30089	.35
DUBUX		A-10295	Screw for link (R)	51	11826	.05
FUBUX	15-B-45	A-10296	Lock washer (R)	51	11314	.05

TAIL GATE

Parts not listed, furnished by Fisher Body Corporation

RUBUX		A-10306	Hinge for tail gate (C)	51		1.50
SUBUX		A-10307	Hinge for tail gate (SD)	51		1.75
TUBUX	37-C-19	A-10308	Hinge for tail gate (R)	53	21441	1.50
ZUBUX		A-10309	Hinge for tail gate (C)	53-5		3.00
FIDUX		A-10336	Sargent lock for deck lid (V2)	57	50269	3.00

PACKAGE COMPARTMENT LID—ROADSTER

Code Word	Sec.-Bin	Serial	Part Name	Type	Symbol	Price
KIDUX		A-10339	Lid or cover for package compartment less hinge (R)	53	21921	$ 5.75
LIDUX		A-10340	Lid or cover for package compartment less lock and hinge (R)	55	23242	5.00
PIDUX		A-10341	Lid or cover for package compartment less lock and hinge (R-1)	57	24041	3.25
SIDUX		A-10342	Lid or cover for package compartment less lock and hinge (R-2)	57	23142	3.25
ZIDUX		A-10343	Sargent lock for package compartment lid (specify lock number) (R)	55	34116	2.75
CODUX		A-10344	Sargent lock for package compartment lid (specify lock number) (R-1) (R-2)	57	68263	3.00
FODUX	9-P-8	A-10345	Plate holding lock in lid (R) (R-1) (R-2)	55-7	34140	.05
KODUX	9-F-22	A-10346	Collar for lock in lid (R) (R-1) (R-2)	55-7	34141	.15
LODUX	10-M-8	A-10347	Strike plate for compartment lid lock (R) (R-1) (R-2)	55-7	34440	.30
MODUX	35-B-153	A-10348	Hinge for package compartment lid (R) (R-1) (R-2)	53-5-7	32123	1.80
PODUX		A-10349	Knob for package compartment lid (R)	53	13848	.20
RODUX		A-10350	Screw, knob to cover (R)	53	10245	.05
SODUX	10-N-2	A-10351	Flat washer (R)	53	11429	.05
TODUX	10-D-8	A-10352	Lock washer (R)	53	11313	.05
ZODUX		A-10353	Tray for package compartment (R)	53	62334	1.50

ATTACHMENT FOR SPEEDOMETER

LUDUX		A-10357	Retaining ring with studs and nuts for Warner speedometer head (CC)	51-3	38272	1.50
PUDUX	36-B-25	A-10358	Retaining ring with studs and nuts for Warner speedometer head (CC)	55	38271	1.50
SUDUX	36-D-35	A-10359	Retaining ring for speedometer head (CC)	57	34711	.75
TUDUX		A-10360	Cap holding Warner speedometer head (CC)	51-3-5	38273	.50
ZUDUX	35-C-85	A-10361	Clamp plate for speedometer (OC)	51-3	18877	.65
BAHUX	36-B-59	A-10362	Clamp bolt for speedometer (OC)	51	18876	.25
CAHUX	36-B-21	A-10363	Clamp bolt for speedometer head witn Stewart Warner Speedometer on 55 (OC)	53-5	33351	.08
DAHUX	36-B-67	A-10364	Clamp bolt for speedometer head with Waltham Speedometer on 55 (OC)	55-7	34708	.20
FAHUX	9-P-1	A-10365	Clamp bolt for speedometer head (CC)	57	34710	.15
KAHUX	38-B-8	A-10366	Nut for clamp bolt (OC)	51-3-5	10889	.05
LAHUX	15-B-45	A-10367	Lock washer (OC)	51-3-5	11314	.05
MAHUX	10-R-3	A-10368	Nut for clamp bolt on Waltham speedometer head	55-7	10886	.05
PAHUX	10-D-8	A-10369	Lock washer	55-7	11313	.05
TAHUX	37-G-2	A-10370	Shaft for Van Sicklen Speedometer	57	38275	4.45
RAHUX	31-D-78	A-10371	"L" shaped attachment for shaft at speedometer head	51-3	17956	4.75
SAHUX	36-C-85	A-10372	"L" shaped attachment for shaft at speedometer head (Waltham)	55-7	34867	5.50
ZAHUX	10-J-11	A-10373	Set screw for speedometer head and elbow	51-3-5-7	SW-6451	.05
BEHUX	14-E-14	A-10374	Grease cup for speedometer shaft	51-3-5-7	17054	.50
CEHUX	17-C-160	A-10375	Bushing for speedometer shaft in dash	51	19356	.08
DEHUX	16-C-157	A-10376	Bushing for Waltham speedometer shaft in dash and splash shield	53-5-7	31856	.08
KEHUX	16-C-2	A-10377	Bushing for speedometer shaft in dust pan	53	31481	.20
LEHUX	16-B-110	A-10378	Bushing for Van Sicklen speedometer shaft in dash and splash shield	57	38079	.08
PEHUX	35-B-24	A-10379	Grommet in dash for bushing	51-5-7	19357	.05
REHUX	Ac. S.	A-10380	Strap with sleeve supporting speedometer shaft	51-3-5-7	30701	.60

OIL CAN AND HOLDER

Code Word	Sec.-Bin	Serial	Part Name	Type	Symbol	Price
ZEHUX	Ac. S.	A-10384	Oil can	51-3-5-7	3944	.25
BIHUX	36-B-136	A-10385	Holder for oil can	51-3-5-7	12273	.25
CIHUX	10-N-5	A-10386	Screw, oil can holder to dash	51-3-5-7	10199	.05
DIHUX	9-L-4	A-10387	Nut	51-3-5-7	10885	.05
FIHUX	10-D-8	A-10388	Lock washer	51-3-5-7	11313	.05

TOOL EQUIPMENT

Parts not listed, furnished by Fisher Body Corporation

ZIHUX	Ac. S.	A-10392	Large bag for tools	51-3-5-7	37672	2.00
COHUX	Ac. S.	A-10394	Cold chisel (6″ long)	51-3-5-7	3921	.30
DOHUX	Ac. S.	A-10395	File and handle	51-3-5-7	3922	.30
FOHUX	Ac. S.	A-10396	Monkey wrench (11″ long)	51-3-5-7	3936	1.50
KOHUX	Ac. S.	A-10397	Punch (5″ long)	51-3-5-7	6754	.20
LOHUX	Ac. S.	A-10398	Hammer	51-3-5-7	13594	.75
MOHUX	13-G-7	A-10399	Wrench for hub caps, jam nuts on front axle spindle and adjusting nuts for rear wheel bearings	51-3-5-7	34011	.75
POHUX	53-P-14	A-10400	Timer wrench and spark plug gauge	51	11407-D	.35
ROHUX	50-D-23	A-10401	Timer wrench	53	12741-D	.18
SOHUX	50-B-49	A-10402	Timer wrench (plain)	55-7	31886-D	.12
TOHUX	50-D-23	A-10403	Timer wrench (with gauges)	55-7	12741-D	.18
BUHUX	Ac. S.	A-10405	Box for spark plug	51-3-5-7	17129	.10
CUHUX	16-C-86	A-10406	Gasket for spark plug	51-3-5-7	8819	.05
DUHUX	Ac. S.	A-10407	Wrench for set screw on generator coupling	51-3-5-7	19982	.15
FUHUX	Ac. S.	A-10408	Wrench for spark plug caps and gasoline filler cap	51-3	30221	2.75
KUHUX	Ac. S.	A-10409	Wrench for spark plug and air relief cock	51-3-5-7	30222	.70
LUHUX	Ac. S.	A-10410	Wrench for adjusting internal and external brakes	51-3-5-7	30223	.40
MUHUX	Ac. S.	A-10411	Wrench for removing drain plug in engine oil pan	51-3-5-7	38670	.80
PUHUX	Ac. S.	A-10412	Small bag for tools	51-3	12330	.30
RUHUX	Ac. S.	A-10413	Small bag for tools	55-7	32813	.50
SUHUX	Ac. S.	A-10414	Screw driver	51-3-5-7	3923	.30
TUHUX	Ac. S.	A-10415	Bicycle wrench (4″ long)	51-3-5-7	3929	.75
ZUHUX	Ac. S.	A-10416	Screw driver (3″ long, square blade)	51-3-5-7	6753	.40
BALUX	Ac. S.	A-10417	Pliers	51-3-5-7	30520	.85
CALUX	Ac. S.	A-10418	Socket wrench for water pump (thermostat cam)	51-3-5-7	72819	1.00
DALUX	Ac. S.	A-10419	Brace and socket wrench for Kelsey demountable rims	51-3-5-7	14903	.45
FALUX	27-F-20	A-10420	Tongs for Kelsey rims	51-3-5-7	16052	.80
KALUX		A-10421	Socket wrench to remove nut from oil suction pipe	51	72815	.40
LALUX	Ac. S.	A-10422	Hose and gauge for tire pump	51-3-5-7	37669	4.00
MALUX	Ac. S.	A-10423	Grease gun complete	51-3-5-7	37646	1.80
PALUX	Ac. S.	A-10424	Bushing for grease gun (to fill Spicer joint)	55	34128	.15
SALUX	Ac. S.	A-10426	Handle for jack	51-3-5-7	9979½	.45
TALUX	Ac. S.	A-10427	Handy lamp complete	53-5-7	21814	4.00
ZALUX	12-E-11	A-10428	Starting crank	51	40431	3.00
BELUX	13-G-2	A-10429	Starting crank	53-5-7	59881	2.25
CELUX	36-C-139	A-10430	Extension for starting crank, used before Engine 55-G-1	55	33026	4.30
DELUX	Ac. S.	A-10431	Extension for filling gasoline tank	51-3-5	21931	4.50
FELUS	2-G-8	A-10432	Auto Jack with 36″ extension handle	51-3-5-7	42266	6.00
LELUS	2-F-8	A-10433	Handle (36″ extension) for jack	51-3-5-7	56304	1.00

EXTRA CHARGE FOR PARTS PAINTED SPECIAL COLORS

Hood	$ 18.00	Splash Shield	$ 3.00
Hood Panel, upper	5.00	Dust Shield	5.00
Hood Panel, lower	5.00	Battery or Tool Box Cover	.75
Hood Shelf	.85	Gasoline Tank	2.50
Fenders, front	6.00	Door (open cars)	3.75
Fenders, rear	5.00	Wheels	3.75
Corner Shield	.50	Tire Carrier	1.25
Radiator or Casing	3.00		

REFINISHING

Hood	25.00	Splash Shield	6.00
Hood Panel, upper	5.75	Dust Shield	5.25
Hood Panel, lower	5.75	Battery or Tool Box Cover	1.10
Hood Shelf	1.50	Gasoline Tank	3.00
Fenders, front	6.00	Door (open cars)	5.00
Fenders, rear	4.00	Wheels	5.00
Corner Shield	.75	Tire Carrier	1.50
Radiator or Casing	4.00		

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Miscellaneous
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1910 CADILLAC MODEL

Delco System No. 142

No. 2004	COIL BOX
No. 1018	IGNITION SWITCH
No. 5661	IGNITION RELAY

1911 CADILLAC MODEL

Delco System No. 4411

No. 5001	DRY CELL DISTRIBUTOR
No. 5661	IGNITION RELAY
No. 2022	IGNITION COIL
No. 1007	IGNITION SWITCH
No. 1009	IGNITION SWITCH

1912 CADILLAC MODEL

Delco System No. 1

No. 1	MOTOR GENERATOR
No. 5401	BATTERY BOX
No. 5001	DRY CELL DISTRIBUTOR
No. 2022	IGNITION COIL
No. 1018	IGNITION SWITCH
No. 5661	IGNITION RELAY
No. 5049	GENERATOR DISTRIBUTOR
No. 2045	IGNITION COIL
No. 10678	RESISTANCE UNIT
No. 1991	STARTING SWITCH
No. 5442	CLUTCH MAGNET

1913 CADILLAC MODEL

Delco System No. 4

No. 4	MOTOR GENERATOR
No. 5404	BATTERY BOX
No. 5440	CLUTC HMAGNET
No. 10686	RESISTANCE UNIT
No. 1978	IGNITION SWITCH
No. 5055	GENERATOR DISTRIBUTOR
No. 2093	IGNITION COIL
No. 5059	DRY CELL DISTRIBUTOR
No. 2092	IGNITION COIL
No. 6051	AMMETER
No. 5677	IGNITION RELAY
No. 1979	IGNITION SWITCH
No. 10131	TERMINAL BOARD

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1910 CADILLAC MODEL

Delco System No. 142

No. 2004	COIL BOX
No. 1018	IGNITION SWITCH
No. 5661	IGNITION RELAY

1911 CADILLAC MODEL

Delco System No. 4411

No. 5001	DRY CELL DISTRIBUTOR
No. 5661	IGNITION RELAY
No. 2022	IGNITION COIL
No. 1007	IGNITION SWITCH
No. 1009	IGNITION SWITCH

1912 CADILLAC MODEL

Delco System No. 1

No. 1	MOTOR GENERATOR
No. 5401	BATTERY BOX
No. 5001	DRY CELL DISTRIBUTOR
No. 2022	IGNITION COIL
No. 1018	IGNITION SWITCH
No. 5661	IGNITION RELAY
No. 5049	GENERATOR DISTRIBUTOR
No. 2045	IGNITION COIL
No. 10678	RESISTANCE UNIT
No. 1991	STARTING SWITCH
No. 5442	CLUTCH MAGNET

1913 CADILLAC MODEL

Delco System No. 4

No. 4	MOTOR GENERATOR
No. 5404	BATTERY BOX
No. 5440	CLUTC HMAGNET
No. 10686	RESISTANCE UNIT
No. 1978	IGNITION SWITCH
No. 5055	GENERATOR DISTRIBUTOR
No. 2093	IGNITION COIL
No. 5059	DRY CELL DISTRIBUTOR
No. 2092	IGNITION COIL
No. 6051	AMMETER
No. 5677	IGNITION RELAY
No. 1979	IGNITION SWITCH
No. 10131	TERMINAL BOARD

1914 CADILLAC MODEL

Delco System No. 27

No. 24	MOTOR GENERATOR
No. 5506	APPARATUS BOX
No. 5105	DISTRIBUTOR
No. 2104	IGNITION COIL
No. 1035	COMBINATION SWITCH
No. 1042	COMBINATION SWITCH
No. 5447	CLUTCH MAGNET
No. 5692	CIRCUIT BREAKER

51 MODEL—1915 CADILLAC

Delco System No. 69

No. 44	MOTOR GENERATOR
No. 10726	MOTOR CLUTCH
No. 2115	IGNITION COIL
No. 1045	COMBINATION SWITCH
No. 5696	CIRCUIT BREAKER
No. 5308	AUTO HORN
No. 5695	CIRCUIT BREAKER

53 MODEL—1916 CADILLAC

Delco System No. 98

No. 78	MOTOR GENERATOR
No. 5150	AUTOMATIC DISTRIBUTOR
No. 11973	MOTOR CLUTCH
No. 2115	IGNITION COIL
No. 1062	COMBINATION SWITCH
No. 1069	COMBINATION SWITCH
No. 5705	CIRCUIT BREAKER
No. 5310	AUTO HORN
No. 1061	AUTO HORN SWITCH

55 MODEL—1917 CADILLAC

Delco System No. 130

No. 98	MOTOR GENERATOR
No. 12677	MOTOR CLUTCH
No. 5150	DISTRIBUTOR
No. 2115	IGNITION COIL
No. 1077	COMBINATION SWITCH
No. 5705	CIRCUIT BREAKER
No. 5311	AUTO HORN
No. 1061	AUTO HORN SWITCH

57 MODEL—1918 CADILLAC

Delco System No. 177

No. 98	MOTOR GENERATOR
No. 12677	MOTOR CLUTCH
No. 5166	DISTRIBUTOR
No. 2115	IGNITION COIL
No. 1099	COMBINATION SWITCH
No. 5705	CIRCUIT BREAKER
No. 5312	AUTO HORN

57 MODEL—1919 CADILLAC

Delco System No. 177

No. 98	MOTOR GENERATOR
No. 12677	MOTOR CLUTCH
No. 5166	DISTRIBUTOR
No. 2115	IGNITION COIL
No. 1099	COMBINATION SWITCH
No. 5742	CIRCUIT BREAKER
No. 5312	HORN (EXTRA)

59 MODEL—1920 AND 1921 CADILLAC

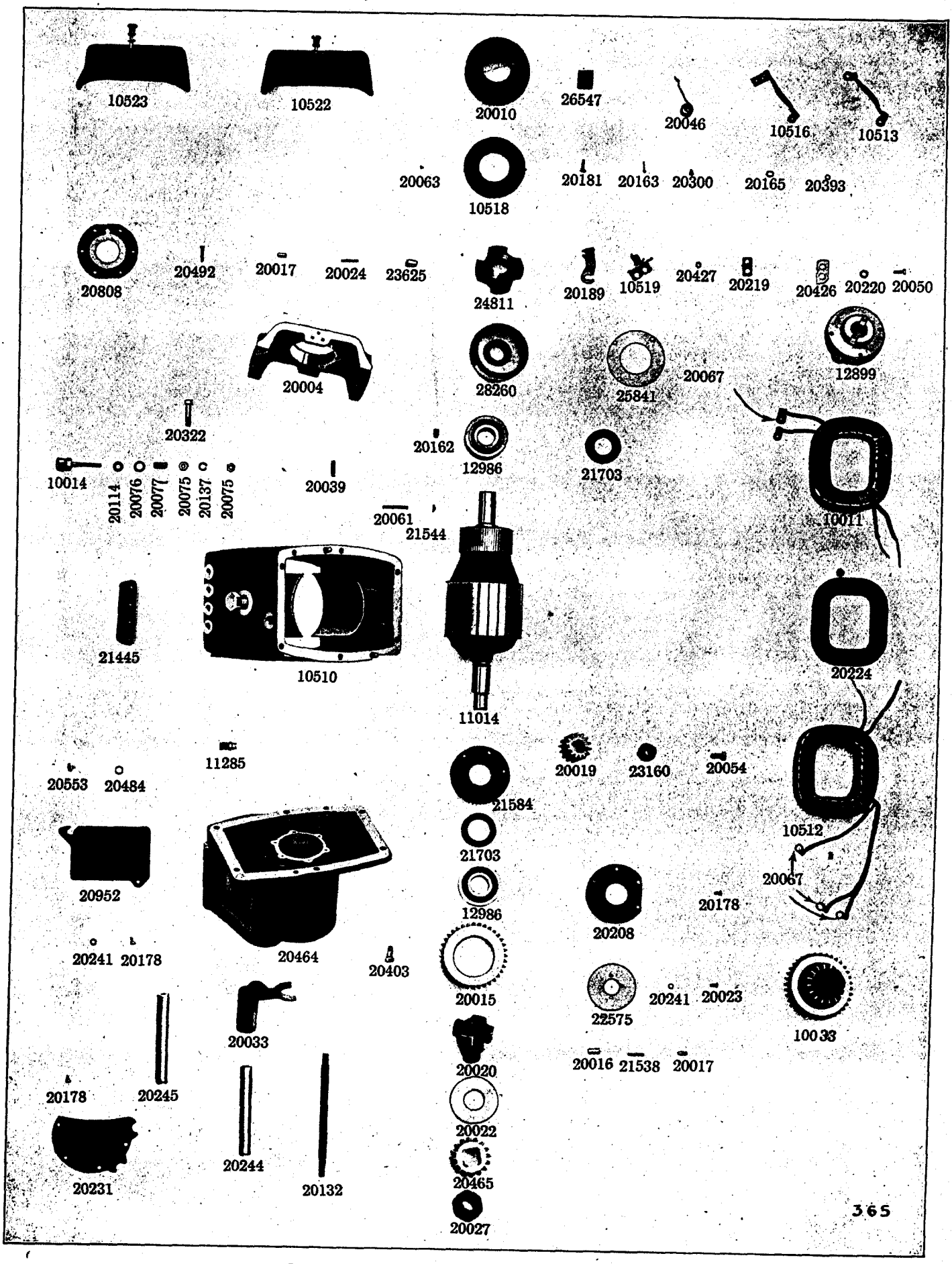
Delco System No. 291

No. 162	MOTOR GENERATOR
No. 1150	COMBINATION SWITCH
No. 2115	IGNITION COIL
No. 5206	DISTRIBUTOR
No. 5742	CIRCUIT BREAKER
No. 12677	MOTOR CLUTCH

Chart Showing Cadillac Models and the Delco Apparatus Used on Each Model

Cadillac Models	Year Used	Delco System	Motor Generator	Ignition Switch	Combination Switch	Ignition Coils and Boxes	Distributor	Apparatus Boxes	Ignition Relays	Circuit Breakers	Motor Clutch	Resistance Units	Clutch Magnet	Battery Box	Starting Switch	Auto Horns	Horn Switch	Terminal Boards
1910	1910	IGN 142		1018		2004			5661									
1911	1911	IGN 4411		1007* 1009		2022	5001		5661									
1912	1912	1	1	1018		2022 2045	5001 5049		5661			10678*	5442	5401	1991			
1913	1913	4	4	1978 1979		2093 2092	5055 5059		5677			10686	5440	5404				10131
1914	1914	27	24		1035* 1042*	2104	5105	5506		5692			5447					
51	1915	69	44		1045	2115				5696 5695	10724					5308		
53	1916	98	78*		1062* 1069	2115	5150*			5705*	11973					5310	1061	
55	1917	130	98		1077	2115	5150*			5705*	12677					5311	1061	
57	1918	177	98		1099*	2115	5166			5705*	12677					5312		
57	1919	177	98		1099*	2115	5166			5742	12677					5312		
59	1920 1921	291	162		1150	2115	5206			5742	12677							

*Refer to the note under the piece of apparatus in the catalog to determine the correct part to order.



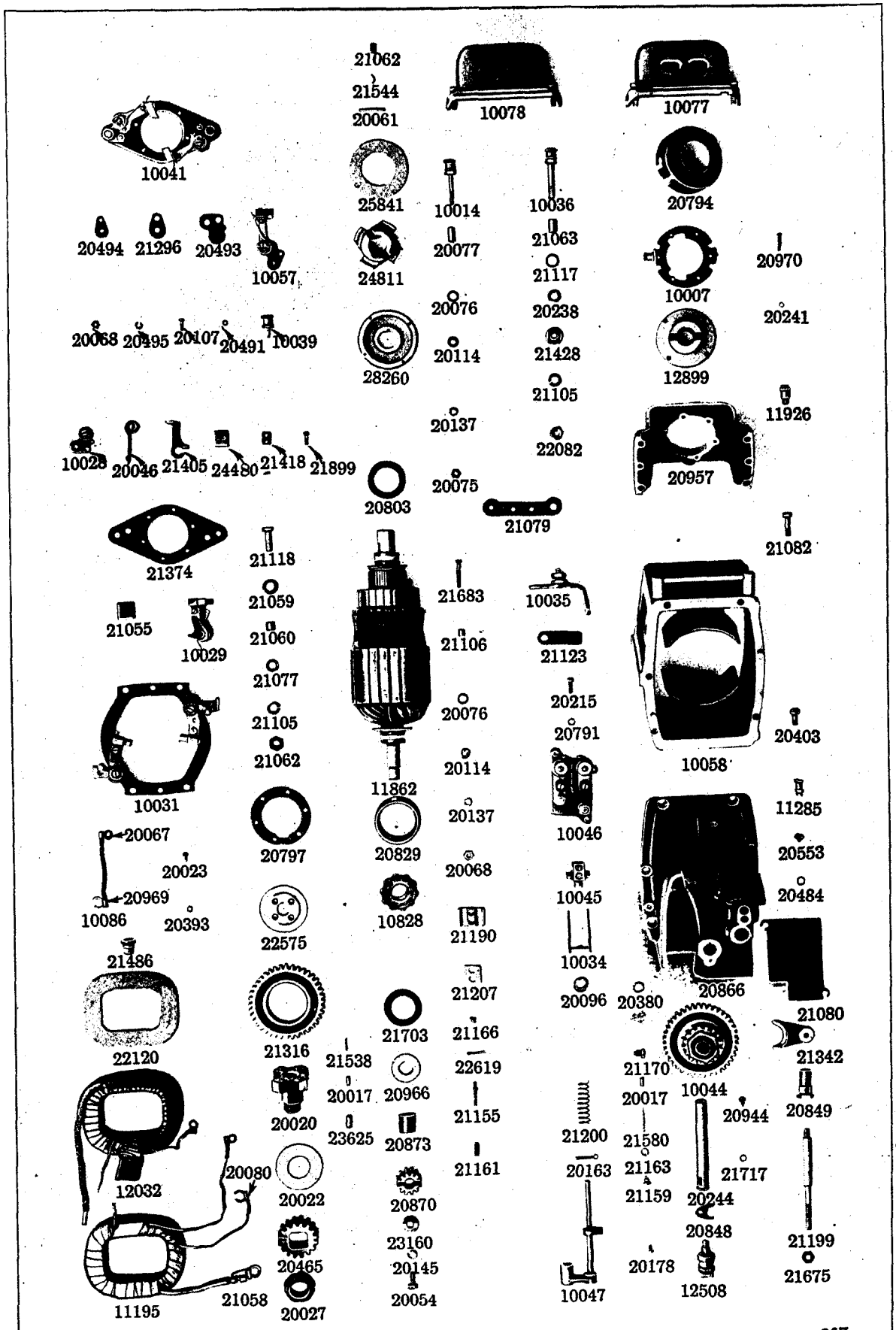
No. 1 MOTOR GENERATOR

No. 1 MOTOR GENERATOR

Piece Number	NAME OF PART	Quantity Required
1	**MOTOR GENERATOR COMPLETE**	1
10510	**Generator Frame Assembly**	1
	(Includes the next 2 Items)	
20041	Pole Piece Screw (Not shown in Illustration)	2
20039	Dowel Pin for Pole Piece	4
10011	**Upper Field Coil Assembly Complete**	1
	(Includes the next Item)	
20067	Terminal Clip for Spring Terminal Assembly 10014	2
10512	**Lower Field Coil Assembly Complete**	1
	(Includes the next Item)	
20067	Terminal Clip for Spring Terminal Assembly 10014	3
10513	**Brush Connector Lead Assembly Complete**	1
	(Includes the next 2 Items)	
22517	Sleeving for Lead Assembly 10513 (Not shown in Illustration)	1
20067	Clip for Lead Assembly 10513 (Not shown in Illustration)	2
10014	**Spring Terminal Assembly for connecting Generator**	4
21445	Insulator for Spring Terminal Assembly 10014 (Outer)	1
20077	Insulating Bushing for Spring Terminal Assembly 10014	4
20076	Insulating Washer for Spring Terminal Assembly 10014 (Inner)	4
20114	Plain Washer for Spring Terminal Assembly 10014	4
20075	Nut for retaining Spring Terminal Assembly 10014	8
20137	Lock Washer for Nut 20075	4
20224	Shield for Field Coil Assemblies 10011 and 10512	2
20004	Frame for Driving Clutch End of Generator	1
12986	**Ball Bearing Assembly for Frame 20004**	1
21703	Oil Retainer (Felt) (For Ball Bearing Assembly 12986 (Inner)	1
20208	Retainer for Ball Bearing Assembly 12986 (Inner)	1
20492	Screw for retaining Retainer 20208 and Bearing Retainer Assembly 10518	6
10518	**Bearing Retainer Assembly for Ball Bearing Assembly 12986 (Outer)**	1
20062	Stud for Retainer Assembly 10518 (Not shown in Illustration)	1
10519	**Generator Brush Bracket Assembly Complete**	2
	(Includes the next 2 Items)	
20187	Stud for holding Generator Brush Arm Assembly 13516 (Not shown in Illustration)	1
20188	Stop Stud for Generator Brush Arm Assembly 13516 (Not shown in Illustration)	1
20050	Screw for attaching Generator Brush Bracket Assembly 10519	4
20220	Plain Washer for Screw 20054	4
20219	Insulator for Generator Brush Bracket Assembly 10519 (Upper)	2
20426	Insulator for Generator Brush Bracket Assembly 10519 (Lower)	2
20427	Insulating Bushing for Screw 20050	4
20189	Generator Brush Arm	2
26547	Brush for Brush Arm 20189	1
20181	Screw for attaching Brush 26547	2
21418	Lock Plate for Screw 20181 (Not shown in Illustration)	1
10516	**Generator Brush Lead Assembly Complete**	2
	(Includes the next 3 Items)	
22517	Sleeving for Lead Assembly 10516 (Not shown in Illustration)	1
20067	Clip for Spring Terminal End of Lead Assembly 10516 (Not shown in Illustration)	1
20180	Clip for Brush Arm End of Lead Assembly 10516 (Not shown in Illustration)	1
11014	**Armature Assembly for Motor Generator**	1
20046	Spring for Generator Brush Arm 20189	2
20163	Cotter Pin for retaining Generator Brush Arm 20189	2
20065	Screw for retaining Cover 20010 (Not shown in Illustration)	1
20010	Cover for Generator Clutch Assembly 12899	1
20162	Clamp Screw for retaining Clutch Assembly 12899 (Not shown in Illustration)	1
21544	Key for Generator Clutch Assembly 12899	1
13671	**Generator Clutch Assembly Complete (Not shown in Illustrated)**	1
	(Includes the next 8 Items)	
22262	Cam for Generator Clutch Assembly 13671 (Not shown in Illustration)	1
28260	Shell for Generator Clutch Assembly 13671	1
23625	Roll for Cam 22262	4
20024	Spring for Plunger 20017	4
20017	Plunger for Roll 24625	4
25841	Retainer for Roll 23625	1
20063	Screw for retaining Retainer 25841	4
20061	Pin for retaining Clutch	1
20464	Housing for Pinion End for Generator	1
21584	Retainer for Ball Bearing Assembly 12986 (Outer) (Pinion End)	1
20178	Screw for retaining Retainer 21584	6
20241	Lock Washer for Screw 20178	6
11285	**Oiler Assembly for Housing 20464**	1
10522	**Cover Assembly Complete (Upper)**	1
	(Includes the next 4 Items)	
10521	**Screw Assembly (Not shown in Illustration)**	1
20056	Nut for Screw Assembly 10521 Not shown in Illustration)	1

No. 1 MOTOR GENERATOR (Continued)

Piece Number	NAME OF PART	Quantity Required
20211	Lock Washer for Nut 20056 (Not shown in Illustration)	1
20059	Pin for Nut 20056 (Not shown in Illustration)	1
10523	**Cover Assembly Complete (Lower)** (Includes the next 4 Items)	1
10521	**Screw Assembly (Not shown in Illustration)**	1
20056	Nut for Screw Assembly 10521 (Not shown in Illustration)	1
20211	Lock Washer for Nut 20056 (Not shownin Illustration)	1
20059	Pin for Nut 20056 (Not shown in Illustration)	1
20484	Spring Washer for Screw 20553	2
20553	Screw for attaching Cover 20952	2
20952	Cover for End Housing Assembly 10520 (Top	1
20178	Screw for attaching Cover 20231	4
20241	Lock Washer for Screw 20178	4
20231	Cover for End Housing Assembly 10520 (End)	1
20245	Shaft for Shifting Yoke 20033	1
20244	Shaft for Motor Clutch	1
20132	**Shifting Rod for Motor Clutch**	1
20033	Shifting Yoke for Shifting Rod 20132	1
23160	Clamp Washer for Motor Pinion 20019	1
20054	Clamp Screw for retaining Motor Pinion 20019	1
20145	Lock Washer for Clamp Screw 20054 (Not shown in Illustration)	1
20019	Motor Pinion for Armature Shaft	1
20403	Screw for attaching End Housing 20464	6
20775	Sleeve for Armature Shaft (Pinion Shaft) (Not shown in Illustration)	1
12986	**Ball Bearing Assembly for Pinion End of Armature Shaft**	1
21703	Oil Retainer (Felt) for Ball Bearing Assembly 12986	2
21584	Retainer for Ball Bearing Assembly (Outer) (Pinion End)	1
20322	Screw for attaching End Frame 20004	4
20042	Dowel Pin for End Frame 20004 (Not shown in Illustration)	2
20039	Dowel Pin for End Housing 20464	2
20178	Screw for attaching Retainer 21584	6
20241	Lock Washer for Screw 20178	6
20300	Screw for attaching Generator Brush Lead Assembly 10516 to Generator Brush Bracket	4
20165	Plain Washer for Screw 20300	4
20393	Lock Washer for Screw 20300	4
12809	**Motor Clutch Assembly Complete (Old Style before Cadillac No. 65800)** (Includes the next 11 Items)	1
20232	Pinion for Motor Clutch Assembly 12809 (Not shown in Illustration)	1
20020	Cam for Motor Clutch Assembly 12809	1
20027	Clamp Nut for Motor Clutch Assembly 12809	1
20015	Gear for Motor Clutch Assembly 12809	1
20022	Retainer for Roll 23625 (Inner)	1
22575	Retainer for Roll 23625 (Outer)	1
20017	Plunger for Roll 23625	4
21538	Spring for Plunger 20017	4
23625	Roll for Cam 20020	4
20023	Screw for Retainer 20022 and 22575	4
20393	Lock Washer for Screw 20023	4
10033	**Motor Clutch Assembly Complete (After Cadillac Motor No. 65800)** (Includes the next 11 Items)	1
20465	Pinion for Motor CLlutch Assembly 10033	1
20020	Cam for Motor Clutch Assembly 10033	1
20027	Clamp Nut for Motor Clutch Assembly 10033	1
20015	Gear for Motor Clutch Assembly 10033	1
20022	Retainer for Roll 23625 (Inner)	1
22575	Retainer for Roll 23625 (Outer)	1
21538	Spring for Plunger 20017	4
20017	Plunger for Roll 23625	4
23625	Roll for Cam 20020	4
20023	Screw for Retainers 20022 and 22575	4
20241	Lock Washer for Screw 20023	4



No. 4 MOTOR GENERATOR

No. 4 MOTOR GENERATOR

Piece Number	NAME OF PART	Quantity Required
4	**MOTOR GENERATOR**	1
10058	**Generator Frame Assembly** (Includes the next 2 Items)	1
20041	Screw for Pole Piece (Not shown in Illustration)	2
20039	Dowel Pin for Pole Piece (Not shown in Illustration)	4
10079	**Field Coil Assembly Complete** (Includes the next 10 Items)	1
21486	Insulating Bushing for Series Lead	1
20080	Terminal Clip for Spring Terminal Assembly 10036	1
20067	Terminal Clip for Spring Terminal Assembles 10014 and 10037	2
21058	Terminal Clip for Spring Terminal Assembly 10080	1
21681	Terminal Clip for attaching Series Lead to Switch Cover Assembly 10046	1
22285	Binding Strip for Field Coil Assembly 10079 (Not shown in Illustration)	2
22284	Insulating Binding Strip for Field Coil Assembly 10079 (Outer) (Not shown in Illustration)	2
22283	Insulating Binding Strip for Field Coil Assembly 10079 (Inner) (Not shown in Illustration)	2
10029	**Motor Brush Arm Assembly Complete** (Includes the next 9 Items)	2
21051	Arm for Motor Brush Arm Assembly 10029 (Right Hand) (Not shown in Illustration)	1
21052	Arm for Motor Brush Arm Assembly 10029 (Left Hand) (Not shown in Illustration)	1
20970	Bolt for connecting Arm 21051 and 21052 (Not shown in Illustration)	1
21055	Brush for Motor Brush Arm Assembly 10029	1
21068	Hub for Arms 21051 and 21052 (Not shown in Illustration)	1
20495	Lock Washer for Nut 20068	1
20068	Nut for Bolt 20970	1
21124	Spring for Motor Brush Arm Assembly 10029 (Outer) (Not shown in Illustration)	1
21258	Stud for Arms 21051 and 21052 (Not shown in Illustration)	1
10028	**Motor Brush Connector Assembly Complete**	2
21413	Spring for Motor Brush Arm Assembly 10029 (Inner)	2
21077	Plain Washer for Screw 21118	2
20791	Lock Washer for Screw 21118	2
21118	Screw for retaining Motor Brush Arm Assembly 10029	2
21057	Plate for mounting Motor Brush Arm Assembly 10029 (Not shown in Illustration)	1
21407	Stud for Plate 21057 for holding Motor Brush Arm Assembly 10029 (Not shown in Illustration)	2
20125	Insulating Washer for Stud 21407 (Outer) (Not shown in Illustration)	2
20076	Insulating Washer for Stud 21407 (Inner) (Not shown in Illustration)	2
20114	Plain Washer for Nut 20075 (Not shown in Illustration)	2
20137	Lock Washer for Nut 20075 (Not shown in Illustration)	2
20075	Nut for retaining Stud 21407 (Not shown in Illustration)	2
21078	Insulating Bushing for Stud 21407 (Not shown in Illustration)	2
21428	Plain Washer for retaining Spring 21413 (Not shown in Illustration)	2
10014	**Spring Terminal Assembly for connecting Generator (No. 1-2-3 Terminal from Left Side of Generator**	3
10036	**Spring Terminal Assembly for connecting Generator (No. 4 Terminal from Left Side of Generator)**	1
10035	**Motor Terminal Assembly Complete** (Includes the next 2 Items)	1
21087	Strap for connecting Motor Terminal to Spring Terminal Assembly 10036 (Not shown in Illustration)	1
21372	Stud for Strap 21987 (Not shown in Illustration)	1
20079	Washer for Stud 21062	1
21062	Nut for Stud 21372	1
21105	Lock Washer for Nut 21062	1
21106	Insulating Bushing for Screw 21683	1
20077	Insulating Bushing for Spring Terminal Assembly 10014	3
21063	Insulating Bushing for Spring Terminal Assembly 10036	1
21059	Insulating Collar for Screw 21073	1
21079	Insulator for Spring Terminal Assemblies 10014 and 10036	1
21073	Screw for retaining Brush Terminal (Not shown in Illustration)	1
21123	Insulator for Strap 21087	1
20075	Nut for Spring Terminal Assemblies 10014 and 10036 and Screw 21683	7
20039	Dowel Pin for locating Pole Piece (Not shown in Illustration)	2
21683	Screw for retaining Strap 21087	1
21060	Insulating Washer for Screw 21073 (Not shown in Illustration)	1
22120	Shield for Field Coil Assembly 10079	2
20114	Plain Washer for Screw 21683 and Spring Terminal Assembly 10014	4
20137	Lock Washer for Screw 21683 and Spring Terminal Assembly 10014	4
20076	Insulating Washer for Screw 21683 and Spring Terminal Assembly 10014	4
21117	Insulating Washer for Spring Terminal Assembly 10036	2
20238	Plain Washer for Spring Terminal Assembly 10036	2

No. 4 MOTOR GENERATOR (Continued)

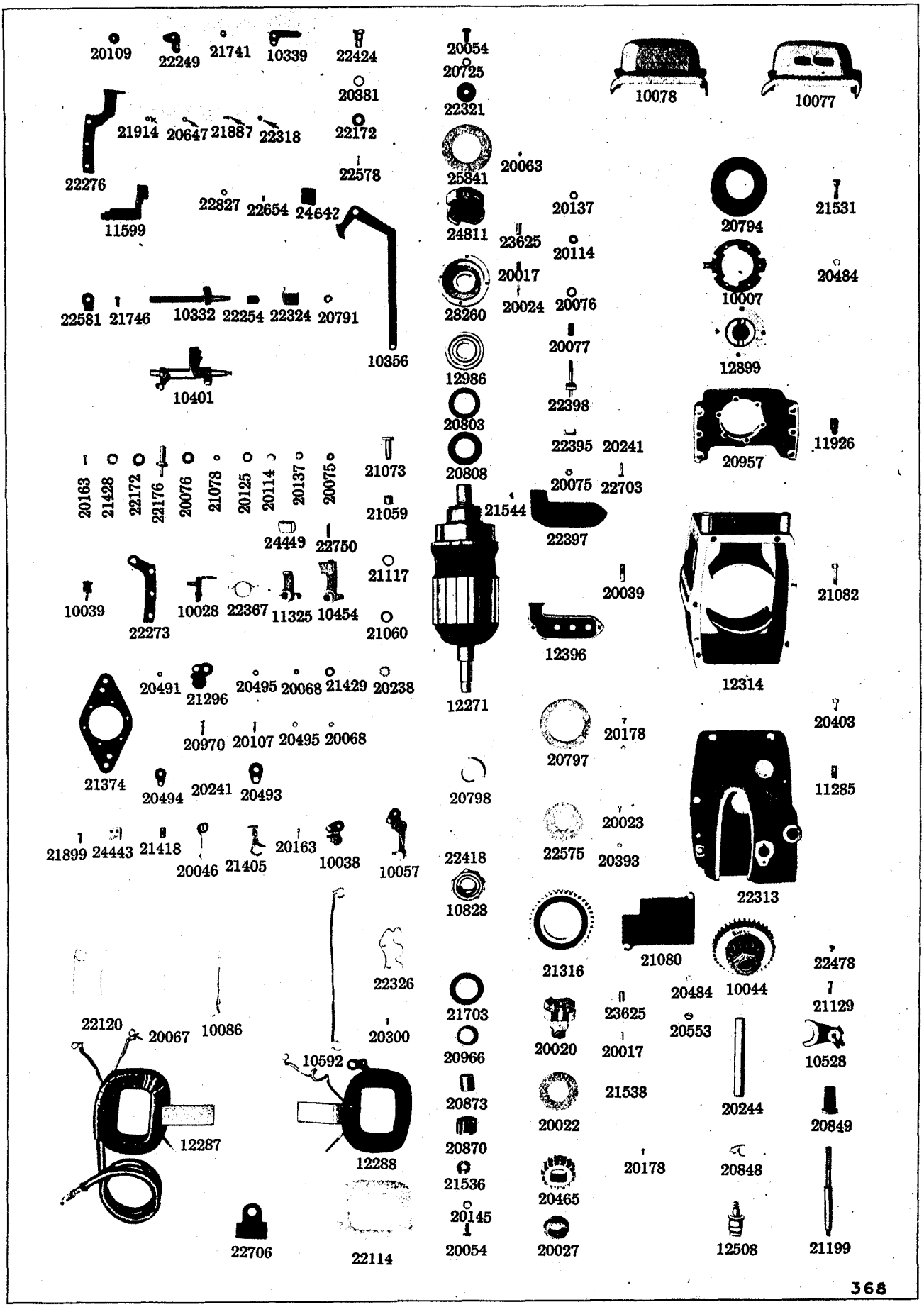
Piece Number	NAME OF PART	Quantity Required
22082	Clamp Nut for Spring Terminal Assembly 10036	1
11862	**Armature Assembly for Motor Generator**	1
21405	Generator Brush Arm	1
24480	Brush for Arm 21405	1
21418	Plate for Arm 21405	2
21899	Screw for attaching Brush 24480	2
22826	Lock Plate for Screw 21899 (Not shown in Illustration)	1
10038	**Generator Brush Holder Plate Assembly Complete (Not shown in Illustration)** (Includes the next Item)	2
12422	Stud for Plate Assembly 10038 (Not shown in Illustration)	1
10039	**Spring Terminal Assembly for Generator Brush Holder Assembly 10041**	2
21374	Holder for Generator Brush Holder Plate Assembly 10038	2
21296	Insulator for Plate 21209	2
23623	Insulator for Holder 21374 (Not shown in Illustration)	2
20494	Plate for Generator Brush Holder Assembly 10041 (Outer)	2
20495	Lock Washer for Nut 20068	4
20068	Nut for retaining Generator Brush Spring Terminal Assembly 10039 and Screw 20107	4
20107	Screw for retaining Plate 20494	2
20491	Insulating Bushing for Generator Brush Spring Terminal Assembly 10039 and Screw 20107	4
10007	**Bearing Retainer Assembly Complete** (Includes the next 5 Items)	1
10201	**Bearing Retainer Assembly (Not shown in Illustration)** (Includes the next Item)	1
20062	Stud for Retainer Assembly 10201 (Not shown in Illustration)	1
20802	Spring Nut for Bearing Retainer Assembly 10007 (Not shown in Illustration)	1
20801	Screw for Spring Nut 20802 (Not shown in Illustration)	1
20307	Spring for Screw 20801 (Not shown in Illustration)	1
20957	End Frame for Generator	1
12989	**Ball Bearing Assembly for Armature Shaft (Not shown in Illustration)**	1
22736	Shim for Ball Bearing Assembly 12989 (Not shown in Illustration)	2
20970	Screw for retaining Bearing Retainer Assembly 10007	6
20241	Lock Washer for Screw 20970	6
21704	Pipe Plug for Oil Hole in End Frame 20957 (Not shown in Illustration)	1
12899	**Generator Clutch Assembly Complete** (Includes the next 8 Items)	1
24811	Cam for Generator Clutch Assembly 12899	1
28260	Shell for Generator Clutch Assembly 12899	1
23625	Roll for Cam 24811	4
20024	Spring for Plunger 20017 (Not shown in Illustration)	4
20017	Plunger for Roll 23625	4
25841	Retainer for Roll 23625	1
20063	Screw for retaining Retainer 25841 (Not shown in Illustration)	4
20061	Pin for Shell 28260	1
20794	Cover for Generator Clutch Assembly 12899	1
20966	Collar for retaining Ball Bearing Assembly 12989 (Pinion End of Armature Shaft)	1
21544	Key for Generator Clutch Assembly 12899	1
20163	Cotter Pin for Motor Brush Arm Assembly 10029	2
20061	Pin for Set Screw 20162	1
20870	Motor Pinion for Armature Shaft	1
20808	Retainer for Ball Bearing Assembly 12989 (Commutator End) (Inner) (Not shown in Illustration)	1
21703	Oil Retainer (Felt) for Ball Bearing Assembly 12989 (Outer, Both Ends of Armature Shaft)	2
20803	Oil Retainer (Felt) for Ball Bearing Assembly 12989 (Inner, Both Ends of Armature Shaft)	2
20054	Screw for retaining Motor Pinion 20870	1
20162	Set Screw for Commutator End of Armature Shaft (Not shown in Illustration)	1
20873	Sleeve for retaining Collar 20966 (Pinion End of Armature Shaft)	1
20046	Spring for Motor Brush Arm Assembly 10029	2
23160	Clamp Washer for Screw 20054 (Pinion End of Armature Shaft)	1
20725	Lock Washer for Screw 20054	1
20798	Washer for retaining Ball Bearing Assembly 12989 (Pinion End of Armature Shaft, Inner) (Not shown in Illustration)	1
22735	Washer (Shim) for Armature Shaft (Not shown in Illustration)	1
10034	**Switch Latch Arm Assembly for Switch Contact Block Assembly 10045**	1
22620	Block for Operating Switch Cover Assembly 10046 (Not shown in Illustration)	1
21173	Roll for Block 22620 (Not shown in Illustration)	2
21174	Screw for retaining Roll 21173 (Not shown in Illustration)	2
10044	**Motor Clutch Assembly Complete** (Includes the next 11 Items)	1
20465	Pinion for Motor Clutch Assembly 10044	1
20020	Cam for Motor Clutch Assembly 10044	1
20027	Clamp Nut for Motor Clutch Assembly 10044	1
21316	Gear for Motor Clutch Assembly 10044	1
20022	Retainer for Roll 23625 (Inner)	1
22575	Retainer for Roll 23625 (Outer)	1
21538	Spring for Plunger 20017	4

No. 4 MOTOR GENERATOR (Continued)

Piece Number	NAME OF PART	Quantity Required
20017	Plunger for Roll 23625	4
23625	Roll for Cam 20020	4
20023	Screw for Retainers 22575 and 20022	4
20393	Lock Washer for Screw 20023	4
10046	**Switch Cover Assembly Complete** (Includes the next 29 Items)	1
10049	**Generator Switch Common Conductor Assembly (Large)**	1
10050	**Switch Conductor Assembly (Generator) (Small)**	1
10051	**Switch Conductor Assembly (Motor) (Medium)**	1
10040	**Insulator Assembly for Terminal Plate Assembly 10052 and Plate 21188** (Includes the next 3 Items)	1
21368	Insulator for Insulator Assembly 10040	1
21176	Separator for Insulator 21368	1
22009	Screw for Insulator Assembly 10040	2
10158	**Spring Terminal Assembly for connecting Switch Cover Assembly 10046**	1
10052	**Switch Terminal Plate Assembly for Top Cover 21151** (Includes the next 3 Items)	1
10162	**Spacing Terminal Assembly for Switch Terminal Plate Assembly 10052**	1
21189	Plate for Switch Terminal Plate Assembly	1
20137	Lock Washer for Spring Terminal Assembly 10162	1
21106	Insulating Bushing for Screw 21530	1
21158	Insulating Bushing for Spring Terminal Assembly 10158 and Switch Conductor Assemblies 10040 and 10051	3
21156	Insulating Bushing for Screw 21169	1
21150	Cover for Switch Cover Assembly 10046	1
20347	Nut for Rod 21183	1
21456	Nut for Switch Conductor Assembly 10051 (Thin)	1
21062	Nut for Switch Conductor Assemblies 10051 and 10049	2
21455	Insulating Plate for Switch Conductor Assemblies 10051 and 10049 (Inner)	1
21188	Clamp Plate for Conductor Assembly 10051 and Screw 21169	2
21183	Rod for Switch Conductor Assemblies 10050 and 10051 and Generator Switch Common Conductor Assembly 10049	2
20076	Insulating Washer for Screw 21530 and 21169	2
20114	Plain Washer for Screws 21530 and 21169	2
20791	Lock Washer for Screws 21530 and 21169	2
21165	Insulating Washer for Spring Terminal Assembly 10158 (Outer)	1
20146	Lock Washer for Spring Terminal Assembly 10158 and Nut 21062	3
20393	Lock Washer for Nut 20347	2
21454	Insulating Washer for Spring Terminal Assembly 10158 (Inner)	1
21168	Plain Washer for Spring Terminal Assembly 10158	1
21169	Screw for retaining Clamp Plate 21188	1
21530	Screw for retaining Switch Terminal Plate Assembly 10052	1
21895	Insulating Bushing for Switch Conductor Assemblies 10050 and 10051 and Generator Switch Common Conductor Assembly 10049	4
21896	Insulating Bushing between Switch Conductor Assemblies 10051 and 10050	1
21190	Switch Contact Plate for Switch Conductor Assemblies 10050 and 10051 and Generator Switch Common Conductor Assembly 10049	1
20866	End Housing for Generator	1
20849	Bushing in End Housing 20866 for Shift Rod 21199	1
20944	Screw for connecting Shift Rod 21199	1
21717	Lock Washer for Screw 20944	1
12989	**Ball Bearing Assembly for Armature Shaft (Not shown in Illustration)**	1
22736	Shim for Ball Bearing Assembly 12989 (Not shown in Illustration)	2
20178	Screw for retaining Retainer 20797	6
20797	Retainer for Ball Bearing Assembly 12989	1
20241	Lock Washer for Screw 20178	6
21704	Pipe Plug for Oil Hole in End Housing 20866 (Not shown in Illustration)	1
10047	**Switch Rod Operating Assembly Complete** (Includes the next Items)	1
21162	Pin for retaining Arms to Rod (Not shown in Illustration)	2
20244	Shaft for Motor Clutch Assembly 10044	1
21544	Key for Shaft 20244	1
21704	Pipe Plug for Shaft 20244 (Not shown in Illustration)	1
21166	Insulating Bushing for Switch Contact Plate 21190	2
20848	Clip for Shaft 20244	1
21080	Cover for End Housing Rod Assembly 10054 (Bottom)	1
20096	Cup for Spring 21200	1
21207	Insulator for Switch Contact Plate 21190	1
21675	Nut for Shift Rod 21199	1
21162	Pin for Arm 21178 (Not shown in Illustration)	1
21201	Pin for locating Switch Cover Assembly 10046 (Not shown in Illustration)	2
20163	Cotter Pin for retaining Cup 20096	1
20017	Plunger for Switch Latch Arm Assembly 10034	1
21199	Shift Rod for Motor Clutch Assembly 10044	1

No. 4 MOTOR GENERATOR (Continued)

Piece Number	NAME OF PART	Quantity Required
21147	Screw for attaching Switch Cover Assembly 10046 (Outer) (Not shown in Illustration)	1
20215	Screw for attaching Switch Cover Assembly 10046 (Inner)	1
22618	Screw for Switch Contact Plate 21190 (Not shown in Illustration)	2
22619	Cotter Pin for Screw	1
21159	Screw for retaining Plunger 20017	1
21170	Screw for attaching Switch Latch Arm Assembly 10034	2
20178	Screw for attaching Clip 20848	1
20553	Screw for attaching Cover 21080	2
21161	Spring for Switch Contact Plate 21190	2
21200	Spring for Switch Operating Rod Assembly 10047	1
21580	Spring for Plunger 20017	1
20791	Lock Washer for Screws 21147 and 20215	2
20380	Lock Washer for Screw 21170	2
21105	Lock Washer for Nut 21675	1
20484	Spring Washer for Screw 20553	2
20142	Lock Washer for Screw 20178 (Not shown in Illustration)	1
21163	Lock Washer for Screw 21159 (Not shown in Illustration)	1
21342	Yoke for Shift Rod 21199	1
10077	**Lower Generator End Cover Assembly Complete** (Includes the next 5 Items)	1
20737	Plate for Screen 20736 (Not shown in Illustration)	1
20736	Screen for Cover Assembly (Not shown in Illustration)	1
21673	Rivet retaining Plate 20737 and Screen 20736 (Not shown in Illustration)	1
21531	Screw for attaching Lower Generator End Cover Assembly 10077 (Not shown in Illustration)	2
20484	Spring Washer for Screw 21531 (Not shown in Illustration)	2
10078	**Upper Generator End Cover Assembly Complete** (Includes the next 2 Items)	1
21531	Screw for attaching Upper Generator Cover Assembly 10078 (Not shown in Illustration)	2
20484	Spring Washer for Screw 21531 (Not shown in Illustration)	2
20403	Screw for attaching Generator End Housing	5
10086	**Brush Connector Lead Assembly** (Includes the next 3 Items)	1
22386	Clip for Brush End of Lead Assembly 10086 (Not shown in Illustration)	1
20067	Clip for Field Coil End of Lead Assembly 10086	1
22451	Insulator for Lead Assembly 10086 (Not shown in Illustration)	1
21082	Screw for attaching Generator End Frame	4
11285	**Oiler Assembly for Ball Bearing Assembly 12989 (Commutator End)**	1
11926	**Oiler Assembly for Ball Bearing Assembly 12989 (Pinion End)**	1
12508	**Grease Cup Assembly in End Housing 20866 for Motor Clutch 10044**	1
21370	Terminal Clip for connecting Series Lead to Switch Cover Assembly 10046 (Not shown in Illustration)	1
21699	Terminal Clip for Motor Terminal (Not shown in Illustration)	1
20969	Terminal Clip for Spring Terminal Assembly 10014, 10080, 10037, 10036 and 10158 (Not shown in Illustration)	5
21315	Terminal Clip for connecting Switch Conductor Assembly 10051 and Generator Switch Common Conductor Assembly 10049 (Not shown in Illustration)	2



No. 24 MOTOR GENERATOR

No. 24 MOTOR GENERATOR

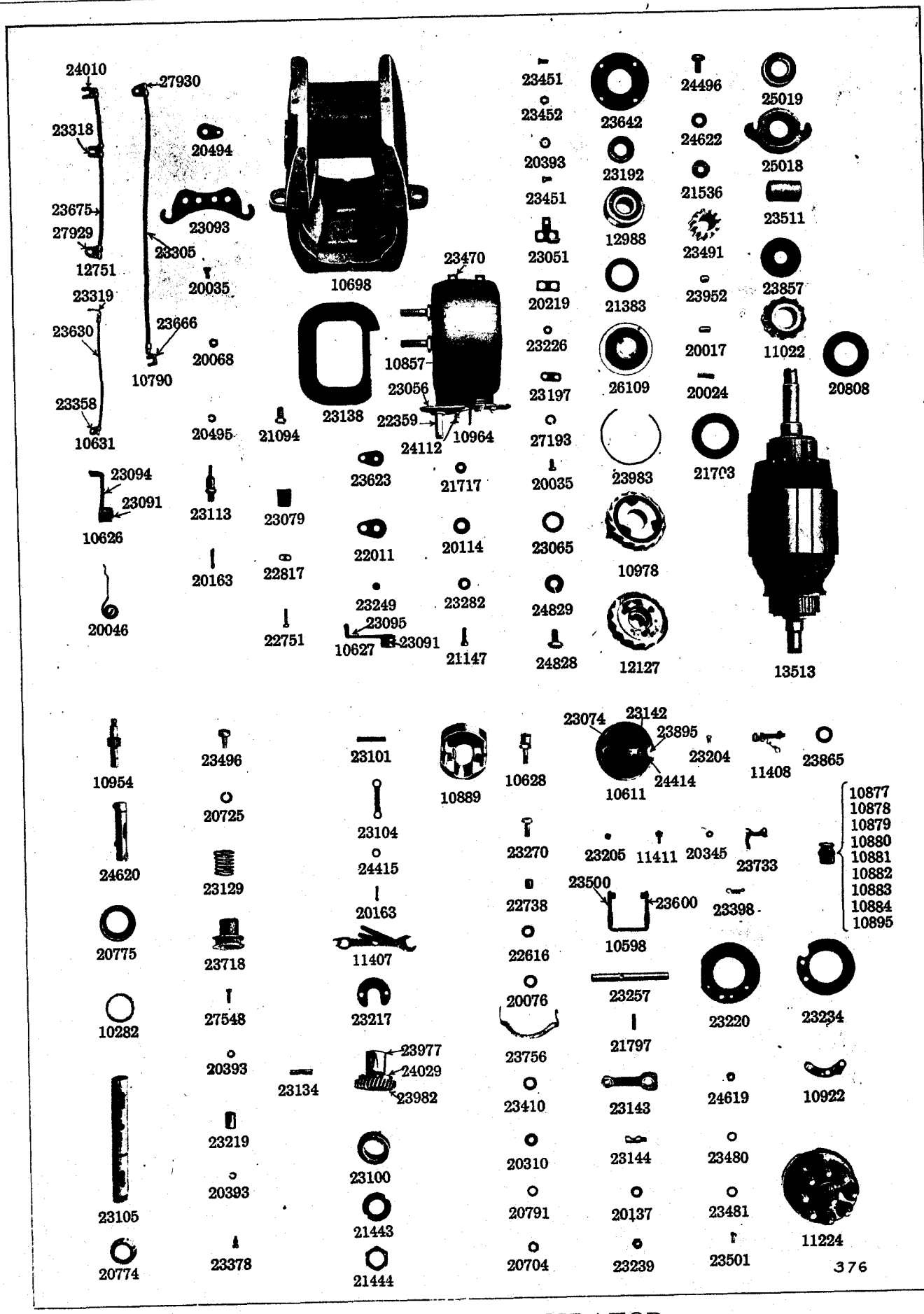
Piece Number	NAME OF PART	Quantity Required
24	**MOTOR GENERATOR COMPLETE**	1
12314	**Generator Frame Assembly** (Includes the next 2 Items)	1
20041	Screw for Pole Piece (Not shown in Illustration)	2
20039	Dowel Pin for Pole Piece (Not shown in Illustration)	4
10384	**Field Coil Assembly Complete (Not shown in Illustration)** (Includes the next 6 Items)	1
22289	Terminal Clip for Series Lead (Not shown in Illustration)	1
20300	Screw for Terminal Clip 22289 (Not shown in Illustration)	2
22283	Insulating Strip for Field Coil Assembly 10384 (Inner) (Not shown in Illustration)	2
22284	Insulating Strip for Field Coil Assembly 10384 (Outer) (Not shown in Illustration)	2
22285	Binding Strip for Field Coil Assembly	2
20067	Terminal Clip for Terminal Stud 22398	3
10356	**Brush Switch Link and Lever Assembly Complete** (Includes the next 3 Items)	1
22240	Link for connecting Shift Rod 21199 (Not shown in Illustration)	1
14253	**Lever Assembly (Not shown in Illustration)**	1
12396	**Terminal Block Assembly for Motor Generator**	1
22273	Motor Brush Stud Plate	1
22176	Stud for holding Lower Motor Brush Arm	1
10028	**Motor Brush Connector Assembly Complete**	1
20114	Plain Washer for Stud 22176	1
21078	Insulating Washer for Stud 22176	1
20076	Insulting Wsher for Stud 22176 (Inner)	1
20125	Insulating Washer for Stud 22176 (Outer)	1
20137	Lock Washer for Nut 20075	1
20075	Nut for attaching Stud 22176	1
10332	**Brush Arm Shaft Assembly** (Includes the next 2 Items)	1
22256	Spring Stud for Arm Shaft Assembly 10332 (Not shown in Illustration)	1
21162	Taper Pin for attaching Arm to Shaft (Not shown in Illustration)	1
11599	**Motor Brush Switch Arm Assembly** (Includes the next 4 Items)	1
22256	Spring Stud for Arm Assembly 11599 (Not shown in Illustration)	1
21173	Roll for Stud 22243	1
22243	Stud for attaching Roll 21173 to Arm Assembly 11599 (Not shown in Illustration)	1
22247	Contact for Motor Brush Switch Arm Assembly 11599 (Not shown in Illustration)	1
24642	Brush for Motor Brush Switch Arm Assembly 11599	2
22654	Screw for attaching Brush 24642	1
22827	Lock Plate for Screw 22654	1
22581	Collar for Shaft 22250	1
21746	Screw for retaining Collar 22581	1
22254	Sleeve for Shaft 22250	1
22324	Spring for Brush Arm Shaft Assembly 10332	1
22424	Screw for attaching Brush Switch Link and Lever Assembly 10356	1
20381	Lock Washer for Screw 22424	1
22578	Cotter Pin for Screw 22424	1
22398	Terminal Stud for connecting Motor Generator	3
20075	Nut for Terminal Stud 22398	9
20077	Insulating Bushing for Terminal Stud 22398	3
22395	Clip for Terminal Stud 22398	3
20076	Insulating Washer for Nut 20075	3
20114	Plain Washer for Nut 20075	3
20137	Lock Washer for Nut 20075	6
21073	Screw for attaching Field Coil Assembly 10384 (Lower)	1
21059	Collar for Screw 21073	1
21060	Insulating Bushing for Screw 21073	1
21117	Insulating Washer for Screw 21073	1
20238	Plain Washer for Screw 21073	1
22114	Insulator for Field Coil Assembly 10384 (Lower)	1
22120	Insulator for Field Coil Assembly 10384 (Upper)	1
20065	Screw for Shaft 22250 (Not shown in Illustration)	1
20345	Lock Washer for Screw 20065	1
22172	Plain Washer for under Cotter Pin 22578	1
10086	**Brush Connector Lead Assembly Complete** (Includes the next 3 Items)	1
22386	Clip for Brush End for Lead Assembly 10086 (Not shown in Illustration)	1
20067	Clip for Brush Plate End of Lead Assembly 10086 (Not shown in Illustration)	1
22451	Insulator for Lead Assembly 10086 (Not shown in Illustration)	1
11325	**Lower Motor Brush Arm Assembly** (Includes the next Item)	1
22084	Spring Stud for Brush Arm Assembly 11325 (Not shown in Illustration)	1
24449	Brush for Lower Motor Brush Arm Assembly 11325	2
22750	Screw for attaching Brush 24449	1
22827	Lock Plate for Screw 22750	1

No. 24 MOTOR GENERATOR (Continued)

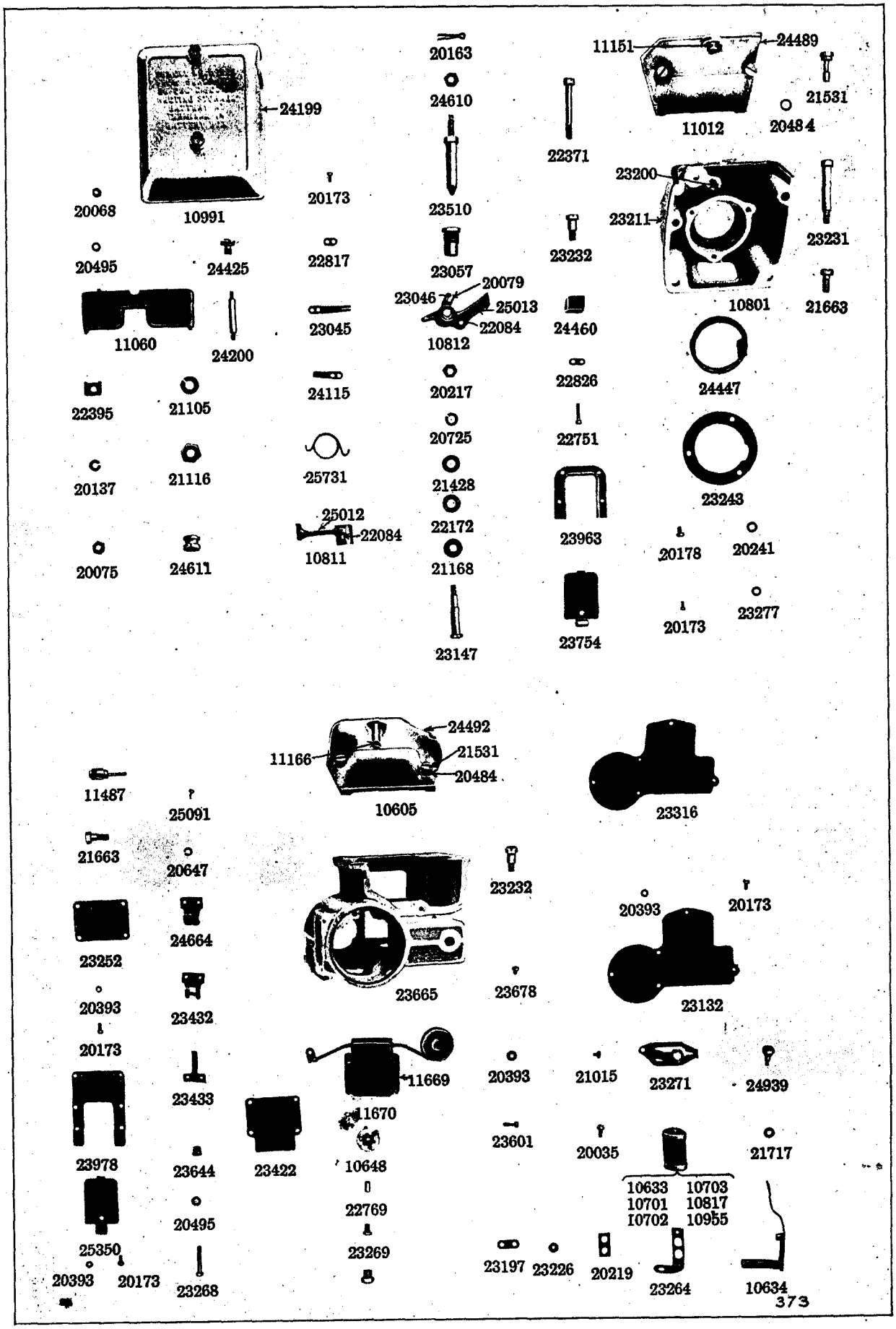
Piece Number	NAME OF PART	Quantity Required
22542	Stud for End of Shaft 22250 (Not shown in Illustration)	1
20791	Lock Washer for Stud 22542	1
21428	Plain Washer for retaining Lower Motor Brush Arm Assembly 11325	1
22570	Wedge for Field Coil Assembly 10384 (Not shown in Illustration)	2
22367	Spring for Lower Motor Brush Arm Assembly 11325	1
22172	Spring Washer under Cotter Pin 20163	1
20163	Cotter Pin retaining Plain Washer 21428	1
20039	Dowel Pin for locating Pole Piece	1
12271	**Armature Assembly for Motor Generator**	1
10038	**Generator Brush Holder Plate Assembly Complete** (Includes the next Item)	2
21422	Stud for Plate Assembly 10038 (Not shown in Illustration)	1
10039	**Generator Brush Spring Terminal Assembly for Generator Brush Holder Assembly 10038**	2
21374	Holder for Generator Brush Holder Plate Assembly 10038	1
21296	Insulator for Plate 21209	2
23623	Insulator for Holder 21374 (Not shown in Illustration)	2
20494	Plate for Generator Brush Holder Assembly 10038 (Outer)	2
20495	Lock Washer for Nut 20068	4
20068	Nut for retaining Generator Brush Spring Terminal Assembly 10039 and Screw 20107	4
20107	Screw for retaining Plate 20494	2
20491	Insulating Bushing for Generator Brush Spring Terminal Assembly 10039 Screw 20107	4
10007	**Bearing Retainer Assembly Complete for Ball Bearing Assembly 12986** (Includes the next 5 Items)	1
10201	**Bearing Retainer Assembly (Not shown in Illustration)**	1
20062	Stud for Retainer Assembly 10201 (Not shown in Illustration)	1
20802	Spring Nut for Bearing Retainer Assembly 10007 (Not shown in Illustration)	1
20801	Screw for Spring Nut 20802 (Not shown in Illustration)	1
20307	Spring for Screw 20801 (Not shown in Illustration)	1
20957	End Frame for Generator	1
12986	**Ball Bearing Assembly for Commutator End of Armature Shaft**	1
20970	Screw for retaining Bearing Retainer Assembly 10007	6
20241	Lock Washer for Screw 20970	6
21704	Pipe Plug for Oil Hole in End Frame 20957 (Not shown in Illustration)	1
10592	**Generator Brush Connector Lead Assembly Complete** (Includes the next 2 Items)	1
22386	Clip for Lead Assembly 10592 (Not shown in Illustration)	2
23089	Sleeving for Lead Assembly 10592 (Not shown in Illustration)	1
22326	Insulating Guard Plate for Lead Assembly 10592	1
10382	**Generator Clutch Assembly Complete (Smooth Type) (Not shown in Illustration)** (Includes the next 8 Items) (When ordering a Complete Clutch always order the New Style "Ratchet Type" No. 11348)	1
24811	Cam for Generator Clutch Assembly 10382 (Not shown in Illustration)	1
22286	Shell for Generator Clutch Assembly 10382 (Not shown in Illustration)	1
20878	Retainer for Roll 23625 (Not shown in Illustration)	1
23625	Roll for Cam 24811	1
20024	Spring for Plunger 20017	1
20017	Plunger for Roll 23625	1
21477	Screw for retaining Retainer 20878 (Not shown in Illustration)	1
22321	Plain Washer for Generator Clutch Assembly (Not shown in Illustration)	1
11348	**Generator Clutch Assembly Complete (Ratchet Type)** (Includes the next 8 Items)	1
24811	Cam for Generator Clutch Assembly 11348	1
24812	Shell for Generator Clutch Assembly 11348 (Not shown in Illustration)	4
23625	Roll for Cam 24811	4
20024	Spring for Plunger 20017	4
20017	Plunger for Roll 23625	1
25841	Retainer for Roll 23625	4
20063	Screw for retaining Retainer 25841	1
22321	Clamp Washer for Clutch Assembly	1
20054	Clamp Screw for Generator Clutch Assembly 11348	1
20725	Lock Washer for Clamp Screw 20054	1
21544	Key for Generator Clutch Assembly 12899	2
21703	Oil Retainer (Felt) for Ball Bearing Assembly 12986	1
20808	Retainer for Ball Bearing Assembly 12986 (Inner)	1
20798	Washer for retaining Ball Bearing Assembly 12986 (Outer)	1
10828	**Inner Race and Balls Assembly for Pinion End of Armature Shaft**	2
20803	Oil Retainer (Felt) for Inner Race and Balls Assembly 10828	1
20966	Washer for retaining Inner Race and Balls Assembly 10828 (Outer)	1
20873	Sleeve on Armature Shaft for retaining Washer 20966	1
20870	Motor Pinion for Armature Shaft	1
21536	Clamp Washer for Motor Pinion 20870	1
20054	Clamp Screw for Motor Pinion 20870	1
20725	Lock Washer for Clamp Screw 20054	1
21405	Generator Brush Arm	1

No. 24 MOTOR GENERATOR (Continued)

Piece Number	NAME OF PART	Quantity Required
24443	Brush for Arm 21405	1
21418	Plate for Arm 21405	1
21899	Screw for attaching Brush24443	2
22826	Lock Plate for Screw 21899 (Not shown in Illustration)	1
20163	Cotter Pin for retaining Generator Brush Arm 21405	2
20794	Cover for Generator Clutch Assembly 11348	1
20046	**Spring for Generator Brush Arm 21405**	1
22313	End Housing for Generator	1
22418	Outer Race for Inner Race and Balls Assembly 10828	1
20797	Retainer for Outer Race 22418 (Inner)	1
20178	Screw for retaining Retainer 20797	6
20241	Lock Washer for Screw 20178	6
20849	Bushing in End Housing 22313 for Shift Rod 21199	1
21704	Pipe Plug for Oil Hole in End Housing 22313 (Not shown in Illustration)	2
10339	**Contact Spring Assembly for Generator**	1
10039	**Spring Terminal Assembly for attaching Contact Spring Assembly 10339**	1
22276	Bracket for mounting Contact Assembly 10339	1
22249	Insulator under Contact Spring Assembly 10339	1
21741	Insulating Bushing for Spring Terminal Assembly 10039	1
21429	Insulating Washer for Spring Terminal Assembly 10039	1
20109	Plain Washer for Spring Terminal Assembly 10039	1
20495	Lock Washer for Nut 20068	1
20068	Nut for attaching Spring Terminal Assembly 10039	1
21887	Screw for retaining Bracket 22276	1
20647	Lock Washer for Screw 21887	1
21914	Plain Washer for Screw 21887	1
22318	Insulating Bushing for Screw 21887	1
20244	Shaft for Motor Clutch	1
21544	Key for Shaft 20244	1
21704	Pipe Plug for Shaft 20244 (Not shown in Illustration)	1
10528	**Generator Shifting Yoke Assembly Complete** (Includes the next 2 Items)	1
22883	Stud for attaching Link to Shift Rod (Not shown in Illustration)	1
20390	Pin for retaining Stud 22883 (Not shown in Illustration)	1
10078	**Upper Generator End Cover Assembly Complete** (Includes the next 2 Items)	1
21531	Screw for attaching Upper Generator End Cover Assembly 10078	2
20484	Spring Washer for Screw 21531	2
10077	**Lower Generator End Cover Assembly Complete** (Includes the next 5 Items)	1
20737	Plate for retaining Screen 20736 (Not shown in Illustration)	1
20736	Screen for Cover Assembly 10077 (Not shown in Illustration)	1
21673	Rivet for retaining Plate 20737 and Screen 20736 (Not shown in Illustration)	1
21531	Screw for attaching Lower Generator End Cover Assembly 10077	2
20484	Spring Washer for Screw 21531	2
20039	Dowel Pin for Generator End Frame 20957 and End Housing 22313	4
21082	Screw for attaching Generator End Frame 20957	4
20403	Screw for attaching End Housing 22313	5
20848	Clip for Shaft 20244	1
20178	Screw for retaining Clip 20848	1
20142	Lock Washer for Screw 20178	1
21199	Shift Rod for Generator Shifting Yoke and Motor Brush Switch Arm	1
20722	Plain Washer for Stud 22883	1
20163	Cotter Pin for Stud 22883	1
21080	Cover for nd Housing 22313	1
20553	Screw for attaching Cover 21080	2
20484	Spring Washer for Screw 20553	2
21129	Clamp Screw for Yoke 22307	1
22706	Terminal Clip for Battery Lead	1
22622	Ferrule for Terminal Clip 22706 (Not shown in Illustration)	1
22397	Conduit Cover (On Top of Generator)	1
22703	Screw for attaching Conduit Cover 22397	1
12508	**Grease Cup Assembly in End Housing 22313 for Motor Clutch**	1
11285	**Oil Cup Assembly for Ball Bearing Assembly 12986**	1
11926	**Oil Cup Assembly for Inner Race and Balls Assembly 10828**	1
22452	Terminal Clip for Terminal 22398 (Not shown in Illustration)	3
10044	**Motor Clutch Assembly Complete** (Includes the next 11 Items)	1
20465	Pinion for Motor Clutch Assembly 10044	1
20020	Cam for Motor Clutch Assembly 10044	1
20027	Clamp Nut for Motor Clutch Assembly 10044	1
21316	Gear for Motor Clutch Assembly 10044	1
20022	Retainer for Roll 23625 (Inner)	1
22575	Retainer for Roll 23625 (Outer)	1
21538	Spring for Plunger 20017	4
20017	Plunger for Roll 23625	4
23625	Roll for Cam 20020	4
20023	Screw for retainers 22575 and 20022	4
20393	Lock Washer for Screw 20023	4



No. 44 MOTOR GENERATOR



No. 44 MOTOR GENERATOR

No. 44 MOTOR GENERATOR

Piece Number	NAME OF PART	Quantity Required
44	**MOTOR GENERATOR**	1
10698	**Generator Frame Assembly**	1
	(Includes the next 5 Items)	
24228	Screw for Binding Generator Frame (Upper) (Not shown in Illustration)	1
24126	Screw for Binding Generator (Lower) (Not shown in Illustration)	4
24494	Lock Washer for Screw 24126 (Not shown in Illustration)	4
21147	Dowel Screw for Pole Piece (Not shown in Illustration)	1
21717	Lock Washer for Screw 21147 (Not shown in Illustration)	1
10964	**Field Coil Assembly Complete**	1
	(Includes the next 17 Items)	
14279	**Field Coil Assembly (Not shown in Illustration)**	1
	(Includes the next Item)	
10660	**Motor Brush Plate Assembly (Not shown in Illustration)**	1
	(Includes the next 3 Items)	
24112	Spring Stud for Brush Plate Assembly 10660	1
22359	Stud for holding Series Motor Brush Arm Assembly 11189	1
22007	Plain Washer for Stud 22359 (Not shown in Illustration)	1
22520	Rivet for retaining Motor Brush Plate Assembly 10660 (Not shown in Illustration)	3
23051	Clip for Spring 23045	1
23197	Lock Plate for Screw 20035	1
20219	Insulator for Clip 23051	2
23226	Insulating Bushing for Screw 20035	2
20035	Screw for retaining Clip 23051	2
23451	Screw for retaining Lead Assembly 12790	1
23452	Nut for Screw 23451	1
20393	Lock Washer for Nut 23452	1
23451	Screw for retaining Terminal Clip on Field Coil Assembly 10964	2
23452	Nut for Screw 23451	2
20393	Lock Washer for Nut 23452	2
10811	**Series Motor Brush Arm Assembly**	1
	(Includes the next 3 Items)	
22084	Spring Stud for Brush Arm Assembly 10811	1
25017	Insulating Bushing for Stud 25016 (Not shown in Illustration)	1
25016	Stud for Screw 24621 (Not shown in Illustration)	1
24460	Brush for Brush Arm Assembly 10811	1
22751	Screw for attaching Brush 24012	2
22826	Lock Plate for Screw 22751	1
11060	**Terminal Block Assembly**	1
20137	Lock Washer for Nut 20075	1
20068	Nut for attaching Stud 23655	1
23655	Stud for attaching Clip 22395	1
20495	Lock Washer for Nut 20068	1
22395	Clip for Stud 23655	1
20075	Nut for attaching Clip 22395	1
21428	Plain Washer for Series Motor Brush Arm Assembly 10811	2
22172	Spring Washer for retaining Series Motor Brush Arm Assembly 10811	1
20163	Cotter Pin for retaining Spring Washer 22172	1
25731	Spring for Series Motor Brush Arm Assembly 10811	1
23138	Insulator for Field Coil Assembly 10964	2
27193	Insulating Washer for Screw 21147 (Not shown in Illustration)	8
20114	Plain Washer for Screw 21147	2
21717	Lock Washer for Screw 21147	2
21147	Screw for attaching Motor Brush Plate Assembly 10660	2
23282	Insulating Bushing for Screw 21147 (Not shown in Illustration)	2
21116	Nut for Terminal Stud under Terminal Block Assembly 11060 (Small)	2
21105	Lock Washer for Nut 24611	2
24611	Nut for Terminal Stud under Terminal Block Assembly 11060 (Large)	2
22570	Wedge for Field Coil Assembly 10964 (Not shown in Illustration)	7
10889	**Governor Ring Assembly for Distributor Shaft**	1
	(Includes the next 2 Items)	
23448	Clip for Governor Ring Assembly 10889 (Not shown in Illustration)	1
24198	Screw for attaching Clip 23448 (Not shown in Illustration)	2
10954	**Distributor Cam Adjustment Assembly Complete**	1
	(Includes the next 3 Items)	
23874	Cam for Cam Adjustment Assembly 10954 (Not shown in Illustration)	1
23468	Pin for Cam 23874 (Not shown in Illustration)	1
23117	Screw for Distributor Cam Adjustment Assembly 10954 (Not shown in Illustration)	1
10922	**Distributor Segment Assembly for mounting Contact Arm Assembly 11408**	1
	(Includes the next 3 Items)	
24070	Stud for mounting Stop 23733 (Not shown in Illustration)	1
24071	Stud for mounting Contact Arm Assembly 11408 (Not shown in Illustration)	1
24073	Stud for connecting Current Regulator Bracket	1
11408	**Contact Arm Assembly for Distributor**	1
	(Includes the next 3 Items. Do not count Old Style Parts)	

No. 44 MOTOR GENERATOR (Continued)

Piece Number	NAME OF PART	Quantity Required
11379	**Connector Assembly for Contact Arm Assembly 11408 (Not shown in Illustration)**	1
21801	Hub for Contact Arm Assembly 11408 (Not shown in Illustration)	1
24069	Terminal Wire (Old Style) (Not shown in Illustration	1
24947	Screw for attaching Hub 24069 (Not shown in Illustration)	2
10282	**Retainer and Balls Assembly for Distributor Shaft Assembly 10699**	2
11061	**Pinion and Hub Assembly for Distributor Shaft (Not shown in Illustration)** (Includes the next 3 Items)	1
27548	Screw for attaching Pinion to Hub	2
20393	Lock Washer for Screw 27548	2
24029	Dowel Pin for Pinion and Hub Assembly 11061	1
23217	Retainer Plate for Pinion and Hub Assembly 11061	1
21836	Screw for retaining Stop 23733 (Not shown in Illustration)	1
23733	Stop for Contact Arm Assembly 11408	1
23480	Plain Washer for Screw 23501	2
23481	Insulating Bushing for Screw 23501	2
20035	Screw for attaching Distributor Segment Assembly 10922	2
20345	Lock Washer for Screw 21836	1
23100	Advance Ring on Shaft 23105 for Hand Advance	1
23220	Mounting Plate for Shaft 23105	1
23134	Pin for Advance Ring 23100	1
21443	Clamp Nut for Shaft 23105	1
21444	Lock Nut for Clamp Nut 21443	1
23218	Clamp for Pin 23134	1
23378	Screw for retaining Clamp 23218	1
20393	Lock Washer for Screw 23378	1
11094	**Distributor Shaft and Cone Assembly (Not shown in Illustration)** (Includes the next 2 Items)	1
23105	Shaft for Distributor	1
27222	Cone for Shaft 23105 (Not shown in Illustration)	2
23234	Insulating Washer for Distributor Segment Assembly 10922	1
23129	Spring for Collar 23718 on Shaft 23105	1
23718	Collar for Automatic Advance on Shaft 23105	1
23101	Pin for retaining Collar 23718 and Governor Ring Assembly 10889	2
24415	Plain Washer for Pin 23101	4
20163	Cotter Pin for retaining Pin 23101	4
23104	Advance Arm for connecting Collar 23718 to Governor Ring Assembly 10889	2
23496	Screw for retaining Governor Ring Assembly 10889	2
24493	Lock Washer for Screw 23496	2
23098	Shaft for Distributor Cam Adjustment Assembly 10954	1
20775	Cup for Retainer and Balls Assembly 10282	2
23398	Spring for Contact Arm Assembly 11408	1
12988	**Ball Bearing Assembly for Distributor End of Armature Shaft**	1
10634	**Current Regulator Contact Arm Assembly** (Includes the next 3 Items)	1
23262	Roll for Contact Arm Assembly 10634 (Not shown in Illustration)	1
23263	Stud for Contact Arm Assembly 10634 (Not shown in Illustration)	1
24247	Rivet for Contact Arm Assembly 10634 (Not shown in Illustration)	2
10631	**Resistance Unit Connector Lead Assembly Complete** (Includes the next 2 Items)	1
23319	Clip for Resistance Unit End of Lead Assembly 10631	1
23358	Clip for Field Coil End of Lead Assembly 10631	1
10611	**Distributor Rotor Assembly Complete** (Includes the next 4 Items)	1
23074	Connector for Distributor Rotor Assembly 10611	1
23142	Screw for connecting Connector 23074	1
23895	Brush for Distributor Rotor Assembly 10611	1
24414	Spring for Brush 23895	1
10633 10701 10702 10703 10817 10955	**Current Regulator Resistance Unit Assembly** **(One to be used. Order by number stamped on Current Regulator Resistance Unit Assembly)**	1
10648	**Resistance Unit Assembly for Distributor**	1
10598	**Advance Yoke Assembly**	1
23257	Shaft for Advance	1
23144	Clamp Screw for Advance Lever 23143	1
23239	Nut for Clamp Screw 23144	1
20137	Lock Washer for Nut 23239	1
23143	Advance Lever for Advance Lever Shaft 23257	1
11868	**Spring Terminal Assembly for connecting Distributor**	1
12411	**Contact Screw Assembly for Contact Arm Assembly 11408 (Not shown in Illustration)**	1
23665	End Frame for Generator	1
21383	Washer (Felt) for Ball Bearing Assembly 12988	2

No. 44 MOTOR GENERATOR (Continued)

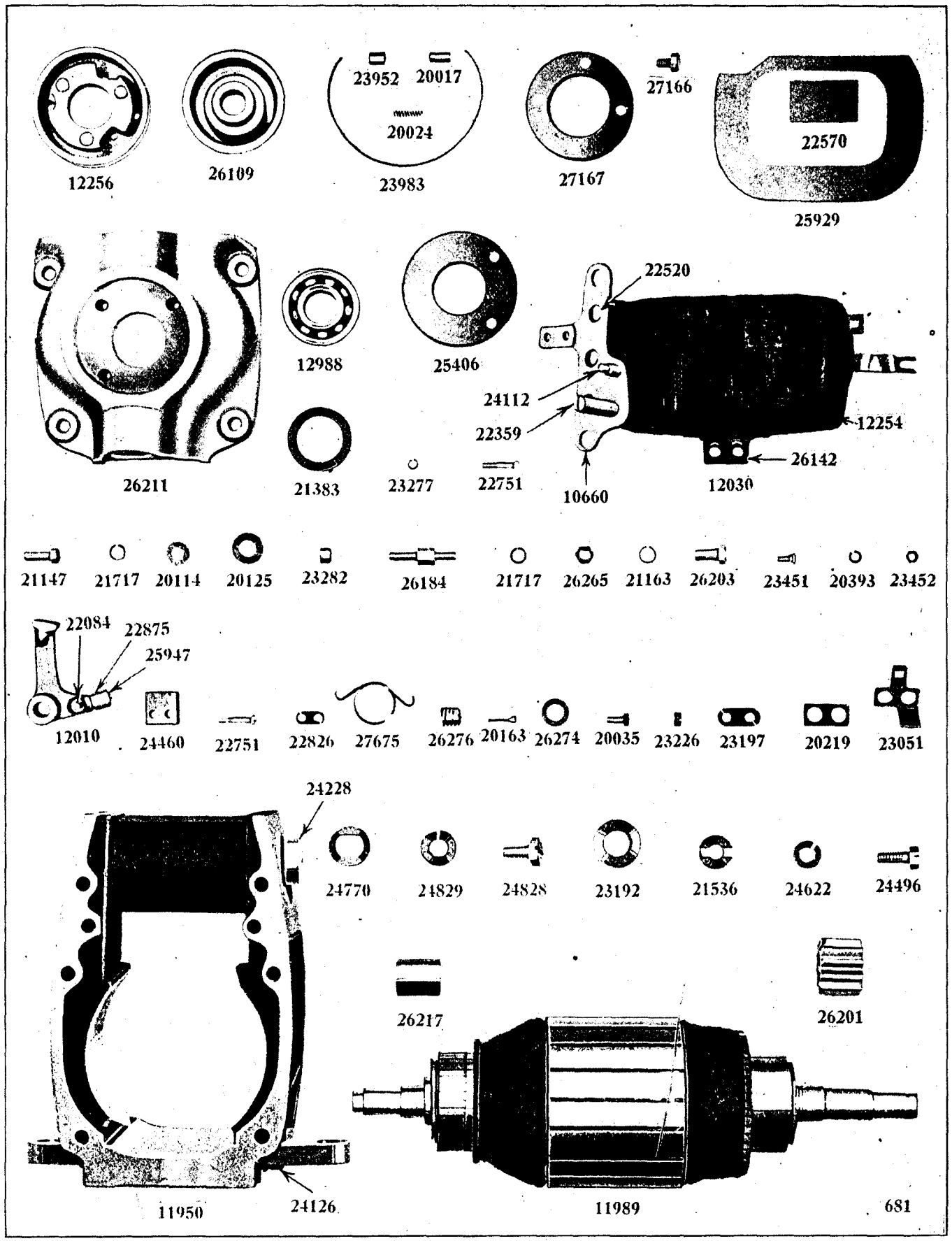
Piece Number	NAME OF PART	Quantity Required
23642	Retainer for Ball Bearing Assembly 12988 (Inner)	1
21094	Screw for retaining Retainer 23642	4
23271	Bracket for Current Regulator Resistance Unit Assembly 10703 ,etc. (Upper)	1
23678	Screw for attaching Bracket 23271	1
20373	Lock Washer for Screw 23678	3
23268	Screw for retaining Stud 23270	1
23269	Insulating Bushing for Stud 23270	1
22769	Insulating Bushing for Resistance Unit Assembly 10648	1
20495	Lock Washer for Nut 23644	1
23644	Nut for retaining Resistance Unit Assembly 10648	1
23270	Bushing for Resistance Unit Assembly 10648	1
24664	Clip for attaching Distributor Head Assembly 12568 (Single)	1
20647	Lock Washer for Screws 21015 and 21531	5
25091	Screw for attaching Clips 24664, 23433 and 23432	4
23433	Clip for attaching Distributor Head Assembly 12568 (Long Tongue Clip)	1
23432	Clip for attaching Distributor Head Assembly 12568 (With Clip 23433)	1
21797	Screw for attaching Advance Yoke Assembly 10598	1
21015	Screw for retaining Bracket 23271	1
23978	Guide Plate for Cover Plate 25350	1
25350	Cover Plate for End Frame 23665	1
23264	Bracket for Current Regulator Resistance Unit Assembly 10703, etc. (Lower)	1
20219	Insulator for Bracket 23264	2
23197	Lock Plate for Screw 20035	1
23226	Insulating Bushing for Screw 20035	2
24939	Screw for attaching Current Regulator Resistance Unit Assembly 10703, etc.	2
21717	Lock Washer for Screw 24939	2
20173	Screw for attaching Guide Plate 23978	6
20393	Lock Washer for Screw 20173	6
20035	Screw for attaching Distributor Segment Assembly 10922	1
20495	Lock Washer for Screw 20035	1
22616	Plain Washer for Screw 23205 and Spring Terminal Assembly 10628	2
20076	Insulating Washer for Screw 23205 and Spring Terminal Assembly 10628 (Outer)	2
22738	Insulating Bushing for Screw 23205 and Spring Terminal Assembly 10628	2
23410	Insulating Washer for Screw 23205 and Spring Terminal Assembly 10628 (Inner)	2
23756	Connector for connecting Spring Terminal Assembly 10628 and Screw 23205	1
20704	Nut for Screw 23205 and Spring Terminal Assembly 10628	2
20791	Lock Washer for Nut 20704	2
20310	Plain Washer for Nut 20704	2
23205	Screw for Contact Screw Assembly 12411	1
12127	**Generator Clutch Assembly Complete** (Includes the next 6 Items)	1
10978	**Spiral Gear and Cam Assembly for Generator Clutch Assembly 12127**	1
26109	Shell for Generator Clutch Assembly 12127	1
23952	Roll for Spiral Gear and Cam Assembly 10978	3
20017	Plunger for Roll 23952	3
20024	Spring for Plunger 20017	3
23983	Binding Spring for Generator Clutch Assembly 12127	1
14898	**Ball Bearing Assembly for Pinion End of Armature Shaft**	1
13513	**Armature Assembly for Motor Generator**	1
21703	Oil Retainer (Felt) for Inner Race and Balls Assembly 14898	2
20808	Retainer for Oil Retainer 21703 (Inner)	1
24622	Lock Washer for Clamp Screw 24496	1
24496	Clamp Screw for Motor Pinion 23491	1
21536	Clamp Washer for Motor Pinion 23491	1
24829	Lock Washer for Clamp Screw 24828 (Clutch End)	1
23065	Clamp Washer for Generator Clutch Assembly 12127	1
24828	Clamp Screw for retaining Generator Clutch Assembly 12127	1
23192	Spacing Collar on Armature Shaft next to Generator Clutch Assembly 12127	1
23511	Spacing Sleeve on Armature Shaft for retaining Washer 23857	1
23491	Motor Pinion for Armature Shaft	1
23857	Washer for retaining Inner Race and Balls Assembly 14898	1
10801	**Motor End Frame Assembly** (Includes the next Item)	1
23200	Spring Stud for End Frame Assembly 10801	1
10812	**Grounded Motor Brush Arm Assembly** (Includes the next 3 Items)	1
22084	Spring Stud for Brush Arm Assembly 10812	1
23046	Roll for Brush Arm Assembly 10812	1
20079	Plain Washer for Roll 23046	1
24460	Brush for Grounded Motor Brush Arm Assembly 10812	1
22751	Screw for attaching Brush 24460	2
22826	Lock Plate for Screw 22751	1
23045	Spring for Generator Switch on Grounded Motor Brush Arm Assembly 10812	1
20173	Screw for attaching Spring 23045	2

No. 44 MOTOR GENERATOR (Continued)

Piece Number	NAME OF PART	Quantity Required
22817	Lock Plate for Screw 20173	1
24115	Plate for Spring 23045	1
24621	Screw for Adjusting Grounded Motor Brush Arm Assembly 10812	1
24619	Nut for Screw 24621	1
21717	Lock Washer for Nut 24619	1
23147	Stud for Holding Grounded Motor Brush Arm Assembly 10812	1
20217	Nut for Stud 23147	1
20725	Lock Washer for Nut 20217	1
21168	Plain Washer for retaining Grounded Motor Brush Arm Assembly 10812 (Outer)	1
21428	Plain Washer for retaining Grounded Brush Arm Assembly 10812 (Inner)	1
22172	Spring Washer for retaining Grounded Motor Brush Arm Assembly 10812	1
25731	Spring for Grounded Motor Brush Arm Assembly 10812	1
23243	Retainer for Ball Bearing Assembly 14898	3
20241	Lock Washer for Screw 20178	3
20178	Screw for retaining Retainer 23243	1
23057	Bushing for Rod 23510	1
23754	Cover Slide for Motor End Frame Assembly 10801	1
23963	Guide for Cover Slide 23754 (Outer)	1
23964	Guide for Cover Slide 23754 (Inner) (Not shown in Illustration)	4
20173	Screw for Guides 23963 and 23964	4
23277	Lock Washer for Screw 20173	1
24111	Felt Plug for Oil Hole (Not shown in Illustration)	1
10626	**Generator Brush Arm Assembly (Left)**	1
23079	Brush for Generator Brush Arm Assembly 10626	2
22751	Screw for attaching Brush 23709	1
22817	Lock Plate for Screw 22751	1
10627	**Generator Brush Arm Assembly (Right)** (Include sthe next Item)	1
23079	Brush for Generator Brush Arm Assembly 10627	3
22751	Screw for attaching Brush 23079	1
22817	Lock Plate for Screw 22751	1
12790	**Ground Connector Lead Assembly Complete** (Includes the next 2 Items)	1
23666	Clip for Generator Switch End of Lead Assembly 12790	1
27930	Clip for Brush Plate End of Lead Assembly 12790	1
12751	**Outside Terminal Connector Lead Assembly Complete** (Includes the next 3 Items)	1
27929	Clip for Brush Plate End of Lead Assembly 12751	1
23318	Clip for Field Coil (Center of Lead Assembly 12751)	1
24010	Clip for Spring Terminal End of LeadAssembly 12751	2
20046	Spring for Generator Brush Arm Assemblies 10626 and 10627	2
20163	Cotter Pin for retaining Spring 20046	1
23093	Generator Brush Holder Bracket	2
20494	Plate for Stud 23113 (Inner)	4
23623	Insulator for Stud 23113	2
23113	Stud for Holding Generator Brush Arm Assemblies 10626 and 10627	4
23249	Insulating Bushing for Stud 23113 and Screw 20035	2
20068	Nut for Stud 23113	2
20495	Lock Washer for Nut 20068	2
22011	Plate for Stud 23113 (Outer)	2
20035	Screw for retaining Plates 22011 and 20494	1
10991	**Generator Top Cover Assembly Complete** (Includes the next Item)	2
24425	Clamp Nut for Top Cover Assembly 10991	1
11012	**Motor End Top Cover Assembly Complete** (Includes the next 3 Items)	2
20484	Spring Washer for Screw 21531	2
21531	Screw for attaching Top Cover Assembly 11012	1
11151	**Oiler Assembly for Motor End Top Cover Assembly 11012**	1
10605	**Generator End Top Cover Assembly Complete** (Includes the next 3 Items)	2
21531	Screw for attaching Top Cover Assembly 10605	2
20484	Spring Washer for Screw 21531	1
14043	**Oiler Assembly for Generator End Top Cover Assembly 10605**	1
11383	**Flange and Washer Assembly Complete (Not shown in Illustration)** (Includes the next Item)	1
25019	Felt Washer for Flange Assembly 11383	1
23510	Brush Lifting Rod	2
24610	Nut for Rod 23510	1
25307	Cotter Pin for retaining Nut 24610	1
11487	**Distributor Bearing Oiler Assembly**	1
23108	Screw for attaching Generator Brush Holder Bracket 23093	1
21663	Screw for attaching Motor End Frame Assembly 10801 (Short) (Plain)	1
23232	Screw for attaching Motor End Frame Assembly 10801 (Short) (Dowel)	1
23231	Screw for attaching Motor End Frame Assembly 10801 (Long) (Dowel)	1
22371	Screw for attaching Motor End Frame Assembly 10801 (Long) (Plain)	1

No. 44 MOTOR GENERATOR (Continued)

Piece Number	NAME OF PART	Quantity Required
21663	Screw for attaching Generator End Frame 23665 (Plain)	2
23232	Screw for attaching Generator End Frame 23665 (Dowel)	2
23132	Bottom Plate for Generator End Frame 23665	1
23316	Gasket for Bottom Plate 23132	1
20393	Lock Washer for Screw 20173	5
20173	Screw for attaching Bottom Plate 23132 and Name Plate 23252	9
23252	Name Plate for Generator End Frame 23665	1
20393	Lock Washer for Screw 20173	4
24200	Stud for attaching Nut 24425 (On Generator Top Cover Assembly 10991)	2
23204	Screw for attaching Condenser Assembly 11670 to Screw 23205	1
20345	Lock Washer for Screw 23204	1
23422	Gasket for Condenser Assembly 10861	1
24527	Insulator for Resistance Unit Guard (Not shown in Illustration)	1
10861	**Condenser Assembly Complete** (Includes the next Item)	1
23601	Screw for attaching Condenser Assembly 10861	4
12568	**Distributor Head Assembly Complete (Not shown in Illustration)** (Includes the next 2 Items. Do not count Old Style Parts)	1
21425	Plunger (Old Style) for Distributor Head Assembly 12568 (Approximately ⅛/ Diameter) (Not shown in Illustration)	1
27608	Plunger for Distributor Head Assembly 12568 (Approximately ¼" Diameter) (Not shown in Illustration)	1
21424	Spring (Old Style) for Plunger 21425 (Approximately ⅛" Diameter) (Not shown in Illustration)	1
27607	Spring for Plunger 27608 (Approximately ¼" Diameter) (Not shown in Illustration)	1
10697	**Motor Terminal Clip Assembly Complete (Not shown in Illustration)** (Includes the next 5 Items)	1
23654	Terminal Clip for Motor Terminal Assembly 10697 (Not shown in Illustration)	1
22395	Clip for Terminal Clip 23654 (Not shown in Illustration)	1
23656	Stud for attaching Clip 22395 to Terminal Clip 23654 (Not shown in Illustration)	1
20137	Lock Washer for Nut 20075	1
20075	Nut for Stud 23656	1
24453	Terminal Clip for connecting Generator Brush Arm Assemblies 10626 and 10627 (Not shown in Illustration)	2
23365	Fibre Ferrule for Terminal Clip 24453 (Not shown in Illustration)	2
23360	Terminal Clip for Spring Terminal Assembly 10628 (Not shown in Illustration)	1
23365	Fibre Ferrule for Terminal Clip 23360 (Not shown in Illustration)	1
25092	Insulator for Series Lead on Generator Top Cover Assembly 10991 (Not shown in Illustration)	1
23865	Rubber Washer for High Tension Terminal Assemblies	9
11407	**Wrench for Distributor**	1
10877	**High Tension Terminal Assembly for Distributor Head Assembly 12568 (Blank)**	1
10878	**High Tension Terminal Assembly for Distributor Head Assembly 12568 (1)**	1
10879	**High Tension Terminal Assembly for Distributor Head Assembly 12568 (2)**	1
10880	**High Tension Terminal Assembly for Distributor Head Assembly 12568 (3)**	1
10881	**High Tension Terminal Assembly for Distributor Head Assembly 12568 (4)**	1
10882	**High Tension Terminal Assembly for Distributor Head Assembly 12568 (5)**	1
10883	**High Tension Terminal Assembly for Distributor Head Assembly 12568 (6)**	1
10884	**High Tension Terminal Assembly for Distributor Head Assembly 12568 (7)**	1
10885	**High Tension Terminal Assembly for Distributor Head Assembly 12568 (8)**	1



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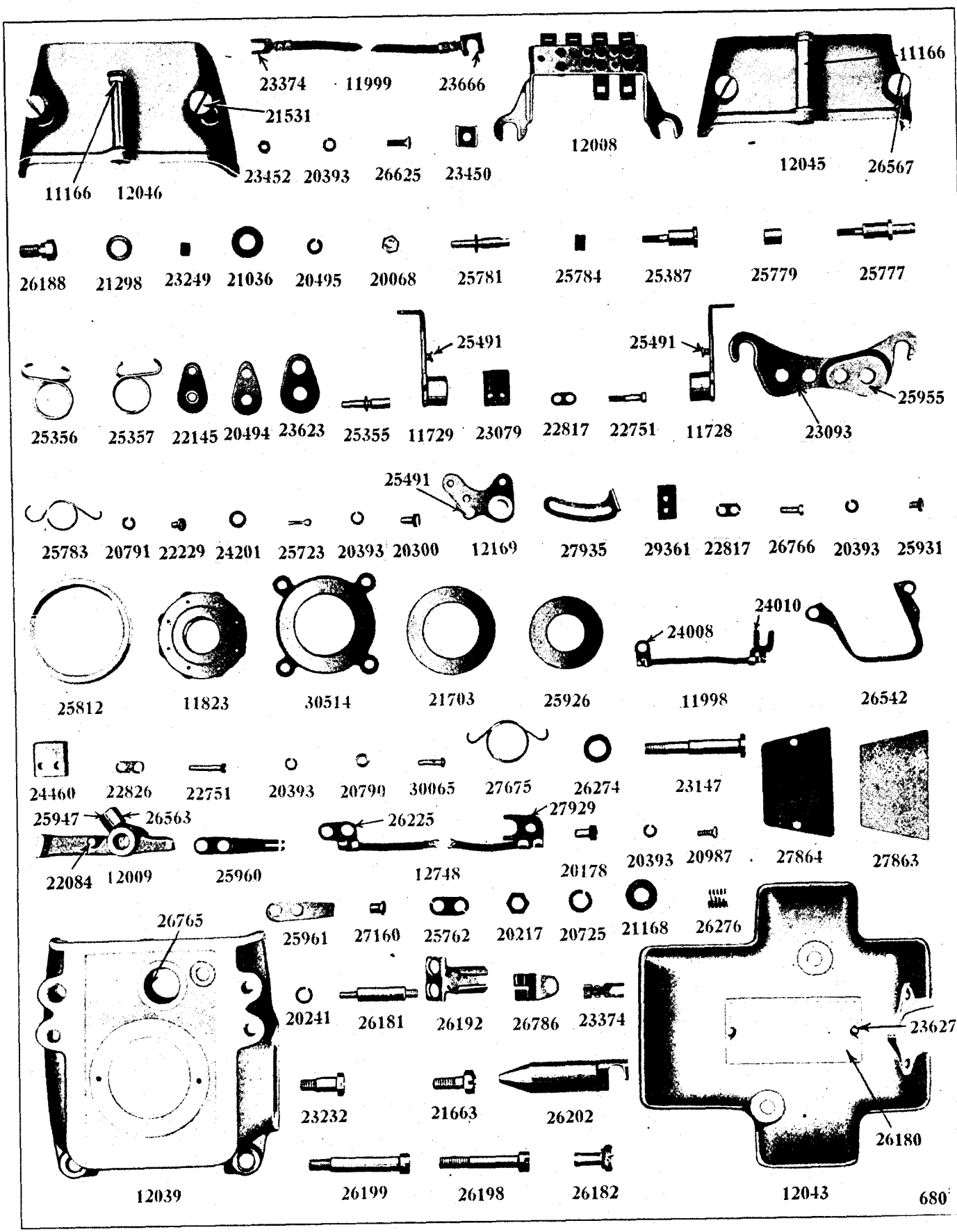

No. 78 MOTOR GENERATOR

No. 78 MOTOR GENERATOR

Note: No. 78 Motor Generator superseded by No. 98 Motor Generator, when ordering a complete new unit, order No. 98.

Piece Number	NAME OF PART	Quantity Required
78	**MOTOR GENERATOR COMPLETE**	1
11950	**Generator Frame Assembly** (Includes the next 3 Items)	1
24228	Screw for binding Generator Frame (Upper)	1
24126	Screw for binding Generator Frame (Lower)	2
24494	Lock Washer for Screw 24126 (Not shown in Illustration)	2
12254	**Field Coil and Motor Brush Plate Assembly** (Includes the next 7 Items)	1
10660	**Motor Brush Plate Assembly** (Includes the next 3 Items)	1
24112	Spring Stud for Brush Plate Assembly 10660	1
22359	Stud for holding Series Motor Brush Arm Assembly 12010	1
22007	Washer for Stud 22359 (Not shown in Illustration)	1
22520	Rivet for retaining Motor Brush Plate Assembly 10660	3
26185	Clip on Field Coil Assembly for Terminal Plate (Not shown in Illustration)	1
26142	Strap for Motor Terminal Clip 26192	1
23051	Clip on Motor Brush Plate Assembly 10660 for Generator Switch	1
23197	Lock Plate for Screw 20035	1
20219	Insulator for Clip 23051	2
23226	Insulating Bushing for Screw 20035	2
20035	Screw for retaining Clip 23051	2
23451	Screw on Clip 23051 for retaining Lead Assembly 11999	1
23452	Nut for Screw 23451	1
20393	Lock Washer for Nut 23452	1
23451	Screw for retaining Terminal Clip on Field Coil Assembly 12254	1
23452	Nut for Screw 23451	1
20393	Lock Washer for Nut 23452	1
26203	Screw for attaching Motor Terminal Clip 26192	2
21163	Lock Washer for Screw 26203	2
12010	**Series Motor Brush Arm Assembly** (Includes the next 3 Items)	1
22084	Spring Stud for Brush Arm Assembly 12010	1
22875	Roll for Brush Arm Assembly 12010	1
25947	Plain Washer for retaining Roll 22875	1
24460	Brush for Series Motor Brush Arm Assembly 12010	1
22751	Screw for attaching Brush 24460	2
22826	Lock Plate for Screw 22751	1
26276	Spring for Series Motor Brush Arm Assembly 12010 (Inner)	1
26274	Plain Washer for retaining Series Motor Brush Arm Assembly 12010	1
20163	Cotter Pin for retaining Series Motor Brush Arm Assembly 12010	1
27675	Spring for Series Motor Brush Arm Assembly 12010 (Outer)	1
25929	Insulator for Field Coil Assembly 12254	2
20125	Insulating Washer for Screw 21147	4
20114	Plain Washer for Screw 21147	2
21717	Lock Washer for Screw 21147	2
21147	Screw for attaching Motor Brush Plate Assembly 10660	2
23282	Insulating Bushing for Screw 21147	2
22570	Wedge for Field Coil Assembly 12254	7
26184	Dowel Stud for connecting Ground Lead (On Side of Frame)	1
21717	Lock Washer for Nut 26285	2
26265	Nut for Dowel Stud 26184	1
26211	End Frame for Generator	1
12988	**Ball Bearing Assembly for Generator Clutch End of Armature Shaft**	1
25406	Retainer for Ball Bearing Assembly 12988 (Inner)	1
22751	Screw for attaching Retainer 25406	4
23277	Lock Washer for Screw 22751	4
24111	Felt Plug for Oil Hole in End Frame 26211	1
21383	Oil Retainer (Felt) for Ball Bearing Assembly 12988	2
12035	**Generator Clutch Assembly Complete (Old Style before Serial No. 352610)** (Includes the next 6 Items)	1
12034	**Generator Clutch Shell and Cam Assembly**	1
26109	**Shell for Generator Clutch Assembly 12035** (Inner)	1
23952	Roll for Generator Clutch Shell and Cam Assembly 12034	3
20024	Spring for Plunger 20017	3
20017	Plunger for Roll 23952	3
23983	Binding Spring for Generator Clutch Assembly 12035	1
12257	**Generator Clutch Assembly Complete** (Includes the next 8 Items)	1
12256	**Generator Clutch Shell and Cam Assembly**	1
26109	Shell for Generator Clutch Shell and Cam Assembly 12256 (Inner)	1
23952	Roll for Generator Clutch Shell and Cam Assembly 12256	3
20017	Plunger for Roll 23952	3
20024	Spring for Plunger 20017	3

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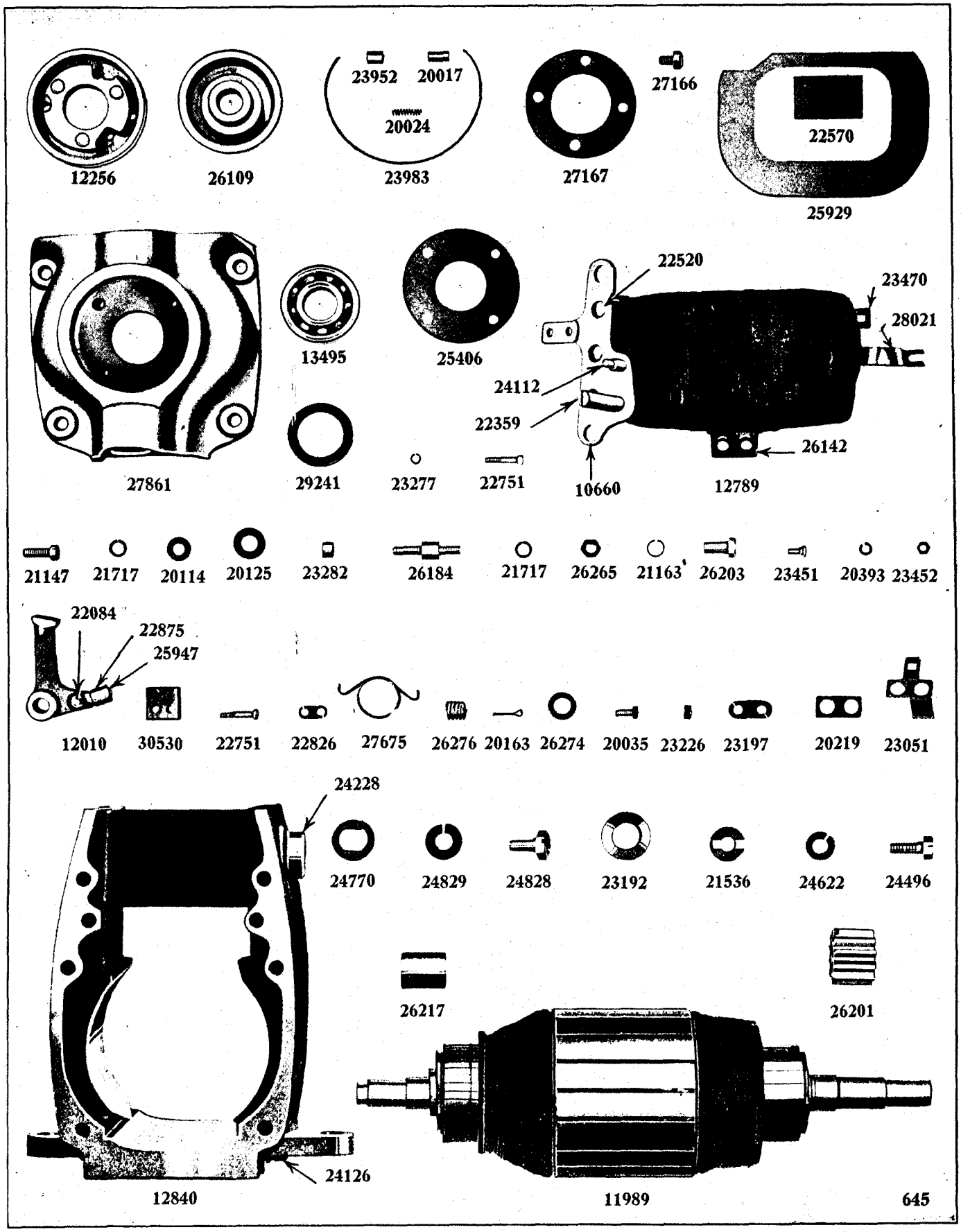
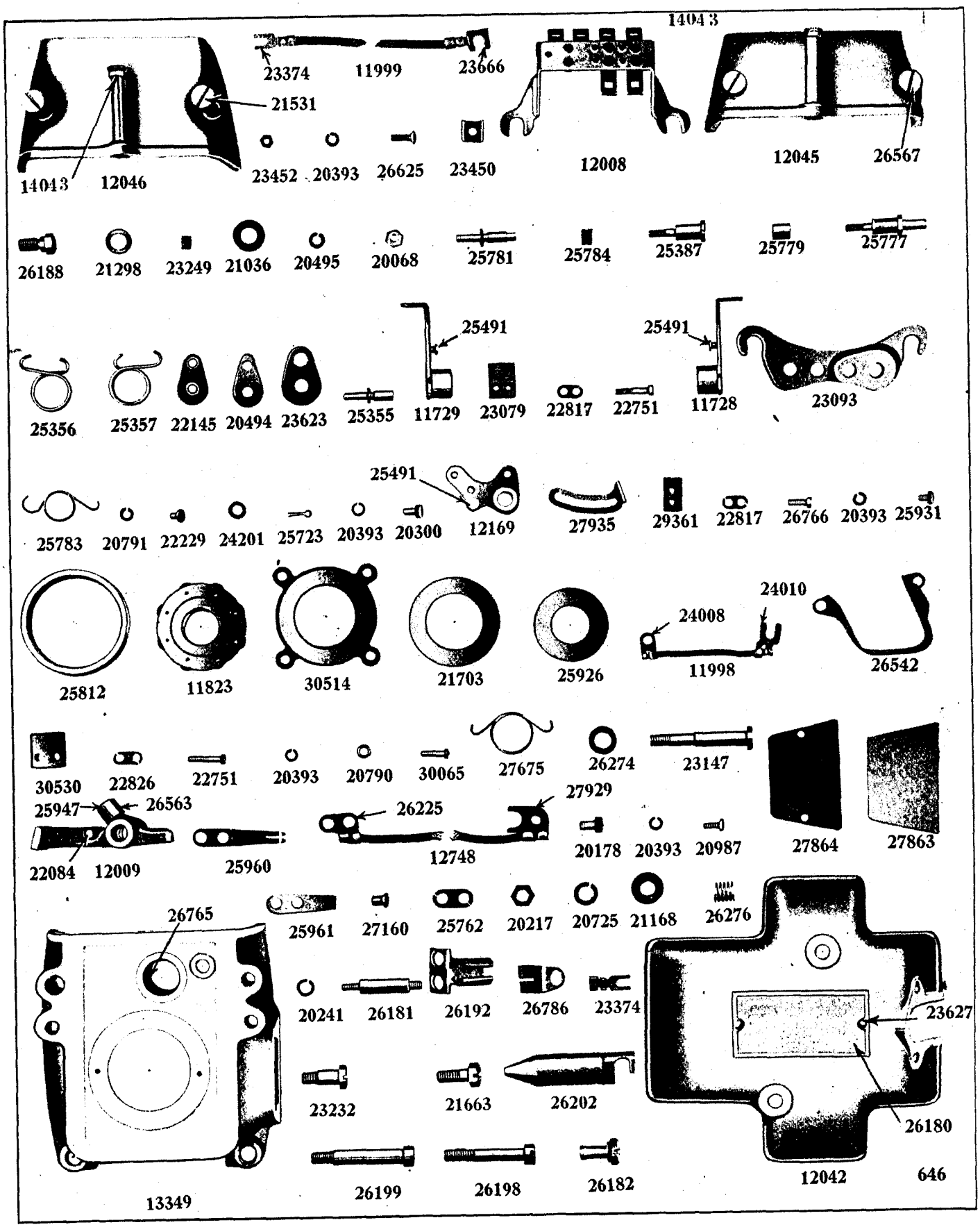
Piece Number	NAME OF PART	Quantity Required
23983	Binding Spring for Generator Clutch Assemby 12257	1
27167	Coupling for Generator Clutch Assembly 12257	1
27166	Screw for attaching Coupling 27167	1
11823	**Inner Race and Balls Assembly for Pinion End of Armature Shaft**	1
11989	**Armature Assembly for Motor Generator**	1
21703	Oil Retainer (Felt) for Inner Race and Balls Assembly 11823	2
20808	Retainer for Oil Retainer 21703 (Inner) (Not shown in Illustration)	1
24622	Lock Washer for Clamp Screw 24496	1
24496	Clamp Screw for Motor Pinion 26201	1
21536	Clamp Washer for Motor Pinion 26201	1
24829	Lock Washer for Clamp Screw 24828	1
24770	Clamp Washer for Generator Clutch Assembly 12257	1
24828	Clamp Screw for Generator	1
23192	Spacing Collar for Generator Clutch Assembly 12257	1
26217	Spacing Sleeve on Armature Shaft next to Washer 25926 (Pinion End)	1
26201	Motor Pinion for Armature Shaft	1
25926	Washer for retaining Inner Race and Balls Assembly 11823 (Outer)	1
12039	**Motor End Frame Assembly** (Includes the next 2 Items)	
23200	Spring Stud for End Frame Assembly 12039 (Not shown in Illustration)	1
26765	Bushing for Rod 26202	1
12009	**Grounded Motor Brush Arm Assembly** (Includes the next 3 Items)	
22084	Spring Stud for Brush Arm Assembly 12009	1
26563	Roll for Brush Arm Assembly 12009	1
25947	Plain Washer for retaining Roll 26563	1
24460	Brush for Grounded Motor Brush Arm Assembly 12009	1
22751	Screw for attaching Brush 24460	2
22826	Lock Plate for Screw 22751	1
25960	Spring on Grounded Motor Brush Arm Assembly 12009 for Generator Switch	1
25961	Plate for Spring 25960	1
25762	Insulating Plate for Spring 25960	3
27160	Insulating Bushing for Screw 22654	2
21899	Screw for attaching Spring 25960	2
12748	**Generator Brush Bracket to Switch Arm Lead Assembly Complete** (Includes the next 2 Items)	1
27929	Clip for Brush Bracket End of Lead Assembly 12748	1
26225	Clip for Switch Arm End of Lead Assembly 12748	1
20790	Plain Washer for Screw 22654	2
20393	Lock Washer for Screw 22654	2
23147	Stud for holding Grounded Motor Brush Arm Assembly 12009	1
20217	Nut for Stud 23147	1
20725	Lock Washer for Nut 20217	1
21168	Plain Washer for Grounded Motor Brush Arm Assembly 12009 (Outer)	1
26276	Spring for Grounded Motor Brush Arm Assembly 12009 (Inner)	1
26274	Plain Washer for Grounded Motor Brush Arm Assembly 12009 (Inner)	1
27675	Spring for Grounded Motor Brush Arm Assembly 12009 (Outer)	1
30514	Retainer for Outer Race 25812	1
26193	Retainer for Outer Race 25812 (Old Style) before Serial No. 386208	1
20241	Lock Washer for Screw 20178	4
20178	Screw for attaching Retainer 30514	4
25812	Outer Race for Inner Race and Balls Assembly 11823	1
24111	Felt Plug for Oil Hole in End Frame Assembly 12039	1
11728	**Generator Brush Arm Assembly (Right)** (Includes the next Item)	1
25491	Spring Stud for Brush Arm Assembly 11728	1
23079	Brush for Generator Brush Arm Assembly 11728	2
22751	Screw for attaching Brush 23079	1
22817	Lock Plate for Screw 22751	1
11729	**Generator Brush Arm Assembly (Left)** (Includes the next Item)	1
25491	Spring Stud for Brush Arm Assembly 11729	1
23079	Brush for Generator Brush Arm Assembly 11729	2
22751	Screw for attaching Brush 23079	1
22817	Lock Plate for Screw 22751	1
11815	**Third Generator Brush Arm Assembly (Old Style) (Straight)**	1
12169	**Third Generator Brush Arm Assembly (Radial)** (Includes the next Item)	1
25491	Spring Stud for Brush Arm Assembly 12169	1
25782	Extension Brush Arm for Third Generator Brush Arm Assembly 11815 (Old Style) (Straight)	1
27935	Extension Brush Arm for Third Generator Brush Arm Assembly 12169	1
29361	Third Brush for Extension Brush Arm 27935	1
22817	Lock Plate for Screw 26766	1
26766	Screw for attaching Third Brush 29361	2
25931	Screw for attaching Extension Brush Arm Assembly 12169	2

No. 78 MOTOR GENERATOR (Continued)

Piece Number	NAME OF PART	Quantity Required
20393	Lock Washer for Screw 25931	2
20810	Plain Washer for Screw 25931	2
11998	**Third Generator Brush to Field Coil Lead Assembly Complete** (Includes the next 2 Items)	1
24010	Clip for Field Coil End of Lead Assembly 11998	1
24008	Clip for Third Brush End of Lead Assembly 11998	1
25356	Spring for Generator Brush Arm Assembly 11729	1
25357	Spring for Generator Brush Arm Assembly 11728	1
25783	Spring for Third Generator Brush Arm Assembly 12169	1
23093	Generator Brush Holder Bracket	1
20494	Plate for Studs 14547, 25777, 25355 and 25387 (Inner)	2
22145	Plate for Studs 14547, 25777, and 25387 (Outer)	2
25955	Plate for Studs 25355 and 25387 next to Bracket 23093	2
23623	Insulator for Studs 14547 and 25777	2
25355	Stop Stud for Generator Brush Arm Assembly 11728	1
25387	Stud for holding Generator Brush Arm Assembly 11728	1
23249	Insulating Bushing for Studs 25777 and 14547	2
20068	Nut for Studs 14547, 25777, 25355 and 25387	4
20495	Lock Washer for Nut 20068	4
25777	Stud for holding Third Generator Brush Arm Assembly 12169 and Generator Brush Arm Assembly 11729	1
14547	**Stop Assembly Stud for Generator Brush Arm Assembly 11729**	1
25784	Insulating Sleeve for Stop Stud 14547	1
25779	Insulating Bushing for Third Generator Brush Arm Assembly 12169	1
21036	Insulating Washer for Third Generator Brush Arm Assembly 12169 (Inner)	1
21298	Insulating Washer for Third Generator Brush Arm Assembly 12169 (Outer)	1
25723	Cotter Pin for retaining Third Generator Brush Arm Assembly 12169	1
24201	Plain Washer under Cotter Pin 25723	1
20300	Screw for attaching Third Generator Brush to Field Coil Lead Assembly 11998	1
20393	Lock Washer for Screw 20300	1
12008	**Terminal Bracket Assembly**	1
11999	**Motor Brush Plate to Terminal Bracket Lead Assembly Complete** (Includes the next 2 Items)	1
23666	Clip for Motor Brush Plate End of Lead Assembly 11999	1
23374	Clip for Terminal Bracket End of Lead Assembly 11999	1
26625	Screw for attaching Clip 23450	6
20393	Lock Washer for Nut 23452	6
23452	Nut for Screw 26625	6
23450	Clip for Terminal Bracket Assembly 12008	6
12043	**Generator Top Cover Assembly Complete** (Includes the next 3 Items)	1
26180	Name Plate for Generator Top Cover Assembly 12043	1
23627	Rivet for attaching Name Plate 26180	2
26182	Screw for attaching Generator Top Cover Assembly 12043	2
12045	**Motor End Top Cover Assembly Complete** (Includes the next 3 Items)	1
20484	Spring Washer for Screw 26567	2
26567	Screw for attaching Cover Assembly 12045	2
14043	**Bearing Oiler Assembly for Motor End Top Cover Assembly 12045**	1
12046	**Generator End Top Cover Assembly Complete** (Includes the next 3 Items)	1
21531	Screw for attaching Cover Assembly 12046	2
20484	Spring Washer for Screw 21531	2
14043	**Bearing Oiler Assembly for Generator End Top Cover Assembly 12046**	1
26202	Rod for Lifting Motor Brush Arms	1
26188	Screw for attaching Generator Brush Holder Bracket 23093	2
21663	Screw for attaching Motor End Frame Assembly 12039 (Short, Plain)	1
23232	Screw for attaching Motor End Frame Assembly 12039 (Short, Dowel)	1
26199	Screw, for attaching Motor End Frame Assembly 12039 (Long, Dowel)	1
26198	Screw for attaching Motor End Frame Assembly 12039 (Long, Plain)	1
21663	Screw for attaching Generator End Frame 26211 (Plain)	2
23232	Screw for attaching Generator End Frame 26211 (Dowel)	2
26181	Stud for Screw 26182	2
26542	Guard for Motor Terminal Clip 26192	1
20791	Lock Washer for Screw 22229	1
22229	Screw for attaching Guard 26542	1
26826	Insulating Plate for Terminal Clip 26192	1
23374	Terminal Clip for connecting Terminal Bracket Assembly 12044	4
26786	Terminal Clip used with Motor Terminal Clip 26192	1
26192	Motor Terminal Clip	1



No. 98 MOTOR GENERATOR



No. 98 MOTOR GENERATOR

No. 98 MOTOR GENERATOR

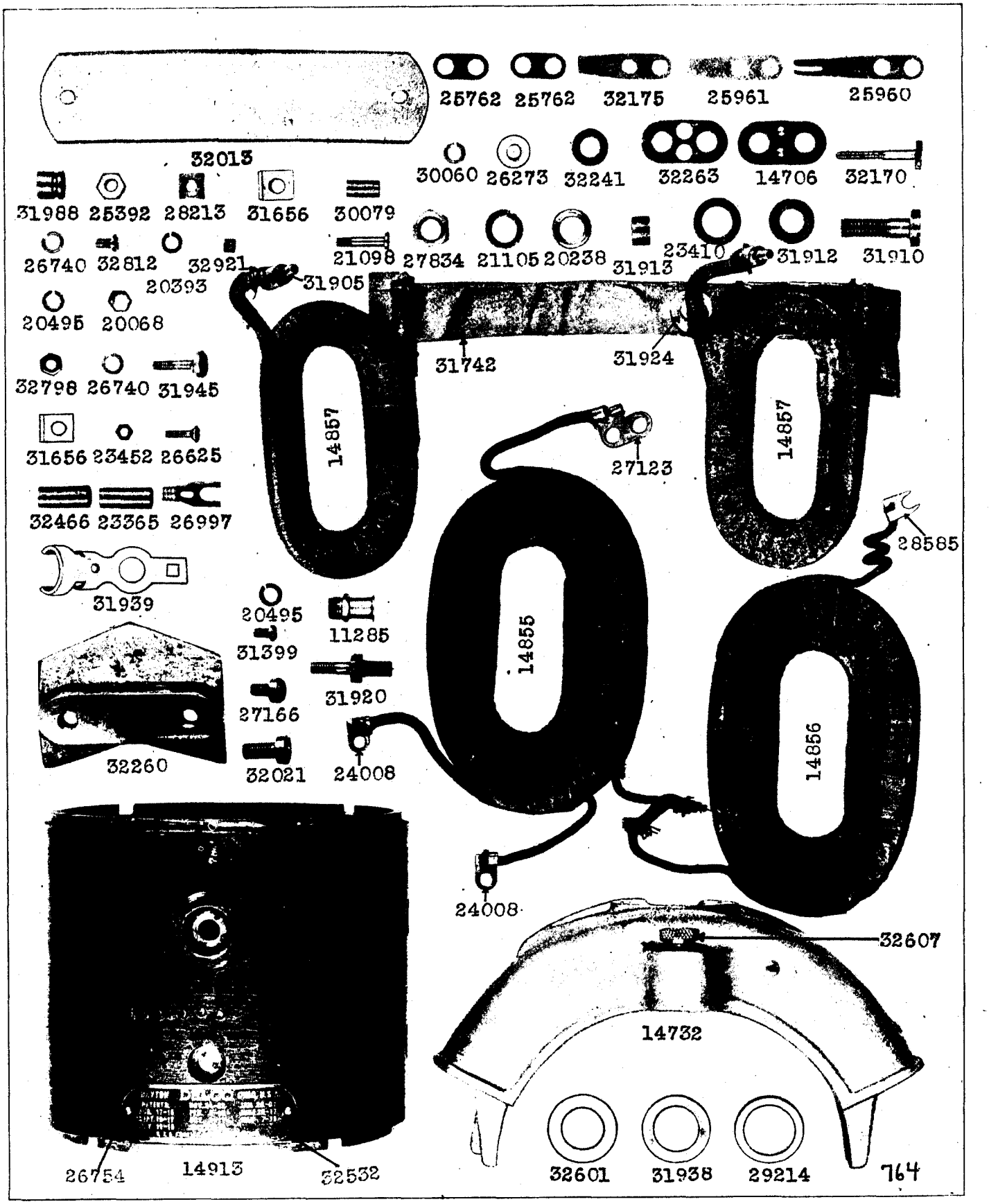
Piece Number	NAME OF PART	Quantity Required
98	**MOTOR GENERATOR COMPLETE**	1
12840	**Generator Frame Assembly**	1
	(Includes the next 3 Items)	
24228	Screw for Binding Generator Frame (Upper)	1
24126	Screw for Binding Generator Frame (Lower)	2
24494	Lock Washer for Screw 24126	2
13076	**Field Coil Assembly**	1
	(Includes the next 7 Items)	
26142	Strap for Motor Terminal Clip 26192	1
23470	Clip on Field Coil Assembly for Third Brush	1
28021	Clip on Field Coil Assembly for Terminal Plate	1
10660	**Motor Brush Plate Assembly**	1
	(Includes the next 2 Items)	
24112	Spring Stud for Motor Brush Plate Assembly 10660	1
22359	Stud for Holding Series Motor Brush Arm Assembly	1
22520	Rivet for retaining Motor Brush Plate Assembly	3
23051	Clip on Motor Brush Plate Assembly 10660 for Generator Switch	1
23197	Lock Plate for Screw 20035	1
20219	Insulator for Clip 23051	2
23226	Insulating Bushing for Screw 20035	2
20035	Screw for retaining Clip 23051	2
23451	Screw for Clip 23051 for retaining Lead Assembly 11999	1
23452	Nut for Screw 23451	1
20393	Lock Washer for Nut 23452	1
26203	Screw for retaining Motor Terminal Clip 26192	2
21163	Lock Washer for Screw 26203	2
12010	**Series Motor Brush Arm Assembly**	1
	(Includes the next 3 Items)	
22084	Spring Stud for Brush Arm Assembly 12010	1
22875	Roll for Brush Arm Assembly 12010	1
25947	Plain Washer for retaining Roll 22875	1
30530	Brush for Series Motor Brush Arm Assembly 12010	1
22751	Screw for attaching Brush 24460	2
22826	Lock Plate for Screw 22751	1
26276	Spring for Series Motor Brush Arm Assembly 12010 (Inner)	1
26274	Plain Washer for retaining Series Motor Brush Arm Assembly 12010	1
20163	Cotter Pin for retaining Series Motor Brush Arm Assembly 12010	1
27675	Spring for Series Motor Brush Arm Assembly 12010 (Outer)	1
25929	Insulator for Field Coil Assembly 12849	2
20125	Insulating Washer for Screw 21147	4
20114	Plain Washer for Screw 21147	2
21717	Lock Washer for Screw 21147	2
21147	Screw for attaching Motor Brush Plate Assembly 10660	2
23282	Insulating Bushing for Screw 21147	2
22570	Wedge for Field Coil Assembly 12849	7
26184	Dowel Stud for connecting Ground Lead (On Side of Frame)	1
21717	Lock Washer for Nut 26265	2
26265	Nut for Dowel 26184	1
27861	End Frame for Generator	1
12988	**Ball Bearing Assembly for Clutch End of Armature Shaft**	1
25406	Retainer for Ball Bearing Assembly 12988 (Inner)	1
22751	Screw for Retainer 25406	4
23277	Lock Washer for Screw 22751	4
24111	Felt Plug for Oil Hole in End Frame 27861 (Not shown in Illustration)	1
21383	Oil Retainer (Felt) for Ball Bearing Assembly 13495	2
12257	**Generator Clutch Assembly Complete**	1
	(Includes the next 8 Items)	
12256	**Generator Clutch Shell and Cam Assembly**	1
26109	Shell for Generator Clutch Shell and Cam Assembly 12256 (Inner)	1
23952	Roll for Generator Clutch Shell and Cam Assembly 12256	3
20017	Plunger for Roll 23952	3
20024	Spring for Plunger 20017	3
23983	Binding Spring for Generator Clutch Assembly 12257	1
27167	Coupling for Generator Clutch Assembly 12257	1
27166	Screw for attaching Coupling 27167	2
11989	**Armature Assembly for Motor Generator**	1
24829	Lock Washer for Clamp Screw 24828	1
24770	Clamp Washer for Generator Clutch Assembly 12257	1
24828	Clamp Screw for Generator Clutch Assembly 12257	1
23192	Spacing Collar on Armature Shaft next to Generator Clutch Assembly 12257	1
13349	**Motor End Frame Assembly**	1
	(Includes the next 2 Items)	
23200	Spring Stud for Motor End Frame Assembly 13349 (Not shown in Illustration)	1
26765	Bushing for Rod 26202	1

No. 98 MOTOR GENERATOR (Continued)

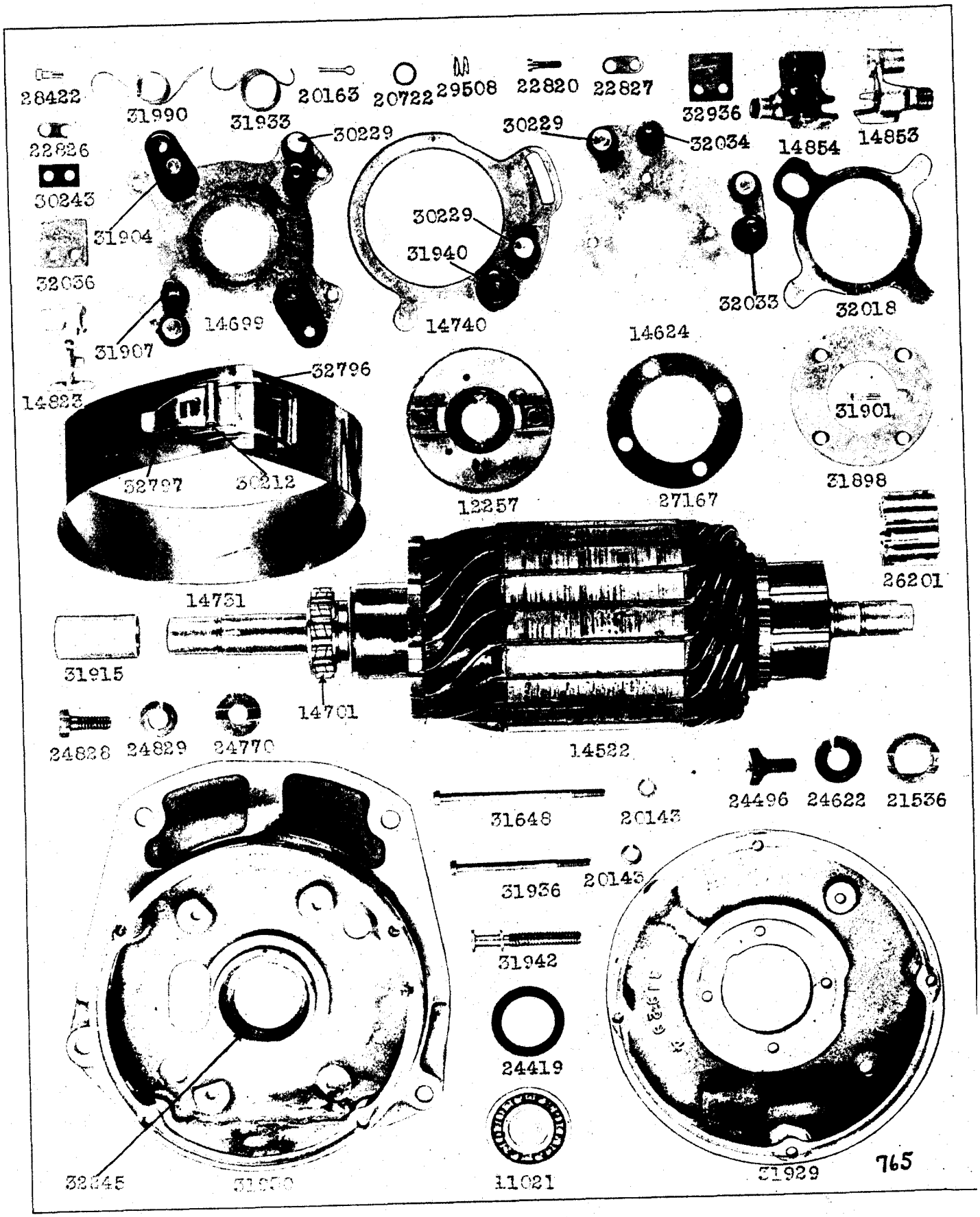
Piece Number	NAME OF PART	Quantity Required
27147	Retainer for Outer Race 25812 (Old Style before Serial No. 9809528) (Not shown in Illustration)	1
30514	Retainer for Outer Race 25812	1
20241	Lock Washer for Screw 20178	1
20178	Screw for retaining Retainer 30514	4
24111	Felt Plug Oil Hole in Motor End Frame Assembly 13349 (Not shown in Illustration)	4
15499	**Ball Bearing Assembly (Pinion End of Armature Shaft)**	1
	Note: When it is necessary to replace either an Old Style Outer Race or Inner Race and Rolls on the Old Style **Roller** Bearing on this Generator an entire new **Ball** Bearing Assembly must be ordered.	
	(Includes the next 2 Items)	
15526	**Inner Race and Balls Assembly for Ball Bearing Assembly 15499**	1
24447	Outer Race for Inner Race and Balls Assembly 15526	1
21703	Oil Retainer (Felt) for Inner Race Balls Assembly 15526	2
12009	**Grounded Motor Brush Arm Assembly**	1
	(Includes the next 3 Items)	
22084	Spring Stud for Grounded Motor Brush Arm Assembly 12009	1
26563	Roll for Brush Arm Assembly 12009	1
25947	Plain Washer for retaining Roll 26563	1
30530	Brush for Grounded Motor Brush Arm Assembly 12009	1
22751	Screw for attaching Brush 30530	1
22826	Lock Plate for Screw 22751	2
25960	Spring on Grounded Motor Brush Arm Assembly 12009 for Generator Switch	1
25961	Plate for Spring 25960	1
25762	Insulating Plate for Spring 25960	3
27160	Insulating Bushing for Screw 21899	2
21899	Screw for attaching Spring 25960	2
12748	**Generator Brush Brackets to Switch Arm Lead Assembly Complete**	1
	(Includes the next 2 Items)	
27929	Clip for Brush Bracket End of Lead Assembly 12748	1
26225	Clip for Switch Arm End of Lead Assembly 12748	1
20790	Plain Washer for Screw 30065	2
20393	Lock Washer for Screw 30065	2
23147	Stud for Holding Grounded Motor Brush Arm Assembly 12009	1
20217	Nut for Stud 23147	1
20725	Lock Washer for Nut 20217	1
21168	Plain Washer for Grounded Motor Brush Arm Assembly 12009 (Outer)	1
26276	Spring for Grounded Motor Brush Arm Assembly 12009 (Inner)	1
26274	Plain Washer Grounded Motor Brush Arm Assembly 12009 (Inner)	1
27675	Spring for Grounded Motor Brush Arm Assembly 12009 (Outer)	1
11728	**Generator Brush Arm Assembly (Right)**	1
	(Includes the next Item)	
25491	Spring Stud for Brush Arm Assembly 11728	1
23079	Brush for Generator Brush Arm Assembly 11728	1
22751	Screw for attaching Brush 23079	2
22817	Lock Plate for Screw 22751	1
11729	**Generator Brush Arm Assembly (Left)**	1
	(Includes the next Item)	
25491	Spring Stud for Brush Arm Assembly 11729	1
23079	Brush for Generator Brush Arm Assembly 11729	1
22751	Screw for attaching Brush 23079	2
22817	Lock Plate for Screw 22751	1
12169	**Third Generator Brush Arm Assembly (Radial)**	1
	(Includes the next Item)	
25491	Spring Stud for Brush Arm Assembly 12169	1
27935	Extension Brush Arm for Third Generator Brush Arm Assembly 12169	1
29361	Third Brush for Third Generator Brush Arm Assembly 12169	1
22817	Lock Plate for Screw 26766	2
26766	Screw for attaching Third Brush 29361	2
25931	Screw for attaching Extension Brush Arm 27935	2
20393	Lock Washer for Screw 25931	2
20810	Plain Washer for Screw 25931 (Not shown in Illustration)	2
11998	**Third Generator Brush to Field Coil Lead Assembly Complete**	1
	(Includes the next 2 Items)	
24010	Clip for Field Coil End of Lead Assembly 11998	1
24008	Clip for Third Brush End of Lead Assembly 11998	1
25356	Spring for Generator Brush Arm Assembly 11729	1
25357	Spring for Generator Brush Arm Assembly 11728	1
25783	Spring for Third Generator Brush Arm Assembly 12169	1
23093	Bracket for Brush Arms	1
20494	Plate for Studs 14547, 25777, 25355 and 25387 (Inner)	2
22145	Plate for Studs 14547, 25777, 25355 and 25387 (Outer)	2
25955	Plate for Studs 25355 and 25387 next to Bracket 23093 (Not shown in Illustration)	2
23623	Insulator for Studs 14547 and 25777	2
25355	Stop Stud for Generator Brush Arm Assembly 11728	1
25387	Stud for holding Generator Brush Arm Assembly 11728	1

No. 98 MOTOR GENERATOR (Continued)

Piece Number	NAME OF PART	Quantity Required
23249	Insulating Bushing for Studs 25777 and 14547	2
20068	Nut for Studs 14547, 25777, 25355 and 25387	4
20495	Lock Washer for Nut 20068	4
25777	Stud for holding Third Generator Brush Arm Assembly 12169 and Generator Brush Arm Assembly 11729	1
14547	**Stop Stud Assembly for Third Brush Arm Assembly 12169**	1
25784	Insulating Sleeve for Stop Stud 14547	1
25779	Insulating Bushing for Third Generator Brush Arm Assembly 12169	1
21036	Insulating Washer for Third Generator Brush Arm Assembly 12169 (Inner	1
21298	Insulating Washer for Third Generator Brush Arm Assembly 12169 (Outer)	1
25723	Cotter Pin for retaining Third Generator Brush Arm Assembly 12169	1
24201	Plain Washer under Cotter Pin 25723	1
20300	Screw for attaching Third Generator Brush to Field Coil Lead Assembly 11998	1
20393	Lock Washer for Screw 20300	1
12008	**Terminal Bracket Assembly**	1
11999	**Motor Brush Plate to Terminal Bracket Lead Assembly Complete** (Includes the next 2 Items)	1
23666	Clip for Motor Brush Plate End of Lead Assembly 11999	1
23374	Clip for Terminal Bracket End of Lead Assembly 11999	1
26625	Screw for attaching Clip 23450	6
20393	Lock Washer for Nut 23452	6
23452	Nut for Screw 26625	6
23450	Clip for Terminal Bracket Assembly 12008	6
12043	**Generator Top Cover Assembly Complete** (Includes the next 3 Items)	1
26180	Name Plate for Top Cover Assembly 12043	1
23627	Rivet for attaching Name Plate 26180	2
26182	Screw for attaching Generator Top Cover Assembly 12043	2
12045	**Motor End Top Cover Assembly Complete** (Includes the next 4 Items)	1
20484	Spring Washer for Screw 26567 (Not shown in Illustration)	2
26567	Screw for attaching Cover Assembly 12045	2
14043	**Bearing Oiler Assembly for Motor End Top Cover Assembly 12045**	1
30639	Wick for Oiler Assembly 14043 (Not shown in Illustration)	1
12046	**Generator End Top Cover Assembly Complete** (Includes the next 4 Items)	1
21531	Screw for attaching Cover Assembly 12046	2
20484	Spring Washer for Screw 21531 (Not shown in Illustration)	2
14043	**Oiler Assembly for Generator End Top Cover Assembly 12046**	1
30639	Wick for Oiler Assembly 14043 (Not shown in Illustration)	1
26202	Rod for Grounded and Series Motor Brush Arm Assembly 12009 and 12010	1
26188	Screw for attaching Generator Brush Holder Bracket Assembly 12845	2
21663	Screw for attaching Motor End Frame Assembly 13349 (Short) (Plain)	1
33529	Screw for attaching Motor End Frame Asembly 13349 (Short) (Dowel)	1
26199	Screw for attaching Motor End Frame Assembly 13349 (Long) (Dowel)	1
26198	Screw for attaching Motor End Fram Assembly 13349 (Long) (Plain)	1
21663	Screw for attaching Generator End Frame 27861 (Plain)	2
33529	Screw for attaching Generator End Frame 27861 (Dowel)	2
26181	Stud for Screw 26182	2
26542	Guard for Motor Terminal Clip 26192	1
20791	Lock Washer for Screw 22229	1
22229	Screw for attaching Guard 26542	1
33530	Cover for Motor End Frame (Side)	1
27864	Gasket for Cover 33530	1
27863	Cover End Frame Assemblies (Bottom)	2
27864	Gasket for Cover 33530	2
20987	Screw for attaching Cover 33530	4
33215	Screw for attaching Cover 33530	2
32817	Lock Washer for Screws 20987 and 33215	6
20808	Retainer for Oil Retainer 21703 (Inner) (Not shown in Illustration)	1
25926	Washer for retaining Inner Race and Rolls Assembly 11823 (Outer)	1
26217	Spacing Sleeve on Armature Shaft for retaining Washer 25926 (Pinion End)	1
26201	Motor Pinion for Armature Shaft	1
21536	Clamp Washer for Motor Pinion 26201	1
24622	Lock Washer for Clamp Screw 24496	1
24496	Clamp Screw for Motor Pinion 26201	1
26826	Insulating Plate for Motor Terminal Clip 26192 (Not shown in Illustration)	1
23374	Terminal Clip for connecting Terminal Bracket Assembly 12008	4
26786	Terminal Clip used with Motor Terminal Clip 26192	1
26192	Motor Terminal Clip	1



No. 162 MOTOR GENERATOR



No. 162 MOTOR GENERATOR

No. 162 MOTOR GENERATOR

Piece Number	NAME OF PART	Quantity Required
162	**MOTOR GENERATOR COMPLETE**	1
31932	**Frame for Motor Generator**	1
32532	Name Plate for Motor Generator	1
32821	Pin for attaching Name Plate	2
32260	Pole Piece for Frame	4
32021	Screw for attaching Pole Piece	7
31920	Stud Screw for attaching Pole Piece	1
14857	**Motor Field Coil Assembly** (Includes next Item)	2
31905	Stud for connecting Motor Field Coil	1
31924	Connector for Connecting Motor Field Coil	1
31742	Insulator for Connector 31924	1
32445	Insulator between Motor Field Coil and Pole Piece	4
14856	**Generator Field Coil Assembly (On same side as Generator Switch** (Includes the next 3 Items)	1
27123	Clip for connecting Coils to Generator Switch	1
24008	Clip for connecting Field Coil to Brush Plate	1
28585	Clip for connecting Field Coil to Brush Plate	1
14855	**Generator Field Coil Assembly (Opposite Field Coil Assembly 14856** (Includes the next Item)	1
24008	Clip for connecting Field Coil to Brush Plate	1
31910	Motor Terminal Stud	1
31912	Insulating Washer for Terminal Stud 31910 (Outside)	1
23410	Insulating Washer for Terminal Stud 31910 (Inside)	1
20238	Plain Washer for Terminal Stud 31910	1
31913	Insulating Bushing for Terminal Stud 31910	1
21105	Lock Washer for Nut 27834	2
27834	Nut for Terminal Stud	2
31929	End Frame for Generator end of Armature Shaft	1
11021	**Ball Bearing Assembly**	1
15386	**Third Brush Arm Plate Assembly** (Includes the next 7 Items)	1
31940	Stud for Third Brush Arm	1
32147	Insulating Bushing for Stud 31940	1
29240	Insulating Washer for Stud 31940	2
20238	Plain Washer for Stud 31940	1
33526	Stud for Third Brush Arm Spring 30241	1
30241	Bushing for Stud 33526	1
30227	Insulating Washer for Stud 33526	3
14624	**Generator Brush Arm Plate Assembly** (Includes the next 8 Items)	1
32033	Stud for Generator Brush Arm (Grounded)	1
32034	Stud for Generator Brush Arm (Insulated)	1
32147	Insulating Bushing for Stud 32034	1
29240	Insulating Washer for Stud 32034	2
30238	Plain Washer for Stud 32034	1
30229	Stud for Generator Brush Arm Spring	2
30241	Insulating Bushing for Stud 30229	2
30227	Insulating Washer for Stud 30229	2
24419	Felt Washer for Ball Bearing Assembly 11021	1
33294	Retainer for Ball Bearing	1
31898	Retainer for Ball Bearing Assembly 11021	1
31901	Screw for attaching Retainer 31898	4
31945	Screw for locking Third Brush Plate	1
20165	Plain Washer for Screw 31945	1
26740	Lock Washer for Screw 31945	1
32798	Nut for Screw 31945	1
31942	Screw for adjusting Brushes (Old Style)	1
14823	**Generator and Third Brush Arm Assembly (Old Style used before Serial No. 162-21351)**	3
33220	Stop for Brush Arm (Old Style)	3
22826	Lock Plate for Screw 22820	3
22820	Screw for attaching Brush (Before Serial No. 162-21351)	6
29508	Tension Spring for Generator Brush Arm (Small)	3
20722	Plain Washer for retaining Springs 29508	3
20163	Cotter Pin for retaining Springs 29508	3
15319	**Generator Brush Arm Assembly** (Includes next 2 Items)	2
33353	Hub for Generator Brush Arm Assembly	1
31990	Spring for Generator Brush Arm Assembly	1

No. 162 MOTOR GENERATOR (Continued)

Piece Number	NAME OF PART	Quantity Required
15411	**Thermostat and Third Brush Arm Assembly** (Includes next 5 Items)	1
33353	Hub for Third Brush Arm Assembly	1
31990	Spring for Third Brush Assembly	1
15166	**Thermostat Resistance Assembly**	1
25091	Screw for attaching Resistance Assembly	2
20647	Lock Washer for Screw 25091	2
33362	Brush for Generator and Third Brush Arm Assembly	3
33355	Screw for attaching Brush 33362	6
33354	Stop Plate for Brush 33362	3
33357	Plate for Brush 33362	3
25091	Screw for attaching Lead to Thermostat and Third Brush Arm Assembly	1
20647	Lock Washer for Screw 25091	1
31930	Motor End Frame	1
14701	**Inner Race and Rolls Assembly for Drive End of Armature Shaft**	1
32245	Outer Race for Inner Race and Rolls Assembly 14701	1
32170	Generator Switch Terminal Stud	2
32920	Lock Plate for Switch Terminal Stud	1
32263	Insulator for Stud 32170 (Next to end Frame)	1
30079	Insulating Bushing for Stud 32170	2
32241	Insulating Washer for Stud 32170	2
26273	Plain Washer for Stud 32170	2
28213	Nut for Stud 32170	2
31656	Clip for Stud 32170	2
30060	Lock Washer for Stud 32170	2
25392	Nut for connecting Generator Lead to Stud 32170	2
14706	**Insulator Assembly for separating Studs 32170**	1
14699	**Motor Brush Plate Assembly** (Includes the next 9 Items)	1
31907	Stud for Motor Brush Arms (Grounded)	2
31904	Stud for Motor Brush Arm (Insulated)	2
30229	Spring Stud for Grounded Motor Brush Arm Spring	2
30241	Insulating Bushing for Stud 30229	2
30227	Insulating Washer for Stud 30229	2
30140	Insulating Bushing for Stud 31904	2
32017	Insulator for Stud 31904	4
31991	Plate for retaining Insulated Brush Arm Studs 31904	2
29499	Plate for retaining Insulated Brush Arm Studs 31904	2
14852	**Motor Brush Arm Assembly (Insulated)**	2
15209	**Motor Brush Arm Assembly (Grounded)**	1
14854	**Motor Brush Arm Assembly (For Generator Switch)**	1
32936	Brush for Motor Brush Arms	4
22820	Screw for attaching Brushes 32936	8
22827	Lock Plate for Screw 22820	4
31933	Brush Arm Springs (For Grounded Motor Brush Arm)	2
32255	Brush Arm Springs for Insulated Brush Arms	2
29508	Tension Spring for Motor Brush Arm	4
20722	Plain Washer for Spring 29508	4
20163	Cotter Pin retaining Tension Springs 29508	4
14522	**Armature Assembly**	1
32601	Spacing Washer for Armature Shaft (Drive end)	1
32528	Washer for Armature Shaft	1
32529	Washer for Armature Shaft	1
32530	Fibre Plug for End Housing	1
31938	Spacing Washer for Armature Shaft (For Roller Bearing (Inner)	1
29214	Washer for Armature Shaft (Next to Generator Clutch)	1
29886	Washer for Armature Shaft (For Roller Bearing Outer)	1
31915	Sleeve for Armature Shaft (Next to Pinion)	1
26201	Pinion for Armature Shaft	1
21536	Clamp Washer for Pinion	1
24496	Screw for retaining Pinion	1
24622	Lock Washer for Screw 24496	1
20068	Nut for attaching Field Coil Stud	2
20495	Lock Washer for Nut 20068	2
31988	Bushing for Insulating Field Coil Stud on Motor Brush Plate	2
32018	Lifting Plate for Motor Brushes	1
20492	Screw for attaching Plate 32018	4
20495	Lock Washer for Screws 20492	4
31648	Screw for attaching Motor End Frame	4
20143	Lock Washer for Screws 31648 and 31946	8
31936	Screw for attaching Generator End Frame	4
26740	Lock Washer for Screw 31936	4
12257	**Generator Clutch Assembly** (Includes the next 8 Items)	1
12256	**Generator Clutch Shell and Cam Assembly**	1
26109	Shell for Clutch Shell and Cam Assembly 12256	1
23952	Roll for Clutch Shell and Cam Assembly	3

No. 162 MOTOR GENERATOR (Continued)

Piece Number	NAME OF PART	Quantity Required
20017	Plunger for Roll	3
20024	Spring for Plunger	3
23983	Binding Spring for Generator Clutch Assembly	1
27167	Coupling for Generator Clutch Assembly	1
27166	Screw for attaching Coupling 27167	3
11285	**Oiler Assembly for Drive end of Generator**	1
24770	Clamp Washer for Generator Clutch	1
24828	Screw for retaining Generator Clutch	1
24829	Lock Washer for Screw 24828	1
31399	Screw for attaching Brush connecting Lead	1
20495	Lock Washer for Screw 31399	2
25762	Insulated Plate for Generator Switch Arm (Short)	1
32175	Insulator for Switch Arm (Long) (Old Style)	1
25960	Contact for Generator Switch	1
25961	Support Plate for Switch Contact	2
32257	Bushing for Screw 26068 (Old Style)	1
32169	Locking Plate for Screw 26068 (Old Style)	2
26068	Screw for attaching Switch Contacts (Old Style)	2
32921	Bushing for Screw 21098	2
21098	Screw for attaching Switch Contacts	2
20790	Plain Washer for Screw 21098	2
20393	Lock Washer for Screw 21098	1
14732	**Top Cover Assembly** (Includes the next 2 Items)	1
32289	Insulator for Top Cover	2
24315	Rivet for attaching Insulator 32289	1
32051	Nut for attaching Top Cover Assembly (Old Style) (Used with Cover without Non-loseable Screw)	1
20137	Lock Washer for Nut 32051	1
27041	Plain Washer for Nut 32051	1
32607	Nut for attaching Top Cover Assembly (Used with Cover with Non-losable Screws)	1
32608	Plain Washer for Nut 32607	1
14731	Cover Band Assembly (Includes next 3 Items)	1
32796	Clamp Spring for Cover Band	1
32797	Latch for Cover Band	1
30212	Pin for attaching Latch	1
32013	Cover Strap for Generator (Lower)	2
32812	Screw for attaching Strap 32013	2
26740	Lock Washer for Screw 32812	1
31939	Motor Terminal Clip	3
26997	Generator Terminal Clip (Open)	3
23365	Fibre Ferrule for Clip 26997	1
21656	Clamp Clip for connecting Motor Generator	1
23553	Screw for Clamp Clip 31656	1
23277	Lock Washer for Nut 23452	1
23452	Nut for Screw 23553	1

No. 1007 IGNITION SWITCH

Note: No. 1007 Ignition Switch superseded by No. 1009 Ignition Switch. When ordering a Complete new unit, order No. 1009)

(Not Illustrated)

Piece Number	NAME OF PART	Quantity Required
1007	**IGNITION SWITCH COMPLETE**	1
12094	**Cover Assembly Complete**	1
	(Includes the next 6 Items)	
26477	Cover for Cover Assembly 12094	1
26478	Push Button for Cover 26477	1
24916	Stud for Push Button 26478	1
24593	Spring for Stud 24916	1
23578	Name Plate for Cover 26477	1
25197	Rivet for Name Plate 23578	2
14106	**Frame Assembly (Service)**	1
	(Includes the next 7 Items)	
25251	Stud for mounting, Switch (Short)	1
24657	Stud for mounting Switch (Long)	1
25187	Spring Stud for Frame Assembly 14106	1
25277	Stud for Retaining Cam 25276	1
25276	Cam for Locking Switch	1
24956	Nut for retaining Screw 25370	4
25193	Dowel Pin for retaining Stud 24657	1
24285	Nut for Frame Assembly 14106	4
24809	Plain Washer for Nut 24285	3
11529	**Locking Plate Assembly**	1
	(Includes the next Item)	
25349	Spring Stud for Locking Plate Assembly 11529	1
24590	Spring for Locking Plate Assembly 11529	1
11405	**Key for locking Ignition Switch 1007**	1
24808	Screw for retaining Cover Assembly 12094	4
11253	**Spring Terminal Assembly (Battery and Magneto)**	2
	(Includes the next 3 Items)	
11437	**Spring Terminal Assembly for Spring Terminal Assembly 11253**	1
24833	Terminal Post for Spring Terminal Assembly 11253	1
25191	Dowel Pin for Spring Terminal Assembly 11253	1
11359	**Spring Terminal Assembly (Center)**	1
	(Includes the next 3 Items)	
11437	**Spring Terminal Assembly for Spring Terminal Assembly 11359**	1
14004	**Terminal Post for Spring Terminal Assembly 11359**	1
24614	Dowel Pin for Spring Terminal Assembly 11359	1
11614	**Contact Assembly for Push Button (Long)**	1
11314	**Contact Assembly (Long Contact for Battery)**	1
11315	**Contact Assembly (Short Contact for Battery)**	1
11375	**Contact Assembly (Outer Contact for Magneto)**	1
11357	**Contact Assembly (Inner Contact for Magneto)**	1
25370	Screw for retaining Contact Assemblies 11314, 11315, 11357 and 11375	4
25375	Screw for retaining Contact Assembly 11614	2
24803	Insulating Bushing for Screw 25375	2
24804	Insulating Bushing for Screw 25370	4
24656	Insulating Bushing for Lever Assembly 11155	2
11155	**Lever Assembly**	1
25162	Plate for retaining Lever Assembly 11155	1
24867	Screw for retaining Plate 25162 (Large)	1
24957	Screw for retaining Plate 25162 (Small)	1
25255	Plain Washer for Screw 24957	1
24598	Connector for Contact Assemblies 11614 and 11315	1
24592	Separator between Contact Assemblies 11314 and 11357 and Frame Assembly 11534 (Short)	2
24837	Insulator for Contact Assembly 11614	3
24658	Insulator for Contact Assemblies 11314 and 11315	5
24838	Insulator between Contact Assemblies 11357 and 11375 (Long)	1
24897	Insulating Washer for Screws 25370 and 25375	6
24954	Insulating Plate for Ignition Switch Assembly 1007	1
24971	Bushing for retaining Screw 25375	2
24591	Separator between Contact Assemblies 11314 and 11357 and Frame Assembly 14106	2
24959	Stop Screw for Locking Plate Assembly 11529	1

No. 1009 IGNITION SWITCH

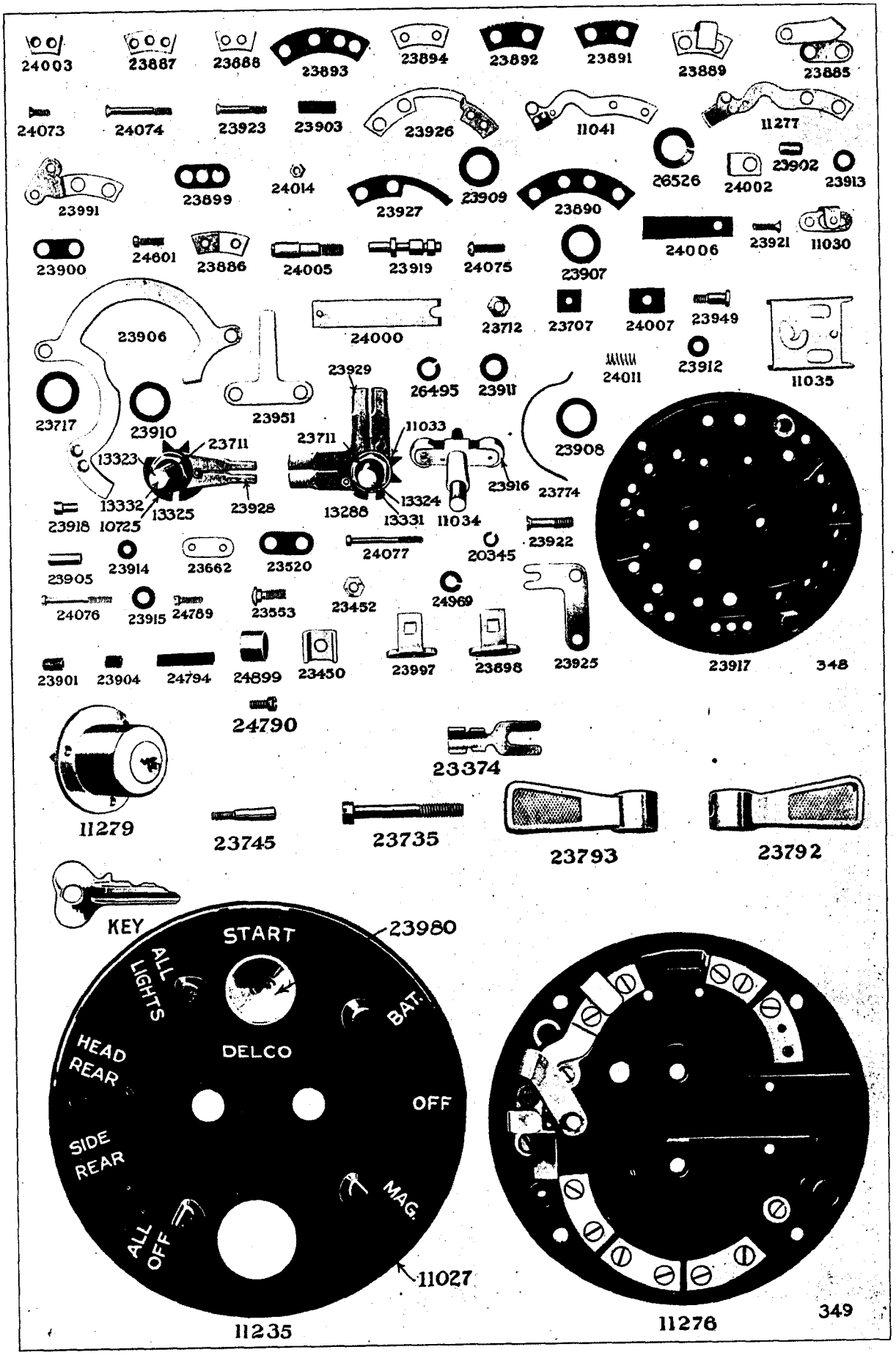
(Not Illustrated)

Piece Number	NAME OF PART	Quantity Required
1009	**IGNITION SWITCH COMPLETE**	1
11506	**Cover Assembly Complete**	1
	(Includes the next 6 Items)	
26477	Cover for Cover Assembly 11506	1
28166	Push Button for Cover 26477	1
25200	Stud for Push Button 28166	1
24593	Spring for Stud 25200	1
23576	Name Plate for Cover 26477	2
14107	**Frame Assembly (Service)**	1
	(Includes the next 7 Items)	
24786	Stud for mounting Switch (Short)	1
24759	Stud for mounting Switch (Long)	1
25193	Pin for retaining Stud 24759	1
25187	Spring Stud for Frame Assembly 14107	1
25277	Stud for retaining Cam 25276	1
25276	Cam for Locking Switch	1
24956	Nut for retaining Screw 25370	4
24285	Nut for Frame Assembly 14107	3
24809	Plain Washer for Nut 24285	2
11529	**Locking Plate Assembly**	1
	(Includes the next Item)	
25349	Spring Stud for Locking Plate Assembly 11529	1
24590	Spring for Locking Plate Assembly 11529	1
11405	**Key for locking Ignition Switch 1009**	1
24808	Screw for retaining Cover Assembly 11506	4
11394	**Terminal Asssembly (Center)**	1
11437	**Spring Terminal Assembly for Spring Terminal Assembly 11394**	1
	(Includes the next 3 Items)	
25120	Terminal Post for Spring Terminal Assembly 11394	1
24614	Dowel Pin for Spring Terminal Assembly 11394	1
11253	**Terminal Assembly (Magneto and Battery)**	2
	(Includes the next 3 Items)	
11437	**Spring Terminal Assembly for Spring Terminal Assembly 11253**	1
24833	Terminal Post for Spring Terminal Assembly 11253	1
25191	Dowel Pin for Spring Terminal Assembly 11253	1
11504	**Contact Assembly (Short Contact for Push Button)**	1
11614	**Contact Assembly (Long Contact for Push Button)**	1
11592	**Contact Assembly (Center Contact for Battery)**	1
11315	**Contact Assembly (Outer Contact for Battery)**	1
11314	**Contact Assembly (Inner Contact for Battery)**	1
11357	**Contact Assembly (Inner Contact for Magneto)**	1
11375	**Contact Assembly (Outer Contact for Magneto)**	1
25370	Screw for retaining Contact Assemblies 11357, 11375, 11314, 11315 and 11592	4
24968	Insulating Bushing on Screw 25370 for Contact Assemblies 11375 and 11357	2
24805	Insulating Bushing on Screw 25370 for Contact Assemblies 11314, 11315 and 11592	2
24971	Bushing for retaining Screw 24810	2
24605	Insulating Bushing for Screw 24810	2
24810	Screw for retaining Contact Assemblies 11504 and 11614	2
11307	**Spring Terminal Assembly for Frame Assembly 14107**	1
24954	Insulating Plate for Ignition Switch 1009	1
25162	Plate for retaining Lever Assembly 11305	1
24867	Screw for retaining Plate 25162 (Large)	1
24957	Screw for retaining Plate 25162 (Small)	1
25255	Plain Washer for Screw 24957	1
24959	Stop Screw for Locking Plate Assembly 11529	1
24656	Insulating Bushing for Lever Assembly 11305	2
24598	Connector (Wide)	1
24807	Connector (Narrow)	1
24837	Insulator (Thick)	3
24658	Insulator (Thin)	6
24838	Insulator for Contact Assembly 11375 (Long)	1
24603	Insulator for Contact Assembly 11504 (Long)	1
24591	Separator for Contact Assemblies 11314 and 11357	2
24897	Insulating Washer for Screws 25370 and 24810	6
11305	**Lever Assembly**	1

No. 1018 IGNITION SWITCH

(Not Illustrated)

Piece Number	NAME OF PART	Quantity Required
1018	**IGNITION SWITCH COMPLETE**	1
11542	**Cover Assembly Complete**	1
	(Includes the next 6 Items)	
25231	Cover for Cover Assembly 11542	1
24644	Push Button for Cover Assembly 11542	1
24916	Stud for Push Button 24644	1
24593	Spring for Stud 24916	1
23580	Name Plate for Cover 25231	1
24304	Rivet for Name Plate 23580	2
14107	**Frame Assembly (Service)**	1
	(Includes the next 7 Items)	
24786	Stud for mounting Switch (Short)	1
24759	Stud for mounting Switch (Long)	1
25193	Pin for retaining Stud 24759	1
25187	Spring Stud for Frame Assembly 14107	1
25277	Stud for retaining Cam 25276	1
25276	Cam for locking Switch	1
24956	Nut for retaining Screw 25370	4
24285	Nut for Frame Assembly 14107	3
24809	Plain Washer for Nut 24285	2
11529	**Locking Plate Assembly**	1
	(Includes the next Item)	
25349	Spring Stud for Locking Plate Assembly 11529	1
24590	Spring for Locking Plate Assembly 11529	1
11405	**Key Assembly for locking Ignition Switch 1018**	1
11359	**Terminal Assembly (Short Contact for Push Button)**	1
	(Includes the next 3 Items)	
11437	**Spring Terminal Assembly for Spring Terminal Assembly 11359**	1
14004	**Terminal Post for Spring Terminal Assembly 11359**	1
24614	Dowel Pin for Spring Terminal Assembly 11359	1
11614	**Contact Spring Assembly (Long Contact for Push Button)**	1
24808	Screw for retaining Cover Assembly 11542	4
24837	Insulator between Terminal Assembly 11359 and Contact Spring Assembly 11614	2
24598	Connector for Contact Spring Assembly 11614 and Contact Spring Assembly 11315	1
24897	Plain Washer for Screw 25375	1
24658	Insulating Plate for Screw 25375	1
24971	Bushing for retaining Screw 25375	2
25375	Screw for retaining Contact Spring Assembly 11614	1
11253	**Spring Terminal Assembly (Outer)**	2
	(Includes the next 3 Items)	
11437	**Spring Terminal Assembly for Spring Terminal Assembly 11253**	1
24833	Terminal Post for Spring Terminal Assembly 11253	1
25191	Dowel Pin for Spring Terminal Assembly 11253	1
11252	**Spring Terminal Assembly (Inner)**	1
	(Includes the next 3 Items)	
11437	**Spring Terminal Assembly for Spring Terminal Assembly 11252**	1
25378	Terminal Post for Spring Terminal Assembly 11252	1
25191	Dowel Pin for Spring Terminal Assembly 11252	1
11307	**Spring Terminal Assembly for Frame Assembly 14107**	1
11315	**Contact Spring Assembly for Battery and Magneto (Short)**	2
11314	**Contact Spring Assembly for Battery and Magneto (Long)**	2
25370	Screw for retaining Contact Spring Assemblies 11314 and 11315	4
24805	Insulating Bushing for Screw 25370	4
25162	Plate for retaining Lever Assembly 11260	1
24867	Screw for retaining Plate 25162 (Large)	1
24957	Screw for retaining Plate 25162 (Small)	1
24656	Insulating Bushing for Lever Assembly 11260	2
25255	Plain Washer for Screw 24957	1
24591	Separator for Contact Spring Assembly 11314 (Long)	1
24592	Separator for Contact Spring Assembly 11314 (Short)	1
24959	Stop Screw for Locking Plate Assembly 11529	1
24803	Insulating Bushing for Screw 25375	2
25084	Insulating Plate for Ignition Switch 1018	1
24897	Plain Washer for Screw 25370	4
11260	**Lever Assembly**	1



No. 1035 COMBINATION SWITCH

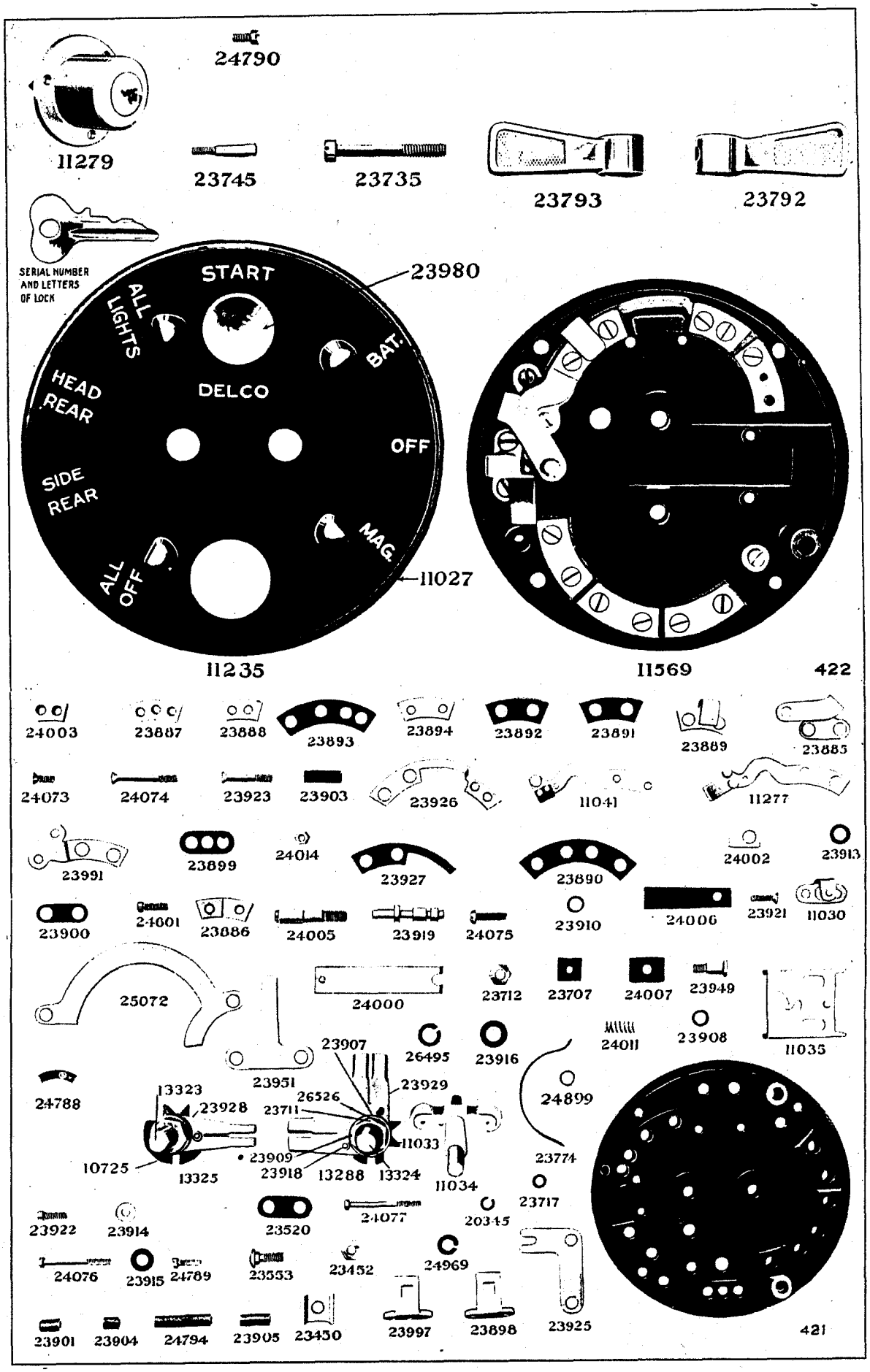
No. 1035 COMBINATION SWITCH

(No. 1035 Combination Switch is superseded by No. 1040 Combination Switch. When ordering a complete new Switch order No. 1040.)

Piece Number	NAME OF PART	Quantity Required
1035	**COMBINATION SWITCH COMPLETE**	1
11235	**Housing Assembly Complete** (Includes the next 3 Items)	1
11027	**Housing Assembly**	1
23980	Push Button for Housing Assembly 11235	1
23979	Screw Stud for Push Button 23980 (Not shown in Illustration)	1
11279	**Lock Assembly for locking Switch** (Includes the next Item)	2
29958	Key for Lock Assembly 11279 (Give Series No. of Lock)	8
23374	Terminal Clip for connecting Switch	1
23917	Mounting Plate for Switch	7
23898	Terminal Post for Terminals 1, 2, 3, 4, 6,7 and 8	8
23553	Screw for retaining Clip 23450	8
23452	Nut for Screw 23553	8
24969	Lock Washer for Nut 23452	1
23450	Clip for retaining Terminal Clip 23374	1
23997	Terminal Post for Terminal Post No. 5	1
23991	Connector for Terminal No. 8 and Contact Spring Assembly 11277	1
23662	Plate for Blank Terminal	1
11041	**Contact Spring Assembly (Upper Contact Arm) for Starting Button**	1
11277	**Contact Spring Assembly (Lower Contact Arm) for Starting Button**	1
23926	Plate for connecting Terminals No. 5 and 6	1
23885	Bracket for supporting Plunger 23919	1
11030	**Contact Bracket Assembly for Starting Button**	1
23919	Plunger Stud for operating Contact Spring Assemblies 11041 and 11277	1
23894	Contact Plate for connecting Terminals No. 2, 3 and 6	1
23886	Plate for connecting Terminal No. 1	1
23887	Plate for connecting Plate 23888 and Plate 23906	1
23888	Plate for connecting Terminal No. 5	1
23889	Plate for connecting Plate 23926 and Terminal No. 6	1
23927	Insulating Plate under Plate 23926	1
23890	Insulating Plate for Contact Plate 23894 for Terminals No. 2 and 3	2
23891	Insulating Plate for Plates 23886 and 23894	2
23892	Insulating Plate for Contact Spring Assembly 11041 (Thin)	1
23893	Insulating Plate for Plates 23887 and 23888	1
23900	Insulator for Connector 23991	10
23520	Insulating Plate for Terminal Post No. 1, 2, 3, 4, 6, 7, 8	1
23899	Insulating Plate for Terminal Post No. 5	1
23901	Insulating Bushing for Screw 24077	2
23902	Insulating Bushing for Screw 23921	10
23903	Insulating Bushing for Screw 23923	1
23904	Insulating Bushing for Screw 23789	2
23905	Insulating Bushing for Screw 23922	1
23912	Plain Washer for Screw 23789	1
23911	Insulating Washer for Screw 23789	10
23923	Screw for retaining Terminals 1, 2, 3, 5, and 6	2
24601	Screw for retaining Terminal No. 8	1
23922	Screw for retaining Terminal No. 1 (Short Screw)	1
24789	Screw for retaining Terminal No. 4 (Short Screw)	2
23921	Screw for retaining Terminal No. 7	1
15454	**Brush Assembly Complete (For Lighting)** (Includes the next 14 Items)	1
13324	**Stud Assembly** (Includes the next Item)	1
23747	Pin for Stud Assembly 13324 (Not shown in Illustration)	2
23929	Contact Arm for Brush Assembly 15454	1
11033	**Stop Disc Assembly** (Includes the next Item)	1
23946	Stud for Stop Disc Assembly 11033 (Not shown in Illustration)	1
23918	Insulating Bushing for Stop Disc Assembly 11033	1
24899	Insulating Bushing for Stud Assembly 13324	1
23717	Plain Washer for Stop Disc Assembly 11033	1
23910	Insulating Washer for Stop Disc Assembly 11033	1
23711	Nut for Clamping Brush Assembly 15454	1
26526	Lock Washer for Nut 23711	1
23909	Plain Washer for Nut 23711	1
23907	Insulating Washer for Nut 23711	2
23908	Plain Washer between Contact Arms 23929	

No. 1035 COMBINATION SWITCH (Continued)

Piece Number	NAME OF PART	Quantity Required
15453	**Brush Assembly Complete (For Ignition)** (Includes the next 14 Items)	1
13323	**Stud Assembly** (Includes the next Item)	1
23747	Pin for Stud Assembly 13323 (Not shown in Illustration)	1
23928	Contact Arm for Brush Assembly 15453	2
10725	**Stop Disc Assembly** (Includes the next Item)	1
23946	Stud for Stop Disc Assembly 10725 (Not shown in Illustration)	1
23918	Insulating Bushing for Stop Disc Assembly 10725	1
24899	Insulating Bushing for Stud Assembly 13332	1
23717	Plain Washer for Stop Disc Assembly 10725	1
23910	Insulating Washer for Stop Disc Assembly 10725	1
23711	Nut for clamping Brush Assembly 13323	1
26526	Lock Washer for Nut 23711	1
23909	Plain Washer for Nut 23711	1
23907	Insulating Washer for Nut 23711	2
23908	Plain Washer for Contact Arms 23928	2
24005	Screw for retaining Brush Assemblies 15454 and 15453	2
23712	Nut for Screw 24005	2
20495	Lock Washer for Nut 23712	1
11034	**Roller Arm Assembly**	1
24002	Contact Plate for Contact Spring Assembly 11277	1
23906	Upper Contact Plate for Brush Assemblies 15453 and 15454	1
23925	Plate for retaining Spring 23951	1
11035	**Tumbler Assembly (Sliding Plate for Locking Switch)** (Includes the next Item)	1
23938	Pin for Tumbler Assembly 11035 (Not shown in Illustration)	1
24000	Slide (For Locking Plunger 23919)	2
23774	Tension Spring for Roller Arm Assembly 11034	1
23951	Spring for operating Plunger 23919	1
24006	Insulator Plate for Spring 23951	1
24007	Insulator Plate for Tension Spring 23774	1
24003	Spacing Plate between Plates 23906 and 23887	1
24011	Spring for Tumbler Assembly 11035	1
24014	Nut for Screw 24077	1
23707	Nut for Screw 24075	1
24794	Insulating Bushing for Screw 24076	1
23901	Insulating Bushing for Screw 24601	4
24969	Lock Washer for Screw 23735	1
20345	Lock Washer for Nut 24014	2
23915	Insulating Washer for Plates 23906 and 24007	1
23916	Insulating Washer for Roller Arm Assembly 11034	1
23913	Insulating Washer for Screw 24077	2
23914	Plain Washer for Screws 24076 and 24077	2
23793	Lever for operating Brush Assembly 15453	2
23745	Screw for retaining Lever 23793	3
24790	Screw for retaining Lock Assembly 11279	2
23949	Screw for retaining Tumbler Assembly 11035	1
24077	Screw for retaining Plates 23906 and 24002	1
24074	Screw for connecting Plate 23906 and Blank Terminal (Long Screw)	1
24076	Screw for retaining Terminal No. 4 (Long Screw)	1
24073	Screw for retaining Plate 23906 (Short)	1
24075	Screw for retaining Tension Spring 23774	4
23735	Screw for retaining Housing Assembly 11235	



No. 1042 COMBINATION SWITCH

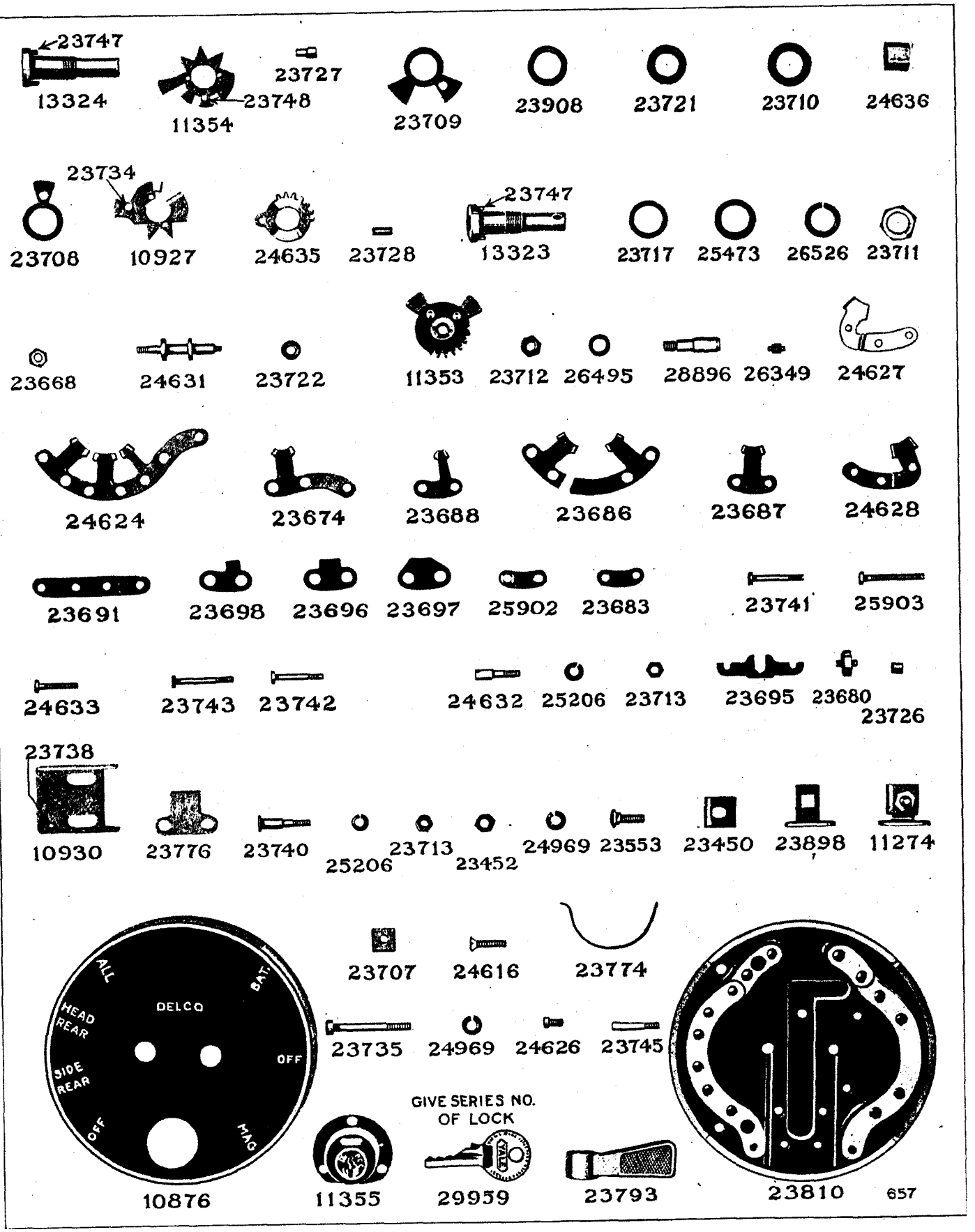
No. 1042 COMBINATION SWITCH

(No. 1042 Combination Switch is superseded by No. 1040 Combination Switch. When ordering a complete new switch order No. 1040.

Piece Number	NAME OF PART	Quantity Required
1042	**COMBINATION SWITCH COMPLETE**	1
11235	**Housing Assembly Complete** (Includes the next 3 Items)	1
11027	**Housing Assembly for Housing Assembly 11235**	1
23980	Push Button for Housing Assembly 11235	1
23979	Screw Stud for Push Button 23980 (Not shown in Illustration)	1
24952	Mounting Plate for Mounting Assembly 11569	8
23898	Terminal Post for Terminals 1, 2, 3, 4, 6, 7, 8 and 9	9
23553	Screw for retaining Clip 23450	9
23452	Nut for Screw 23553	9
20393	Lock Washer for Nut 23452	9
23450	Clip for retaining Terminal Clips to Combination Switch	1
23997	Terminal Post for Terminal Post No. 5	1
23991	Connector for Terminal No. 8 and Contact Spring Assembly 11277	1
11041	**Contact Spring Assembly (Upper Contact Arm for Starting Button)**	1
11277	**Contact Spring Assembly (Lower Contact Arm for Starting Button)**	1
23926	Plate connecting Terminals Nos 5 and 6	1
23885	Bracket for supporting Plunger Stud 23919	1
11030	**Contact Bracket Assembly for Starting Button**	1
23919	Plunger Stud for operating Contact Spring Assemblies 11041 and 11277	3
23894	Plate for connecting Terminals Nos. 2, 3, and 6	1
23886	Plate for connecting Terminal No. 1	1
23887	Plate for connecting Plates 23888 and 23926	1
23888	Plate for connecting Terminal No. 5	1
23889	Plate for connecting Plate 23926 and Terminal No. 6	1
23927	Insulating Plate under Plate 23926	2
23890	Insulating Plate for Plate 23894 and Terminals Nos. 2 and 3	2
23891	Insulating Plate for Plates 23886 and 23894 and Contact Spring Assembly 11041 (Thick)	2
23892	Insulating Plate for Contact Spring Assembly 11041 (Thin)	1
23893	Insulating Plate for Plates 23887 and 23888	1
23900	Insulating Plate for Connector 23991	10
23520	Insulating Plate for Terminal Post No. 1, 2, 3, 4, 6, 7, 8, 9	1
23899	Insulating Plate for Terminal Post No. 5	3
23901	Insulating Bushing for Screws 24077 and 24601	2
23902	Insulating Bushing for Screw 23921 (Not shown in Illustration)	10
23903	Insulating Bushing for Screw 23923	1
23904	Insulating Bushing for Screw 23789	2
23905	Insulating Bushing for Screw 23922	1
23912	Plain Washer for Screw 24789 (Not shown in Illustration)	1
23911	Insulating Washer for Screw 24789 (Not shown in Illustration)	10
23923	Screw for retaining Terminals Nos. 1, 2, 3, 6, and 5	2
24601	Screw for retaining Terminal No. 8	1
23922	Screw for retaining Terminal No. 1 (Short Screw)	1
24789	Screw for retaining Terminal No. 4 (Short Screw)	2
23921	Screw for retaining Terminal No. 7	1
15454	**Brush Assembly Complete (For Lighting)** (Includes the next 14 Items)	1
13324	**Stud Assembly** (Includes the next Item)	1
23747	Pin for Stud Assembly 13324 (Not shown in Illustration)	2
23929	Contact Arm for Brush Assembly 15454 (Includes the next Item)	1
11033	**Stop Disc Assembly** (Includes the next Item)	1
23946	Stud for Stop Disc Assembly 11033 (Not shown in Illustration)	1
23918	Insulating Bushing for Stop Disc Assembly 11033	1
24899	Insulating Bushing for Stud Assembly 13324	1
23717	Plain Washer for Stop Disc Assembly 11033	1
23910	Insulating Washer for Stop Disc Assembly 11033	1
23711	Nut for clamping Brush Assembly 13288	1
26526	Lock Washer for Nut 23711	1
23909	Plain Washer for Nut 23711	1
23907	Insulating Washer for Nut 23711	2
23908	Plain Washer for Contact Arm 23929	1
15453	**Brush Assembly Complete (For Ignition)** (Includes the next 14 Items)	1
13323	**Stud Assembly** (Includes the next Item)	1
23747	Pin for Stud Assembly 13323 (Not shown in Illustration)	2
23928	Contact Arm for Brush Assembly 15453	

No. 1042 COMBINATION SWITCH (Continued)

Piece Number	NAME OF PART	Quantity Required
10725	**Stop Disc Assembly** (Includes the next Item)	1
23946	Stud for Stop Disc Assembly 10725 (Not shown in Illustration)	1
23918	Insulating Bushing for Stop Disc Assembly 10725	1
24899	Insulating Bushnig for Stud Assembly 13323 (Not shown in Illustration)	1
23717	Plain Washer for Stop Disc Assembly 10725	1
23910	Insulating Washer for Stop Disc Assembly 10725	1
23711	Nut for clamping Brush Assembly 15453	1
26526	Lock Washer for Nut 23711	1
23909	Plain Washer for Nut 23711	1
23908	Plain Washer for Contact Arm 13928	2
23907	Insulating Washer for Nut 23711	1
24005	Screw for retaining Brush Assemblies 15453 and 15454	2
23712	Nut for Screw 24005	2
20495	Lock Washer for Nut 23712	2
23913	Insulating Washer for Screw 24077	1
23914	Plain Washer for Screws 24076 and 24077	1
23793	Lever for operating Brush Assembly 15453	2
23745	Screw for retaining Lever 23793	2
24788	Segment for Terminal No. 5 (Upper)	1
11279	**Lock Assembly for connecting Switch** (Includes the next Item)	1
29958	Key for Lock Assembly 11279 (Give Series No. of Lock)	2
24790	Screw for retaining Lock ssembly 11279	3
24077	Screw for retaining Plate 24002 and Segment 24788	1
24074	Screw for retaining Terminal No. 9 (Long Screw)	1
24076	Screw for retaining Terminal No. 4 (Long Screw)	1
24073	Screw for retaining Plate 25072 (Short Screw)	1
24075	Screw for retaining Spring 23774	1
23735	Screw for retaining Housing Assembly 11235	4
11034	**Roller Arm Assembly**	1
24002	Contact Plate for Contact Spring Assembly 11277	1
25072	Upper Contact Plate for Brush Assembly 13288	1
23925	Plate for retaining Spring 23951	1
11035	**Tumbler Assembly for Locking Switch** (Includes the next Item)	1
23938	Pin for Tumbler Assembly 11035 (Not shown in Illustration)	1
24000	Slide (For locking Push Button)	1
23774	Tension Spring for Roller Arm Assembly 11034	2
23951	Spring for operating Plunger Stud 23919	1
24006	Insulating Plate for Spring 23774	1
24007	Insulating Plate for Tension Spring 23774	1
24003	Spacing Plate between Plate 23887 and Segment 24788	1
24011	Spring for Tumbler Assembly 11035	1
24014	Nut for Screw 24077	1
23707	Nut for Screw 24075	1
24794	Insulating Bushing for Screw 24076	1
20393	Lock Washer for Screw 23735	2
20345	Lock Washer for Nut 24014	1
23916	Insulating Washer for Roller Arm Assembly 11034	1
23915	Insulating Washer for Plates 25072 and 24007	2
23949	Screw for retaining Tumbler Assembly 11035	2



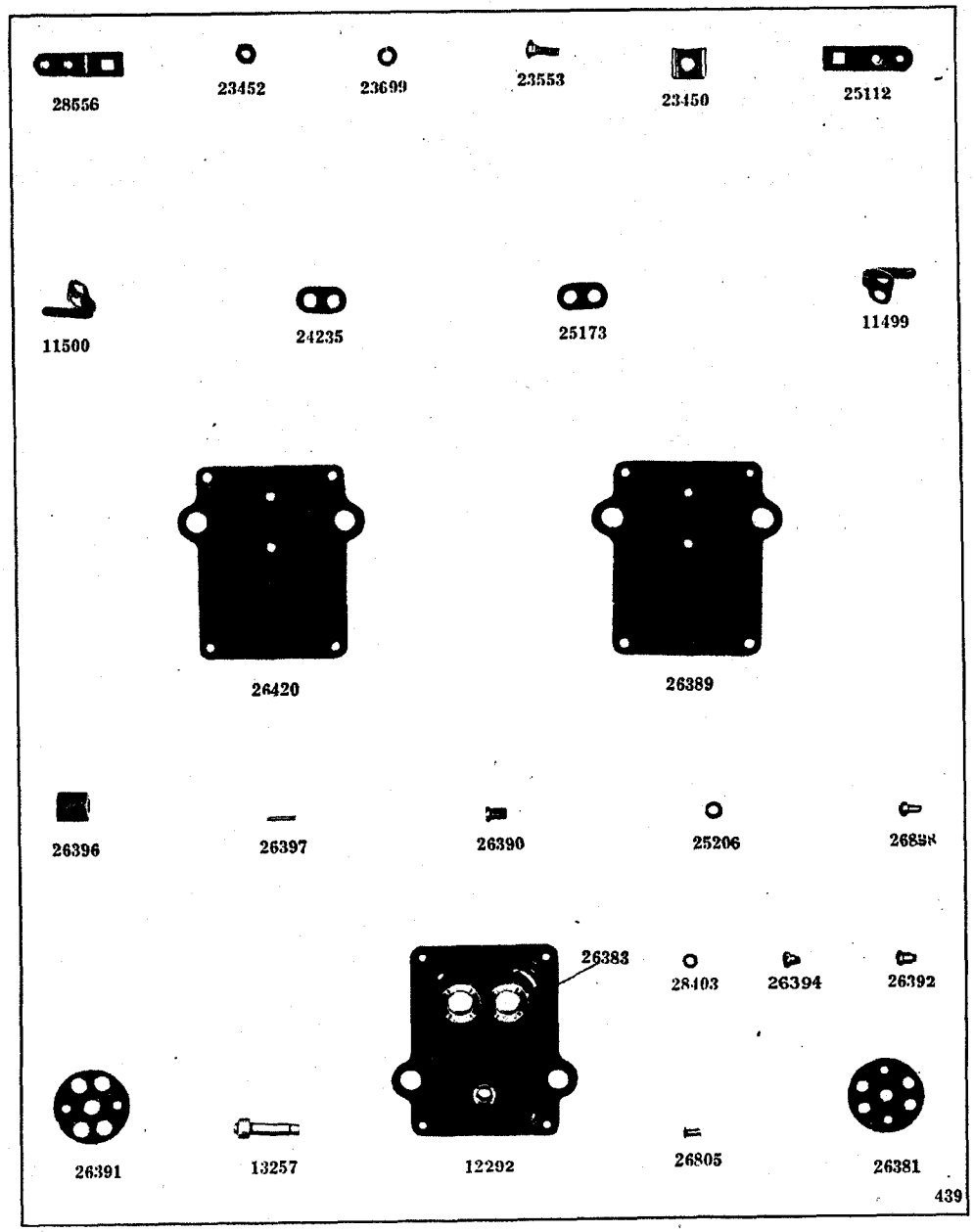
No. 1045 COMBINATION SWITCH

No. 1045 COMBINATION SWITCH

Piece Number	NAME OF PART	Quantity Required
1045	**COMBINATION SWITCH COMPLETE**	1
10876	**Housing Assembly**	1
10930	**Tumbler Assembly for locking Switch** (Includes the next Item)	1
23738	Stud for Tumbler Assembly 10930	2
23740	Screw for retaining Tumbler Assembly 10930	1
23776	Spring for retaining Tumbler Assembly 10930	5
23713	Nut for Screws 23740, 24632 and Stud 24631	5
25206	Lock Washer for Nut 23713	2
24632	Stop Screw for Blade Assemblies 13326 and 13327	1
11353	**Gear Wheel Assembly**	3
23668	Nut for retaining Gear Wheel Assembly 11353 and Screw 23742	1
23722	Plain Washer for Nut 23668	1
23695	Retainer for Roller 23680	2
23680	Roller for Blade Assemblies 13326 and 13327	1
24631	Stud for Retainer 23695	1
11355	**Lock Assembly** (Includes the next Item)	2
29959	Key for Lock Assembly 11355 (Give Series No. of Lock)	3
24626	Screw for retaining Lock Assembly 11355	4
23735	Screw for retaining Housing Assembly 10876	4
20393	Lock Washer for Screw 23735	2
23793	Lever for operating Blade Assemblies 13326 and 13327	2
23745	Screw for retaining Lever 23793	2
28896	Stud for retaining Blade Assemblies 13326 and 13327	2
23712	Nut for Stud 28896	2
20495	Lock Washer for Nut 23712	8
23898	Terminal Post for Terminal Post	8
23553	Screw for retaining Clip 23450	8
23452	Nut for Screw 23553	8
20393	Lock Washer for Nut 23452	8
23450	Clip for retaining Terminal Clip 23774	10
23743	Screw for retaining Terminals Nos. 1, 2, 3, 5 and 6	10
23726	Insulating Bushing for Screw 23743	1
23691	Plate under Terminal No. 4	2
23742	Screw for retaining Plate 23691	1
24616	Screw for retaining Spring 23774	2
23774	Spring for Retainer 23695	1
23707	Nut for Screw 24616	1
23683	Plate for retaining Screw 23741	2
23741	Screw for retaining Terminal No. 4	2
25903	Screw for retaining Brush 24628	1
24628	Brush for Terminal No. 7	1
24627	Brush for Terminal No. 8	1
26349	Insulating Stud for Brushes 24627 and 24628	1
23810	Mounting Plate for Terminal Post	
23686	Brush for Terminals Nos. 5 and 6 (Upper for Terminal No. 5 and Lower for Terminal No. 6)	1
23674	Brush for Terminal No. 5 (Lower)	1
23687	Brush for Terminals Nos. 2, 3 and 6 (Upper)	3
23688	Brush for Terminal No. 1 (Upper)	1
24624	Brush for Terminals Nos. 1, 2 and 3 (Lower)	1
23698	Insulating Plate for Terminal No. 1	1
23697	Insulating Plate for Terminal No. 6 (Lower)	4
23696	Insulating Plate for Terminals Nos. 2, 3 and 5	2
25902	Spacing Plate for Brush 24628	2
24633	Screw for retaining Brush 24627	1
13326	**Blade Assembly Complete (For Ignition)** (Includes the next 13 Items)	1
13323	**Stud Assembly** (Includes the next Item)	1
23747	Pin for Stud Assembly 13323	1
10927	**Stop Disc Assembly** (Includes the next Item)	1
23734	Stud for Stop Disc Assembly 10927	1
24635	Gear for Blade Assembly 13326	1
23711	Nut for Clamping Blade Assembly 13326	1
26526	Lock Washer for Nut 23711	1
23708	Blade for Blade Assembly 13326	2
23710	Insulating Washer for Blade 23708	2
23717	Plain Washer for Stop Disc Assembly 10927 (Thick)	2
25473	Plain Washer for Gear 24635 (Thin)	

No. 1045 COMBINATION SWITCH (Continued)

Piece Number	NAME OF PART	Quantity Required
24636	Insulating Bushing for Stud Assembly 13323	1
23728	Insulating Bushing for Stop Disc Assembly 10927	1
13327	**Blade Assembly Complete (For Lighting)** (Includes the next 14 Items)	1
13324	**Stud Assembly** (Includes the next Item)	1
23747	Pin for Stud Assembly 13324	1
11354	**Stop Wheel Assembly** (Includes the next Item)	1
23748	Stud for Stop Wheel Assembly 11354	1
23727	Insulating Bushing for Stop Wheel Assembly 11354	1
23737	Insulating Bushing for Stud Assembly 13324 (Not shown in Illustration)	1
23711	Nut for Clamping Blade Assembly 13327	1
26526	Lock Washer for Nut 23711	1
23721	Plain Washer for Nut 23711 (Thick)	1
23710	Insulating Washer for Blade 23709	2
23717	Plain Washer for Stop Wheel Assembly 11354 (Thick)	2
25473	Plain Washer for Stop Wheel Assembly 11354 (Thin)	2
23709	Blade for Blade Assembly 13327	1
23908	Plain Washer for Nut 23711 (Thin)	1
23375	Terminal Clip for connecting Switch (Large) (Not shown in Illustration)	2
23374	Terminal Clip for connecting Switch (Small) (Not shown in Illustration)	6



No. 1061 AUTO HORN SWITCH

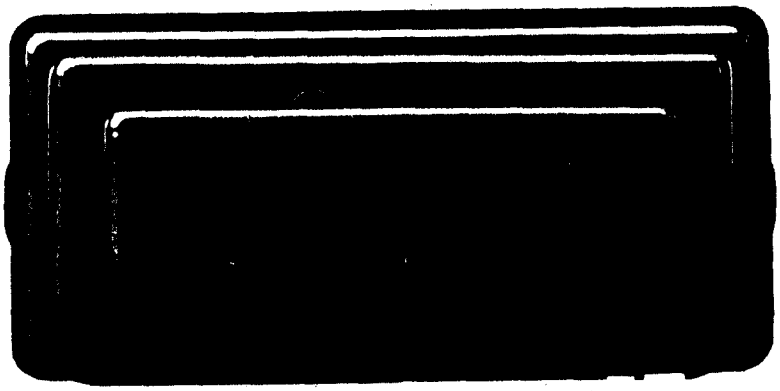
No. 1061 AUTO HORN SWITCH

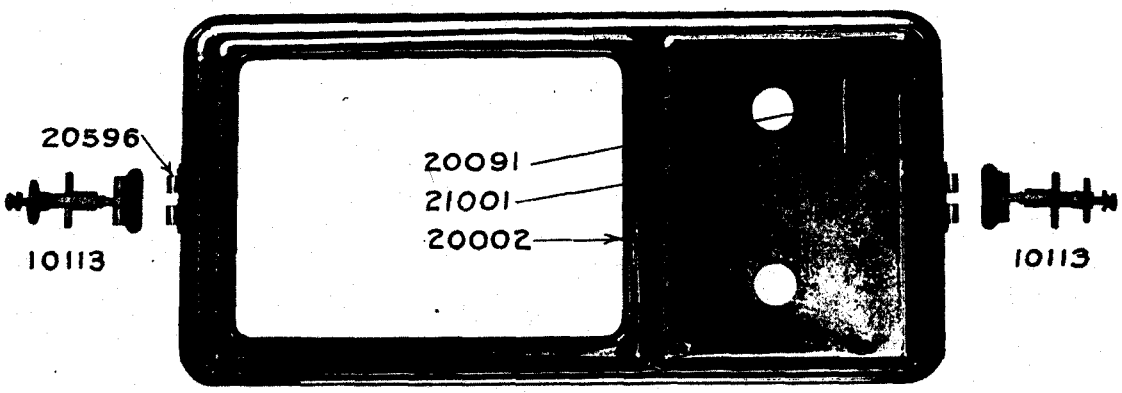
Piece Number	NAME OF PART	Quantity Required
1061	**AUTO HORN SWITCH COMPLETE**	1
14110	**Cover Assembly Complete (Service)** (Includes the next 6 Items)	1
12292	**Cover Assembly** (Includes the next 2 Items)	2
	Bushing for Plunger Assembly 13257 (Not shown in Illustration)	2
26963	Hub for Cover Assembly 14110	1
26383	**Plunger Assembly**	1
13257	Cap for Plunger Assembly 13257	1
26396	Pin for retaining Cap 26396	4
26397	Screw for retaining Cover Assembly 12292	4
26898	Lock Washer for Screw 26898	1
25206		
12077	**Base Assembly Complete** (Includes the next 25 Items)	1
	Base for Base Assembly 12077	1
26420	Insulator for Base 26393	1
26389	Insulator (Thick) (Round)	1
26391	Insulator (Thin) (Round)	1
26381	Stud Stop for Contact Spring Assembly 11500	2
26390	Screw for attaching Terminal Assembly 12076	2
26394	Screw for attaching Terminal Assembly 13095	1
26392		
12076	**Terminal Assembly Complete (Crooked Terminal)** (Includes the next 5 Items)	1
	Terminal for Terminal Assembly 12076	1
28556	Clip for retaining Terminal Clip 23374	1
23450	Screw for retaining Clip 23450	1
23553	Nut for Screw 23553	1
23452	Lock Washer for Nut 23452	1
23699		
11507	**Terminal Assembly Complete (Straight Terminal)** (Includes the next 5 Items)	1
	Terminal for Terminal Assembly 11507	1
25112	Clip for retaining Terminal Clip 23374	1
23450	Screw for retaining Clip 23450	1
23553	Nut for Screw 23553	1
23452	Lock Washer for Nut 23452	1
23699	Insulator for Contact Spring Assembly 11499 (Lower)	1
24235	Insulator for Contact Spring Assembly 11499 (Upper)	1
25173	**Contact Spring Assembly (Lower Contact)**	1
11500	**Contact Spring Assembly (Upper Contact)**	2
11499	Rivet for retaining Insulators 26391 and 26381	2
26805	Washer for Rivet 26805 (Not shown in Illustration)	2
28403	Terminal Clip for connecting Switch	
23374		

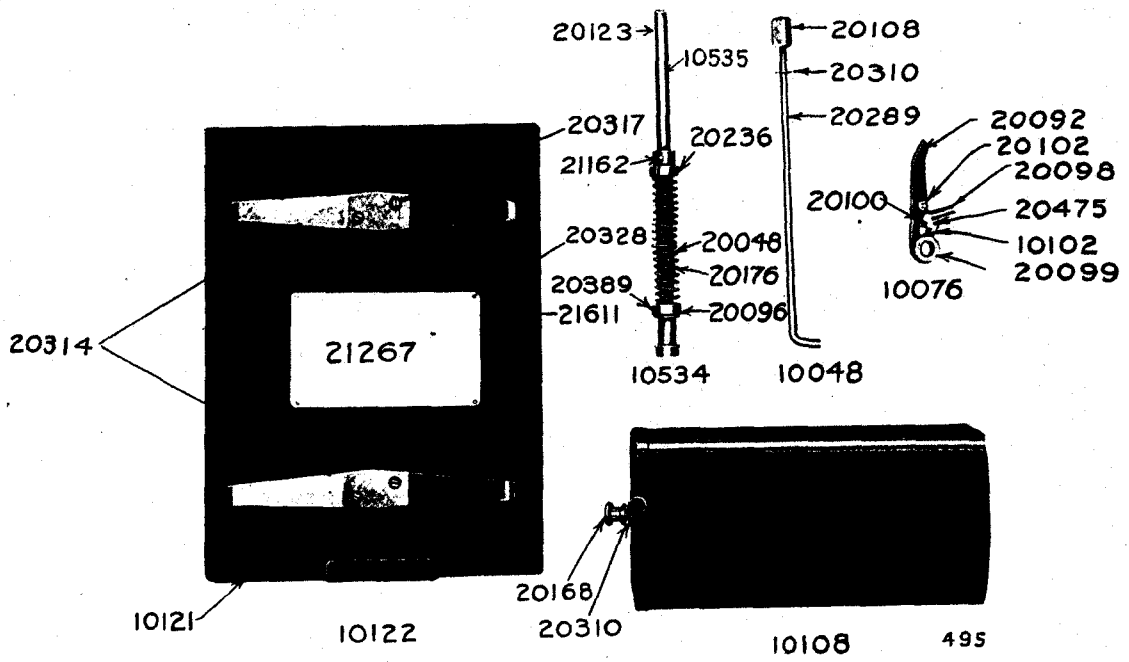


423

No. 1062 COMBINATION SWITCH





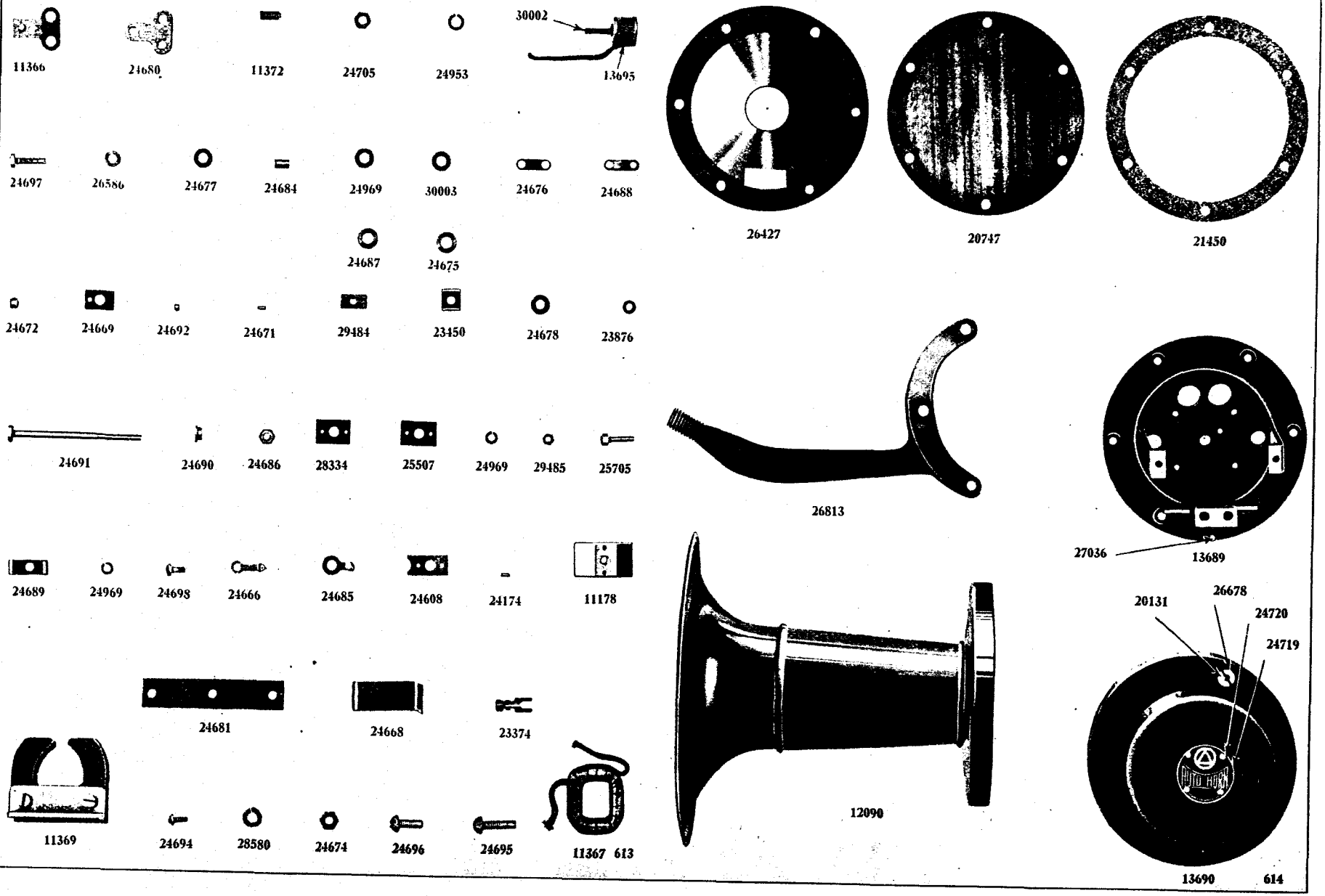


No. 5401 BATTERY BOX

No. 5312 AUTO HORN

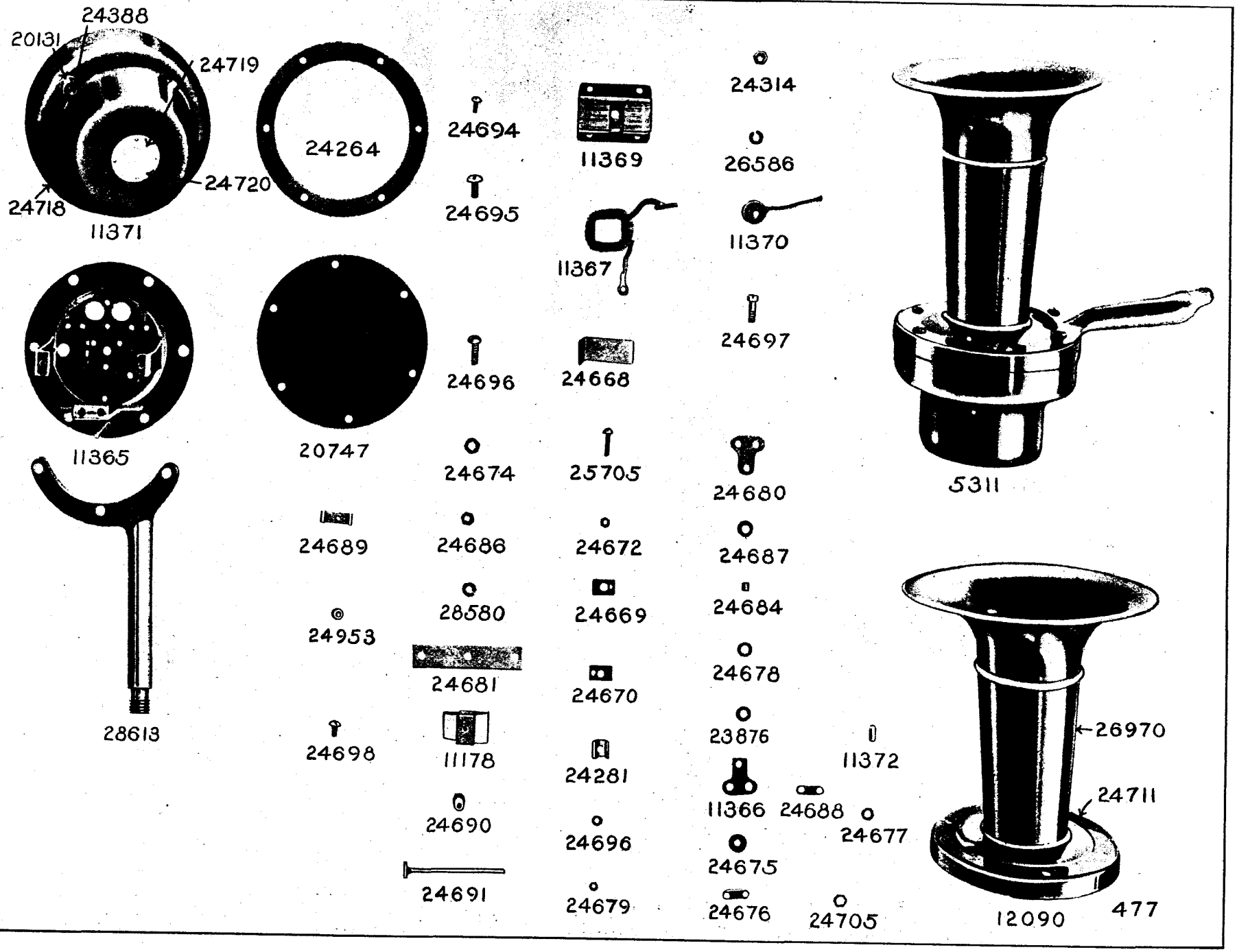
Piece Number	NAME OF PART	Quantity Required
5312	**AUTO HORN ASSEMBLY**	1
13690	**Shell Assembly Complete**	1
	(Includes the next 5 Items)	
24719	Name Plate for Shell Assembly 13690	1
26838	Rivet for attaching Name Plate 24719	4
26678	Thumb Nut for retaining Shell Assembly 13690	1
20131	Lock Washer for Thumb Nut 26678	1
24389	Plain Washer for retaining Thumb Nut 26678 (Not shown in Illustration)	1
12090	**Horn Assembly Complete (Front)**	1
28613	Bracket for connecting Auto Horn	1
26427	Protector for Diaphragm	1
11367	**Coil Assembly for Horn**	1
13689	**Housing Assembly for Horn**	1
	(Includes the next Item)	
27036	Stud for retaining Shell Assembly 13690	1
12140	**Contact Spring Assembly (Lower Contact)**	1
11369	**Core Assembly for Coil Assembly 11367**	1
11372	**Contact Screw Assembly**	1
24705	Nut for Contact Screw Assembly 11372	1
24953	Lock Washer for Nut 24705	1
11178	**Armature Assembly Complete**	1
	(Includes the next Item)	
24174	Pin for Armature 24158	2
13695	**Resistance Coil Assembly for Horn**	1
29777	Screw for Resistance Coil Assembly 13695	1
24969	Lock Washer for Screw 29777	1
30003	Plain Washer for Screw 29777	1
26586	Lock Washer for Nuts 24686 and Screw 24697	3
24666	Clip connecting Coil Assembly 11367 to Screw 25705 and Resistance Coil Assembly 13695	4
24668	Retainer for Coil Assembly 11367	1
24669	Insulator for Terminal Base 29484 and Clip 24666	4
29484	Terminal Base for retaining Terminal Clip 23374	2
24671	Pin for Terminal Base 29484	2
24672	Bushing for Screw 25705	1
25705	Screw for retaining Terminal Clamp 24281 and Clip 24666	1
23450	Terminal Clamp for retaining Terminal Clip 23374	2
29485	Nut for retaining Screw 25705 and Resistance Coil 13695	2
24969	Lock Washer for Nut 29485 and Screws 25705 and 24698	6
28580	Lock Washer for Nut 24674	6
24674	Nut for Screws 24695 and 24696	6
24695	Screw for retaining Horn Assembly 12090 (Short)	3
24696	Screw for retaining Horn Assembly 12090 (Long)	3
24675	Plain Washer for Contact Spring Assembly 11366 (Thin)	2
24687	Spacing Washer for Contact Spring Assembly 11365 (Thick)	2
24678	Plain Washer for Contact Spring Assembly 11366 (Thick)	2
24677	Insulating Washer for Contact Spring Assembly 11366	2
24680	Terminal Plate for retaining Contact	1
24697	Screw for retaining Plate 24680 and Contact Spring Assembly 11366	2
24688	Block for retaining Screw 24697	1
24676	Insulating Plate for Block 24688	2
24681	Spring Plate for operating Armature Assembly 11178	6
28334	Insulator for Stop Plate 24608 (Lower)	1
25507	Insulator for Stop Plate 24608 (Upper)	1
24608	Stop Plate for operating Contact Spring Assembly 11366	1
24684	Insulator Bushing for Screw 24697	2
24685	Clip for connecting Coil Assembly 11367 and Contact Spring Assembly 11366	1
24686	Nut for Tapper 24691	1
24691	Tapper for operating Diaphragm 20747	1
20747	Diaphragm for Horn Assembly 12090	1
21450	Insulating Ring for Diaphragm 20747 (Narrow)	1
24264	Insulating Ring for Diaphragm 20747 (Wide) (Not shown in Illustration)	1
24689	Clip for retaining Spring Plate 24681	2
24690	Bushing for Tapper 24691	1
24692	Bushing for Terminal Base 24670	1
23876	Plain Washer for Screw 25705	1
24694	Screw for retaining Core Assembly 11369	4
24698	Screw for retaining Spring Plate 24681	2
23374	Terminal Clip for connecting Auto Horn 5312	1

No. 5312 AUTO HORN



No. 5311 AUTO HORN

Piece Number	NAME OF PART	Quantity Required
5311	**AUTO HORN COMPLETE**	1
11371	**Shell Assembly Complete**	1
	(Includes the next 5 Items)	
24719	Name Plate for Shell Assembly 11371	1
26838	Rivet for Name Plate 24719 (Not shown in Illustration)	4
26678	Thumb Nut for Shell Assembly 11371 (Not shown in Illustration)	1
20131	Lock Washer for Thumb Nut 26678 (Not shown in Illustration)	1
24389	Plain Washer for retaining Thumb Nut 26678	1
12090	**Horn Assembly Complete (Front)**	1
28613	Bracket for connecting Horn Assembly	1
26427	Protector for Diaphragm 20747 (Not shown in Illustration)	1
11367	**Coil Assembly**	1
24668	Retainer for Coil Assembly 11367	1
13689	**Housing Assembly**	1
	(Includes the next Item)	
27036	Stud for retaining Shell Assembly 11371 (Not shown in Illustration)	1
11366	**Contact Spring Assembly (Lower Contact)**	1
12140	**Core Assembly for Coil Assembly 11367**	4
24694	Screw for retaining Core Assembly 12140	1
11372	**Contact Screw Assembly (Upper Contact)**	1
24705	Nut for Contact Screw Assembly 11372	1
24953	Lock Washer for Nut 24705	1
11178	**Armature Assembly Complete**	1
	(Includes the next Item)	
24174	Pin for Armature Assembly 11178 (Not shown in Illustration)	1
11370	**Resistance Coil Assembly**	1
24314	Nut for retaining Resistance Coil Assembly 11370	4
26586	Lock Washer for Nuts 24314, 24686 and Screw 24697	1
24666	Clip for connecting Coil Assembly 11367 and Screw 25705 (Not shown in Illustration)	2
24669	Insulator for Terminal Base 24670 and Clip 24666	1
29484	Terminal Base for retaining Terminal Clip 23374 (Not shown in Illustration)	1
24671	Pin for Terminal Base 29484 (Not shown in Illustration)	1
24672	Bushing for Screw 25705	1
25705	Screw for retaining Terminal Clamp 24281 and Clip 24666	1
23450	Terminal Clamp for retaining Terminal Clip 23374 (Not shown in Illustration)	1
29485	Nut for Screw 25705 (Not shown in Illustration)	4
24969	Lock Washer for Nut 29485 and Screws 25705 and 24698 (Not shown in Illustration)	6
28580	Lock Washer for Nut 24674	6
24674	Nut for Screws 24695 and 24696	3
24695	Screw for retaining Horn Assembly 12090 (Short)	3
24696	Screw for retaining Horn Assembly 12090 (Long)	1
24675	Plain Washer for Contact Spring Assembly 11366 (Thin)	2
24687	Spacing Washer for Contact Spring Assembly 11366 (Thick)	2
24678	Plain Washer for Contact Spring Assembly 11366 (Thick)	2
24677	Insulating Washer for Contact Spring Assembly 11366	1
24680	Terminal Plate for retaining Contact and Nut Assembly 13494	2
24697	Screw for retaining Terminal Plate 24698 and Contact Spring Assembly 11366	1
24688	Plate for retaining Screw 24697	2
24676	Insulating Plate for Plate 24688	1
27036	Stud for retaining Shell Assembly 11371 (Not shown in Illustration)	6
24681	Spring Plate for operating Armature Assembly 11178	1
28334	Insulator for Stop Plate 24608 (Lower) (Not shown in Illustration)	1
25507	Insulator for Stop Plate 24608 (Upper) (Not shown in Illustration)	1
24608	Stop Plate for operating Contact Spring Assembly 11366 (Not shown in Illustration)	2
24684	Insulating Bushing for Screw 24697	1
24685	Clip for connecting Coil Assembly 11367 and Spring Terminal Assembly 11366 (Not shown in Illustration)	1
24686	Nut for Tapper 24691	1
24691	Tapper for operating Diaphragm 20747	1
20747	Diaphragm for Horn Assembly 12090 next to Housing Assembly 13689	1
21450	Insulating Ring for Diaphragm 20747 (Narrow) (Not shown in Illustration)	1
24264	Insulating Ring for Diaphragm 20747 (Wide)	2
24689	Clip for retaining Spring Plate 24681	1
24690	Bushing for Tapper 24691	1
24692	Bushing for Terminal Base 24670 (Not shown in Illustration)	1
23876	Plain Washer for Screw 25705	2
24698	Screw for retaining Spring Terminal 24681	1
23374	Terminal Clip for connecting Auto Horn 5311 (Not shown in Illustration)	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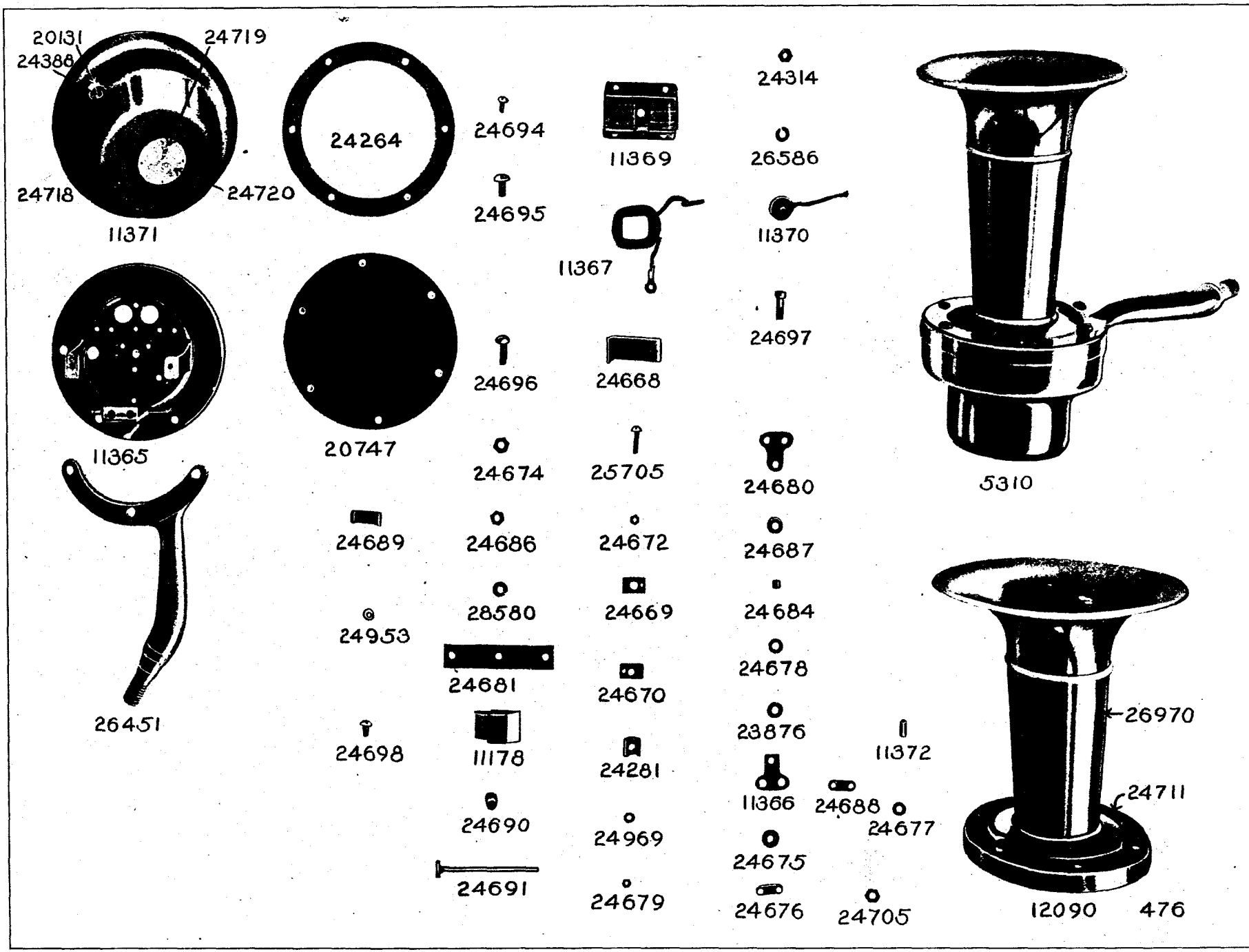
20131
24719
24720
24718
11371
24264
24694
24695
11369
24314
26586
11370
11367
24697
24696
24668
11365
20747
24674
25705
24680
5311
24689
24686
24672
24687
24953
28580
24669
24684
24681
24670
24678
28613
24698
11178
24281
23876
11372
24690
11366
24688
24677
24696
24675
24691
24679
24676
24705
26970
24711
12090
477

No. 5310 AUTO HORN

Piece Number	NAME OF PART	Quantity Required
5310	**AUTO HORN COMPLETE**	1
11371	**Shell Assembly Complete** (Includes the next 5 Items)	1
24719	Name Plate for Shell Assembly 11371	1
26838	Rivet for Name Plate 24719 (Not shown in Illustration)	1
26678	Thumb Nut for Shell Assembly 11371	4
20131	Lock Washer for Thumb Nut 26678	1
24389	Plain Washer for retaining Thumb Nut 26678 (Not shown in Illustration)	1
12090	**Horn Assembly Complete (Front)**	1
26451	Bracket for connecting Auto Horn	1
26427	Projector for Diaphragm 20747 (Not shown in Illustration)	1
11367	**Coil Assembly**	1
13689	**Housing Assembly** (Includes the next Item)	1
27036	Stud for retaining Shell Assembly 11371 (Not shown in Illustration)	1
11366	**Contact Spring Assembly (Lower Contact)**	1
12140	**Core Assembly for Coil Assembly 11367**	1
11372	**Contact Screw Assembly (Upper Contact)**	1
24705	Nut for Contact Screw Assembly 11372	1
24953	Lock Washer for Nut 24705	1
11178	**Armature Assembly Complete** (Includes the next Item)	1
24174	Pin for Armature Assembly 11178 (Not shown in Illustration)	2
11370	**Resistance Coil Assembly**	1
24314	Nut for retaining Resistance Assembly 11370	1
26586	Lock Washer for Nuts 24314, 24686 and Screw 24697	4
24666	Clip for connecting Coil Assembly 11367 and Screw 25705 (Not shown in Illustration)	1
24668	Retainer for Coil Assembly 11367	1
24669	Insulator for Terminal Base 24670 and Clip 24666	2
29484	Terminal Base for retaining Terminal Clip 23374 (Not shown in Illustration)	1
24671	Pin for Terminal Base 29484 (Not shown in Illustration)	1
24672	Bushing for Screw 25705	1
25705	Screw for retaining Clamp 24281 and Clip 24666	1
23450	Terminal Clamp for retaining Terminal Clip 23374 (Not shown in Illustration)	1
29485	Nut for Screw 25705 (Not shown in Illustration)	1
20393	Lock Washer for Nut 29485 and Screws 25705 and 24698	4
28580	Lock Washer for Nut 24674	6
24674	Nut for Screws 24695 and 24696	6
24695	Screw for retaining Horn Assembly 12090 (Short)	3
24696	Screw for retaining Horn Assembly 12090 (Long)	3
24675	Plain Washer for Contact Spring Assembly (Thin)	1
24687	Spacing Washer for Contact Spring Assembly 11366 (Thick)	2
24678	Plain Washer for Contact Spring Assembly 11366 (Thick)	2
24677	Insulating Washer for Contact Spring Assembly 11366	2
24680	Terminal Plate for retaining Contact Nut Assembly 13494	1
24697	Screw for retaining Terminal Plate 24680 and Contact Spring Assembly 11366	2
24688	Block for retaining Screw 24697	1
24676	Insulating Plate for Block 24688	2
27036	Stud for retaining Shell Assembly 11371 (Not shown in Illustration)	1
24681	Spring Plate for operating Armature Assembly 11178	6
28334	Insulator for Stop Plate 24608 (Lower) (Not shown in Illustration)	1
25507	Insulator for Stop Plate 24608 (Upper) (Not shown in Illustration)	1
24608	Stop Plate for operating Contact Spring Assembly 11366 (Not shown in Illustration)	1
24684	Insulating Bushing for Screw 24697	2
24685	Clip for connecting Coil Assembly 11367 and Contact Spring Assembly 11366 (Not shown in Illustration)	1
24686	Nut for Tapper 24691	1
24691	Tapper for operating Diaphragm 20747	1
20747	Diaphragm for Horn Assembly 12090 between Horn Assembly 12090 and Housing Assembly 11365	1
21450	Insulating Ring for Diaphragm 20747 (Narrow) (Not shown in Illustration)	1
24264	Insulating Ring for Diaphragm 20747 (Wide)	1
24689	Clip for retaining Spring Plate 24681	2
24690	Bushing for Tapper 24691	1
24692	Bushing for Terminal Base 24670 (Not shown in Illustration)	1
23876	Plain Washer for Screw 25705	1
24694	Screw for retaining Core Assembly 11369	4
24698	Screw for retaining Spring Plate 24681	2
23374	Terminal Clip for connecting Horn 5310 (Not shown in Illustration)	1

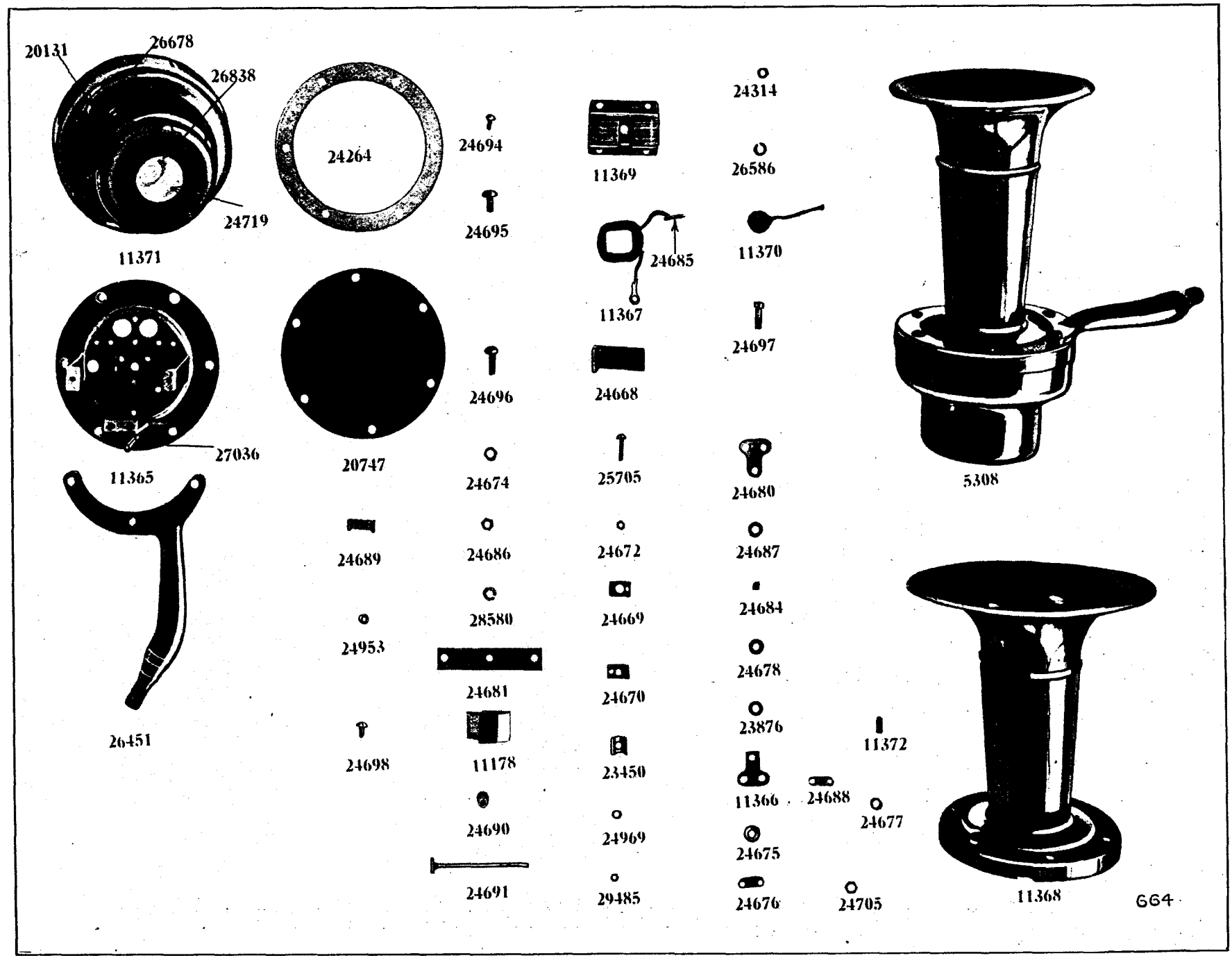
No. 5310 AUTO HORN



No. 5308 AUTO HORN

Piece Number	NAME OF PART	Quantity Required
5308	**AUTO HORN COMPLETE**	1
11371	**Shell Assembly Complete** (Includes the next 5 Items)	1
24719	Name Plate for Shell Assembly 11371	1
26838	Rivet for Name Plate 24719	4
26678	Thumb Nut for Shell Assembly 11371	1
20131	Lock Nut for Thumb Nut 26678	1
24389	Plain Washer for retaining Thumb Nut 26678 (Not shown in Illustration)	1
11368	**Horn Assembly Complete (Front)**	1
26451	Bracket for connecting Auto Horn Assembly	1
11367	**Coil Assembly**	1
13689	**Housing Assembly** (Includes the next Item)	1
27036	Stud for retaining Shell Assembly 11371	1
11366	**Contact Spring Assembly (Lower Contact)**	1
12140	**Core Assembly for Coil Assembly 11367**	1
11372	**Contact Screw Assembly (Upper Contact)**	1
24705	Nut for Contact Screw Assembly 11372	1
24953	Lock Washer for Nut 24705	1
11178	**Armature Assembly Complete** (Includes the next Item)	1
24174	Pin for Armature Assembly 11178 (Not shown in Illustration)	1
11370	**Resistance Coil Assembly**	1
24314	Nut for retaining Resistance Coil Assembly 11370	1
26586	Lock Washer for Nuts 24314 and 24686 and Screw 24697	4
24666	Clip for connecting Coil Assembly 11367 and Screw 25705 (Not shown in Illustration)	1
24668	Retainer for Coil Assembly 11367	1
24669	Insulator for Terminal Base 24670 and Clip 24666	2
29484	Terminal Base for retaining Terminal Clip 23374 (Not shown in Illustration)	1
24671	Pin for Terminal Base 29484 (Not shown in Illustration)	1
24672	Bushing for Screw 25705	1
25705	Screw for retaining Terminal Clamp 23450 and Clip 24666	1
23450	Terminal Clamp for retaining Terminal Clip 23374	1
29485	Nut for Screw 25705	1
20393	Lock Washer for Nut 29485 and Screws 25705 and 24698	4
28580	Lock Washer for Nut 24674	7
24674	Nut for Screws 24695 and 24696	6
24695	Screw for retaining Horn Assembly 11368 (Short)	3
24696	Screw for retaining Horn Assembly 11368 (Long)	3
24675	Plain Washer for Contact Spring Assembly 11366 (Thin)	1
24687	Spacing Washer for Contact Spring Assembly 11366 (Thick)	2
24678	Plain Washer for Contact Spring Assembly 11366 (Thick)	2
24677	Insulating Washer for Contact Spring Assembly 11366	2
24680	Terminal Plate for retaining Contact and Nut Assembly 13494	1
24697	Screw for retaining Terminal Plate 24680 and Contact Spring Assembly 11366	2
24688	Block for retaining Screw 24697	1
24676	Insulating Plate for Block 24688	2
27036	Stud for retaining Shell Assembly 11371	1
24681	Spring Plate for Operating Armature Assembly 11178	6
28334	Insulator for Stop Plate 24608 (Lower)	1
25507	Insulator for Stop Plate 24608 (Upper) (Not shown in Illustration)	1
24608	Stop Plate for Operating Contact Spring Assembly 11366 (Not shown in Illustration)	1
24684	Insulating Bushing for Screw 24697	2
24685	Clip for connecting Coil Assembly 11367 and Spring Terminal Assembly 11366	1
24686	Nut for Tapper 24691	1
24691	Tapper for Operating Diaphragm 20747	1
20747	Diaphragm for Horn Assembly 11368 between Horn Assembly 11368 and Housing Assembly 11365	1
21450	Insulating Ring for Diaphragm 20747 (Narrow) (Not shown in Illustration)	1
24264	Insulating Ring for Diaphragm 20747 (Wide)	1
24689	Clip for retaining Spring Plate 24681	2
24690	Bushing for Tapper 24691	1
24692	Bushing for Terminal Base 24670 (Not shown in Illustration)	1
23876	Plain Washer for Screw 25705	1
24694	Screw for retaining Core Assembly 12140	4
24698	Screw for retaining Spring Plate 24681	2
23374	Terminal Clip for connecting Auto Horn 5308 (Not shown in Illustration)	1

No. 5308 AUTO HORN

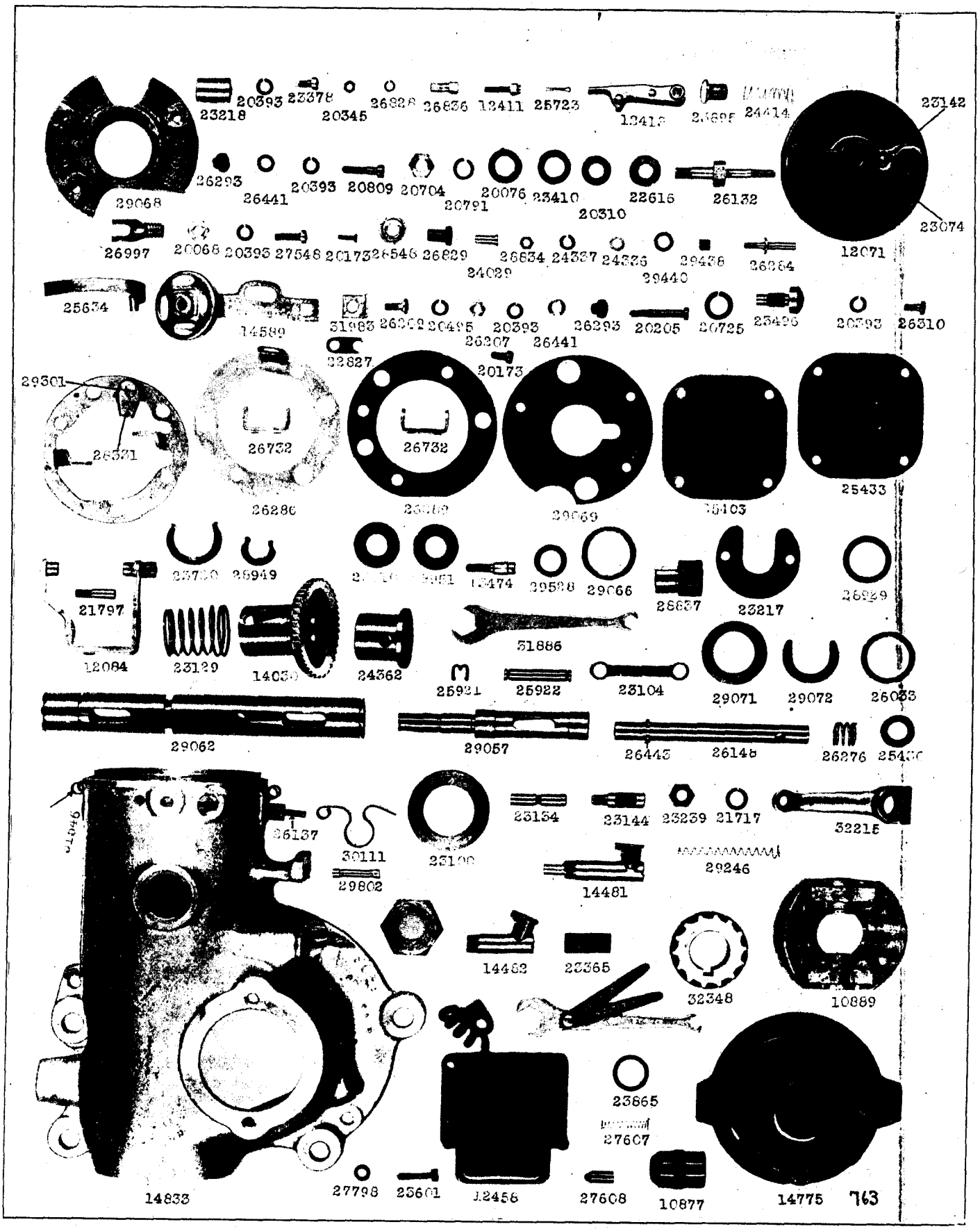


No. 5206 DISTRIBUTOR (Continued)

Piece Number	NAME OF PART	Quantity Required
26209	Screw for retaining Clip 31983	1
20393	Lock Washer for Nut 26207	1
31983	Clip for retaining Terminal Clip 26997	1
26207	Nut for Screw 26209	1
12458	**Condenser Assembly Complete**	1
	(Includes the next 2 Items)	1
23601	Screw for attaching Condenser Assembly 12458	4
27798	Bushing for Screw 23601	4
12084	**Advance Yoke Assembly for Distributor**	1
26148	Shaft for Advance	1
32215	Advance Lever for Shaft 26148	1
26443	Clip for retaining Spring 26276	1
23144	Screw for Advance Lever 32215	1
23239	Nut for Screw 23144	1
21717	Lock Washer for Nut 23239	1
20205	Screw for attaching Plate Assembly 13514 (Long)	2
20393	Lock Washer for Screw 20205	2
26293	Insulating Bushing for Screw 20205	2
26441	Plain Washer for Screw 20205	2
29072	Clip for retaining Bearing (Lower)	1
26033	Plain Washer above Clip 29072	1
12413	**Contact Arm Assembly for Distributor**	2
25723	Cotter Pin for retaining Contact Arm Assembly	2
25634	Spring for Contact Arm Assembly 12413	2
28548	Plain Washer for Nut 26208	1
26132	Stud for mounting Resistance Unit	1
22616	Plain Washer for Stud 26132 (Outer)	1
20068	Nut for retaining Resistance Unit	1
20495	Lock Washer for Nut 26208	1
20076	Insulating Washer for Stud 26132 (Outer)	1
22738	Insulating Bushing for Stud 26132 (Not shown in Illustration)	1
23410	Insulating Washer for Nut 20704	1
20310	Plain Washer for Nut 20704	1
20791	Lock Washer for Nut 20704	1
20704	Nut for Stud 26132 (Inner)	1
28837	Cam for operating Contact Arm Assembly	1
13474	**Screw Assembly for retaining Cam 28837**	1
21797	Screw for Advance Yoke Assembly 12084	1
25430	Felt Washer for Advance Shaft 26148	1
26276	Spring for Advance Shaft 26148	1
26829	Insulating Bushing for Resistance Unit	1
14482	**Oiler Assembly for Distributor (Upper)**	1
14481	**Oiler Assembly for Distributor (Lower)**	1
29074	Wick for Oiler Assembly 14481 (Not shown in Illustration)	1
29246	Spring for Wick 29074	1
12071	**Distributor Rotor Assembly Complete**	1
	(Includes the next 4 Items)	1
23074	Connector for Distributor Rotor Assembly 12071 (Old Style)	1
26803	Screw for retaining Connector 23074 (Old Style)	1
23895	Brush for Rotor Assembly 12071	1
24414	Spring for Brush 23895	1
25405	Cover Plate for Housing Assembly (Lower)	1
25433	Gasket for Cover Plate 25405	1
26310	Screw for attaching Cover Plate 25405	4
20393	Lock Washer for Screw 26310	4
26997	Terminal Clip for connecting Distributor	1
23365	Fibre Ferrule for Terminal Clip	1
10877	**High Tension Terminal Assembly No. Blank**	1
10878	**High Tension Terminal Assembly No. 1**	1
10879	**High Tension Terminal Assembly No. 2**	1
10880	**High Tension Terminal Assembly No. 3**	1
10881	**High Tension Terminal Assembly No. 4**	1
10882	**High Tension Terminal Assembly No. 5**	1
10883	**High Tension Terminal Assembly No. 6**	1
10884	**High Tension Terminal Assembly No. 7**	1
10885	**High Tension Terminal Assembly No. 8**	1
23865	Rubber Washer for High Tension Terminal Assemblies	9
14775	**Distributor Head Assembly Complete**	1
	(Includes the next 2 Items)	
27608	Plunger for Distributor Head Assembly 14775	1
27607	Spring for Plunger 27608	1
12741	**Distributor Wrench Assembly (With Gauge)**	1
31886	Distributor Wrench (Plain)	1
32348	Spiral Gear for Driving Spiral Gear 26151	1

No. 5206 DISTRIBUTOR

Piece Number	NAME OF PART	Quantity Required
5206	**DISTRIBUTOR**	1
14833	**Distributor Housing Assembly**	1
	(Includes the next 9 Items)	
31546	Clip for retaining Clamp 30111	1
30111	Clamp for retaining Distributor Head	1
29802	Pin for retaining Clamp 30111	1
25049	Rivet for retaining Clip 31546 (Not shown in Illustration)	3
26137	Stud for resistance Unit Guide	1
32532	Name Plate for Distributor (Not shown in Illustration)	1
32821	Pin for retaining Name Plate 32532 (Not shown in Illustration)	2
12075	**Breather Nut Assembly Complete**	1
32957	Bearing for Distributor Housing	1
26732	Stop for Advance Yoke Assembly	1
20173	Screw for retaining Stop 26732	2
22827	Lock Plate for Screw 20173	1
13511	**Inner Shaft and Bearing Assembly Complete**	1
	(Includes the next 3 Items)	
13342	**Ball Bearing Assembly for Distributor (Upper) (Not shown in Illustration)**	1
29057	Inner Shaft for Distributor	1
29066	Plain Washer for Ball Bearing Assembly 13342	1
30298	Plain Washer for Ball Bearing Assembly 13342 (Used when necessary instead of 29066)	1
28929	Washer (Felt) for Ball Bearing Assembly 13342 (Upper)	1
29528	Spacing Washer under Cam 28837 (When necessary)	1
28951	Collar retaining Washer 29066	1
28949	Clip retaining Collar 28951	1
29069	Retainer for Ball Bearing Assembly 13342 (Upper)	1
29068	Plate under Retainer 29069	1
26289	Insulator for Plate 26286	1
26286	Connector Plate for Contact Plate Assembly 13514	1
13514	**Distributor Contact Plate and Oil SpoutAssembly Complete**	1
	(Includes the next 2 Items)	
28331	Oil Spout for Contact Plate Assembly 13514	1
29301	Rivet for Oil Spout 28331	1
26284	Stud for Mounting Contact Arm Assemblies	2
29438	Insulating Bushing for Stud 26284	2
29440	Insulating Washer for Stud 26284 (Upper)	2
24336	Plain Washer for Stud 26284	2
24337	Lock Washer for Nut 28834	2
28834	Nut for attaching Stud 26284	2
12411	**Contact Screw Assembly**	2
26828	Nut for Contact Screw Assembly (Small)	2
20345	Lock Washer for Nut 26836	2
26836	Nut for Contact Screw Assembly (Large)	2
20809	Screw for attaching Plate Assembly 13514 (Short)	1
20393	Lock Washer for Screw 20809	1
26441	Plain Washer for Screw 20809	1
26293	Insulating Bushing for Screw 20809	1
29062	Outer Shaft for Distributor	1
33466	Washer for end of Distributor Shaft (When necessary)	1
29072	Clip for retaining Washer 29066	1
26033	Plain Washer for Spring 23129 (Upper)	1
23129	Spring for Outer Shaft 29062	1
24362	Advance Collar for Outer Shaft 29062	1
25922	Pin for Advance Collar 24362 and Governor Ring Assembly 10889	2
25921	Clip for retaining Pin 25922	4
23104	Advance Arm for Advance Collar 24362	2
10889	**Governor Ring Assembly for Distributor**	1
23496	Screw for attaching Governor Ring Assembly 10889	2
24493	Lock Washer for Screw 23496	2
14030	**Distributor Shaft Pinion and Hub Assembly**	1
	(Includes the next 3 Items)	
27548	Screw for attaching Plate 23217	2
20393	Lock Washer for Screw 27548	2
24029	Dowel Pin for Distributor Shaft Pinion and Hub Assembly 14030	1
23217	Plate for Distributor Shaft Pinion and Hub Assembly 14030	1
23100	Advance Ring for Outer Shaft 29062	1
23134	Pin for retaining Advance Ring 23100	1
23218	Clamp for Pin 23134	1
23378	Screw for Clamp 23218	1
20393	Lock Washer for Screw 23378	1
23720	Clip for retaining Washer 29071	1
29071	Plain Washer above Lower Distributor Shaft Bearing	1
14589	**Resistance Unit Assembly for Distributor**	1



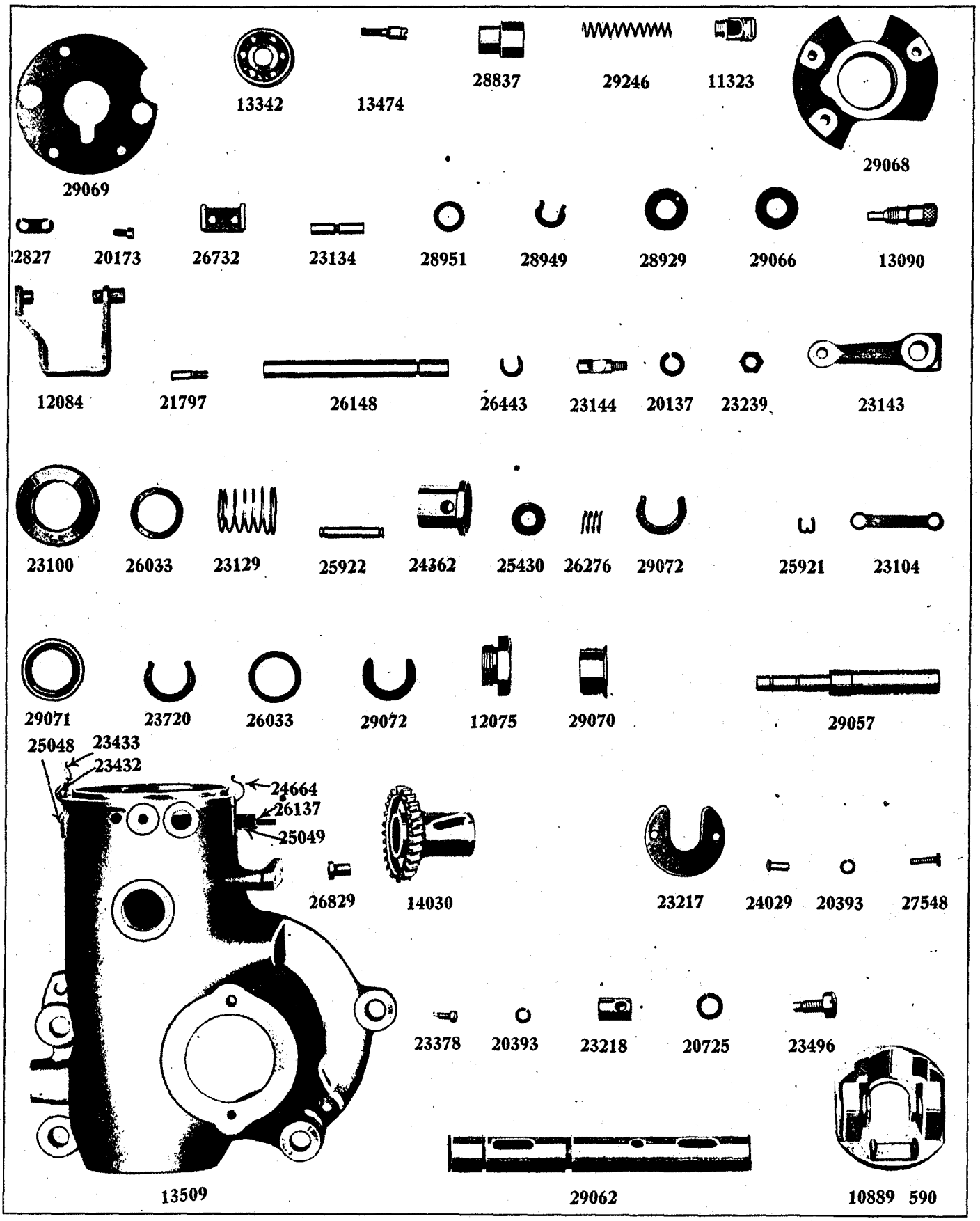
No. 5206 DISTRIBUTOR

No. 5166 DISTRIBUTOR (Continued)

Piece Number	NAME OF PART	Quantity Required
26207	Nut for Screw 26209	1
12458	**Condenser Assembly Complete** (Includes the next 2 Items)	1
23601	Screw for attaching Condenser Assembly 12458	4
27798	Bushing for Screw 23601	4
12084	**Advance Yoke Assembly for Distributor**	1
26148	Shaft for Advance	1
23143	Advance Lever for Shaft 26148	1
26443	Clip for retaining Spring 26276	1
23144	Screw for Advance Lever 23143	1
23239	Nut for Screw 23144	1
21717	Lock Washer for Nut 23239	1
20205	Screw for attaching Plate Assembly (Long)	2
20393	Lock Washer for Screw 20205	2
26293	Insulating Bushing for Screw 20205	2
26441	Plain Washer for Screw 20205	2
29072	Clip for retaining Bearing 29070 (Lower)	1
26033	Plain Washer above Clip 29072	1
12413	**Contact Arm Assembly for Distributor**	2
25723	Cotter Pin for retaining Contact Arm Assembly	2
25634	Spring for Contact Arm Assembly 12413	2
28548	Plain Washer for Nut 26208	1
26132	Stud for Mounting Resistance Unit	1
22616	Plain Washer for Stud 26132 (Outer)	1
20068	Nut for retaining Resistance Unit	1
20495	Lock Washer for Nut 26208	1
20076	Insulating Washer for Stud 26132 (Outer)	1
22738	Insulating Bushing for Stud 26132	1
23410	Insulating Washer for Nut 20704	1
20310	Plain Washer for Nut 20704	1
20791	Lock Washer for Nut 20704	1
20704	Nut for Stud 26132 (Inner)	1
28837	Cam for operating Contact Arm Assembly	1
13474	**Screw Assembly for retaining Cam 28837**	1
21797	Screw for Advance Yoke Assembly 12084	1
25430	Felt Washer for Advance Shaft 26148	1
26276	Spring for Advance Shaft 28148	1
26829	Insulating Bushing for Resistance Unit	1
13090	**Oiler Assembly for Distributor (Upper)**	1
11323	**Oiler Assembly for Distributor (Lower)**	1
29074	Wick for Oiler Assembly 11323 (Not shown in Illustration)	1
29246	Spring for Wick 29074	1
12071	**Distributor Rotor Assembly Complete** (Includes the next 4 Items)	1
23074	Connector for Distributor Rotor Assembly 12071 (Old Style)	1
26803	Screw for retaining Connector 23074 (Old Style)	1
23895	Brush for Rotor Assembly 12071	1
24414	Spring for Brush 23895	1
25405	Cover Plate for Housing Assembly 14219 (Lower)	1
25433	Gasket for Cover Plate 25405	1
26310	Screw for attaching Cover Plate 25405	4
20393	Lock Washer for Screw 26310	4
23374	Terminal Clip for connecting Distributor (Not shown in Illustration)	1
10877	**High Tension Terminal Assembly No. Blank**	1
10878	**High Tension Terminal Assembly No. 1**	1
10879	**High Tension Terminal Assembly No. 2**	1
10880	**High Tension Terminal Assembly No. 3**	1
10881	**High Tension Terminal Assembly No. 4**	1
10882	**High Tension Terminal Assembly No. 5**	1
10883	**High Tension Terminal Assembly No. 6**	1
10884	**High Tension Terminal Assembly No. 7**	1
10885	**High Tension Terminal Assembly No. 8**	1
23865	Rubber Washer for High Tension Terminal Assemblies	9
12568	**Distributor Head Assembly Complete** (Includes the next 2 Items)	1
27608	Plunger for Distributor Head Assembly 12568	1
27607	Spring for Plunger 27608	1
12741	**Distributor Wrench Assembly (With Gauge) (Not shown in Illustration)**	1
31886	Distributor Wrench (Plain) (Not shown in Illustration)	1
26795	Spiral Gear for Driving Spiral Gear 26151 (Not shown in Illustration)	1

No. 5166 DISTRIBUTOR

Piece Number	NAME OF PART	Quantity Required
5166	**DISTRIBUTOR**	1
14219	**Distributor Housing Assembly** (Includes the next 9 Items)	1
23433	Clip for retaining Distributor Head (Long Tongue)	1
23432	Clip for retaining Distributor Head (Used with Clip 23433)	1
24664	Clip for retaining Distributor Head (Single)	1
25048	Rivet for retaining Clips 23432 and 23433	2
25049	Rivet for retaining Clip 24664	2
26137	Stud for retaining Clip 24664	1
32232	Name Plate for Housing 29149 (Not shown in Illustration)	1
32821	Pin for retaining Name Plate 32232 (Not shown in Illustration)	2
32957	Bearing for Distributor Housing	1
12075	**Breather Nut Assembly Complete**	1
26732	Stop for Advance Yoke Assembly 12084	1
20173	Screw for retaining Stop 26732	2
22827	Lock Plate for Screw 20173	1
13511	**Inner Shaft and Bearing Assembly Complete** (Includes the next 3 Items)	1
13342	**Ball Bearing Assembly for Distributor (Upper)**	1
29057	Inner Shaft for Distributor	1
29066	Plain Washer for Ball Bearing Assembly 13342	1
30298	Plain Washer for Ball Bearing Assembly 13342 (Used when necessary instead of 29066) (Not shown in Illustration)	1
28929	Washer (Felt) for Ball Bearing Assembly 13342 (Upper)	1
29528	Spacing Washer under Cam 28837 (Not shown in Illustration) (When necessary)	1
28951	Collar retaining Washer 29006	1
28949	Clip retaining Collar 28951	1
29069	Retainer for Ball Bearing Assembly 13342 (Upper)	1
29068	Plate under Retainer 29069	1
26289	Insulator for Plate 26286	1
26286	Connector Plate for Contact Plate Assembly 13514	1
13514	**Distributor Contact Plate and Oil Spout Assembly Complete** (Includes the next 2 Items)	1
28331	Oil Spout for Contact Plate Assembly 13514	1
29301	Rivet for Oil Spout 28331	1
26284	Stud for mounting Contact Arm Assemblies	2
29438	Insulating Bushing for Stud 26284	2
29440	Insulating Washer for Stud 26284 (Upper)	2
24336	Plain Washer for Stud 26284	2
24337	Lock Washer for Nut 28834	2
28834	Nut for attaching Stud 26284	2
12411	**Contact Screw Assembly**	2
26828	Nut for Contact Screw Assembly (Small)	2
20345	Lock Washer for Nut 26836	2
26836	Nut for Contact Screw Assembly (Large)	2
20809	Screw for attaching Plate Assembly 13514 (Short)	1
20393	Lock Washer for Screw 20809	1
26441	Plain Washer for Screw 20809	1
26293	Insulating Bushing for Screw 20809	1
29062	Outer Shaft for Distributor	1
29072	Clip for retaining Washer 29066	1
26033	Plain Washer for Spring 23129 (Upper)	1
23129	Spring for Outer Shaft 29062	1
24362	Advance Collar for Outer Shaft 29062	1
25922	Pin for Advance Collar 24362 and Governor Ring Assembly 10889	2
25921	Clip for retaining Pin 25922	4
23104	Advance Arm for Advance Collar 24362	2
10889	**Governor Ring Assembly for Distributor**	1
23496	Screw for attaching Governor Ring Assembly 10889	2
20725	Lock Washer for Screw 23496	2
14030	**Distributor Shaft Pinion and Hub Assembly** (Includes the next 3 Items)	1
27548	Screw for attaching Plate 23217	2
20393	Lock Washer for Screw 27548	2
24029	Dowel Pin for Distributor Shaft Pinion and Hub Assembly 14030	1
23217	Plate for Distributor Shaft Pinion and Hub Assembly 14030	1
23100	Advance Ring for Outer Shaft 29062	1
23134	Pin for retaining Advance Ring 23100	1
23218	Clamp for Pin 23134	1
23378	Screw for Clamp 23218	1
20393	Lock Washer for Screw 23378	1
23720	Clip for retaining Washer 29071	1
29071	Plain Washer above Bearing 29070	1
12013	**Resistance Unit Assembly for Distributor**	1
26209	Screw for retaining Clip 26153	1
20393	Lock Washer for Nut 26207	1
26153	Clip for retaining Terminal Clip 23374	1



No. 5166 DISTRIBUTOR

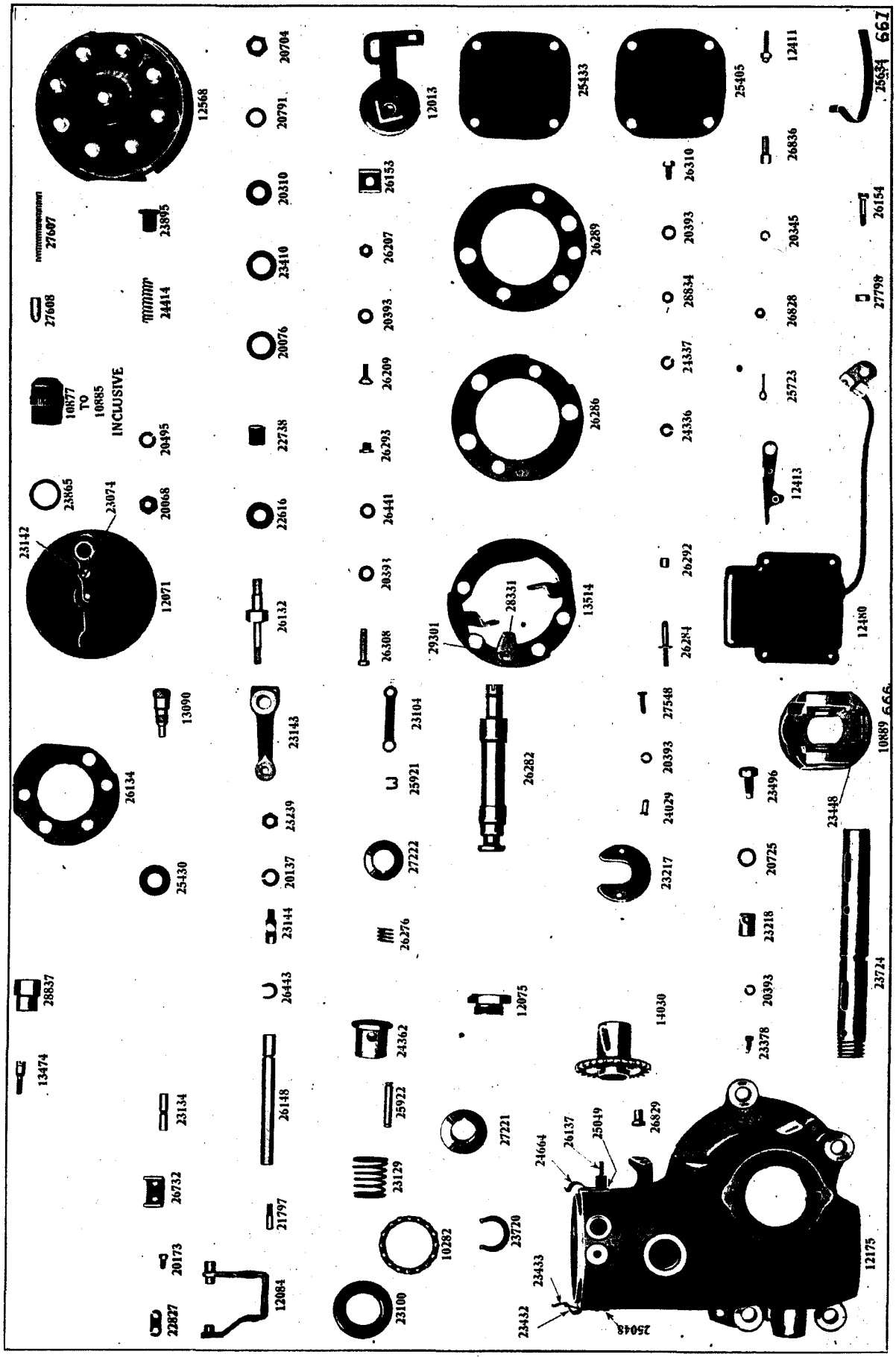
No. 5150 DISTRIBUTOR (Continued)

Piece Number	NAME OF PART	Quantity Required
12458	**Condenser Assembly (Service)** (Includes the next 2 Items)	1
23601	Screw for attaching Condenser Assembly 12458	4
27798	Bushing for Screw 23601	4
12084	**Advance Yoke Assembly**	1
26148	Shaft for Advance Shaft Assembly	1
23143	Advance Lever for Shaft 26148	1
26443	Clip for retaining Spring 26276	1
23144	Screw for Advance Lever 23143	1
23239	Nut for Screw 23144	1
21717	Lock Washer for Nut 23239	1
26308	Screw for retaining Mounting Plate 26134	1
20393	Lock Washer for Screw 26308	1
26293	Insulating Bushing for Screw 26308	2
25634	Spring for Contact Arm Assembly 12413	2
26132	Stud for Resistance Unit Assembly	1
22616	Plain Washer for Stud 26132 (Outer)	1
20068	Nut for retaining Resistance Unit Assembly (Outer)	1
20495	Lock Washer for Nut 20068	1
28548	Plain Washer for Nut 20068	1
20076	Insulating Washer for Stud 26132 (Outer)	1
22738	Insulating Bushing for Stud 26132	1
23410	Insulating Washer for Nut 20704 (Inner)	1
20791	Lock Washer for Nut 20704	1
20310	Plain Washer for Nut 20704	1
20704	Nut for Stud 26132 (Inner)	1
28837	Cam for Operating Contact Arm Assembly 12413	1
13474	**Distributor Cam Adjustment Screw Assembly for retaining Cam 28837**	1
21797	Screw for Advance Yoke Assembly 12084	1
25430	Felt Washer for Shaft 26148	1
26276	Spring for Shaft 26148	1
26829	Insulating Bushing for Resistance Unit Assembly	1
13090	**Oiler Assembly**	1
12071	**Distributor Rotor Assembly Complete** (Includes the next 4 Items. Do not count Service Part)	1
23074	Connector for Distributor Rotor Assembly 12071 (Old Style)	1
26803	Screw for retaining Connector 23074 (Service) (Old Style)	1
23895	Brush for Distributor Rotor Assembly 12071	1
24414	Spring for Brush 23895	1
25405	Cover Plate for Bottom of Housing 26150	1
25433	Gasket for Cover Plate 25405	1
26310	Screw for attaching Cover Plate 25405	4
20393	Lock Washer for Screw 26310	4
12568	**Distributor Head Assembly Complete**	1
27608	Plunger for Distributor Head Assembly 12568	1
21424	Spring (Old Style) for Plunger 21425	1
21425	Plunger (Old Style) for Distributor Head Assembly 12568	1
27607	Spring for Plunger 27608	1
10877	**High Tension Terminal Assembly (Blank)**	1
10878	**High Tension Terminal Assembly (1)**	1
10879	**High Tension Terminal Assembly (2)**	1
10880	**High Tension Terminal Assembly (3)**	1
10881	**High Tension Terminal Assembly (4)**	1
10882	**High Tension Terminal Assembly (5)**	1
10883	**High Tension Terminal Assembly (6)**	1
10884	**High Tension Terminal Assembly (7)**	1
10885	**High Tension Terminal Assembly (8)**	1
23865	Rubber Washer for High Tension Terminal Assemblies	9
12741	**Wrench Assembly (With Gauge) (Not shown in Illustration)**	1
31886	Wrench (Plain) (Not shown in Illustration)	1
23374	Terminal Clip for connecting Distributor (Not shown in Illustration)	1

No. 5150 DISTRIBUTOR

Note: No. 5150 Distributor superseded by No. 5166 Distributor. When ordering a complete new unit, order No. 5166.

Piece Number	NAME OF PART	Quantity Required
5150	**DISTRIBUTOR COMPLETE**	1
12175	**Distributor House Assembly** (Includes the next 8 Items)	1
23432	Clip for retaining Distributor Head Assembly 12568 (With Clip 23433)	1
23433	Clip for retaining Distributor Head Assembly 12568 (Long Tongue Clip)	1
24664	Clip for retaining Distributor Head Assembly 12568 (Single)	1
25048	Rivet for retaining Clips 23432 and 23433	2
25049	Rivet for retaining Clip 24664	1
26137	Stud for retaining Clip 24664	1
32232	Name Plate for Housing 26150 (Not shown in Illustration)	1
32821	Pin for retaining Name Plate 32232 (Not shown in Illustration)	2
20775	Cup for Retainer and Balls Assembly 10282	1
12075	**Breather Nut Assembly**	1
26732	Stop for Advance Yoke Assembly 12084	1
20173	Screw for retaining Stop 26372	2
22827	Lock Plate for Screw 20173	2
10889	**Governor Ring Assembly** (Includes the next 2 Items)	1
23448	Clip for Governor Ring Assembly 10889	1
24198	Screw for attaching Clip 23448 (Not shown in Illustration)	2
10282	**Retainer and Balls Assembly**	2
23724	Shaft for Distributor (Outer)	1
26282	Shaft for Distributor (Inner)	1
12413	**Contact Arm Assembly for Distributor**	2
12411	**Contact Screw Assembly for Contact Arm Assembly 12413**	2
26828	Nut for Contact Screw Assembly 12411 (Short)	1
26836	Nut for Contact Screw Assembly 12411 (Long)	2
25723	Cotter Pin for retaining Contact Arm Assembly 12413	2
20345	Lock Washer for Nut 26836	2
13514	**Plate Assembly for Contact Arm Assembly**	1
28331	Oiler Spout for Plate Assembly 13514	1
29301	Rivet for retaining Oiler Spout 28331	1
26289	Insulator for Plate 26295	1
26286	Connector for Plate 26295	1
26284	Stud for Contact Arm Assembly 12413	1
29438	Insulating Bushing for Stud 26284	2
29440	Insulating Washer for Stud 26284	2
28834	Nut for Stud 26284	2
24336	Plain Washer for 28834	2
24337	Lock Washer for Nut 28834	2
27221	Cone for Shaft 23724 (Upper)	1
23720	Clip for retaining Cone 27221	1
27216	Stud for Cones 27221 and 27219 (Not shown in Illustration)	2
26134	Mounting Plate for Distributor Shaft Assembly 12004	1
20775	Cup for Retainer and Balls 10282 (Upper)	1
23129	Spring for Shaft 23724	1
24362	Advance Collar for Governor Ring Assembly 10889	1
25922	Pin for retaining Arm 23104	2
25921	Clip for retaining Pin 25922	4
23104	Arm for connecting Advance Collar 24362 and Governor Ring Assembly 10889	2
23496	Screw for retaining Governor Ring Assembly 10889	2
24493	Lock Washer for Screw 23496	2
14030	**Distributor Shaft Pinion and Hub Assembly (Service)** (Includes the next 2 Items)	1
27548	Screw for Spiral Gear 25151	2
20393	Lock Washer for Screws 27548, 23378 and 23879	11
23217	Plate for Spiral Gear 26151	1
24029	Pin for Hub 23977	1
26795	Spiral Gear for Driving Pinion and Hub Assembly 14030 (Not shown in Illustration)	1
26210	Spiral Gear (Old Style) (Used before Motor Generator Serial No. 352610)	1
23100	Advance Ring for Shaft 23724	1
23134	Pin for Advance Shaft 23100	1
23218	Clamp for Pin 23134	1
23378	Screw for Clamp 23218	1
27222	Cone for Shaft 23724 (Lower)	1
21443	Nut for Shaft 23724 (Round) (Not shown in Illustration)	1
21444	Nut for Shaft 23724 (Hexagon) (Not shown in Illustration)	1
23879	Screw for retaining Plate 26296 (Not shown in Illustration)	2
26293	Insulating Bushing for Screw 23879	2
23876	Plain Washer for Screw 23879 (Not shown in Illustration)	2
12013	**Resistance Unit Assembly**	1
26209	Screw for retaining Clip 25153	1
26153	Clip for retaining Terminal Clip 23374	1
26207	Nut for Screw 26209	1
20393	Lock Washer for Nut 26207	1



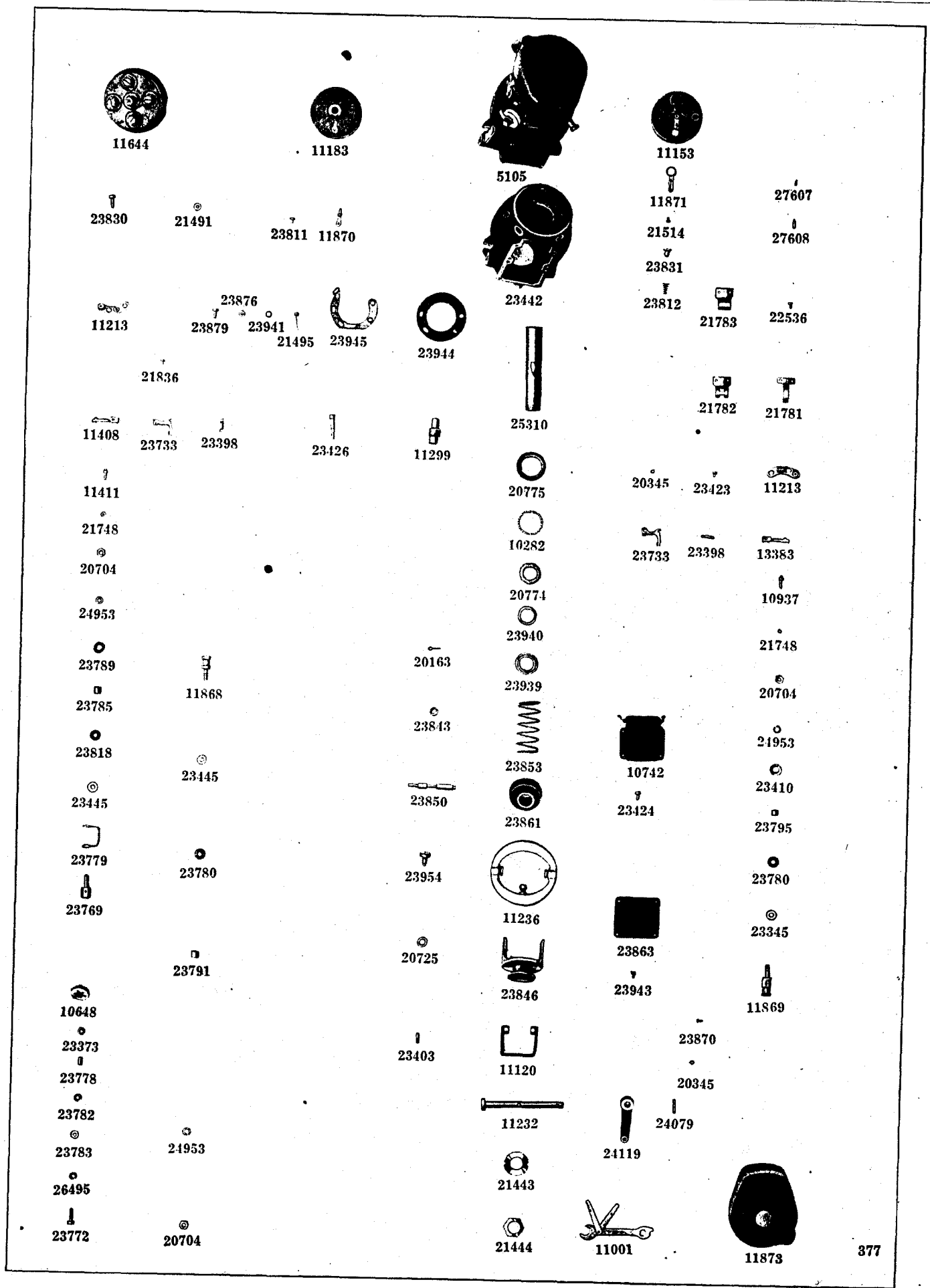
No. 5150 DISTRIBUTOR

No. 5105 DISTRIBUTOR (Continued)

Piece Number	NAME OF PART	Quantity Required
23783	Plain Washer for Screw 23772	1
23782	Insulating Washer for Screw 23772	1
23778	Insulating Bushing for Screw 23772	1
23773	Washer for Resistance Unit Assembly 10648 (Shoulder)	1
23770	Protector for Resistance Unit Assembly 10648 (Not shown in Illustration)	1
23779	Connector for Resistance Unit Assembly 10648 and Housing 23442	1
11213	**Segment Assembly for retaining Contact Assemblies 14383 and 11408** (Includes the next 2 Items)	2
21493	Stud for mounting Stop 23733 (Not shown in Illustration)	1
21494	Stud for mounting Contact Arm Assemblies 11408 and 14383 (Not shown in Illustration)	1
23879	Screw for retaining Segment Assembly 11213	4
23876	Plain Washer for Screw 23879	4
23941	Insulating Washer for Screw 23879	4
21495	Insulating Bushing for Screw 23879	4
23945	Connector for Segment Assembly 11213	1
23944	Insulator for Segment Assembly 11213	1
14383	**Contact Arm Assembly (Battery) (Not shown in Illustration)** (Includes the next 2 Items)	1
24069	Hub for Contact Arm Assembly 14383 (Not shown in Illustration)	1
24947	Screw for attaching Hub 24069 (Not shown in Illustration)	2
11408	**Contact Arm Assembly (Magneto)** (Includes the next 3 Items. Do not count Old Style Parts)	1
11379	**Connector Assembly for Contact Arm Assembly 11408 (Not shown in Illustration(**	1
21801	Terminal Wire (Old Style)	1
24069	Hub for Contact Arm Assembly 11408 (Not shown in Illustration)	1
24947	Screw for attaching Hub 24069 (Not shown in Illustration)	2
12411	**Contact Screw Assembly (Battery)**	1
12411	**Contact Screw Assembly (Magneto) (Not shown in Illustration)**	1
21748	Nut for Contact Screw Assembly 12411	2
23733	Stop for Contact Arm Assemblies 14383 and 11408	2
23398	Spring for Contact Arm Assemblies 14383 and 11408	2
21836	Screw for retaining Stop 23733	2
11407	**Wrench for Distributor**	1
23835	Terminal Clip for Distributor Head Assembly 11644 (Not shown in Illustration)	5
20953	Terminal Clip for Spring Terminal Assemblies 11868 and 11869 (Not shown in Illustration)	2
11644	**Distributor Head Assembly Complete** (Includes the next 4 Items. Do not count Old Style Parts)	1
21425	Plunger (Old Style) for Distributor Head Assembly 11644 (Approximately ⅛" Diameter)	1
21424	Spring (Old Style) for Plunger 21425 (Approximately ⅛" Diameter)	1
27608	Plunger for Distributor Head Assembly 11644 (Approximately ¼" Diameter)	1
27607	Spring for Plunger 27608 (Approximately ¼" Diameter)	1
23830	Screw for Distributor Head Assembly 11644	4
21491	Nut for Distributor Head Assembly 11644	1

No. 5105 DISTRIBUTOR

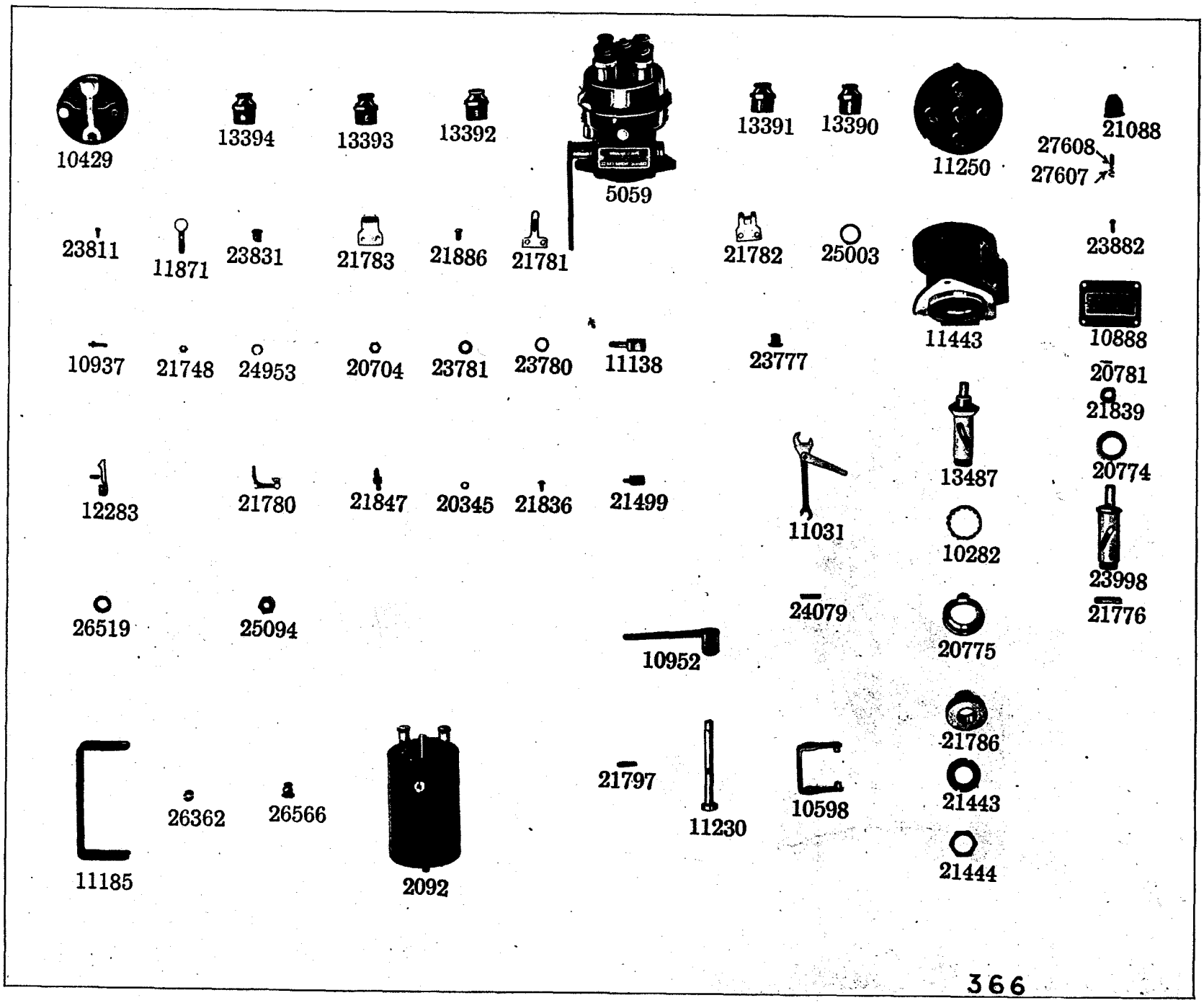
Piece Number	NAME OF PART	Quantity Required
5105	**DISTRIBUTOR COMPLETE**	1
23442	Housing for Distributor Assembly 5105	1
14123	**Shaft Assembly (Service) (Including Shaft 25310 and Upper Cone) (Not shown in Illustration)**	1
25310	Shaft for Distributor	1
27222	Cone for Shaft 25310 (Not shown in Illustration)	2
21443	Clamp Nut for Shaft 25310 (Round)	1
21444	Lock Nut for Clamp Nut 21443 (Hexagon)	1
11299	**Cam Adjustment Assembly** (Includes the next 3 Items)	1
23458	Cam for Cam Adjustment Assembly 11299 (Not shown in Illustration)	1
23736	Pin for Cam 23458	1
23426	Screw for Cam Adjustment Assembly 11299	1
11153	**Distributor Rotor Assembly Complete** (Includes the next 6 Items)	1
11871	**Connector Assembly (Contact)**	1
21514	Screw for retaining Connector Assembly 11871	1
11870	**Clip Assembly for locating Distributor Rotor Assembly 11153**	1
23811	Screw for retaining Clip Assembly 11870	1
23831	Brush for Distributor Rotor Assembly 11153	1
23812	Spring for Brush 23831	1
11232	**Advance Shaft Assembly**	1
24119	Advance Lever for Advance Shaft Assembly 11232	1
24079	Dowel Pin for retaining Advance Lever 24119	1
11120	**Advance Yoke Assembly**	1
23403	Screw for Advance Yoke Assembly 11120	1
11236	**Governor Ring Assembly**	1
23954	Screw for retaining Governor Ring Assembly 11236	2
20725	Lock Washer for Screw 23954	2
23940	Spacing Washer for Shaft 25310 between Cone 27222 and Advance Ring 23861	1
23861	Advance Ring (for Manual Advance)	1
23846	Sleeve on Shaft 25310 for Governor Ring Assembly 11236 (Not shown in Illustration)	1
23939	Sleeve Collar on Shaft 25310 next to Upper Cone 27222 for Spring 23853	1
23853	Spring for Shaft 25310	1
20775	Cup for Retainer and Balls Assembly 10282	2
10282	**Retainer and Balls Assembly**	2
10745	**Condenser Assembly** (Includes the next Item)	1
32141	Screw for retaining Condenser Assembly 10745	4
23863	Cover Plate for Housing 23442	1
23943	Screw for retaining Cover Plate 23863	4
21782	Clip for retaining Distributor Head Assembly 11644 (With Clip 21781)	1
21781	Clip for retaining Distributor Head Assembly 11644 (Long Tongue Clip)	1
21783	Clip for retaining Distributor Head Assembly 11644 (Single)	1
22556	Screw for retaining Clips 21781 and 21782 (Not shown in Illustration)	2
23423	Screw for retaining Clip 21783	2
23850	Pin for connecting Shaft 25310 and Sleeve 23846	1
23843	Washer for retaining Pin 23850	2
20163	Cotter Pin for retaining Washer 23843	2
23870	Screw for connecting Condenser Assembly 10745 to Spring Terminal Assembly 11869 and Stud 23769	2
20345	Lock Washer on Screws 23870 and 21836	4
11873	**Protector Assembly for Distributor Head Assembly 11644**	1
11869	**Spring Terminal Assembly (Common)**	1
11868	**Spring Terminal Assembly (Battery)**	1
23769	Stud for Resistance Unit Assembly 10648	1
20704	Nut for Spring Terminal Assemblies 11868 and 11869 and Stud 23769	3
24953	Lock Washer for Nut 20704	3
23445	Plain Washer for Nut 20704 and Spring Terminal Assemblies 11868 and 11869 and Stud 23769	6
23785	Insulating Bushing for Stud 23769	1
23795	Insulating Bushing for Spring Terminal Assembly 11869	1
23791	Insulating Bushing for Spring Terminal Assembly 11868	1
23818	Insulating Washer for Stud 23769 (Outer)	1
23789	Insulating Washer for Stud 23769 and Spring Terminal 11888 (Inner)	2
23780	Insulating Washer for Spring Terminal Assemblies 11868 and 11869 (Outer)	2
23410	Insulating Washer for Spring Terminal Assembly 11869 (Inner)	1
10648	**Resistance Unit Assembly**	1
23772	Screw for retaining Resistance Unit Assembly 10648	1
20495	Lock Washer for Screw 23772	1



No. 5105 DISTRIBUTOR

No. 5059 DISTRIBUTOR

Piece Number	NAME OF PART	Quantity Required
5059	**DISTRIBUTOR ASSEMBLY COMPLETE**	1
24399	Housing for Distributor (Not shown in Illustration)	1
20775	Cup for Housing 24399	2
21443	Clamp Nut for Shaft Assembly 13487 (Round)	1
21444	Lock Nut for Clamp Nut 21443 (Hexagon)	1
27222	Cone for Shaft Assembly 13487 (Not shown in Illustration)	2
13487	**Shaft Assembly (Service) (Includes Shaft, Cam and Pin)**	1
10429	**Distributor Rotor Assembly Complete** (Includes the next 6 Items)	1
11871	**Connector Assembly (Contact)**	1
23811	Screw for retaining Connector Assembly 11871	1
11870	**Clip Assembly for locating Distributor Rotor Assembly (Not shown in Illustration)**	1
21514	Screw for retaining Clip Assembly 11870 (Not shown in Illustration)	1
23831	Brush for Distributor Rotor Assembly	1
23812	Spring for Brush 23831 (Not shown in Illustration)	1
10952	**Advance Lever Assembly**	1
11230	**Advance Shaft Assembly**	1
24079	Dowel Pin for retaining Advance Lever Assembly 10952	1
10888	**Cover Assembly for Housing 24399** (Includes the next 2 Items)	1
23849	Name Plate Cover Assembly 10888 (Not shown in Illustration)	1
23839	Rivet for Name Plate 23849 (Not shown in Illustration)	2
10598	**Advance Yoke Assembly**	1
11868	**Spring Terminal Assembly**	1
14383	**Contact Arm Assembly** (Includes the next 2 Items)	1
24069	Hub for Contact Arm Assembly 14383 (Not shown in Illustration)	1
24947	Screw for attaching Hub 24069 (Not shown in Illustration)	1
12411	**Contact Screw Assembly**	1
21748	Clamp Nut for Contact Screw Assembly 12411	1
23398	Spring for Contact Arm Assembly 14383 (Not shown in Illustration)	1
21780	Stop for Contact Arm Assembly 14383	1
21836	Screw for retaining Stop 21780	1
20345	Lock Washer for Screw 21836	1
10282	**Retainer and Balls Assembly**	2
21786	Advance Ring for Advance Yoke Assembly 10598	1
21776	Pin for Advance Ring	1
23777	Insulating Bushing for Spring Terminal Assembly 11868	1
23780	Insulating Washer for Spring Terminal Assembly 11868 (Inner)	1
23781	Insulating Washer for Spring Terminal Assembly 11868 (Outer)	1
23784	Plain Washer for Spring Terminal Assembly 11868 (Not shown in Illustration)	1
20704	Nut for Spring Terminal Assembly 11868	1
24953	Lock Washer for Nut 20704	1
23445	Plain Washer for Spring Terminal Assembly 11868 (Not shown in Illustration)	1
21782	Clip for Distributor Head Assembly 11250 (With Clip 21781)	1
21781	Clip for Distributor Head Assembly 11250 (Long Tongue Clip)	1
21783	Clip for Distributor Head Assembly 11250 (Single)	1
21847	Stud for retaining Contact Arm Assembly 14383	1
21499	Stud for retaining Stop 21780	1
21886	Screw for retaining Clip 21783	2
21887	Screw for retaining Clips 21781 and 21782 (Not shown in Illustration)	2
21797	Screw for Advance Yoke Assembly 10598	1
23882	Screw for retaining Cover Assembly 10888	4
12969	**High Tension Terminal Assembly for Distributor Head Assembly 11250 (Blank) (Not shown in Illustration)**	1
12970	**High Tension Terminal Assembly for Distributor Head Assembly 11250 (1) (Not shown in Illustration)**	1
12971	**High Tension Terminal Assembly for Distributor Head Assembly 11250 (2) (Not shown in Illustration)**	1
12972	**High Tension Terminal Assembly for Distributor Head Assembly 11250 (3) (Not shown in Illustration)**	1
12973	**High Tension Terminal Assembly for Distributor Head Assembly 11250 (4) (Not shown in Illustration)**	1
20953	Terminal Clip for connecting Distributor (Not shown in Illustration)	1
11250	**Distributor Head Assembly Complete** (Includes the next 2 Items. Do not count Old Style Parts)	1
21425	Plunger (Old Style) for Distributor Head Assembly 11250 (Approximately 1/8" Diameter)	1
29764	Plunger for Distributor Head Assembly 11250 (Not shown in Illustration) (Approximately 1/4" Diameter)	1
21424	Spring (Old Style) for Plunger 21425 (Approximately 1/8" Diameter)	1
27607	Spring for Plunger 29764 (Approximately 1/4" Diameter)	1
11407	**Wrench for Distributor**	1
25003	Rubber Washer for High Tension Terminal Assemblies	5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25003
23882
11443
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24953
20704
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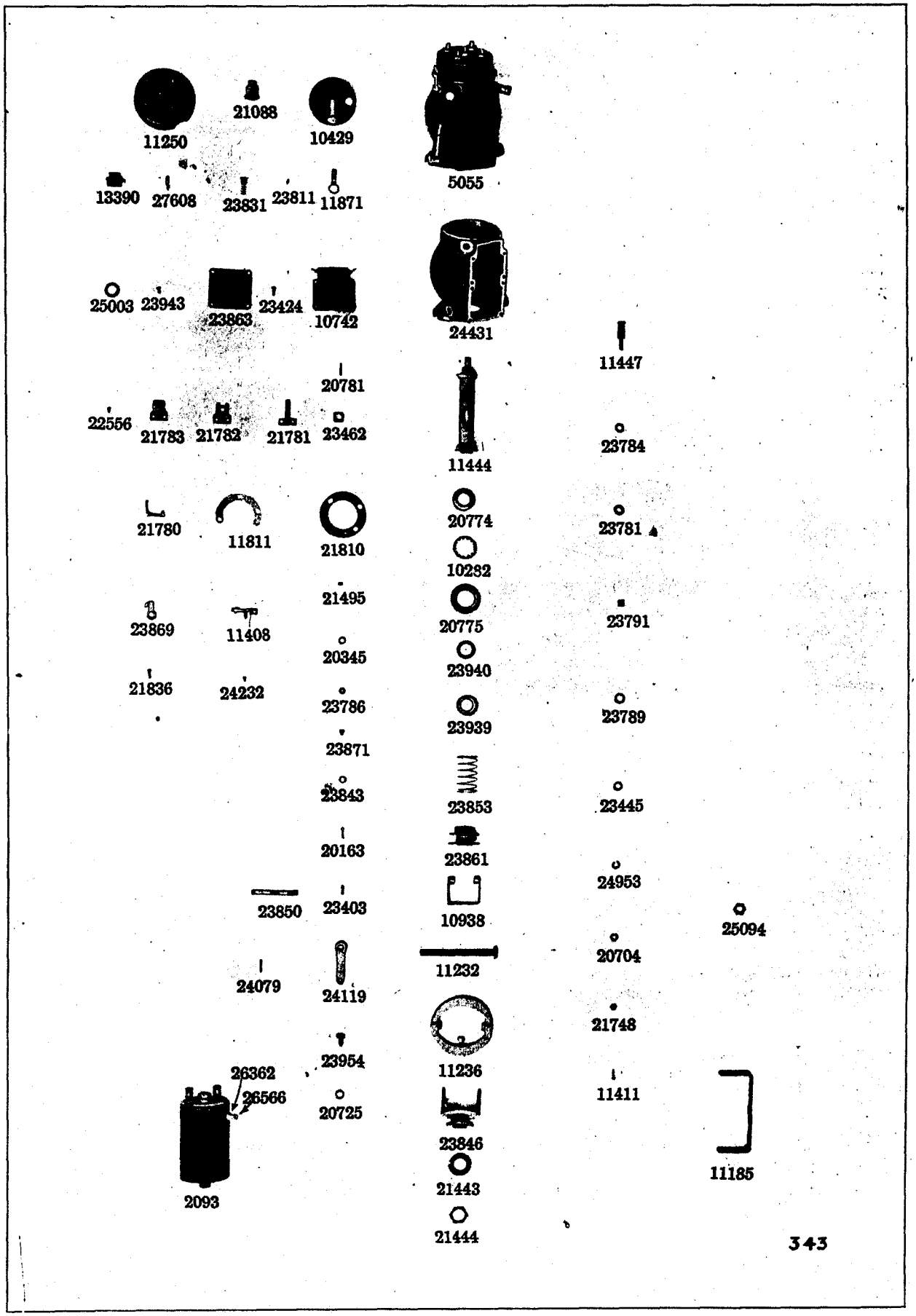
23780
11138
23777
20781
21839
20774
13487
12283
21780
21847
20345
21836
21499
11031
10282
23998
21776
26519
25094
24079
20775
10952
21786
21797
11230
10598
21443
26362
26566
21444
11185
2092
366

No. 5055 DISTRIBUTOR (Continued)

Piece Number	NAME OF PART	Quantity Required
10282	**Retainer and Balls Assembly**	2
23940	Spacing Washer on Shaft 24973 between Cone 20774 and Advance Ring 23861	1
23861	Advance Ring (for Manual Advance)	1
23846	Sleeve on Shaft 24973 for Governor Ring Assembly 11236	1
11236	**Governor Ring Assembly**	1
23939	Sleeve Collar on Shaft 24973 next to Upper Cone 27222 for Spring 23853	1
23853	Spring for Shaft 24973	1
23954	Screw for retaining Governor Ring Assembly 11236	1
20725	Lock Washer for Screw 23954	2
23850	Pin for connecting Shaft 24973 and Sleeve 23846	2
23843	Washer for retaining Pin 23850	1
20163	Cotter Pin for retaining Washer 23843	2
11250	**Distributor Head Assembly Complete** (Includes the next 2 Items. Do not count Old Style Parts)	2
21425	Plunger (Old Style) for Distributor Head Assembly 11250 (Approximately ⅛" Diameter)	1
29764	Plunger for Distributor Assembly 11250 (Approximately ¼" Diameter) (Not shown in Illustration)	1
21424	Spring (Old Style) for Plunger 21425 (Approximately ⅛" Diameter)	1
27607	Spring for Plunger 29764 (Approximately ¼" Diameter) (Not shown in Illustration)	1
20953	Terminal Clip for connecting Distributor (Not shown in Illustration)	1
12741	**Wrench for Distributor (Not shown in Illustration)**	2
12969	**High Tension Terminal Assembly for Distributor Head Assembly 11250 (Blank) (Not shown in Illustration)**	1
12970	**High Tension Terminal Assembly for Distributor Head Assembly 11250 (1) (Not shown in Illustration)**	1
12971	**High Tension Terminal Assembly for Distributor Head Assembly 11250 (2) (Not shown in Illustration)**	1
12972	**High Tension Terminal Assembly for Distributor Head Assembly 11250 (3) (Not shown in Illustration)**	1
12973	**High Tension Terminal Assembly for Distributor Head Assembly 11250 (4) (Not shown in Illustration)**	1
25003	Rubber Washer for High Tension Terminal Assemblies	1
		5

No. 5055 DISTRIBUTOR

Piece Number	NAME OF PART	Quantity Required
5055	**DISTRIBUTOR COMPLETE**	1
24431	Housing for Distributor 5055	1
20775	Cup for Retainer and Balls Assembly 10282	2
14005	**Shaft Assembly (Service) (Includes Shaft, Cam and Pin)**	1
14116	**Shaft and Cone Assembly (Service) (Includes Shaft Assembly 14005 and Upper Cone) (Not shown in Illustration)**	1
27222	Cone for Shaft Assembly 14005 (Not shown in Illustration)	1
21443	Clamp Nut for Shaft Assembly 14005 (Round)	1
21444	Lock Nut for Clamp Nut 21443	1
10745	**Condenser Assembly** (Includes the next Item)	1
32141	Screw for attaching Condenser Assembly 10745	4
23863	Cover Plate for Housing 24431	1
23943	Screw for retaining Cover Plate 23863	4
11869	**Spring Terminal Assembly (Common)**	2
20704	Nut for Spring Terminal Assembly 11869	2
24953	Lock Washer for Nut 20704	2
23445	Plain Washer for Nut 20704	2
23784	Plain Washer for Spring Terminal Assembly 11869	2
23781	Insulating Washer for Spring Terminal Assembly 11869	2
23789	Insulating Washer for Nut 20704 on Spring Terminal Assembly 11869	2
23791	Insulating Bushing for Spring Terminal Assemblies 11869	1
11408	**Contact Arm Assembly** (Includes the next 3 Items. Do not count Old Style Parts)	1
11379	**Connector Assembly for Contact Arm Assembly 11408 (Not shown in Illustration)**	1
21801	Terminal Wire (Old Style)	1
24069	Hub for Contact Arm Assembly 11408 (Not shown in Illustration)	1
24947	Screw for attaching Hub 24069 (Not shown in Illustration)	2
23398	Spring for Contact Arm Assembly 11408 (Not shown in Illustration)	1
21780	Stop for Contact Arm Assembly 11408	1
21836	Screw for retaining Stop 21780	1
20345	Lock Washer for Screws 21836 and 23871	3
23871	Screw for connecting Condenser Assembly 10745 to Spring Terminal Assembly 11869	2
12411	**Contact Screw Assembly (Not shown in Illustration)**	1
21748	Nut for Contact Screw Assembly 12411	1
21782	Clip for Distributor Head Assembly 11250 (With Clip 21781)	1
21781	Clip for Distributor Head Assembly 11250 (With Long Tongue Clip)	1
21783	Clip for Distributor Head Assembly (Single)	1
22556	Screw for retaining Clips 21781 and 21782	2
23423	Screw for retaining Clip 21783 (Not shown in Illustration)	2
11232	**Advance Shaft Assembly**	1
24119	Advance Lever for Advance Shaft Assembly 11232	1
24079	Pin for retaining Advance Lever 24119	1
10938	**Advance Yoke Assembly**	1
23403	Screw for Advance Yoke Assembly 10938	1
10429	**Distributor Rotor Assembly Complete** (Includes the next 6 Items)	1
11871	**Connector Assembly (Contact)**	1
23811	Screw for retaining Connector Assembly 11871 (Not shown in Illustration)	1
11870	**Clip Assembly for locating Distributor Rotor Assembly 10429 (Not shown in Illustration)**	1
21514	Screw for retaining Clip Assembly 11870 (Not shown in Illustration)	1
23831	Brush for Distributor Rotor Assembly 10429	1
23812	Spring for Brush 23831 (Not shown in Illustration)	1
11811	**Plate Assembly for retaining Contact Arm Assembly 11408** (Includes the next 2 Items)	1
21493	Stud for mounting Stop 21780 (Not shown in Illustration)	1
21494	Stud for mounting Contact Arm Assembly 11408 (Not shown in Illustration)	1
23879	Screw for retaining Plate Assembly 11811 (Not shown in Illustration)	3
23876	Plain Washer for Screw 23879 (Not shown in Illustration)	3
23941	Insulating Washer for Screw 23879 (Not shown in Illustration)	3
21945	Insulating Bushing for Screw 23879	3
21810	Insulator for Plate Assembly 11811	1
23869	Terminal for connecting Plate Assembly 11811 and Spring Terminal Assembly 11869	1
24232	Screw for retaining Terminal 23869	1



No. 5055 DISTRIBUTOR

No. 5049 DISTRIBUTOR

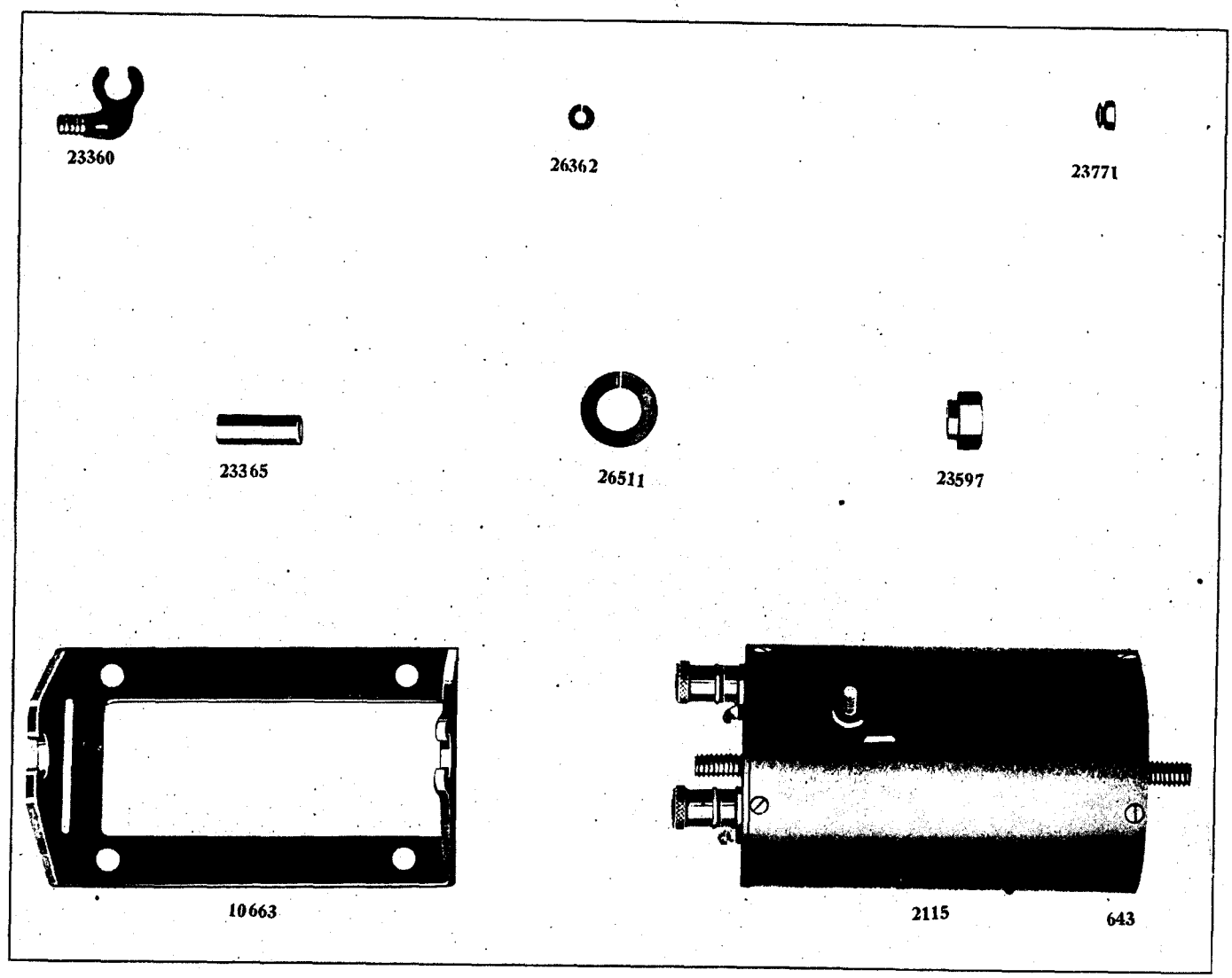
(Not Illustrated)

Piece Number	NAME OF PART	Quantity Required
5049	**DISTRIBUTOR ASSEMBLY COMPLETE**	1
11442	Housing Assembly Complete	1
	(Includes the next 2 Items)	
24406	Housing for Housing Assembly 11442	1
20775	Cup for Retainer and Balls Assembly 10282	2
21443	Clamp Nut for Shaft Assembly 11440 (Round)	1
21444	Lock Nut for Clamp Nut 21443	1
27222	Cone for Shaft Assembly 11440	2
11440	**Shaft Assembly (Includes Shaft, Cam, and Pin)**	1
14115	**Shaft and Cone Assembly Includes Shaft Assembly 11440) (Service) (and Upper Cone) (Service)**	1
10282	**Retainer and Balls Assembly**	2
10598	**Advance Yoke Assembly**	1
21797	Screw for Advance Yoke Assembly 10598	1
21786	Advance Ring for Advance Yoke Assembly 10598	1
21776	Pin for Advance Ring 21786	1
11869	**Spring Terminal Assembly (Magneto)**	2
10745	**Condenser Assembly**	1
	(Includes the next Item)	
32141	Screw for attaching Condenser Assembly 10740	4
23875	Separator for Condenser Assembly 10745	1
11408	**Contact Arm Assembly for Distributor**	1
	(Includes the next 3 Items. Do not count Old Style Parts)	
11379	**Connector Assembly for Contact Arm Assembly 11408**	1
21801	Terminal Wire (Old Style)	1
24069	Hub for Contact Arm Assembly 11408	1
24947	Screw for attaching Hub 24069	2
12411	**Contact Screw Assembly for Contact Arm Assembly 11408**	1
21748	Nut for Contact Screw Assembly 11411	1
23398	Spring for Contact Arm Assembly 11408	1
21780	Stop for Contact Arm Assembly 11408	1
21836	Screw for retaining Stop 21780	1
20345	Lock Washer for Screws 21836 and 23870	3
23870	Screw for connecting Condenser Assembly 10745 to Spring Terminal Assembly 11869	2
11111	**Advance Shaft Assembly**	1
23841	Collar for Shaft Assembly 11111	1
24079	Pin for retaining Collar 23841	1
11643	**Distributor Head Assembly Complete**	1
	(Includes the next 2 Items. Do not count Old Style Parts)	
21425	Plunger (Old Style) for Distributor Head Assembly 11643 (Approximately ⅛" Diameter)	1
27608	Plunger for Distributor Head Assembly 11643 (Approximately ¼" Diameter)	1
21424	Spring (Old Style) for Plunger 21425 (Approximately ⅛" Diameter)	1
27607	Spring for Plunger 27608 (Approximately ¼" Diameter)	1
10429	**Distributor Rotor Assembly Complete**	1
	(Includes the next 6 Items)	
11871	**Connector Assembly Contact**	1
23811	Screw for retaining Connector Assembly 11871	1
11870	**Clip Assembly for locating Distributor Rotor Assembly 10429**	1
21514	Screw for retaining Clip Assembly 11870	1
23831	Brush for Distributor Rotor Assembly 10429	1
23812	Spring for Brush 23831	1
21782	Clip for Distributor Head Assembly 11643 (With Clip 21781)	1
21781	Clip for Distributor Head Assembly 11643 (Long Tongue Clip)	1
21783	Clip for Distributor Head Assembly 11643 (Single)	1
21886	Screw for retaining Clip 21783	2
21887	Screw for retaining Clips 21781 and 21782	2
11811	**Plate Assembly for retaining Contact Arm Assembly 11408**	1
	(Includes the next 2 Items)	
21493	Stud for mounting Stop 21780	1
21494	Stud for mounting Contact Arm Assembly 11408	1
21747	Screw for retaining Plate Assembly 11811	3
23876	Plain Washer for Screw 21747	3
21495	Insulating Bushing for Screw 21747	3
23941	Insulating Washer for Screw 21747	3
23810	Insulator under Plate 11811	1
23869	Terminal for connecting Plate Assembly 11811	1
24232	Screw for retaining Terminal 23869	1
23777	Insulating Bushing for Spring Terminal Assembly 11869	2
23780	Insulating Washer for Spring Terminal Assembly 11869	4
20704	Nut for Spring Terminal Assembly 11869	2
24953	Lock Washer for Nut 20704	2
23445	Plain Washer for Spring Terminal Assembly 11869	4
12741	**Wrench for Distributor**	1
11863	**High Tension Terminal Assembly for Distributor Head Assembly 11643 (Blank)**	5
25003	Rubber Washer for High Tension Terminal Assemblies	5

No. 5001 DISTRIBUTOR

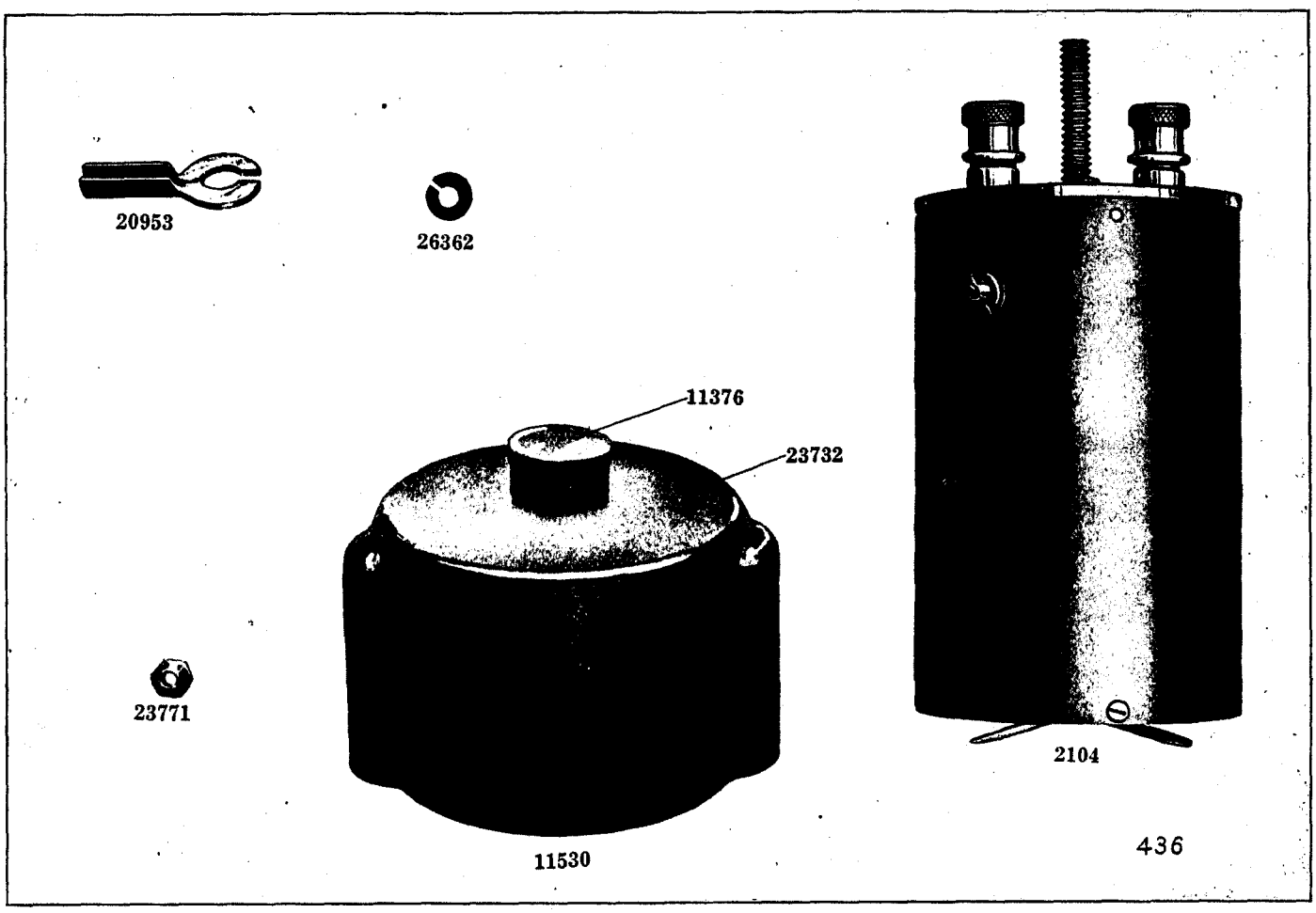
(Not Illustrated)

Piece Number	NAME OF PART	Quantity Required
5001	**DRY CELL DISTRIBUTOR COMPLETE**	1
11991	**Housing Assembly Complete**	1
	(Includes the next 2 Items)	
24367	Housing for Housing Assembly 11991	1
20775	Cup for retainer and Balls Assembly 10282	1
14114	**Shaft Assembly (Service) Including Shaft 11435 and Upper Cone)**	1
21443	Clamp Nut for Shaft Assembly 11435 (Round)	1
21444	Lock Nut for Clamp Nut 21443 (Hexagon)	1
27222	Cone for Shaft Assembly 11435	2
11435	**Shaft Assembly (Includes the Shaft, Cam and Pin)**	1
11667	**Shaft and Cone Assembly**	1
11226	**Advance Lever Assembly**	1
11230	**Advance Shaft Assembly**	1
24079	Dowel Pin for retaining Advance Lever Assembly 11226	1
10888	**Cover Assembly for Housing 24367**	1
	(Includes the next 2 Items)	
23849	Name Plate for Cover Assembly 10888	1
23839	Rivet for Name Plate 23849	2
10282	**Retainer and Balls Assembly**	2
12411	**Contact Screw Assembly**	1
11868	**Spring Terminal Assembly**	1
14383	**Contact Arm Assembly**	1
	(Includes the next 2 Items)	
24069	Hub for Contact Arm Assembly 14383	1
24947	Screw for attaching Hub 24069	2
10598	**Advance Yoke Assembly**	1
21797	Screw for Advance Yoke Assembly 10598	1
10429	**Distributor Rotor Assembly Complete**	1
	(Includes the next 6 Items)	
11871	**Distributor Rotor Connector Assembly (Contact)**	1
23811	Screw for retaining Connector Assembly 11871	1
11870	**Clip Assembly for locating Distributor Rotor Assembly 10429**	1
21514	Screw for retaining Clip Assembly 11870	1
23831	Brush for Distributor Rotor Assembly 10429	1
23812	Spring for Brush 23831	1
11643	**Distributor Head Assembly Complete**	1
	(Includes the next 2 Items. Do not Count Old Style Parts)	
21425	Plunger (Old Style) for Distributor Head Assembly 11643 (Approximately ⅛" Diameter)	1
27608	Plunger for Distributor Head Assembly 11643 (Approximately ¼" Diameter)	1
21424	Spring (Old Style) for Plunger 21425 (Approximately ⅛" Diameter)	1
27607	Spring for Plunger 27608 (Approximately ¼" Diameter)	1
21782	Clip for Distributor Head Assembly 11643 (With Clip 21781)	1
21781	Clip for Distributor Head Assembly 11643 (Long Tongue Clip)	1
21783	Clip for Distributor Head Assembly 11643 (Single)	1
21887	Screw for retaining Clips 21781 and 21782	2
21886	Screw for retaining Clip 21783	2
23777	Insulating Bushing for Spring Terminal Assembly 11868	1
23780	Insulating Washer for Spring Terminal Assembly 11868	2
23445	Plain Washer for Spring Terminal Assembly 11868	2
20704	Nut for Spring Terminal Assembly 11868	1
24953	Lock Washer for Nut 20704	1
21748	Lock Nut for Contact Screw Assembly 12411	1
21847	Stud for retaining Contact Arm Assembly 14383	1
21499	Stud for retaining Stop 21780	1
21780	Stop for Contact Arm Assembly 14383	1
21836	Screw for retaining Stop 21780	1
20345	Lock Washer for Screw 21836	1
23398	Spring for operating Contact Arm Assembly 14383	1
23882	Screw for attaching Cover Assembly 10888	4
21776	Pin for Advance Ring 21786	1
21786	Advance Ring for Advance Yoke Assembly 10598	1
13502	**Lead Assembly for connecting Distributor 5001**	1
	(Includes the next Item)	
20953	Terminal Clip for Lead Assembly 13502	2
12741	**Wrench for Distributor**	1
11863	**High Tension Terminal Assembly for Distributor Head Assembly 11643 (Blank)**	5
25003	Rubber Washer for High Tension Terminal Assemblies	5



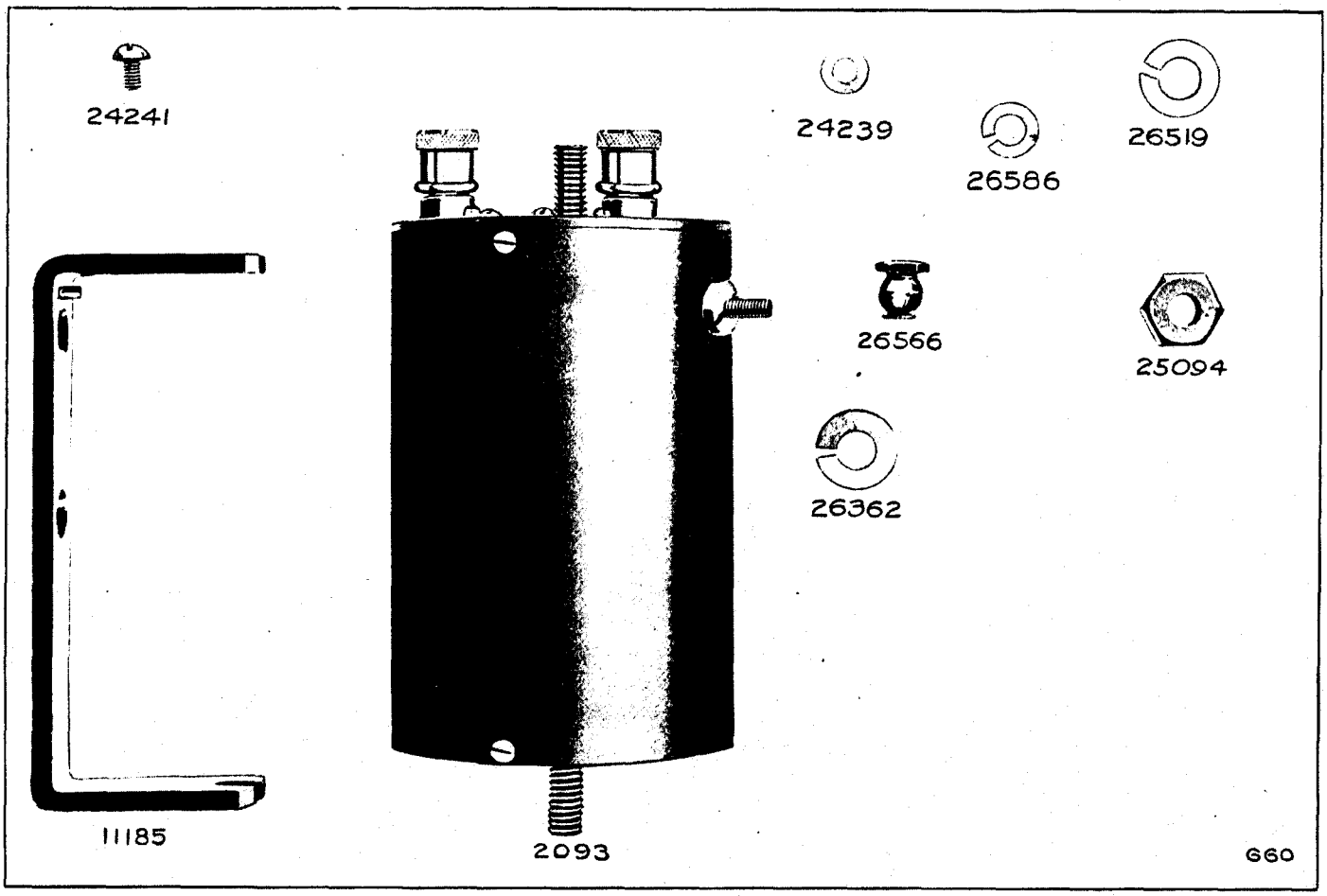
No. 2115 IGNITION COIL

Piece Number	NAME OF PART	Quantity Required
2115	**IGNITION COIL COMPLETE** (Includes the next 4 Items)	1
32115	Nut for High Tension Terminal	1
26362	Lock Washer for Nut 23771	1
23597	Nut for retaining Bracket Assembly 10663	2
26511	Lock Washer for Nut 23597	2
23360	Terminal Clip for connecting Ignition Coil 21115	1
23365	Fibre Ferrule for Terminal Clip 23360	1
10663	**Bracket Assembly for mounting Ignition Coil 2115**	1



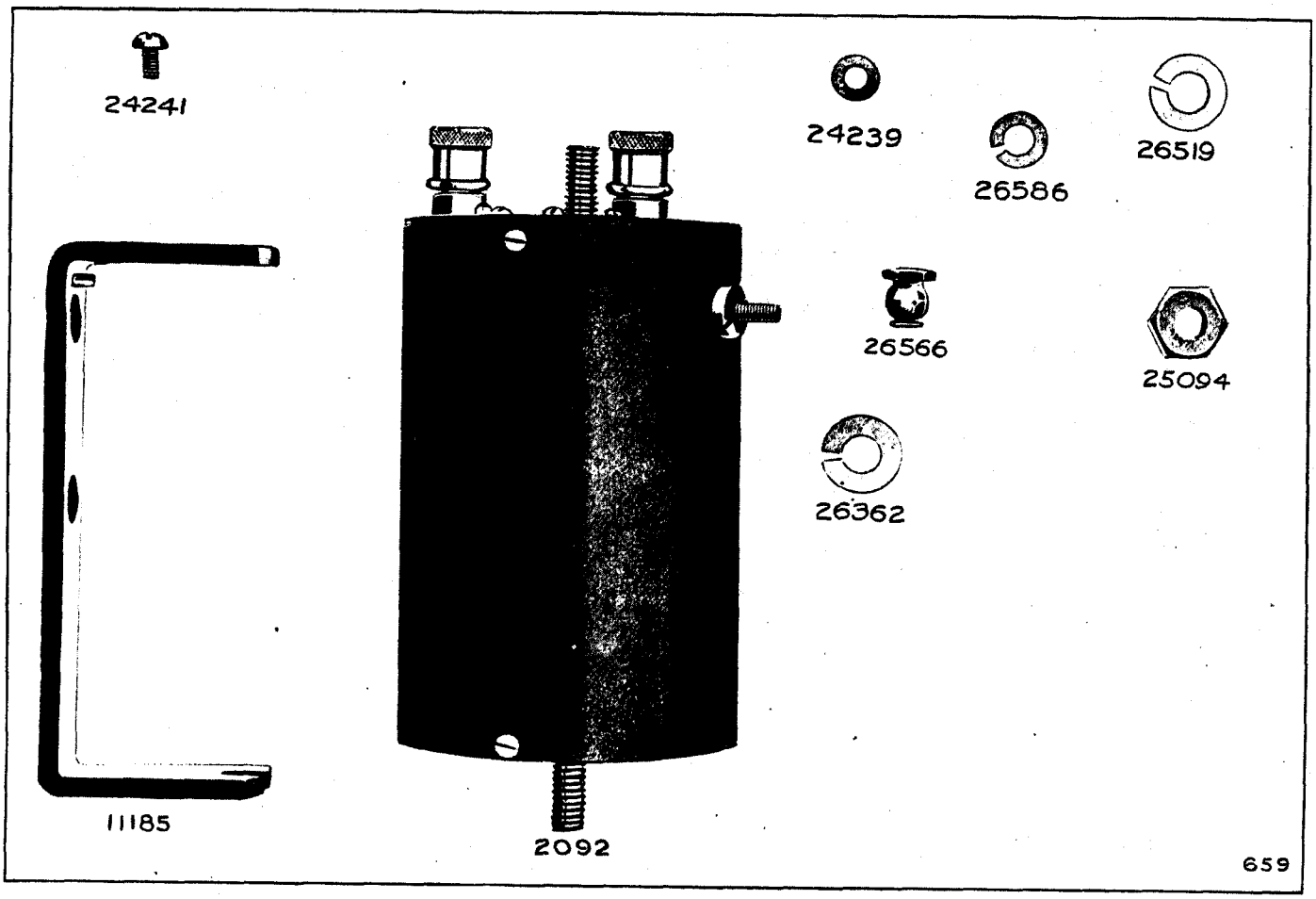
No. 2104 IGNITION COIL

Piece Number	NAME OF PART	Quantity Required
2104	**IGNITION COIL COMPLETE**	1
23771	Nut for High Tension Terminal	1
26362	Lock Washer for Nut 23771	1
11530	**Protector Assembly Complete** (Includes the next 3 Items)	1
23732	Protector for Protector Assembly 11530	1
11376	**Nut Assembly**	1
23447	Plain Washer for Nut Assembly 11376 (Not shown in Illustration)	1
20953	Terminal Clip for connecting Ignition Coil 2104	2
23835	Terminal Clip for High Tension Terminal (Not shown in Illustration)	1



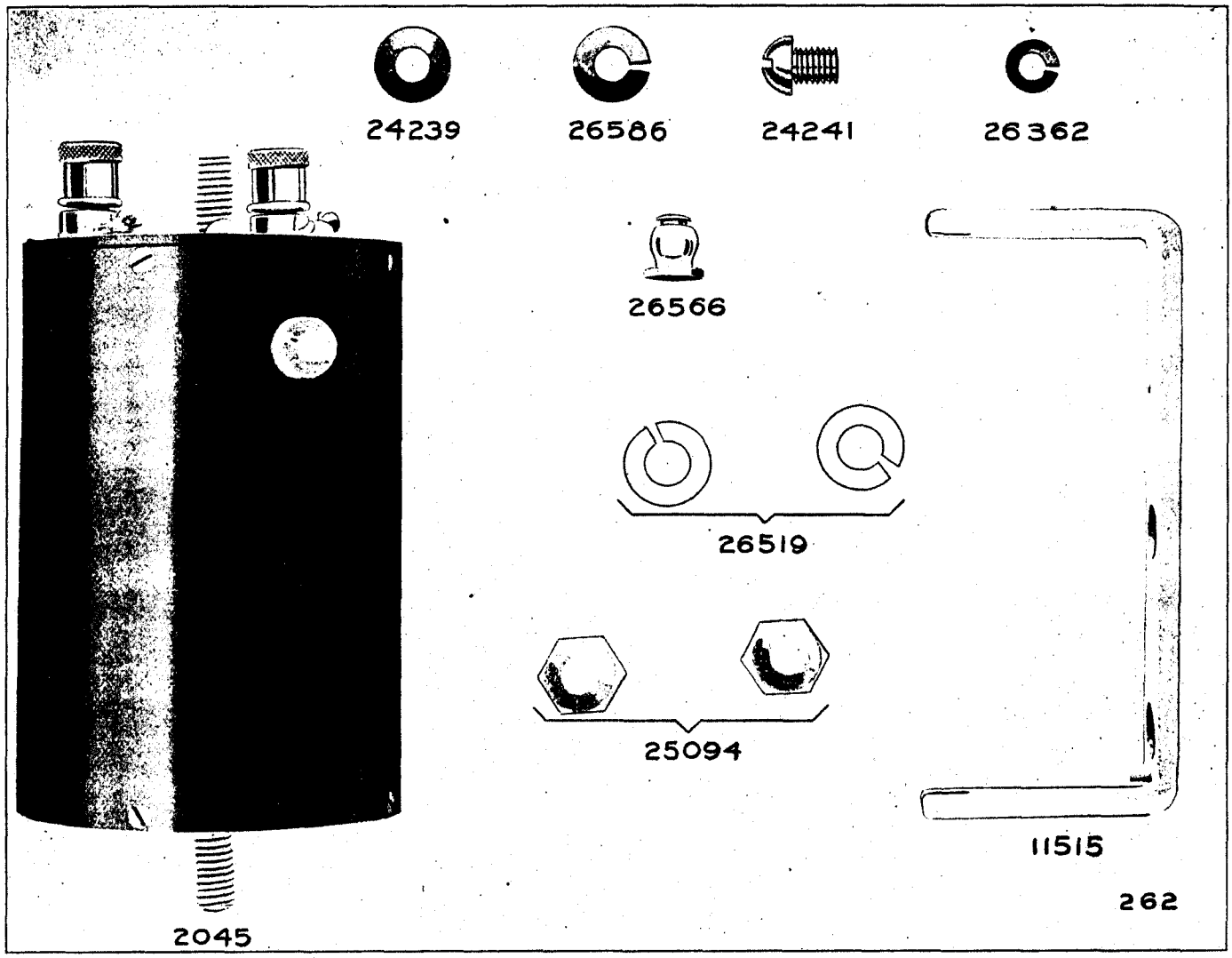
No. 2093 IGNITION COIL

Piece Number	NAME OF PART	Quantity Required
2093	**IGNITION COIL COMPLETE**	1
26566	Nut for High Tension Terminal	1
26362	Lock Washer for Nut 26566	1
25094	Nut for attaching Bracket Assembly 11185	2
26519	Lock Washer for Nut 25094	2
11185	**Bracket Assembly for mounting Ignition Coil 2093**	1
24241	Screw for Bracket Assembly 11185	1
26586	Lock Washer for Screw 24241	1
24239	Plain Washer for Screw 24241	1
20953	Terminal Clip for connecting Ignition Coil 2093 (Not shown in Illustration)	2



No. 2092 IGNITION COIL

Piece Number	NAME OF PART	Quantity Required
2092	**IGNITION COIL COMPLETE**	1
26566	Nut for High Tension Terminal	1
26362	Lock Washer for Nut 26566	1
11185	**Bracket Assembly for attaching Ignition Coil 2092**	1
25094	Nut for retaining Bracket Assembly 11185	2
26519	Lock Washer for Nut 25094	2
24241	Screw for Bracket Assembly 11185	1
26586	Lock Washer for Screw 24241	1
24239	Plain Washer for Screw 24241	1
20953	Terminal Clip for connecting Ignition Coil 2092 (Not shown in Illustration)	1



No. 2045 IGNITION COIL

Piece Number	NAME OF PART	Quantity Required
2045	**IGNITION COIL COMPLETE**	1
11515	**Bracket Assembly for mounting Coil**	1
25094	Nut for mounting Coil	2
26519	Lock Washer for Nut 25094	2
26566	Nut for High Tension Terminal	1
26362	Lock Washer for Nut 26566	1
24241	Screw for Bracket Assembly 11515	1
26586	Lock Washer for Screw 24241	1
24239	Plain Washer for Screw 24241	1

No. 2022 IGNITION COIL

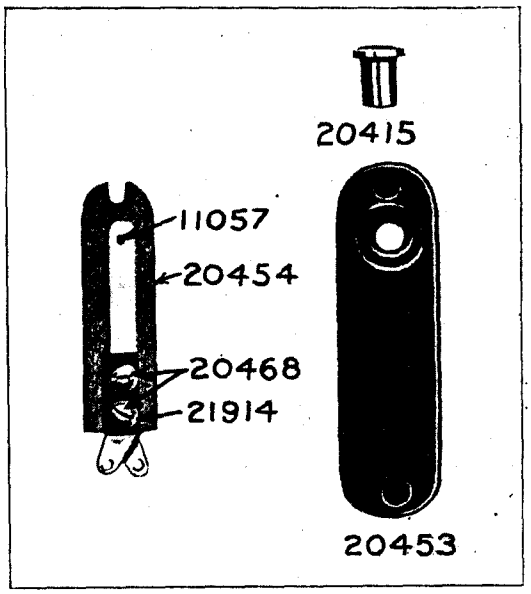
(Not Illustrated)

Piece Number	NAME OF PART	Quantity Required
2022	**IGNITION COIL COMPLETE**	1
26566	Nut for High Tension Terminal	1
26362	Lock Washer for Nut 26566	1
25094	Nut for retaining Bracket 21497	2
26519	Lock Washer for Nut 25094	2
21497	Bracket for attaching Coil 2022	1
24241	Screw for Bracket 21497	1
26586	Lock Washer for Screw 24241	1
24239	Plain Washer for Screw 24241	1
23573	Number Plate for Coil 2022	1
24747	Screw for attaching Number Plate 23573	2

No. 2004 COIL BOX

(Not Illustrated)

Piece Number	NAME OF PART	Quantity Required
2004	**COIL BOX COMPLETE**	1
10707	**Spring Terminal Assembly**	5
12882	**Coil Assembly**	1
12994	**Box Assembly**	1
	(Includes the next 2 Items)	
23568	Name Plate for Box Assembly 13013	2
24963	Rivet for Name Plate 23568	1
24960	Screw for retaining Box Assembly 12994	5
24694	Screw for retaining Spring Terminal Assembly 10707	5
28335	Plain Washer for Screw 24694	5
28333	Box for retaining Coil Assembly 12882	1
25374	Separator for Coil Assembly 12882	3
24487	Nut for High Tension Terminal	4
24744	Nut for retaining Coil Assembly 12882	4
25207	Plain Washer for Nut 24744	4
25373	Insulator for High Tension Terminal	4
25119	Plain Washer for Insulator 25373 (Large)	4
25189	Insulator for Separator 25374	1
25188	Bracket for mounting Coil Box 2004	1
28326	Screw for attaching Bracket 25188	4
28337	Strip for mounting Spring Terminal Assembly 10707	1
28336	Strip for retaining Coil Assembly 12882	1

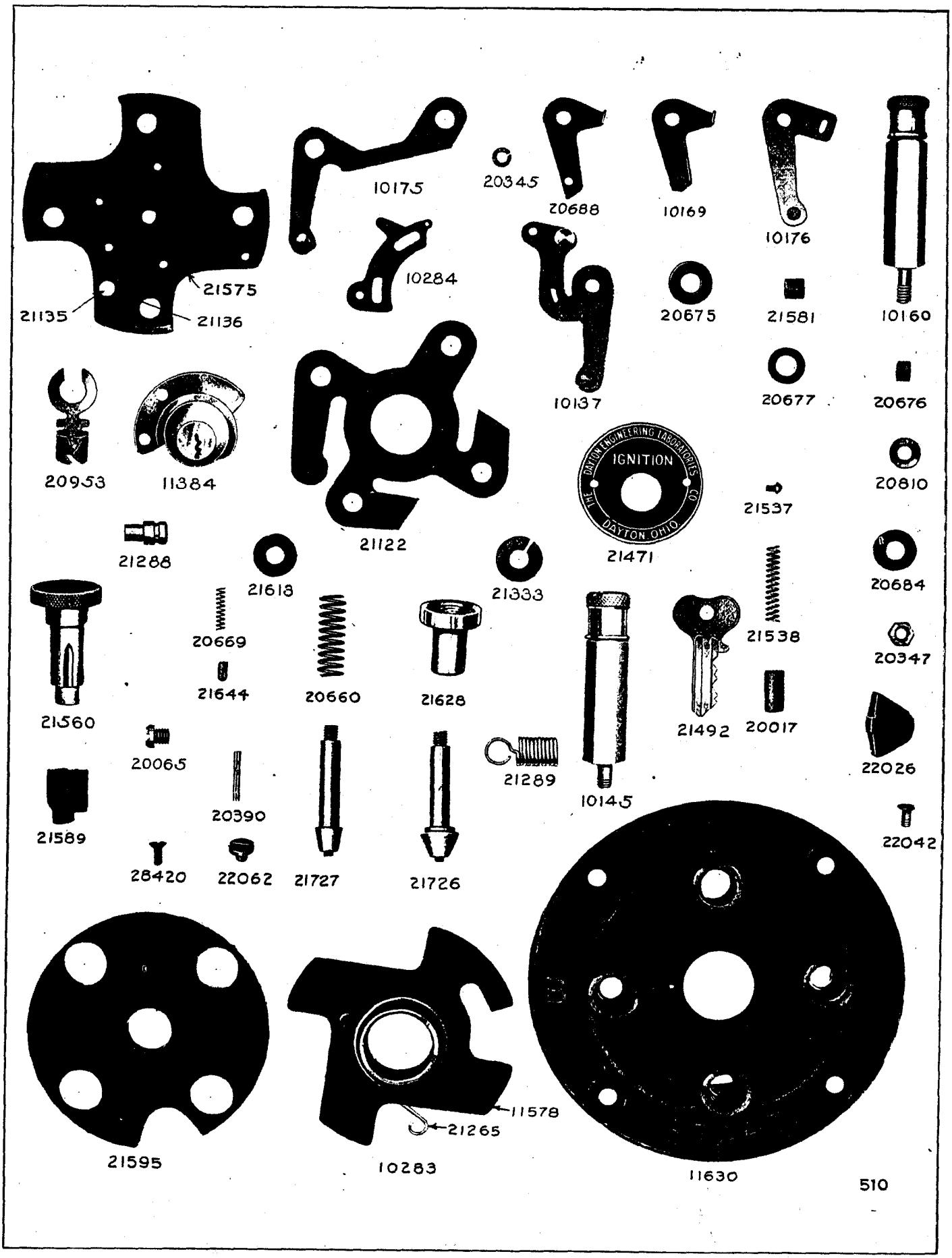


No. 1991 STARTING SWITCH

Piece Number	NAME OF PART	Quantity Required
1991	**STARTING SWITCH COMPLETE**	1
20453	Cover for Switch	1
20415	Plunger for operating Contact Spring Assembly 11057	1
20454	Plate for mounting Contact Spring Assembly 11057	1
11057	**Contact Spring Assembly for Switch**	2
20468	Screw for mounting Contact Spring Assembly 11057	2
20418	Insulating Bushing for Screw 20468 (Not shown in Illustration)	2
21914	Lock Washer for Screw 20468	2
20201	Insulator between Contact Spring Assembly 11057 (Not shown in Illustration)	3
20467	Insulator (Long) for Contact Spring Assembly 11057 (Not shown in Illustration)	1
20200	Insulator for Contact Spring Assembly 11057 under Screw 20468 (Not shown in Illustration)	1

No. 1979 IGNITION SWITCH

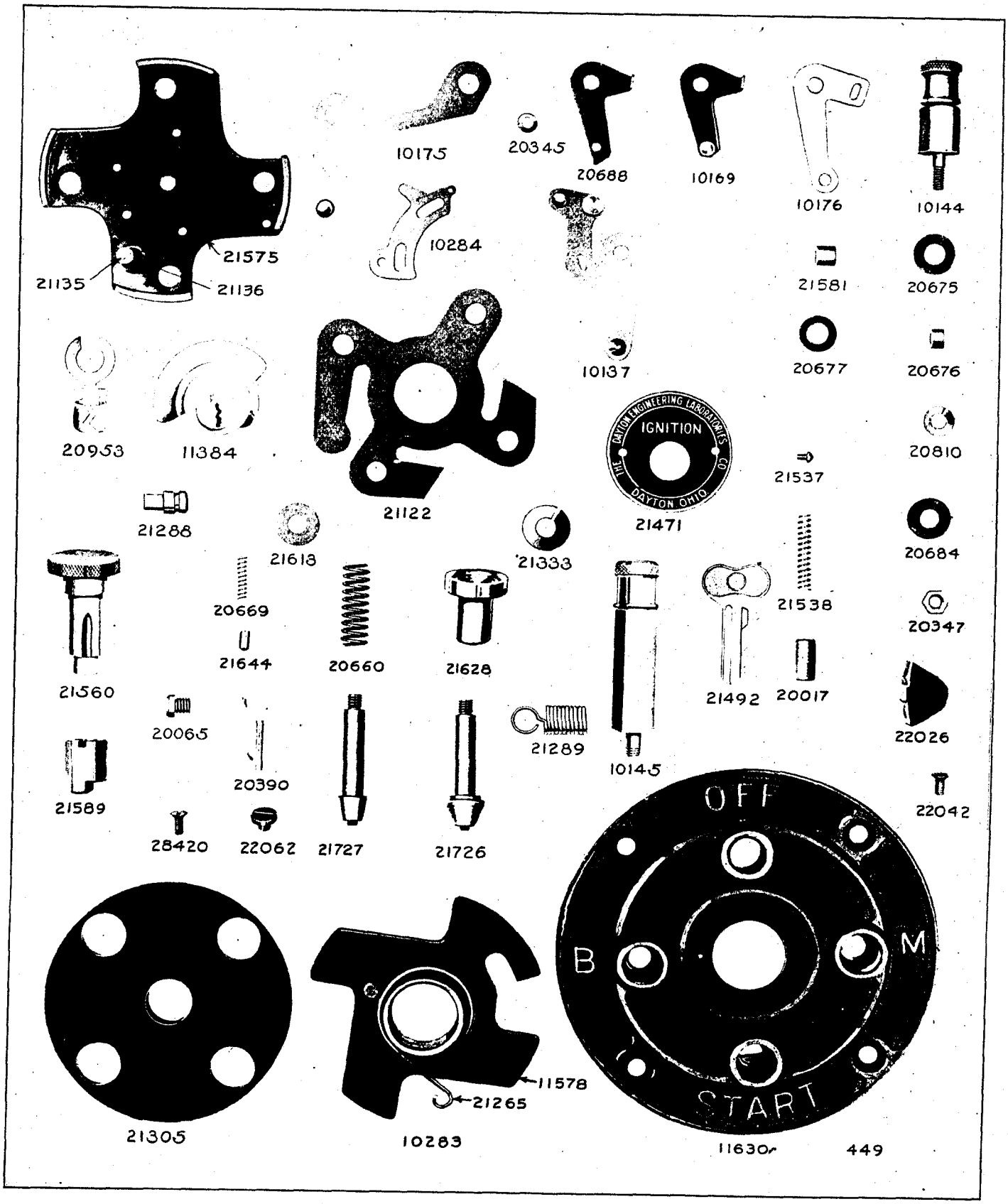
Piece Number	NAME OF PART	Quantity Required
1979	**IGNITION SWITCH COMPLETE**	1
10289	**Shell Assembly Complete** (Includes the next 16 Items)	1
10287	**Shell Assembly** (Includes the next 6 Items)	1
13836	**Shell Assembly**	1
21628	Button for Studs 21726 and 21727	3
21726	Stud for operating Contacts (Battery and Magneto)	2
21727	Stud for operating Contacts (Start)	1
20660	Spring for Push Button 21628	3
29284	Lock Washer for Button 21628 (Not shown in Illustration)	3
21560	Button for locking Switch	1
21644	Plunger for Button 21560	1
20669	Spring for Plunger 21644	1
20017	Plunger for Spring 21538	1
21538	Spring for Button 21560	1
22026	Bracket for retaining Spring 21538 and Plunger 20017	1
22042	Screw for retaining Bracket 22026	2
21589	Locking Cam for Button 21560	1
20390	Pin for Locking Cam 21589	1
10288	**Switch Mechanism Assembly Complete** (Includes the next 28 Items)	1
10285	**Support Plate Assembly** (Includes the next 6 Items)	1
10284	**Locking Cam Assembly**	1
21289	Spring for Locking Cam Assembly 10284	1
21288	Stud for Spring 21289	1
21137	Stud for Locking Cam Assembly 10284 (Not shown in Illustration)	1
21136	Plain Washer for Stud 21135	1
21135	Stud for retaining Spring 21265	1
10169	**Contact Arm Assembly (Short)**	1
10176	**Contact Arm Assembly (Single)**	1
10137	**Contact Arm Assembly (Double)**	1
10175	**Contact Arm Assembly (Common)**	1
10160	**Spring Terminal Assembly (Outer)**	1
10145	**Spring Terminal Assembly (Center)**	1
21122	Insulator for Contact Arm Assembly 10175	1
20677	Insulating Washing for Contact Arm Assemblies 10169 and 10176	2
20675	Insulating Washer for Nut 20347	4
20810	Plain Washer for Nut 20347	4
20684	Plain Washer for (Common) Spring Terminal Assembly (Thick)	1
21613	Plain Washer for Spring Terminal Assembly 10160 (Thin)	1
20347	Nut for Spring Terminal Assemblies 10145 and 10160	5
24240	Lock Washer for Spring Terminal Assembly 10145 (Not shown in Illustration)	1
20676	Insulating Bushing for Spring Terminal Assembly 10160 (Long)	3
21581	Insulating Bushing for Spring Terminal Assembly 10160 (Short)	1
20688	Support Plate for Contact Arm Assembly 10176	2
20345	Lock Washer for Screw 20065	3
20065	Screw for retaining Lock Assembly 11384	3
11384	**Lock Assembly Complete** (Includes the next Items)	1
29958	Key for Lock Assembly 11384 (Give Series No. of Lock)	2
10283	**Detent Assembly Complete** (Includes the next 2 Items)	1
21262	Stud for Spring 21265 (Not shown in Illustration)	1
21265	Spring for Detent Assembly 10283	1
21595	Cover Plate for Switch	1
21471	Name Plate for Switch	1
21537	Screw for retaining Name Plate 21471	2
28420	Screw for retaining Cover Plate 21595	4
22062	Screw for retaining Switch Mechanism Assembly 10268	4
20953	Terminal Clip for connecting Switch 1979	4



No. 1979 IGNITION SWITCH

No. 1978 IGNITION SWITCH

Piece Number	NAME OF PART	Quantity Required
1978	**IGNITION SWITCH COMPLETE**	1
10289	**Shell Assembly Complete** (Includes the next 16 Items)	1
10287	**Shell Assembly** (Includes the next 6 Items)	1
13836	**Shell Assembly**	3
21628	Button for Studs 21726 and 21727	2
21726	Stud (Battery and Magneto) for operating Contacts	1
21727	Stud for operating Contacts (Start)	3
20660	Spring for Push Button 21628	3
29284	Lock Washer for Button 21628 (Not shown in Illustration)	1
21560	Button for locking Switch	1
21644	Plunger for Button 21560	1
20669	Spring for Plunger 21644	1
20017	Plunger for Spring 21538	1
21538	Spring for Plunger 21560	1
22026	Bracket for retaining Spring 21538 and Plunger 20017	2
22042	Screw for retaining Bracket 22026	1
21589	Locking Cam for Button 21560	1
20390	Pin for Locking Cam 21589	1
10286	**Switch Mechanism Assembly Complete** (Includes the next 28 Items)	1
10285	**Support Plate Assembly** (Includes the next 6 Items)	1
10284	**Locking Cam Assembly**	1
21289	Spring for Locking Cam Assembly 10284	1
21288	Stud for Spring 21289	1
21137	Stud for Locking Cam Assembly 10284 (Not shown in Illustration)	1
21136	Plain Washer for Locking Cam Assembly 10284	1
21135	Stud for retaining 21265	1
10169	**Contact Arm Assembly (Short)**	1
10176	**Contact Arm Assembly (Single)**	1
10137	**Contact Arm Assembly (Double)**	1
10175	**Contact Arm Assembly (Common)**	4
10144	**Spring Terminal Assembly (Short)**	1
10145	**Spring Terminal Assembly (Long)**	1
21122	Insulator for Contact Arm Assembly 10175	2
26677	Insulating Washer for Contact Arm Assemblies 10169 and 10176	4
20675	Insulating Washer for Nut 20347	4
20810	Plain Washer for Nut 20347	1
20684	Plain Washer for (Common) Spring Terminal Assembly 10144 (Thick)	1
21613	Plain Washer for Spring Terminal Assembly 10144 (Thin)	5
20347	Nut for Spring Terminal Assemblies 10144 and 10145	1
24240	Lock Washer for Spring Terminal Assembly 10145 (Not shown in Illustration)	3
20676	Insulating Bushing for Spring Terminal Assembly 10144 (Long)	1
21581	Insulating Bushing for Spring Terminal Assembly 10144 (Short)	2
20688	Support Plate for Contact Arm Assembly 10176	3
20345	Lock Washer for Screw 20065	3
20065	Screw for retaining Lock Assembly 11384	1
11384	**Lock Assembly** (Includes the next Item)	2
29958	Key for Lock Assembly 11384 (Give Series No. of Lock)	1
10283	**Detent Assembly Complete** (Includes the next 2 Items)	1
21262	Stud for Spring 21265 (Not shown in Illustration)	1
21265	Spring for Detent Assembly 10283	1
21305	Cover Plate for Switch	1
21471	Name Plate for Switch	2
21537	Screw for retaining Name Plate 21471	4
28420	Screw for retaining Cover Plate 21305	4
22062	Screw for retaining Switch Mechanism Assembly 10286	5
20953	Terminal Clip for connecting Ignition Switch 1978	



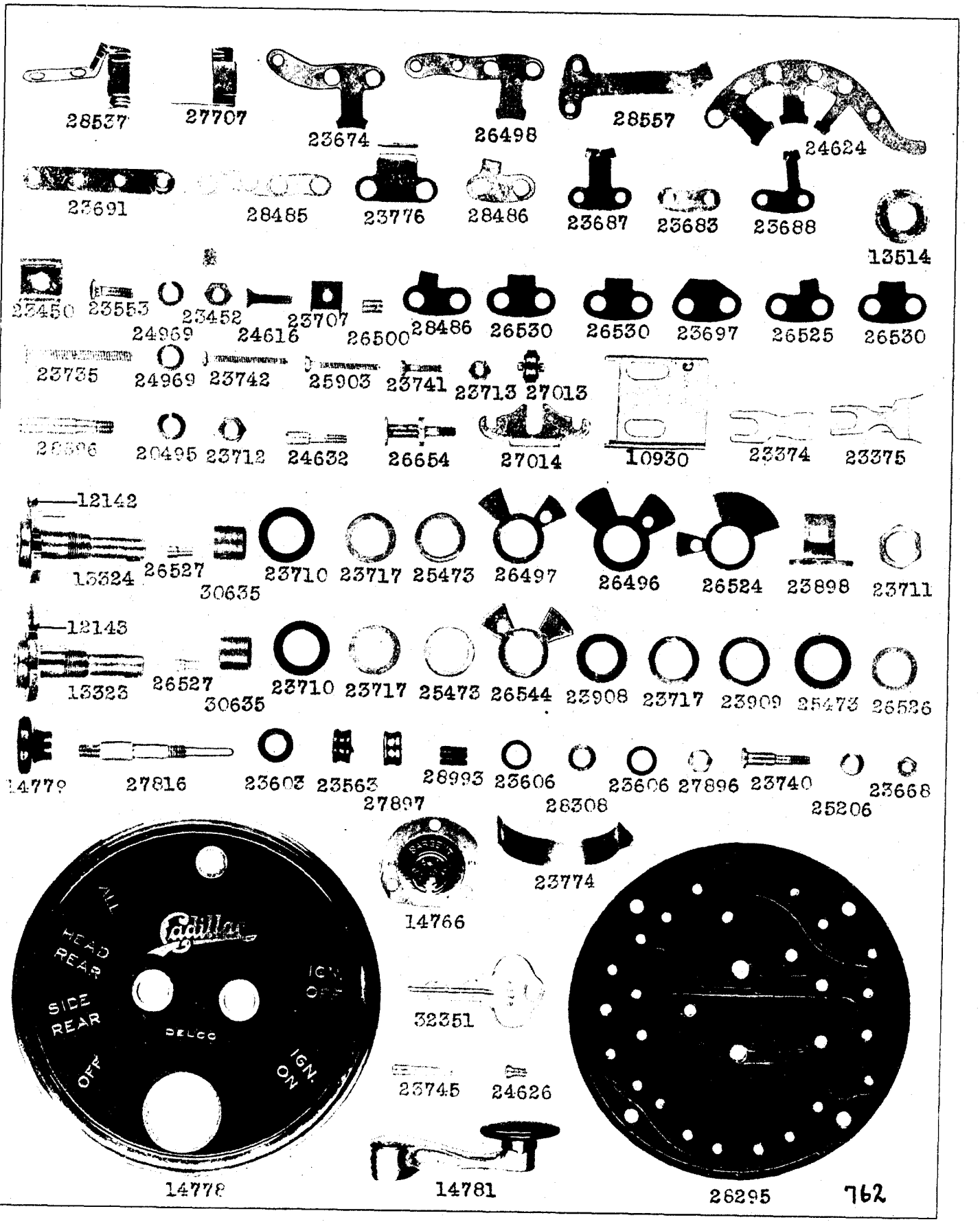
No. 1978 IGNITION SWITCH

No. 1150 COMBINATION SWITCH (Continued)

Piece Number	NAME OF PART	Quantity Required
26525	Insulating Plate for Terminals No. 1 and 8	5
26530	Insulating Plate for Terminals Nos. 2, 3, 5 and 6	11
28483	Insulating Bushing for Terminal No. 3 (Not shown in Illustration)	2
28486	Separator Plate for Terminal No. 8	2
28537	Contact Spring for connecting Terminal No. 8 and Plunger Assembly 13086	1
27705	Contact Spring for connecting Plunger Assembly 13086 and Terminal No. 9	1
23741	Screw for retaining Contact Spring 27707 and Terminal No. 4	4
23740	Screw for retaining Tumbler Assembly 10930	2
23683	Plate for retaining Screws 23741 on Terminal No. 4	1
23697	Insulating Plate for Terminal No. 6 under Brush 26498 (Large)	1
28485	Plate connecting Terminal No. 3 and Contact Spring 28537	1
23713	Nut for Screws 23740, 24632 and Stud 26654	5
23668	Nut for retaining Screw 23742	2
26654	Stud for retaining Roller Bracket 27014	1
25206	Lock Washer for Nut 23713	5
20495	Lock Washer for Nut 23712	2
20393	Lock Washer for Screw 23735	4
23735	Screw for retaining Housing Assembly	4
23707	Nut for Screw 24616	1
24616	Screw for retaining Spring 23774	1
23742	Screw for retaining Brushes 23674 and 24624 (Short)	2
24632	Stop Screw for Blade Assemblies	2
26523	Screw for retaining Terminal No. 7 (Not shown in Illustration)	2
31009	Spacing Washer for Blade Assemblies	2
28896	Stud for retaining Blade Assemblies	2
23712	Nut for retaining Stud 28896	2
23691	Terminal Plate under Terminal Plate No. 4	1
23374	Terminal Clip for connecting Switch (Small)	7
23375	Terminal Clip for connecting Switch (Large)	2

No. 1150 COMBINATION SWITCH

Piece Number	NAME OF PART	Quantity Required
1150	**COMBINATION SWITCH**	1
14777	**Housing Assembly Complete** (Includes the next 12 Items)	1
32291	Escutcheon Plate for Switch	1
28612	Ferrule for retaining Plate 32291	2
14779	**Button Assembly for Plunger Assembly 15307**	1
28308	Insulating Washer for Plunger Assembly 15307	1
15307	**Plunger Assembly Complete** (Includes the next 7 Items)	1
27816	Plunger for Plunger Assembly 15307	1
23563	Insulating Collar for Plunger 27816	1
28993	Insulating Bushing for Plunger 27816	1
27897	Contact Collar for Plunger 27816	1
23606	Plain Washer for Nut 27896	1
23603	Insulating Washer for Contact Collar 27897	1
27896	Nut for Clamping Plunger Assembly 15307	1
23898	Terminal Post for connecting Switch	1
23553	Screw for retaining Terminal Clip 23450	1
23452	Nut for Screw 23553	1
20393	Lock Washer for Nut 23452	1
23450	Clip for Terminal Clip 23374	1
13290	**Blade Assembly Complete (Ignition)** (Includes the next 15 Items)	1
13323	**Stud Assembly**	1
12143	**Stop Wheel Assembly**	1
26527	Insulating Bushing for Stop Wheel Assembly 12143	1
30635	Insulating Bushing for Stud Assembly 13323	1
26497	Blade for Blade Assembly 13290 (Lower)	1
26524	Blade for Blade Assembly 13290 (Upper)	1
26496	Insulator between Blade 26497 and 26524)	1
23710	Insulating Washer for Blade 26497 and 26524	2
23717	Plain Washer for Stop Wheel Assembly 12143 (Thick)	2
25473	Plain Washer for Stop Wheel Assembly 12143 (Thin)	1
23908	Plain Washer for Blade 26524 (Thick)	1
23711	Nut for Clamping Blade Assembly 13290	1
26526	Lock Washer for Nut 23711	1
23909	Plain Washer for Nut 23711	1
25473	Plain Washer for Blades 26524 (Thin)	1
13291	**Blade Assembly Complete (For Lighting)** (Includes the next 13 Items)	1
13324	**Stud Assembly**	1
12142	**Stop Wheel Assembly**	1
26527	Insulating Bushing for Stop Wheel Assembly 12142	1
30635	Insulating Bushing for Stud Assembly 13324	1
26544	Blade for Blade Assembly 13291	1
23717	Plain Washer for Stop Wheel Assembly 12142 (Thick)	1
25473	Plain Washer for Stop Wheel Assembly 12142 (Thin)	1
23710	Insulating Washer for Blade 26544	2
25473	Plain Washer for Blade 26544 (Thin)	1
23908	Plain Washer for Blade 26544 (Thick)	1
23909	Plain Washer for Nut 23711	1
26526	Lock Washer for Nut 23711	1
23711	Nut for Clamping Blade Assembly 13291	1
14766	**Lock Assembly for Switch** (Includes the next Item)	1
32351	Key for Lock Assembly 14766 (Give Series No. of Lock	2
24626	Screw for retaining Lock Assembly 14766	3
10930	**Tumbler Assembly for Locking Blade Assemblies 13290 and 13291**	1
14781	**Lever Assembly for operating Blade Assemblies**	2
23745	Screw for retaining Lever	2
27014	Roller Bracket for retaining Roller 27013	1
27013	Roller for Blade Assemblies 13290 and 13291	2
23774	Spring for Roller Bracket 27014	2
23776	Spring for Tumbler Assembly 10930	1
28295	Mounting Plate for Switch	1
23674	Brush for Terminal No. 5 (Lower)	1
23687	Brush for Terminals No. 2, 3, 5, 6 (Upper)	4
23688	Brush for Terminal No. 1 (Upper)	1
28557	Brush for connecting Terminal No. 8 and Blade Assembly	1
24624	Brush for Terminals No. 1, 2 and 3 (Lower)	1
26498	Brush for Terminals No. 6 and 7 (Lower)	1
25903	Screw for retaining Terminals No. 1, 2, 3, 5, 6 and 8	12
26500	Insulating Bushing for Screw 25903	10



No. 1150 COMBINATION SWITCH

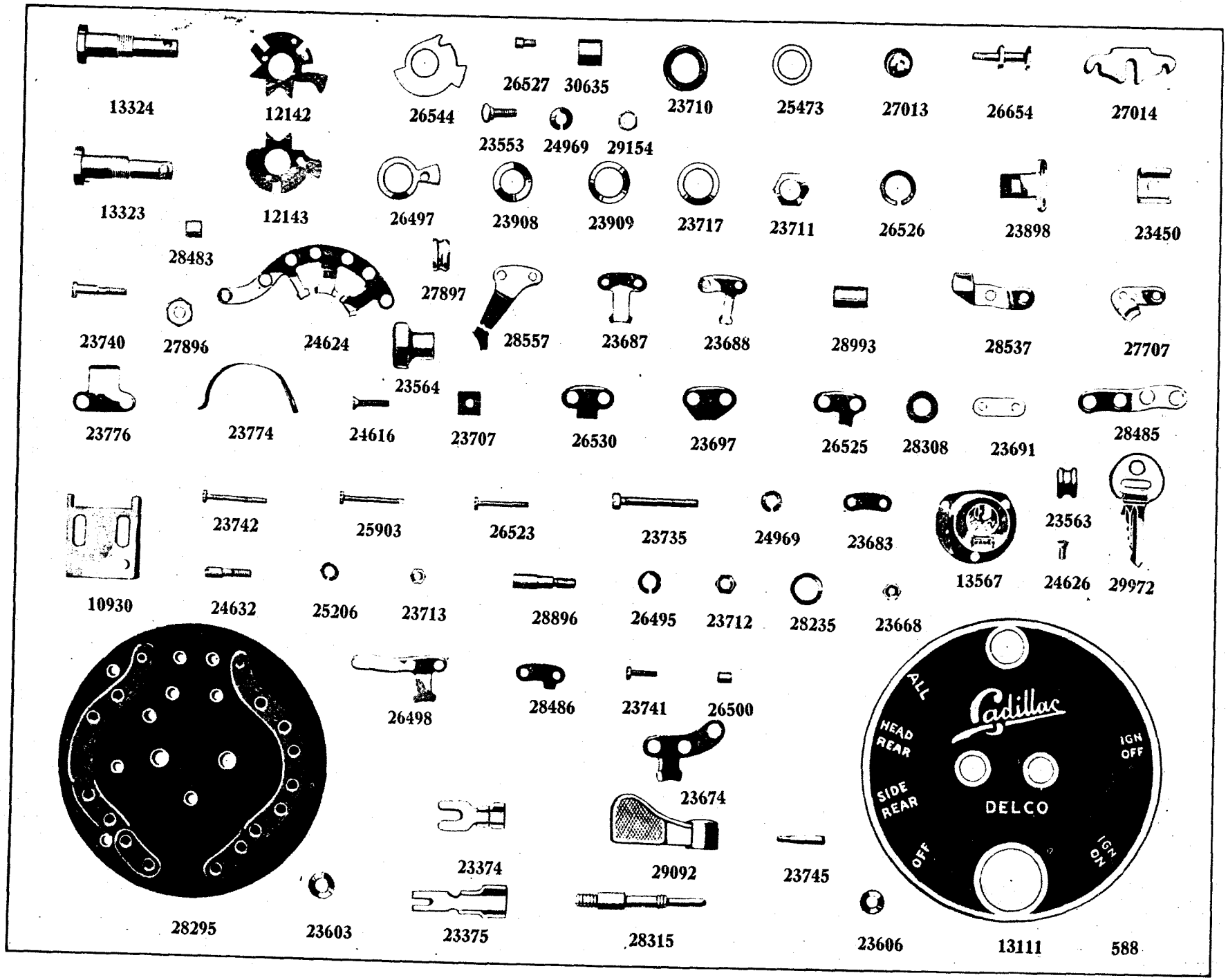
No. 1099 COMBINATION SWITCH (Continued)

Piece Number	NAME OF PART	Quantity Required
26498	Brush for Terminals No. 6 and 7 (Lower)	1
25903	Screw for retaining Terminals No. 1, 2, 3, 5, 6 and 8	12
26500	Insulating Bushing for Screw 25903	10
26525	Insulating Plate for Terminals No. 1 and No. 8	5
26530	Insulating Plate for Terminals No. 2, 3, 5 and 6	11
28483	Insulating Bushing for Terminal No. 8	2
28486	Separator Plate for Terminal No. 8	2
28537	Contact Spring for connecting Terminal No. 3 and Plunger Assembly 13110	1
27707	Contact Spring for connecting Plunger Assembly 13110 and Terminal No. 9	1
23741	Screw for retaining Contact Spring 27707 and Terminal No. 4	1
23740	Screw for retaining Tumbler Assembly 10930	2
23683	Plate for retaining Screws 23741 on Terminal No. 4	1
23697	Insulating Plate for Terminal No. 6 under Brush 26498 (Large)	1
28485	Plate connecting Terminal No. 3 and Contact Spring 28537	1
23713	Nut for Screws 23740, 24632 and Stud 26654	5
23668	Nut for retaining Screw 23742	2
26654	Stud for retainng Roller Bracket 27014	1
25206	Lock Washer for Nut 23713	5
20495	Lock Washer for Nut 23712	2
20393	Lock Washer for Screw 23735	4
23735	Screw for retaining Housing Assembly 13112	4
23707	Nut for Screw 24616	1
24616	Screw for retaining Spring 23774	1
23742	Screw for retaining Brushes 23674 and 24624 (Short)	2
24632	Stop Screw for Blade Assemblies 13290 and 13291	2
26523	Screw for retaining Terminal No. 7	2
31009	Spacing Washer for Blade Assemblies 13290 and 13291	2
28896	Stud for retaining Blade Assemblies 13290 and 13291	2
23712	Nut for retaining Stud 28896	2
23691	Terminal Plate under Termnal Plate No. 4	1
23374	Terminal Clip for connecting Switch (Small)	7
23375	Terminal Clip for connecting Switch (Large)	2

No. 1099 COMBINATION SWITCH

Note: No. 1099 Combination Switch superseded by No. 1150 Combination Switch. When ordering a complete new unit, order No. 1150.

Piece Number	NAME OF PART	Quantity Required
1099	**COMBINATION SWITCH**	1
13112	**Housing Assembly Complete** (Includes the next 12 Items)	1
28627	Escutcheon Plate for Switch	1
28612	Ferrule for Retaining Plate	2
23564	Button for Plunger Assembly 13110	1
28308	Insulating Washer for Plunger Assembly 13110	1
13110	**Plunger Assembly Complete** (Includes the next 7 Items)	1
28315	Plunger for Plunger Assembly 13110	1
23563	Insulating Collar for Plunger 28315	1
28993	Insulating Bushing for Plunger 28315	1
27897	Contact Collar for Plunger 28315	1
23606	Plain Washer for Nut 27896	1
23603	Insulating Washer for Contact Collar 27897	1
27896	Nut for Clamping Plunger Assembly 13110	1
23898	Terminal Post for connecting Switch	1
23553	Screw for retaining Terminal Clip 23450	1
23452	Nut for Screw 23553	1
20393	Lock Washer for Nut 23452	1
23450	Clip for Terminal Clip 23374	1
13290	**Blade Assembly Complete (For Ignition)** (Includes the next 15 Items)	1
13323	**Stud Assembly**	1
12143	**Stop Wheel Assembly**	1
26527	Insulating Bushing for Stop Wheel Assembly 12143	1
30635	Insulating Bushing for Stud Assembly 13323	1
26497	Blade for Blade Assembly 13290 (Lower)	1
26524	Blade for Blade Assembly 13290 (Upper) (Not shown in Illustration)	1
26496	Insulator between Blades 26497 and 26524 (Not shown in Illustration)	1
23710	Insulating Washer for Blades 26497 and 26524	2
23717	Plain Washer for Stop Wheel Assembly 12143 (Thick)	2
25473	Plain Washer for Stop Wheel Assembly 12143 (Thin)	1
23908	Plain Washer for Blade 26524 (Thick)	1
23711	Nut for Clamping Blade Assembly 13290	1
26526	Lock Washer for Nut 23711	1
23909	Plain Washer for Nut 23711	1
25473	Plain Washer for Blades 26524 (Thin)	1
13291	**Blade Assembly Complete (For Lighting)** (Includes the next 13 Items)	1
13324	**Stud Assembly**	1
12142	**Stop Wheel Assembly**	1
26527	Insulating Bushing for Stop Wheel Assembly 12142	1
30635	Insulating Bushing for Stud Assembly 13324	1
26544	Blade for Blade Assembly 13291	1
23717	Plain Washer for Stop Wheel Assembly 12142 (Thick)	1
25473	Plain Washer for Stop Wheel Assembly 12142 (Thin)	1
23710	Insulating Washer for Blade 26544	2
25473	Plain Washer for Blade 26544 (Thin)	1
23908	Plain Washer for Blade 26544 (Thick)	1
23909	Plain Washer for Nut 23711	1
26526	Plain Washer for Nut 23711	1
23711	Nut for Clamping Blade Assembly 13291	1
13567	**Lock Assembly for Locking Switch (Used on Model No. 57 Cadillac 1918)** (Includes the next Item)	1
29972	Key for Lock Assembly 13567 (Give Series No. of Lock)	2
14308	**Lock Assembly for Switch (Used on Model No. 59 Cadillac 1919)** (Includes the next Item)	1
31533	Key for Lock Assembly 14308 (Give Serial No. of Lock)	2
24626	Screw for retaining Lock Assembly 13567	3
10930	**Tumbler Assembly for Locking Blade Assemblies 13290 and 13291**	1
29092	Lever for operating Blade Assemblies 13290 and 13291	2
23745	Screw for retaining Lever 29092	2
27014	Roller Bracket for retaining Roller 27013	1
27013	Roller for Blade Assemblies 13290 and 13291	2
23774	Spring for Roller Bracket 27014	2
23776	Spring for Tumbler Assembly 10930	1
28295	Mounting Plate for Switch	1
23674	Brush for Terminal No. 5 (Lower)	1
23687	Brush for Terminals No. 2, 3, 5, 6 (Upper)	4
23688	Brush for Terminal No. 1 (Upper)	1
28557	Brush for connecting Terminal No. 8 and Blade Assembly 12176	1
24624	Brush for Terminals No. 1, 2 and 3 (Lower)	1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12142
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23908
23909
23717
23711
26526
23898
23450
28483
23740
27896
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27897
28557
23687
23688
28993
28537
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23564
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28485
23742
25903
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23683
23563
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29972
13567
10930
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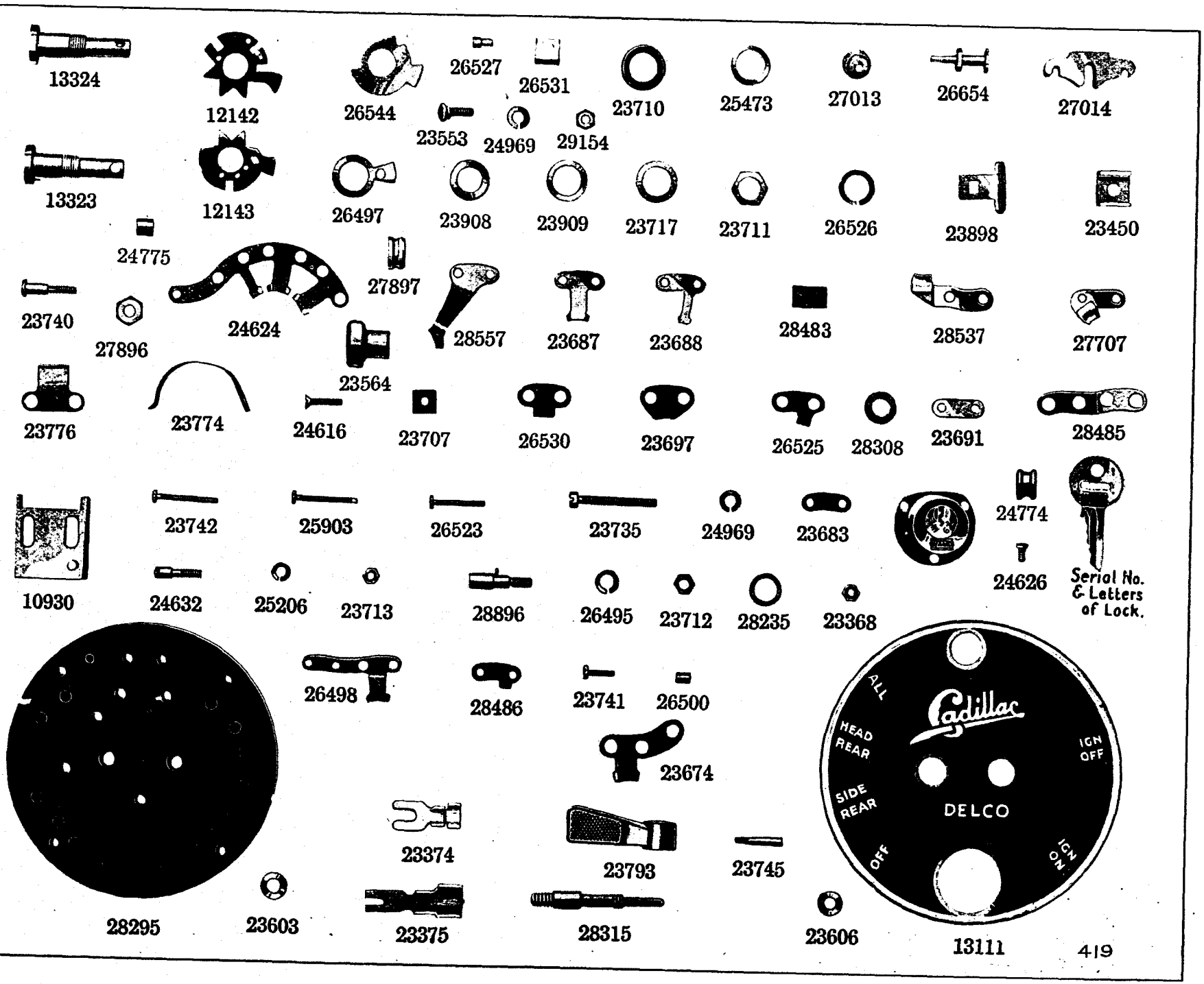
25206
23713
28896
26495
23712
28235
23668
26498
28486
23741
26500
23674
23374
29092
23745
28295
23603
23375
28315
23606
13111
588
ALL
HEAD REAR
SIDE REAR
OFF
Cadillac
DELCO
IGN OFF
IGN ON

No. 1077 COMBINATION SWITCH (Continued)

Piece Number	NAME OF PART	Quantity Required
23688	Brush for Terminal No. 1 (Upper)	1
28557	Brush for connecting Terminal No. 8 and Blade Assembly 13290	1
24624	Brush for Terminals No. 1, 2 and 3 (Lower)	1
26498	Brush for Terminals No. 6 and 7 (Lower)	1
25903	Screw for retaining Terminals No. 1, 2, 3, 5, 6 and 8	12
26500	Insulating Bushing for Screw 25903	10
26525	Insulating Plate for Terminals No. 1 and 8	5
23696	Insulating Plate for Terminals No. 2, 3, 5 and 6	11
28483	Insulating Bushing for Terminal No. 8	2
28486	Separator Plate for Terminal No. 8	2
28537	Contact Spring for connecting Terminal No. 3 and Plunger Assembly 13110	1
27707	Contact Spring for connecting Plunger Assembly 13110 and Terminal No. 9	1
23741	Screw for retaining Contact Spring 27707 and Terminal No. 4	4
23740	Screw for retaining Tumbler Assembly 10930	2
23683	Plate for retaining Screws 23741 and Terminal No. 4	1
23697	Insulating Plate for Terminal No. 6 under Brush 26498 (Large)	1
28485	Plate connecting Terminal No. 3 and Contact Spring 28537	1
23713	Nut for Screws 23740 and 24632 and Stud 26654	5
23668	Nut for retaining Screw 23742 (Not shown in Illustration)	2
26654	Stud for retaining Roller Bracket 27014	1
25206	Lock Washer for Nut 23713	5
20495	Lock Washer for Nut 23712	2
20393	Lock Washer for Screw 23735	4
23735	Screw for retaining Housing Assembly 13112	4
23707	Nut for Screw 24616	1
24616	Screw for retaining Spring 23774	1
23742	Screw for retaining Brushes 23674 and 24624 (Short)	2
24626	Screw for retaining Lock Assembly 13039	3
24632	Stop Screw for Blade Assembly 13290	2
26523	Screw for retaining Terminal No. 7	2
31009	Spacing Washer for Blade Assemblies 13290 and 13291 (Not shown in Illustration)	2
28896	Stud for retaining Blade Assemblies 13290 and 13291	2
23712	Nut for retaining Stud 28896	2
23691	Terminal Plate under Terminal No. 4	1
23374	Terminal Clip for connecting Switch (Small)	7
23375	Terminal Clip for connecting Switch (Large)	2

No. 1077 COMBINATION SWITCH

Piece Number	NAME OF PART	Quantity Required
1077	**COMBINATION SWITCH COMPLETE**	1
13112	**Housing Assembly Complete** (Includes the next 12 Items)	1
28627	Escutcheon Plate for Switch	2
28612	Ferrule for retaining Plate 28627	1
23564	Button for Plunger Assembly 13110	1
28308	Insulating Washer for Plunger Assembly 13110	1
13110	**Plunger Assembly** (Includes the next 7 Items)	1
28315	Plunger for Plunger Assembly 13110	1
23563	Insulating Collar for Plunger 28315 (Not shown in Illustration)	1
28993	Insulating Bushing for Plunger 28315 (Not shown in Illustration)	1
27897	Contact Collar for Plunger 28315	1
23606	Plain Washer for Nut 27896	1
23603	Insulating Washer for Contact Collar 27897	1
27896	Nut for clamping Plunger Assembly 13110	9
23898	Terminal Post	9
23553	Screw for retaining Clip 23450	9
23452	Nut for Screw 23553 (Not shown in Illustration)	9
20393	Lock Washer for Nut 23452	1
23450	Clip for retaining Terminal Clip 23374	1
13290	**Blade Assembly Complete (For Ignition)** (Includes the next 16 Items)	1
13323	**Stud Assembly** (Includes the next Item)	1
23747	Pin for Stud Assembly 13323 (Not shown in Illustration)	1
12143	**Stop Wheel Assembly** (Includes the next Item)	1
23946	Stud for Stop Wheel Assembly 12143 (Not shown in Illustration)	1
26527	Insulating Bushing for Stop Wheel Assembly 12143	1
30635	Insulating Bushing for Stud Assembly 13323 (Not shown in Illustration)	1
26497	Blade for Blade Assembly 13290 (Lower)	1
26524	Blade for Blade Assembly 13290 (Upper) Not shown in Illustration)	1
26496	Insulator between Blades 26497 and 26524 (Not shown in Illustration)	2
23710	Insulating Washer for Blades 26497 and26524	2
23717	Plain Washer for Stop Wheel Assembly 12143 (Thick)	1
25473	Plain Washer for Stop Wheel Assembly 12143 (Thin)	1
23908	Plain Washer for Blade 26524 (Thick)	1
23711	Nut for clamping Blade Assembly 13290	1
26526	Lock Washer for Nut 23711	1
23909	Plain Washer for Nut 23711	1
13291	**Blade Assembly Complete (For Lighting)** (Includes the next 14 Items)	1
13324	**Stud Assembly** (Includes the next Item)	1
23747	Pin for Stud Assembly 13324 (Not shown in Illustration)	1
12142	**Stop Wheel Assembly** (Includes the next Item)	1
23946	Stud for Stop Wheel Assembly 12142 (Not shown in Illustration)	1
26527	Insulating Bushing for Stop Wheel Assembly 12142	1
30635	Insulating Bushing for Stud Assembly 13324 (Not shown in Illustration)	1
26544	Blade for Blade Assembly 13291	2
23717	Plain Washer for Stop Wheel Assembly 12142 (Thick)	1
25473	Plain Washer for Stop Wheel Assembly 12142 (Thin)	2
23710	Insulating Washer for Blade 26544	1
23908	Plain Washer for Blade 26544 (Thick)	1
23909	Plain Washer for Nut 23711	1
26526	Lock Washer for Nut 23711	1
23711	Nut for clamping Blade Assembly 13291	1
13039	**Lock Assembly for Locking Switch** (Includes the next Item)	2
29962	Key for Lock Assembly 13039 (Give Series No. of Lock)	1
10930	**Tumbler Assembly for locking Switch** (Includes the next Item)	1
23738	Stud for Tumbler Assembly 10930 (Not shown in Illustration)	2
23793	Lever for operating Blade Assemblies 13290 and 13291	2
23745	Screw for retaining Lever 23793	1
27014	Roller Bracket for retaining Roller 27013	2
27013	Roller for Blade Assemblies 13290 and 13291	2
23774	Spring for Roller Bracket 27014	1
23776	Spring for Tumbler Assembly 10930	1
28295	Mounting Plate (Back of Switch)	1
23674	Brush for Terminal No. 5 (Lower)	4
23687	Brush for Terminals No. 2, 3, 5 and 6 (Upper)	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12142
26544
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27013
26654
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13323
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23908
23909
23717
23711
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23898
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24624
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23687
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28537
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23774
24616
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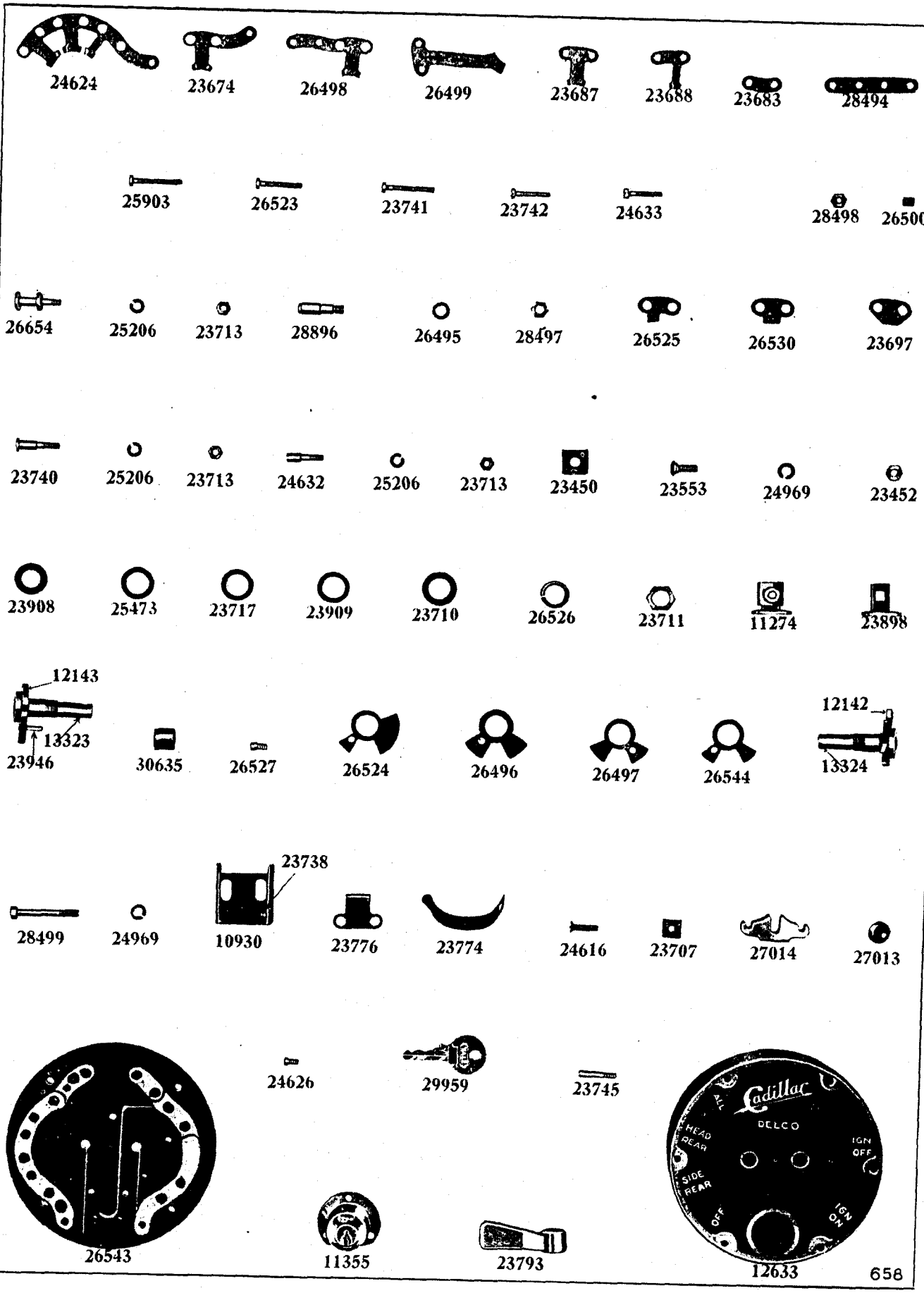
26530
23697
26525
28308
23691
28485
23742
25903
26523
23735
24969
23683
24774
24626
Serial No. & Letters of Lock.
10930
24632
25206
23713
28896
26495
23712
28235
23368
26498
28486
23741
26500
23674
23374
23793
23745
28295
23603
23375
28315
23606
13111
ALL
HEAD REAR
SIDE REAR
OFF
Cadillac
DELCO
IGN OFF
IGN ON
419

No. 1069 COMBINATION SWITCH (Continued)

Piece Number	NAME OF PART	Quantity Required
26496	Insulator between Blades 26497 and 26524	1
23710	Insulating Washer for Blades 26497 and 26524	2
23717	Plain Washer for Stop Wheel Assembly 12143 (Thick)	2
25473	Plain Washer for Stop Wheel Assembly 12143 (Thin)	1
23908	Plain Washer for Blade 26524 (Thick)	1
23711	Nut for clamping Blade Assembly 13290	1
26526	Lock Washer for Nut 23711	1
23909	Plain Washer for Nut 23711	1
13291	**Blade Assembly Complete (For Lighting)** (Includes the next 13 Items)	1
13324	**Stud Assembly** (Includes the next Item)	1
23747	Pin for Stud Assembly 13324 (Not shown in Illustration)	1
12142	**Stop Wheel Assembly** (Includes the next Item)	1
23946	Stud for Stop Wheel Assembly 12142 (Not shown in Illustration)	1
26527	Insulating Bushing for Stop Wheel Assembly 12142	1
30635	Insulating Bushing for Stud Assembly 13324	1
26544	Blade for Blade Assembly 13291	1
23717	Plain Washer for Stop Wheel Assembly 12142 (Thick)	2
25473	Plain Washer for Stop Wheel Assembly 12142 (Thin)	1
23710	Insulating Washer for Blade 26544	2
23908	Plain Washer for Blade 26544 (Thick)	1
23909	Plain Washer for Nut 23711	1
26526	Lock Washer for Nut 23711	1
23711	Nut for clamping Blade Assembly 13291	1
31009	Plain Washer for Blade Assemblies 13290 and 13291 (Not shown in Illustration)	2
23375	Terminal Clip for connecting Switch (Large) (Not shown in Illustration)	2
23374	Terminal Clip for connecting Switch (Small) (Not shown in Illustration)	6

No. 1069 COMBINATION SWITCH

Piece Number	NAME OF PART	Quantity Required
1069	**COMBINATION SWITCH COMPLETE**	1
12633	**Housing Assembly** (Includes next 2 Items)	1
27586	Escutcheon Plate for Switch	6
27229	Rivet for retaining Plate 27586	1
11355	**Lock Assembly Complete** (Includes the next Item)	2
29959	Key for Lock Assembly 11355 (Give Series No. of Lock)	1
10930	**Tumbler Assembly for locking Switch** (Includes the next Item)	1
23738	Stud for Tumbler Assembly 10930	1
26543	Mounting Plate for Terminal Post	8
23898	Terminal Plate	8
23553	Screw for retaining Clip 23450	8
23452	Nut for Screw 23553	8
20393	Lock Washer for Nut 23452	8
23450	Clip for retaining Terminal Clip	2
27013	Roller for Blade Assemblies 13290 and 13291	1
27014	Roller Bracket for Roller 27013	1
23674	Brush for Terminal No. 5 (Lower)	4
23687	Brush for Terminals No. 2, 3, 5 and 6 Upper)	1
23688	Brush for Terminal No. 1 (Upper)	1
26499	Brush for connecting Terminal No. 8 and Blade Assembly 13290	1
24624	Brush for Terminals Nos. 1, 2 and 3 (Lower)	1
26498	Brush for Terminals Nos. 7 and 6 (Lower)	1
26654	Stud for retaining Roller Bracket 27014	5
23713	Nut for Stud 26654 and Screws 23740 and 24632	5
25206	Lock Washer for Nut 23713	2
23740	Screw for retaining Tumbler Assembly 10930	2
24632	Stop Screw for Blade Assemblies 13290 and 13291	1
23776	Spring for Tumbler Assembly 10930	2
28896	Stud for retaining Blade Assemblies 13290 and 13291	2
23712	Nut for retaining Stud 28896	2
20495	Lock Washer for Nut 23712	4
23735	Screw for retaining Housing Assembly 12633	4
20393	Lock Washer for Screw 23735	2
26523	Screw for retaining Terminal No. 7	10
25903	Screw for retaining Terminals Nos. 1, 2, 3, 5 and 6	2
23793	Lever for operating Blade Assemblies 13290 and 13291	2
23745	Screw for retaining Lever 23793	2
24633	Screw for retaining Terminal No. 8	1
24616	Screw for retaining Spring 23774	2
23774	Spring for Roller Bracket 27014	2
23668	Nut for retaining Terminal Plate 23691	1
23691	Terminal Plate under Terminal No. 4	1
23683	Plate for retaining Screw 23741	1
23741	Screw for retaining Terminal No. 4	2
23742	Screw for retaining Brushes 23674 and 24624 (Short Screws)	1
23707	Nut for Screw 24616	3
24626	Screw for retaining Lock Assembly 11355	10
26500	Insulating Bushing for Screw 25903	1
23697	Insulating Plate for Terminal No. 6 (Lower)	12
26530	Insulating Plate for Terminals No. 2, 3 and 5	3
26525	Insulating Plate for Terminal No. 1	1
23696	Insulating Plate for Terminal No. 6	1
13290	**Blade Assembly Complete (For Ignition)**	1
13323	**Stud Assembly** (Includes the next Item)	1
23747	Pin for Stud Assembly 13323 (Not shown in Illustration)	1
12143	**Stop Wheel Assembly** (Includes the next Item)	1
23946	Stud for Stop Wheel Assembly 12143	1
26527	Insulating Bushing for Stop Wheel Assembly 12143	1
30635	Insulating Bushing for Stud Assembly 13323	1
26497	Blade for Blade Assembly 13290 (Lower)	1
26524	Blade for Blade Assembly 13290 (Upper)	



No. 1069 COMBINATION SWITCH

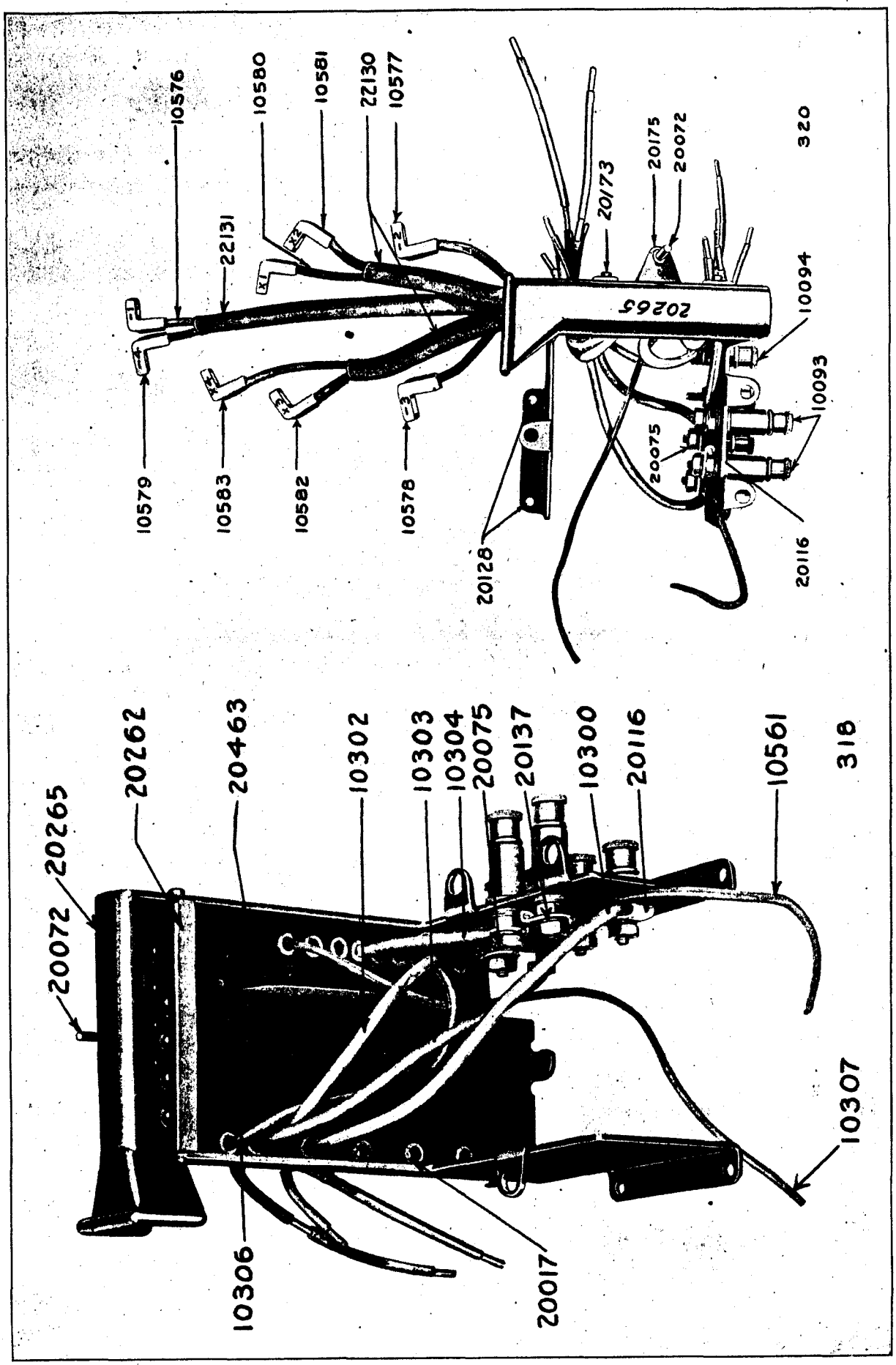
No. 1062 COMBINATION SWITCH (Continued)

Piece Number	NAME OF PART	Quantity Required
23908	Plain Washer for Blade 26524 (Thick)	1
23711	Nut for Clamping Blade Assembly 13290	1
26526	Lock Washer for Nut 23711	1
23909	Plain Washer for Nut 23711	1
25473	Plain Washer for Blade 26524 (Thin)	1
13291	**Blade Assembly Complete (For Lighting)**	1
	(Includes the next 13 Items)	1
13324	**Stud Assembly**	
	(Includes the next Item)	1
23747	Pin for Stud Assembly 13324 (Not shown in Illustration)	1
12142	**Stop Wheel Assembly**	1
	(Includes the next Item)	1
23946	Stud for Stop Wheel Assembly 12142 (Not shown in Illustration)	1
26527	Insulating Bushing for Stop Wheel Assembly 12142	1
30635	Insulating Bushing for Stud Assembly 13324	1
26544	Blade for Blade Assembly 13291	1
23717	Plain Washer for Stop Wheel Assembly 12142 (Thick)	1
25473	Plain Washer for Stop Wheel Assembly 12142 (Thin)	2
23710	Insulating Washer for Blade 26544	1
23908	Plain Washer for Blade 26544 (Thick)	2
23909	Plain Washer for Nut 23711	1
26526	Lock Washer for Nut 23711	1
23711	Nut for clamping Blade Assembly 13291	1
23375	Terminal Clip for connecting Switch (Large) (Not shown in Illustration)	1
23374	Terminal Clip for connecting Switch (Small) (Not shown in Illustration)	2
		6

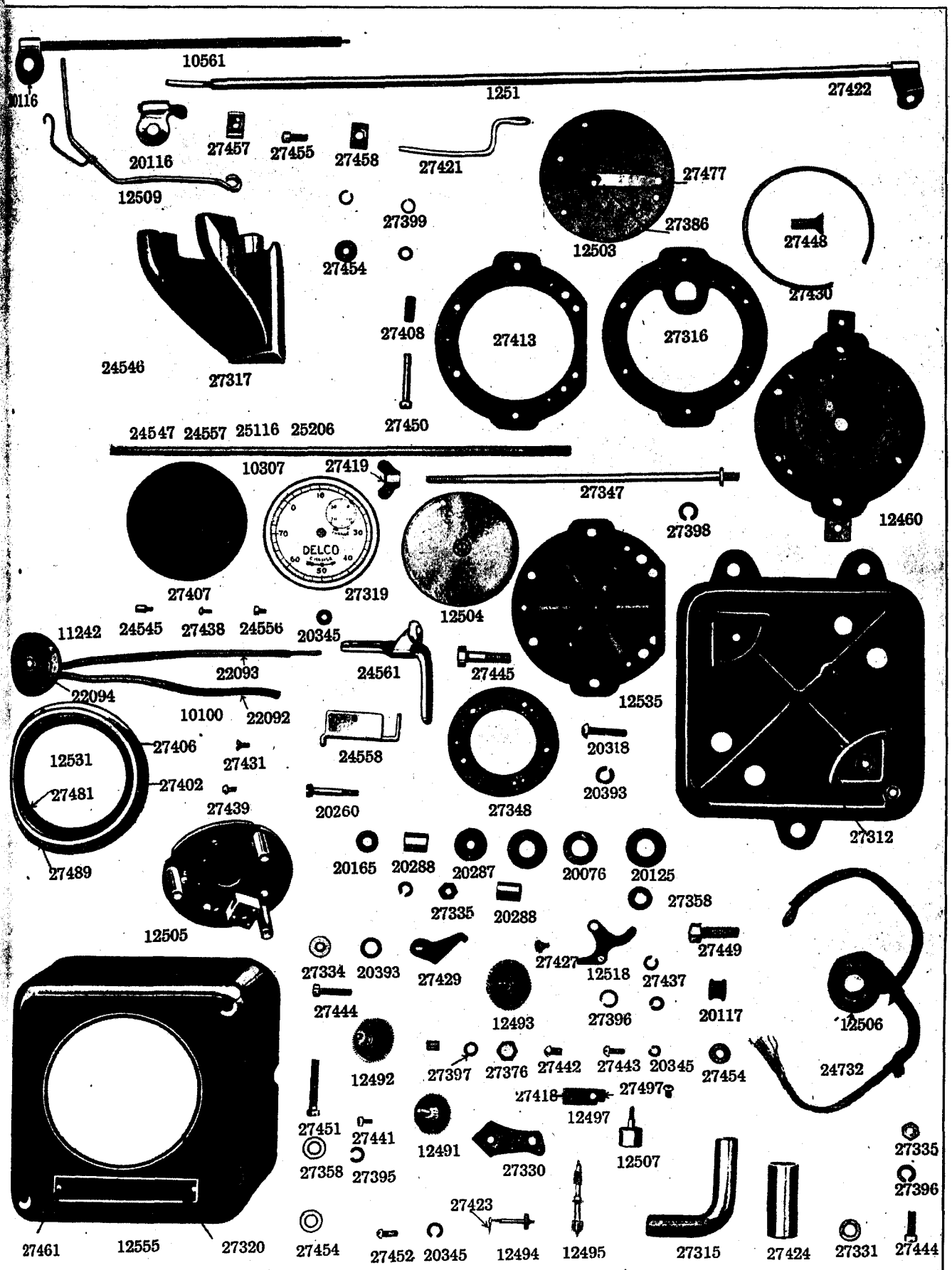
No. 1062 COMBINATION SWITCH

Note: No. 1062 Combination Switch superseded by No. 1069 Combination Switch. When ordering a complete new unit, order No. 1069.

Piece Number	NAME OF PART	Quantity Required
1062	**COMBINATION SWITCH COMPLETE**	1
14631	**Housing Assembly**	1
11355	**Lock Assembly Complete** (Includes the next Item)	1
29959	Key for Lock Assembly 11355 (Give Series No. of Lock)	2
10930	**Tumbler Assembly for Locking Blade Assemblies 13290 and 13291** (Includes the next Item)	1
23738	Stud for Tumbler Assembly 10930 (Not shown in Illustration)	1
26543	Mounting Plate for Terminal Post 23898	1
23898	Terminal Post	8
23553	Screw for retaining Clip 23450	8
23452	Nut for Screw 23553	8
20393	Lock Washer for Nut 23452	8
23450	Clip for retaining Terminal Clip	8
27013	Roller for Blade Assemblies 13290 and 13291	2
27014	Roller Bracket for Roller 27013	1
23674	Brush for Terminal No. 5 (Lower)	1
23687	Brush for Terminals Nos. 2, 3, 5 and 6 (Lower)	4
23688	Brush for Terminal No. 1 (Upper)	1
26499	Brush for connecting Terminal No. 8 and Blade Assembly 13290)	1
24624	Brush for Terminals Nos. 1, 2 and 3 (Lower)	1
26498	Brush for Terminals Nos. 7 and 6 (Lower)	1
26654	Stud for retaining Roller Bracket 27014	1
23713	Nut for Stud 26654 and Screws 23740 and 24632	5
25206	Lock Washer for Nut 23713	5
23740	Screw for retaining Tumbler Assembly 10930	2
24632	Stop Screw for Blade Assemblies 13290 and 13291	2
23776	Spring for Tumbler Assembly 10930	1
28896	Stud for retaining Blade Assemblies 13290 and 13291	2
23712	Nut for retaining Stud 28896	2
20495	Lock Washer for Nut 23712	2
23735	Screw for retaining Housing Assembly 12144	4
20393	Lock Washer for Screw 23735	4
26523	Screw for retaining Terminal No. 7	2
25903	Screw for retaining Terminals Nos. 1, 2, 3, 5 and 6	10
23793	Lever for operating Blade Assemblies 13290 and 13291	2
23745	Screw for retaining Lever 23793	2
24633	Screw for retaining Terminal No. 8 (Not shown in Illustration)	2
24616	Screw for retaining Spring 23774	1
23774	Spring for Roller Bracket 27014	2
23668	Nut for retaining Terminal Plate 23691 (Not shown in Illustration)	2
23691	Terminal Plate under Terminal No. 4	1
23683	Plate for retaining Screw 23741	1
23741	Screw for retaining Terminal No. 4	2
23742	Screw for retaining Brushes 23674 and 24624 (Short Screw)	2
23707	Nut for Screw 24616	1
24626	Screw for retaining Lock Assembly 11355	3
26500	Insulating Bushing for Screw 25903	10
23697	Insulating Plate for Terminal No. 6 (Lower)	1
26530	Insulating Plate for Terminals Nos. 2, 3 and 5	12
23698	Insulating Plate for Terminal No. 1 (Not shown in Illustration)	3
23696	Insulating Plate for Terminal No. 6 (Not shown in Illustration)	1
13290	**Blade Assembly Complete (For Ignition)** (Includes the next 15 Items)	1
13323	**Stud Assembly** (Includes the next Item)	1
23747	Pin for Stud Assembly 13323 (Not shown in Illustration)	1
12143	**Stop Wheel Assembly** (Includes the next Item)	1
23946	Stud for Stop Wheel Assembly 12143 (Not shown in Illustration)	1
26527	Insulating Bushing for Stop Wheel Assembly 12143	1
30635	Insulating Bushing for Stud Assembly 13323	1
26497	Blade for Blade Assembly 13290 (Lower)	1
26524	Blade for Blade Assembly 13290 (Upper)	1
26496	Insulator between Blades 26497 and 26524	2
23710	Insulating Washer for Blades 26497 and 26524	1
23717	Plain Washer for Stop Wheel Assembly 12143 (Thick)	2
25473	Plain Washer for Stop Wheel Assembly 12143 (Thin)	1

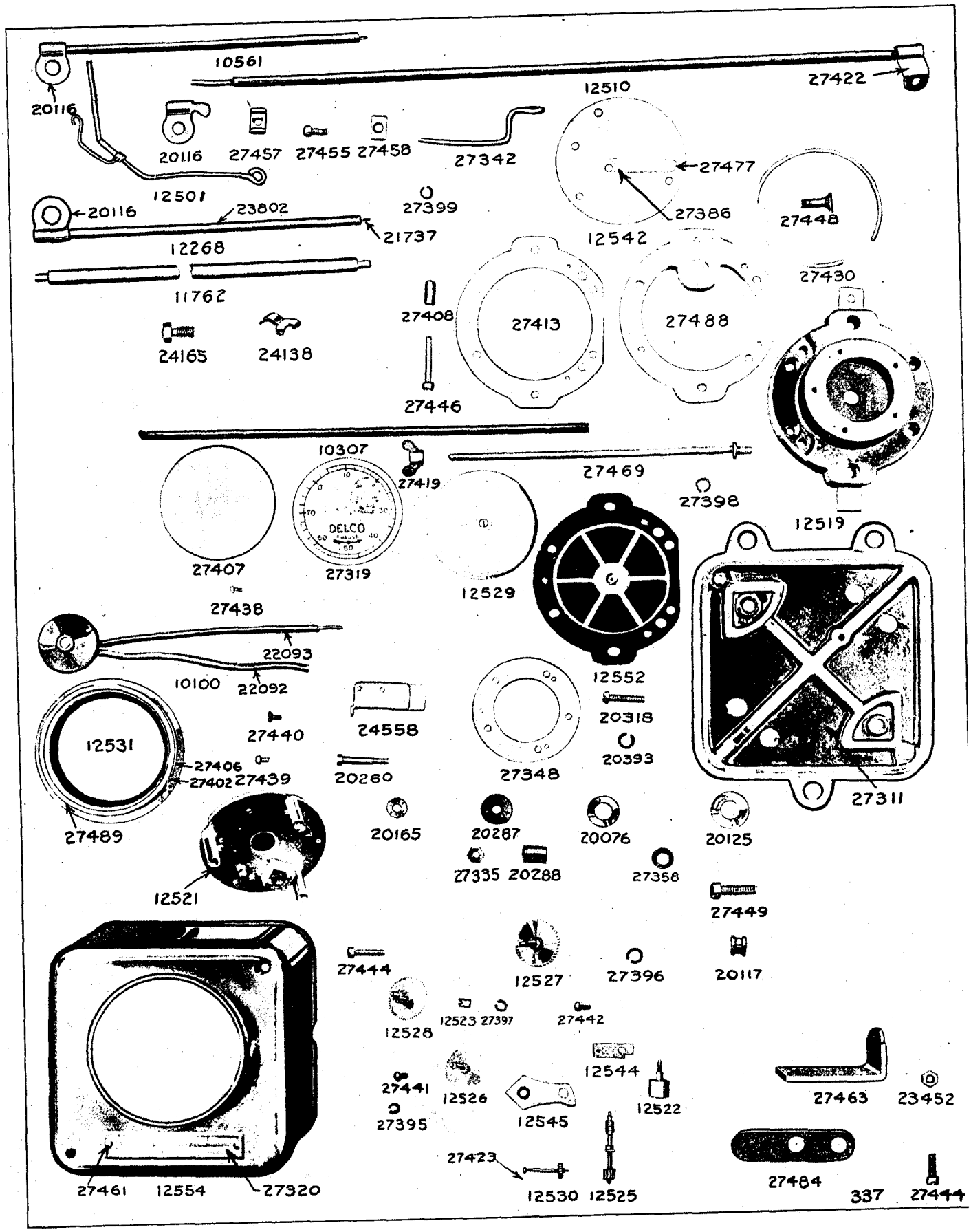


No. 5401 BATTERY BOX



No. 5401 BATTERY BOX

THE DAYTON ENGINEERING LABORATORIES CO., DAYTON, OHIO



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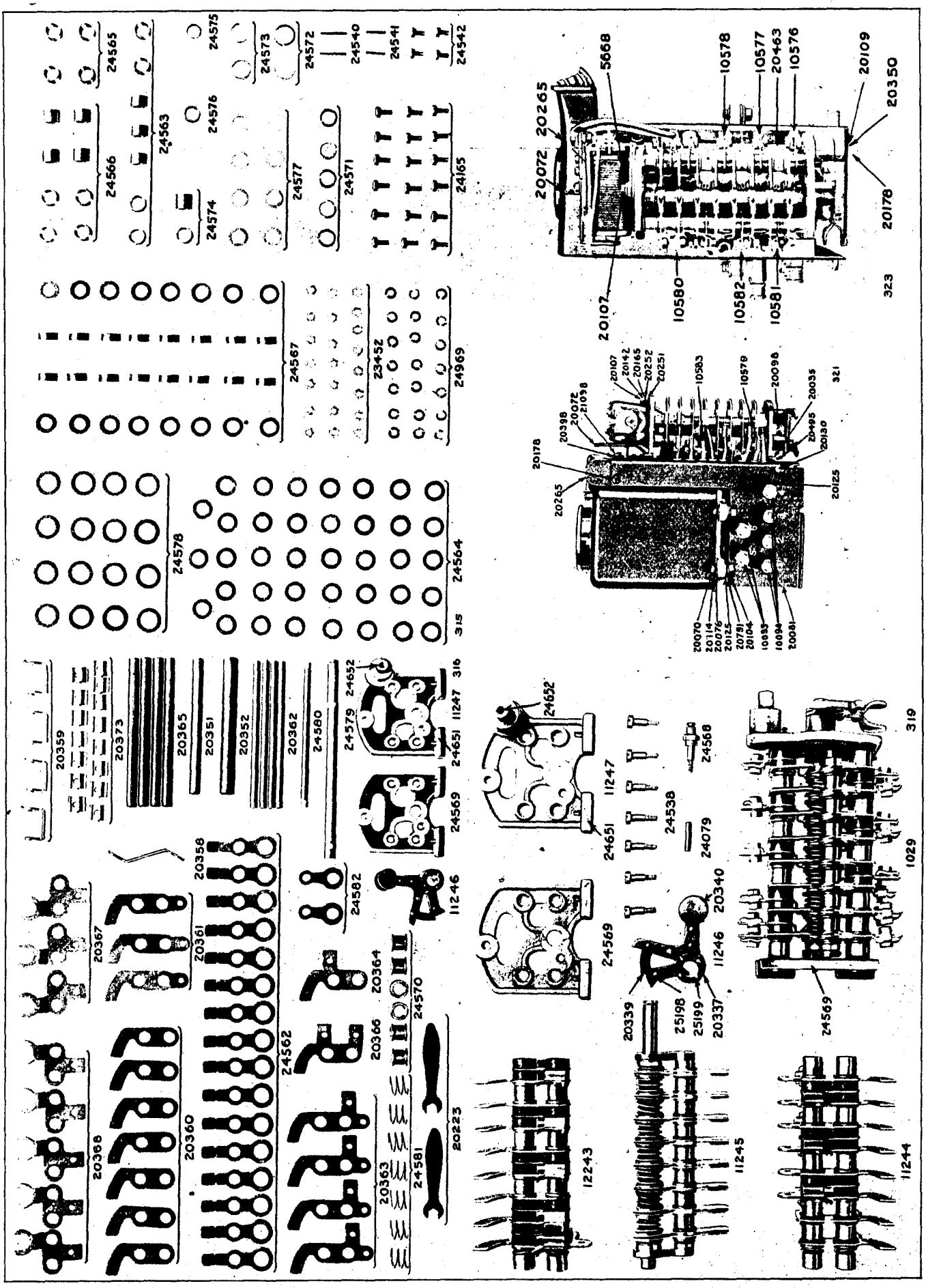

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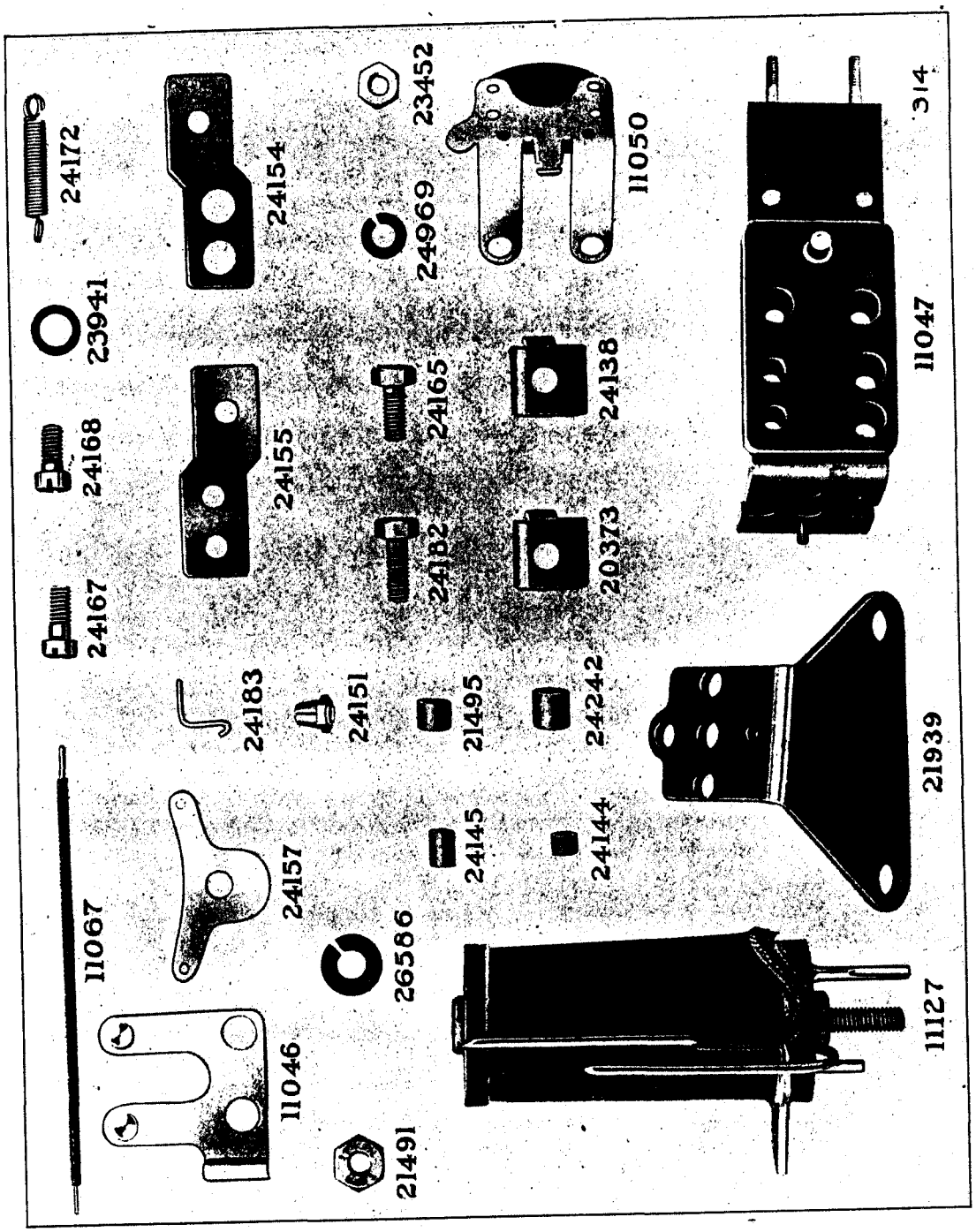


No. 5401 BATTERY BOX

No. 5401 BATTERY BOX

Piece Number	NAME OF PART	Quantity Required
5401	**BATTERY BOX COMPLETE**	1
10099	**Controller Bracket Assembly Complete for Battery Box Base Assembly 10533** (Includes the next 305 Items)	1
10091	**Controller Bracket Assembly (Not shown in Illustration)** (Includes the next 4 Items)	1
10090	**Controller Cover Clamp Stud Assembly Complete (Not shown in Illustration)** (Includes the next Item)	1
20072	Stud for Controller Cover Clamp Stud Assembly 10090	1
20197	Rivet for Bracket (Not shown in Illustration)	3
20130	Guide Stud for Cover Assembly 10108	2
20262	Conduit for retaining Battery Leads (Fiber Block)	1
20178	Screw for Conduit 20262	2
20265	Condulet for covering Battery Leads (Metal)	1
21098	Screw for Condulet 20265	2
20393	Lock Washer for Screw 21098	2
10094	**Spring Terminal for Bracket 20082 (Short)**	6
10095	**Controller Lead Assembly Complete for connecting Controller Switch** (Includes the next 14 Items)	1
10300	**Lead Assembly from Terminal No. 1 on Controller Bracket to the Fourth Terminal from the Bottom, on the Right Side of Controller Switch** (Includes the next 2 Items)	1
20116	Clip for Lead Assembly 10300	1
21737	Ferrule for Lead Assembly 10300 (Not shown in Illustration)	1
10561	**Lead Assembly from Terminal No. 2 on Controller Bracket to B. on Meter Contact Assembly 10766** (Includes the next Item)	1
20116	Clip for Lead Assembly 10561	1
10302	**Lead Assembly from Terminal No. 4 on Controller Bracket to Third Terminal from the Top on the Right Side of Controller Switch** (Includes the next 2 Items)	1
21737	Ferrule for Lead Assembly 10302 (Not shown in Illustration)	1
20116	Clip for Lead Assembly 10302	1
10303	**Lead Assembly from Terminal No. 5 on Controller Bracket to the Second Terminal from the Top on Right Side of Controller Switch** (Includes the next 2 Items)	1
20116	Clip for Lead Assembly 10303	1
21737	Ferrule for Lead Assembly 10303 (Not shown in Illustration)	1
10304	**Lead Assembly from Terminal No. 6 on Controller Bracket to the First Terminal from the Bottom on Left Side of Controller Switch** (Includes the next 2 Items)	1
20116	Clip for Lead Assembly 10304	1
21737	Ferrule for Lead Assembly 10304 (Not shown in Illustration)	1
20115	Insulating Bushing for Spring Terminal Assembly 10094 (Not shown in Illustration)	6
20125	Insulating Washer for Spring Terminal Assembly 10094 (Not shown in Illustration)	6
20076	Insulating Washer for Spring Terminal Assembly 10094 (Not shown in Illustration)	6
20137	Lock Washer for Nut 20075	6
20114	Plain Washer for Nut 20075 (Not shown in Illustration)	6
20075	Nut for Spring Terminal Assembly 10094	12
20117	Insulating Bushing for Bracket 20082	16
20272	Wire (Relay Controller Lead Wire) (Not shown in Illustration)	1
10096	**Battery Lead Assembly Complete (Not shown in Illustration)** (Includes the next 10 Items)	1
10580	**Lead Assembly from Positive Terminal on Battery to the Second Terminal from the Top on the Left Side of Controller Switch** (Includes the next Item)	1
22237	Ferrule for Lead Assembly 10580 (Not shown in Illustration)	1
10581	**Lead Assembly from Positive No. 2 Terminal on Battery to the Second Terminal from the Bottom on the Left Side of Controller Switch** (Includes the next Item)	1
22237	Ferrule for Lead Assembly 10581 (Not shown in Illustration)	1
10582	**Lead Assembly from Positive No. 3 Terminal on Battery to the Fourth Terminal from the Bottom on the Left Side of Controller Switch** (Includes the next Item)	1
22237	Ferrule for Lead Assembly 10582 (Not shown in Illustration)	1
10583	**Lead Assembly from Positive No. 4 on Battery to the Third Terminal from the Top on the Left Side of Controller Switch** (Includes the next Item)	1
22237	Ferrule for Lead Assembly 10583 (Not shown in Illustration)	1
10576	**Lead Assembly from Negative No. 1 on Battery, to the First Terminal from the Bottom, on Right Side of Switch** (Includes the next Item)	1
22237	Ferrule for Lead Assembly 10576 (Not shown in Illustration)	1

No. 5401 BATTERY BOX (Continued)

Piece Number	NAME OF PART	Quantity Required
10577	**Lead Assembly from Negative No. 2 on Battery to the Second Terminal from the Bottom on the Right Side of Controller Switch**	1
	(Includes the next 2 Items)	
22237	Ferrule for Lead Assembly 10577 (Not shown in Illustration)	1
10578	**Lead Assembly from Negative No. 3 on Battery to the Third Terminal from the Bottom on the Right Side of Controller Switch**	1
	(Includes the next Item)	
22237	Ferrule for Lead Assembly 10578 (Not shown in Illustration)	1
10579	**Lead Assembly from Negative No. 4 on Battery to the First Terminal from the Bottom on the Right Side of Controller Switch**	1
	(Includes the next Item)	
22237	Ferrule for Lead Assembly 10579 (Not shown in Illustration)	1
22130	Tube for Lead Assemblies 10582, 10583, 10580 and 10581	2
22131	Tube for Lead Assemblies 10576 and 10579	1
13476	**Ampere Hour Meter Assembly Complete**	1
	(Includes the next 120 Items)	
	(13476 Ampere Hour Meter Assembly has a single set of Magnets. 10101 Amper Hour Meter Assembly has two sets of Magnets. When ordering repair parts, order for the correct Meter. The two Amper Hour Meters as a whole are interchangeable. When ordering a complete new Ampere Hour Meter always order 10101. The above Ampere Hour Meter must be returned to Delco when any extensive repairs are required or when it is necessary to disassemble the unit to make internal repairs or adjustments. Delco will furnish parts for minor repairs that can be easily taken care of in the field.	
10100	**Resistance Button Assembly Complete**	1
	(Includes the next 2 Items)	
22092	Lead for Simplex Resistance Button 22094 (Short)	1
22093	Lead for Simplex Resistance Button 22094 (Long)	1
20125	Insulating Washer for Resistance Button Assembly 10100 and Meter Base 28311 (Large)	4
20287	Insulating Washer for Resistance Button Assembly 10100 (Small)	1
20318	Screw for retaining Resistance Button Assembly 10100	1
20165	Plain Washer for Screw 20318	1
20288	Insulating Bushing for Meter Base 27311	3
20076	Insulating Washer for Meter Base 27311 (Small)	3
10766	**Contact Assembly**	1
	(Includes the next 2 Items)	
24556	Screw for attaching Guard 24558	2
24558	Guard for Contact Assembly 10766	1
20260	Screw for retaining Contact Assembly 10766	2
20393	Lock Washer for Screw 20260 and Nut 23452	4
20117	Insulating Bushing for Meter Base 27311	4
11762	**Lead Assembly from Terminal No. 2 on Meter, attached to Lead Assembly 10579 at Terminal on Controller Switch**	1
21737	Ferrule for Lead Assembly 11762	1
12268	**Lead Assembly from Terminal No. 3 on Controller Bracket to Terminal No. 1 on Meter**	1
	(Includes the next 2 Items)	
20116	Clip for Lead Assembly 12268	1
21737	Ferrule for Lead Assembly 12268	1
10307	**Lead Assembly from (C) on Meter Contact to the First Terminal from Top on Left Side of Controller Switch**	1
	(Includes the next Item)	
21737	Ferrule for Lead Assembly 10307	1
10561	**Lead Assembly from Terminal No. 2 on Controller Bracket to (B) on Meter Contact**	1
	(Includes the next Item)	
20116	Clip for Lead Assembly 10561	1
24165	Screw for Meter Terminals	2
23452	Nut for Screw 24165	2
24138	Clip for Meter Terminals	2
12554	**Case Assembly Complete**	1
	(Includes the next 2 Items)	
27320	Name Plate for Case 27313	1
27461	Pin for retaining Name Plate 27320	2
12520	**Large Hand Assembly**	1
12542	**Train Plate Assembly**	1
	(Includes the next 2 Items)	
27386	Spring for Train Plate Assembly 12542	1
27477	Rivet for Spring 27386	1
12530	**Fifth Staff Assembly**	1
12528	**Fourth Staff Assembly**	1
12527	**Third Staff Assembly**	1
12526	**Second Staff Assembly**	1
12525	**Worm Staff Assembly**	1
12544	**Bracket Assembly for Worm Staff Assembly 12525**	1
	(Includes the next Item)	
27466	Pin for Bracket Assembly 12544 (Not shown in Illustration)	1

No. 5401 BATTERY BOX (Continued)

Piece Number	NAME OF PART	Quantity Required
12521	**Hopper Plate Assembly**	1
	(Includes the next 6 Items)	
12545	**Bridge Assembly**	1
27441	Screw for attaching Bridge Assembly 12545	1
27395	Lock Washer for Screw 27441	1
27475	Support for Worm Staff Assembly 12525 (Not shown in Illustration)	1
27484	Bracket for Worm Staff Assembly 12525	1
27479	Rivet for retaining Bracket 27484 (Not shown in Illustration)	2
12523	**Bearing Assembly (Upper)**	1
12519	**Armature Box Assembly**	1
12522	**Worm Spindle Assembly**	1
12529	**Armature Assembly**	1
12552	**Pole Plate Assembly**	1
12531	**Bezel Ring Assembly Complete**	1
	(Includes the next 7 Items)	
12551	**Bezel Ring Assembly (Not shown in Illustration)**	1
	(Includes the next 2 Items)	
27489	Ring for Bezel Ring Assembly 12551	1
27402	Dowel Pin for Ring 27489	2
27406	Snap Ring for Bezel Ring Assembly 12531	1
27407	Glass for Bezel Ring Assembly 12531	1
27430	Bezel Ring for Bezel Ring Assembly 12531	1
27481	Gasket for Glass 27407 (Not shown in Illustration)	1
27311	Base for Ampere Hour Meter Assembly 6077	1
27319	Dial for Ampere Hour Meter Assembly 6077	1
28471	Nut for Screw 27446	2
27348	Washer for Hopper Plate Assembly 12521 (Small Gasket)	1
27358	Plain Washer for Screw 27446	2
13839	**Magnet Assembly**	1
	(Includes the next Item)	
27448	Screw for Magnet Assembly 13839	4
27376	Nut for Bearing Assembly 12523	1
26088	Spacing Washer for damping Pole (Not shown in Illustration)	4
27395	Lock Washer for Screws 27439, 27441, 27442 and 27465	10
27396	Lock Washer for Screws 27446 and 27444	8
27397	Lock Washer for Nut 27376	1
27398	Lock Washer for Stud 27469	2
27399	Lock Washer for Screws 27449 and 27446	5
27408	Insulator for Screw 27446	2
27413	Washer for Armature Box Assembly 12519 (Large Gasket)	1
27419	Nut for Stud 27469 (Wing Nut)	2
20117	Insulating Bushing for Meter Base 27311	4
27423	Small Hand for Third Staff Assembly 12527	1
27438	Screw for mounting Dial 27319	3
27439	Screw for Bracket 27464 (Small)	1
27440	Screw for mounting Train Plate Assembly 12542 (Flat Head)	1
27442	Screw for mounting Hopper Plate Assembly 12521	1
27444	Screw for Meter Terminals and for retaining Clamp Ring 27488	6
27446	Screw for mounting Armature Box Assembly 12519	2
27449	Screw for retaining Meter Base 27311	2
	(Includes the next 3 Items)	
14189	**Clamp Assembly (Not shown in Illustration)**	1
27455	Screw for connecting Friction Slider 27457 and Friction Clamp 27458	1
27457	Friction Slider for connecting Right Hand Shunt Lead Assembly 12501 and Left Hand Shunt Lead 27342	1
27458	Friction Clamp for connecting Right Hand Shunt Lead Assembly 12501 and Left Hand Shunt Lead 27342	1
27459	Insulating Tube for Case Stud 27469 (Not shown in Illustration)	2
27463	Ear Clip for Metal Terminals	2
27464	Bracket for Armature Box Assembly 12519 (Not shown in Illustration)	1
27465	Screw for Train Plate Assembly 12542 (Head Milled Down) (Not shown in Illustration)	2
27469	Case Stud for mounting Case Assembly 12554	2
27482	Gasket on Meter Base 27311 for Case Assembly 12554 (Not shown in Illustration)	1
27488	Clamp Ring under Pole Plate Assembly 12552	1
12501	**Right Hand Shunt Lead Assembly**	1
27342	Left Hand Shunt Lead, connecting Meter Terminal and Right Hand Shunt Lead Assembly 12501	1
10101	**Ampere Hour Meter Assembly Complete**	1
	(Includes the next 134 Items)	
	(No. 13476 Ampere Hour Meter Assembly has a single set of Magnets, the No. 10101 Ampere Hour Meter Assembly has two sets of Magnets. When ordering repair parts, order for the correct Meter. The two Ampere Hour Meters are interchangeable as a whole. When ordering a complete new Ampere Hour Meter, always order No. 10101. The above Ampere Hour Meter must be returned to Delco when any extensive repairs are required or when it is necessary to disassemble the unit to make internal repairs or adjustment. Delco will furnish parts for minor repairs that can be easily taken care of in the field.	

No. 5401 BATTERY BOX (Continued)

Piece Number	NAME OF PART	Quantity Required
20117	Insulating Bushing for Meter Base 23712	4
10100	**Resistance Button Assembly** (Includes the next 2 Items)	1
22092	Lead (Short) for Resistance Button	1
22093	Lead for Simplex Resistance Button (Long)	1
20125	Insulating Washer for Resistance Button Assembly 10100 (Large)	1
20287	Insulating Washer for Resistance Button Assembly 10100 (Small)	1
20165	Plain Washer for Resistance Button 10100	1
20318	Screw for mounting Resistance Button Assembly 10100	1
20288	Insulating Bushing for Screw 20070	3
20076	Insulating Washer for Screw 20070 (Large, for Top of Meter Base)	3
20125	Insulating Washer for Screw 20070 (Large, under Top of Meter Base)	3
10766	**Contact Assembly Complete (Not shown in Illustration)** (Includes the next 2 Items)	1
24556	Screw for mounting Guard 24558	2
24558	Guard for Contact Spring Assemblies	1
20260	Screw for retaining Contact Assembly 10766	2
20393	Lock Washer for Screw 20260	2
20345	Lock Washer for Nut 27334 on Meter Dial	1
12555	Case Assembly Complete with Name Plate (Cover for Meter) (Includes the next 2 Items)	1
27320	Name Plate for Case 27495	1
27461	Pin for retaining Name Plate 27320	2
12503	**Train Plate Assembly Complete** (Includes the next 2 Items)	1
27386	Lifting Spring for Train Plate 27393	1
27477	Rivet for Lifting Spring 27386	1
12493	**Center Staff Assembly**	1
12492	**Compound Staff for Driving Center Staff Assembly**	1
12491	**Worm Wheel Staff for Driving Compound Staff 12492**	1
12494	**Counting Staff for Small Indicator Hand 27423**	1
12495	**Worm Staff for Driving Worm Wheel Staff 12491**	1
12497	**Worm Wheel Bracket for Worm Staff Assembly 12495** (Includes the next Item)	1
27418	Pin for Worm Wheel Bracket 12497	1
12505	**Hopper Plate Assembly Complete (Lower Plate for mounting Compound Staff Assembly 12492 and Worm Wheel Staff 12491)** (Includes the next 3 Items)	1
27330	Bridge for Center Staff Assembly 12493	1
27441	Screw for retaining Bridge 27330	1
27395	Lock Washer for Screw 27441	1
12460	**Armature Box Assembly for Meter**	1
12523	**Upper Bearing Assembly (For Coupling Spindle Assembly 12507 (Not shown in Illustration)**	1
12507	**Coupling Spindle Assembly for Driving Worm Staff Assembly 12495**	1
12504	**Armature Assembly for Meter**	1
12535	**Pole Plate Assembly (For retaining Armature Assembly 12504)**	1
12506	**Compensation Coil Assembly Complete for Meter**	1
12509	**Right Hand Lead Assembly for connecting No. 1 and No. 2 Terminals on Meter**	1
27421	Left Hand Lead for connecting Right Hand Lead Assembly 12509 to Terminal No. 2 on Meter	1
14189	**Clamp Assembly (Not shown in Illustration)** (Includes the next 3 Items)	1
27458	Clamp (Outside) for connecting Right Hand Lead Assembly 12509 and Left Hand Lead 27421	1
27457	Slide(Inside) for connecting Right Hand Lead Assembly 12509 and Left Hand Lead 27421	1
27455	Screw for Clamp 27458 and Slide 27457	1
12518	**Contact Lever Assembly Complete for Operating Contact Assembly 10766**	1
12531	**Bezel Ring Assembly Complete** (Includes the next 7 Items)	1
12551	**Bezel Ring Assembly (Not shown in Illustration)** (Includes the next Item)	1
27402	Dowel Pin for Bezel Ring Assembly 12551	2
27406	Snap Ring for Bezel Ring Assembly 12531	1
27407	Glass for Bezel Ring Assembly 12531	1
27430	Spring for Bezel Ring Assembly 12531	1
27481	Gasket for Glass 27407 (Not shown in Illustration)	1
27312	Base for Ampere Hour Meter	1
13840	**Magnet Assembly** (Includes the next Item)	1
27448	Screw for Magnet Assembly 13840	8
26088	Spacing Washer for Damping Pole (Not shown in Illustration)	4
27315	Compensating Pole (Mounted in Compensating Coil Assembly 12506)	1
27316	Clamp Ring (Mounted between Pole Plate Assembly 12535 and Pole Pieces)	1
27319	Dial for Meter	1
27331	Washer between Compensating Pole 27315 and Driving Pole 27318	1
27334	Nut for retaining Hand Lever 27429 on Center Shaft Assembly 12493	1
28471	Hexagon Nut on Screw 27445	2
27347	Case Stud for Meter Case Assembly 12555	2

No. 5401 BATTERY BOX (Continued)

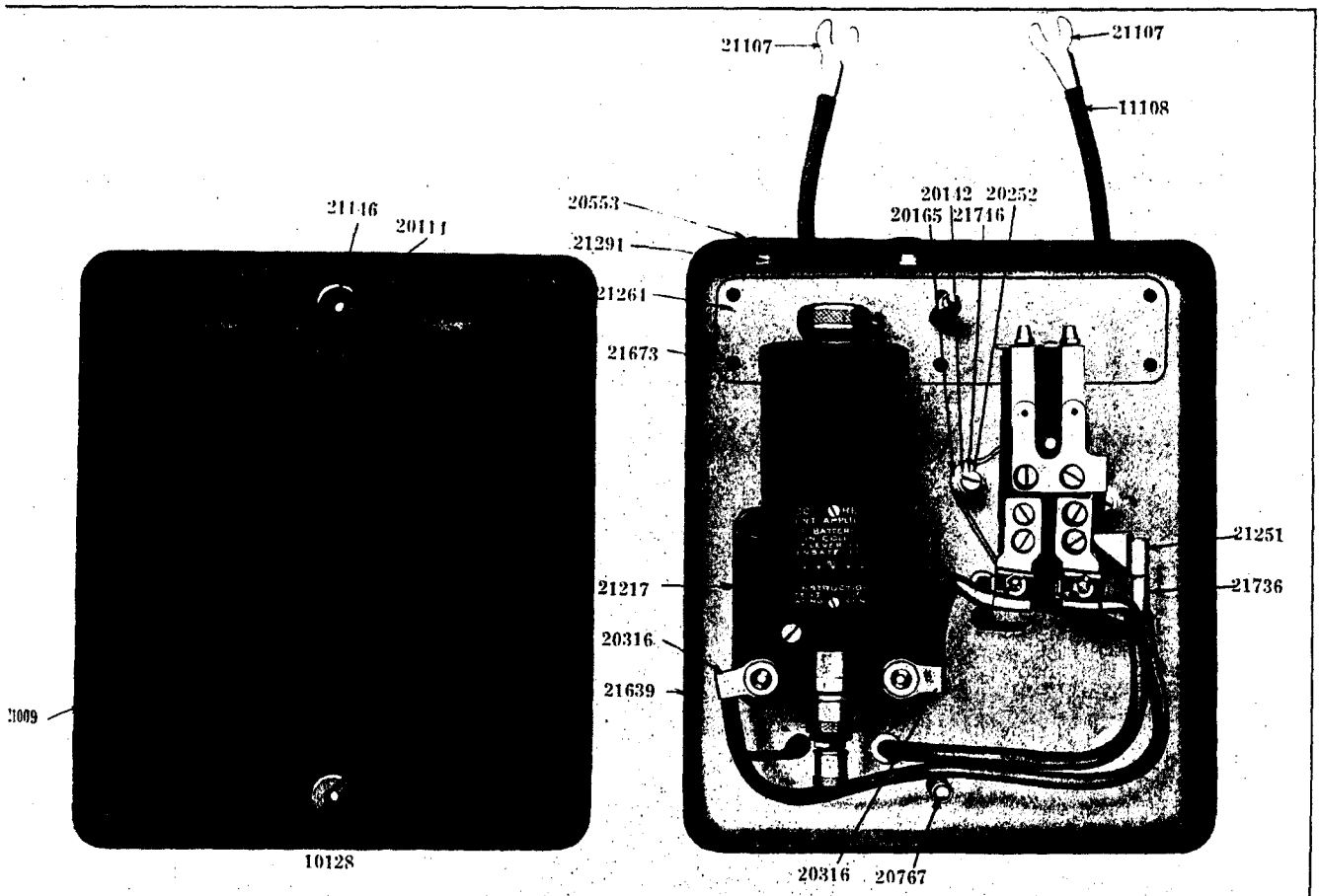
Piece Number	NAME OF PART	Quantity Required
27348	Washer for Hopper Plate Assembly 12505 (Small)	1
27358	Plain Washer for Screws 27444 and 27445	3
27376	Nut for Upper Bearing Assembly 12523	1
27395	Lock Washer for Screws 27452, 27439, 27443 and 27442	8
27396	Lock Washer for Screws 27450, 27444 and 27445, 27451	11
25397	Lock Washer for Nut 27376 (For Upper Bearing)	1
27398	Lock Washer for Case Stud 27347	2
27399	Lock Washer for Screw 27449	2
27431	Screw for mounting Upper Train Plate Assembly 12503 (Taper Head)	1
27408	Insulating Tube for Screw 27450	1
27413	Washer for Armature Box (Large Paper Gasket)	1
27419	Wing Nut for retaining Case Assembly 12555 (Wing Nut)	2
20117	Insulating Bushing for Insulating Leads through Meter Base 27312	4
27423	Small Indicator Hand on Dial 27319	1
27427	Screw for Contact Lever 27429	1
27429	Contact Lever for Operating Contact Assembly 10766	1
20810	Plain Washer under Contact Lever 27429 (Not shown in Illustration)	1
27438	Screw for mounting Dial 27319	3
27439	Screw for Train Plate Assembly 12503 (Round Head)	3
27442	Screw for Hopper Plate Assembly 12505 (Short Round Head)	3
27443	Screw for Hopper Plate Assembly 12505 (Long Round Head)	1
27444	Screw for mounting Armature Box Assembly 12460 and for Meter Terminal No. 1 (Short Fillister Head)	3
27445	Screw for Meter Terminal No. 2	1
27449	Screw for retaining Meter Base 27312	2
27450	Long Screw for Armature Box Assembly 12460 on Driving Pole 27318	1
27451	Screw for mounting Compensating Pole 27315	1
27452	Screw for mounting Hopper Plate Assembly 12505 (Round Head, milled down)	1
27454	Plain Washer for Screws 27450 and 27444	6
27459	Insulating Tube for Case Stud 27347 (Not shown in Illustration)	2
27482	Gasket around Meter Base 27312 for Case Assembly 12555 (Not shown in Illustration)	1
10306	**Lead Assembly from Side Terminal on Cut-Out Relay to the Third Terminal from Bottom on Left Side of Controller Switch** (Incudes the next Item)	1
21737..	Ferrule for Lead Assembly 10306 (Not shown in Illustration)	1
10307	**Lead Assembly from (C) on Meter Contact Assembly 10766 to the First Terminal from the Top on Left Side of Controller Switch** (Includes the next Item)	1
21737	Ferrule for Lead Assembly 10307 (Not shown in Illustration)	1
27432	Lead from Terminal No. 3 on Controller Bracket to Compensating Coil Assembly 12506 (Not shown in Illustration)	1
20116	Clip for Lead 27432 (Not shown in Illustration)	1
12510	**Lead Assembly from Terminal No. 1 on Ampere Hour Meter to the First Terminal from Bottom on Left Side of Controller Switch** (Includes the next Item)	1
27422	Clip for Lead Assembly 12510	1
10561	**Lead Assembly** (Includes the next Item)	1
20116	Clip for Lead Assembly 10561	1
5668	**Cut-Out Relay Assembly Complete** (Includes the next 27 Items)	1
11127	**Coil Assembly for Relay 5668**	1
21939	Bracket for mounting Cut-Out Relay 5668	1
11047	**Bracket for mounting Contact Assembly 11046 and Armature Assembly 11050** (Includes the next 3 Items)	1
24144	Bushing for Frame Assembly 11047 (Not shown in Illustration)	1
24149	Insulator for Frame Assembly 11047 (Not shown in Illustration)	1
24169	Stud for retaining Insulator 24149 (Not shown in Illustration)	1
11050	**Armature Assembly for Cut-Out Relay 5668**	1
11046	**Contact Assembly (Upper)**	1
24151	Nut for Armature Assembly 11050	1
24154	Terminal Plate (Small Screw Holes for mounting Screws)	2
24155	Terminal Plate (Large Screw Holes for mounting Screws)	1
24168	Screw for mounting Terminal Plate 24154	2
24167	Screw for mounting Terminal Plate 24155 and Contact Assembly 11046	4
24969	Lock Washer for Screws 24167 and 24168	6
23941	Insulating Washer for Screw 24167	4
21495	Insulating Bushing for Screw 24167 for Contact Assembly 11046	2
11067	**Lead Assembly for connecting Armature Assembly 11050**	1
24138	Terminal Clamp (on Top of Terminal Plates 24154 and 24155)	2
20373	Terminal Clamp (under Terminal Plate 24155 and for Terminal on Side of Coil)	2
21491	Nut for Coil Assembly 11127	2
26586	Lock Washer for Nut 21491	1
24242	Insulating Bushing for Screw 24167 for mounting Terminal Plate 24155	2
24145	Insulating Bushing for Coil Studs (Long)	2

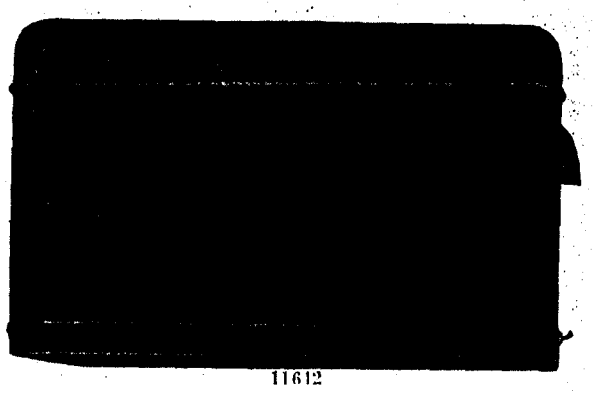
No. 5401 BATTERY BOX (Continued)

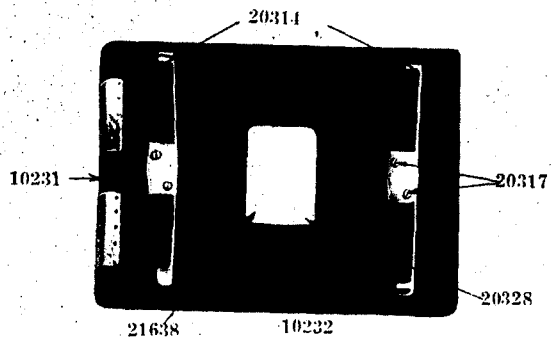
Piece Number	NAME OF PART	Quantity Required
24144	Insulating Bushing for Coil Studs (Short)	1
24157	Plate for grounding Terminal Lead Assembly 11067	1
24182	Screw for retaining Terminal Clamps on Terminal Plate 24155	1
24165	Screw for retaining Terminal Clamp on Terminal Plate 24154 and Terminal on Side of Coil Assembly 11127	2
24969	Lock Washer for Nut 23452	3
23452	Nut for Screws 24182 and 24165	3
24172	Spring for operating Armature Assembly 11050	1
21937	Insulator for Cut-Out Relay 5668 (Not shown in Illustration)	1
20107	Screw for retaining Cut-Out Relay Assembly 5668	2
20251	Insulating Bushing for Screw 20107	2
20252	Insulating Washer for Screw 20107	2
20165	Plain Washer for Screw 20107	2
20142	Lock Washer for Screw 20107	2
10532	**Controller Switch Assembly Complete** (Includes the next 78 Items)	1
10076	**Controller Latch Arm for Controller Switch Assembly 1029 (Not shown in Illustration)**	1
10335	**Shunt Wire for Switch Assembly 1029 (To be used when charging rate is low) (Not shown in Illustration) (Double Shunt Service)**	1
10118	**Shunt Wire Assembly (Single Shunt) (Not shown in Illustration)**	1
20098	Spring for Latch Arm Assembly 10076	1
20178	Screw for Latch Arm 10076	1
20350	Lock Washer for Screw 20178	1
20109	Plain Washer for Screw 20178	1
1029	**Controller Switch Complete** (Includes the next 63 Items)	1
24569	Frame (Upper) for Controller Switch Assembly 1029	1
11247	**Frame Assembly Complete (Lower) for Controller Switch Assembly 1029**	1
20358	Connector across Back of Switch connecting Top Terminal on Right Side of Switch to Fourth Terminal from Top on Left Side of Switch	1
20359	Connector for Blades on Left Side of Switch	4
11244	**Controller Blade Assembly (Blades Assembled Complete for Left Side of Switch)** (Includes the next 13 Items)	1
20361	Blade (Blades on Left Side of Switch with Extension for Connectors)	3
20366	Blade on Left Side of Switch with Extension for Two Binding Posts	1
20363	Blade on Left Side of Switch with Extension for Binding Posts and Connectors	3
20364	Blade on Left Side of Switch with Extension for One Binding Post	1
20367	Connector on Left Side of Switch Connecting with Brush	3
20362	Rod for supporting Blades	2
20365	Insulating Sleeve for Blades	2
24574	Brass Collar between Blades and Lower End Frame (On Left Side of Switch)	1
24564	Insulating Washer for Blade on Left Side of Switch	9
24566	Brass Collar between Blades on Left Side of Switch	4
24565	Brass Collar between Blades and Upper End Frame	1
24567	Insulating Collar between Blades on Left Side of Switch (Hard Rubber)	6
27963	Lock Washer between Blades and Upper End Frame	1
11243	**Blade Assembly (Blades Assembled Complete for Right Side of Switch)** (Includes the next 10 Items)	1
20363	Blade on Right Side of Switch with Extension for Connector and Bind Post	1
20360	Blade on Right Side of Switch with Extensions	7
20368	Connector on Right Side connecting with Brush	5
20362	Rod for supporting Blades on Right Side of Switch	2
20365	Insulating Sleeve for Blades on Right Side of Switch	2
24564	Insulating Washer between Blades and End Frame on Right Side of Switch	1
24570	Brass Collar with Shoulder between Blades on Right Side of Switch	3
24567	Insulating Collar between Blades on Right Side of Switch (Hard Rubber)	9
24565	Brass Collar between Blades and Upper End Frame	1
27963	Lock Washer between Blades and Upper End Frame (Not shown in Illustration)	1
11245	**Brush Assembly Complete (Blades Assembled Complete for Center of Switch)** (Includes the next 18 Items)	1
24572	Lock Washer on Ends of Rod 24579 for Pivoting Brush Blades	2
24582	Arm for Binding Brush Parts together	2
24581	Compression Spring for Brush Blades	7
24578	Insulating Washer on Pivoting Rod 24579 for Brush Blades	16
24573	Brass Collar on Ends of Pivoting Rod 24579	2
24580	Rod for locating Brush Blades on Brush Assembly 11245	1
20351	Insulating Sleeve for locating Rod 24580 (Hard Rubber)	1
24579	Rod for locating Brush Blades on Brush Assembly 11245 (Not shown in Illustration)	1
20352	Insulating Sleeve for Pivoting Rod 24579 (Hard Rubber)	1
24576	Brass Collar on Lower End of locating Rod 24580	1
24562	Blades for Brush Assembly 11245	16
24563	Brass Collar on locating Rod 24580 between Blades	7
24540	Dowel Pin for Pivoting Rod 24579	2
24541	Dowel Pin for locating Rod 24580	2
24564	Insulating Washer on Rod 24580 for Brush Blades	16

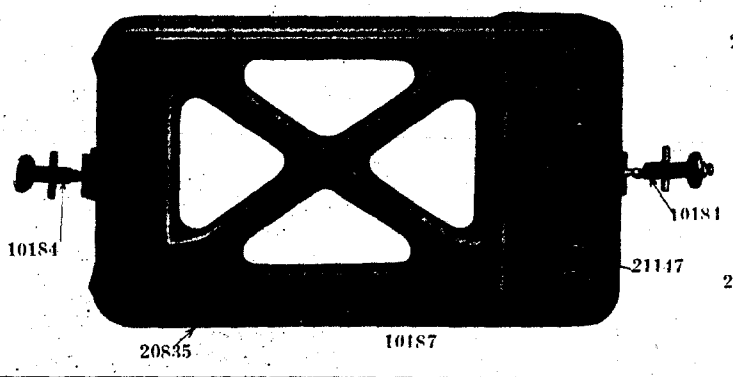
No. 5401 BATTERY BOX (Continued)

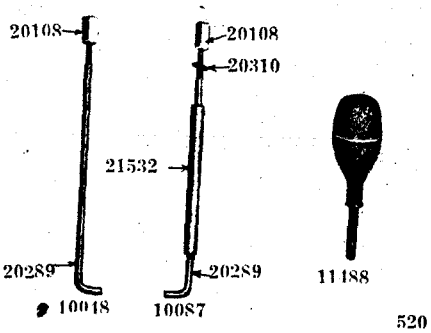
Piece Number	NAME OF PART	Quantity Required
27963	Lock Washer on Upper End of Rod 24580 (Not shown in Illustration)	1
24575	Brass Collar on Upper End of Rod 24580	1
24577	Spacing Washer between Blades 24562	8
23452	Nut for Screws 24165 and 24542	22
24969	Lock Washer for Nut 23452	22
20373	Terminal Clamp for Binding Posts	15
11246	**Arm Assembly for Operating Brush Assembly 11246**	1
24079	Dowel Pin for retaining Arm Assembly 11246	1
24538	Screw for End Frame 24569 and End Frame Assembly 11247	7
24165	Screw for Terminal Clamps on Binding Posts, and Long Screws for Connectors on Back of Switch	18
24542	Screws (Short Screw for Connectors on Back of Switch)	4
24568	Stud in End Frame Assembly 11247 for Spring 20098	1
20463	Insulator (Back of Controller Switch)	1
20035	Screw for mounting Controller Switch	4
20495	Lock Washer for Screw 20035	4
20104	Nut for mounting Ampere Hour Meter Assembly 10101	3
20070	Screw for mounting Ampere Hour Meter Assembly 10101	3
20791	Lock Washer for Screw 20070	3
20114	Plain Washer for Screw 20070	3
20125	Insulating Washer for Screw 20070 (Large)	3
20075	Nut for Spring Terminal	1
20137	Lock Washer for Nut 20075	1
22237	Ferrule Placed over Ends of Lead Assemblies 10579 and 11262, and Leads 10304 and 10582 and soldered (Not shown in Illustration)	2
22238	Insulator Placed over Ferrule 22237 after soldering (Not shown in Illustration)	2
10108	**Cover Assembly Complete for Controller Switch** (Includes the next 4 Items)	1
20168	Clamp Nut for Cover Assembly 10108	1
20310	Plain Washer for Clamp Nut 20168	1
21923	Name Plate for Cover Assembly 10108 (Not shown in Illustration)	1
20687	Rivets for Name Plate 21923 (Not shown in Illustration)	2
20128	Screw for attaching Controller Bracket Assembly 10099 (Not shown in Illusration)	5
20129	Nut for Screw 20128 (Not shown in Illustration)	5
20137	Lock Washer for Nut 20129	5
12135	**Base Assembly for Battery Box Base Assembly 12135 (Not shown in Illustration)** (Includes the next 13 Items)	1
10113	**Battery Box Latch Assembly for mounting Battery Box Cover Assembly** (Includes he next 5 Items)	1
20584	Latch for Battery Box Latch Assembly 10113 (Not shown in Illustration)	1
20587	Bolt for Battery Box Latch Assembly 10113 (Not shown in Illustration)	1
20586	Nut for Battery Box Latch Assembly 10113 (Not shown in Illustration)	1
20588	Spring for Battery Box Latch Assembly 10113 (Not shown in Illustration)	1
20585	Nut for Battery Box Latch Assembly 10113 (Round) (Not shown in Illustration)	1
12002	**Base Assembly for Battery Box Base Assembly 12135** (Includes the next 4 Items)	1
20091	Guide for Controller Rod Assembly 10107	1
21001	Rivet for Guide 20091 and Plate	9
20596	Plate for retaining Latch Assembly 10113	2
21001	Rivets for Plate 20596	6
10122	**Battery Cover Assembly Complete for Battery** (Includes the next 4 Items)	1
20314	Spring for Battery Cover Assembly 10122	2
20317	Screw for Spring 20314	4
21267	Date Card for Battery Cover Assembly 10122 (Not shown in Illustration)	2
20328	Pin for Date Card 21267 on Battery Cover Assembly 10122	2
21565	Base Support for Battery Box (Not shown in Illustration)	4
20080	Terminal Clip for connecting Battery Box (Not shown in Illustration)	6
20289	Bolt for Battery	1
20108	Nut for Bolt 20289	1
20310	Plain Washer for Nut 20108	1
11536	**Battery Box Cover Assembly**	1
20223	Wrench for Controller Switch 1029	2
10534	**Controller Operating Rod Assembly Complete** (Includes the next 6 Items)	1
10535	**Controller Operating Rod Assembly** (Includes the next Item)	1
21162	Dowel Pin for retaining Collar 20236	2
20048	Spring for Controller Operating Rod Assembly 10534	1
20389	Sleeve for Rod 20123	1
20176	Guide for Sleeve 20389	1
20096	Cup for Spring 20048	2



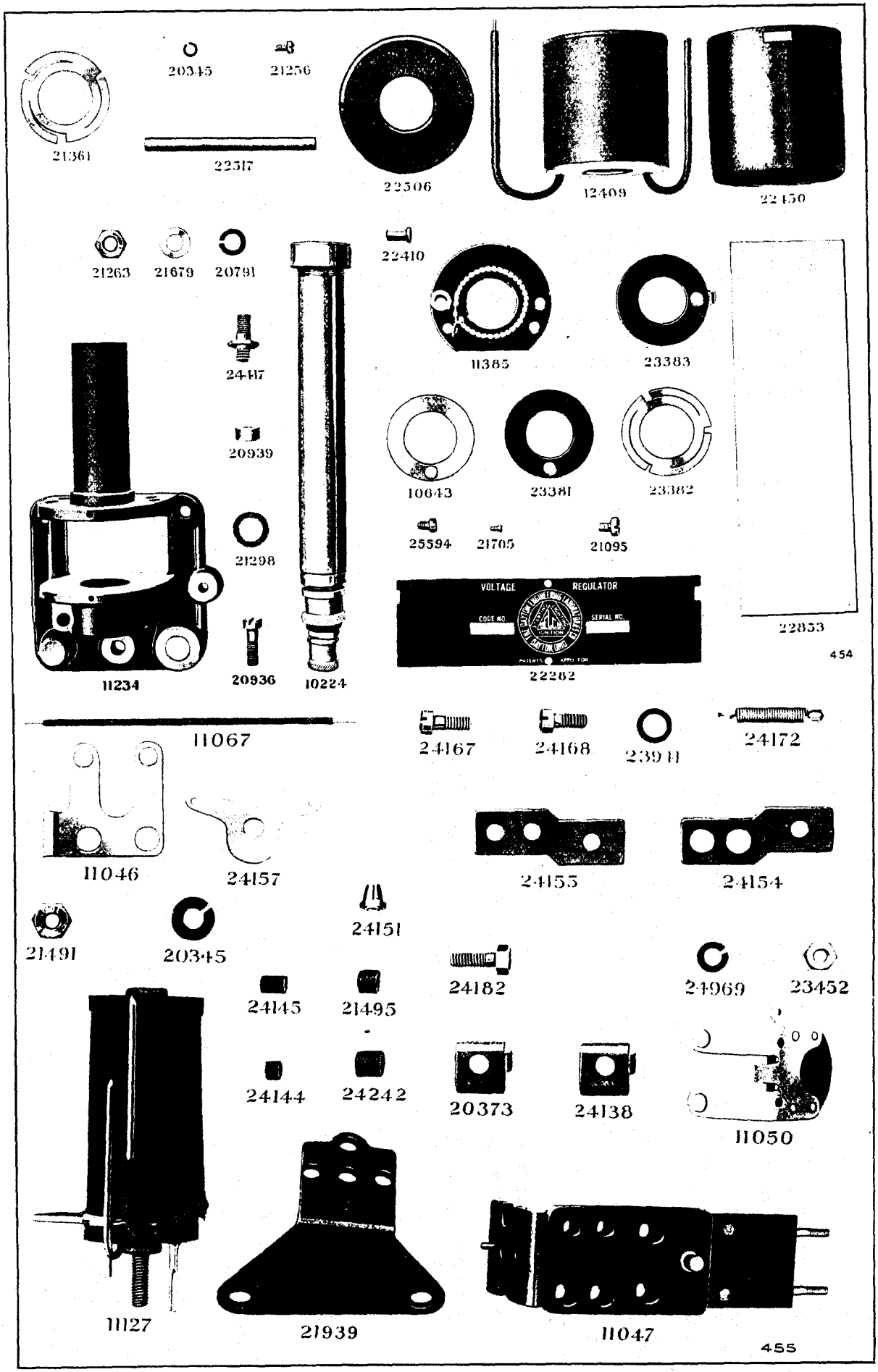








No. 5404 BATTERY BOX



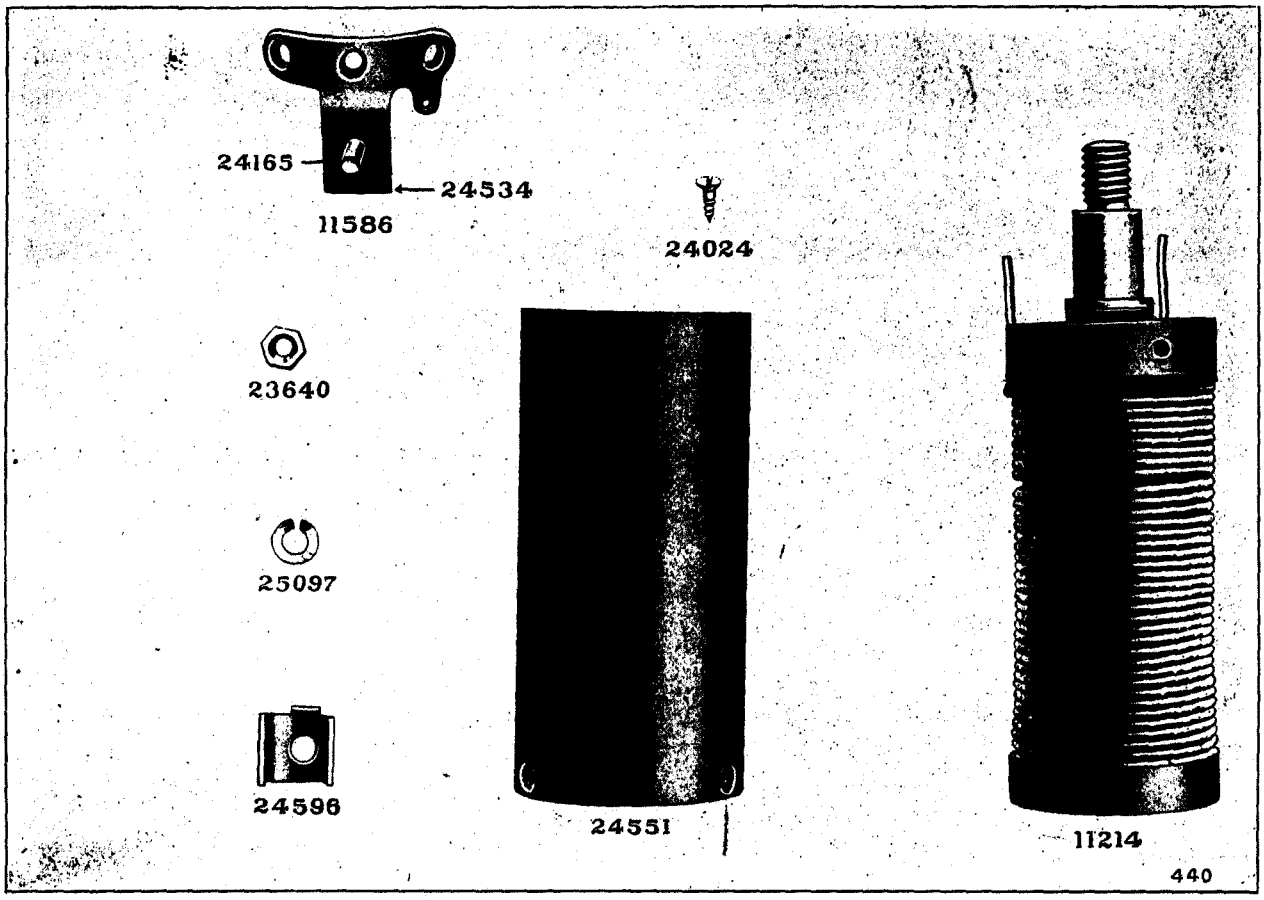
No. 5404 BATTERY BOX

No. 5404 BATTERY BOX

Piece Number	NAME OF PART	Quantity Required
5404	**BATTERY BOX COMPLETE**	1
11642	**Cover Assembly**	1
20316	Terminal Clip for Voltage Regulator 5602	1
11488	**Syringe for Filling Storage Battery**	1
10232	**Cover Assembly Complete for Storage Battery (Wood)** (Includes the next 4 Items)	1
20314	Spring for Cover Assembly 10231	2
20317	Screw for retaining Spring 20314	4
21638	Date Card for Cover Assembly 10232	1
20328	Pin for retaining Date Card	4
20289	Bolt for Battery Bolt Assembly	1
20108	Nut for Bolt 20289	1
20310	Plain Washer for Nut 20108	1
10087	**Battery Bolt Assembly Complete** (Includes the next 4 Items)	1
20289	Bolt for Battery Bolt Assembly 10087	1
20108	Nut for Bolt 20289	1
20310	Plain Washer for Nut 20108	1
21532	Sleeve for Bolt 20289	1
20835	Base for Battery Box	1
21600	Screw for retaining Clamp Plate 21597 (Not shown in Illustration)	4
21601	Nut for Screw 21600 (Not shown in Illustration)	4
20393	Lock Washer for Nut 21601 (Not shown in Illustration)	4
10184	**Latch Assembly Complete** (Includes the next 8 Items)	2
20588	Spring for Latch Assembly 10184 (Not shown in Illustration)	1
20585	Clamp Nut for Latch Assembly 10184 (Not shown in Illustration)	1
20586	Cap Nut for Latch Assembly 10184 (Not shown in Illustration)	1
20584	Latch for Latch Assembly 10184 (Not shown in Illustration)	1
20310	Plain Washer for Spring 20588 (Not shown in Illustration)	1
10183	**Latch Assembly (Not shown in Illustration)** (Includes the next 2 Items)	1
20587	Bolt for Latch Assembly 10183 (Not shown in Illustration)	1
21597	Clamp Plate for Bolt 20587 (Not shown in Illustration)	1
20129	Nut for Screw 21147 (Not shown in Illustration)	3
21147	Screw for retaining Apparatus Box 5502 (Not shown in Illustration)	1
20137	Lock Washer for Nut 20129 (Not shown in Illustration)	3
5502	**Apparatus Box Complete** (Includes the next 96 Items)	1
20939	Insulating Bushing for Screw 20128 (Long) (Not shown in Illustration)	2
21078	Insulating Bushing for Screw 20128 (Short) (Not shown in Illustration)	1
20117	Insulating Bushing for Box 21639 (Rubber) (Not shown in Illustration)	3
21193	Cover Plate for Box 21639 (Not shown in Illustration)	1
20553	Screw for attaching Cover Plate 21193 (Not shown in Illustration)	2
20484	Lock Washer for Screw 20553 (Not shown in Illustration)	2
21291	Nut for retaining Screw 20553 (Not shown in Illustration)	2
21684	Clip for retaining Lead (Outside of Box) (Long Clip) (Not shown in Illustration)	1
21208	Clip for retaining Lead (Outside of Box) (Short Clip) (Not shown in Illustration)	1
21217	Insulator for Voltage Regulator 5502	1
20068	Nut for retaining Screws 21746 and 20107 (Not shown in Illustration)	2
20347	Nut for retaining Screw 20349 (Not shown in Illustration)	1
20393	Lock Washer for Nut 20347 (Not shown in Illustration)	1
20128	Screw for retaining Voltage Regulator 5502 (Not shown in Illustration)	3
20349	Screw for Side Terminal on Relay 5678 (Not shown in Illustration)	1
20114	Plain Washer for Screw 20128 (Not shown in Illustration)	3
20137	Lock Washer for Screw 20128 (Not shown in Illustration)	3
20076	Insulating Washer for Screw 20128 (Not shown in Illustration)	3
20107	Screw for attaching Relay 5678 (Inner) (Not shown in Illustration)	1
20251	Insulating Bushing for Screw 21746 (Not shown in Illustration)	1
20252	Insulating Washer for Screw 21746	1
20165	Plain Washer for Screw 21746	1
20142	Lock Washer for Screw 21746	1
21746	Screw for attaching Relay 5678 (Outer)	1
10126	**Box Assembly Complete** (Includes the next 4 Items)	1
21264	Insulator for Box Assembly 10126	2
21673	Rivet for retaining Insulator 21264	6
21923	Number Plate for Box Assembly 10125 (Not shown in Illustration)	1
22216	Rivet for retaining Number Plate 21923 (Not shown in Illustration)	2
11108	**Lead Assembly (Long Single)** (Includes the next 2 Items)	1
21107	Clip for Lead Assembly 11108	1
21737	Ferrule for Clip 21107 (Not shown in Illustration)	1
11109	**Lead Assembly (Double) (Not shown in Illustration)** (Includes the next 5 Items)	1
21736	Connector for Lead Assembly 11109	1
20316	Clip for Voltage Regulator End of Lead Assembly 11109	1
21107	Clip for Lead Assembly 11109	1
21251	Clip for Cut-out Relay End of Lead Assembly 11109	1
20117	Insulating Bushing for Lead Assembly 11109	1

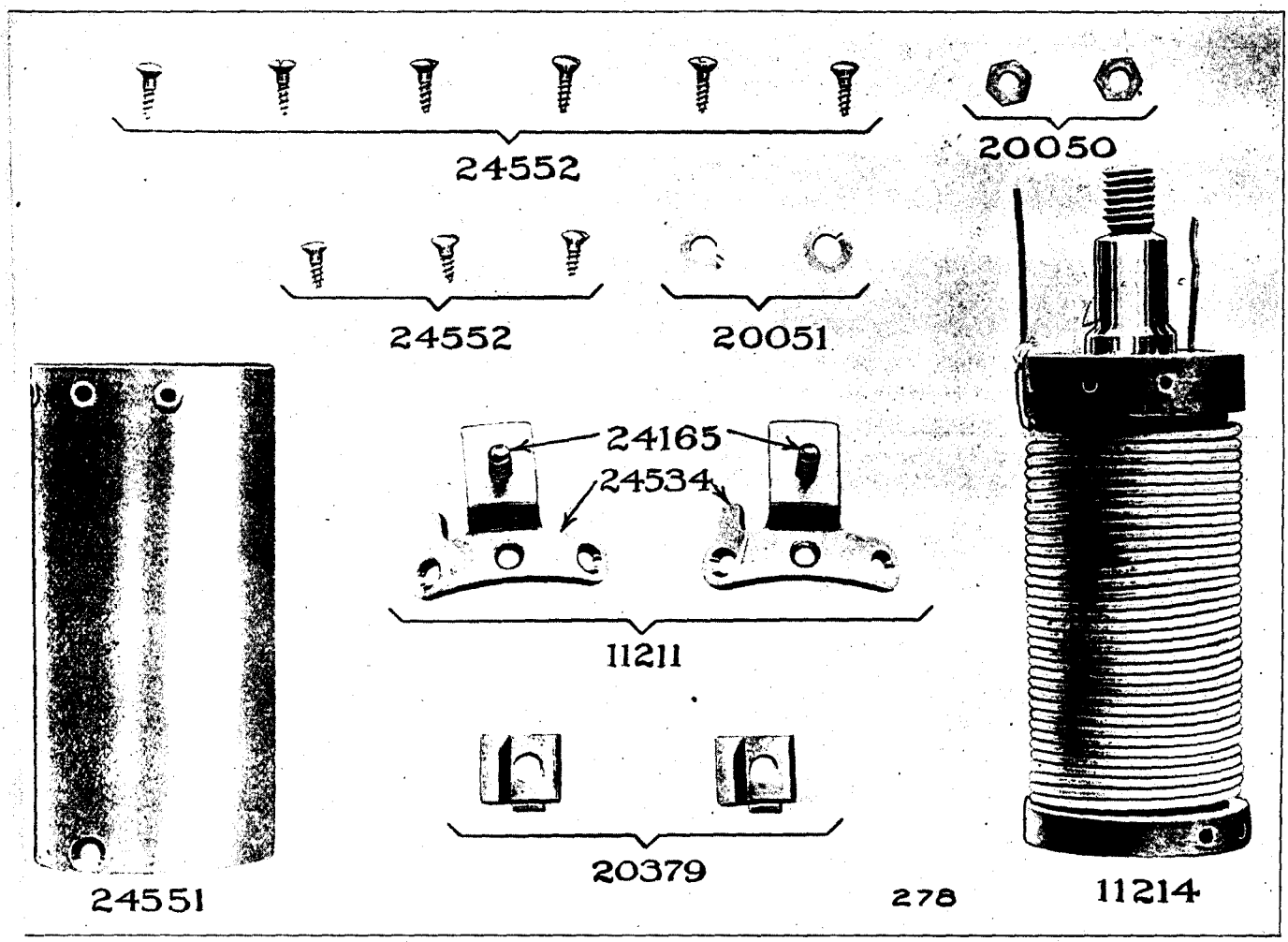
No. 5404 BATTERY BOX (Continued)

Piece Number	NAME OF PART	Quantity Required
11110	**Lead Assembly (Short Single) (Not shown in Illustration)**	1
	(Includes the next 2 Items)	
20316	Clip for Lead Assembly 11110	1
21737	Ferrule for Clip 20316	1
5678	**Cut-Out Relay Complete**	1
	(Includes the next 27 Items)	
11127	**Coil Assembly**	1
11067	**Lead Assembly for connecting Contact Spring Assembly 11050**	1
11050	**Contact Spring Assembly (Lower Contact)**	1
11046	**Contact Spring Assembly (Upper Contact)**	2
24151	Nut for retaining Contact Spring Assembly 11050 (Split Nut)	4
24167	Screw for attaching Contact Spring Assembly 11046 and Terminal Plate 24155	4
23941	Insulating Washer for Screws 24167, 24182 and 24168	2
21495	Insulating Bushing on Screw 24167 for Contact Spring Assembly 11046	1
24242	Insulating Bushing on Screw 24167 for Terminal Plate 24155	2
24168	Screw for retaining Contact Plate 24154	1
24154	Terminal Plate (Small Hole)	1
24155	Terminal Plate (Large Hole)	2
24138	Terminal Clip for Terminal Plates 24154 and 24155 (Upper)	2
20373	Terminal Clip for Terminal Plates 24154 and 24155 (Lower)	2
24182	Screw for retaining Terminal Clips 20373 and 24138	2
23452	Nut for Screw 24182	2
24969	Lock Washer for Nut 23452	1
11047	**Bracket Assembly for retaining Contact Spring Assemblies 11050 and 11046**	1
	(Includes the next 3 Items)	
24169	Stud for Insulator (Not shown in Illustration)	1
24149	Insulator for Bracket Assembly 11047 (Not shown in Illustration)	1
24144	Bushing for Stud 24169	1
21939	Bracket for attaching Relay 5678	1
24172	Spring for operating Contact Spring Assembly 11050	2
21491	Nut for retaining Coil Assembly 11127	1
24345	Lock Washer for Nut 21491	1
24145	Insulating Bushing for Coil Assembly 11127 (Long)	2
24144	Insulating Bushing for Coil Assembly 11127 (Short)	1
24157	Plate under Nut 21491 for Grounding Lead Assembly 11067	1
21937	Insulator for Bracket 21939 (Not shown in Illustration)	8
24969	Lock Washer for Screws 24167, 24182 and 24168	1
5602	**Voltage Regulator Complete**	
	(Includes the next 30 Items)	
10884	**Voltage Regulator Assembly (Service) (Complete 5602 Assembly less Mercury Tube 10224) (Not shown in Illustration)**	1
11234	**Bracket Assembly for Voltage Regulator 5602**	1
10224	**Mercury Tube Assembly**	1
22450	Shell for Coil Assembly 15279	1
15279	**Coil Assembly**	1
22512	Terminal Clip for Coil Assembly 15279 (Not shown in Illustration)	1
22853	Insulator for Coil Assembly 15279	1
22517	Insulator for Lead on Coil Assembly 15279	1
11385	**Rheostat Coil Assembly**	1
22506	Cover for Shell 22450	2
22410	Insulating Bushing for Lead on Coil Assembly 15279	2
21256	Screw for retaining Shell 22450	2
20345	Washer for Screw 21256	1
22282	Name Plate for Voltage Regulator 5602	2
21705	Screw for retaining Name Plate 22282	1
20936	Screw in Bracket Assembly 11234 for Clamping Mercury Assembly 10224	1
21095	Screw for retaining Rheostat Coil Assembly 11385 (Large Head)	1
25594	Screw for Rheostat Coil Assembly 11385 (Small Head)	1
22417	Terminal Stud for retaining Terminal Stud Assembly 10591	1
21263	Nut for Terminal Stud 22417	1
21679	Plain Washer for Nut 21263	1
20791	Lock Washer for Nut 21263	1
20939	Insulating Bushing for Terminal Stud 22417	2
21298	Insulating Washer for Terminal Stud 22417	2
10643	**Contact Plate Assembly for Rheostat Coil Assembly 11385**	1
23381	Insulating Plate for Contact Plate Assembly 10643	1
23382	Tension Spring for Contact Plate Assembly 10643	1
23383	Adjusting Plate for Contact Plate Assembly 10643	1
21361	Tension Spring for Coil Assembly 15279	1
22526	Screw for Voltage Regulator 5602 (Not shown in Illustration)	
10591	**Terminal Stud Assembly for connecting Voltage Regulator 5602 (Not shown in Illustration)**	1
	(Includes the next 4 Items)	
22894	Stud for Terminal Stud Assembly 10591 (Not shown in Illustration)	1
24281	Clamp for Terminal Stud Assembly 10591 (Not shown in Illustration)	1
20347	Nut for Stud 22894 (Not shown in Illustration)	1
20393	Lock Washer for Nut 20347 (Not shown in Illustration)	1
10128	**Cover Assembly for Apparatus Box 5502**	
	(Includes the next 4 Items)	2
21146	Nut for Cover 21009	2
20114	Washer for Nut 21146	



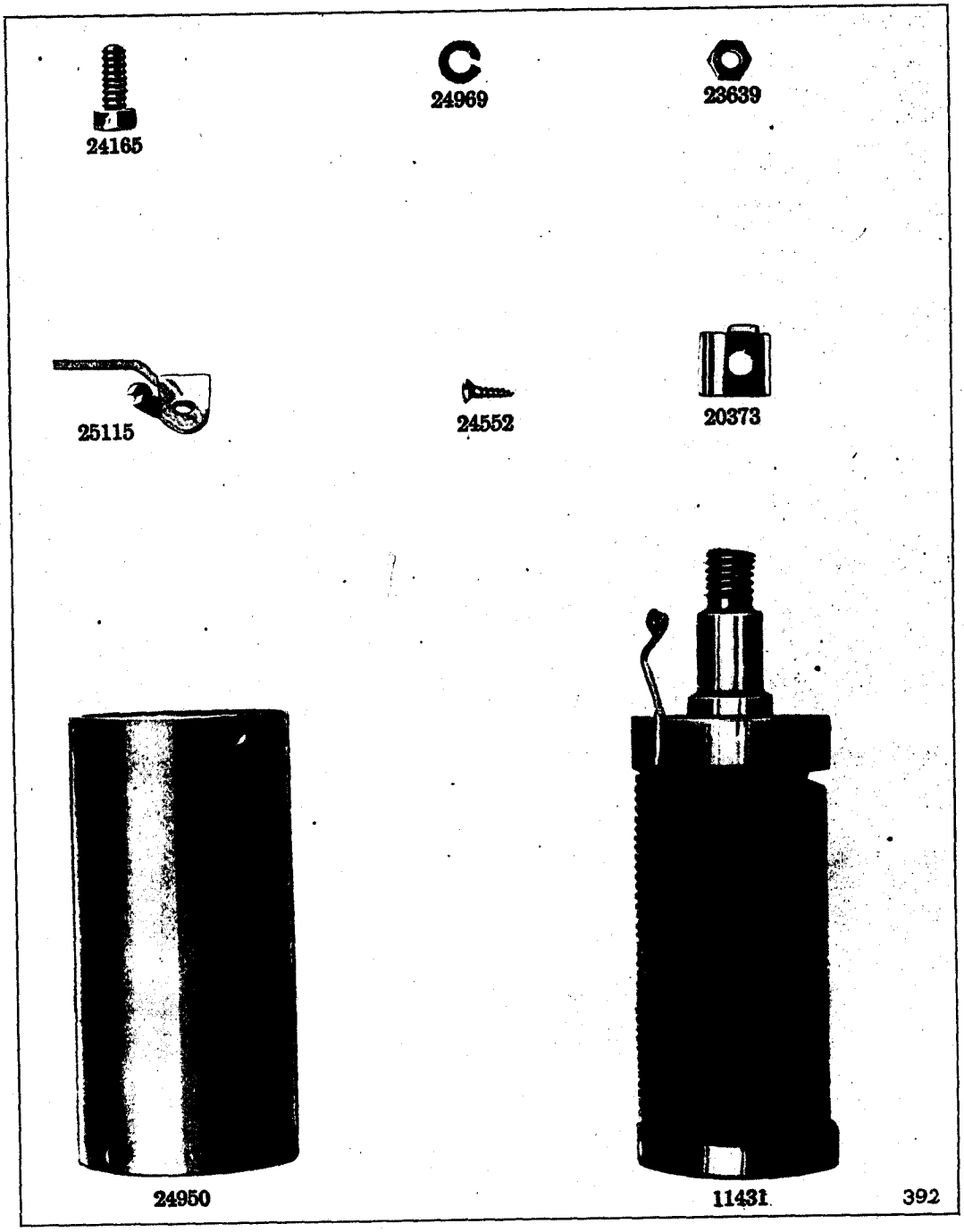
No. 5440 CLUTCH MAGNET

Piece Number	NAME OF PART	Quantity Required
5440	**CLUTCH MAGNET COMPLETE**	1
11214	**Latch Magnet Coil Assembly**	1
24551	Shell for Clutch Magnet Coil Assembly 11214	1
24024	Screw for retaining Shell 24551 and Terminal Assembly 12126	9
12126	**Terminal Assembly Complete (Not shown in Illustration)** (Includes the next 5 Items)	2
11586	**Terminal Assembly** (Includes the next Item)	1
24165	Screw for connecting Clutch Magnet	1
24596	Clip for Screw 24165	1
23640	Nut for Screw 24165	1
25097	Lock Washer for Nut 23640	1



No. 5442 CLUTCH MAGNET

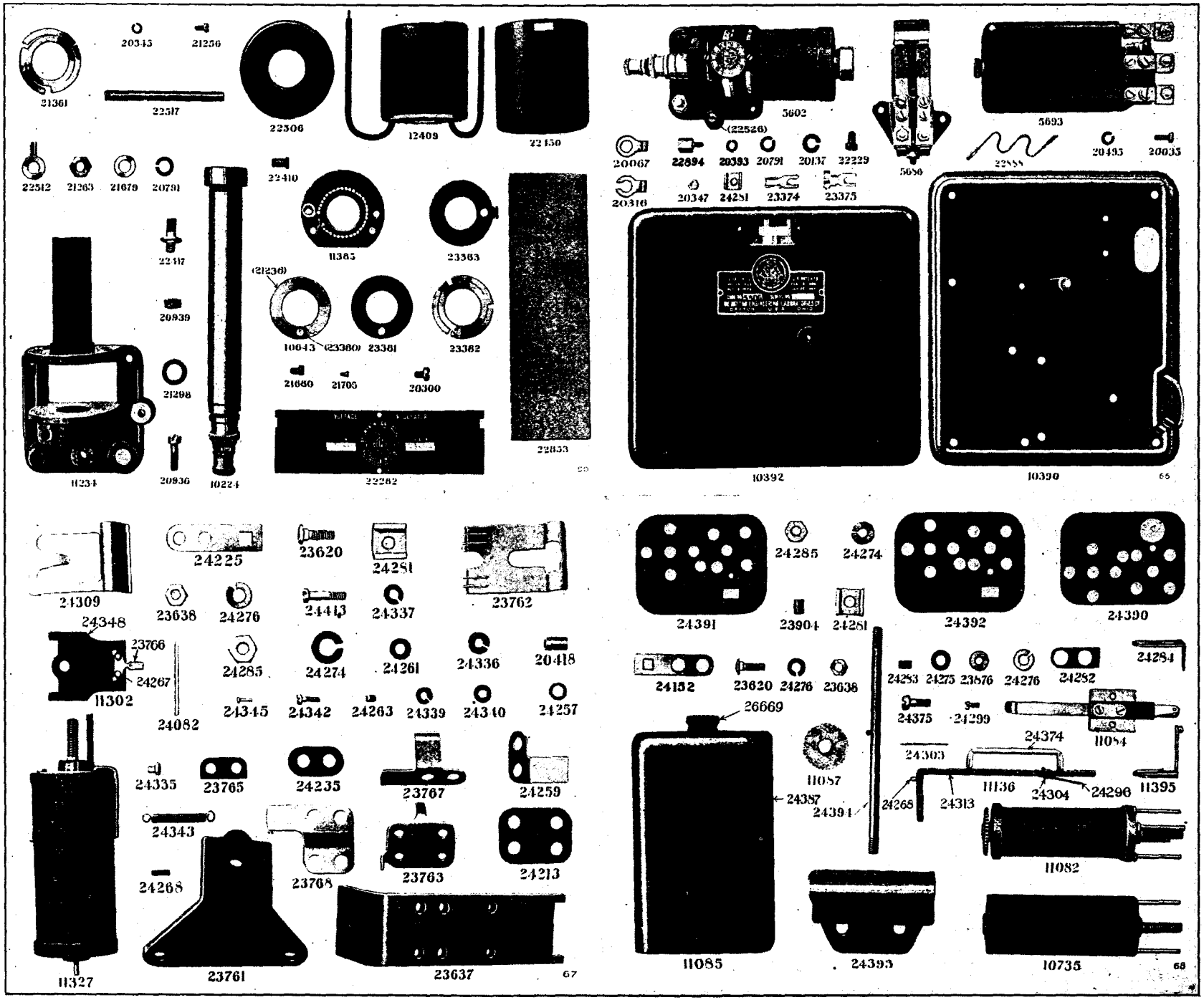
Piece Number	NAME OF PART	Quantity Required
5442	**CLUTCH MAGNET COMPLETE**	1
11214	**Coil Assembly**	1
24551	**Shell for Coil Assembly 11214**	1
24552	Screw for retaining Shell 24551 and Terminal Assembly 11508	9
11508	**Terminal Assembly Complete (Not shown in Illustration)** (Includes the next 5 Items)	2
11211	**Terminal Assembly** (Includes the next Item)	1
24165	Screw for connecting Clutch Magnet	1
20373	Clip for Screw 24165 (Not shown in Illustration)	1
23639	Nut for Screw 24165	1
24539	Lock Washer for Nut 23639	1



No. 5447 CLUTCH MAGNET

Piece Number	NAME OF PART	Quantity Required
5447	**CLUTCH MAGNET COMPLETE**	1
11431	**Coil Assembly**	1
24950	Shell for Coil Assembly 11413	1
24552	Screw for retaining Shell 24950 and Terminal Assembly 13492	8
13492	**Terminal Assembly Complete** (Includes the next 5 Items)	2
11432	**Terminal Assembly** (Includes the next Item)	1
24165	Screw for connecting Clutch Magnet	1
20373	Clip for Screw 24165	1
23639	Nut for Screw 24165	1
20393	Lock Washer for Nut 23639	1

No. 5506 APPARATUS BOX



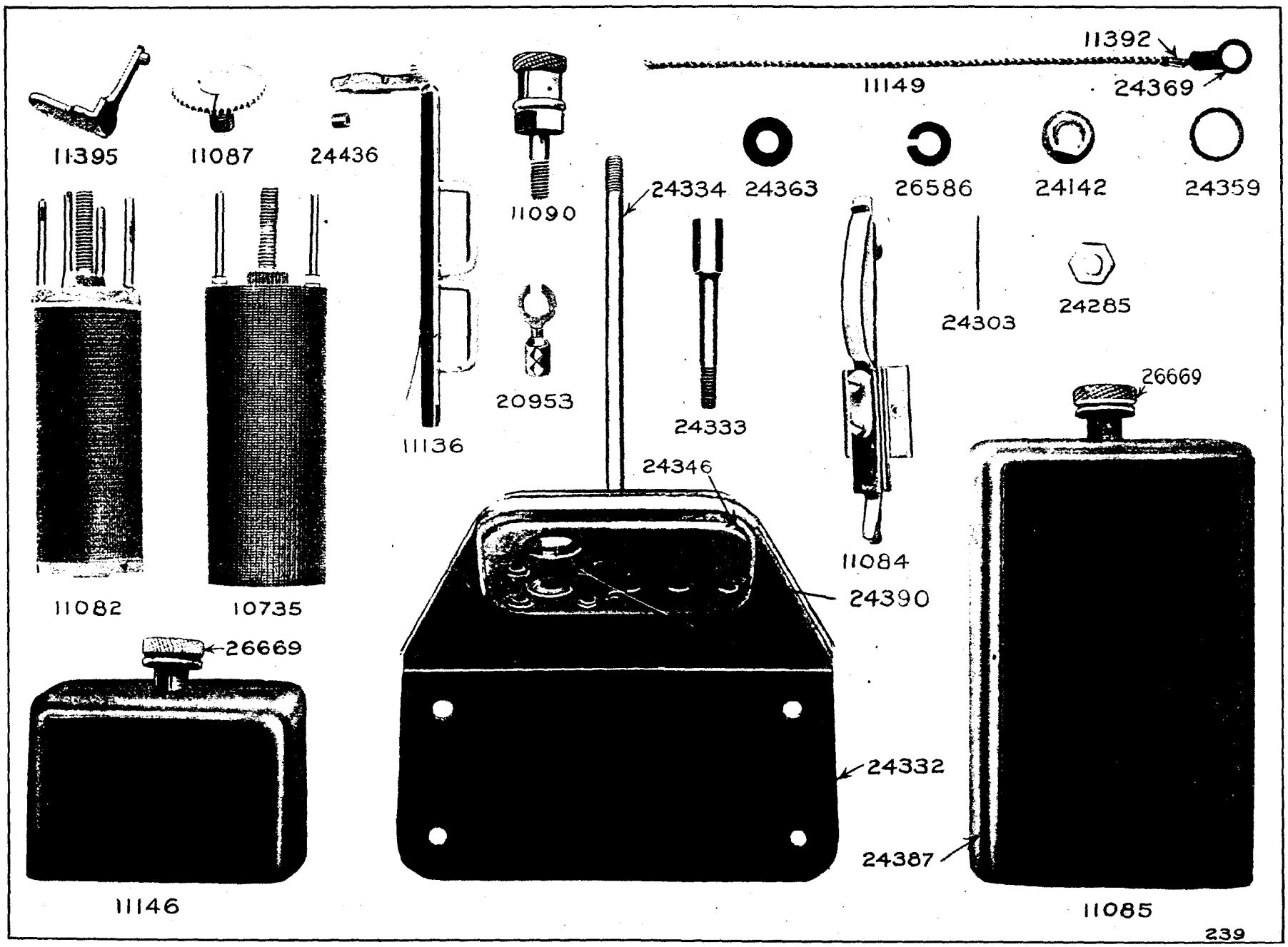
No. 5506 APPARATUS BOX

(No. 5510 Apparatus Box is the same as No. 5506 Apparatus Box with the Voltage Regulator taken out. No. 5510 Apparatus Box is used with No. 28B Motor Generator. No. 5506 Apparatus Box is used with No. 28 Motor Generator.

Piece Number	NAME OF PART	Quantity Required
5506	APPARATUS BOX COMPLETE	1
10392	**Cover Assembly Complete** (Includes the next 8 Items)	1
22907	Clamp Nut for Cover Assembly 10392 (Not shown in Illustration)	1
20114	Plain Washer for Clamp Nut 22907 (Not shown in Illustration)	1
22439	Indicator Guard for Cover 22423 (Not shown in Illustration)	1
22440	Indicator Cover for Indicator Guard 22439 (Not shown in Illustration)	1
20810	Plain Washer for Rivet 22731 (Not shown in Illustration)	2
22731	Rivet for Indicator Guard 22439 (Not shown in Illustration)	2
22408	Name Plate for Cover 22423 (Not shown in Illustration)	1
22216	Rivet for Name Plate 22408 (Not shown in Illustration)	2
10390	**Base Assembly**	1
20035	Screw for Mounting Relays 5693 and 5686	4
20495	Lock Washer for Screw 20035	4
22229	Screw for mounting Regulator 5602	2
20137	Lock Washer for Screw 22229	3
22881	Protector Strip for Cover Assembly 10592 (Not shown in Illustration)	1
22962	Rubber Bushing for Leads	1
22888	Battery Charging Resistance for connecting Regulator 5602 and Relay 5686	1
10591	**Terminal Stud Assembly for Battery Charging Resistance 22888 (Service)** (Includes the next 4 Items)	1
22894	Connector Stud for Terminal Stud Assembly 10591	1
24281	Clip for Connector Stud 22894	1
20347	Nut for Connector Stud 22894	1
20393	Lock Washer for Nut 20347	1
22526	Ground Screw Regulator 5602	1
20791	Lock Washer under Terminal Stud Assembly 10591	1
5686	**Cut-Out Relay Complete** (Includes the next 37 Items)	1
11327	**Coil Assembly for Relay**	1
23761	Mounting Bracket for Mounting Relay	1
23637	Bracket for Mounting Contact	1
11302	**Armature Assembly for operating Double Contact Arm 23762**	1
24309	Indicator Mounted on Armature Assembly 11302	1
24343	Spring for operating Armature Assembly 11302	1
24345	Pin for mounting Indicator Shutter 24309	2
24268	Pin for locating mounting Bracket 23761 and Bracket 23637	1
24335	Stud for Double Contact Arm 23762	2
24082	Pin for mounting Armature Assembly 11302	1
24285	Nut for mounting Coil Assembly 11327	1
24274	Lock Washer for Nut 24285	1
23763	Terminal Plate for Grounding Coil Assembly 11327	1
24259	Connector for connecting Coil and Terminal Plate 24225	1
23762	Double Contact Arm for Armature Assembly 11302	1
23767	Single Contact Arm for Cut-Out Relay (Two Holes)	1
23768	Single Contact Arm for Cut-Out Relay (Four Holes)	1
24266	Screw for mounting Double Contact Arm 23762	2
24263	Insulating Bushing for Screw 24266	2
24339	Lock Washer for Screw 24266	2
24340	Plain Washer for Screw 24266	2
24257	Insulating Washer for Screw 24266	2
23765	Insulator for Double Contact Arm 23762	1
24225	Terminal Plate for Connecting Relay	2
23620	Screw for Terminal Plate 24225	2
24281	Clip for Terminal Plate 24225	2
23638	Nut for Screw 23620	2
24276	Lock Washer for Nut 23638	2
24413	Screw for mounting Terminal Plate 24225	4
20418	Insulating Bushing for Screw 24413	4
24336	Plain Washer for Screw 24413	4
24337	Lock Washer for Screw 24413	4
24261	Insulating Washer for Screw 24413	1
24235	Insulator for Contact Arms 23767 and 23768	2
24213	Insulator under Contact Arms 23767 and 23768	1
5602	**Voltage Regulator Complete** (Includes the next 28 Items)	1
10844	**Voltage Regulator Assembly (Service) (Voltage Regulator complete less Mercury Tube Assembly)**	1
11234	**Bracket Assembly for Regulator 5602**	1
10224	**Mercury Tube Assembly**	1
22450	Coil Shell for Coil Assembly 15279	1
15279	**Coil Assembly for Regulator**	1

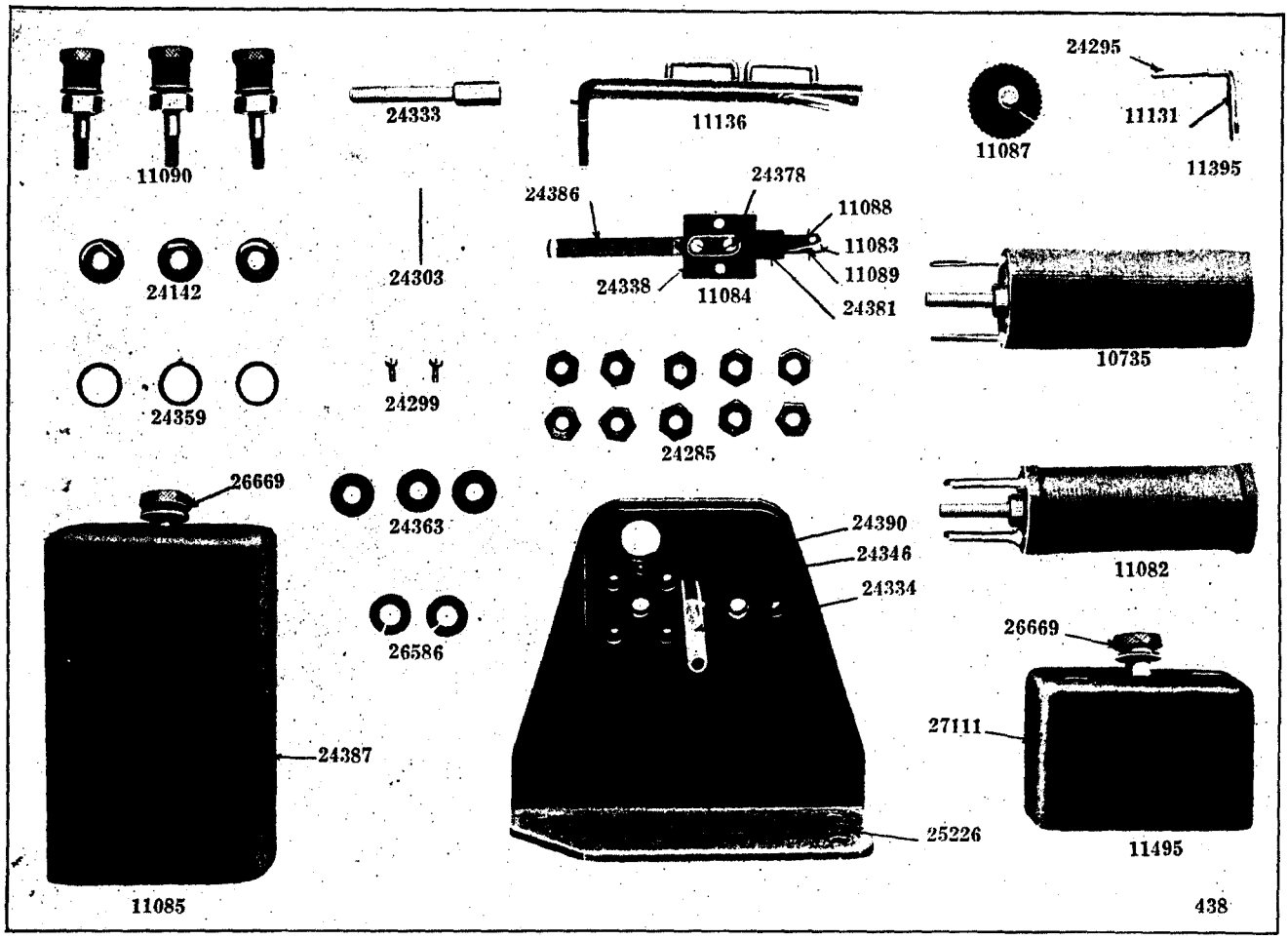
No. 5506 APPARATUS BOX (Continued)

Piece Number	NAME OF PART	Quantity Required
22512	Terminal Clip for Coil Assembly	1
22853	Insulator for Coil Assembly 15279	1
22517	Insulator for Lead on Coil Assembly 15279	1
11385	**Rheostat Coil Assembly**	1
22506	Cover for Coil Shell 22450	1
22410	Insulating Bushing for Lead on Coil Assembly 12409	1
21256	Screw for retaining Coil Shell 22450	2
20345	Lock Washer for Screw 21256	2
22282	Name Plate for Regulator	2
21705	Screw for Name Plate 22282	1
20936	Screw in Bracket Assembly 11234 for Clamping Mercury Tube Assembly 10224	2
25594	Screw for mounting Rheostat Coil Assembly 11385 (Small) (Not shown in Illustration)	1
21095	Screw for mounting Rheostat Coil Assembly 11385 (Large) (Not shown in Illustration)	1
22417	Terminal Stud for mounting Terminal Stud Assembly 10591	1
21263	Nut for Terminal Stud 22417	1
21679	Plain Washer for Nut 21263	1
20791	Lock Washer for Nut 21263	1
20939	Insulating Bushing for Terminal Stud 22417	1
21298	Insulating Washer for Terminal Stud 22417	1
10643	**Contact Plate Assembly Complete for Rheostat Coil Assembly 11385**	2
23381	Insulator Plate for Contact Plate Assembly 10643	1
23382	Tension Spring for Contact Plate Assembly 10643	1
23383	Adjusting Plate for Contact Plate Assembly 10643	1
21361	Tension Spring for Coil Assembly 12409	1
5693	**Ignition Relay Complete**	1
	(Includes the next 45 Items)	1
24393	Mounting Bracket for Mounting Relay	
24394	Stud for mounting Shell Assembly 11085	1
10735	**Condenser Assembly for Relay**	1
11082	**Coil Assembly for Relay**	1
	(Includes the next Item)	1
11087	**Adjustment Screw for Coil Assembly 11082**	
11085	**Shell Assembly Complete Relay**	1
	(Includes the next Item)	1
26669	Clamp Nut for Shell 24387	
24389	Plain Washer for retaining Nut 26669	1
11136	**Mounting Bracket Assembly Complete for mounting Contact Assembly 11084**	1
	(Includes the next 2 Items)	1
24296	Spring for Bracket Assembly 11136	
24304	Rivet for attaching Spring 24296	1
11395	**Armature Assembly for operating Contact Assembly 11084**	2
24303	Pin for mounting Armature Assembly 11395	1
11084	**Contact Assembly Complete for Relay**	1
24285	Nut for mounting Coil Assembly 11082 and Condenser Assembly 10735	1
26586	Lock Washer for Nut 24285 (Not shown in Illustration)	4
24299	Screw for mounting Contact Assembly 11084	2
24391	Dust Pad for mounting Bracket 24393	2
24392	Mounting Plate (Outside) for mounting Coil Assembly 11082 and Condenser Assembly 10735	1
24390	Mounting Plate (Inside of Mounting Coil Assembly 11082 and Condenser Assembly 10735)	1
23904	Insulating Bushing for Coil Assembly 11082 and Condenser Assembly 10735	1
24152	Base Plate for mounting Relay	6
24375	Screw for mounting Base 24152	3
24283	Insulating Bushing for Screw 24375	6
24275	Insulating Washer for Screw 24375	6
23876	Plain Washer for Screw 24375	6
24276	Lock Washer for Screw 24375	6
24282	Insulator for Connector 24284	6
24284	Connector for connecting Coil Assembly 11082 and Condenser Assembly 10735 to Terminal Plate 24225	3
24281	Clip for retaining Terminal Clips	3
23620	Screw for retaining Clip 24281	3
23638	Nut for Screw 23620	3
24276	Lock Washer for Nut 23638	3
20316	Terminal Clip for Voltage Regulator	3
23375	Terminal Clip for Cut-Out Relay	1
23374	Terminal Clip for Ignition Relay	2
20067	Terminal Clip (Ground)	3
		1


11395
11087
24436
11136
11090
20953
11392
11149
24369
24334
24363
26586
24142
24359
24333
24303
24285
11084
26669
11082
10735
24346
24390
24332
24387
11085
26669
11146
239

No. 5661 IGNITION RELAY

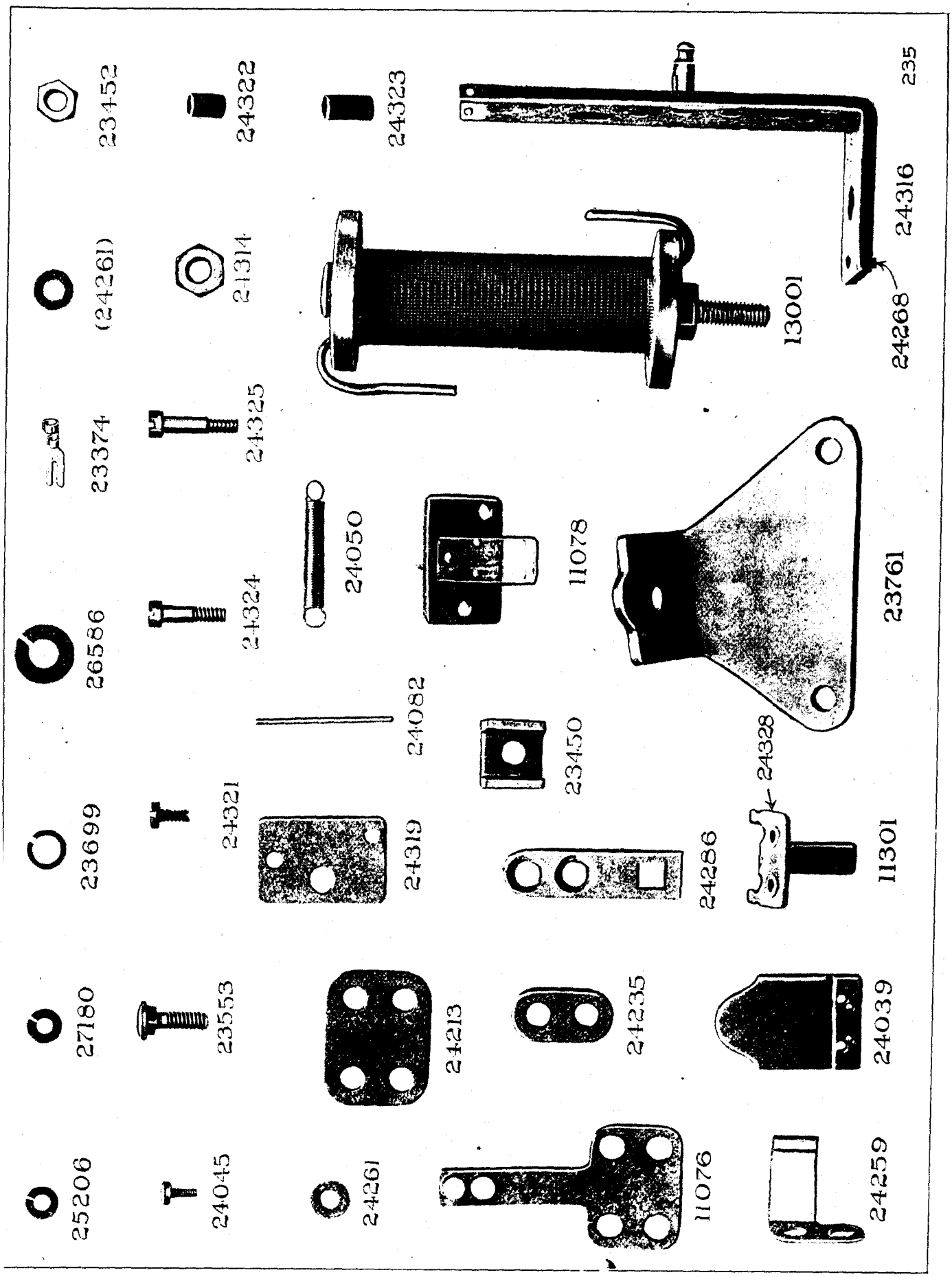
Piece Number	NAME OF PART	Quantity Required
5661	**IGNITION RELAY**	1
24332	Mounting Bracket for Mounting Ignition Relay 5661	1
24436	Insulating Bushing for Coil Assembly 11082 and Condenser Assembly 10735	6
24333	Stud for Mounting Shell Assembly 11146	1
24334	Rod for Mounting Shell Assembly 11085	1
11085	**Shell Assembly Complete for Governing Coil Assembly 11082 and Condenser Assembly 10735** (Includes the next Item)	1
26669	Nut for Shell Assembly 11085	1
24285	Nut for Mounting Coil Assembly 11085 and Condenser Assembly 10735 and Spring Terminal Assembly 11090	10
26586	Lock Washer for Nut 24285	2
10735	**Condenser Assembly for Relay**	1
11149	**Lead Assembly Complete for connecting Terminal Assembly 11090 to Coil Assembly** 11082 (Includes the next 3 Items)	3
24369	Clip for connecting Lead Assembly 11149 to Terminal Assembly 11090	1
11392	**Copper Wire Assembly for Lead Assembly 11149**	1
24461	Sleeve for Lead Assembly 11149 (Not shown in Illustration)	1
11146	**Shell Assembly Complete for Mounting Spring Terminal Assembly 11090** (Includes the next Item)	1
26669	Nut for Shell Assembly 11146	1
24346	Gasket for Mounting Plate 24390	2
24390	Mounting Plate for Shell Assemblies 11085 and 11146	2
11090	**Spring Terminal Assembly for connecting Relay**	3
24142	Insulating Bushing for Spring Terminal Assembly 11090	3
24359	Insulating Washer for Spring Terminal Assembly 11090	3
24363	Plain Washer for Spring Terminal Assembly 11090	3
24285	Nut for Spring Terminal Assembly 11090	6
11084	**Contact Spring Assembly for Relay**	1
11395	**Armature Assembly Complete for Operating Contact Spring Assembly 11084**	1
24303	Pin for Mounting Armature Assembly 11395	1
11136	**Bracket Assembly for Mounting Spring Assembly 11084**	1
11082	**Coil Assembly for Relay**	1
11087	**Adjusting Screw Assembly for Coil Assembly 11082**	1
20953	Terminal Clip for Ignition Relay 5661	1



No. 5677 IGNITION RELAY

No. 5677 IGNITION RELAY

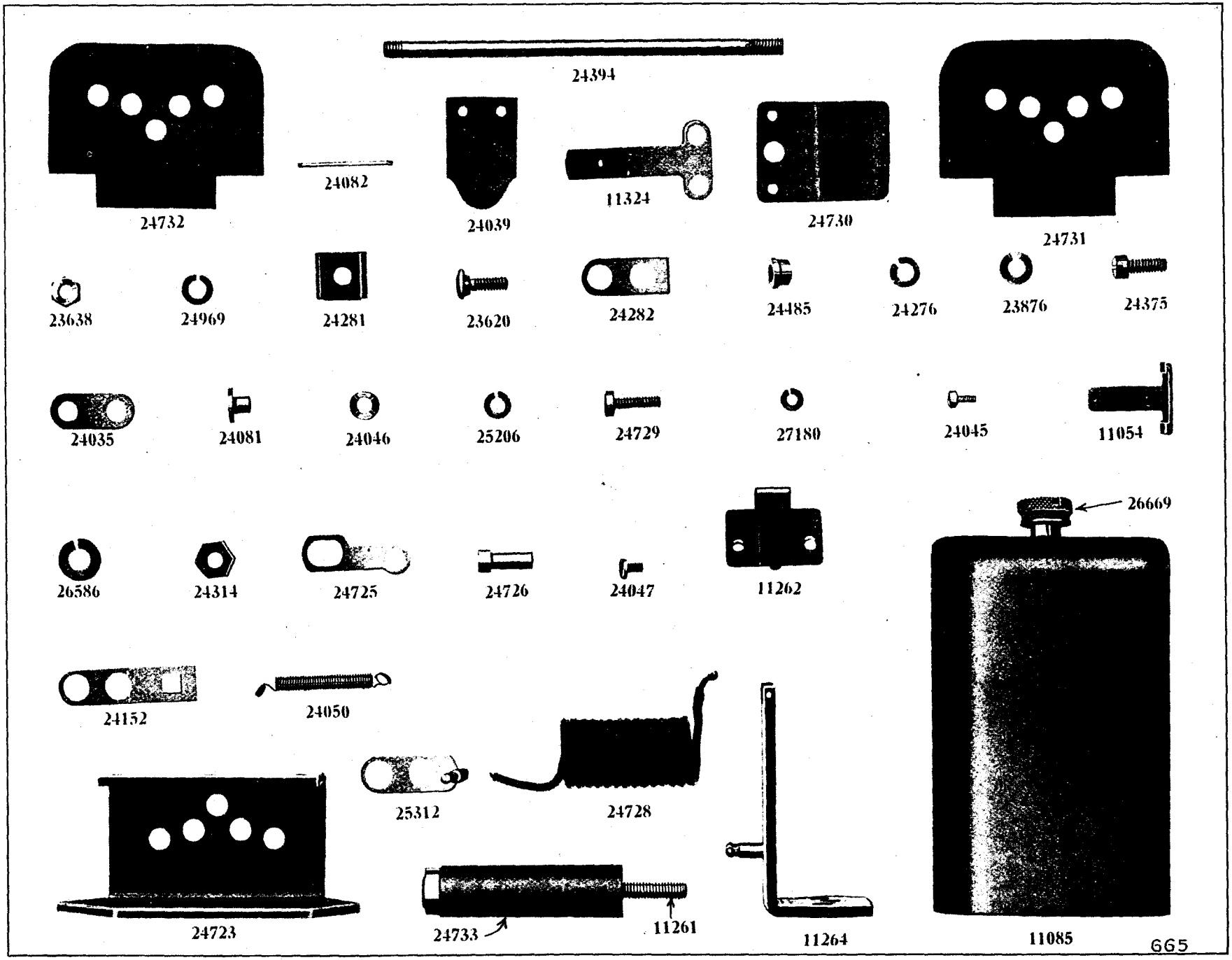
Piece Number	NAME OF PART	Quantity Required
5677	**IGNITION RELAY COMPLETE**	1
11084	**Contact Spring Assembly**	1
24299	Screw for attaching Contact Spring Assembly 11084	2
11395	**Armature Assembly**	1
24303	Pin for attaching Armature Assembly 11395	1
11136	**Bracket Assembly for Contact Spring Assembly 11084**	1
11082	**Coil Assembly** (Includes the next Item)	1
11087	**Adjusting Screw Assembly for Coil Assembly 11082**	1
11085	**Shell Assembly Complete (Long)** (Includes the next Item)	1
26669	Nut for Shell Assembly 11085	1
24389	Plain Washer for retaining Nut 26669	1
24285	Nut for retaining Spring Terminal Assembly 11090	6
24363	Plain Washer for Nut 24285	3
11090	**Spring Terminal Assembly for Shell Assembly 11446**	3
24142	Insulating Bushing for Spring Terminal Assembly 11090	3
24359	Insulating Washer for Spring Terminal Assembly 11090	3
11149	**Lead Assembly for Connecting Spring Terminal Assembly 11090 to Coil Assembly 11082 and Condenser Assembly 10735 (Not shown in Illustration)**	3
11495	**Shell Assembly** (Includes the next Item)	1
26669	Nut for Shell Assembly 11495	1
24333	Stud for retaining Shell Assembly 11446	1
24334	Rod for retaining Shell Assembly 11085	1
24390	Mounting Disc for Shell Assemblies 11446 and 11085	2
24346	Gasket for Mounting Disc 24390	2
24436	Insulating Bushing for Coil Assembly 11082 and Condenser Assembly 10735 (Not shown in Illustration)	6
24285	Nut for retaining Coil Assembly 11082 and Condenser Assembly 10735	4
26586	Lock Washer for Nut 24285	2
25226	Bracket for attaching Relay Assembly 5677	1
10735	**Condenser Assembly**	1
24270	Wire for connecting Terminals on Coil Assembly 11082 and Terminals on Condenser Assembly 10735 (19-32″ long) (Not shown in Illustration)	1
24964	Wire for connecting Terminals on Coil Assembly 11082 and Terminals on Condenser Assembly 10735 (.759″ long) (Not shown in Illustration)	1
24962	Wire for connecting Terminals on Coil Assembly 11082 and Terminals on Condenser Assembly 10735 (2 $^{9}/_{32}$″ long) (Not shown in Illustration)	1
24271	Wire for connecting Terminals on Coil Assembly 11082 and Terminals on Condenser Assembly 10735 (1 $^{29}/_{32}$″ long) (Not shown in Illustration)	1
24278	Sleeving for Wire 24962 (Not shown in Illustration)	1



No. 5692 CIRCUIT BREAKER

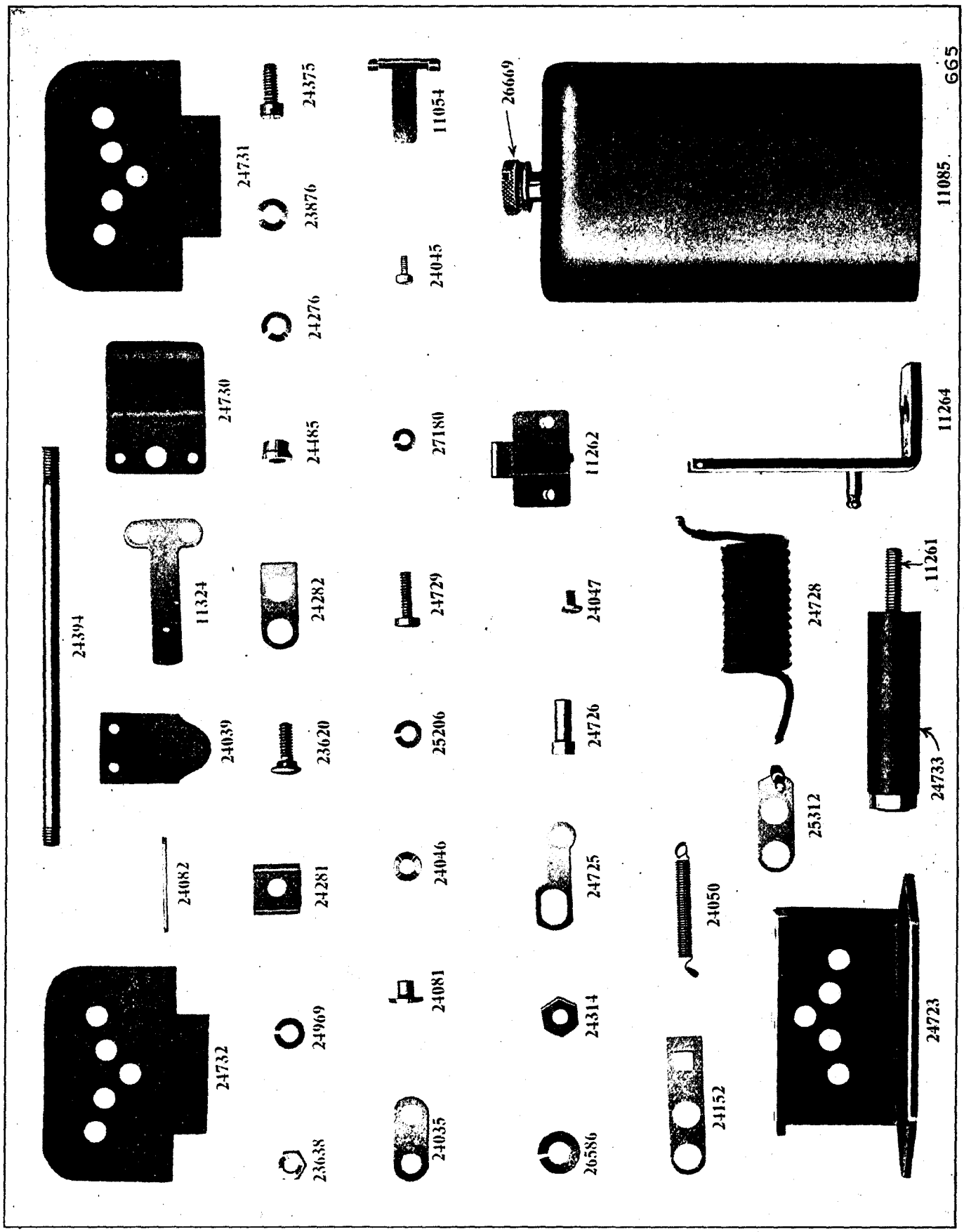
No. 5692 CIRCUIT BREAKER

Piece Number	NAME OF PART	Quantity Required
5692	**CIRCUIT BREAKER COMPLETE**	1
23761	Mounting Bracket for mounting Circuit Breaker	1
24316	Bracket for mounting Terminal Clip Assembly 11078	1
11078	**Terminal Clip Assembly for connecting Coil Assembly 13001**	1
24319	Insulator for Terminal Clip Assembly 11078	1
24321	Screw for mounting Terminal Clip Assembly 11078	2
13001	**Coil Assembly for Circuit Breaker**	1
24314	Nut for mounting Coil Assembly 13001	1
26586	Washer for Nut 24314	1
24039	Armature for operating Stop Assembly 11301	1
11301	**Stop Assembly for operating Contact Arm Assembly 11076**	1
24328	Stop for operating Contact with Fibre Bumper (Not shown in Illustration)	1
24330	Stud for Stop 24328 (Not shown in Illustration)	1
24050	Spring for operating Armature 24039	2
24045	Screw for mounting Stop Assembly 11301	2
27180	Washer for Screw 24045	2
24082	Pin for mounting Armature 24039	1
11076	**Contact Assembly**	1
11438	**Contact Assembly (Old Style) With Fibre Bumper (Not shown in Illustration)**	1
24213	Insulator under Contact Assembly 11076	2
24325	Screw for mounting Contact Assembly 11076 (Long)	2
24324	Screw for mounting Contact Assembly 11076 (Short)	2
24322	Insulating Bushing for Screw 24324	2
24323	Insulating Bushing for Screw 24325	2
25206	Lock Washer for Screws 24324 and 24325	4
24046	Plain Washer for Screws 24324 and 24325 (Not shown in Illustration)	4
24261	Insulating Washer for Screws 24324 and 24325	4
24259	Connector for connecting Oil Assembly 13001 to Terminal Plate 24286	1
24286	Terminal Plate for connecting Circuit Breaker	2
23553	Screw for retaining Clip 23450	2
23450	Clip for retaining Terminal Clips	2
23452	Nut for Screw 23553	2
23699	Lock Washer for Nut 23452	2
24235	Insulator for Connector 24259	1
24268	Pin for locating Mounting Bracket 23761 and Bracket 24316	1
23374	Terminal Clip for Circuit Breaker 5692	2


24394
24732
24082
24039
11324
24730
24731
23638
24969
24281
23620
24282
24485
24276
23876
24375
24035
24081
24046
25206
24729
27180
24045
11054
26586
24314
24725
24726
24047
11262
26669
24152
24050
25312
24728
24723
24733
11261
11264
11085
665

No. 5695 CIRCUIT BREAKER

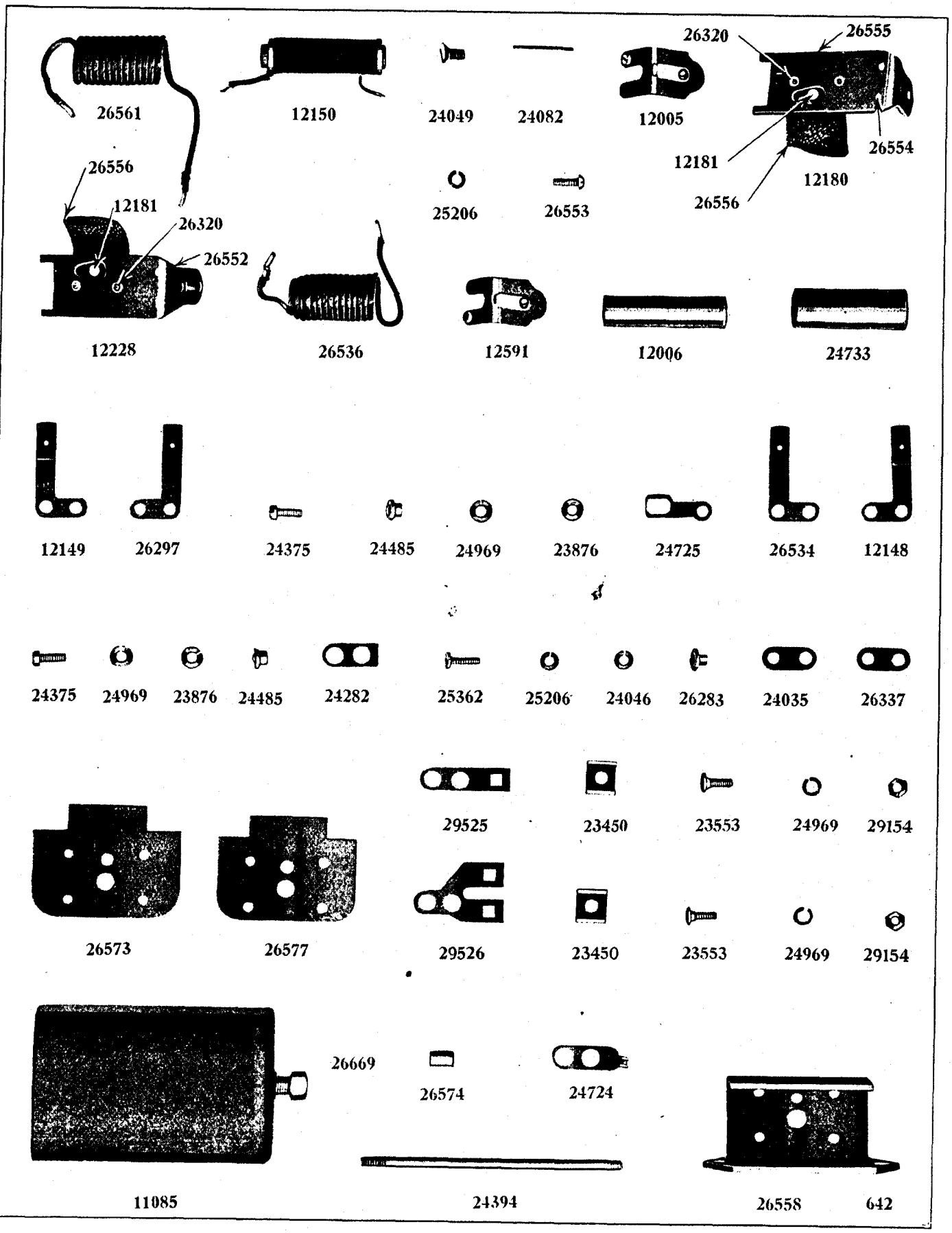
Piece Number	NAME OF PART	Quantity Required
5695	**CIRCUIT BREAKER COMPLETE**	1
11085	**Shell Assembly Complete** (Includes the next 2 Items)	1
26669	Nut for Shell Assembly 11085	1
24389	Plain Washer for Nut 26669 (Not shown in Illustration)	1
11324	**Contact Spring Assembly (Upper Contact)**	2
11054	**Stop Assembly for Operating Contact Spring Assembly 11324**	2
11262	**Terminal Assembly (Lower Contact)**	1
24039	Armature for Operating Stop Assembly 11054	2
11261	**Core Assembly for Coils 24728 and 25580**	2
24733	Insulating Sleeve for Coils 24728 and 25580	2
11264	**Bracket Assembly for Coil Assembly 11261 and Contact Spring Assembly 11324**	2
24723	Bracket for Bracket Assembly 11264	1
25312	Terminal Clip under Center Terminal for connecting Coils 24728 and 25580	1
23876	Plain Washer for Screw 24375	6
20393	Lock Washer for Screw 24375	6
24485	Insulating Bushing for Screw 24375	6
24282	Insulator for Terminal Post Assembly 11135	3
24375	Screw for attaching Terminal Post Assembly 11135	6
24276	Lock Washer for Screw 24375	6
24152	Base Plate for connecting Circuit Breaker	1
23620	Screw for retaining Terminal Clamp 24281	1
23638	Nut for Screw 23620	1
20393	Lock Washer for Nut 23638	1
24281	Terminal Clamp for retaining Terminal Clip 23375	1
24314	Nut for retaining Core Assembly 11261	4
26586	Lock Washer for Nut 24314	2
24729	Screw for retaining Contact Spring Assembly 11324	4
25206	Lock Washer for Screw 24729	4
24046	Plain Washer for Screw 24729	4
24081	Insulating Bushing for Screw 24729	4
24725	Terminal Plate for connecting Terminal Assembly 11135 and Contact Spring Assembly 11324	2
24732	Mounting Plate for Shell Assembly 11085 (Large)	1
24731	Mounting Plate for Shell Assembly 11085 (Small)	1
24726	Insulating Bushing for Coils 24728 and 25580	2
24035	Insulating Plate for Contact Spring Assembly 11324	4
24730	Insulator for Terminal Assembly 11262	2
25580	Coil for Right Hand Relay (Not shown in Illustration)	1
24728	Coil for Left Hand Relay	1
24050	Spring for Operating Armature 24039	4
24082	Pin for retaining Armature 24039	2
24394	Pin for retaining Shell Assembly 11085	1
24047	Screw for attaching Terminal Assembly 11262	1
24045	Screw for attaching Stop Assembly 11054	2
27180	Lock Washer for Screw 24045	4
23375	Terminal Clip for connecting Circuit Breaker (Not shown in Illustration)	3



No. 5696 CIRCUIT BREAKER

No. 5696 CIRCUIT BREAKER

Piece Number	NAME OF PART	Quantity Required
5696	**CIRCUIT BREAKER COMPLETE**	1
11085	**Shell Assembly Complete** (Includes the next 2 Items)	1
26669	Nut for retaining Shell Assembly 11085	1
24389	Plain Washer for Nut 26669 (Not shown in Illustration)	1
11324	**Contact Spring Assembly (Upper Contact)**	1
11264	**Bracket Assembly for Armature 24039 and Contact Spring Assembly 11324**	1
11054	**Stop Assembly Complete for Operating Contact Spring Assembly 11324**	1
11262	**Terminal Assembly (Lower Contact)**	1
11261	**Core Assembly for Coil 24728**	1
24723	Bracket for Circuit Breaker	1
24724	Terminal for connecting Coil 24728 and Terminal Post Assembly 11135 (Not shown in Illustration)	1
24375	Screw for retaining Terminal Post Assembly 11135	3
20393	Lock Washer for Screw 24375	3
23876	Plain Washer for Screw 24375	3
24485	Insulating Bushing for Screw 24375	3
24282	Insulator for Terminal Post Assembly 11135	2
24152	Base Plate for connecting Circuit Breaker	1
23620	Screw for retainnig Terminal Clip 24281	1
23638	Nut for Screw 23620	1
24276	Lock Washer for Nut 23638	1
24281	Terminal Clamp for retaining Terminal Clip 23375	1
24394	Pin for retaining Shell Assembly 11085	1
24728	Coil for Circuit Breaker 5696	1
24314	Nut for retaining Core Assembly 11261	2
26586	Lock Washer for Nut 24314	1
24050	Spring for Operating Contact Spring Assembly 11324	2
24039	Armature for Operating Stop Assembly 11324	1
24082	Pin for attaching Armature 24039	1
24045	Screw for retaining Stop Assembly 11054	2
27180	Lock Washer for Screw 24045	2
24729	Screw for retaining Contact Spring Assembly 11324	2
25206	Lock Washr for Screw 24729	2
24046	Plain Washer for Screw 24729	2
24081	Insulating Bushing for Screw 24729	2
24726	Insulating Bushing for Coil 24728	2
24732	Mounting Plate for Shell Assembly 11085 (Large)	1
24731	Mounting Plate for Shell Assembly 11085 (Small)	1
24733	Insulating Sleeve for Coil 24728	1
24035	Insulating Plate for Contact Spring Assembly 11324	2
24730	Insulator for Terminal Assembly 11262	1
24047	Screw for retaining Terminal Assembly 11262	2
24375	Screw for retaining Terminal Plate 24725	1
24725	Terminal Plate for connecting Contact Spring Assembly 11324 and Terminal Post Assembly 11135	1
20393	Plain Washer for Screw 24375	1
24485	Insulating Bushing for Screw 24375	1
23876	Plain Washer for Screw 24375	1
23375	Terminal Clip for connecting Circuit Breaker 5696 (Not shown in Illustration)	2

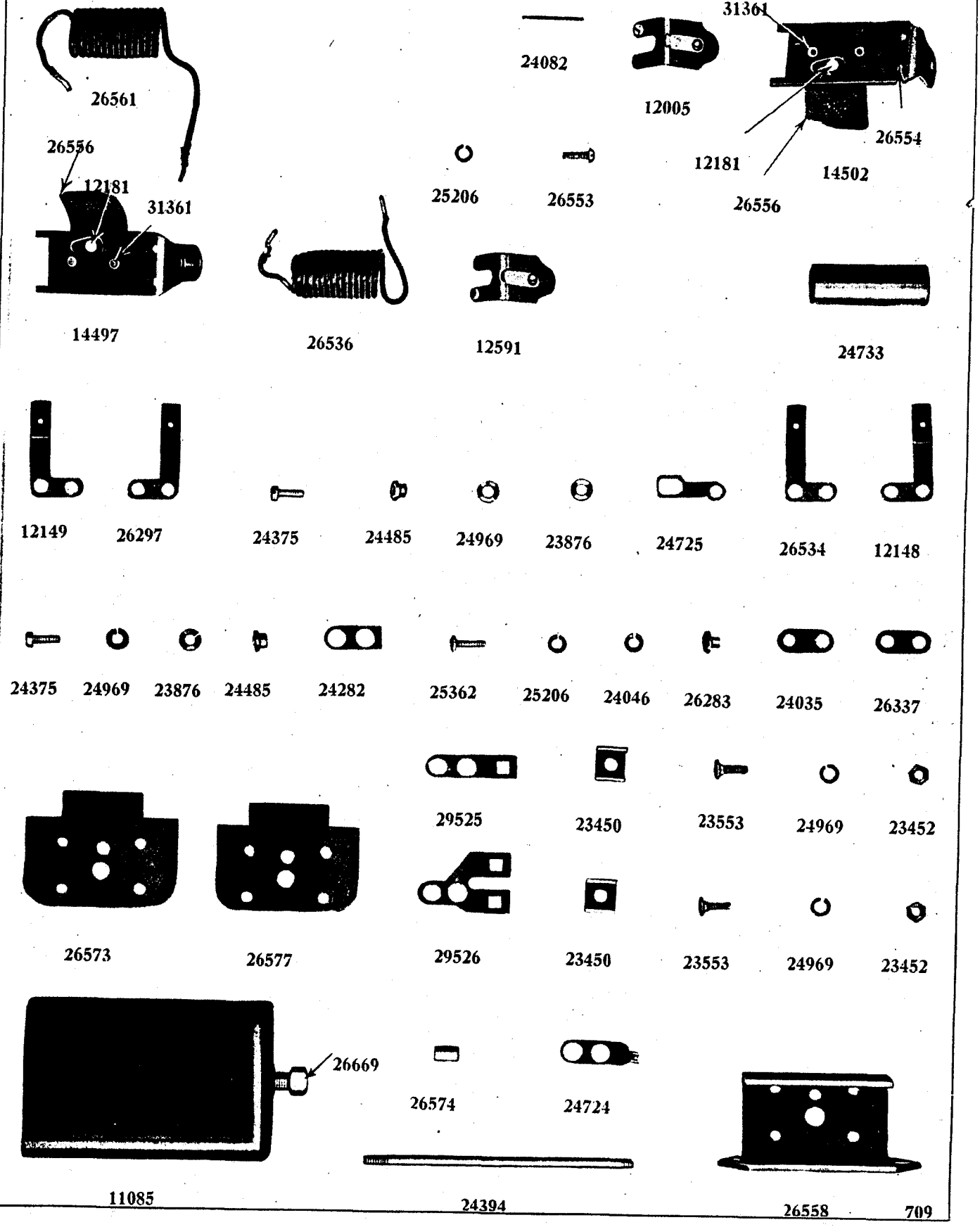


No. 5705 CIRCUIT BREAKER

5705 CIRCUIT BREAKER

Note: No. 5705 Circuit Breaker superseded by No. 5742 Circuit Breaker. When ordering a complete new unit, order No. 5742.

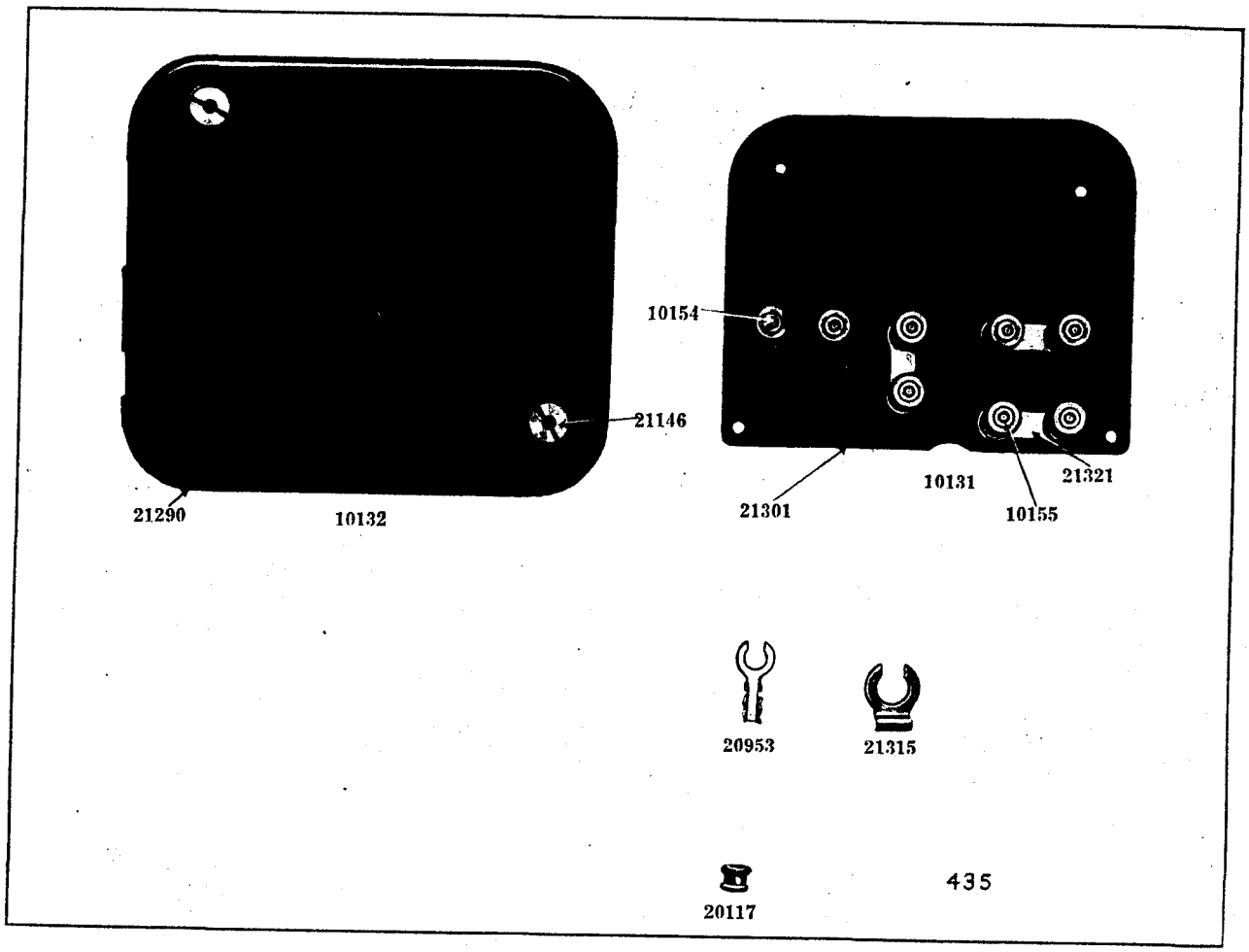
Piece Number	NAME OF PART	Quantity Required
5705	**CIRCUIT BREAKER COMPLETE**	1
26558	Bracket for Mounting Assembly	1
24394	Pin for retaining Shell Assembly 11085	1
29526	Terminal Post for Switch (Double)	1
23553	Screw for retaining Clamp 23450	3
23452	Nut for Screw 23553	3
20393	Lock Washer for Nut 23452	3
23450	Clip for retaining Terminal Clip	3
29525	Terminal Post for Switch (Single)	2
24375	Screw for retaining Terminal Post Assemblies	4
20393	Lock Washer for Screw 24375	4
23876	Plain Washer for Screw 24375	4
24485	Insulating Bushing for Screw 24375	4
26574	Insulating Bushing in Bracket 26558 for Coils 26561 and 26536	1
26573	Mounting Plate for Shell Assembly 11085 (Large)	1
26577	Mounting Plate for Shell Assembly 11085 (Small)	1
24724	Terminal Plate for connecting Coils 26536 and 26561	1
24282	Insulator for Terminal Post Assemblies 12186 and 12187	3
11085	**Shell Assembly Complete** (Includes the next 2 Items)	1
26669	Nut for Shell 24387	1
24389	Plain Washer for Nut 26669	1
26536	Coil for Vibrating Relay	1
26561	Coil for Lock Out Relay (Outer)	1
12150	**Coil Assembly for Lock Out Relay (Inner)**	1
12006	**Core Assembly for Vibrating Relay**	1
24733	Insulating Sleeve for Core Assembly 12006	1
12591	**Armature Assembly for Vibrating Relay**	1
12005	**Armature Assembly for Lock Out Relay**	1
24082	Pin for attaching Armature Assemblies 12005 and 12591	2
24049	Screw for retaining Core Assembly 12006 and Coil Assembly 12150	2
26297	Spring for operating Armature Assembly 12005	1
26534	Spring for operating Armature Assembly 12591	1
12148	**Contact Spring Assembly for Vibrating Relay (Upper Contact)**	1
12149	**Contact Spring Assembly for Lock Out Relay (Upper Contact)**	1
24035	Insulating Plate for Contact Spring Assemblies 12148 and 12149 (Thick)	2
26337	Insulating Plate for Contact Spring Assemblies 12148 and 12149 (Thin)	2
24725	Terminal Plate for connecting Terminal Post Assemblies 12186 and 12187 to Contact Spring Assemblies 12148 and 12149	2
24375	Screw for retaining Terminal Plate 24725	2
20393	Lock Washer for Screw 24375	2
23876	Plain Washer for Screw 24375	2
24485	Insulating Bushing for Screw 24375	2
25362	Screw for retaining Contact Spring Assemblies 12148 and 12149	4
25206	Lock Washer for Screws 26553 and 25362	8
24046	Plain Washer for Screw 25362	4
24081	Insulating Bushing for Screw 25362	1
26553	Screw for retaining Bracket Assemblies 12180 and 12228	4
12180	**Bracket Assembly for Lock Out Relay** (Includes the next 5 Items	1
26555	Bracket for Bracket Assembly 12180	1
12181	**Terminal Assembly (Lower Contact)**	1
26320	Rivet for retaining Terminal Assembly 12181	2
26556	Insulator for Terminal Assembly 12181	1
26554	Bushing for Bracket 26555	1
12228	**Bracket Assembly for Vibrating Relay** (Includes the next 4 Items)	1
26552	Bracket for Bracket Assembly 12228	1
12181	**Terminal Assembly (Lower Contact)**	1
26556	Insulator for Terminal Assembly 12181	1
26320	Rivet for retaining Terminal Assembly 12181	2
23374	Terminal Clip for connecting Circuit Breaker (Small) (Not shown in Illustration)	2
23375	Terminal Clip for connecting Circuit Breaker (Large) (Not shown in Illustration)	2



No. 5742 CIRCUIT BREAKER

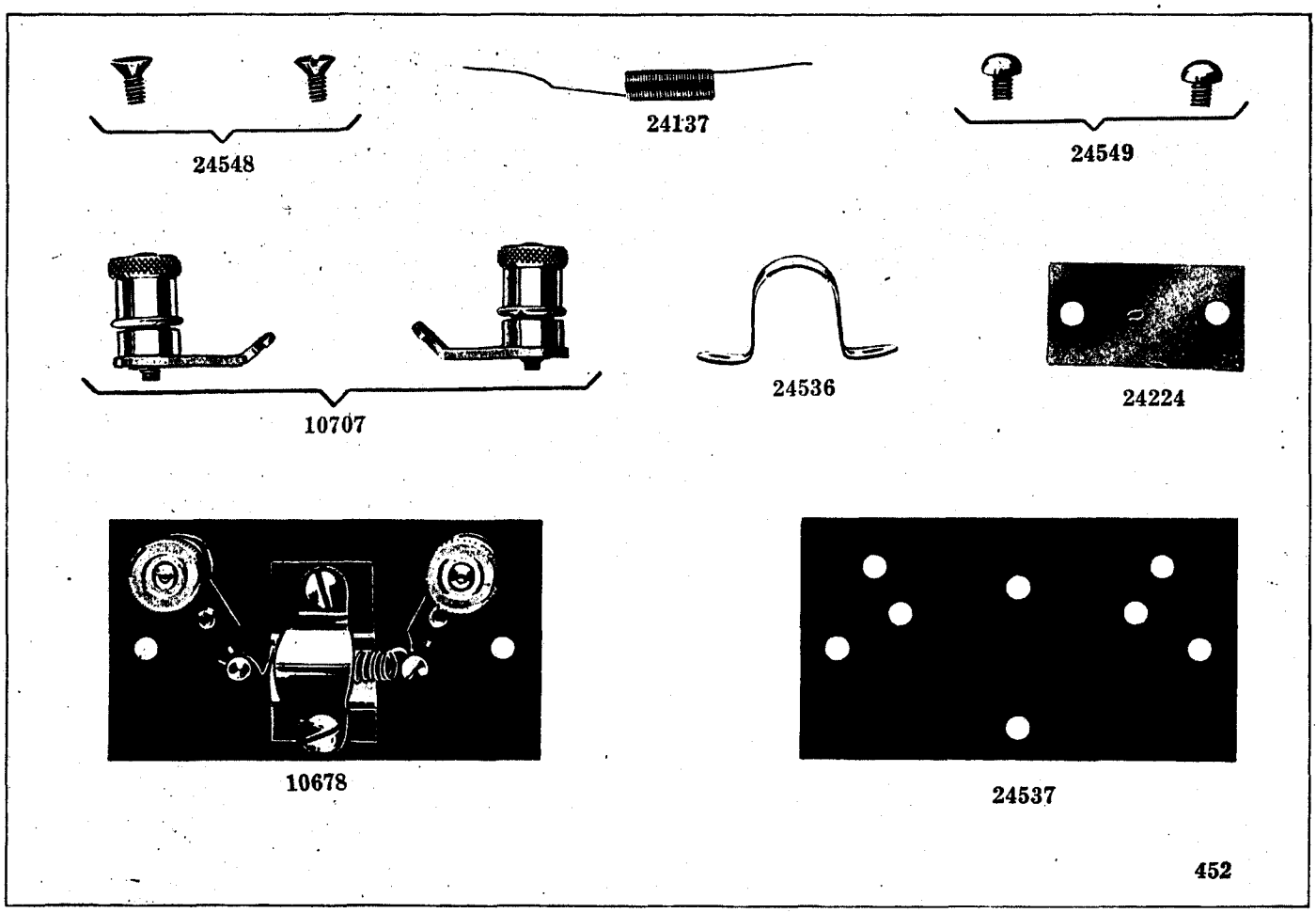
No. 5742 CIRCUIT BREAKER

Piece Number	NAME OF PART	Quantity Required
5742	**CIRCUIT BREAKER CMPLETE**	1
26558	Bracket for mounting Circuit Breaker	1
24294	Pin for retaining Shell Assembly 11085	1
29525	Terminal Post (Single)	1
29526	Terminal Post (Double)	1
23553	Screw for retaining Clamp 23450	4
23452	Nut for Screw 23553	4
20393	Lock Washer for Nut 23452	4
23450	Clamp for retaining Terminal Post	4
24375	Screw for retaining Terminal Posts 29525 and 29526	4
20393	Lock Washer for Screw 24375	4
23876	Plain Washer for Screw 24375	4
24485	Insulating Bushing for Screw 24375	4
26574	Insulating Bushing in Bracket 26558 for Coils 26561 and 26536	1
26573	Mounting Plate for Shell Assembly 11085 (Large)	1
26577	Mounting Plate for Shell Assembly 11085 (Small)	1
24724	Terminal Plate for connecting Coils 26536 and 26561	1
24282	Insulator for Terminal Posts 29525 and 29526	3
11085	**Shell Assembly Complete**	1
	(Includes the next 2 Items)	
26669	Nut for Shell	1
24389	Plain Washer for Nut 26669	1
26536	Coil for Vibrating Relay	1
26561	Coil for Lock Out Relay (Outer)	1
24733	Insulating Sleeve for Coil 26536	1
12591	**Armature Assembly for Vibrating Relay**	1
12005	**Armature Assembly for Lock Out Relay**	1
24082	Pin for attaching Armature Assemblies 12005 and 12591	2
26297	Spring for operating Armature Assembly 12005	1
26534	Spring for operating Armature Assembly 12591	1
12148	**Contact Spring Assembly for Vibrating Relay (Upper Contact)**	1
12149	**Contact Spring Assembly for Lock Out Relay (Upper Contact)**	1
24035	Insulating Plate for Contact Spring Assemblies 12148 and 12149 (Thick)	2
26337	Insulating Plate for Contact Spring Assemblies 12148 and 12149 (Thin)	2
24725	Terminal Plate for connecting Terminal Posts 29525 and 29526 to Contact Spring Assemblies 12148 and 12149	2
24375	Screw for retaining Terminal Plate 24725	2
20393	Lock Washer for Screw 24375	2
23876	Plain Washer for Screw 24375	2
24485	Insulating Bushing for Screw 24375	2
25362	Screw for retaining Contact Spring Assemblies 12148 and 12149	4
25206	Lock Washer for Screws 26553 and 25362	8
24046	Plain Washer for Screw 25362	4
24081	Insulating Bushing for Screw 25362	1
26553	Screw for retaining Bracket Assemblies	4
14502	**Bracket Coil and Contact Assembly**	1
	(Includes the next 3 Items)	
12181	**Terminal Assembly (Lower Contact)**	1
26320	Rivet for retaining Terminal Assembly 12181	2
26556	Insulator for Terminal Assembly 12181	1
26554	Bushing for Bracket Assembly	1
14497	**Bracket Core and Contact Assembly**	1
	(Includes the next 3 Items)	
12181	**Terminal Assembly (Lower Contact)**	1
26556	Insulator for Terminal Assembly 12181	1
26320	Rivet for retaining Terminal Assembly 12181	2
23374	Terminal Clip for connecting Circuit Breaker (Small) (Not shown in illustration)	2
23375	Terminal Clip for connecting Circuit Breaker (Large) (Not shown in illustration)	2



No. 10131 TERMINAL BOARD

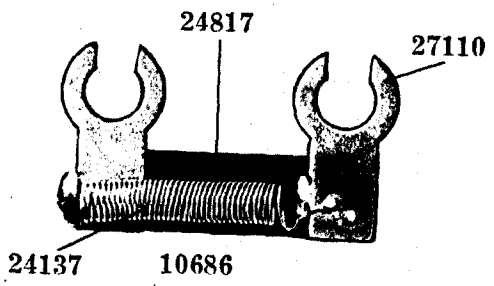
Piece Number	NAME OF PART	Quantity Required
10131	**TERMINAL BOARD ASSEMBLY COMPLETE** ..... (Includes the next 6 Items)	1
10154	**Spring Terminal Assembly (Short)**	8
21301	Plate for Terminal Board Assembly 10131	1
21321	Connector for Spring Terminal Assembly 10154	3
21314	Screw for retaining Spring Terminal Assembly 10154 (Not shown in Illustration) ..	8
21333	Lock Washer for Screw 21314 (Not shown in Illustration)	8
10132	**Terminal Board Cover Assembly Complete** ..... (Includes the next 2 Items)	1
21146	Nut for Cover 21290	2
20114	Lock Washer for Nut 21146 (Not shown in Illustration)	2
20953	Terminal Clip (Long)	1
21315	Terminal Clip (Short)	1
20117	Insulating Bushing for Plate 21301	2

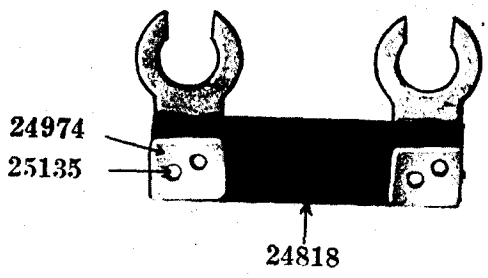


No. 10678 RESISTANCE UNIT

Note: No. 10678 Resistance Unit superseded by No. 10680 Resistance Unit. When ordering a complete new unit, order No. 10680.

Piece Number	NAME OF PART	Quantity Required
10678	**RESISTANCE UNIT ASSEMBLY COMPLETE** ..... (Includes the next 7 Items)	1
24537	Plate for holding Spring Terminal Assembly 10707	1
10707	**Spring Terminal Assembly**	2
24548	Screw for attaching Spring Terminal Assembly 10707	2
24536	Protector for Coil 24137	1
24549	Screw for retaining Protector 24536	2
24137	Coil for Resistance Unit Assembly 10678	1
24224	Insulator for Coil 24137	1





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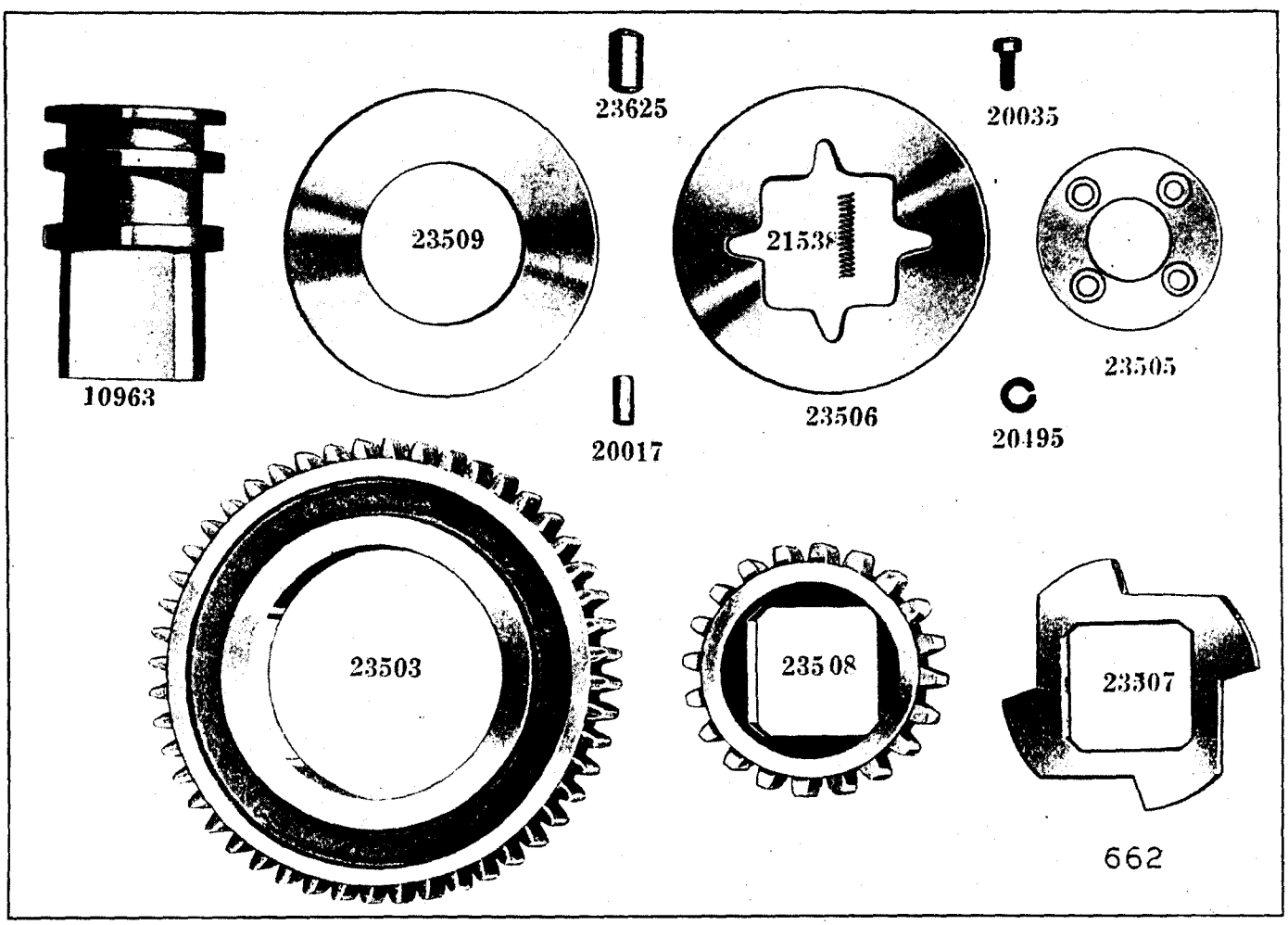
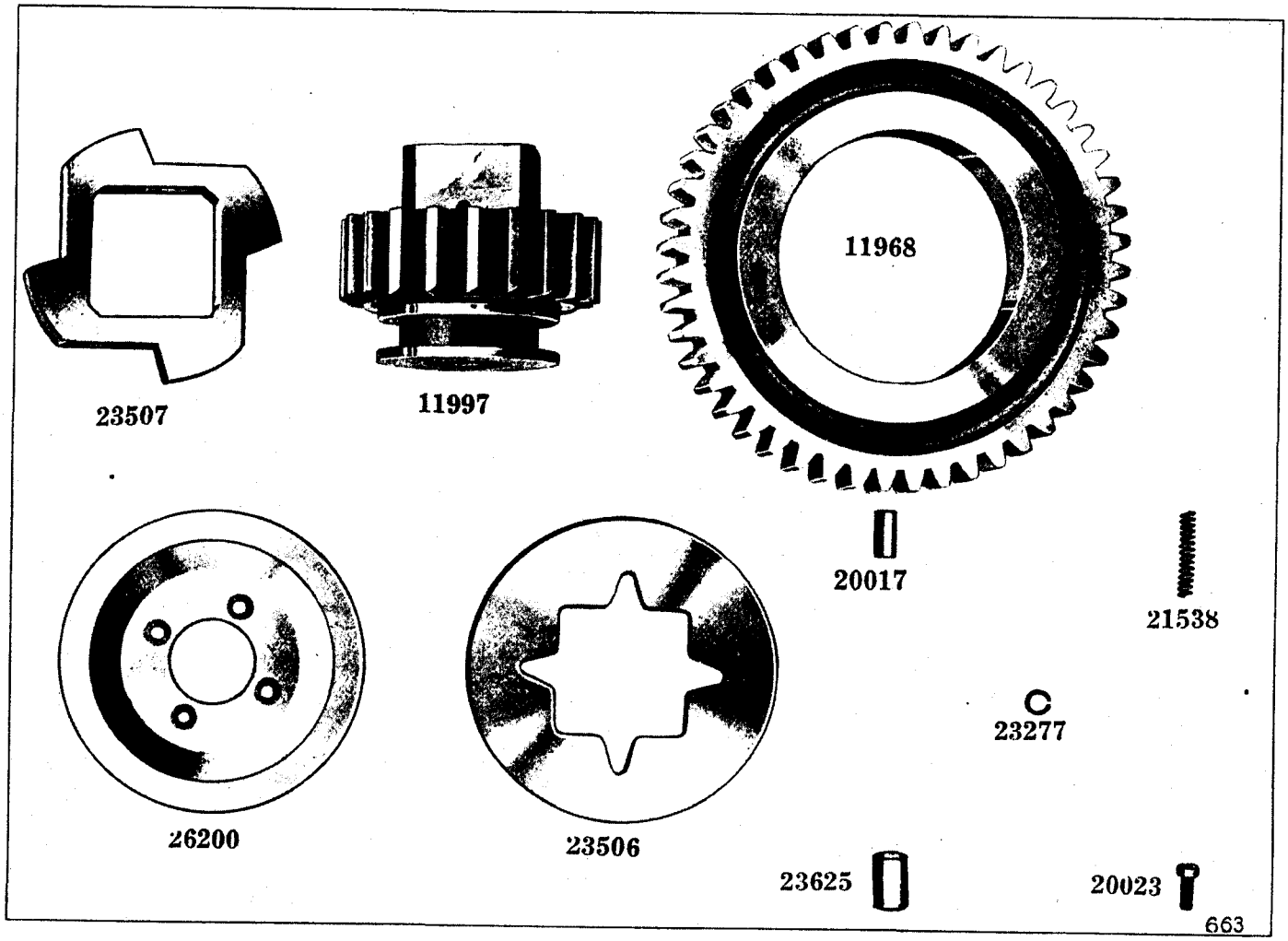
No. 10686 RESISTANCE UNIT

Piece Number	NAME OF PART	Quantity Required
10686	**RESISTANCE UNIT ASSSEMBLY COMPLETE** ..... (Includes the next 6 Items)	1
24974	Plate for mounting Terminal 27110	1
27110	Terminal for Resistance Unit Assembly 10686	2
25135	Rivet for retaining Terminal 27110	4
24137	Coil for Resistance Unit Assembly 10686	1
24817	Insulator for Coil 24137 (Mica)	1
24818	Insulator for Coil 24137 (Black Fibre)	1



No. 10726 MOTOR CLUTCH

Piece Number	NAME OF PART	Quantity Required
10726	**MOTOR CLUTCH ASSEMBLY COMPLETE** ..... (Includes the next 12 Items)	1
10963	**Sleeve Assembly**	1
23508	Pinion for Motor Clutch Assembly 10726	1
23503	Gear for Motor Clutch Assembly 10726	1
23507	Cam for Gear 23503	1
23625	Roll for Cam 23507	4
23509	Retainer for Roll 23625 (Large Hole) (Inner)	1
23506	Retainer for Roll 23625 (Small Hole) (Outer)	1
20035	Screw for Retainers 23506 and 23509	4
20495	Lock Washer for Screw 20035	4
23505	Clamp Washer for Pinion 23508	1
20017	Plunger for Roll 23625	4
21538	Spring for Plunger 20017	4



No. 11973 MOTOR CLUTCH

Piece Number	NAME OF PART	Quantity Required
11973	**MOTOR CLUTCH ASSEMBLY COMPLETE** (Includes the next 10 Items)	1
11997	**Pinion Assembly**	1
11968	**Gear Assembly**	1
23506	Retainer for Roll 23625 (Inner)	1
26200	Retainer for Roll 23625 (Outer)	1
20023	Screw for Retainers 26200 and 23506	4
23277	Lock Washer for Screw 20023	4
23507	Cam for Gear Assembly 11968	1
23625	Roll for Cam 23507	4
20017	Plunger for Roll 23625	4
21538	Spring for Plunger 20017	4