



## SECTION D

### Cadillac 355 V-8 Supplementary Sales Data

#### Presentation Outline

#### Sales Data

#### EXTERNAL APPEARANCE STORY

##### Side View

Balance.....	Large quarter windows. Small overhang of body.
Hood, Cowl.....	Well proportioned. Hoods have door ports. Leather corner pads on hood.
Fenders and Running Boards....	18-gauge metal. Wire reinforced in rolled edge. Stainless steel moulding. Fender shelf one-piece construction.

##### Head-on-View

Head Lamps.....	10¼-inch lens.
Wiring.....	Chromium supports.
Bumpers.....	Unusually strong. Bumper brackets integral with frame.

#### COMFORT—THE PASSENGER STORY

##### Comfort

Rear Door.....	Door width, 29¾ inches. Opening and closing action cushioned by spring in door check.
Head Room.....	Height, 49 inches (from floor).
Upholstery.....	Seven optional cloths—three Broadcloths, two Mohairs, two Whipcords. Shoulder support—seat back 21 inches high.
Leg Room.....	Ample space for baggage if required. Quarter lights for convenience and comfort at night.
Hardware.....	Strong and durable. Ternstedt make. All doors can be locked.
Radio.....	All Sedan and Coupe bodies wired for radio installation.

### THE OWNER-DRIVER STORY

#### Front Seat

Door.....	Width 36½ inches. Front seat frame covered with upholstery. No exposed metal.
Adjustment.....	4 inches maximum adjustment.
Comfort.....	Shoulder support—seat back 21 inches high.
Vision.....	Unobstructed by left middle pillar.
Steering Wheel.....	18 inches diameter. Moulded Bakelite wheel with steel core prevents splintering.
Steering Type.....	Hourglass type worm provides more contact surface with sector.

#### Controls

Instrument Board..	Well lighted by 2 lights. Oil gauge pressure 30 lbs. at 30 M. P. H. Shutters open at 155 degrees. Full open at 180 degrees.
Windshield.....	Seven-degree angle. Glass channels chrome plated.
Double Wiper.....	Greater safety with wiping of entire windshield for bad weather driving.
Ignition—Transmission Lock.....	Turning off ignition automatically locks car.

### EXTERNAL FEATURES STORY

Wheel base.....	134 inches.
Turning Radius.....	23 feet 10 inches (right and left). Over-all length (fender wells) 202½ inches. Over-all length of car with rear tire carrier (Sedans) 203½ inches.
Wheels	
Quality.....	12 spokes, of second growth hickory, set under hydraulic pressure. Lateral lacing of spokes in wire wheels provides greater strength.

### EXTERNAL FEATURES STORY—Cont.

#### Optional Equipment.....

5-wheel. Wire \$ . Demountable wood \$ . Disc \$ .  
6-wheel (including fender wells, 2 spare tires and trunk rack). Wire \$ . Demountable wood \$ .  
Disc \$ . Tires in fender wells supported by frame bracket do not chafe from rubbing against metal.

Ball Bearings..... Make—New Departure.

Tires..... Size wood wheels standard 6.50 x 19. Demountable wood or wire or disc 7.00 x 18. Optional tires—United States, Firestone and Goodyear. Pressure 40 lbs. rear, 45 lbs. front. No extra charge for larger tires on optional wheel equipment.

#### Springs

Construction..... Silico-Manganese steel. Semielliptical (rolled point).

#### Sizes:

(a) Front..... 9 leaves 38" x 2" }  
(b) Rear..... 11 leaves 58" x 2" } Underslung.

Lubrication..... Graphite and grease lubricant used in metal covers. Alemite system for shackles.

Covers..... Metal with spring clips on rear springs.

Spring Shackles.... Compression type.

#### Duodraulic Shock Absorbers

Adjustments..... Varying sizes of metering pins.

Lubrication..... Alemite nipples.

### EXTERNAL FEATURES STORY—Cont.

<b>Frame</b>	
Strength.....	Size—Depth 8 inches; thickness $\frac{5}{32}$ inches; pressed carbon steel; width top flange 3 inches; bottom flange $2\frac{1}{4}$ inches.
Cross Members.....	Seven.

### FISHER BODY STORY

<b>Wood and Steel</b>	
Strength.....	
Preparation.....	After milling, wood seasons for three months. Then it is kiln dried to 5 per cent moisture content and cut to size. Curved pieces are cut, not steam bent. After cutting, pieces are again stored for seasoning. (Steam bent process allows wood to warp, lose shape.)
<b>Body Frames</b>	
<b>Paneling</b>	
<b>Body Features</b>	
Roof.....	Assembled separately from body.
Doors.....	Resist weaving.
Body Mounting....	Anti-squeak, nonhardening paste is used.
<b>Safety Glass</b>	
Construction.....	Center layer of pyroxalin is coated with cementing substance (cellulose acetate) and two pieces of heavy plate glass are pressed to either side under a pressure of 360 lbs. per square inch.
<b>Ability</b>	
<b>Manufacturing</b>	
<b>Control</b>	

### GENERAL MOTORS STORY

<b>General Motors leadership and affiliation helps Cadillac</b>	
<b>Purchasing Economy Means Added Value</b>	
<b>Value of Research Accomplishments...</b>	Valve silencer, 2-plane crankshaft, vacuum assister brake, intake muffler, Duco, ethyl compound, harmonic balancer.
<b>Proving Ground</b>	
Purpose.....	A yardstick to measure all cars, even foreign makes and competitors.
Size.....	1245 acres.
<b>Parts Quality</b>	
Control.....	Such firms as Harrison Radiator Corp., A. C. Spark Plug, Delco Products, Delco-Remy Corp., Hyatt Bearings Div., New Departure Mfg. Company, etc.
Service.....	Uniform and national service through United Motors.
<b>GMAC</b>	
Rates.....	Lower rates than other companies.

Presentation Outline	Sales Data
<b>GENERAL MOTORS STORY—Cont.</b>	
Protection.....	Greater protection to policy holders.
Coöperation.....	Being a unit of General Motors it has a friendly interest in dealer and purchaser.
Summary	

## Mechanical Features

### THE V-8 ENGINE STORY

<b>Engine Improvements</b>	
Model and Serial No.....	Model 355. Engine numbers start at 800,001.
Engine Size.....	Bore $3\frac{3}{8}$ inches, stroke $4\frac{1}{8}$ inches. Displacement 355 cubic inches. Compression 108 lbs. at 1000 R.P.M. Compression ratio 5.35 to 1. Optional 5.26 to 1.
Horsepower.....	N.A.C.C. rating 36.45 actually develops more than 95 H.P. at 3000 R.P.M. Maximum R.P.M. about 4200.
Gear Ratios.....	(Sizes) 4 to 1; 4.40 to 1; 4.75 to 1.
Intake Muller.....	Resonance type.
Strong Crankcase...	Silicon aluminum. Non-resonant. Heavily ribbed for strength and strong support to bearing bridges. Separate from engine block. Reduces service costs in case of accident. Lower half is pressed-steel oil pan. 5-point suspension.
<b>Reasons for Superiority of V-type Principle Engines</b>	
Torsional Vibration Cancelled.....	Known also as twist, whip, crankshaft wind up.

Presentation Outline	Sales Data
<b>THE V-8 ENGINE STORY—Cont.</b>	
Short Crankshaft...	Length $23\frac{3}{4}$ inches (outer ends of front to rear bearings). High carbon steel. Completely machined all over. Compensators bolted to shaft and spot welded to insure rigidity. Weighs 68 lbs. 2 oz. Diameter $2\frac{3}{8}$ inches.
Main Bearings.....	Three main bearings. Babbitt-bronze backed. Clearance .001 inch to .0015 inch. Dimensions: Front, $1\frac{1}{8}$ inches by $2\frac{3}{8}$ inches; center, $1\frac{5}{8}$ inches by $2\frac{3}{8}$ inches; rear, $2\frac{7}{8}$ inches by $2\frac{3}{8}$ inches (combined length $6\frac{1}{2}$ inches). Rear bearing takes thrust. Bearing area $48\frac{1}{8}$ square inches. Replacement cost \$39.85. Compares with \$115.50 on Packard 8.
Complete Engine Ventilation.....	Positive circulation of air through crankcase lubricates valve springs in valve chamber. Compensators on crankshaft when turning act as air pump, drawing air through inlet breather at side of left block and discharging it through two vent tubes one each at front of left block and rear of right block.
<b>Engine Parts</b>	
Connecting Rods...	Material—Drop-forged chrome Molybdenum steel. Bearing material poured Babbitt. No shims used. Bearing clearance .001 to .0025. Rods can be removed through bottom of engine without taking off cylinder head. Diameter of rifle-drilled passage $\frac{1}{2}$ inches. Set of 8 rods balanced within $\frac{1}{8}$ ounce each. Journal width and length $2\frac{3}{8}$ inches by $1\frac{3}{8}$ inches. Length center to center $10\frac{1}{2}$ inches. Both ends diamond bored.

## THE V-8 ENGINE STORY—Cont.

Camshaft.....	Morse chain drive from crankshaft. Chain $1\frac{3}{4}$ inches wide, 27 inches long. Material high carbon steel forging. Drilled from end to end for oil passage. Four bearings: No. 1, $1\frac{1}{4}$ inches by $1\frac{1}{8}$ inches; No. 2, $2\frac{1}{4}$ inches by 1 inch; No. 3, $2\frac{1}{4}$ inches by $1\frac{1}{8}$ inches; No. 4, $1\frac{5}{8}$ inches by $1\frac{1}{8}$ inches. Weight $9\frac{1}{2}$ lbs. Turns at one half crankshaft speed. Distributor drive gear separate on shaft. Can be replaced without installing new camshaft.
Pistons.....	Material—Close-grained nickel-iron piston. 3 times harder than aluminum. 3 compression rings above piston pin. 1 oil ring below pin. Lightweight—tapered skirt. Piston weight, without rings, pin or bushing, 24 ounces. Hand fitted to limits of .003 inches. Piston pin locked by set screw—in piston boss. Piston pin length $3\frac{1}{2}$ inches, diameter $\frac{7}{8}$ inch. Piston ring make—perfect circle. Pistons and rods each held to $\frac{1}{16}$ -ounce limit in weight.
Cylinder Heads....	Cover plates protect wiring.
Cylinders.....	Cast en bloc of 4. Machined, reamed and honed to finish. Honing gives glasslike finish to cylinder walls and adds life to pistons and rings. Blocks are staggered to permit use of side-by-side connecting rods. Crankcase cast separately from blocks. Blocks are interchangeable.

## THE V-8 ENGINE STORY—Cont.

Manifolds.....	Expansion joints at front of motor.
Exhaust....	Porcelain finish. Two 4-port cast iron, Y connection.
Intake.....	Two two-port cast-iron; diameter $1\frac{1}{2}$ inches.
Chains.....	Morse. Timing chain drives camshaft from crankshaft. Generator and pump driven from crankshaft. Two chains distribute load, longer life. Adjustment of position of water pump and generator mounting takes up chain stretch.  Timing chain width $1\frac{3}{4}$ inches. length 27 inches.  Generator and pump chain width $1\frac{1}{4}$ inches.
Valves.....	16 valves operated by single camshaft. Valve action through rollers on cam slide. Diameter valve lifter $1\frac{1}{16}$ inches.
Inlet.....	Inlet valve Tungsten. Diameter $1\frac{1}{2}$ inches (clear). Valve seat angle 30 degrees.
Exhaust....	Exhaust valve silichrome. Diameter $1\frac{1}{2}$ inches (clear). Valve seat 45 degrees.  Valve lift $\frac{3}{16}$ -inch valve guides—removable. Lubricated through ports in cylinder walls. Valve spring pressure open 160 lbs. Closed 79 lbs.  Valve springs retained by split tapered bushing and not by pin which is liable to shear off.

## COOLING SYSTEM

## Cooling System

Capacity.....	6 gallons.
Pump.....	Impeller type. Connected to generator with laminated couplings. Safety pin in shaft sheers off if pump is frozen, and protects chain. Location on outside of engine. Greater accessibility. Has positive nozzle action. Better design than agitator type mounted in cylinder block. Pump delivers 5880 gallons per hour (41,000 lbs.) at 3200 R. P. M. (98 gallons per minute).
Circulation.....	Cylinder blocks interconnected by brass tubes cast integral with crankcase providing equal distribution of water. One drain plug on inlet elbow on the right-hand cylinder block accessible from above. Water is changed approximately 1175 times per hour in engine at 65 M.P.H. taking heat out of engine quickly.
Radiator.....	Make—Harrison cellular with copper core because it is an efficient conductor of heat and resists corrosion. Pressed steel casing is copper plated and polished, then nickel plated twice and polished, then chrome plated.
Shutters.....	Built in. Opens 155 degrees to 165 degrees. Closes 175 degrees to 165 degrees.  Thermostat controlling shutters mounted in radiator in direct path of water flow from engine. Assist in quick warming up of engine in cold weather starting.

## COOLING SYSTEM—Cont.

Fan.....	Own make—six blades—Diameter 21 inches. Automatically lubricated by oil pump in engine. Fan belt $\frac{7}{8}$ inches wide, $9\frac{1}{2}$ inches long, endless V-type design. Driven from pulley on crankshaft. Fan belt drives fan only. Belt adjustment by raising or lowering fan bracket.
Advantages of V-type Cadillac cooling over Straight-8 Design..	6 advantages.
Engine Lubrication Importance.....	Determines life of car. Protects the precision of the parts.
Pressure System....	Capacity, 8 quarts. Pressure by gear type oil pump. 8 quarts of oil pass through oil passage in 43 seconds at 3000 R. P. M. Pump driven by lower end of distributor shaft from spiral gear on camshaft.
Filter and Screen...	AC filter located on by-pass in oil line. No danger of stopping circulation to engine. Oil screen covers oil pan, strains oil returning from engine; prevents sediment collection at pump.
Regulator.....	Accessible location on outside at front of engine. Oil flows over timing and water pump chains. Automatic pressure type. Valve opens at 11 lbs. pressure approximately 10 M.P.H. Normal oil pressure 30 lbs. at 30 M.P.H.
Gauge.....	Float type. Positive reading. Located at rear of engine. Change oil every 2000 miles.

**CHASSIS LUBRICATION****System**

Lubricants.....	Alemite—High pressure. Lubricant must reach bearing to accomplish purpose. 4 kinds are necessary and supplied in Cadillac: Engine Oil—Differential and Transmission Grease—Chassis Lubricant—Rear Axle Grease.
Pressure System....	Ordinary hand grease gun pressure 500 lbs. to square inch, higher pressure with service station equipment insures distribution of lubricant to bearing surface and expels dirt. Positive protection regardless of weather. So-called automatic systems use only low pressure in line, 45 lbs. and oil reaches bearing points through drip oilers. Some systems use capillary action only, caused by movement of car when in operation.
Schedule and Charges.....	Cadillac standard lubrication schedule specifies visit to service station 30 day periods (or every 1000 miles). Charge for positive lubrication of all points on car costs no more than partial service necessary with centralized systems.
Manual Lubrication also necessary with automatic system...	No possible chance of forgetting universal joint lubrication on Cadillac.  Variable mileage periods when different parts need attention supplemented by necessity to remember daily operation of plunger makes so-called automatic systems less efficient when compared with Cadillac standard lubrication service at same cost.

**ELECTRICAL SYSTEM****Ignition**

Distributor.....	Delco-Remy Two contact arms—4-lobe cam. Jump spark type. Firing order 1L; 4R; 4L; 2L; 3R; 3L; 2R; 1R. A.C. Metric (18 m.m.) spark plugs. Wiring in insulated cable in metal conduits. Re-checking timing through hole in fly-wheel cover on transmission case.
Starter.....	Ratio between starter and flywheel 25 to 1 (approx.). Engine cranking speed 90-100 R.P.M.
Battery.....	120 amp. hour, 6-volt. Positive terminal grounded.
Generator.....	2-pole, 19 M.P.H. maximum normal charging speed. Thermostat opening temperature 175 degrees F. Positive chain driven instead of through fan belt.
Breaker.....	Short circuit indicated by buzzing. Nothing to replace. No fuses to use or replace.
Spark Control.....	Automatic advance 28 degrees. Manual advance (on dash) 19 degrees.
Ignition Lock.....	Greater protection against car theft than cars with only ignition switch.

**FUEL SYSTEM****Fuel System**

Tank.....	21-22 gallons.
Fuel Feed and Vacuum Pump.....	Stewart - Warner vacuum tank. Driven by camshaft located at rear of engine. Assures engine adequate fuel supply regardless of speed or hill climbing.

### FUEL SYSTEM—Cont.

<b>Carburetor</b>	
Type .....	Own make. Air valve single jet type. 2-inch throat. One adjustment.
Features .....	Thermostatic control of vapor and air volumes. Thermostats in auxiliary air valve open at 65 degrees to 85 degrees. 2 thermostats to relieve bowl pressures. First, opens at 74 degrees to 78 degrees. Second, opens at 125 degrees to 130 degrees.
Plunger Pump .....	To provide carburetor with extra gas for quick acceleration.
Intake Muffler .....	Developed by General Motors Research (see engine improvements).

### POWER TRANSMISSION SYSTEM

<b>Clutch</b>	
Type .....	Plate type. Dry. Own make. 3 driving plates, 2 driven discs. Outside diameter 10 inches. Inside diameter 7 inches. Balanced statically and dynamically, 12 springs.
Release .....	Very light driven discs and hub, giving very little inertia, reduce the spinning action. No drag permits quick, smooth engagement.
Design .....	Facings of woven asbestos material. Thickness .135 inch to .145 inch ( $\frac{3}{64}$ inch). Clutch facing area 160 square inches.
<b>Transmission</b>	
Design .....	Syncro-Mesh 3 speeds forward, 1 reverse. Selective. Oil capacity, 3 quarts. Unit with power plant.
Superiorities .....	Anybody who can drive can change gears without clashing. Less complicated than any 4-speed transmission.

### POWER TRANSMISSION SYSTEM—Cont.

<b>Gear Reductions in Transmission .....</b>		Reverse 3.0 to 1	Second 1.5 to 1
		Low 2.5 to 1	High 1.0 to 1
<b>Rear Axle</b>			
$\frac{3}{4}$ -Floating Type .....		Cadillac make. $\frac{3}{4}$ -floating. Spiral bevel gears. Propeller shaft tubular, 2-inch diameter. Road clearance under center of rear axle $7\frac{3}{8}$ inches. Oil capacity 3 quarts.	
Torque Tube Drive .....		Strong tube enclosing drive shaft. One universal joint only. Relieves springs of driving strains and stresses.	
Bearings .....		Two tapered roller in differential carrier. 2 ball in pinion shaft. 1 ball on each rear wheel.	
Universal Joints .....		X-type Spicer make. Only one is used. No worry about lubrication as on other cars.	
Axle Shafts .....		$1\frac{3}{8}$ -inch diameter enclosed in strong housing with welded inner sleeve. Wheels mounted on bearings on outside of axle housing, taking load off axle shafts.	
Ring Gears and Pinions .....		All pinions and ring gears are manufactured by Cadillac, matched and adjusted in final assembly in sound-proof room.	
Tread .....		59½ inches.	
Ratios .....		4 to 1; 4.40 to 1; 4.75 to 1.	



Presentation Outline	Sales Data
<b>BRAKING SYSTEM</b>	
<b>Brakes</b>	
Design.....	Internal expanding. Safety mechanical brakes. Aluminum brake shoes operated with articulated linkage by cam, assures full contact of shoes with drums at all times. Brake lining 2 inches wide, length 21 $\frac{5}{8}$ inches per wheel. Total braking area 173 square inches (1.2 square feet). 100 per cent effective when used.
Self-centering Cams and Articulated Link.....	
Drums.....	Pressed steel. Machined to close limits, fully assembled with hub. (7/1000-inch limits.) Rear wire wheel hubs have two flanges reducing possibility of wheel collapse from skidding or accident.
Roller Bearings.....	Cadillac only company to use roller bearings (15 sets) to reduce friction in braking system. Ordinarily 50 per cent braking effort is lost between pedal and the wheels, because of friction in brake shafts.
Adjustment.....	Micrometer adjustment, made by turning one nut on outside of each dust shield. Complete adjustment and testing operation in 30 minutes.
Competitors' 2-Shoe Brakes do not match Cadillac.....	Competitors using 2-shoe brakes, do not have articulated linkage, self-centering cams, aluminum shoes or roller bearings.
General.....	Braking power division 50-50. Lead plates on tips of large brake shoes lubricate inside drum braking surface to prevent scoring. Mechanism fully enclosed against weather and dirt.

Presentation Outline	Sales Data
<b>HARMONIZED STEERING</b>	
<b>Design</b>	
Type.....	Hourglass design gives more surface contact with sector and provides easier steering.
Wheel.....	18 inches in diameter. Moulded Bakelite with steel insert reduction 17 to 1. 3 $\frac{5}{8}$ turns of wheel for full left turn.
Modulator.....	Mounted on same side as steering mechanism. It dampens road shocks before they travel from frame to steering gear.
<b>FRONT AXLE</b>	
Type.....	Reverse Elliott I-beam construction.
Bearings.....	Wheels—Double ball bearing each wheel (New Departure). King Pin—Upper and lower ball bearings (New Departure).
Tread.....	57 $\frac{1}{4}$ inches.
<b>CADILLAC ACHIEVEMENTS STORY</b>	
<b>Leadership</b>	
<b>Firsts and Car Improvements</b>	
Before 1914.....	1912 Cadillac introduced electric starting, lighting and ignition. Recognized trend to closed bodies. First large order (150) for closed bodies was placed with Fisher in 1910.
Model 51 1914..	First 90-degree, V-type, high-speed engine.
1916..	Introduced thermostatic control of cooling medium.

# CADILLAC OPERATOR'S MANUAL

V8



1931

EDITION NO. 355-1

*In ordering a duplicate of this Manual specify the  
above number or the engine number of the car.*

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## CHAPTER I CADILLAC SERVICE

THE owner of a Cadillac car has purchased not simply a fine piece of machinery, ingeniously designed and carefully built—he has purchased a pleasant and dependable mode of transportation. The car itself is only one factor in securing this transportation—the other factor is Cadillac Service, which is built upon a *standard policy, clearly defined to the car owner and guaranteeing him efficient service everywhere at standard prices under factory regulation.*

### Cadillac-La Salle Service Stations

Cadillac Service extends wherever Cadillac and La Salle cars are sold. Service stations conducted by Cadillac distributors and dealers are designated as "Authorized Cadillac-La Salle Service Stations" and are identified by the exclusive sign illustrated on this page. Wherever this sign is displayed, the owner will find an organization prepared to service Cadillac cars. This means proper equipment, factory trained personnel, a stock of genuine replacement parts and standardized policies and methods.

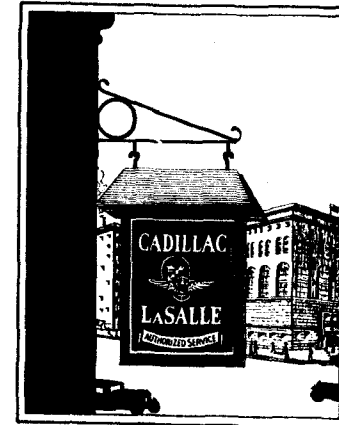


Fig. 1. Authorized Cadillac-LaSalle service stations display this sign at the service entrance.

The car owner's first and most frequent contact with Cadillac Service will naturally be in the service station of the distributor or dealer who sold him the car and who therefore has the greatest interest at stake in assuring his satisfaction.

FILE  
DO NOT  
Nevertheless, he may feel perfectly free to use his car for extended travel without depriving himself of the service benefits to which he is entitled at his local service station. He will find other Authorized Cadillac-La Salle Service Stations able and willing to render the same service.

### Service Card

As a means of introduction at other Authorized Cadillac-LaSalle Service Stations, every purchaser of a Cadillac car is given credentials in the form of a Service Card. This card is mailed to him by the Cadillac factory immediately after the delivery of the car is reported by the distributor or dealer. It is supplied in a celluloid case, and is intended to be carried in a holder on the car.

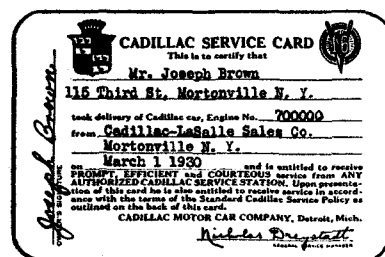


Fig. 2. The Service Card, when properly signed, identifies a Cadillac owner at any authorized Cadillac-La Salle service station.

Upon presentation of this Service Card to any Authorized Cadillac-La Salle Service Station, the car owner is entitled to uniform standard service in accordance with the Cadillac Owner Service Policy. This Policy is explained in detail in a certificate issued to each owner and mailed to him with his Service Card.

Briefly, it entitles the owner to:

1. All adjustments free of all charges that may be required within 90 days after the original delivery date (as shown on the card), provided the mileage of the car does not exceed 3000 and the adjustments are not made necessary by accident, abuse or neglect. This includes everything except lubrication, washing and storing.
2. Free replacement of any part which has proved to the Cadillac Motor Car Company's satisfaction to be defective in

material or workmanship within one year after the delivery date, provided the mileage of the car does not exceed 12,000 and that the replacement was not made necessary by accident, abuse or neglect. This includes material and labor.

The Service Card is not transferable, and the no-charge service set forth above is effective only while the car is in the hands of its original owner.

### Standard Service Contract

Owners may be assured of continuous satisfactory operation and maintenance of their cars at a predetermined, economical cost by purchasing a Standard Service Contract. Two contracts are available covering complete lubrication and all adjustments and repairs made necessary by normal wear. The first Contract covers the first 12 months or 12,000 miles and the second covers the second 12 months or second 12,000 miles.

The Standard Service Contract is based on Cadillac's principle of preventive service and insures the owner the greatest amount of satisfaction with the fewest possible interruptions. This is accomplished by complete lubrication on schedule and regular inspection to anticipate the need of adjustment and repair, eliminating the necessity of service between inspections.

The Contract is recognized by all authorized Cadillac-LaSalle service stations in the United States and Canada regardless of where the Contract was purchased. The owner is thus assured of all Contract service due him without additional charge wherever he may travel, the same as if the work was performed by the Service Station from which the Contract was purchased.

These Contracts are available at all Cadillac sales rooms and authorized service stations. Owners are urged to purchase Standard Service Contracts at the time of delivery of the new car.

### Service Charges

Service work other than that described above is performed by Authorized Cadillac-La Salle Service Stations on a flat-rate basis. When a car enters the service station, it is promptly inspected by

a tester, who then quotes the owner an exact price for the work he finds necessary. The owner authorizes the work at this price, and when he receives his bill, this is the price he pays.

Charges prevailing at Authorized Cadillac-LaSalle Service Stations are based on standard schedules furnished by the Cadillac Motor Car Company. These schedules call for methods and tools approved by the same engineers who designed and built the car, assuring the highest quality of work at the lowest possible price. Standard Price Schedules are open to inspection by owners at any Authorized Cadillac-La Salle Service Station.

### Repair Parts

Genuine Cadillac parts, manufactured to the same rigid specifications as the parts entering into the original assembly of the car, are carried in stock by Authorized Cadillac-La Salle Service Stations. They are sold at uniform prices throughout the United States, and are not subject to the addition of handling, excise or other supplementary charges. Printed price lists, published by the Cadillac Motor Car Company, are open to inspection by owners at any authorized Cadillac distributor's or dealer's establishment.

### The Owner's Obligation

All of these service facilities are placed at the disposal of the Cadillac owner, in order that his car may be a continuous source of satisfaction and utility. This result cannot be guaranteed, however, unless the owner fulfills certain definite obligations himself, as follows:

1. To drive the car at moderate speeds for the first 500 miles.
2. To operate the car in accordance with the instructions contained in this manual.
3. To check the engine oil level every 100 to 150 miles, and add oil as often as necessary to keep the indicator at "full."
4. To check the tire pressure at least every week, and keep it up to the recommended pressure—40 pounds in front and rear—on cars driven at high speeds, 45 pounds in front.

5. To add distilled water to the storage battery every 1000 miles, and in warm weather every 500 miles, or at least every two weeks.

6. To have the car lubricated every 1000 miles, or once a month, in accordance with the lubrication schedule on page 29.

7. To take the car to an Authorized Service Station for inspection every 1000 miles, or at least once a month.

### Lubrication

The first five items above are details which do not necessarily warrant a visit to the service station. For lubrication, however, the owner is urged to patronize Authorized Cadillac-LaSalle Service Stations, because they are prepared to furnish this service in a manner that cannot be duplicated elsewhere. Only approved lubricants are used, the specifications of which have been worked out by Cadillac engineers to give the best possible results. Workmen who specialize on Cadillac cars know exactly where lubrication points are located and how much lubricant to apply. The charge for this lubrication service is less than half a cent a mile, which includes the cost of the lubricants.

### Inspection

Preventive service is a fundamental principle of Cadillac Service. "Preventive service" is the practice of inspecting the car at regular intervals and making those adjustments that need attention before the need becomes an emergency. Inspections should be made every 1000 miles, in order to insure transportation satisfaction. Authorized Cadillac-La Salle Service Stations will make such inspections without charge, provided no dismantling of units is necessary.

The Cadillac owner is urged to take full advantage of this, not only while the car is new, but throughout its entire life.

**Preventive service rendered every 1,000 miles or once a month by an Authorized Cadillac-La Salle Service Station, is the surest guarantee of long life and complete motoring satisfaction at the least possible expense.**

## CHAPTER II

### OPERATION

ONE of the first things the driver of a new car should do is to familiarize himself with the various controls described in the following chapter.

#### Locks

Each car is equipped with a hexagonal-handled key which is used to operate the combination ignition and transmission lock, the door lock and the tire carrier lock. In addition, cars that have rumble seats or package compartments fitted with locks have a separate key for these compartments. The compartment key has an oval handle.

The lock number is stamped on each key, but not upon the face of the lock. The owner should make a record of the key numbers as soon as he takes delivery of his car, so that in the event both keys are lost, a duplicate key can easily be obtained from a Cadillac distributor or dealer.

The right front door can be locked from the inside to prevent intruders from forcing their way into the car. This can be done by turning the key to the locked position on the outside before entering the car. The door will then be locked from the outside, although it can be opened from the inside in the usual manner.

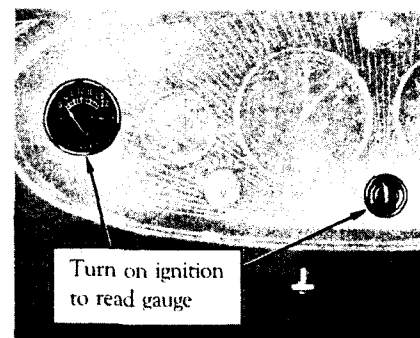
#### Ignition Switch Lock

The lock in the center of the instrument panel controls both the ignition switch and the transmission lock. When the key is turned, the cylinder of the lock will slide out about half an inch, turning on the ignition and unlocking the transmission by means of a cable connection to the shifter shafts. To shut

off the ignition and lock the transmission, turn the key to the locked position and push the lock cylinder all the way in. The car can be locked when the transmission is in neutral or in reverse. Do not attempt to shut off the ignition when the transmission is in any forward gear. Be sure to **remove the key** before leaving the car.

#### Gasoline Gauge

The gasoline gauge, marked "Fuel," is the small dial on the extreme left. This gauge indicates in gallons the quantity of fuel in the tank at the rear of the car, and is operated electrically by current taken from the ignition circuit. To read from the gauge the quantity of fuel in the tank the ignition **must be turned on.**



#### Throttle Control

The throttle of the carburetor is controlled by a hand lever and a foot pedal or accelerator. The normal position of the hand lever for driving the car is all the way up to "CLOSE." In this position the throttle of the carburetor is open just enough to permit the engine to run at idling speed after it is warm. For starting, however, the lever should be moved approximately one-fourth the way down, and should be left in this position until the engine is warm enough to permit the lever to be returned to the idling position without stalling the engine. (Also see Chapter on "Cold Weather Operation.")

Fig. 3. The gasoline gauge is operated electrically by current from the ignition circuit.

## Carburetor Choke Control

Correct use of the choke control is essential not only to quick starting of the engine, but also has an important effect on the life of the engine. The button must be pulled out far enough in starting to provide an explosive mixture quickly so that the battery is not unnecessarily discharged by useless cranking. The button must also be left out far enough during the warming-up period so that the engine will run without missing and "popping back."

On the other hand, it should not be pulled out any further or left out any longer than is necessary to accomplish these results, because some of the excess liquid gasoline in the enriched mixture does not burn and may wash off the oil on the cylinder walls, interfering with proper lubrication of the pistons. Push the button all the way in as soon as this can be done without causing "popping-back."

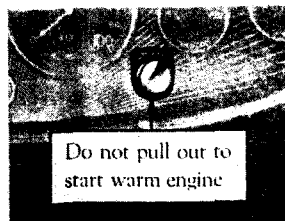


Fig. 4. The choke button must be held out while the starter is cranking the engine.

If the engine still retains heat from previous running, the choke control should not be used without first attempting to start the engine on the normal mixture. If the choke button is pulled out for starting a hot engine the mixture may be made so rich that starting will be impossible.

The choke button is not a priming device. It has no effect whatever on the fuel or the fuel mixture unless the engine is being cranked or is running under its own power. To have any effect, the button must be pulled out and kept partly out during the cranking operation.

## Spark Control

Correct timing of the ignition in relation to the positions of the pistons is controlled automatically by the timer-distributor, which provides for all ordinary advancing and retarding of the spark.

A hand control is also provided. This is the button at the left on the instrument panel. This button should be pushed all the way in (full advance) for starting and for all ordinary driving. The button can be pulled partly out to retard the spark in case of "ping" caused by carbon, heavy pulling, the use of regular (not anti-knock) gasoline, or in case there should ever be occasion to crank the engine by hand.

The Cadillac engine is a high compression engine and it will perform most satisfactorily when an anti-knock fuel is used. Regular gasoline can be used, although this may necessitate driving with the spark slightly retarded to avoid "ping." The spark should be retarded just to the point where the engine "pings" slightly on rapid acceleration. This slight amount of spark knock is absolutely harmless to the engine and is an indication to the driver that the spark is set at the point that will give maximum power and economy.

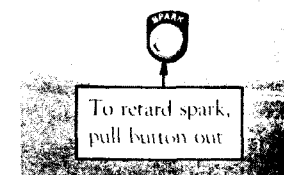


Fig. 5. Drive with spark control as far advanced as possible.

Carbon deposit, which accumulates with use in all engines, also causes spark knock and in time may require retarding the spark. Regardless of the kind of fuel or the presence of carbon, the correct setting of the spark control at any time is at the point where the engine "pings" slightly on rapid acceleration.

## Starter Pedal

The starter pedal is at the right of the accelerator. Pushing this pedal forward brings into action the electric motor that cranks the engine for starting. Do not push the starter pedal when the engine is running.

The starter pedal is only one of the controls that must be manipulated to start the engine. Unless there is an explosive mixture in the cylinders and a spark to ignite it, it is useless to crank the engine. The starter pedal should not be operated, therefore, until the necessary preliminary steps have been taken. The following, in their proper order, are the various steps that must be performed when starting the engine:

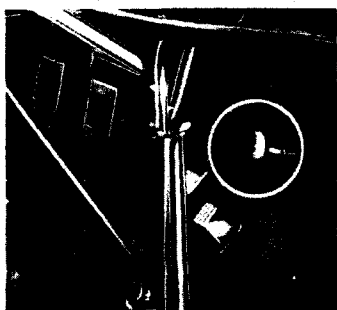


Fig. 6. The starter pedal is only one of the controls that must be used to start the engine.

5. Unless the engine is still warm, pull out the choke button. If the engine is still warm, do not pull out the choke button unless the engine fails to start on the normal mixture.

6. To start the engine, push the starter pedal forward, releasing it as soon as the engine starts. If the engine does not start readily, do not run the battery down by continuing to crank the engine, but look for the trouble and correct it. (See below for probable causes for the engine failing to start.)

[12]

1. Place the throttle lever about one-fourth the way down from the "CLOSE" position.

2. See that the spark control button is all the way in.

3. Make sure that the transmission control lever is in neutral.

4. Turn on the ignition.

7. Push the choke button in part way as soon as the engine starts, and all the way in as soon as the engine is warm enough to permit it.

8. Note whether pressure is indicated on the oil pressure gauge and stop the engine at once if no pressure is indicated.

9. Move the throttle lever up to the "CLOSE" position as soon as the engine is warm enough to permit it.

In cold weather, disengage the clutch during the cranking operation. This relieves the starter of the necessity of turning the transmission gears, which are immersed in lubricant. The additional load is small in warm weather when the lubricant is thin, but in cold weather the power required to turn the gears through the thickened lubricant adds unnecessarily to the load on the starter and the battery.

## What To Do If The Engine Fails To Start

If the engine does not start readily, release the starter pedal and look for the cause.

The ignition may not be turned on.

There may be no gasoline in the tank in the rear of the car.

There may be no gasoline in the vacuum tank on the dash. If the fuel supply should give out on the road, so that the vacuum tank on the dash becomes empty, it will be necessary after refilling the tank to add gasoline to the vacuum tank.

The carburetor may be flooded by unnecessary use of the choke when the engine is warm. To get rid of this surplus gasoline in the cylinders open the throttle wide, and, with the ignition turned off, hold the starter pedal down for 10 to 15 seconds. Then return the throttle lever to the usual position for starting, turn on the ignition and try once more to start the engine.

[13]



## Oil Pressure Gauge

The small dial at the left of the clock is the oil pressure gauge. This gauge does *not* indicate the *quantity* of oil in the engine. It indicates only the *pressure* under which the oil is forced to the engine bearings.

When the engine is not running, the pointer on the oil pressure gauge should remain at zero, but as soon as the engine is started and as long as it runs, the gauge should show pressure. If no pressure is indicated when the engine is running, stop the engine at once and determine the cause. Serious damage may be done if the engine is run without oil pressure.



Fig. 7. The oil gauge does not indicate quantity; it only shows the pressure under which oil is forced to the engine bearings.

## Ammeter

The ammeter shows how much current the generator is furnishing the battery when the motor is running and how much the lights and ignition are drawing from the battery when the generator is not charging. It does not register the current drawn by the starting motor when starting the engine nor the total output of the generator when the lights are on.

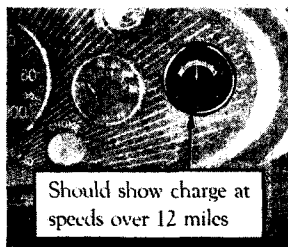


Fig. 8. The ammeter indicates the amount of electrical current flowing to or from the battery.

The ammeter should indicate on the "Charge" side most of the time. Otherwise, more current will be taken out of the battery than is put into it and the battery will eventually become fully discharged.

Ordinarily, when no lights are in use, the ammeter should show "Charge" as soon as the car

[14]

is running ten or twelve miles per hour in high gear. If the ammeter should show "Discharge" with all lights off, either when the engine is not running or when the car is running more than twelve miles per hour, the cause should be investigated.

## Clutch Pedal

The clutch has two uses: First, to enable the car to be started gradually and without jerk or jar; second, to permit shifting of the transmission gears. The operation of the clutch is discussed below in connection with the transmission control. Further comment is unnecessary at this point, except the following suggestions to the driver:

Do not drive with the foot resting on the clutch pedal. The Cadillac clutch operates so easily that even the weight of the driver's foot may unintentionally cause the clutch to slip.

Do not form the practice of disengaging the clutch whenever the brakes are applied. Most occasions for use of the brakes require only slowing down without stopping or even shifting gears. A skilled driver will not touch the clutch pedal until the car is just about to stop or until he is about to shift to a lower gear. It is a mistaken idea that applying the brakes with the clutch engaged is more severe on the brake lining. The opposite is actually the case, proof of which is in the fact that in coasting down grades, the resistance of the engine is used to assist the brakes in controlling the car speed.



Fig. 9. A good driver uses the clutch pedal only when shifting gears or about to stop.

[15]

It will be observed in operating the clutch pedal that the pedal offers almost no resistance until it has been moved about one inch. It is at this point that it actually begins to disengage the clutch. It is important that the pedal have this "lost motion." If the full pressure of the clutch springs is felt just as soon as the pedal is moved, the control rod should be readjusted. Failure to make this adjustment will result in the clutch slipping.

## Transmission Control

The operation of the Cadillac Syncro-mesh transmission is, in general, the same as the operation of the conventional selective sliding-gear type of transmission. The positions of the control lever for the various speed combinations are the same and the directions in which the control lever is moved are the same. It is also necessary to disengage the clutch before moving the control lever, the same as with the conventional transmission.

The only difference is in the manner of moving the control lever. With the conventional transmission, it is customary when shifting to a higher gear to hesitate momentarily in neutral and then move the lever quickly to its new position. With the Cadillac Syncro-mesh transmission there is no necessity either for the hesitation in neutral or for the rapid movement of the lever during the latter part of the shift. Instead, the movement

of the control lever should be one smooth, continuous movement.

The synchronizing principle applies to all shifts into intermediate or high; in other words, to the following shifts:

Low to intermediate  
Intermediate to high  
High to intermediate

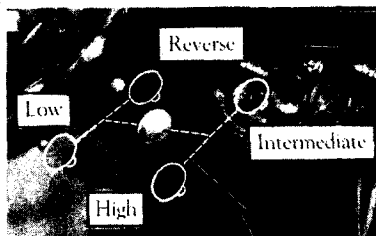


Fig. 10. The control lever positions are the same as for the conventional type of transmission.

There is no synchronizing mechanism for low or reverse gears because shifts into these gears are usually made when the car is standing still. When shifting from neutral to low or reverse, therefore, it may be necessary to await an instant after disengaging the clutch, to give the gears a chance to stop "spinning." Do not attempt to shift from intermediate to low unless the car is standing still or moving very slowly.

If, when descending a grade at high speed, it becomes desirable to shift from high to intermediate in order to use the engine as a brake, re-engage the clutch slowly after making the shift. This will bring the engine up to speed gradually and avoid the sudden load that would otherwise be imposed upon the clutch.

## Coasting

In coasting down grades, it is recommended that the transmission be left in gear and the clutch engaged. With the throttle in the idling position, the car is thus made to drive the engine, the resistance of which assists the brakes and saves wear on the brake lining. It must be remembered that the brakes are subjected to much more severe use on grades than on the level, because gravity acts continuously, whereas on the level, the brakes need absorb only the momentum of the car.

Ordinarily, the resistance offered by the engine when the transmission is in high, supplemented by moderate use of the brakes, is sufficient to control the speed of the car. On steep grades, however, the transmission control should be shifted to intermediate.

Do not turn off the ignition when coasting with the car driving the engine. Contrary to a common impression, this does not appreciably increase the resistance, and is likely to cause damage to the engine. Even with the throttle closed, some fuel is admitted to the cylinders, and if this is not burned, it condenses on the cylinder walls and washes away the oil which lubricates the pistons.

## Brakes

The foot brakes are internal brakes of the shoe type, applied on all four wheels through a mechanical linkage.

When applying the brakes while driving on wet asphalt streets or slippery roads, more care should be exercised and more time should be allowed for stopping the car than is necessary on dry pavements. The brakes should be applied gently while the clutch is still engaged. The clutch should not be released until the car has almost stopped.

Do not attempt sudden stops. Cadillac four-wheel brakes minimize the possibility of skidding under slippery conditions, but their effectiveness should not induce anyone to drive less carefully.

As the brake lining wears, the pedal must be pushed farther down to apply the brakes. Do not wait until the pedal goes all the way to the floor board before having the brakes readjusted. Readjustment is recommended as soon as the pedal must be pushed down to within one inch of the floor board. A temporary adjustment of the brakes is explained on page 47.

For parking, the brakes are operated by the hand lever at the right of the transmission control lever.

## Lighting Switch

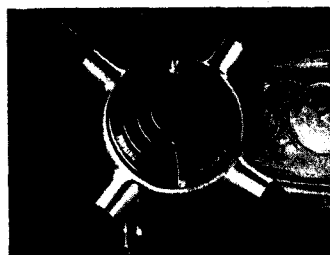


Fig. 11. The lighting switch control is at the hub of the steering wheel.

The lighting switch control is at the upper end of the steering column in the center of the steering wheel. The lever has four positions: "PARKING," "OFF," "DOWN" and "UP." Turning the lever to "PARKING" turns on the parking lamps and the two rear lamps. Turning

the lever to "DOWN" turns on the headlamp lower beams and the two rear lamps, while turning the lever to "UP" turns on the headlamp upper beams and the two rear lamps.

The instrument lamps are controlled by the upper button at the extreme left of the instrument panel.

The lamp bulbs which are used are as follows:

Lamp	Voltage	Candle-Power
Headlamps	6-8	21 (Two Filament) Mazda No. 1110
Rear Lamps		
Stop Light	6-8	15 Mazda No. 87
Tail Light	6-8	3 Mazda No. 63
Parking lamps	6-8	
Instrument lamps	6-8	
Closed car lamps	6-8	

## Danger of Running Engine in Closed Garage

Every person having to do with the operation or care of a motor car should be warned of the danger that attends running the engine while the car is in a small closed garage.

Carbon monoxide, a deadly poisonous gas, is present in the exhaust of all internal combustion engines. Most people are already familiar with carbon monoxide in the form of illuminating gas, or in the gas produced by furnaces and stoves when insufficient air is supplied to give complete combustion. But illuminating gas and coal gas have an unpleasant odor, which serves as a warning, whereas carbon monoxide, as produced in the internal combustion engine, is colorless, tasteless and almost odorless, so that the victim may be overcome before he is aware of the danger. When the engine exhausts into the open air, the carbon monoxide is so diluted that it has no effect. It is when the engine is run for a time in a closed room that the proportion of carbon monoxide in the air may increase to the point at which continued breathing of it would be fatal. The United

States Public Health Service advises that the average automobile engine warming up in a single car garage will give off enough carbon monoxide in three minutes to endanger life.

Proper precaution must be taken in cold weather when the natural tendency is to keep the garage doors and windows closed. The practice of letting the engine warm up in a closed garage before opening the doors is unsafe. The risk is made greater by the fact that the enriching of the mixture by manipulation of the carburetor choke increases the amount of carbon monoxide formed.

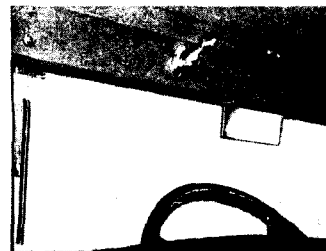
## CHAPTER III

### EQUIPMENT

**I**N addition to the controls and instruments used in driving, the car is equipped with various devices which are for the convenience and comfort of the occupants, and are used only as occasion demands. It is suggested that the driver anticipate his use of such equipment by becoming familiar at once with the directions contained in this chapter.

#### Windshield and Ventilation

Cadillac closed cars are equipped with a one-piece slanting windshield that can be moved up and down by means of the handle just above the windshield (Fig. 12). For ventilation under the cowl, the windshield should be raised not more than



*Fig. 12.* The straight type windshield is controlled by the handle above the windshield.

one inch, so that the lower edge of the glass is still below the ledge over the instrument board. With the windshield in this position air is deflected into the driving compartment through an opening in the cowl just forward of the instrument board. If desired, the windshield can be raised above the level of the ledge over the instru-

ment board, and air will then enter directly into the car.

Cowl ventilators are also provided on the closed cars to supplement the ventilation provided by the windshield. These venti-

lators are at the sides of the cowl compartment and open toward the rear, serving as outlets for the air entering under the windshield.

In warm weather, satisfactory ventilation in the front compartment cannot be expected unless the hood doors are open. Ordinarily, these should be opened at the beginning of warm weather and left open for the season. The temperature in the front compartment can thereafter be controlled by the windshield and ventilators.

## Windshield Cleaner

The windshield cleaner consists of two wiper blades, operated by the suction or vacuum in the passages between the carburetor and the engine. The cleaner is controlled by the lower button at the extreme left-hand end of the instrument board. This button, when pulled all the way out, will cause one blade to work on each half of the windshield, cleaning the entire surface. Pulling the button only half way out will cause both blades to operate on the left-hand half of the windshield, cleaning only the part in front of the driver.

To park both blades at the extreme left of the windshield when they are not needed to clean the glass, pull the control button half way out, wait until the left-hand blade travels over to meet the right-hand blade and returns with it to the left-hand side; then push the button all the way in.

## Adjustable Seat

The front seat is adjustable on all Cadillac closed cars, except those which are intended to be chauffeur-driven. Except on the five-passenger coupe, the entire front seat can be moved forward or backward. This adjustment is controlled by a handle on the center of the seat base, just above the floorboards. As the front seat on the five-passenger coupe is divided, only the driver's half of the seat is adjustable.

## Cigar Lighter

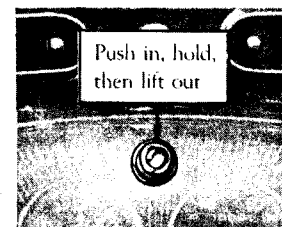


Fig. 13. The cigar lighter on the instrument panel is of the "pass around" type.

seen; then lift it out. The lighters in the smoking sets do not have the translucent button. The current for these lighters is turned on by pressing the button beside the lighter.

## Tools

The tools are carried under the front seat. When putting tools in their compartment be sure they are placed so that they do not interfere with the front seat adjusting mechanism.

The tools comprising the standard equipment are listed below:

Hammer	Pliers
Monkey wrench	Hub cap wrench
Large screw-driver	Brace wrench (wood and disc wheels)
Small screw-driver	Jack handle
Crescent adjustable wrench	Jack
Oil can	Tool bag
Spark plug wrench	Lubrication chart
Starting crank	

Operator's Manual

## Tires

### Inflation Pressure

For normal driving, both the front and the rear tires should be inflated to a pressure of 40 lbs. **Important**—On cars driven at high speeds, the front tires should be inflated to 45 lbs. The tires should be checked at least weekly, and the pressure should never be permitted to drop more than 5 lbs.

## Spare Wheel Carrier

To remove a spare wheel from the carrier, unlock the lock and take it out, using the key as a handle. It may be necessary to hold on to the lock while turning the key. Then unscrew the

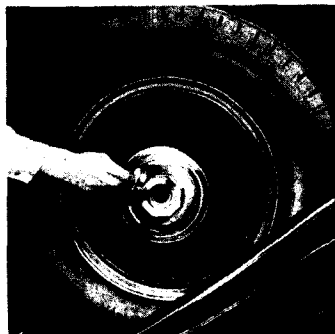


Fig. 14. To remove a spare wheel, unlock the lock, and remove the screw and the dummy hub cap.

clamping screw underneath the lock, after which the large dust shield can be removed and the wheel taken off the carrier.

To reinstall a spare wheel, mount it on the carrier, place the large dust shield in position, tighten the clamping screw, and then snap the lock back into place.

These instructions apply both to spare wheel carriers on the rear of the car and to carriers in the front fender.

## Spare Tire Carrier (Standard Wood Wheels)

To remove the spare tire from the carrier, unlock the lock and remove it, using the key as a handle. It may be necessary to hold on to the lock while turning the key. Unscrew the clamping screw with the brace wrench furnished in the tool equipment and remove the rim clamp, taking care not to lose the clamping screw. Remove the tire with rim, by pulling it out at the bottom and then lifting it off the carrier.

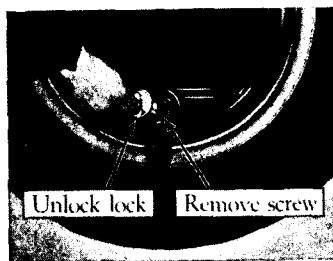


Fig. 15. To remove a spare tire, unlock the lock, remove the screw and take off the clamp.

To place a tire and rim on the carrier, reverse the above order. After tightening the clamping screw, unlock the lock and put it into place.

## Use of Jack in Changing Tires

When a tire is "flat," the axle is not always far enough above the ground to permit placing the jack directly under the axle.

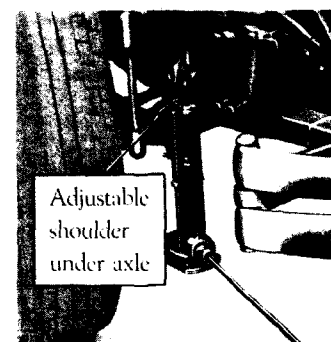
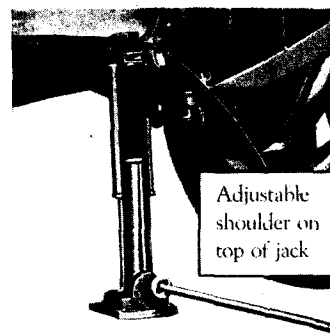


Fig. 16. The correct position of the jack for raising either front or rear wheels is shown above.

It is then necessary to make use of the adjustable shoulder which engages with teeth on the side of the jack.

The illustrations in Figure 16 show how the adjustable shoulder should be placed under the axles.

## Changing Tires

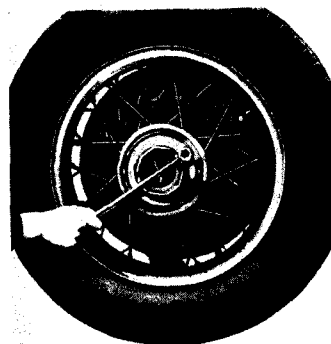
If an inflated tire is always carried on the spare rim or wheel, the driver will seldom or never have to disassemble a tire from the rim. In case of tire trouble, it is then merely necessary to remove the rim or wheel with the flat tire and then install the spare in its place. Illustrated directions for performing this work on wire and on standard wood wheels are given on pages

27 and 28. Disc and demountable wood wheels are changed in the same manner as wire wheels except that the hub caps should not be removed.

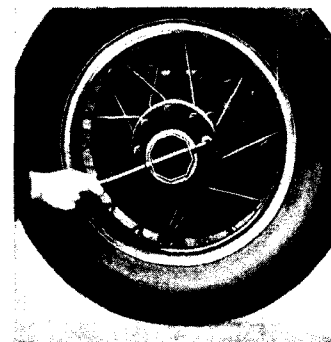
### Tire Balancing Marks

The tires are balanced to offset the weight of the valve stem. If a tire is removed, it must be re-installed in its original position with respect to the rim; otherwise the tire and wheel will be unbalanced.

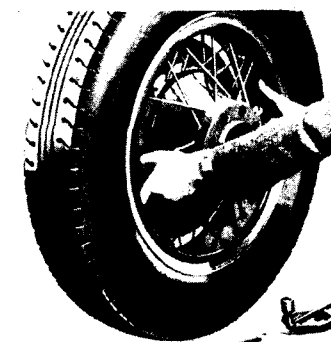
A small red or black square is accordingly branded in the rubber on the side of each tire. This mark must always be in line with the valve stem.



*Fig. 17a.* Remove the hub cap with the wrench in the tool kit. Hub caps are marked with arrows showing the direction in which they screw on and off.



*Fig. 17b.* Jack up the axle until the weight of the car is off of the wheel, but with the tire still dragging. Loosen the cap screws around the wheel hub by turning them in a counter-clockwise direction with the wrench. Then jack the wheel up further, remove the cap screws and take the wheel off of the hub.



*Fig. 17c.* To mount a wheel simply set it up on the hub and start the cap screws by hand. Then tighten the screws with the wrench, but do not tighten them in rotation. After tightening one screw, tighten the screw directly opposite.

*Fig. 17. Changing Wire Wheels*

Fig. 18a. Jack up the wheel until the tire clears the ground. Remove the dust cap and clamping nut from the valve stem. Remove the six rim clamps, unscrewing them with the brace wrench supplied in the tool kit.

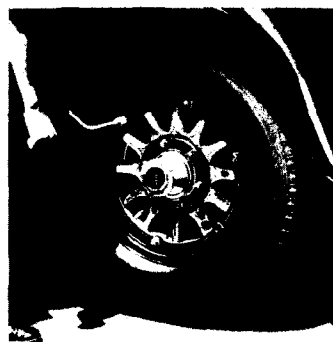


Fig. 18b. Rotate the wheel until the valve stem is at the top, and pull the bottom of the rim away from the wheel.



Fig. 18c. Then rotate the wheel until the valve stem approaches the bottom, when the rim and tire will roll free from the wheel and can be removed without lifting.

To mount a rim, rotate the wheel until the hole for the valve stem is in the position shown in the last illustration. Insert the valve stem and rotate the wheel, which will carry the rim with it, until the valve stem is at the top. Then push the lower part of the rim into place. Install the rim clamps over the rim and turn the nuts partly down. Go over the nuts again and tighten them firmly. Install the valve stem clamping nut and the dust cap. Be sure the clamping nut is tight.

Fig. 18. Changing Rims (Standard Wood Wheels)



## LUBRICATION SCHEDULE

CADILLAC 355

OWNER'S NAME \_\_\_\_\_

ADDRESS \_\_\_\_\_

ENGINE NO. \_\_\_\_\_

DATE DELIVERED \_\_\_\_\_

		LUBRICANT	LUBRICATION NO. AND MILEAGE AT WHICH DUE											
			1000	2000	3000	4000	5000	6000	7000	8000	9000	10000	11000	12000
LUBRICATION NOS. 6 AND 12	LUBRICATION NOS. 3 AND 9	DO NOT WAIT FOR SCHEDULE LUBRICATIONS BEFORE ADDING ENGINE OIL. THE OIL LEVEL SHOULD BE CHECKED EVERY 100 TO 150 MILES AND OIL ADDED IF THE INDICATOR BALL IS BELOW "FULL." THIS IS ESPECIALLY IMPORTANT ON CARS DRIVEN AT HIGH SPEEDS.												
		ADD LIQUID TO RADIATOR	WATER OR ANTI-FREEZE											
		ADD ENGINE OIL AS NECESSARY	ENGINE OIL											
		STARTER, GENERATOR AND DISTRIBUTOR OIL CUPS	ENGINE OIL											
		BRAKE PINS AND CONNECTIONS	ENGINE OIL											
		DOOR HARDWARE	ENGINE OIL											
		GREASE GUN CONNECTIONS	CHASSIS GREASE											
		WATER PUMP GREASE CUP	WATER PUMP GREASE											
		*ADD WATER TO STORAGE BATTERY	DISTILLED WATER											
		CHECK TIRE INFLATION												
		CLUTCH RELEASE BEARING	WHEEL BEARING GREASE											
		DRAIN AND REPLACE ENGINE OIL	ENGINE OIL											
LUBRICATION NOS. 1, 5, 7 AND 11	LUBRICATION NOS. 2, 4, 8 AND 10	TRANSMISSION—ADD LUBRICANT	GEAR LUBRICANT											
		REAR AXLE—ADD LUBRICANT	GEAR LUBRICANT											
		STEERING GEAR—ADD LUBRICANT	GEAR LUBRICANT											
		TIMER DISTRIBUTOR CAM	LIGHT ENGINE OIL											
		FRONT BRAKE TRUNNIONS AND BRAKE CAM BEARINGS	CHASSIS GREASE											
		WHEEL BEARINGS	WHEEL BEARING GREASE											
		SPEEDOMETER DRIVE SHAFT	CHASSIS GREASE											
		**REFILL SHOCK ABSORBERS	SPECIAL OIL											
		**FLUSH COOLING SYSTEM												
		**REPLACE OIL FILTER CARTRIDGE AND CLEAN OIL PAN AND SCREEN												

\*IN SUMMER INSPECT BATTERY EVERY 500 MILES OR AT LEAST EVERY 2 WEEKS.

\*\*RECOMMENDED BUT NOT INCLUDED IN LUBRICATIONS 6 AND 12. THE FOLLOWING OPERATIONS CANNOT BE PLACED ON A MILEAGE BASIS AND ARE NOT INCLUDED IN THE ABOVE SCHEDULE.

THIN REAR AXLE AND TRANSMISSION LUBRICANT—AS REQUIRED FOR LOW TEMPERATURES. DRAIN AND REPLACE REAR AXLE AND TRANSMISSION LUBRICANT—AT BEGINNING OF MILD WEATHER IN SPRING

RECORD ON OTHER SIDE

Fig. 19. This is a fac-simile of the Cadillac Lubrication Schedule and Record Card. Provision is made on the back of the card for recording when and where the car is lubricated. A copy of this card can be obtained on request from Cadillac distributors and dealers.



## CHAPTER IV

### LUBRICATION

#### Lubrication Schedule

**S**YSTEMATIC lubrication, at regular mileage intervals, is the only kind that is effective. On page 29 is a complete lubrication schedule, which, if faithfully followed, will insure correct lubrication for each wearing surface.

The unit of the schedule is 12000 miles, which is divided into twelve 1000-mile intervals. Corresponding to these is a series of twelve consecutive groups of lubricating operations. When the car has traveled 1000 miles, the points enumerated under Lubrication No. 1 should receive attention. At 2000 miles, Lubrication No. 2 is due, and so on until at 12000 miles, Lubrication No. 12 should be performed. At 13000 miles, the schedule begins again with Lubrication No. 1.

It will be noticed from the schedule that there are actually only four different lubrication operations, but that they are numbered according to the various times that they come due.

A metal lubrication tag in the shape of the Cadillac crest is provided on each new car for ease in determining the date, the mileage and the schedule number of the next lubrication due. This tag is mounted on the left front pillar, about four inches below the hinge as shown in the illustration.

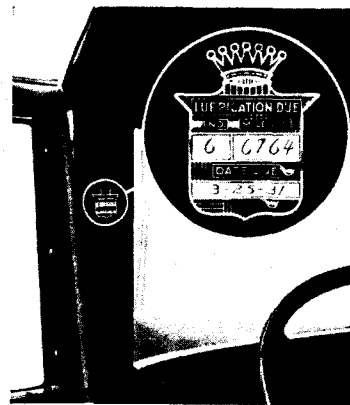


Fig. 20. This notice tells you when your car should be lubricated.

The driver can easily check this with the speedometer mileage by opening the left front door a few inches. Authorized Cadillac-La Salle service stations, after performing each schedule operation, post the number of the next operation due and the mileage at which it is due. When the mileage recorded by the speedometer is the same as the mileage marked on the notice, the car may be taken to any authorized Cadillac-La Salle service station, and, without further ordering other than specifying "schedule lubrication," the car will receive the exact lubrication necessary.

Although this schedule is expressed in terms of miles, it is intended that the car be lubricated once each month if the mileage traveled is less than 1000 since the last lubrication operation was performed. This lubrication work can be done while the car is in the service station for its regular monthly or 1000-mile inspection.

#### Lubrication Chart

The lubrication chart (18 x 24 inches in size) which accompanies this manual gives complete detailed instructions for lubricating the car. All of the points which require lubrication are designated on this chart, together with the kind of lubricant to be used, the method of applying it and the frequency with which it should be applied.

The operations are grouped on the chart in the same manner as on the schedule shown in Fig. 19. If the car is lubricated at an "Authorized Station," this schedule will be followed; if not, whoever does the lubrication should follow the schedule and chart exactly.

#### Lubricants

The selection of proper lubricants should be one of the first concerns of the owner in his attention to the lubrication of the car. The lubricants must not only be of high quality, but their viscosity and other characteristics must be suited to the car.

The owner is urged to consult the distributor or dealer from whom he purchased his car in regard to the names of lubricants which have been tested and approved for use in the Cadillac car.

## Engine Oil

The chart of engine oil recommendations given on page 32 indicates the proper grades of oil to be used for average driving and for prolonged high speed driving.

ENGINE OIL RECOMMENDATIONS

TYPE OF SERVICE	SUMMER	WINTER	
	All Temperatures Above 32° F.	Between 32° and 15° Above	Below 15° Above Zero
AVERAGE DRIVING (No prolonged high speed driving)	S. A. E. visc. 40 or 50	S. A. E. visc. 20	S. A. E. visc. 10
		<i>These oils are not suitable for prolonged high speed driving and if used under such conditions the oil level must be closely watched, as the rate of consumption will be higher than with heavier oils.</i>	
PROLONGED HIGH SPEED DRIVING	CADILLAC APPROVED "HEAVY DUTY" OILS— SUMMER AND WINTER		
	<p>These oils have an S. A. E. viscosity of 40-50-60, and are required to meet certain specifications as to volatility in order to demonstrate their fitness for prolonged high speed driving. To make certain of using an oil approved for this service, consult your Cadillac distributor or dealer.</p> <p>NOTE: Approved heavy duty oils vary in their suitability for winter use. If an approved heavy duty oil with sufficiently low cold viscosity is not available and if the car is not kept in a heated garage, the lighter oils specified above for average driving must be used to avoid hard starting. In this case, be sure to watch the oil level closely as cautioned above.</p>		

\*The system used in this table to designate body or viscosity is the one recently developed by the Society of Automotive Engineers and adopted by all oil companies. It takes the place of the old indefinite method of describing oils as "Light," "Medium," "Heavy," etc. Oil should be called for by these numbers. If a filling station attendant does not know the S. A. E. numbers of his oils, the following grades can be substituted in emergency: S. A. E. 10, Extra Light; S. A. E. 20, Light; S. A. E. 40, Heavy; S. A. E. 50-60, Extra Heavy.

## Gear Lubricant

Lubricant conforming to the specifications for Gear Lubricant must be used in the transmission, rear axle and steering gear. It is particularly important that only recommended lubricants be used in the transmission. Engine oil or soap greases will *not* perform satisfactorily.

Lubricants conforming to these specifications may be used without thinning during all weather, except winter weather below temperatures of 20° above zero. Below this temperature, thinning with kerosene is necessary, unless grease of sufficiently low pour point is used to secure easier gear shifting and proper lubrication of gears and bearings. See an authorized Cadillac-La Salle service station for recommendations on this lubricant.

**Important:** The Gear Lubricant known as "sulphurized" oil and designated by "E.P.," following its S.A.E. classification is **not** satisfactory for use in the transmission or rear axle on Cadillac cars and should not be used in these assemblies under any circumstances. This lubricant is injurious to bronze parts such as are used in gear assemblies of all higher quality cars and is particularly injurious to the synchro-mesh transmission.

## Chassis Grease

Lubricant conforming to the specifications for Chassis Grease is recommended for all chassis points fitted with grease gun connections. Do not use ordinary cup grease, as such greases are not effective enough to lubricate satisfactorily over the 1000-mile interval.

## Wheel Bearing Grease

Greases approved under the specifications for Wheel Bearing Grease are suitable for lubricating the wheel bearings and the clutch release bearing.

This grease is not recommended for chassis lubrication, as Chassis Grease is much more effective. Furthermore, Chassis

Grease or ordinary cup grease should not be used in the wheel bearings as such lubricants do not have a sufficiently high melting point to render satisfactory service.

### Water Pump Grease

A water-resistant calcium soap grease is recommended for use in the water pump grease cup. Only greases that meet the specifications for Water Pump Grease should be used; other greases will be dissolved into the cooling system liquid.

The owner of a Cadillac car is urged to have his car put on schedule lubrication at an authorized Cadillac-La Salle service station; in this way he is assured of having the proper lubricants used for all lubricating points at the proper mileage intervals.

### Engine Lubrication

The supply of oil is carried in the cast aluminum oil pan that covers the bottom of the crankcase. The oil is circulated by a

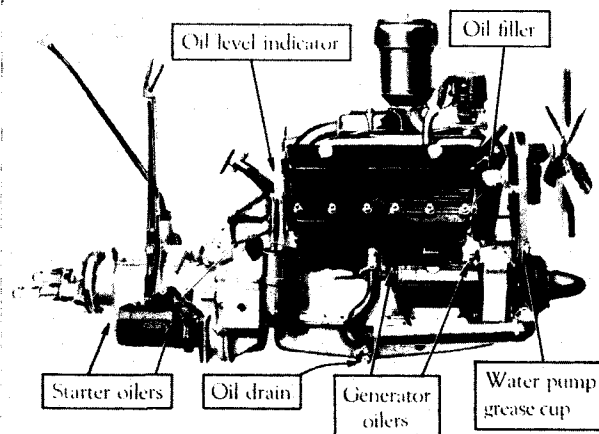


Fig. 21. Showing the location of the oil filler, oil level indicator, oil pan drain plug and other lubrication features.

gear pump inside of the crankcase. The pump is driven by a vertical shaft, which is, in turn, driven by a spiral gear on the

camshaft. The oil circulated by the pump lubricates the main and connecting rod bearings, the camshaft bearings, the cylinder walls, pistons and piston pins, the front end chains, the valve mechanism and the fan.

There are a few points on the engine that are not taken care of in the pressure system. These are the starter, generator and distributor oil cups and the water pump. Lubricating instructions for these points are given in the lubrication chart.

### Oil Level

The normal capacity of the oil pan is eight quarts, which fills it to the level of the screen in the pan. When the oil pan contains this amount, the oil level indicator on the right-hand side of the engine (Fig. 21) shows "Full." As the oil level descends, the indicator indicates "Fill" and then "MT" (Empty). Oil should be added as soon as the indicator ball has dropped to "Fill." If the indicator indicates "MT," under no circumstances should the engine be run until oil has been added.

The mileage interval at which oil must be added depends upon individual circumstances. It is recommended that the oil level indicator be checked every one hundred to one hundred and fifty miles, although it is improbable that oil will be required as frequently as this.

### Crankcase Ventilating System and Oil Filter

Cadillac engines are equipped with a crankcase ventilating system, which prevents contamination of the lubricating oil from seepage vapors; and an oil filter, which removes any dirt or solid matter from the oil.

The crankcase ventilating system is entirely automatic and functions throughout the life of the car without requiring any attention from the owner. The oil filter, however, gradually becomes filled with the solid matter taken from the oil until it

becomes so clogged that it ceases to function. The lubrication schedule as followed by authorized Cadillac-La Salle service stations provides for testing the oil filter as part of the regular 2000 mile lubrication. Filter cartridges should be replaced at least every 12,000 miles. Replacement cartridges can be obtained from Cadillac distributors and dealers.

The oil pan and screen should be removed and cleaned with kerosene or gasoline whenever the oil filter cartridge is replaced.

### Replacing Engine Oil

Although the crankcase ventilating system and the oil filter described in the preceding section greatly prolong the useful life of the oil, it is recommended that the oil be drained and replaced with fresh oil every 2000 miles.

To drain the oil, simply remove the drain plug (Fig. 21). Be sure to reinstall the drain plug before adding the fresh oil. Eight quarts of oil are required to bring the oil level indicator ball to "Full."

## CHAPTER V

### COLD WEATHER OPERATION

**S**ATISFACTORY operation of the car in freezing weather depends upon having the car prepared for cold weather and in giving it the special attention which is required at that time. In this chapter has been grouped all the information relating to care and operation of the car during cold weather. It should be reviewed just prior to the beginning of the winter season.

#### Preparing for Cold Weather

##### Anti-Freezing Solutions

The available commercial materials for preparing anti-freezing solutions for automobile radiators are denatured alcohol, methanol (synthetic wood alcohol), distilled glycerine, and ethylene glycol.

Denatured alcohol and methanol solutions are, at present, the most generally used anti-freezing solutions. These preparations are widely distributed, afford protection against freezing, and are not injurious to the cooling system.

There are two principal objections to denatured alcohol and methanol—they are lost by evaporation, and are harmful to the car finish. Any material accidentally spilled on the finish should be flushed off immediately with a large quantity of water.

Solutions of these materials in the radiator must be tested periodically and sufficient methanol or alcohol should be added to replace the loss by evaporation. Otherwise, the engine or radiator, or both, are likely to be damaged by freezing. Evaporation is much more rapid on heavy runs, and the solution should be tested more often under such circumstances.

Methanol, for anti-freeze purposes, is sold in the United States in the correct concentration to give the same protection against freezing as denatured alcohol. The table below may be used for both denatured alcohol and methanol.

Lowest Temperature Expected	Per cent by Volume	Specific Gravity (at 60° F.)		Qts. Alcohol required to make 6 gals. solution
		Denatured Alcohol	Methanol	
10° F.	30	.9668	.972	7 $\frac{1}{4}$
0° F.	38	.9567	.964	9 $\frac{1}{4}$
-10° F.	45	.9475	.957	10 $\frac{3}{4}$
-20° F.	51	.9350	.950	12
-30° F.	57	.9260	.944	13 $\frac{3}{4}$

Distilled glycerine and ethylene glycol solutions are, in first cost, more expensive than alcohol, but as they are not lost by evaporation, only water need be added to replace evaporation losses, except that any solution lost mechanically, by leakage foaming, etc., must be replaced by additional new anti-freezing solution. These solutions under ordinary conditions are not injurious to the car finish.

The principal objections to glycerine and ethylene glycol are the tendency of these solutions to loosen the scale and iron rust which forms in the water passages of the cylinder block and head, and the difficulty of securing and maintaining tight, leakproof connections. It is absolutely necessary to thoroughly clean and flush the entire cooling system before glycerine or ethylene glycol is used.

It is also necessary to tighten or replace the cylinder head gaskets and pump packing. The cylinder head gaskets must be kept tight to prevent the solution from leaking into the crankcase where it might cause gumming and sticking of the moving parts. The pump packing must be kept tight to prevent air from being drawn into the cooling system in order to avoid foaming and other difficulties which may result when air is present.

Ethylene glycol, sold in the U. S. for anti-freezing purposes, is chemically treated to overcome the principal difficulties mentioned in the above paragraph, and under normal operating conditions with tight hose connections and cylinder head gaskets should be satisfactory for use in the cooling systems.

Glycerine or ethylene glycol should be used in accordance with the instructions and in the proportions recommended by the anti-freeze manufacturer.

In using a hydrometer to determine the temperature at which a solution will freeze, the test must be made at the temperature at which the hydrometer is calibrated. If the solution is warmer or colder, it must be brought to this temperature or correction must be made for the difference in temperature, otherwise large errors may result. Freezing point hydrometers can not be used interchangeably, a different float being required for denatured alcohol, methanol, glycerine and ethylene glycol. In some cases these errors may be as large as 30 degrees Fahrenheit.

Salt solutions, such as calcium or magnesium chloride, sodium silicate, etc., honey, glucose and sugar solutions and oils are not satisfactory for use in automobile radiators.

## Capacity of Cooling System

The capacity of the cooling system is six gallons when filled to the proper level. It is not necessary to add liquid to the radiator whenever the level falls below the filler. There is sufficient liquid in the cooling system if the upper tank is half-full, and any liquid in excess of this is usually forced out through the overflow pipe as soon as the engine becomes warm. When water is used, any loss from this cause is of little consequence, but in winter to conserve anti-freeze, it is important to avoid adding more liquid than is necessary.

## Winter Lubrication

Lubrication of the car requires special attention in winter, not only to insure proper lubrication of the moving parts, but to secure the same ease of operation in starting, steering and shifting gears as during warm weather.

The chart of engine oil recommendations on page 33 gives the proper grade of oil to be used for cold weather driving. It will be noted that lighter oils can be used for cold weather providing no prolonged high speed driving is done. For prolonged high speed driving, "Heavy duty" oils must be used. Authorized Cadillac-La Salle Service Stations are prepared with full information on winter lubrication.

The lubricant in the transmission and rear axle should be thinned with kerosene as soon as the weather is so cold that the transmission gears are hard to shift. If a sufficient amount of kerosene is added to provide for the lowest winter temperature expected, it will not be necessary to add kerosene again thereafter during the winter. If ten per cent (a little over half a pint) kerosene is added, this will take care of temperatures down to ten below zero.

There are several lubricants on the market which have a low enough pour point so that they will not require thinning. See an authorized Cadillac-La Salle Service Station for information on these lubricants. If one has been regularly used, no kerosene should be added. Thinning of such a lubricant is not only unnecessary, but defeats the purpose of using it because it would have to be drained and replaced on return of warm weather.

Steering gear lubricant, in any case, should not be thinned as the pressure between the worm and sector will force out the thinned lubricant, resulting in excessive wear. A lubricant of low enough cold test so as not to require thinning should be used.

## Storage Battery

The electrical system of an automobile has much more to do in winter than in summer. The engine is harder to crank and must usually be cranked longer before it starts. The lights are also used to much greater extent than during the long days of summer. All this means that the battery must be ready for increased demands.

It is therefore a good plan in preparing for the winter season to see that the battery is fully charged, that the battery connections are clean and tight, and that the charging rate is sufficient to take care of the requirements of the system.

## Gasoline System

The carburetor on the Cadillac engine has automatic compensation for temperature. Nevertheless it is a good plan to have the carburetor adjustment checked when cold weather arrives. This inspection should give special attention to the carburetor choke control to make sure that the enriching device is fully effective when the choke button is operated.

In warm weather, a small amount of water in the gasoline has little or no effect on the running of the engine. In freezing weather, however, even a small amount of water may freeze and stop the entire flow of fuel to the carburetor. One of the things to be done in preparing for winter weather, therefore, is to clean the gasoline filter and the sediment chambers in the gasoline system.

## Starting the Engine

### Choke Button

The first difference between starting the engine in cold weather and starting the engine in warm weather is in the greater use of the choke necessary in cold weather. Gasoline does not vaporize

as readily at low temperatures, and in order to supply the cylinders with a gaseous mixture rich enough to be ignited, the proportion of liquid gasoline to air must be increased.

At the same time, it is important not to apply the choke more than is necessary. The unvaporized gasoline collects on the cylinder walls and works down past the pistons, washing off the lubricant as it goes. Although dilution of the oil supply with this unburned gasoline is minimized by the crankcase ventilating system, it is best to avoid an excess of liquid gasoline in the combustion chambers by careful and judicious use of the choke.

The following rule should govern the use of the choke in winter weather: Pull the choke back just as far as it is necessary to start the engine, but as soon as the engine starts, return the button as far as possible without causing the engine to stop or slow down. Then push the button all the way in as soon as the engine is warm enough to permit doing so.

### **Priming the Carburetor**

In extremely cold weather, if the engine does not start after cranking for a few seconds with the choke button fully applied, release the starter pedal. Then prime the carburetor by opening and closing the throttle once or twice rather rapidly with the accelerator. Opening and closing the throttle operates a throttle pump on the carburetor and raises the level of the gasoline in the carburetor. The carburetor should never be primed in warm weather and should not be primed unnecessarily in cold weather. Excessive priming is likely to make starting difficult rather than easy.

### **Position of Throttle Hand Lever**

The correct position of the throttle hand lever for starting in cold weather is the same as for starting under other conditions, that is, about one-fourth the way down from the idling position.

In warm weather, however, the lever may be returned to the idling position almost as soon as the engine is started. In cold weather the throttle must be left slightly open until the engine becomes warm.

### **Position of Spark Control**

It is the practice of some drivers to retard the spark all the way whenever starting the engine. This is the correct position if the engine is to be cranked by hand, but if the engine is to be cranked with the starter, the spark button should be left all the way in or in the fully advanced position.

### **Use of Starter**

In extremely cold weather, when the car has been standing long enough to become thoroughly chilled, it is a good plan to disengage the clutch during the cranking operation. If this is not done, the starter is called upon to turn the jackshaft gears in the transmission in addition to cranking the engine. At ordinary temperatures, the additional energy required is negligible, but in extremely cold weather, the lubricant in the transmission offers sufficient resistance to rotation of the transmission gears to increase considerably the demand upon the battery and to retard the cranking speed.

### **Use of Accelerator Before Engine Is Warm**

In cold weather, after the engine has been started and before it has run long enough to become warm, the engine cannot deliver its normal power, and it should not be called upon to do so. In accelerating the engine to start the car and in accelerating the car after the transmission is in gear, do not open the throttle suddenly or too far. To do so is not only to invite "popping back" in the carburetor, but to increase the amount of excess unvaporized gasoline in the combustion chambers, both of which results are undesirable.

## CHAPTER VI

### GENERAL CARE

No attempt has been made to include in this manual directions for making adjustments or repairs to the car. Most Cadillac owners prefer to depend for such work on authorized Cadillac-La Salle service stations, as these stations can invariably perform the work more conveniently and economically.

Every owner should, however, know how to perform the few simple operations of general care described in this chapter. These operations are not difficult enough to necessitate a visit to the service station, although this work can also be done in the service station, if desired.

#### Storage Battery

The storage battery is attached to the right-hand side bar of the frame under the front seat. It is accessible after removing the seat cushion and cover plate.

The battery is filled with an acid solution from which the water slowly evaporates, and fresh distilled water must be added to each of the three cells at regular intervals to bring the level up to the bottom of the filling tubes. Distilled water should be added at least every 1000 miles, and in warm weather, every 500 miles, or at least every two weeks. If distilled water is not available, melted artificial ice or rain water caught in an earthenware receptacle may be used. Hydrant water or water that has been in contact with metallic surfaces will cause trouble if used. Acid must never be added to the battery.

**Important:** "Dope" or "rejuvenator" solutions frequently advertised are harmful to the battery and should never be used.

All battery service, other than the addition of distilled water when necessary, should be performed by an experienced and reliable battery man.

After adding water to the storage battery in freezing weather, the car should immediately be run far enough to mix the water and acid solution thoroughly. If the car is parked immediately after adding water, the water is likely to stay on top of the acid solution and may freeze, causing extensive damage.

As the storage battery is charged and discharged, the solution reacts chemically with the plates of the battery, the specific gravity of the solution changing as the reaction proceeds. The state of charge of the battery is thus indicated by the specific gravity of the solution. As the battery is charged, the specific gravity of the solution increases, reaching 1.270 to 1.285 when the battery is fully charged. The specific gravity of the solution decreases as the battery is discharged. A fully discharged battery has a specific gravity of 1.150 to 1.165.

A hydrometer is the instrument used to measure the specific gravity of a solution. A hydrometer syringe is a hydrometer especially designed for convenience in testing the specific gravity of the acid solution in the storage battery. A hydrometer syringe can be obtained at any battery service station. Be sure and get a reliable instrument, for cheap ones may be in error as much as 25 or 30 points.

The specific gravity of the acid solution should never be tested immediately after adding distilled water. If the solution is below the plates, so that it cannot be reached with the syringe, add the necessary amount of water, then drive the car for a few hours before taking the hydrometer reading.

The battery is a Delco battery, made by the Delco-Remy Corporation, Anderson, Indiana. If the storage battery is in need of attention other than recharging, it should always be taken to an authorized Cadillac service station or to a United Motors service station.



## Cooling System

The cooling system should be kept filled with 6 gallons of water, except in freezing weather, when a suitable anti-freezing solution, such as those described on page 37, must be used.

The drain valve for the cooling system is in the water inlet elbow on the right side of the crankcase just in back of the generator.

The cooling system should be drained and flushed every 6000 miles. If possible, this should be done at a Cadillac service station, or where there are facilities for reversing the flow of water through the radiator. If this is not possible, use the following method:

Run the engine until the opening of the radiator shutters indicates that the engine is warm. Stop the engine and immediately open the drain valve.

After the liquid has drained off, refill the cooling system with hot water and repeat the operation described above. If, in draining the second time, the water is very dirty, it may be advisable to repeat the flushing operation a third time, placing one or two handfuls of sal-soda in through the radiator filler. The sal-soda must not be permitted to get on the finish of the hood or radiator. If sal-soda is used, the cooling system must be drained and flushed again before refilling for use.

## Gasoline Filter

A gasoline filter (Fig. 23) is provided in the gasoline line between the vacuum tank and the carburetor. The filter has a

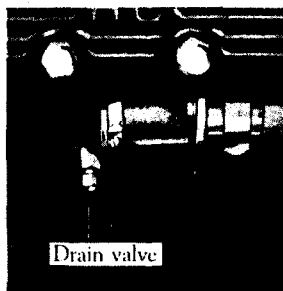


Fig. 22. The entire cooling system can be drained by opening this one valve.

glass bowl through which the accumulation of water and sediment can be easily seen. The bowl should be removed and the gauze screen should be cleaned as soon as any accumulation appears in the bowl. This can be done as follows:

First shut off the gasoline by turning clockwise the small T-handle valve at the side of the filter. Then unscrew the thumb screw under the bowl, after which the yoke supporting the bowl can be swung to one side and the bowl can be removed. If the screen does not come off with the bowl, it can be removed by pulling it straight down.

In putting back the bowl, make sure that it seats properly against the cork gasket in the top of the filter before tightening the thumb screw. Do not forget to turn the gasoline on by turning the valve counter-clockwise as far as it will go.

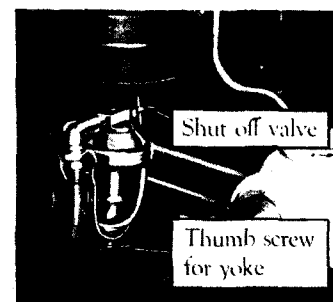


Fig. 23. The two gasoline filters should be removed and cleansed regularly.

There is also a strainer in the vacuum tank at the point where the gasoline enters the inner chamber. This strainer should be removed and cleaned occasionally. It is accessible after disconnecting the feed pipe and unscrewing the inlet elbow.

## Temporary Brake Adjustment

It is recommended that all adjustment of the brakes be done at an authorized Cadillac-La Salle service station. In an emergency, however, the following temporary adjustment can be made by the driver.

Each brake is fitted with an adjusting nut on the cam lever, as shown in Fig. 24. To tighten the brake adjustment turn all

four adjusting nuts half a turn clockwise. These adjusting nuts lock each sixth of a turn.



Fig. 24. A temporary brake adjustment can be secured by turning the adjusting nut on each brake clockwise one-half turn. The front brake is shown above at the left, the rear brake at the right.

## Body

### Care of Finish

The lacquer finish of Cadillac bodies can be kept new and lustrous with the simplest care. The car should merely be wiped off every few days with a soft dry cloth. An occasional polishing with some recognized lacquer polish (for sale by all Cadillac distributors and dealers) will prove beneficial.

If the finish receives this attention at regular intervals, it will not need to be washed, except when it has accumulated a considerable amount of mud or dust. When washing the car, use plenty of clean cold water. Do not use hot water, and do not wash the hood while it is hot, as this will in time destroy the luster. Do not use soap.

If a hose is used in washing, do not use a nozzle, but let the water flow gently from the hose and flush off the dirt gradually. A soft wool sponge can be used to advantage in removing dirt.

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. The finish can then be rubbed with a clean soft cloth to bring out the luster.

### Care of the Top

Ordinary dust can be removed from the top with a soft dry cloth. Grease spots, stains and dirt film can be removed by washing with a mild, neutral soap. Rinse thoroughly with clear water to remove all traces of the soap, then dry with a chamois or cloth. Gasoline, naphtha, kerosene and fabric cleaners should not be used for cleaning the top, as such preparations are likely to dull the luster and damage the fabric, causing leaks.

### Cleaning Upholstery

To keep the upholstery in closed cars in the best condition, it should be cleaned thoroughly at least once a month with a whisk broom and vacuum cleaner. Dirt and grit accumulating in the fabric wear it out faster than use.

Spots on the upholstery may be cleaned with any good dry cleaner but care should be taken not to apply too much. The use of too much or too strong a cleaner may dissolve the rubber backing of plush upholstery, causing the nap to loosen. When the cleaner has thoroughly evaporated, apply a hot flatiron wrapped in a wet cloth. Steaming the fabric and rubbing lightly against the nap will raise the nap on plush fabrics to its normal position.

### Door Hardware

Many owners who give careful attention to lubrication of the chassis do not give the same attention to the lubrication of door locks and hinges. If the door hardware is to operate properly, it must be lubricated regularly. Directions for this lubrication are included in the lubrication chart, and these directions should be followed as faithfully as the rest of the chart.

## CHAPTER VII

### STORING CAR

**I**F THE car is not to be used for a period of several months, it should be protected from deterioration during the period when it is not in use by carefully preparing it for storage.

#### Engine

To prepare the engine for storage, proceed as follows: Run the engine until opening of the radiator shutters indicates that the engine is warm. This may be done by driving on the road or by running the engine idle. In the latter case, care should be taken that there is sufficient ventilation to avoid personal injury from carbon monoxide poisoning. (See page 19). After the engine is warm, place the car where it is to be stored and stop the engine.

Remove the spark plugs. Inject two or three tablespoonfuls of engine oil into each spark plug hole, and before replacing the plugs, crank the engine three or four revolutions with the ignition switched off. This will tend to distribute the oil over the cylinder walls. The engine should not be started again after injecting the oil. If it is started, it will be necessary to repeat the treatment.

Drain the cooling system.

#### Storage Battery

If the car is to be stored during the winter, the storage battery should have special treatment in order to protect it against freezing.

Shortly before the car is used for the last time, distilled water should be added to bring the level of the solution up to the

bottom of the filling tubes. (See page 44.) After the water added has had an opportunity to mix thoroughly with the acid solution by running the car or engine, the specific gravity should be tested with a hydrometer. If the specific gravity of the solution is above 1.270, there will be no danger of the acid solution freezing. If, however, the specific gravity is below 1.270, the battery should be removed and charged. Unless the battery is fully charged, or nearly so, it is probable that the acid solution will freeze and cause extensive damage.

The battery ground connection should in all cases be disconnected during storage, as a slight leak in the wiring will discharge the battery and lower the specific gravity to the point where the solution may freeze.

If possible, the storage battery should be removed and charged from an outside source every two months during the storage period.

#### Tires

During the storage of the car, it is best to remove the tires from the rims and to keep the casings and tubes in a fairly warm atmosphere away from the light. The tubes should be inflated slightly after the tires have been removed.

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

The weight of the car should not be allowed to rest on tires during the storage period. If tires are not removed, the car should be blocked up, so that no weight is borne by the tires. The tires should also be partly deflated.

#### Body and Top

A cover should be placed over the entire car to protect it from dust. In storing an open car, the top should be up.

## Taking Car out of Storage

In putting into use again a car that has been stored, it is advisable, unless the storage battery has been removed and charged at periodic intervals, to remove the battery from the car and give it a fifty-hour charge at a four-ampere rate. If the battery has received periodic charges, or if the specific gravity is above 1.200, simply add distilled water to the proper level and connect the leads. If there is a greenish deposit on the terminals of the battery, remove this with a solution of bicarbonate of soda (common cooking soda) and water. Do not allow any of this solution to get into the battery.

Before starting the engine, drain the oil from the oil pan and remove and clean the oil pan and screen. After reinstalling the oil pan, add eight quarts of fresh engine oil. Fill the cooling system, being sure to use anti-freezing solution in freezing weather. Remove the spark plugs and inject two or three tablespoonfuls of engine oil into each cylinder. Reinstall the spark plugs and, with the ignition switched off, crank the engine a few seconds with the starter to distribute the oil over the cylinder walls.

Start the engine in the usual manner. As soon as the engine starts, push the choke button as far forward as possible without causing the engine to stop or slow down materially, and then open the throttle until the ammeter reads approximately 10 with all lights switched off. Release the choke button entirely as soon as the engine is warm enough to permit it.

## CHAPTER VIII

### SPECIFICATIONS AND LICENSE DATA

Type of engine.....	8 cyl. V-type
Diameter of cylinder bore.....	3 $\frac{3}{8}$ in.
Length of stroke.....	4 $\frac{15}{16}$ in.
Piston displacement.....	353 cu. in.
Horsepower (N. A. C. C. rating).....	36.45
Engine number.....	See below
Capacity of gasoline tank.....	21 gals.
Capacity of engine lubricating system.....	8 qts.
Capacity of cooling system.....	6 gals.
Capacity of transmission.....	3 qts.
Capacity of rear axle.....	3 qts.
Wheelbase.....	134 in.
Tires, standard wood wheels.....	6.50-19
Tires, demountable wheels.....	7.00-18
Spark plug setting.....	.025-.028 in.
Contact point setting.....	.018-.022 in.
Generator charging rate, maximum.....	{ 15-17 amps. cold 8-10 amps. hot

### Engine and Unit Assembly Numbers

Each Cadillac car, when shipped, carries an engine number, which is also a serial number. This is the number to be used in filling out license and insurance applications and in general reference of the car. The engine number is stamped on the right hand side of the crankcase just below the water inlet.

The various units, such as the transmission, steering gear, etc., also carry unit assembly numbers. These are located as described below. It is important in ordering parts to give, not only the

engine number of the car, but also the unit assembly number of the unit to which the part belongs.

*Transmission number*—on the upper left-hand edge of the flange by which the transmission is bolted to the crankcase.

*Steering gear number*—on the steering gear housing next to the grease plug

*Generator number*—on the right-hand side of the generator.

*Starting motor number*—on the right-hand side of the starter, just below the switch.

*Front axle number*—on the upper surface of the right-hand spring pad, just outside of the car spring.

*Rear axle number*—on the rear surface of the axle housing just to the right of the cover plate.

*Chassis (frame) number*—on the flange of the first channel cross-member, next to the left front engine support.

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# PRELIMINARY SERVICE INFORMATION

Cadillac 355  
La Salle 345

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September, 1930

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*Service Department*  
CADILLAC MOTOR CAR COMPANY  
DETROIT, MICHIGAN

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# Cadillac V-8

## Preliminary Service Information

### Cadillac 355 - - La Salle 345

#### Front Axle

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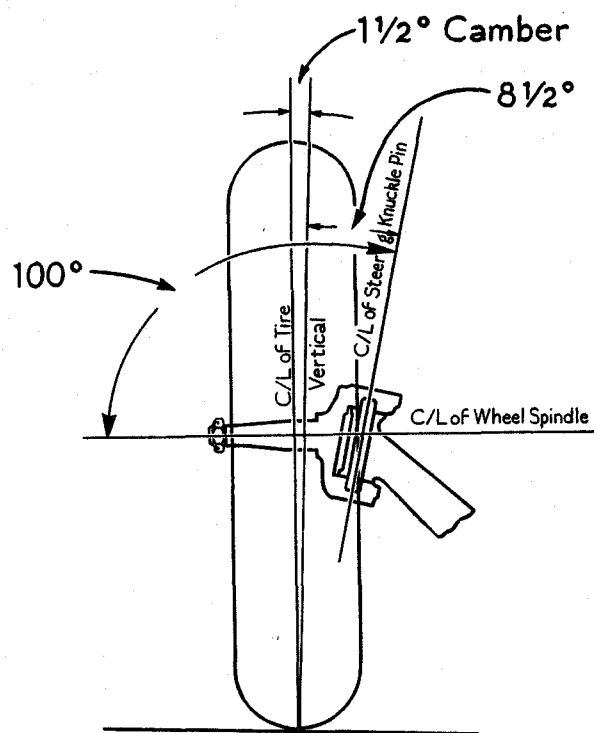
The front axle on both of the new cars is like the La Salle 340 front axle except for the angle of the knuckle pins and the method of attaching the shock absorbers. On the new models the steering knuckle pin is only  $8\frac{1}{2}^\circ$  from vertical instead of  $10\frac{1}{4}^\circ$  as on the 340 and 353. This does not affect the camber, however, because the angle between the wheel spindle and the steering knuckle pin has been changed to  $100^\circ$ , giving  $1\frac{1}{2}^\circ$  camber which is the same as on the 340.

The caster on both of the new cars is  $2\frac{1}{2}^\circ$  to  $3\frac{1}{2}^\circ$  instead of  $1\frac{1}{2}^\circ$  as on the 340 and  $2\frac{1}{2}^\circ$  as on the 353. This caster is obtained by using a  $1\frac{1}{2}^\circ$  wedge spacer (Part No. 876813, 303-353 Parts List) between the spring and the axle.

The axle I-beam on the new models is interchangeable except for the method of attaching the shock absorbers. The front shock absorber links on the 355 are attached under the spring clip nuts as on the V-16, while those on the 345 are attached at the drilled boss on the I-beam as on the 340. Neither of these axles is interchangeable with the 340 and the 353.

The steering knuckles, arms, pins and all parts excepting the I-beams themselves are, however, interchangeable on the 345 and the 355. For service it is only necessary to stock the type 345 I-beam, because this I-beam can be used on the 355 also.

Except as noted, all service operations and adjustments on the front axle are the same as on the La Salle 340 and the Cadillac 353.



**Fig. 1.** The front axle camber is  $1\frac{1}{2}^\circ$ , the same as the 340 and 353, although the angle of the steering knuckle pin is different.

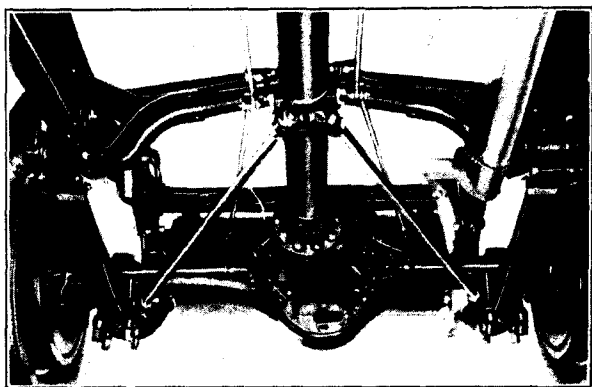
#### Rear Axle

The rear axle on the La Salle 345 is the same as on the 340 and is interchangeable with it except for the gear ratios. The Cadillac 355 rear axle is similar to the 345, but is not interchangeable, because the rear spring seats on the 355 are  $5\frac{3}{8}$ " closer together than on the La Salle 345 and 340, to take care of the new frame and

different spring suspension used on the Cadillac.

The gear ratios being furnished on the new cars are:

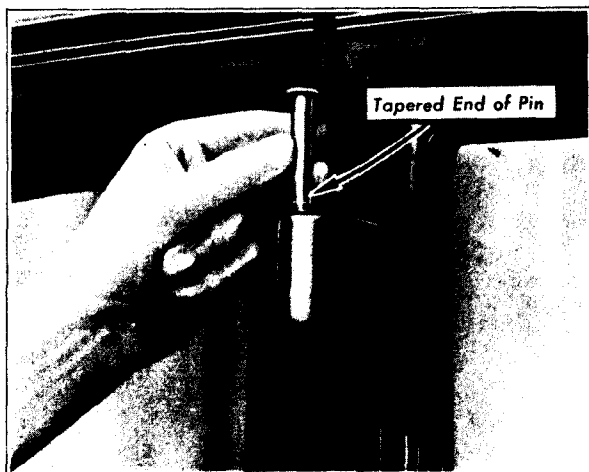
Actual	Nominal
4.07 to 1	4.00 to 1
4.54 to 1	4.50 to 1
4.75 to 1	4.75 to 1



**Fig. 2.** The 355 rear springs are directly under the frame and the spring seats are accordingly  $5\frac{3}{4}$ " closer together on the 345.

On the La Salle 345, practically the same body is used as on the 340. The dash, however, has been insulated to better protect the body from the heat of the engine. The radiator on the 345 is mounted vertically instead of being tipped slightly backward at the top as on the 340, and the hood is about  $\frac{1}{2}$  inch longer than on the 340 to take care of the change in the radiator position.

The 345 fenders are the same shape as those on the 340. The front fenders are not interchangeable however because of the different location for the holes for the head lamp brackets. The left-hand rear fender also differs in the size and shape of the holes for the rear lamp. In or-



**Fig. 3.** The hinge pin on the 355 is tapered at the end and can be removed or installed without injury to pin or hinge.

der to make these fenders interchangeable all left-hand rear fenders shipped by the Parts Division for either of these models will not have the holes punched for the rear lamp, but will

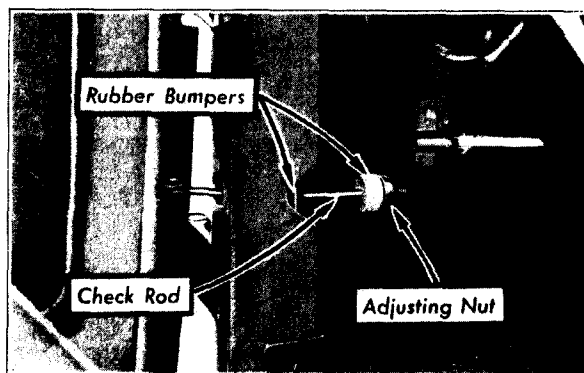
The nominal values given vary slightly from the actual ratios but are used because they are more easily remembered.

On a few of the first cars shipped, a 4.40 to 1 ratio has been used instead of a 4.50. The performance with either of these ratios is practically the same, and after the present stock of 4.40 to 1 is exhausted, only the 4.50 to 1 will be furnished on order from the Parts Division.

The above gear ratios will also be supplied by the Parts Division for service on the La Salle 340 and 328 when the present stock of differential carrier assemblies of different ratios is exhausted. These three different differential carrier assemblies will therefore be interchangeable on four models; the 328, 340, 345 and 355.

## Body

have a template attached to the underside so that these holes can be cut for the particular model on which the fender is to be used.



**Fig. 4.** The 355 door checks are in the pillars as shown above and are adjustable.

The body on the Cadillac 355 is entirely new. It is lower and wider than any Cadillac or La Salle body previously used.

On the doors, four hinges are used instead of three as on past models. The hinge pins are chromium-plated and are tapered at the bottom to make removal and installation of the pins easier. This type of pin can be driven out without danger of upsetting the end, and can be replaced easily because the tapered end aligns the two sections of the hinges.

The door check used on the 355 is in the pillar instead of in the top of the door as on previous models. Two rubber bumpers are provided for the check, one on the pillar and the other on the check itself. The checks are adjustable upon removing the quarter panel of the upholstery.

The front seats on the 355 are  $\frac{3}{4}$  inch lower than on the 353 and are provided with the same

means of adjustment as the 353. The tool compartment on this new Cadillac is under the front seat instead of in the dust-shield as on the 353.

The 355 floor boards are made of metal and are lined with Celotex instead of being made of wood. The dash on this model is also provided with a heat insulator to prevent heat from the

engine being transmitted to the driver's compartment.

The 355 hood is longer than the 345 or the 353 and has ports instead of louvres. In warm weather driving it is important to keep these ports open so that the heat from the engine can pass out freely.

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## Brakes

The brakes are identical on both cars. The size and construction are the same as on the La Salle 340 except for a minor difference in the rear brake rods and the rocker shafts on the Cadillac.

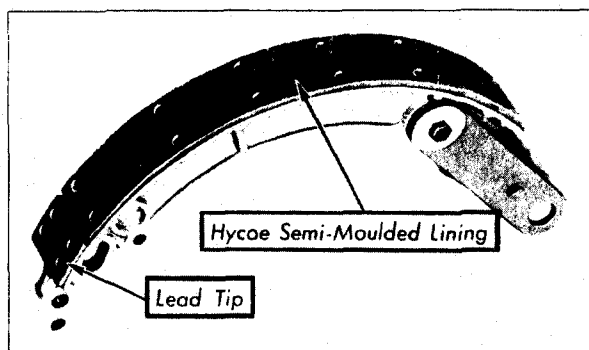


Fig. 5. Hycoe semi-moulded brake lining is used on both the 345 and 355.

The rear brake rocker shaft on the Cadillac 355 is mounted on the rear flange of the center

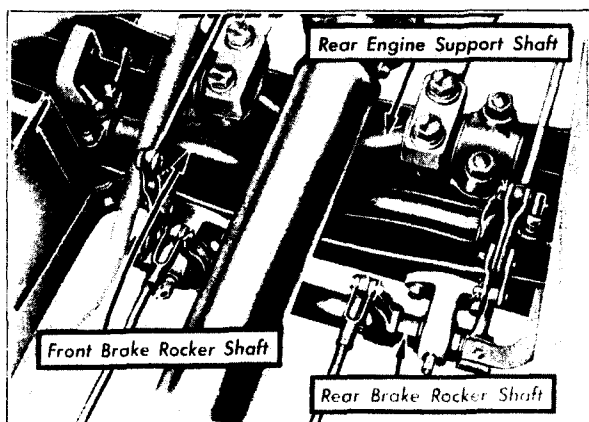


Fig. 6. The 355 brake rocker shafts are arranged as on the V-16.

frame cross member like the V-16, on account of the rear engine support at the transmission ball-joint socket.

Hycoe semi-moulded brake lining is standard equipment on both cars. This lining is the same as has been recently furnished for service on 353 and 340 cars.

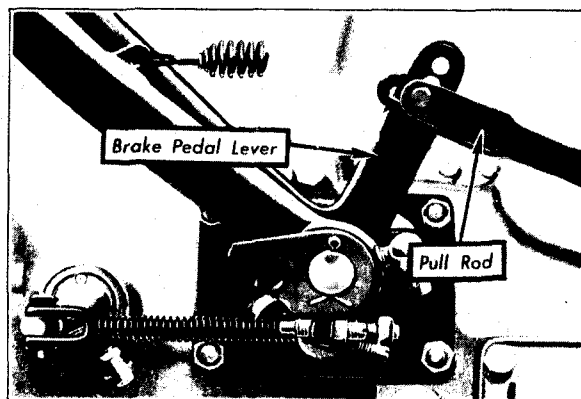


Fig. 7. The brake pull rod is connected at the lowest hole on the pedal lever.

The brake pull rod on both new cars is connected at the lowest hole on the brake pedal as on the Cadillac 353. This is necessary because of the different co-efficient of friction of the Hycoe semi-moulded lining used on these cars. All brake and pedal adjustments and other brake service operations are the same as on the La Salle 340.

With the exception of the method of connecting the brake pull rod as noted above all the brake cables and rods are adjusted exactly as on the La Salle 340. The position of the brake cams on the dust shields are also the same as on the 340.

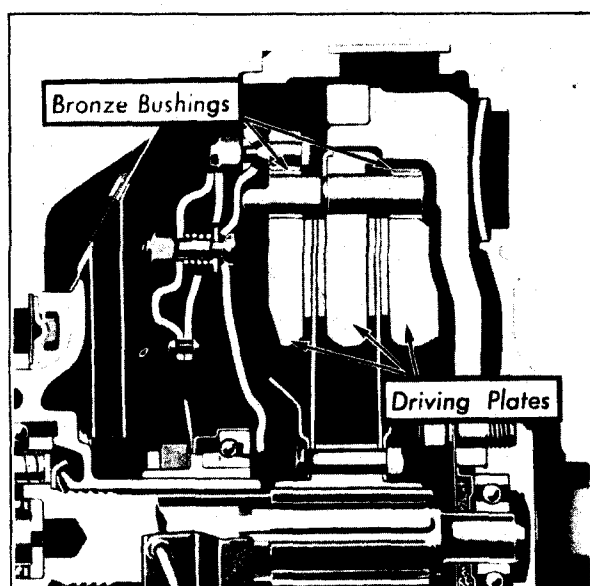
## Clutch

The clutch is the same on both cars and is identical with the late type 353 clutch, which has bronze bushings in the driving plates, heavier release fingers and a larger release shaft than

were used on earlier 340 and 353 clutches. Only one type of clutch need be carried in stock to service the 340, 345, and the 353 and 355 cars. The service operations on the clutch are the same on all these models.

## Cooling System

The cooling system on both cars is identical with the exception of the radiators and the fan supports.



*Fig. 8. Bronze bushings are used in the clutch driving plates.*

The radiator on the La Salle 345 is the same as the La Salle 340, but is mounted vertically instead of being tipped backwards slightly as on the 340.

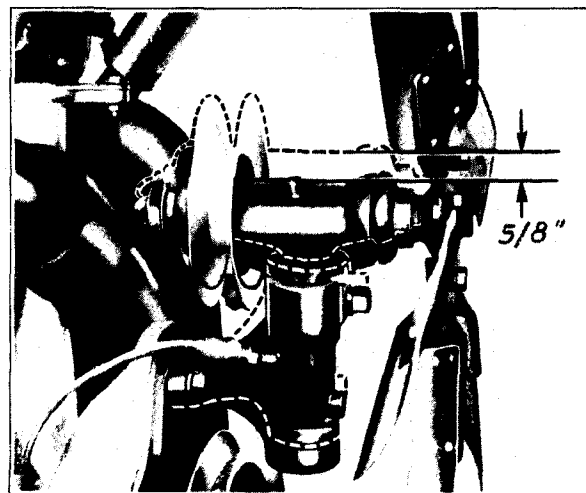
The Cadillac 355 radiator is new in shape and is not interchangeable with any of the others. It is mounted lower on the frame than the La Salle radiator and the top of the radiator is lower with relation to the engine than on the 345.

The portion of the upper tank over the fan on the 355 is not as deep as on the 345, and the

fan is mounted  $\frac{5}{8}$ " lower to correspond with the lower radiator position. This requires a shorter fan belt and shorter hose connections on the 355.

The fan belt on the new models should be adjusted exactly the same as on the 340 and 353, with  $\frac{5}{8}$ " slack midway between the pulleys. The distance from center to center of the fan pulleys is  $10\frac{1}{8}$ " on the 345 and  $9\frac{1}{2}$ " on the 355.

The change in fan position is taken care of by using a different fan bracket on the 355. The fans, shafts and bearings are identical on both cars.



*Fig. 9. The 355 fan bracket. The dotted line shows the shape of the 345 fan bracket.*

The lower hose connection between the water pump and the radiator on the 345 is the same as on the 340 and 353. The upper hose connections are of different lengths on both models and are not interchangeable with those on the 340, 353 or with each other.

## Electrical System

The electrical system is the same on both cars except for the rear lamps and horns. The general arrangement of both systems is similar to that on the La Salle 340.

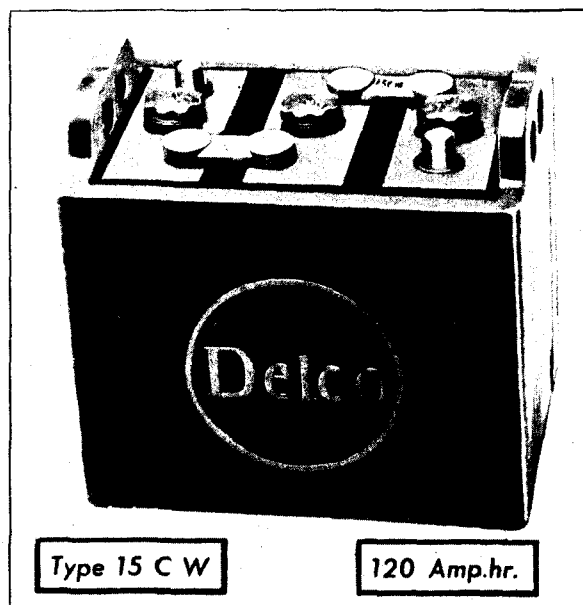


Fig. 10. Warranty service on the new Delco battery used on both cars is taken care of by the United Motors Service Corporation.

### Storage Battery

The battery is the same on both cars. It is a Delco-Remy, type 15 C.W. 120 amp. hr. battery and has greater capacity than the 100 amp. hr. battery used on the La Salle 340. The battery is carried under the front seat on both cars and is readily accessible upon lifting out the front cushion.

Warranty service on the new Delco battery used on the 345 and 355 cars will be taken care of by the United Motors Service Corporation.

### Generator

The generator on both of the new cars is a Delco, type 927-D. This is the same type that was used on the 340 and 353 models. The driving chain for the generator is adjusted in the same manner on all these models. The generator cut-out is mounted on top of the generator as before.

### Horns

The La Salle 345 has one horn only, mounted under the left headlamp as on the 340, while the Cadillac 355 has two horns, one under each headlamp. The horns on both cars are the same as used on the 353.

The horns used on the Cadillac 355 are tuned in pairs the same as on the V-16. In case of difficulty with the horns on this job, only the one giving trouble need be replaced, because of the ease with which these horns may be adjusted.

The same service instructions apply as on the Cadillac 353.

### Ignition

The ignition system is the same on both cars with the exception of the spark advance control, and is like the Cadillac 353.

The 345 spark control is like that used on the 340 and 353 while the 355 spark control is of the push-pull type as used on the V-16.

The ignition coil on both of the new cars is the same type as is used on the V-16. This coil has improved windings that give it increased efficiency. It is mounted horizontally between the radiator support rods almost directly above the distributor. The wires from the coil to the distributor are protected by a heavy rubber conduit.

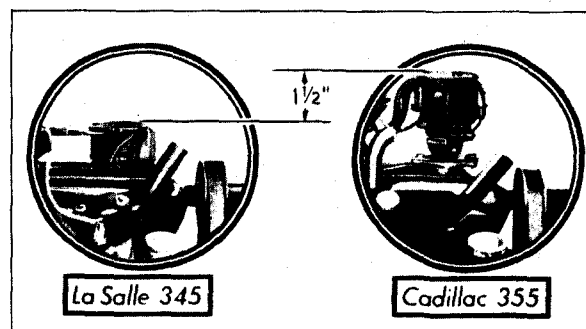


Fig. 11. The 355 distributor is  $1\frac{1}{2}$ " higher than the 345.

The distributor is  $1\frac{1}{2}$ " higher on the Cadillac 355 than on the La Salle 345.

The ignition is timed exactly the same as on the 353 and 340, with the spark fully advanced and the IG/A mark ( $\frac{2}{4}$ " ahead of center on the fly-wheel) in line with the indicator in the timing inspection opening. The contact gap should be adjusted to .018" to .022" the same as before.

All other service operations on the electrical system are the same as on the 340 and 353 models.

### Starting Motor

The starting motor on both of the new cars is a Delco type 728-D. This is the same starting motor that is used on the 340 and 353 models and it is interchangeable on all four cars.

## Wiring

The general arrangement of the chassis wiring on both cars is similar to that on the La Salle 340 and Cadillac 353, except for the horn circuit and for the connections at the terminal block. The connections at the terminal block on the 355 are similar to those on the later V-16 cars.

On the 345 these connections are the same as on the 340.

The wiring diagram shown is for the La Salle 345. The circuits on the Cadillac 355 are arranged in the same manner but of course provide for the two rear lamps and two horns used on this model.

## Engine

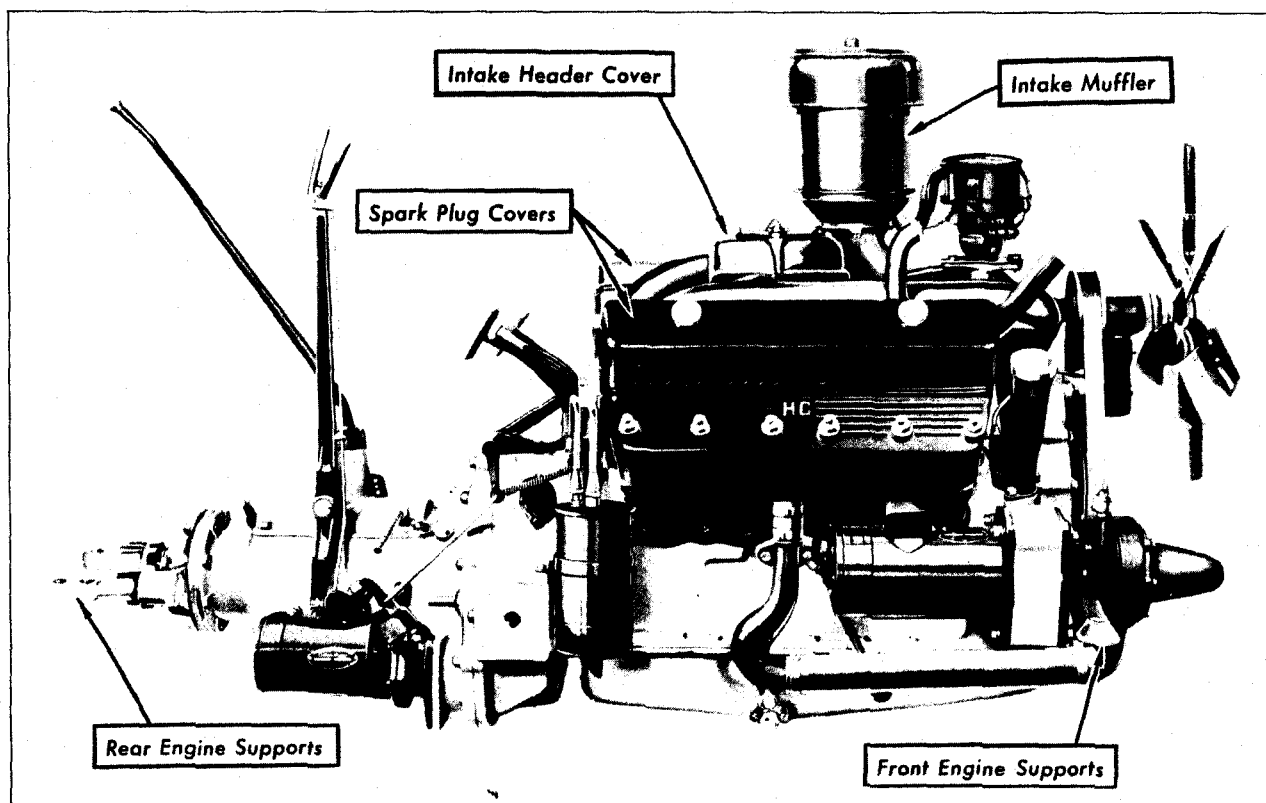


Fig. 12. The Cadillac 355 engine. The La Salle 345 is the same except in appearance and method of mounting.

The engines used on both cars are identical with the exception of appearance and mounting details. The bore is  $3\frac{3}{8}$ " the stroke  $4\frac{15}{16}$ "; the piston displacement 353 cubic inches, and the N.A.C.C. rating 36.45 H.P.

All engine parts except the front covers and fan supports are interchangeable on both cars and on the Cadillac 353.

The La Salle 345 engine is supported at three points in exactly the same manner as on the 353 and 340.

The Cadillac 355 engine has five-point suspension following the manner of the Cadillac V-16, and the same type of rubber insulated supports are used as on the V-16. The front

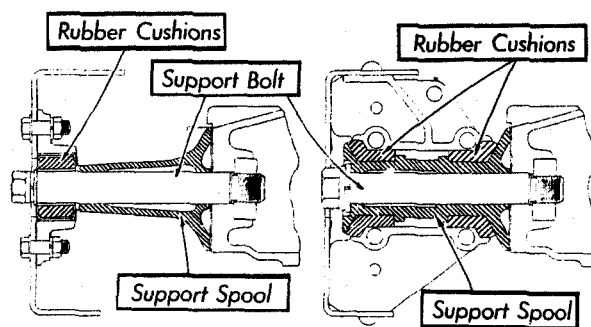


Fig. 13. The 355 engine supports at the flywheel housing are different than on the 345.

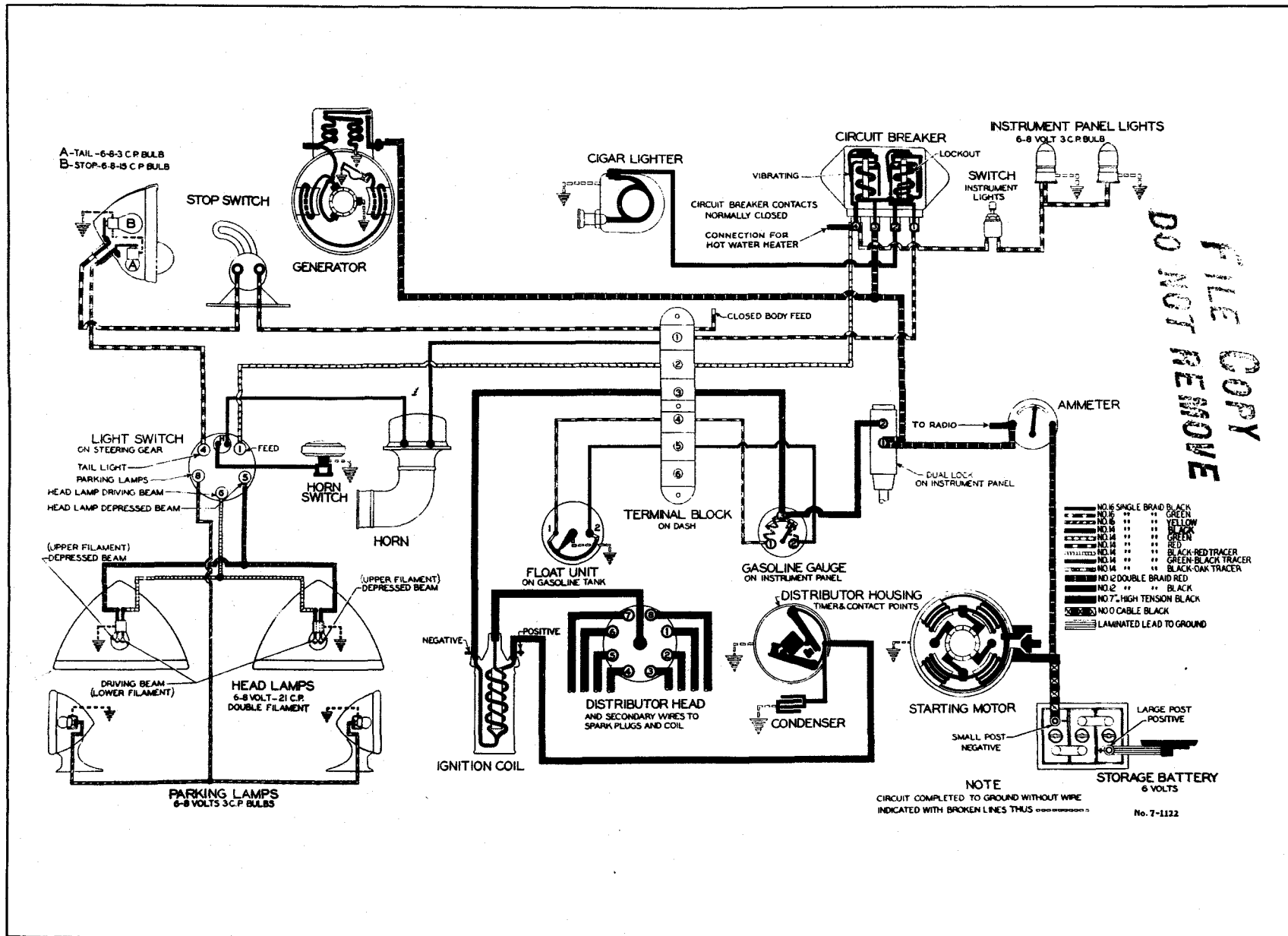


Fig. 14. The La Salle 345 Wiring Diagram. The Cadillac 355 has two horns and two rear lamps, with the terminal block connections the same as on the late V-16 cars.

supports at each side of the timing chain cover differ slightly from the Cadillac V-16. Only one through-bolt is used on each side on the Cadillac 355 instead of two as on the V-16. This bolt passes directly through the center of the supporting cone on the motor support bracket and should be tightened in the same manner as on the V-16, by drawing the nut down until there is no more play in the bolt and then tightening the nut exactly one and one-half turns further before putting the cotter pin in place.

The supports at the sides of the flywheel housing are designed differently than on the V-16, because of the greater width of the 355 frame at this point.

The supports at the rear of the transmission on the Cadillac 355 are identical with those on the Cadillac V-16 and are interchangeable with them.

All other service operations are identical with those on the La Salle 340 and Cadillac 353.

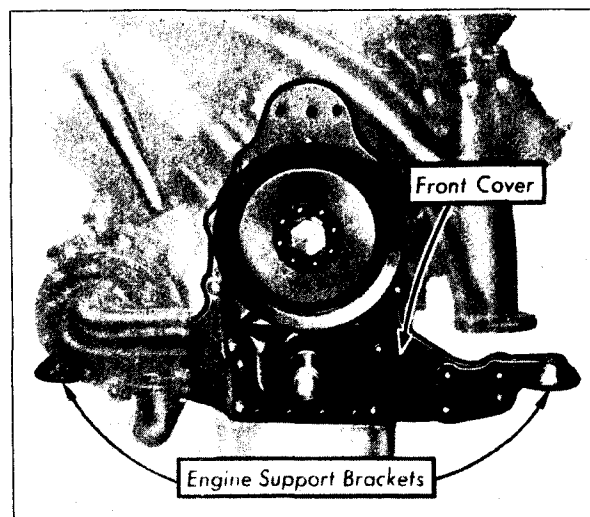


Fig. 15. The Cadillac 355 engine has a new front cover with an engine support bracket on each side similar to the V-16.

## Exhaust System

The exhaust system on both cars is the same, but a new and more effective muffler is used. This muffler has the same dimensions as used on the 340 and 353 and can be used interchangeably

on all four cars.

The heat control valve for the intake manifold is identically the same as on the 340 and 353, and the same service operations apply.

## Frame

The frame on the La Salle 345 is identically the same as the frame used on the La Salle 340. The Cadillac 355, however, has an entirely new frame, especially designed for the five point motor support and the new type of spring sus-

pension now used on this job.

The wheelbase on both models is 134 inches, the same as the La Salle 340. The side bar section on the Cadillac 355 frame is identically the same as the La Salle 340.

## Gasoline System

The gasoline system is the same on both cars and is like that on the 340 except for the use of an intake muffler. The tank on the 345 is exactly the same as the 340 and is interchangeable with it. A new tank of 21 gallons capacity, however, is used on the 355. This tank is not interchangeable with any other.

### Intake Muffler

The intake muffler silences the roar of the intake characteristic at certain engine speeds under open throttle. It is mounted on an elbow attached to the bottom of the auxiliary air intake of the carburetor. From the lowest point on this elbow a duct leads to the primary air intake at the bottom of the carburetor.

This intake muffler operates on an entirely new principle. The silencing is not accomplished by baffle plates, but by means of opposing vibrations set up within the muffler itself.

The accompanying sectional view of the intake muffler shows that there is an unrestricted flow

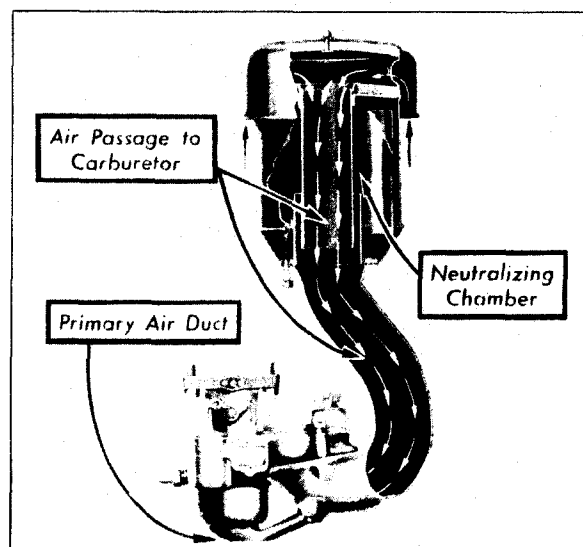


Fig. 16. The intake muffler does not affect the carburetor adjustments. They are made exactly as on the 340 and 353 cars.



of air through the muffler and elbow to the carburetor. The flow of air through the intake manifold is not continuous, however, but is constantly being interrupted by the opening and closing of the intake valves. These interruptions cause vibrations that would develop into a pronounced roar at certain engine speeds under open throttle, were it not for the intake muffler.

The vibrations thus caused set up counter vibrations within the neutralizing or dead-air chamber of the muffler. Through scientific designing of this dead-air chamber, these opposing vibrations are of the exact frequency necessary

to effectively neutralize the vibrations in the inrushing air passing through the carburetor.

The intake muffler requires no attention and the service operations on the rest of the gasoline system are the same as on the 340 and 353.

### Carburetor

The same carburetor is used on both of the new cars. It is fully interchangeable on these models but not with those on the 340 and 353 because of the use of the intake muffler on the later models. The spray nozzle, No. 16, is the same on 340, 345, 353 and 355 models.

## Lighting

The headlamps on the La Salle 345 are the same as on the La Salle 340. Those on the Cadillac 355 are similar in design to those on the Cadillac V-16. The parking lamps on the fenders

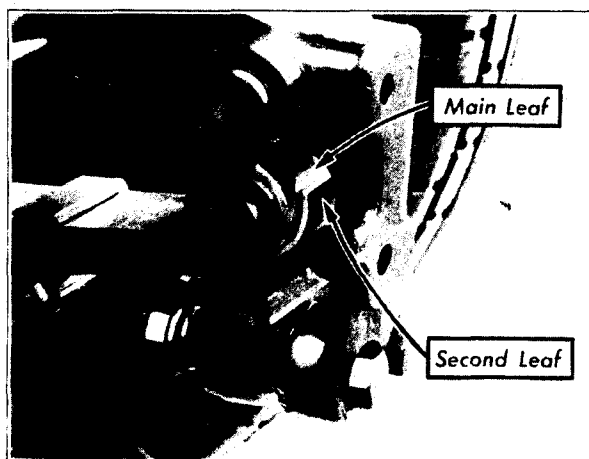
are the same as used on the La Salle 340.

The arrangement of the rear lamps on both cars is the same as in the past although the lamps are entirely new in design.

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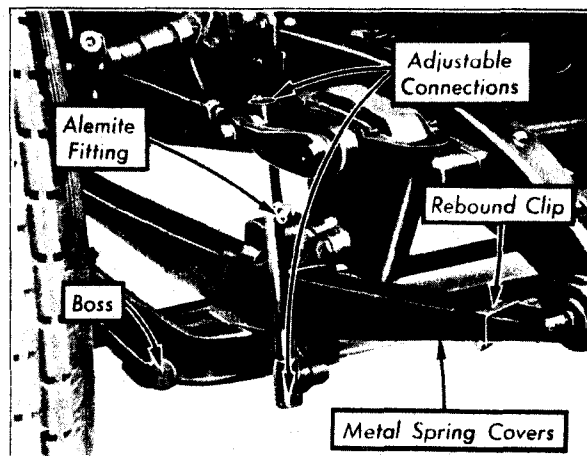
## Springs

The front springs on the new cars are alike, but are not fully interchangeable as rights and lefts. The left-hand front spring on all except a few of the first cars shipped, has the second leaf wrapped about a quarter of a turn around the front eye to give additional support at this point for the steering modulator. The right



**Fig. 17.** The main leaf on the left-hand front spring is reinforced at the front end.

front spring, however, does not have this construction as there is not sufficient clearance at the front outrigger. The right and left springs are, therefore, not interchangeable. The left-hand front springs, however, are interchangeable on the 340, 345 and 355 as are the right-hand front springs.



**Fig. 18.** The 355 shock absorber is attached under the spring clip nuts as shown above. The 345 front axle has the boss drilled for this connection.

The rear springs on the 345 are the same as on the 340, but those on the 355 are different on account of the new frame used on this car. On the Cadillac 355 the rear springs are suspended directly underneath the frame instead of alongside the frame side bars as in former Cadillac practice.

Metal spring covers on the front and rear springs of both models insure permanent lubrication. All the springs are provided with rebound clips, one at each end, to reduce side sway. The rear springs on both cars are underslung as in the past.

## Shock Absorbers

The new type of shock absorber link with adjustable connections and an alemite fitting is used on the 355. On this model the front shock absorber links are attached under the spring clips, as on the V-16 and the rear shock absorbers are mounted on the frame side bar in front of the rear axle instead of behind it. On the 345, however, the front and rear shock absorbers are attached as on the 340.

The metering pin and relief valve equipment on both cars is the same and is listed below.

	Metering Pins	Relief Valves
Front		
Snubber .....	25	E
Bumper .....	27	G
Rear		
Snubber .....	28	G
Bumper .....	32	J

The markings indicating the metering pin and relief valve equipment on the shock absorbers as they leave the factory will be found on the snubber relief valve, as indicated in the accompanying illustration. In explanation of these marks, "1576" denotes the type of shock absorber. The "R" denotes the location on each car as shown in the chart below.

345	355	Location
A	N	R.H. Front
B	P	L.H. Front
K	R	R.H. Rear
J	S	L.H. Rear

The number following this letter indicates the metering pin equipment. The various combina-

tions and the corresponding key numbers are given below.

Key No.	Snubber Pin	Bumper Pin
43	25	27
44	28	32

The last two letters indicate the snubber and relief valves. In each of these instances the snubber designation is given first.

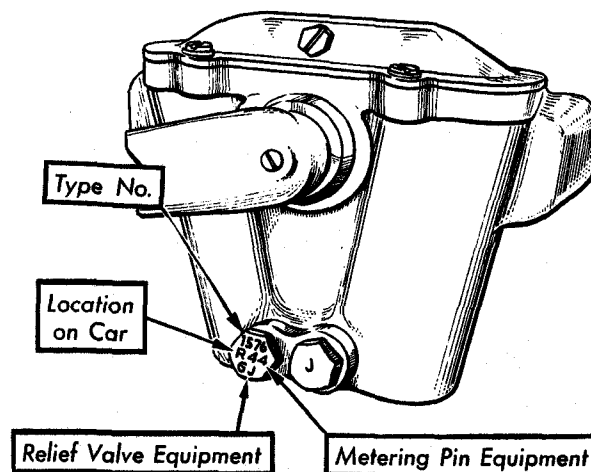


Fig. 19. These markings indicate the metering pin and relief valve equipment when the car was shipped.

On relief valves furnished by the Parts Division, only the marking of that relief valve will be shown. If there is any question about the size of the metering pin or if the original snubber relief valve has been changed, it will be necessary to remove the top cover to determine the metering pin equipment.

## Steering Gear

The steering gear on both cars is identical. It is of the hour-glass worm and sector type like that used on the Cadillac V-16.

On the La Salle 345 the gear is mounted the same as on the 340, with the sector shaft horizontal.

On the Cadillac 355, however, the steering gear is mounted with the sector shaft inclined upward at an angle with the side of the frame to provide sufficient clearance and proper alignment of the steering connecting rod with the steering arms.

The gears are the same except for the different method of mounting. These mounting differences are taken care of by the shape of the mounting flanges on the steering gear support.

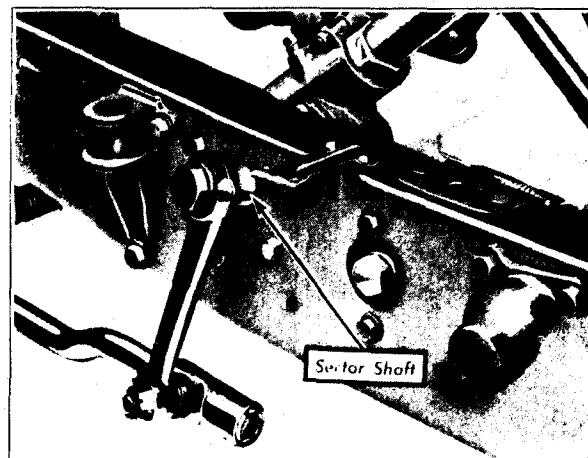


Fig. 20. The 355 steering gear sector shaft is tipped upward at the outer end.

## Adjustments

The adjustments of the steering gear are made in the same manner as on the V-16, excepting for the amount of drag on the steering wheel.

A brief description of the construction of the gear will better enable the service man to make these adjustments correctly.

The two parts of the housing are held together by three studs, a pivot bolt and an eccentric bolt. The holes for the three studs are oversize, permitting the small amount of movement necessary to adjust the sector back-lash. The other two adjustments—worm up-and-down play and sector shaft end-play—are similar to the Cadillac 353.

Before making any of these adjustments, **disconnect the steering connecting rod from the steering gear arm.** Then proceed in the following order:

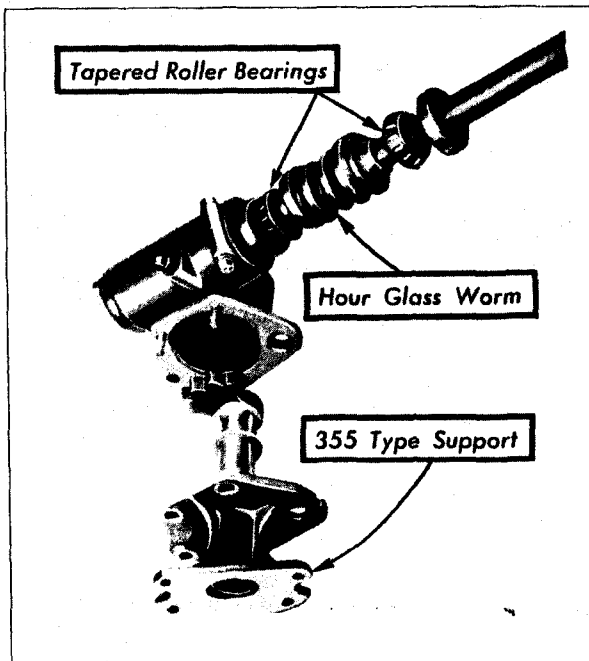


Fig. 21. The steering gear on both cars is the same type as on the V-16, but is not as heavy.

1. With the sector well off the high spot (center position) make sure the sector shaft is free from end-play, but not tight. This rarely requires adjustment after leaving the factory.

2. Turn the steering wheel to the extreme right. Tighten the worm adjusting nut until a pull of one or two pounds at the rim of the steering wheel is necessary to move the wheel toward the left. This pull should be measured with a spring scale attached to the rim of the steering wheel. The spring scale furnished with Tool 119929-T for fitting pistons can be used for this purpose. In making this check, hold the scale as close to the wheel as possible

so that the line of pull will be practically tangent to the wheel. After tightening the clamp bolt, re-check the pull with the spring scale.

If the adjustment is too tight, back it off until the wheel spins free and then tighten it again very carefully to secure proper adjustment.

3. Before disturbing the eccentric adjustment, check with the spring scale at the high point of the sector. If the pull at this point is between four and five pounds, then no further adjustment of the gear is necessary.

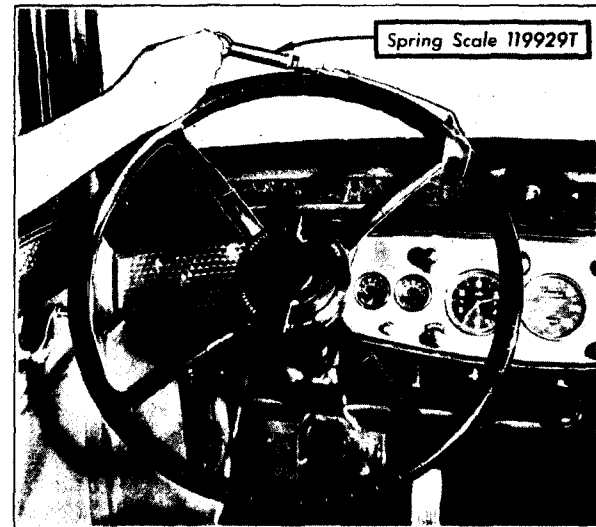


Fig. 22. Check the steering wheel drag carefully. The limits of drag on the new cars are 1 lb. less than on the V-16.

If the pull at the high point of the sector is less than four pounds, the back-lash between the worm and the sector should be reduced. This adjustment is accessible from below after dropping the splash pan.

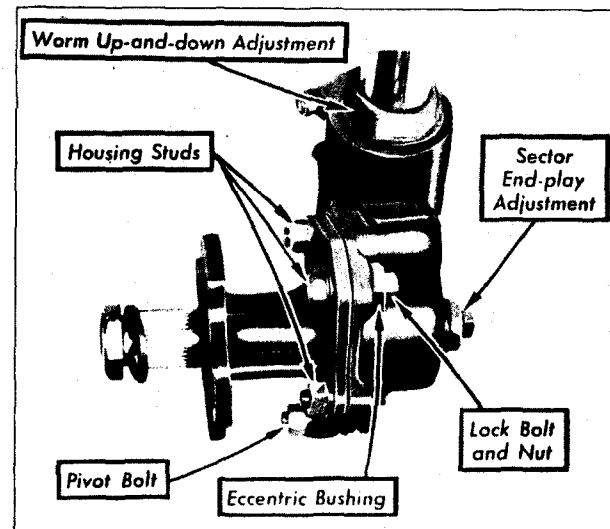


Fig. 23. The adjustments of the steering gear are the same as on the later V-16 type gear.

It is made by means of a split eccentric bushing that is locked by two cones which expand the bushing when drawn together with a bolt and nut.

To make this adjustment, loosen the nuts on the three housing studs not more than one-sixth turn each, and the nut on the bushing clamp bolt one-half turn. **Do not loosen the pivot bolt nut, but make sure that it is drawn up tight.**

As installed at the factory, the eccentric bushing must be turned clockwise (looking from the engine side of the gear) to move the sector toward the worm. The adjustment is correct when a pull of four to five pounds at the rim of the steering wheel is necessary to pull the wheel through the high spot in the center of the sector. In securing this adjustment, always advance the sector toward the worm. If the sector should be moved too far, bring it back and advance it again toward the worm.

Before tightening the nut on the bushing clamp bolt, turn the eccentric back very slightly, not more than one-sixteenth of a turn. After all the stud nuts and lock nuts have been drawn up the adjustment should be carefully checked, to make sure that it remains the same.

The **drag** on the up-and-down adjustment of the worm and the high point of the sector is in each instance about **one pound less than on the Cadillac V-16**. This is on account of the lighter construction of the 345 and 355 gears.

### Steering Connecting Rod

It is important on cars using the hour-glass type steering gear to set the high spot of the sector exactly at the straight ahead position. This adjustment must be made accurately as follows:

Find the exact location of the high spot by noting the point at which the spring scale shows the maximum pull. Mark this point by placing tape at the top center of the wheel.

With the front wheels in the straight ahead position, shorten or lengthen the steering con-

necting rod as necessary so that the steering arm can be installed without moving the steering wheel from the marked position. The standard washers which have been furnished in the steering connecting rod are  $\frac{1}{8}$  inch thick; one of these washers will make a difference of 3 inches measured at the steering wheel rim. In order to permit a finer adjustment than this, washers  $\frac{1}{16}$  inch thick have been released and can be procured on order from the Parts Division under part number 885143.

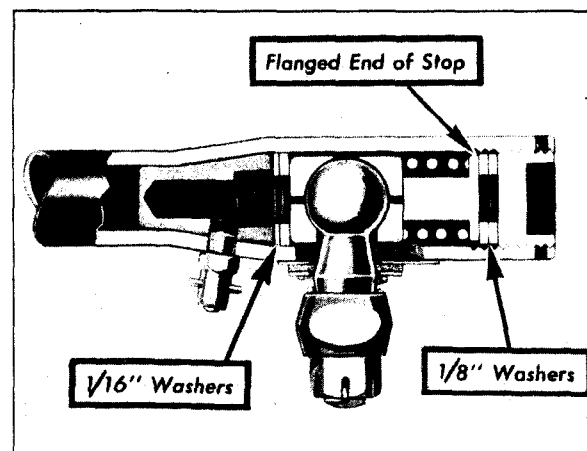


Fig. 24. Be sure to place the washers against the flanged end of the stop as shown when adjusting the length of the steering connecting rod.

It is important when making this adjustment to place the washers in the proper position. The washers should go next to the flanged end of the stop. If they are placed over the small diameter of the stop, they would then have no effect on the length of the rod and would only increase the spring pressure on the seats.

After reconnecting the steering rod, leave the tape on the wheel and road-test the car. With the car moving straight ahead, the tape should not be more than one inch to the right or left of its original position. If necessary, re-arrange the washers in the steering connecting rod.

## Transmission

The same transmission is used on both of the new cars. It is the same type as on the Cadillac 353 and is identical with the Cadillac V-16, with the same gear ratios:

High .....	1	to 1
Intermediate .....	1.5	to 1
Low .....	2.5	to 1
Reverse .....	3.0	to 1

All transmissions shipped by the Parts Division for service on the 345, 355 and V-16 cars will be sent out without the ball-joint socket,

and will thus be interchangeable on all of these models.

The removal of the transmission on the Cadillac 355 is like that on the V-16. The transmission is attached to the crankcase in exactly the same manner as on the 353, but the additional support at the rear of the transmission case must also be disconnected before the transmission can be dropped. When reinstalling the transmission, it is a good plan to loosen the front engine support bolts. This permits the rubber cushions to become properly equalized at all five points of

support. After the through bolts at the rear support have been drawn up tight, the front engine supports should be adjusted as directed in the engine section.

The removal of the transmission on the La Salle 345 is identical with that on the 340 and Cadillac 353.

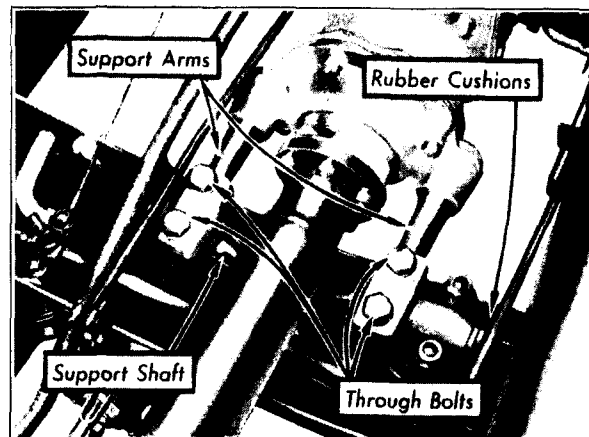
### Speedometer Drive

The same type of speedometer drive is used on both models as on the 340 and 353. The pinions differ, however, and the correct speedometer drive pinion for each gear ratio is given below.

Gear Ratio .....	4.00	4.40	4.50	4.75
Pinion .....	19	20	21	22

These pinions take care of the 6.50 x 19 as well as the 7.00 x 18 tires, as both of these tires

have practically the same overall diameter and rolling radius.



*Fig. 25. The 355 rear engine support as seen from underneath. The through bolts at the rear support on the 355 must be removed before the transmission can be dropped.*

## Wheels

Wood wheels with demountable rims are standard equipment on both of the new cars. Demountable wheels, either wire, disc or demountable wood, are optional equipment at extra charge.

### Tire Sizes

All of the new La Salle 345 cars, excepting the 7-passenger models with demountable wheels, are equipped with 6.50 x 19 tires. This includes

7-passenger cars with standard wood wheels. 7-passenger La Salle cars with demountable wheels either wire, disc or demountable wood are equipped with 7.00 x 18 tires.

On the Cadillac 355 all cars with demountable rims are equipped with 6.50 x 19 tires, while all cars with demountable wheels are equipped with 7.00 x 18 tires.

The correct pressure for these tires is 45 pounds for the front and 40 pounds for the rear, the same as the 340 and 353.

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## ENGINE

	LaSalle 345	Cadillac 355	Cadillac 370	Cadillac 452
Number of Cylinders	8	8	12	16
Valve arrangement	L Head	L Head	Overhead	Overhead
Bore and Stroke	3 $\frac{3}{8}$ " x 4 $\frac{15}{16}$ "	3 $\frac{3}{8}$ " x 4 $\frac{15}{16}$ "	3 $\frac{1}{4}$ " x 4"	3" x 4"
Engine Mounting	Bolts thru rubber	Bolts thru rubber	Bolts thru rubber	Bolts thru rubber
Number of Points of Suspension	3	5	5	5
Make	Own	Own	Own	Own
Cylinder arrangement	90° Vee	90° Vee	45° Vee	45° Vee
Cylinder Bore finish	Honed	Honed	Honed	Honed
Cylinder Head finish	Cast	Cast	Machined	Machined
Number of Cylinders Cast Enbloc	4	4	6	8
Crankcase Integral	No	No	No	No
Crankcase Material, upper half	Silicon-Aluminum	Silicon-Aluminum	Silicon-Aluminum	Silicon-Aluminum
Crankcase Material, lower half	Pressed Steel	Pressed Steel	Pressed Steel	Alloy
Piston Displacement (cu in.)	353	353	368	452
Taxable Horse Power	36.45	36.45	46.9	57.5
Maximum Brake Horse Power at RPM	95 @ 3000	95 @ 3000	135 @ 3400 RPM	165 @ 3400 RPM
Brake Horse Power cu. in. Displacement	.269	.269	.366	.366
Maximum Brake Torque at RPM	225' lbs. @ 1000	225' lbs. @ 1000	250' lbs. @ 1200	300' lbs. @ 1400
Maximum B.M.E.P. at RPM	97 lbs. sq. in. @ 1000	97 lbs. sq. in. @ 1000	102 lbs. sq. in. @ 1200	102 lbs. sq. in. @ 1400

### ENGINE (Continued)

	LaSalle 345	Cadillac 355	Cadillac 370	Cadillac 452
Compression Pressure at RPM	108 lbs. sq. in. @ 1000	108 lbs. sq. in. @ 1000	111 lbs. sq. in. @ 1000	108 lbs. sq. in. @ 1000
Standard Compression Ratio	5.35 to 1	5.35 to 1	5.27 to 1	5.11 to 1
Optional Compression Ratio	5.26 to 1	5.26 to 1	.....	5.36 to 1
Engine Weight dry with Flywheel less Transmission and Clutch all acces- sories in place	700 lbs.	700 lbs.	880 lbs.	1080 lbs.
Extra cost for optional Head	None	None	None available	None

### PISTONS AND RINGS

	Own Molybdenum Cast Iron	Own Molybdenum Cast Iron	Own Molybdenum Cast Iron	Own Molybdenum Cast Iron
Piston Make				
Piston Material				
Piston Weight, ounces (without rings, pin or bushing)	24 oz.	24 oz.	21 $\frac{1}{4}$ oz.	19 $\frac{11}{16}$ oz.
Number of Piston Rings used	4	4	4	4
Is lower Oil Groove drilled radially?	Yes	Yes	Yes	Yes
Number of Oil Rings used per Piston	2	2	1	1
Width of Oil Ring	One $\frac{3}{16}$ " One $\frac{1}{8}$ "	One $\frac{3}{16}$ " One $\frac{1}{8}$ "	$\frac{3}{16}$ "	$\frac{3}{16}$ "
Number of Compression Rings	2	2	3	3
Width of Compression Rings	One $\frac{3}{16}$ " One $\frac{1}{8}$ "	One $\frac{3}{16}$ " One $\frac{1}{8}$ "	One $\frac{3}{16}$ " Two $\frac{1}{8}$ "	One $\frac{3}{16}$ " Two $\frac{1}{8}$ "

### PISTONS AND RINGS (Continued)

	LaSalle 345	Cadillac 355	Cadillac 370	Cadillac 452
Piston Ring make	Perfect circle	Perfect circle	Perfect circle	Perfect circle
Number of Rings above Pin	3	3	3	3

### CONNECTING RODS AND WRIST PINS

	$\frac{7}{8}$ "	$\frac{7}{8}$ "	$\frac{3}{4}$ "	$\frac{3}{4}$ "
Wrist Pin dia.				
Is Wrist Pin locked in Rod or Piston or floating?	Locked in Piston	Locked in Piston	Locked in Piston	Locked in Piston
Wrist Pin locking method	Lock screw	Lock screw	Lock screw	Lock screw
Wrist Pin Hole finish	Diamond	Diamond	Diamond	Diamond
Connecting Rod length, center to center	Bored	Bored	Bored	Bored
Connecting Rod material	10 $\frac{1}{2}$ "	10 $\frac{1}{2}$ "	9 $\frac{1}{4}$ "	9 $\frac{1}{4}$ "
	Dropped	Dropped	Dropped	Dropped
	Forged Chrome	Forged Chrome	Forged Chrome	Forged Chrome
	Molybdenum	Molybdenum	Molybdenum	Molybdenum
	Steel	Steel	Steel	Steel
Connecting Rod Bearing material	Babbitt	Babbitt	Babbitt	Babbitt
Connecting Rod Bearing finish	Diamond	Diamond	Diamond	Diamond
Connecting Rod Bearing type of shim	Bored	Bored	Bored	Bored
Connecting Rod Bearing Poured or Separate Poured	None	None	None	None
Crank Pin Journal diameter and length	Poured	Poured	Poured	Poured
	2 $\frac{3}{8}$ " x 1 $\frac{1}{8}$ "	2 $\frac{3}{8}$ " x 1 $\frac{1}{8}$ "	2 $\frac{1}{2}$ " x 1 $\frac{1}{8}$ "	2 $\frac{1}{2}$ " x 1 $\frac{1}{8}$ "

## CRANKSHAFT

	LaSalle 345	Cadillac 355	Cadillac 370	Cadillac 452
Vibration Dampener used?	No	No	Yes	Yes
Front Flywheel used?	No	No	No	No
Is Crankshaft completely machined?	Yes	Yes	Yes	Yes
Vibration Dampener type	.....	.....	Spring controlled inertia	Spring controlled inertia
Crankshaft Counter Weights used, No. of	4 bolted to shaft	4 bolted to shaft	4 Forged integral	4 Forged integral
Length of Crankshaft to Outer Ends of front and rear Bearings	23 <sup>33</sup> / <sub>64</sub> "	23 <sup>33</sup> / <sub>64</sub> "	31"	39 <sup>3</sup> / <sub>4</sub> "
Which Main Bearing takes thrust?	Rear	Rear	No. 1	Center
Main Bearing material	Babbitt-Bronze backed	Babbitt-Bronze backed	Babbitt Steel backed	Babbitt Steel backed
Main Bearing, No. of	3	3	4	5
Main Bearing, Interchangeable?	Yes	Yes	Yes	Yes
No. 1 Main Bearing dia. and length	2 <sup>3</sup> / <sub>8</sub> " x 1 <sup>1</sup> / <sub>8</sub> "	2 <sup>3</sup> / <sub>8</sub> " x 1 <sup>1</sup> / <sub>8</sub> "	2 <sup>5</sup> / <sub>8</sub> " x 2 <sup>3</sup> / <sub>16</sub> "	2 <sup>5</sup> / <sub>8</sub> " x 2 <sup>3</sup> / <sub>16</sub> "
No. 2 Main Bearing dia. and length	2 <sup>3</sup> / <sub>8</sub> " x 1 <sup>1</sup> / <sub>8</sub> "	2 <sup>3</sup> / <sub>8</sub> " x 1 <sup>1</sup> / <sub>8</sub> "	2 <sup>5</sup> / <sub>8</sub> " x 1 <sup>1</sup> / <sub>2</sub> "	2 <sup>5</sup> / <sub>8</sub> " x 1 <sup>3</sup> / <sub>8</sub> "
No. 3 Main Bearing dia. and length	2 <sup>3</sup> / <sub>8</sub> " x 2 <sup>1</sup> / <sub>8</sub> "	2 <sup>3</sup> / <sub>8</sub> " x 2 <sup>1</sup> / <sub>8</sub> "	2 <sup>5</sup> / <sub>8</sub> " x 1 <sup>1</sup> / <sub>2</sub> "	2 <sup>5</sup> / <sub>8</sub> " x 1 <sup>3</sup> / <sub>8</sub> "
No. 4 Main Bearing dia. and length	.....	.....	2 <sup>5</sup> / <sub>8</sub> " x 3 <sup>3</sup> / <sub>16</sub> "	2 <sup>5</sup> / <sub>8</sub> " x 1 <sup>3</sup> / <sub>8</sub> "
No. 5 Main Bearing dia. and length	.....	.....	.....	2 <sup>5</sup> / <sub>8</sub> " x 3 <sup>3</sup> / <sub>16</sub> "
Crankshaft material	No. 1045 Steel	No. 1045 Steel	No. 1045 Steel	No. 1045 Steel
Crankshaft Weight	68 <sup>1</sup> / <sub>2</sub> lbs.	68 <sup>1</sup> / <sub>2</sub> lbs.	83 <sup>1</sup> / <sub>2</sub> lbs.	130 lbs.

## CAMSHAFT

	LaSalle 345	Cadillac 355	Cadillac 370	Cadillac 452
Camshaft Drive	Chain	Chain	Chain	Chain
Camshaft Bearings, No. of	4	4	4	5
Timing Chain make	Morse	Morse	Morse	Morse
Timing Chain width	1 <sup>1</sup> / <sub>2</sub> "	1 <sup>1</sup> / <sub>2</sub> "	1 <sup>1</sup> / <sub>2</sub> "	1 <sup>1</sup> / <sub>2</sub> "
Timing Chain pitch	1 <sup>1</sup> / <sub>2</sub> "	1 <sup>1</sup> / <sub>2</sub> "	1 <sup>1</sup> / <sub>2</sub> "	1 <sup>1</sup> / <sub>2</sub> "
Timing Chain adjustment	None	None	Automatic	Automatic
Camshaft location	At top of crankcase in center of Vee	At top of crankcase in center of Vee	At top of crankcase in center of Vee	At top of crankcase in center of Vee

## VALVES

	LaSalle 345	Cadillac 355	Cadillac 370	Cadillac 452
Valve Action	Thru roller cam slide follower	Thru roller cam slide follower	Roller cam follower, push rods and rocker arms	Roller cam follower, push rods and rocker arms
Intake Valve make	Thompson-Rich	Thompson-Rich	Thompson-Rich	Thompson-Rich
Exhaust Valve make	Thompson-Rich	Thompson-Rich	Thompson-Rich	Thompson-Rich
Intake Valve material	Tungsten Steel	Tungsten Steel	Silichrome Steel	Silichrome Steel
Exhaust Valve material	Silichrome Steel	Silichrome Steel	Silichrome Steel	Silichrome Steel
Intake Valve clear dia.	1 <sup>1</sup> / <sub>2</sub> "	1 <sup>1</sup> / <sub>2</sub> "	1 <sup>1</sup> / <sub>2</sub> "	1 <sup>1</sup> / <sub>2</sub> "
Exhaust Valve clear dia.	1 <sup>1</sup> / <sub>2</sub> "	1 <sup>1</sup> / <sub>2</sub> "	1 <sup>1</sup> / <sub>2</sub> "	1 <sup>1</sup> / <sub>2</sub> "
Angle of Intake Valve Seat	30°	30°	45°	45°



### VALVES (Continued)

	LaSalle 345	Cadillac 355	Cadillac 370	Cadillac 452
Angle of Exhaust Valve Seat	45°	45°	45°	45°
Valve Stem end style	Split tapered	Split tapered	Split tapered	Split tapered
Valve Lift, Intake and Exhaust	keeper	keeper	keeper	keeper
Are Valve Guides removable?	Yes	Yes	Yes	Yes
Operating Tappet Clearance, Intake at 35 MPH	.006"	.006"	0	0
Operating Tappet Clearance, Exhaust at 35 MPH	.004"	.004"	0	0
Valve Timing Intake Opens	9° BTC	9° BTC	TDC	TDC
Valve Timing Exhaust Opens	46.5° BBC	46.5° BBC	39° BBC	39° BBDC
Valve Timing Intake Closes	58° ABC	58° ABC	44° ABC	44° ABC
Valve Timing Exhaust Closes	7° ATC	7° ATC	5° ATC	5° ATDC

### LUBRICATION

	Pressure	Pressure	Pressure	Pressure
Lubricating System type	Yes	Yes	Yes	Yes
Oil Pressure to Main Bearings?	Yes	Yes	Yes	Yes
Oil Pressure to Connecting Rod Bearings?	Yes	Yes	Yes	Yes
Oil Pressure to Wrist Pins?	Yes	Yes	Yes	Yes
Oil Pressure to Camshaft Bearings	Yes	Yes	Yes	Yes

### LUBRICATION (Continued)

	LaSalle 345	Cadillac 355	Cadillac 370	Cadillac 452
Timing Gear Lubrication	Overflow from pressure regulator	Overflow from pressure regulator	Overflow from pressure regulator	Overflow from pressure regulator
Oil Pump type	Gear	Gear	Gear	Gear
Oil Grade recommended (S.A.E. Visc.)	40-50	40-50	40-50	40-50
Summer	20	20	20	20
Winter	30 lbs. @ 30 MPH	30 lbs. @ 30 MPH	30 lbs. @ 60 MPH	30 lbs. @ 60 MPH
Normal Oil Pressure, lbs. @ MPH	8	8	9	10
Capacity of Oil Reservoir, Qts.	AC	AC	AC	AC
Oil Pressure Gauge make	2000 miles	2000 miles	2000 miles	2000 miles
Change Oil every—	Plug	Plug	Plug	Plug
Type of Oil Drain	Float	Float	Float	Float
Oil Reservoir Gauge type	AC	AC	AC	AC
External Oil Filter make	High pressure	High pressure	High pressure	High pressure
Chassis lubrication type	Alemite	Alemite	Alemite	Alemite
Chassis lubrication make	Yes	Yes	Yes—Thermo-static control	Yes—Thermo-static control
Crankcase Ventilating System				

### FUEL

	Own	Own	Own	Own
Gasoline Tank make	23 Gals.	21-22 Gals.	21-22 Gals.	25 Gals.
Gasoline Tank Capacity, Gallons				

### FUEL (Continued)

	LaSalle 345	Cadillac 355	Cadillac 370	Cadillac 452
Fuel Feed type	Vacuum Tank and Auxiliary Pump	Vacuum Tank and Auxiliary Pump	Vacuum Tank and Auxiliary Pump	Vacuum Tank and Auxiliary Pump
Fuel Feed make	Stewart-Warner Vac. Tank and own Pump	Stewart-Warner Vac. Tank and own Pump	Stewart-Warner Vac. Tank and own Pump	Stewart-Warner Vac. Tank and own Pump
Gasoline Filter make	Own	Own	Own	Own
Carburetor make	2"	2"	2-1 1/2"	2-1 1/2"
Carburetor size	Air valve	Air valve	Air valve	Air valve
Carburetor type	Manifold	Manifold	Exhaust	Exhaust
Intake Mixture heated, how?	Header	Header	hot-spot	hot-spot
Heat adjustment	Automatic	Automatic	None	None
Carburetor Muffler make	AC	AC	AC	None
Exhaust Pipe dia.	2 1/2"	2 1/2"	2 1/2"	2 1/2"
Muffler make	Oldberg	Oldberg	Oldberg	Oldberg
Manifolds: Intake—	2-2 Port Cast Iron 1 1/2"	2-2 Port Cast Iron 1 1/2"	2-1 1/8" 3 Port Cast Aluminum	2-1 1/8" 4 Port Cast Aluminum
Exhaust—	2-4 Port Cast Iron "Y" Connection	2-4 Port Cast Iron "Y" Connection	2-2 Piece 6 Port Cast Iron	2-3 Piece 8 Port Cast Iron

### COOLING

Cooling Circulation, type	Pump Centrifugal	Pump Centrifugal	Pump Centrifugal	Pump Centrifugal
Water Pump type				

### COOLING (Continued)

	LaSalle 345	Cadillac 355	Cadillac 370	Cadillac 452
Water Pump Drive	Chain	Chain	Chain	Chain
Radiator Shutter make	Own	Own	Own	Own
Radiator Shutter Control	Thermostatic	Thermostatic	Thermostatic	Automatic
Radiator Core type	Cellular	Cellular	Cellular	Cellular
Radiator Core make	Harrison	Harrison	Harrison	Harrison
Cooling System Capacity, Gallons	6 Gals.	6 Gals.	6 1/2 Gals.	7 Gals.
Fan make	Own—Six Blades	Own—Six Blades	Own—Six Blades	Own—Six Blades
Fan dia.	21"	21"	21"	21"

### IGNITION

Ignition Unit make	Delco Remy	Delco Remy	Delco Remy	Delco Remy
Ignition Coil make	Delco Remy	Delco Remy	Delco Remy	Delco Remy
Distributor, Manual Advance	19°	19°	14°	9°
Distributor, Automatic Advance	28°	28°	30°	32°
Distributor Breaker Gap	.018-.022	.018-.022	.018-.024	.015-.020
Distributor Number of Contact Arms	Two—4 lobe Cam	Two—4 lobe Cam	Two—6 lobe Cam	Two—8 lobe Cam
Spark Plug Thread	18 mm Metric	18 mm Metric	18 mm Metric	18 mm Metric
Spark Plug make	Type G 10 AC	Type G 10 AC	Type G 10 AC	Type G 10 AC
Spark Plug Gap	.025-.028	.025-.028	.025-.028	.025-.028

## BATTERY

	LaSalle 345	Cadillac 355	Cadillac 370	Cadillac 452
Battery make	Delco	Delco	Exide	Exide
Battery Capacity, Ampere Hours	120	120	130	130
Battery Voltage	6	6	6	6
Battery, which Terminal is Grounded	Positive	Positive	Positive	Positive
Battery Case	Moulded composition	Moulded composition	Moulded composition	Moulded composition
Battery location	Under Rt. Fr. Seat	Under Rt. Fr. Seat	In Rt. Fr. Fender	In Rt. Dust Shield

## LAMPS

Candle Power of Headlights	21 Mazda	21 Mazda	21 Mazda	21 Mazda
Candle Power of Fender lights	3 Mazda	3 Mazda	3 Mazda	3 Mazda
Candle Power of Tail lights	3 Mazda	3 Mazda	3 Mazda	3 Mazda
Candle Power of Stop lights	15 Mazda	15 Mazda	15 Mazda	15 Mazda
Candle Power of Dash lights	3 Mazda	3 Mazda	3 Mazda	3 Mazda
No. of Tail lights	1	2	2	2
No. of Stop lights	1	2	2	2
Are double Filament Bulbs used?	Yes	Yes	Yes	Yes
How are headlights dimmed?	Depressed beam	Depressed beam	Depressed beam	Depressed beam
Headlight reflector type	Parabolic	Parabolic	Parabolic	Parabolic

## LAMPS (Continued)

	LaSalle 345	Cadillac 355	Cadillac 370	Cadillac 452
Are Tail and Dash lights in Series?	No	No	No	No
Horn type	Vibrator	Vibrator	Vibrator	Vibrator
Horn make	Delco Remy	Delco Remy	Delco Remy	Delco Remy
No. of Horns used	1	2	2	2

## GENERATOR

Generator make	Delco Remy (2 Pole)	Delco Remy (2 Pole)	Delco Remy (2 Pole)	Delco Remy (2 Pole)
Generator Driven by	Front end Chain	Front end Chain	Front end Chain	Front end Chain
Generator Voltage Regulation, type of	3rd brush	3rd brush	3rd brush	3rd brush
Generator Thermostat Opening temperature	175°	175°	175°	175°
Cutout Relay make	Delco Remy	Delco Remy	Delco Remy	Delco Remy
Voltage at Cutout closing	7.5 amps. approx.	7.5 amps. approx.	7.5 amps. approx.	7.5 amps. approx.
Car speed at Cutout closing	8 to 10 MPH	8 to 10 MPH	8 to 10 MPH	8 to 10 MPH
Generator Maximum Normal Charging Rate, Cold	18 amps.	18 amps.	18 amps.	18 amps.
Car speed for Maximum Normal Charging	19 MPH	19 MPH	28 MPH	30 MPH
Voltage at Maximum Normal Charging	7.3-7.7 Volts	7.3-7.7 Volts	7.3-7.7 Volts	7.3-7.7 Volts
Ratio of Generator RPM to Engine RPM	1½ to 1	1½ to 1	1½ to 1	1½ to 1
Ammeter make	AC	AC	AC	AC

## STARTING MOTOR

	LaSalle 345	Cadillac 355	Cadillac 370	Cadillac 452
Starting Motor make	Delco Remy (4 Pole)	Delco Remy (4 Pole)	Delco Remy (6 Pole)	Delco Remy (6 Pole)
Starting Motor type of drive	Overrunning Clutch	Overrunning Clutch	Overrunning Clutch	Overrunning Clutch
Flywheel Teeth integral, or Steel Ring	Steel Ring	Steel Ring	Steel Ring	Steel Ring
Gear Ratio between Starter Armature and Flywheel	25 to 1 approx.	25 to 1 approx.	25 to 1 approx.	25 to 1 approx.
Normal Engine Cranking speed, RPM	90-100 RPM	90-100 RPM	80 RPM	75 RPM

## CLUTCH

Clutch make	Own	Own	Own	Own
Clutch type	2 Plate	2 Plate	2 Plate	2 Plate
Clutch vibration installation or neu- tralizer	None	None	None	None
Number of Clutch Driving Discs	3	3	3	3
Number of Clutch Driven Discs	2	2	2	2
Clutch operates in Oil or Dry	Dry	Dry	Dry	Dry
Clutch Facing inside dia.	7"	7"	7"	7"
Clutch Facing outside dia.	10"	10"	10"	10"
No. of Clutch Facings required	4	4	4	4
Total Area of Clutch Facing	226.20 sq. in.	226.20 sq. in.	226.20 sq. in.	226.20 sq. in.

## CLUTCH (Continued)

	LaSalle 345	Cadillac 355	Cadillac 370	Cadillac 452
Is Clutch adjustable?	No	No	No	No
Is Clutch Brake fitted?	No	No	No	No

## TRANSMISSION

Transmission make	Own	Own	Own	Own
Transmission location	Unit power plant	Unit power plant	Unit power plant	Unit power plant
Number of forward speeds	3	3	3	3
Gear Ratio in high, standard 5-Pass. 4-Door Sedan	4.54	4.54	4.54	4.39
Transmission, ratio in second	1.5 to 1	1.5 to 1	1.5 to 1	1.5 to 1
Transmission, ratio in low	2.5 to 1	2.5 to 1	2.5 to 1	2.5 to 1
Transmission, ratio in reverse	3.0 to 1	3.0 to 1	3.0 to 1	3.0 to 1
Transmission Oil Capacity pounds or quarts	3 qts.	3 qts.	3 qts.	3 qts.
Torque taken through	Torque tube and radius rods	Torque tube and radius rods	Torque tube and radius rods	Torque tube and radius rods
Drive taken through	Torque tube	Torque tube	Torque tube	Torque tube

## REAR AXLE

Rear Axle make	Own	Own	Own	Own
Rear Axle type	$\frac{3}{4}$ Floating	$\frac{3}{4}$ Floating	$\frac{3}{4}$ Floating	$\frac{3}{4}$ Floating

### REAR AXLE (Continued)

	LaSalle 345	Cadillac 355	Cadillac 370	Cadillac 452
Minimum road clearance under center of axle—tires inflated	7 <sup>3</sup> / <sub>16</sub> "	7 <sup>3</sup> / <sub>16</sub> "	7 <sup>3</sup> / <sub>16</sub> "	8 <sup>3</sup> / <sub>8</sub> "
Rear Axle Oil capacity, pounds or quarts	3 qts.	3 qts.	3 qts.	3 qts.
Type of final Gearing	Spiral bevel	Spiral bevel	Spiral bevel	Spiral bevel
Gear ratio standard 5-Pass. 4-Door Sedan	4.54	4.54	4.54	4.39
Optional Gear ratios	4.07 and 4.91	4.07 and 4.91	4.07 and 4.91	4.07 and 4.75
How is Pinion adjusted	Shims	Shims	Shims	Shims
Wheels, type, std.	Artillery	Artillery	Artillery	Artillery
Wheels, type, optional	Wire, Disc, Demountable Wood	Wire, Disc, Demountable Wood	Wire, Disc, Demountable Wood	Wire, Disc, Demountable Wood
Rim dia, std.	19"	19"	19"	19"
Rim width, std.	5"	5"	5"	5"
Rim width, wire wheels only	5"	5"	6"	6"
Tire make	U.S.	U.S., Firestone, Goodyear	U.S., Firestone, Goodyear	U.S., Firestone, Goodyear
Tire Size, std.	6.50 x 19	6.50 x 19	7.00 x 19	7.50 x 19
Tire Size, optional wheel equipment	6.50 x 19 except on seven passenger closed cars which take 7.00 x 18	7.00 x 18	7.50 x 18	7.50 x 19

### REAR AXLE (Continued)

	LaSalle 345	Cadillac 355	Cadillac 370	Cadillac 452
No. of Plies in Tire	6	6	6	6
Front Tire inflation pressure	45 lbs.	45 lbs.	45 lbs.	45 lbs.
Rear Tire inflation pressure	40 lbs.	40 lbs.	40 lbs.	40 lbs.

### SPRINGS

	Semi-elliptic	Semi-elliptic	Semi-elliptic	Semi-elliptic
Front Spring type	38"	38"	40"	42"
Front Spring length	2"	2"	2 <sup>1</sup> / <sub>4</sub> "	2 <sup>1</sup> / <sub>4</sub> "
Front Spring width				
Front Spring number of leaves, 5-Pass. Sedan	9	9	9	10
Front Spring shackled front or rear	Rear	Rear	Rear	Rear
Rear Spring type	Semi-elliptic	Semi-elliptic	Semi-elliptic	Semi-elliptic
Rear Spring length	58"	58"	58"	60"
Rear Spring width	2"	2"	2 <sup>1</sup> / <sub>4</sub> "	2 <sup>1</sup> / <sub>2</sub> "
Rear Spring number of leaves 5-Pass. Sedan	11	11	11	10
Spring Leaves lubricated with	Graphite & Grease	Graphite & Grease	Graphite & Grease	Graphite & Grease
Spring Shackles (rear) type	Compression	Compression	Compression	Tension
Spring Shackles make	Own	Own	Own	Own
Spring Cover, type—(make)	Metal (Anderson)	Metal (Anderson)	Metal (Anderson)	Metal (Anderson)

## STEERING

	LaSalle 345	Cadillac 355	Cadillac 370	Cadillac 452
Steering Wheel, dia.	18"	18"	19"	19"
Steering Gear, type	Hour Glass Worm & Sector	Hour Glass Worm & Sector	Hour Glass Worm & Sector	Hour Glass Worm & Sector
Steering Gear Ratio	17 to 1	17 to 1	17 to 1	17 to 1
Car turning dia., tire wall, right	48' 9"	51' 9"	53' 8"	55'
left	44' 6"	46' 6"	53' 3"	54' 5"
Car turning dia., fender sweep, right	50' 9"	53' 8"	56' 1"	56' 2"
left	46' 6"	48' 8"	55' 8"	55' 7"
Castor Angle	1 1/4°	1 1/2°	2 1/4°—3 1/2°	2 1/4°
Camber Angle	1 1/2°	1 1/2°	1 1/2°	1 1/2°
Toe In	3/4"	3/4"	3/4"	3/4"
Front Axle make	Own	Own	Own	Own
Front Axle section type	I-Beam	I-Beam	I-Beam	I-Beam
Front Axle end type	Reverse Elliot	Reverse Elliot	Reverse Elliot	Reverse Elliot

## BRAKES

Foot Brakes make	Own	Own	Own	Own
Number of complete Brakes	4	4	4	4
Foot Brake, type of mechanism	Internal articulated shoe Mechanical	Internal articulated shoe Mechanical	Internal articulated shoe Mechanical with Vacuum assister	Internal articulated shoe Mechanical with Vacuum assister
Foot Brake, method of application				

## BRAKES (Continued)

	LaSalle 345	Cadillac 355	Cadillac 370	Cadillac 452
Location of Service Brakes	Front & Rear	Front & Rear	Front & Rear	Front & Rear
Brake Lining make	Hycoc Semi-moulded	Hycoc Semi-moulded	Hycoc Semi-moulded	Hycoc Semi-moulded
Rear Brake Drum dia.	15"	15"	15"	16 1/2"
Rear Brake, internal or external	Internal	Internal	Internal	Internal
Rear Brake Lining width	2"	2"	2"	2 1/4"
Front Brake Drum dia.	15"	15"	15"	16 1/2"
Front Brake, internal or external	Internal	Internal	Internal	Internal
Front Brake Lining width	2"	2"	2"	2 1/4"
Per cent Braking power on Rear Wheels	50%	50%	50%	50%
Hand Brake location	Rear	Rear	Rear	Rear
Hand Brake	Rear Service	Rear Service	Rear Service	Rear Service

## FRAME

Frame material	Carbon Steel	Carbon Steel	Carbon Steel	Carbon Steel
Frame depth	8"	8"	8"	9"
Frame thickness	5/8"	5/8"	5/8"	5/8"
Frame Flange width	3 1/4" at Top— 2 1/4" at bottom	3 1/4" at Top— 2 1/4" at bottom	3 1/4" at Top— 2 1/4" at bottom	3 1/4" at Top— 2 1/4" at bottom
Wheelbase	134"	134"	140"—143"	148"

# **FRAME (Continued)**

	LaSalle 345	Cadillac 355	Cadillac 370	Cadillac 452
Tread, front	57 $\frac{1}{4}$ "	57 $\frac{1}{4}$ "	57 $\frac{1}{4}$ "	57 $\frac{1}{4}$ "
Tread, rear	59 $\frac{1}{2}$ "	59 $\frac{1}{2}$ "	59 $\frac{1}{2}$ "	59 $\frac{1}{2}$ "
Overall length of car with Bumpers and Spare Tires in Fenderwells	202 $\frac{21}{16}$ " 203 $\frac{15}{16}$ " with rear tire carrier	202 $\frac{21}{16}$ " 203 $\frac{15}{16}$ " with rear tire carrier	210"—213" 215 $\frac{1}{2}$ "—218 $\frac{1}{2}$ " with fenderwells and trunk rack	219 $\frac{3}{4}$ " approx. 222 $\frac{1}{2}$ " with rear tire carrier

## La Salle V-8, Series 345

(134-inch Wheelbase)

Style	List	Delivered
2-Passenger Coupe.....	\$2195.00	_____
2-Passenger Roadster.....	2245.00	_____
2-Passenger Convertible Coupe...	2295.00	_____
5-Passenger Coupe.....	2295.00	_____
5-Passenger Sedan.....	2295.00	_____
5-Passenger Town Sedan.....	2345.00	_____
7-Passenger Touring.....	2345.00	_____
7-Passenger Sedan.....	2475.00	_____
7-Passenger Imperial.....	2595.00	_____
5-Passenger Sedanet.....	3245.00	_____
5-Passenger Sedanet Cabriolet....	3245.00	_____
5-Passenger All-Weather Phaeton.	3245.00	_____
Chassis 134-inch Wheelbase.....	1900.00	_____

Standard wheel equipment: Wood; tire size 6.50 x 19.

### Extras

5 Wire wheels.....	\$ 60.00
6 Wire wheels, fender wells, 2 spare tires and trunk rack.....	190.00
5 Demountable wood wheels.....	50.00
6 Demountable wood wheels, fender wells, 2 spare tires and trunk rack.....	190.00
5 Disc wheels.....	50.00
6 Disc wheels, fender wells, 2 spare tires and trunk rack.....	190.00

Above extra equipment carries 6.50 x 19 tires except La Salle 7-Passenger Touring, 7-Passenger Sedan and Imperial. For La Salle 7-Passenger Touring, 7-Passenger Sedan and Imperial use Cadillac V-8 extra equipment prices and tire sizes. Black side wall tires.

## Cadillac V-8, Series 355

(134-inch Wheelbase)

Style	List	Delivered
2-Passenger Coupe.....	\$2695.00	_____
5-Passenger Coupe.....	2795.00	_____
5-Passenger Sedan.....	2795.00	_____
2-Passenger Roadster.....	2845.00	_____
5-Passenger Town Sedan.....	2845.00	_____
2-Passenger Convertible Coupe...	2945.00	_____
5-Passenger Phaeton.....	2945.00	_____
7-Passenger Sedan.....	2945.00	_____
7-Passenger Imperial.....	3095.00	_____
5-Passenger All-Weather Phaeton.	3795.00	_____
Chassis 134-inch Wheelbase.....	2000.00	_____
Chassis 152-inch Wheelbase.....	2200.00	_____

Standard wheel equipment: Wood; tire size 6.50 x 19.

### Extras

5 Wire wheels.....	\$ 70.00
6 Wire wheels, fender wells, 2 spare tires and trunk rack.....	210.00
5 Demountable wood wheels.....	50.00
6 Demountable wood wheels, fender wells, 2 spare tires and trunk rack.....	190.00
5 Disc wheels.....	50.00
6 Disc wheels, fender wells, 2 spare tires and trunk rack.....	190.00

Above extra equipment carries 7.00 x 18 tires. Black side wall tires.

## Cadillac V-12, Series 370

(140—143-inch Wheelbase)

Style	List	Delivered
2-Passenger Coupe.....	\$3795.00	_____
5-Passenger Coupe.....	3895.00	_____
5-Passenger Sedan.....	3895.00	_____
2-Passenger Roadster.....	3945.00	_____
5-Passenger Town Sedan.....	3945.00	_____
5-Passenger Phaeton.....	4045.00	_____
2-Passenger Convertible Coupe...	4045.00	_____
7-Passenger Sedan.....	4195.00	_____
7-Passenger Imperial.....	4345.00	_____
5-Passenger All-Weather Phaeton.	4895.00	_____
Chassis 140-inch Wheelbase.....	3100.00	_____
Chassis 143-inch Wheelbase.....	3200.00	_____

Interiors all body styles by Fleetwood.

Standard wheel equipment: Wood; tire size 7.00 x 19. Black side wall tires.

### Extras

5 Wire wheels.....	\$ 70.00
6 Wire wheels, fender wells, 2 spare tires and trunk rack.....	240.00
5 Demountable wood wheels.....	50.00
6 Demountable wood wheels, fender wells, 2 spare tires and trunk rack.....	230.00

Above extra equipment carries 7.50 x 18 tires, white side wall, with black side wall tires optional.



## Cadillac V-16, Series 452

(148-inch Wheelbase)

### Fleetwood Custom Bodies

Style No.	List	Delivered
4302 2-Passenger Roadster . . . . .	\$5350.00	_____
4260 5-Passenger Phaeton . . . . .	6500.00	_____
4380 All-Weather Phaeton . . . . .	5750.00	_____
4476 2-Passenger Coupe . . . . .	5800.00	_____
4276 2-Passenger Coupe . . . . .	6850.00	_____
4381 5-Passenger Coupe . . . . .	5950.00	_____
4235 2-Passenger Convertible Coupe . . . . .	6900.00	_____
4361-S 5-Passenger Club Sedan . . . . .	5950.00	_____
4161-S 5-Passenger Club Sedan . . . . .	6950.00	_____
4330-S 5-Passenger Sedan . . . . .	5950.00	_____
4330 5-Passenger Imperial (opera seats) . . . . .	6300.00	_____
4130-S 5-Passenger Sedan . . . . .	6950.00	_____
4130 5-Passenger Imperial (opera seats) . . . . .	7300.00	_____
4355-S 5-Passenger Sedan Cabriolet	6125.00	_____
4355 5-Passenger Imperial Cabriolet (opera seats) . . . . .	6350.00	_____
4155-S 5-Passenger Sedan Cabriolet	7125.00	_____
4155 5-Passenger Imperial Cabriolet (opera seats) . . . . .	7350.00	_____
4375-S 7-Passenger Sedan (FF aux. seats) . . . . .	6225.00	_____
4375 7-Passenger Imperial (FF aux. seats) . . . . .	6525.00	_____
4175-S 7-Passenger Sedan (FF aux. seats) . . . . .	7225.00	_____

## Cadillac V-16—Continued

Style No.	List	Delivered
4175 7-Passenger Imperial (FF aux. seats) . . . . .	\$7525.00	_____
4312 Town Cabriolet (opera seats)	6525.00	_____
4212 Town Cabriolet (opera seats)	8750.00	_____
4320 Town Cabriolet (quar. win- dows)—(FF aux. seats) . . . . .	6525.00	_____
4220 Town Cabriolet (quar. win- dows)—(FF aux. seats) . . . . .	8750.00	_____
4325 Town Cabriolet (full leather quar.)—(FF aux. seats) . . . . .	6525.00	_____
4225 Town Cabriolet (full leather quar.)—(FF aux. seats) . . . . .	8750.00	_____
4391 Limousine Brougham (FF aux. seats) . . . . .	6525.00	_____
4291 Limousine Brougham (FF aux. seats) . . . . .	8750.00	_____
4264 Town Brougham (opera seats) . . . . .	9200.00	_____
4264-B Town Brougham (special cane work) . . . . .	9700.00	_____

Standard wheel equipment: Wood; tire size 7.50 x 19.  
White side wall tires standard.

### Extras

5 Wire wheels . . . . .	\$ 70.00
6 Wire wheels, fender wells, 2 spare tires and trunk rack . . . . .	300.00
5 Demountable wood wheels . . . . .	50.00
6 Demountable wood wheels, fender wells, 2 spare tires and trunk rack . . . . .	280.00
5 Disc wheels . . . . .	50.00
6 Disc wheels, fender wells, 2 spare tires and trunk rack . . . . .	280.00

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## PRICE LIST

La Salle V-8  
Cadillac V-8  
Cadillac V-12  
Cadillac V-16



October 15, 1930

All prices f.o.b. Detroit

Subject to change without notice

**CADILLAC MOTOR CAR COMPANY**

Detroit, Michigan, U.S.A.

All fenders and chassis black.

In addition, Fleetwood bodies in a variety of rich colors, lighter in shade, will be brought through periodically for stock. Bulletins will announce these.

Colors available on open types, All-Weather types, and Sedanette types will be announced periodically.

### UPHOLSTERY

**E**IGHT rich exclusive Fleetwood Doeskin Suede broadcloths by Wiese in subdued colorings harmonizing with any exterior color.

#### *Exclusive Fleetwood Wiese broadcloths:*

Weise 2969	- - - - -	- Green Gray
Weise 2970	- - - - -	- Maroon Taupe
Weise 2971	- - - - -	- Tan
Weise 2972	- - - - -	- Silver Gray
Weise 2973	- - - - -	- Blue Gray
Weise 2994	- - - - -	- Tan Taupe
Wiese 3288	- - - - -	- Dark Gray
Wiese 3363	- - - - -	- Dark Taupe

Optional in all enclosed drive and transformable types.

Three special Venetian mohairs of short nap.

#### *Exclusive Fleetwood Venetian mohairs:*

108-T	- - - - -	- Green
109-T	- - - - -	- Gray
110-T	- - - - -	- Taupe

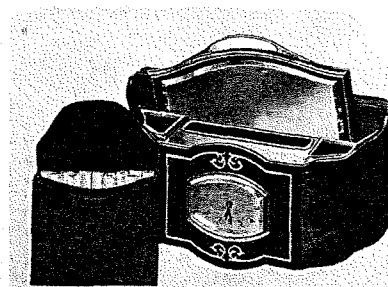
Optional in all enclosed drive and transformable types.

The first two blend well with complementary body colors, Taupe, because of its neutral shade, going well with any color.

Fifteen special exclusive Fleetwood Aero leathers by Radel. These are lightweight, soft, pliable, and luxurious, four being specified for stock with the balance optional without extra charge, with a reasonable added time allowance.

#### *Special Radel Aero leathers:*

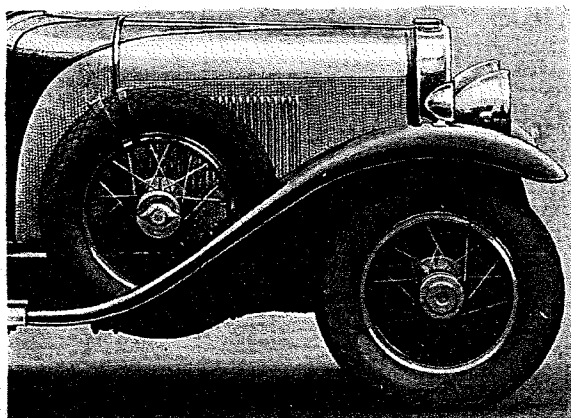
5885	- - - - -	- Silver Gray
451	- - - - -	- Pearl Gray
2646	- - - - -	- Blue Gray
5897	- - - - -	- Green Blue
68	- - - - -	- Blue (Standard)
6016	- - - - -	- Dark Blue
9205	- - - - -	- Deep Maroon
5875	- - - - -	- Rich Maroon
4339	- - - - -	- Green (Standard)



Vanity cases are designed exclusively for Fleetwood bodies and contain 8-day clock, mirror, leather cigarette case, and two ash receivers

6019	- - - - -	Soft Green
6012	- - - - -	Dark Green
9128	- - - - -	Light Brown
9131	- - - - -	Dark Brown
743	- - - - -	Tan (Standard)
2645	- - - - -	Black (Standard)

Optional in All-Weather Phaeton, Sedanette, and open types.



This picture shows a hood with damaskeen finish, a unique and attractive treatment

Six weatherproof Bedford cords by Wiese. The corded fabrics are used for seats with plain material to match for head linings. The waterproof feature of these materials makes them especially desirable for All-Weather types.

*Special waterproof Wiese Bedford cords:*

Wiese 2659-F, 2759-F	- - - - -	Green Gray
Wiese 2661-F, 2761-F	- - - - -	Brown Gray

Wiese 2662-F, 2762-F	- - - - -	Gray
Wiese 2663-F, 2763-F	- - - - -	Blue Gray
Wiese 2665-F, 2765-F	- - - - -	Maroon Taupe
Wiese 2666-F, 2766-F	- - - - -	Tan Taupe

Optional in All-Weather Phaeton and Sedanette types.

With the wide variety offered in the regular exclusive Fleetwood upholstery materials, we recommend that cloths be selected from Wiese collection No. 61 *only when absolutely necessary*, as there will be delays involved in securing curtains and other trimming materials to match. These delays are avoided in the case of the regular Fleetwood materials.

*Enclosed drive types and transformable types.*

Eight exclusive Fleetwood Wiese broadcloths—optional.

Three exclusive Venetian mohairs—optional.

Any material in current Wiese Collection No. 61—optional.

*All-Weather and Sedanette types:*

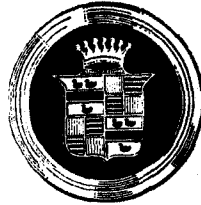
Fifteen Fleetwood Radel Aero leathers—optional.

Six weatherproof Fleetwood Wiese Bedford cords—optional.

*Open types:*

Fifteen Fleetwood Radel Aero leathers—optional.

(In the case of All-Weather Phaetons, Sedanettes, and open types, four of the exclusive Fleetwood Radel Aero leathers in the sample book will be specified for stock. The balance are optional with reasonable added time allowance.)

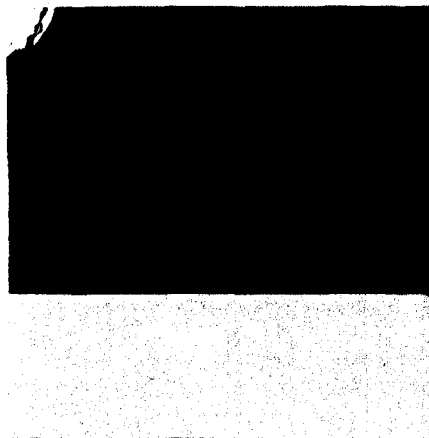


Series 355--V-8  
Color  
Combinations

MAY  
1931

CADILLAC MOTOR CAR COMPANY

MADE IN DETROIT, U. S. A.

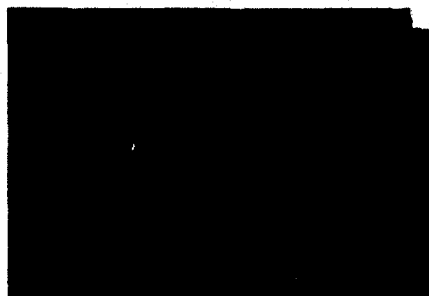


Lower Panels—Maxfield Parish  
Blue, Duco 2466772.

Mouldings, Fenders, Chassis—  
Maxfield Parrish Blue Deep,  
Duco 2466774

Stripe, Door Saddle—Tokio  
Ivory R-M 20722.

**\*Combination 29**



Rear Quarters, Upper Panels,  
Mouldings—Black.  
Lower Panels, Window Reveals  
—Garnet Maroon, R-M  
20661.

Door Saddle—Cerise Red, Duco  
2446031.

Stripe—Gold Bronze.

**Combination 30**



Rear Quarters, Upper Panels,  
Mouldings, Fenders, Chassis  
—Ravenswood Brown, R-M  
28845.

Lower Panels, Window Reveals  
—Saxon Gray, R-M 21160.

Door Saddle—Indiana Gray,  
R-M 20157.

Stripe—Tokio Ivory, R-M  
20722.

**Combination 31**

# Cadillac V-8.

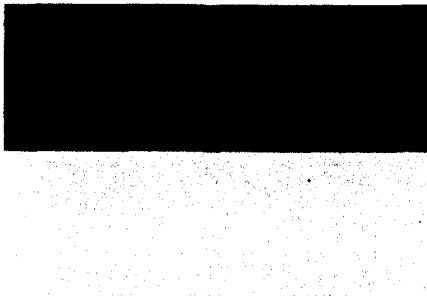
## Series 355--V-8 Optional Colors



Rear Quarters, Upper Panels,  
Mouldings—Black.  
Lower Panels, Window Reveals  
—Highland Green, R-M  
20338.

Door Saddle—Chantilly Green,  
Duco 2464628.  
Stripe—Tokio Ivory, R-M  
20722.

Combination 32



Entire Body—Black.

Stripe, Door Saddle—Tokio  
Ivory, R-M 20722.

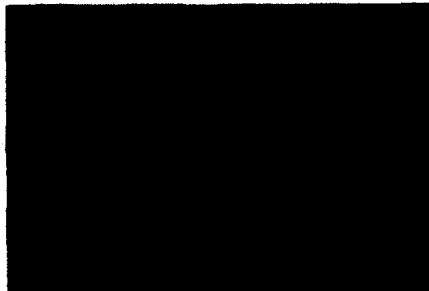
Combination 33



Rear Quarters, Upper Panels,  
Mouldings—Black.  
Lower Panels, Window Reveals  
—Viceroy Maroon, R-M  
20623.

Door Saddle—Flamingo Car-  
mine, R-M 20549.  
Stripe—Gold Bronze.

Combination 34



Entire Body—Classic Blue  
22290.

Door Saddle—Salamanca Blue,  
Duco 2466163.  
Stripe—Tokio Ivory, R-M  
20722.

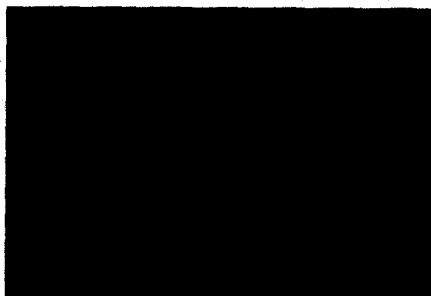
Combination 35



Entire Body—Black.

Stripe, Door Saddle—Flamingo  
Carmine, R-M 20549.

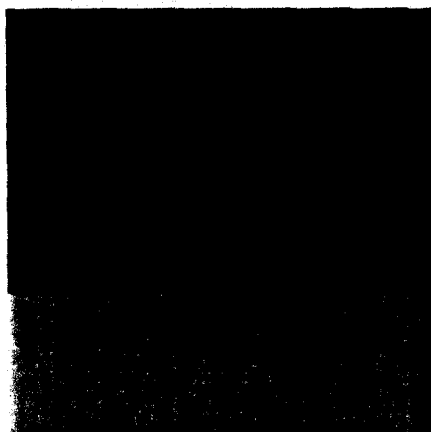
Combination 36



Rear Quarters, Upper Panels,  
Mouldings—Black.  
Lower Panels, Window Reveals  
—Kennerley Blue, R-M  
22304.

Door Saddle—Maxfield Parrish  
Blue, Duco 2466772.-23321.  
Stripe—Tokio Ivory, R-M  
20722.

Combination 37



05  
Rear Quarters, Upper Panels,  
Mouldings, Fenders, Chassis  
—Auto Green, Duco 2466676.

Lower Panels, Window Reveals  
—Auto Green Light, Duco  
2466669.

Stripe, Door Saddle—Chantilly  
Green, Duco 2464628.

Combination 38

\*Combination 29 is not recommended for 5-Passenger and 7-Passenger  
Closed Body Styles.

Fenders-Chassis—Black, on all combinations where no mention is made  
otherwise.

Roof—Black all Stationary Top Body Styles.

Roof—Burbank, all Open Car, Convertible Coupe Body Styles.

Regular extra charges apply to fenders-chassis in color.

## Optional Upholstering

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### Closed Body Styles

41T131	Taupe Mohair	
43T131	Green Broadcloth	
46T131	Grey Broadcloth	
49T131	Taupe Broadcloth	
52T131	Taupe Whipcord	} Optional, Convertible Coupe, All-Weather Phaeton
55T131	Gray Whipcord	
96T131	Tan-Brown Pin Stripe Broadcloth	

### Open and Convertible Body Styles

9T1331	Brown Leather
10T1331	Green Leather
11T1331	Black Leather
12T1331	Blue-Gray Leather