

Compiled by Matt Larson
Cadillac-LaSalle Club
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1933 LaSalle Production

Total production: 3482 automobiles, chassis and commercial chassis.

Serial numbers: 2000001-2003381 and 3010001-3010103 The Vehicle (engine) serial number is "stamped on the crankcase near the water inlet on the right-hand side."

Chassis Numbers: Start with prefix "20-" and increase from number 20-1. The numbers are not sequential, not consecutive and for unknown reasons run as high as 20-3659. Location of chassis unit number is "rear of L.H. side of radiator cross member."

Body Plates: Fisher or Fleetwood job number (e.g. 33-659) and body serial number are on the plate attached to passenger side of the cowl in the engine compartment.

<u>Body Type and Style Numbers:</u>		<u>Wheelbase</u>	<u>List Price</u>	<u>Production</u>
345-C (LaSalle) Fisher bodies				
2 Pass. Coupe	33-678	130"	\$2245.00	154
2 Pass. Convertible Coupe	33-668	130"	\$2395.00	146
5 Pass. Town Coupe	33-672	130"	\$2395.00	271
5 Pass. Sedan	33-659	130"	\$2245.00	1491
5 Pass. Town Sedan	33-652	136"	\$2495.00	752
7 Pass. Sedan	33-662	136"	\$2495.00	467
7 Pass. Imperial Sedan	33-663	136"	\$2645.00	190
Phaeton (Cadillac body)	8-256	136"	\$2695	1
5 Pass. Coupe (Cadillac body)	8-272	136"	\$2695	2
All Weather Phaeton (Cadillac body)	8-273	136"	\$3195	2
Chassis		130"	\$1850.00	1
Chassis		136"	\$1900.00	1
345-C (LaSalle) Fleetwood bodies				
5 Pass. Town Coupe	8-222	136"	Not listed	4
			Total	3482

Optional Colors

Cadillac-LaSalle 1933 Features of Construction indicates that the cars would be offered in thirteen standard colors. No list of standard colors could be located. Only eleven apparently standard (not special ordered) colors are obvious from examination of the build sheets.

<u>Color name</u>	<u>Dupont #</u>
Black	20488
Black / Classic Blue	22290
Black / Glenbrook Green	23455
Black / Labrador Grey	20195
Black / Marshall Maroon	20693
Black / Maylene Maroon	20637
Black / Radium Blue	22260
Arlington Gray / Quebec Gray	20175 / 20179

Bedell Green / Carolina Green	20385 / 20361
English Gray / Ludington Green	21167 / 23459
Ravenswood Brown / Riviera Biege	28845 / 28898

Two-tone cars were typically painted with the top, rear quarter panels, moulding, window offsets or door saddles, fender set and chassis in the first color listed; upper and lower body panels in the second color.

Optional Trims

Closed bodies:

22 T 132 Gray Whipcord
24 T 132 Taupe (Blue Tan) Striped Broadcloth
26 T 132 Tan Plain Broadcloth

Convertible bodies:

9 T 1331 Brown Leather
10 T 1331 Green Leather
11 T 1331 Black Leather
12 T 1331 Blue Gray Leather

Convertible top: 1T 1532, Tan with tan lining (standard); 7T 1533 Blue Gray (optional)
"Special upholstery material may be specified at extra charge."

Accessories

Group Equipment and Extras:

Group No. 1 - (for cars with 5 wheels) - Black metal tire cover and protection bar, hinge mirror, moto-pack, cowl ventilator screen. \$40.00

Group No. 1A - Same as Group No. 1 with metal tire cover in color to match fender set. \$42.50

Group No. 2 - (for cars with 6 wheels) - 2 black metal tire covers and mirrors, moto-pack, cowl ventilator screen. \$66.50

Group No. 2A - same as Group No. 2 with tire covers in color to match fender set. \$71.50

Colored fender set and chassis \$25.00

Standard Service Contract \$110.00

Suggested Minimum Equipment - Factory Installation:

For Cars with 5 Wire Wheels

Spare tire and tube (Distributor installation)
Torpedo radiator ornament \$20.00
License frames \$7.00

For Cars with 6 Wire Wheels

Fender wells, 2 spare wheels and tires and folding trunk rack \$110.00
Torpedo radiator ornament \$20.00
License frames \$7.00

Accessories (All prices include installation:

Electric curtain control	\$13.50
Radio	\$89.50
Hot air heater (single register)	\$31.50
Hot air heater (double register)	\$34.50
Chromium wheel discs, each	\$ 9.50
Spot light	\$37.50

Trunks \$100.00 to 180.00
 Robe \$45.00

Standard Equipment:

Five wire wheels; tire size 7.00-17

U.S. Royal black sidewall tires.

U.S. Royal white sidewall tires \$3.00 extra per tire.

High Compression cylinder heads

Research Methodology: Microfiche copies of the individual Shipping Department records of the as-built configuration of each serial number were viewed, starting at the highest serial number and working backwards, to determine the highest body serial number of each body style. Each serial number record sheet was viewed and recorded with body style and body number. No attempt was made to construct cross reference lists of body numbers with corresponding engine numbers to verify that all body numbers were used in actual production.

Notes on research findings:

1. The standard body style and job number offerings for 1933 were listed in the *Cadillac-LaSalle 1933 Features of Construction* book (undated) and subsequently in the August 1933 supplement to the 1932 Cadillac-LaSalle Shop Manual. *Features of Construction* also notes that "Fleetwood Bodies are available on the LaSalle chassis. Prices on application." Factory records indicate that the 1933 LaSalle was introduced on January 3, 1933. A notebook in the Cadillac Historical Collection archives, titled "Fleetwood Extra Charges", contains a carbon copy of a single sheet dated 1/25/33 that is labeled "Miscellaneous Prices." The sheet includes the following LaSalle special body offerings:

345-C LaSalle

<u>130"W.B.</u>	Roadster	(8-155)	\$2545
	Conv. 5-P. Coupe	(5285)	3900
<u>136"W.B.</u>	5-Pass. Coupe	(8-272)	2695
	Phaeton	(8-256)	2695
	Special Phaeton	(8-280)	2795
	Sport Phaeton	(8-279)	2945
	A.W. Phaeton	(8-273)	3195

These special offerings are particularly interesting - all of them were Cadillac body styles. The "Conv.5-P Coupe (5285)" style number is thought to be a typographical error. A style 5585 Fleetwood 5-pass. Convertible Coupe was offered on the 149"W.B 1933 V-16. chassis. The others listed above were Fisher bodies offered as follows:

<u>Style</u>	<u>Year</u>	<u>Application</u>
8-155	1932/33	134" W.B. V-8, V-12; 143" W.B. V-16
8-272	1932/32	140" W.B. V-8, V-12
8-256	1932/33	140" W.B. V-8, V-12; 149"W.B. V-16
8-280	1932	140" W.B. V-8, V-12; 149" W.B. V-16
8-279	1932	140" W.B. V-8, V-12; 149" W.B. V-16
8-273	1932/33	140" W.B. V-8, V-12; 149" W.B. V-16

In addition to the cars in the "Miscellaneous Prices" list, a sheet by sheet examination reveals that four "LaSalle 345C 136" Fleetwood Town Coupe" (5-Pass.) cars were built with the style 8-222 bodies offered only in 1932 on the 140" W.B. V-8, V-12 and 149" W.B. V-16 Cadillacs. One of the bodies was subsequently "Dismounted" and a LaSalle style 652 Fisher Town Sedan body fitted to the chassis.

The LaSalle offerings listed above do not appear in any known sales literature nor in the Master Parts List "Chart of body types, style or job numbers and wheelbase." There is no indication on any of the sheets as

to what body modifications were done to harmonize the Cadillac bodies with LaSalle hoods, adapt to the LaSalle wheelbases, etc. The sheets do indicate body numbers from the stock Cadillac sequence.

2. Early in the production run, (serial #2000394, 0419 and 0449) three 136" chassis were shipped to General Motors of Canada, Ltd. at Oshawa, Ontario. These records were annotated "Use chassis built for 662 #45", etc. Notes indicated "Job 662 chassis parts, include all instruments, fender wells, black metal tire covers", etc. They are assumed to have been assembled into complete cars as was the case in other production years. The cars are included in the domestic production numbers with the respective body numbers. There is no indication of the distribution of the Canadian cars.
3. All cars shipped from the factory to California were equipped with "Ruby Centered Taillights" as opposed to the standard blue dot taillights. Blue dot taillights were illegal in California.
4. Demountable wood (often referred to as artillery) wheels were last offered as an option on LaSalle's in the 1933 model year. A mere 15 cars were equipped with the wood wheels. An era had passed - the wood wheels were out of style with the new skirted fenders and the beginning of streamlining.
5. The 1933 record sheets do not have a "Purchaser" block. A very small number, principally "Fisher Order" cars, are annotated with the buyers name.
6. Commercial Chassis: Distinctly commercial chassis were yet to become an important part of the LaSalle production. A single 130" wheelbase chassis (serial 2001615) was shipped to the A.J. Miller Co., Bellefontaine, Ohio; charged to Cadillac Providence Co., Providence, R.I. and tagged "Morrone Brochers." This chassis was equipped with a closed car cowl, fender wells and six wire wheels.
7. Passenger car chassis: A single 136" wheelbase chassis (serial 301003) equipped with fenders in prime, fenderwells and wire wheels, low compression heads and a power clutch was shipped to General Motors Export in Berlin, Germany. There is no indication of the ultimate body style and body builder.
8. Export Cars: General Motors Export, General Sales Department, sold LaSalle cars around the world as the Series 355-CX Cadillac-LaSalle (see section titled The Mystery Cars.) For some inexplicable reason, five additional standard LaSalle's were exported as follows:
Style 663 7 Pass. Imperial Sedan - two cars to Antwerp, Belgium
Style 663 7 Pass. Imperial Sedan - two cars to Osaka, Japan
Style 652 5 Pass. Town Sedan - one car to Sao Paulo, Brazil
9. Worlds Fair Cars: LaSalle was represented at the 1933 Worlds Fair in Chicago by six specially prepared closed body cars, all done in non-standard paint schemes:
5 Pass. Town Sedan - Cinnebar Red (24650798) with six Nasturtium (28950433) wire wheels
5 Pass. Town Sedan - Peasant Blue (24650654) with six Alpine Blue (24650284) wire wheels
5 Pass. Sedan - Hawthorne Green (23355) with five Rhapsody Green (23461) wire wheels
5 Pass. Town Coupe - Brainard Blue (24650487) with five Brainard Blue Lt. (24650631) wire wheels
5 Pass. Town Coupe - Storm Cloud Blue (22368) with six stainless steel spoke wire wheels
2 Pass. Coupe - India Green Deep (23375) with five Tokio Ivory (20722) wire wheels
10. Factory installed accessories: The following accessories were installed by the factory on one or more cars. Part/Accessory numbers are listed where they could be determined:

Automatic Clutch Control	2001389
Black Metal Tire Covers	A-875,6
Black Metal Tire Cover (rear spare)	A-877
Black Metal Tire Covers (w/mirrors)	A-981,2
Bumper Fender Guards	
Cadillac Hot Air Heater, single register	877641

Cadillac Hot Air Heater, dual register	877642
Cadillac Radio	A-916
Chromium Hood Ports	
Chrome Radiator Shell	
Chrome Trim Rings	
Chromium Wheel Discs	891728
Cowl Screen	892404
Duplex Pilot Rays	A-976
Electric Clock	
Electric (rear) curtain control	A-984
Heron Ornament	A-965
Hinge Mirror	891623
H.H.C. Cylinder Heads (High High Compression)	
Hot Water Heater	
Interior Sun Visor (R.H. side)	027064
Imperial Radio	A-1032
Jacques Rayon Slip On Seat Covers	
L.C. Cylinder Heads (Low Compression)	
License Frames	A-974
Lorraine Spotlight (closed car)	891531
Moto Pack	A-945
Protection Bar (rear spare tire)	891697
Radio	M10/26
Ring Shroud on fan	
Ruby Centered Taillights (California cars)	1844987
Sea Breeze Seat covers	
Seat Covers, Laidlaw	A-100
Stainless Steel Wire Wheels	890980
Standard Radio	A-1035
Tire Chains	A-641
Tire pump, transmission mounted	891925
Town Sedan Case Assembly	
2 suitcases, 1 hat box	A-854
Trunk	85059 and 892356
Trunk	1098280
Trunk (2 suitcases and hat box)	A-912
Trunk (3 cases and hat box)	1098279
Tires Firestone whitewalls	
Goodyear blackwalls	
Royal whitewalls	
Torpedo Ornament	A-975

Note: It is unclear that any production cars were actually equipped with the electric rear curtain control. Many early build sheets indicate "Curtain Control". The build sheets, however, were typed before the car was assembled. The production "Checkers" made hand written notes and check marks on the sheets and entered component serial numbers by hand. Most are hand annotated "B.O. (back ordered)". After serial 2000766 the sheets indicate "Cancelled". The archive copy of the Dealer's Accessory Price List issued Dec 15, 1932 is annotated "Discontinued."

11. None of the body styles were assembled in a straight body order sequence. Fisher Order cars and non-standard paint color cars were generally substantially out of order due to the time required to make alterations.

First car built in each standard body series: Last car built

33-678 serial 2000002, body 1
33-668 serial 2000085, body 1
33-672 serial 2000041, body 3
33-659 serial 2000001, body 4
33-652 serial 2000073, body 9
33-662 serial 2000036, body 3
33-663 serial 2000067, body 2

serial 2003070, body 153
serial 2003071, body 146
serial 2003305, body 238
serial 2003374, body 1471
serial 2003381, body 748
serial 2003379, body 458
serial2003310, body 186

1933 LaSalle Production

The Mystery Cars

During the fourteen years of LaSalle production, Cadillac and LaSalle cars were identified by distinctive serial number groups that differentiated between each model year and car series. Thus, a 1933 Cadillac Series 355C V-8 had a serial number beginning with 300----. A 1933 LaSalle Series 345C V-8 had a serial number beginning with 200----. Both the Cadillac and the LaSalle shared the same 353 cubic inch engine and mechanicals. The Cadillac was offered in 134" and 140" wheelbases. The LaSalle is listed in factory literature as available only in 130" and 136" wheelbases.

A very small group of 103 cars were designated as Series 355-CX and assigned serial numbers 3010001 through 3010103. The 355C series number and 301---- serial number would seem to indicate that these cars were Cadillacs. The X means that these were export cars. This group of cars has long been listed as Cadillacs in the Cadillac-LaSalle Club, Inc. listing of vehicle production.

What was different about these cars that caused them to have a unique series number and a distinct set of serial numbers? Were they Cadillacs or were they really LaSalle? Carl L. Steig, past president of the Cadillac-LaSalle Club, Inc., had briefly studied the build sheets, determined that the cars had LaSalle bodies and classified them as Cadillacs with LaSalle bodies. That would satisfy the apparent Cadillac series and serial number assignments.

However, original factory "Model Year Production By Series" summaries list a total of 3,482 LaSalle cars built in the 1933 model year. The highest serial number for an apparently regular production LaSalle is 20003381; a total of 3381 cars built. The production difference of 101 units would seem to indicate that Cadillac Motor Car Company considered the 355-CX cars to be LaSalle. Other than the individual car record sheets, there is nothing in the Cadillac Motor Car Company archives about the Series 355-CX cars.

A sheet-by-sheet analysis of the mystery car records revealed some clues about these cars:

1. The records are not build sheets in the usual sense. They are all hand written in the same penmanship seen on export sheets in 1933 and other years. All are on export control order forms and are missing the check marks found on a regular build sheet. Typical production build sheets were typed before the cars were assembled. The "Checkers" made hand written notes and check marks on the sheets and entered the component serial numbers by hand. The mystery car sheets do not have the "Checked" and "Double Checked" signatures nor the "Month/Period/Number" information at the top of the sheet. Very few of the mystery sheets have the paint number descriptions, only the paint color name - another sure sign that the sheets are not build sheets.

2. Unit Assembly Numbers. Various components, including the engines, were serial numbered at the time of manufacture. During vehicle assembly the engine was also stamped with the vehicle serial number. Both Cadillac and LaSalle in 1933 had unit engine numbers beginning with "30-". LaSalle chassis numbers began with "20-", Cadillac chassis began with "30-". LaSalle steering gear numbers began with "11-"; Cadillac steering gear began with "12-".

Serial 3010001 is shown as a "355 C.X. Special". The 7-Pass. Imperial Sedan style #663, steering gear 11-3883 and chassis 20-444 are all clearly LaSalle identifiers.

Serial 3010003 is shown as a "355:C.X.", but is a 136" chassis with fender set that was shipped to Berlin. It can only be a LaSalle; Cadillac chassis were 134" and 140" wheelbase. The chassis number, 20-722, is also a LaSalle number.

Listing the chassis numbers reveals that 89 have a LaSalle number and 12 have a Cadillac number. Multiple sheets have the number changed from "30-" to "20-". The steering gear numbers are LaSalle. All export sheets for 1933 Cadillac and LaSalle cars are in the same handwriting. Presumably the writer was accustomed to writing the more frequent Cadillac numbers and made transcription errors. Four successive vehicle numbers illustrate the point: chassis 20-3167, 30-3168, 30-3166 and 20-3183. All are from the LaSalle number sequence, two are recorded as Cadillac chassis (different wheelbase).

3. Destination. If they were LaSalle's, did they have special serial numbers because these were the only 1933 LaSalle's that were exported? No, there were five regular LaSalle cars exported to Antwerp, Belgium (2), Osaka, Japan (2) and Sao Paulo, Brazil (1). Were these cars special because they were right hand drive exports? No, only nine were R.H.D. Of the 103 mystery serial numbers, two record sheets are missing. The other units were shipped as follows:

Antwerp, Belgium	78
Barcelona, Spain	2
Batavia, Java	1
Bombay, India	1
Berlin, Germany	2
Caracas, Venezuela	2
Osaka, Japan	3
Port Elizabeth, South Africa	3
San Juan, Puerto Rico	1
Shanghai, China	7
Stockholm, Sweden	1

4 .Body styles. Was there something special about the bodies? If so, the record sheets do not show it. Only four of the seven standard body styles were included: 652 5 Pass. Town Sedan, 659 5 Pass. Sedan, 662 7 Pass. Sedan, 663 7 Pass. Imperial Sedan. Interestingly, 89 of the units indicated a "Heron" hood ornament which is a normal Cadillac item but an available LaSalle option.

The true identity of the mystery cars was finally resolved quite by accident in July of 1998. Cadillac-LaSalle Club, Inc. member Paul Ayres of Farmington Hills, Michigan, purchased a selection of original literature for reference in restoring a newly acquired 1933 Cadillac convertible coupe. Included was a piece dated March 8, 1933 issued by General Motors Export, General Sales Department, Service Division, entitled "1933 Cadillac Specifications." The bottom of the front page tells it all: "Cadillac-LaSalle V-8, Series 355-CX is available for Export only - known as LaSalle in the United States."

For forty years members of the Cadillac-LaSalle Club, Inc. have patiently corrected people for referring to a particular car as a "Cadillac LaSalle", explaining that the car was made by Cadillac but is distinctly a LaSalle! It turns out that the marketers actually linked the two names to enhance export sales during the 1933 model year.

Are there any surviving examples? We do not know but would love to hear from anyone that has or had one.

L A S A L L E O P E R A T O R ' S M A N U A L

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1933

EDITION NO. 345-3

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

Table of Contents

CHAPTER I— <i>Cadillac Service</i>	3
Cadillac-La Salle Service Stations—Identification Card—Care of the Car—Authorized Service—Preventive Service—Repair Parts—Service Charges—Flat Rate Service—Standard Service Contract—Lubrication Agreement.	
CHAPTER II— <i>Lubrication</i>	11
Lubrication Schedule—Lubrication Notice—LUBRICANTS—Engine Oil—Transmission Lubricant—Rear Axle Lubricant—Steering Gear Lubricant—Chassis Lubricant—Clutch and Wheel Bearing Lubricant—Water Pump Lubricant—ENGINE LUBRICATION—Oil Level—Crankcase Ventilating System and Oil Filter—Changing Engine Oil.	
CHAPTER III— <i>Operation</i>	18
Gasoline Gauge—Oil Pressure Gauge—Ammeter—Temperature Indicator—Throttle Control—Choke Control—Starting the Car—Starting Hints—Ride Regulation—Lighting Switch—DRIVING HINTS—Speed—Gravel Roads—Hills—Slippery Roads—Danger of Running Car in Closed Garage.	
CHAPTER IV— <i>Cold Weather Operation</i>	27
PREPARING FOR COLD WEATHER—Anti-Freezing Solutions—Winter Lubrication—Storage Battery—Gasoline System—STARTING THE ENGINE—Choke Button—Position of Throttle Hand Lever—Priming the Carburetor—Use of Starter—Use of Accelerator Before Engine is Warm.	
CHAPTER V— <i>Equipment</i>	34
Locks and Keys—Ignition Switch Lock—Door Locks—Package Compartment—Interior Lights and Switches—No-Draft Ventilation—Windshield Cleaner—Sun Visor—Adjustable Seat—Cigar Lighter—Tools—Tires—Use of Jack—Spare Wheel Carrier—Changing Wheels.	
CHAPTER VI— <i>General Care</i>	44
Storage Battery—Generator Charging Rate—Spark Plug—Cooling System—Gasoline System—Carburetor Air Cleaner—Brakes—Tires—Removing Tires from Wheels—Tire Balancing Marks—Lights—Replacing Map Lamp Bulb—Aiming the Headlamps—Storing the Car—BODY—Care of the Finish—Care of the Top—Cleaning Upholstery—Door hardware—Body Adjustments.	
CHAPTER VII— <i>Specifications and License Data</i>	60

CHAPTER I

CADILLAC SERVICE

THE OWNER of a La Salle motor car has purchased a fine piece of machinery to serve him as a pleasant and dependable means of transportation. The La Salle provides this means; pleasant because of its fine performance, comfort and ease of control; dependable because of the care with which it was built and because of Cadillac Service, which operates on a standard policy, guaranteeing the owner efficient service everywhere at standard prices under factory regulation.

Cadillac-La Salle Service Stations

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

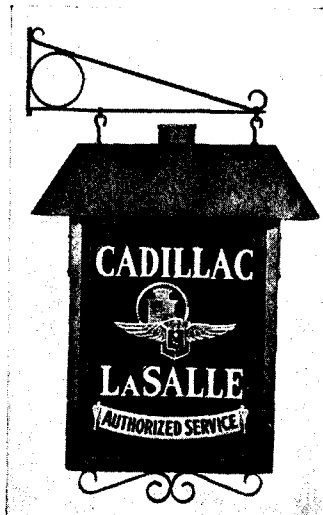


Fig. 1. Authorized Cadillac-La Salle Service Stations display this sign at the service entrance.

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The owner's first and most frequent contact with Cadillac Service naturally will 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 him satisfaction. Cadillac Service is organized, however, that the owner may feel perfectly free to use his car for extended travel, secure in the knowledge that other Authorized Cadillac-La Salle Service Stations are able and willing to offer the same service benefits to which he is entitled at his local service station.

Identification Card

As a means of introduction at other Authorized Cadillac-La Salle Service Stations, every purchaser of a La Salle car is given credentials in the form of an Identification Card. This card is mailed to the owner by the Cadillac Motor Car Company as soon as delivery of the car is reported by the distributor or

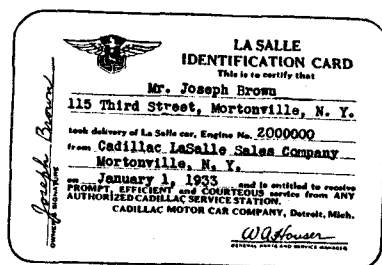


Fig. 2. The Identification Card, when properly signed, introduces the owner at any Authorized Cadillac-La Salle Service Station.

Cadillac Service under factory regulation.

Care of the Car

A fine piece of machinery, such as the La Salle, naturally requires a certain amount of care to assure smooth running, dependability and long life, and the owner will derive the utmost in

continuous satisfaction and utility from operation of the car by following the instructions given below:

1. Drive the car at moderate speeds for the first 500 miles.
2. Operate the car in accordance with the instructions contained in this manual.
3. Check the engine oil level every 100 to 150 miles and add oil as often as necessary to keep the indicator at "Full."
4. Check the air pressure of the tires at least once a week and keep it up to the recommended pressure—40 pounds front and rear; on cars driven at high speeds, 45 pounds in front.
5. Add distilled water to the storage battery every 1000 miles, and in warm weather every 500 miles, or at least every two weeks.
6. Have the car lubricated every 1000 miles, or at least once every 6 weeks in accordance with the lubrication schedule given on page 10.
7. Have the car inspected by an Authorized Cadillac-La Salle Service Station every 1000 miles, or at least once a month.

Upon presentation of this Identification Card at any Authorized Cadillac-La Salle Service Station, the car owner is assured of standard

continuous satisfaction and utility from operation of the car by following the instructions given below:

1. Drive the car at moderate speeds for the first 500 miles.
2. Operate the car in accordance with the instructions contained in this manual.
3. Check the engine oil level every 100 to 150 miles and add oil as often as necessary to keep the indicator at "Full."
4. Check the air pressure of the tires at least once a week and keep it up to the recommended pressure—40 pounds front and rear; on cars driven at high speeds, 45 pounds in front.
5. Add distilled water to the storage battery every 1000 miles, and in warm weather every 500 miles, or at least every two weeks.
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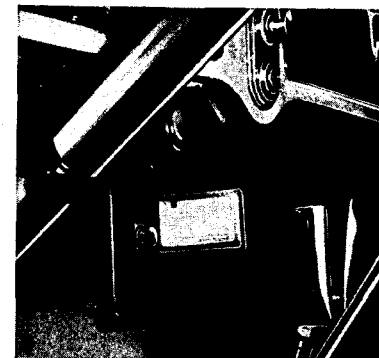


Fig. 3. The Identification Card should be kept in its holder under the cowl at all times.

Authorized Service

The first five items above do not necessarily warrant a visit to the service station. The last two, however, require the attention of those whose knowledge and experience qualifies them to perform the required work efficiently and in accordance with factory recommendations.

A car such as the La Salle, built with skill, precision and

fine workmanship, is deserving of the finest care of qualified experts in any service work that may be required. Authorized Cadillac-La Salle Service Stations are qualified to do this work in a manner not to be duplicated elsewhere because they have greater reason to be interested in the operation of the La Salle owner's car. Their personnel are specialists; they have had more experience on Cadillac and La Salle cars than anyone could have who works on all makes of cars. They have up-to-date, expert information on La Salle adjustments and service methods supplied by the factory in regular publications and special bulletins.

Preventive Service

Preventive service is the fundamental principle of Cadillac Service. It is based on the knowledge that regular expert attention keeps emergency service at a minimum, assuring continuous satisfactory operation of the car with a minimum of interruption and expense.

The first thought, of course, is the proper protection of all working parts through correct lubrication according to schedule. The second, of great importance, is systematic inspection every 1000 miles, or once a month, so that any necessary adjustments may be made before the need becomes an emergency.

Authorized Cadillac-La Salle Service Stations will make such inspections without charge. Lubrication and any necessary adjustments will then be performed at standard prices under factory regulation after the owner has approved the work and the prices.

Repair Parts

Genuine La Salle parts, manufactured to the same rigid specifications as the parts originally used in 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 Cadillac distributor's or dealer's service station.

Service Charges

Authorized Cadillac-La Salle Service Stations, in line with the Cadillac policy of serving the owner to his best advantage, are prepared to offer service in three ways:

1. Individual operations on a flat-rate basis, authorized by the owner as occasion requires.
2. A Standard Service Contract covering complete mechanical maintenance—lubrication, inspection, all adjustments and repairs—over a period of one year or 12,000 miles at a fixed price.
3. A Lubrication Agreement covering 12 scheduled lubrications and 12 thorough inspections over a period of 18 months or 12,000 miles at a fixed price. Under this plan any adjustments or repairs the owner authorizes are paid for as individual operations.

The owner may obtain service in any of these three ways he chooses. Certain advantages are to be derived from the Standard Service Contract or the Lubrication Agreement, but the owner may purchase service in any of these forms with perfect assurance that the work will be done in accordance with Cadillac standards.

Flat Rate Service

When a car enters the service station, it is promptly inspected by an expert tester who quotes the owner an exact price, which in practically every case includes material as well as labor, for the work he finds necessary. The owner then authorizes the work at this price and when he receives the bill, this is the price he pays.

Charges prevailing at Authorized 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, thus assuring the highest quality of work at the lowest possible price. Standard price schedules are open to owners for inspection at any Authorized Cadillac-La Salle Service Station.

Standard Service Contract

The Standard LaSalle Service Contract is available to owners who wish to be assured of continuous satisfactory operation and maintenance of their cars at a predetermined, economical cost. It is based on Cadillac's principle of preventive service insuring the greatest satisfaction with the fewest possible interruptions. Complete lubrication on schedule and thorough inspection to anticipate the need of adjustment and repair largely eliminates the need of service between regular inspections.

The Service Contract is recognized by all Authorized Cadillac-La Salle Service Stations in the United States regardless of where it may have been purchased. The owner is thus assured of all Contract service due him without additional charge wherever he may travel. He needs only to present the identification card issued to him at the time the Contract is purchased to receive this service the same as if the work was performed by the service station from which the Contract was purchased.

These contracts are available at all Authorized Service Stations. Three contracts are available to cover each of three periods; the first year or first 12,000 miles, the second year or second 12,000 miles and the third year or third 12,000 miles, respectively. Owners are urged to take advantage of the conveniences offered by Contract ownership to obtain efficient and expert service under factory regulations for their cars at the predetermined economical cost.

Lubrication Agreement


Owners who do not purchase a Service Contract are urged to purchase a Lubrication Agreement. Lubrication according to schedule is the most important attention required by the car and the Lubrication Agreement assures this service regularly for 18 months or 12,000 miles at a saving of more than 20% of the total cost of the twelve operations if paid for individually.

The Lubrication Agreement is recognized by all Authorized

Cadillac-La Salle Service Stations in the United States, the same as the Service Contract, and the identification card need only be presented to have the work scheduled performed at any Authorized Service Station, regardless of where the Agreement was purchased.

The holder of a Lubrication Agreement is relieved of the thought of lubrication cost during the entire 18 months or 12,000 mile period by budgeting his expense beforehand. He needs only take his car to the service station at monthly or 1000 mile intervals and request "schedule lubrication" to obtain all of the lubrication due, performed according to factory specifications.

Regardless of how the owner prefers to have the necessary service performed on his car, the surest guarantee of long life and complete motoring satisfaction at the least possible expense is correct lubrication and preventive service rendered every 1,000 miles or once a month by an Authorized Cadillac-La Salle Service Station.



LUBRICATION SCHEDULE
LA SALLE 345-C

OWNER'S NAME _____
 ADDRESS _____
 ENGINE NO. _____ DATE DELIVERED _____

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.

		LUBRICANT	LUBRICATION NO. AND MILEAGE AT WHICH DUE											
			1	2	3	4	5	6	7	8	9	10	11	12
LUBRICATION NOS. 1, 4, 7 AND 10	ADD LIQUID TO RADIATOR	WATER OR ANTI-FREEZE												
	ADD ENGINE OIL AS NECESSARY	ENGINE OIL												
	STARTER, GENERATOR AND DISTRIBUTOR OIL CUPS	ENGINE OIL												
	BRAKE AND RIDE REGULATOR PINS AND CONNECTIONS	ENGINE OIL												
	ACCELERATOR ROCKER SHAFT	ENGINE OIL												
	DOOR HARDWARE	ENGINE OIL												
	GREASE GUN CONNECTIONS	CHASSIS LUBRICANT												
	WATER PUMP	WATER PUMP LUBRICANT												
	GREASE CUP	LUBRICANT												
	CLUTCH RELEASE FORK	WHEEL BEARING LUBRICANT												
	*ADD WATER TO STORAGE BATTERY	DISTILLED WATER												
	CHECK TIRE INFLATION													
LUBRICATION NOS. 2, 4, 8 AND 12	DRAIN AND REPLACE ENGINE OIL	ENGINE OIL												
	CLUTCH RELEASE BEARING	WHEEL BEARING LUBRICANT												
	TRANSMISSION—ADD LUBRICANT	TRANSMISSION LUBRICANT												
	REAR AXLE—ADD LUBRICANT	REAR AXLE LUBRICANT												
	STEERING GEAR—ADD LUBRICANT	STEERING GEAR LUBRICANT												
	BRAKE ASSISTER	LIGHT MACHINE OIL												
	SPRING COVERS	LUBRICANT												
	WHEEL BEARINGS	WHEEL BEARING LUBRICANT												
	SPEEDOMETER DRIVE SHAFT	CHASSIS LUBRICANT												
	**REFILL SHOCK ABSORBERS	SPECIAL OIL												
	**CLEAN CARBURETOR AIR CLEANER													
	**FLUSH COOLING SYSTEM AND ADD INHIBITOR													
**REPLACE OIL FILTER CARTRIDGE														
CLEAN OIL PAN AND SCREEN														

*IN SUMMER INSPECT BATTERY EVERY 500 MILES OR AT LEAST EVERY 1 WEEKS.
 **RECOMMENDED BUT NOT INCLUDED IN LUBRICATIONS 8 AND 12.
 THE FOLLOWING OPERATIONS CANNOT BE PLACED ON A MILEAGE BASIS AND ARE NOT INCLUDED IN THE ABOVE SCHEDULE.
 CHANGE REAR AXLE AND TRANSMISSION LUBRICANT—AS REQUIRED FOR LOW TEMPERATURES IN FALL OR WINTER AND AT BEGINNING OF MILD WEATHER IN SPRING.
 RECORD ON OTHER SIDE

Fig. 4. This is a fac-simile of the LaSalle 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-La Salle distributors and dealers.

CHAPTER II

LUBRICATION

Lubrication Schedule

THE moving parts of the La Salle, built with infinite care and fitted to precision limits, deserve *effective* lubrication to preserve their smooth operating efficiency. Lubrication, to be most effective, must be done systematically at regular mileage intervals. To assist the owner in obtaining proper lubrication, a complete lubrication schedule is reproduced on page 10. This schedule, if faithfully followed, will insure correct lubrication of each wearing surface. As a further aid to the owner, an illustrated lubrication chart, based on the lubrication schedule, is furnished with this Manual to assist the operator in visualizing the location of the various lubricating points.

The unit of the chart as well as the schedule is 12,000 miles which is divided into twelve 1000-mile intervals. Corresponding to these is a series of lubricating operations, grouped and numbered consecutively from 1 to 12, intended to be performed successively at each 1000 mile interval until the 12,000 mile cycle has been completed. At 13,000 miles, the schedule begins again with Lubrication No. 1 and continues through the series of twelve operations.

Lubrication Notice

A metal plate in the shape of the Cadillac Crest is provided to serve as a lubrication notice and record. This plate is mounted on the left front door pillar just below the top hinge as shown in figure 5.

Authorized Cadillac-La Salle Service Stations, after performing each schedule operation, post on this plate the number of the next

operation and the mileage at which it will be due. Thus, when the mileage recorded on 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.

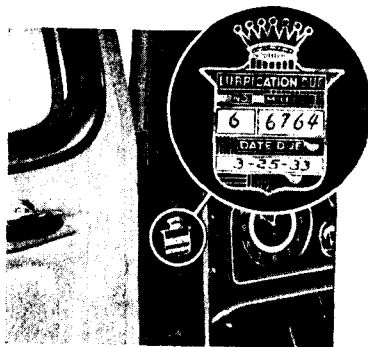


Fig. 5. The lubrication notice plate can be seen by opening the front left hand door a few inches.

Although the schedule is expressed in terms of miles the car should be lubricated once each month even though the mileage indicated on the speedometer is less than 1000 since the last lubrication operation was performed. The lubrication work can be done while the car is in the service station for its regular monthly or 1000 mile inspection.

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 purpose for which they are to be used.

Cadillac engineers have worked out in detail the specifications for the lubricant required for each point to meet the particular conditions of speed, load, temperature and kind of metals in contact.

Authorized Cadillac-La Salle Service Stations are prepared to furnish lubricants under these specifications to give the best re-

sults in their respective localities. When the car is lubricated by someone not familiar with La Salle specifications, lubricants should be called for by the S. A. E. viscosities recommended in the following paragraphs.

Engine Oil

Engine oil recommendations are given in the chart below. It should be noted that different grades of oil are to be used for average driving and for prolonged high speed driving in both summer and winter.

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 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.

Transmission Lubricant

Gear oil of S. A. E. viscosity 160 should be used in the transmission at temperatures above 20° F. For temperatures below 20° F. a light oil of S. A. E. viscosity 90 should be used or the oil used during summer weather should be thinned with kerosine.

Gear lubricants are marketed in various grades and with widely varying properties. Before using other than the regular gear oil, approval of the Authorized Cadillac-La Salle service station should be secured in order to guard against unsatisfactory lubricants.

Rear Axle Lubricant

Gear lubricant of S. A. E. Viscosity 160 should be used in the rear axle. For extremely low temperatures, it may be necessary to change to a light lubricant of S. A. E. viscosity 90 or to thin the lubricant with kerosine as suggested under "Transmission Lubricants."

Steering Gear Lubricant

The selection of the proper lubricant for the steering gear is of special importance, particularly to avoid hard steering in cold weather. A special steering gear lubricant suitable for extreme heat and cold is available and should be used in the steering gear the year round.

Chassis Lubricant

A good grade of chassis lubricant should be used for all chassis points indicated in the lubrication chart as requiring this type of lubricant. Ordinary cup grease is not satisfactory and if, in an emergency, it is used in place of chassis lubricant, the car should again be lubricated within 300 or 400 miles.

Clutch and Wheel Bearing Lubricant

The front wheel bearings and the clutch release bearing should be lubricated with a good grade of Clutch and Wheel Bearing Lubricant having a high melting point. Ordinary grease at these points is likely to melt and run on to the brakes or the clutch.

Water Pump Lubricant

A water-resistant calcium soap lubricant having a high melting point is recommended for use in the water pump grease cup. Only lubricants of this type should be used; other lubricants will be dissolved into the cooling system liquid. Cup greases and wheel bearing lubricants are entirely unsuited for this purpose.

Engine Lubrication

The supply of engine oil is carried in an oil pan at the bottom of the crankcase and is circulated through the engine by means

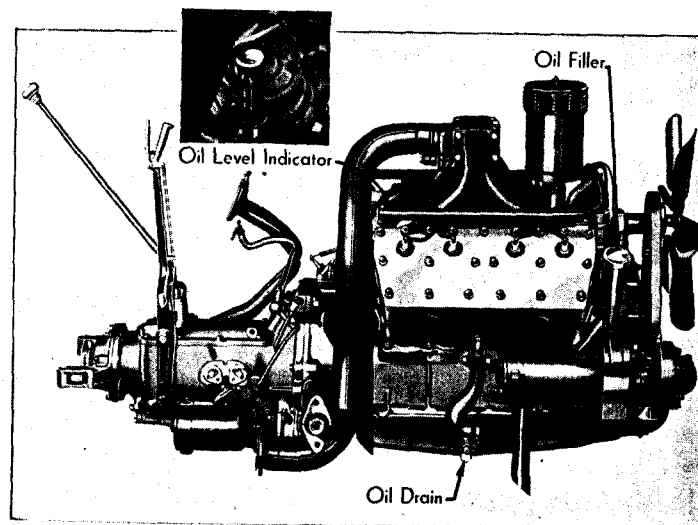


Fig. 6. The external features of the engine lubricating system.

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

There are a few points on the engine that cannot be taken care of by the pressure system and these points should be lubricated

according to the instructions given in the lubrication chart. This includes the starting motor, the generator, the distributor and the water pump.

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 between the two blocks at the rear of the engine (figure 6) shows "Full." The oil level should be checked every 100 to 150 miles and, whenever necessary, enough oil should be added to bring the indicator up to "Full." It should never be permitted to drop below "Fill."

Particular attention should be paid to the oil level in case of prolonged driving at high speed. At high speeds the oil is consumed many times as rapidly as at city driving speeds and oil must be added more frequently to maintain the proper level.

Crankcase Ventilating System and Oil Filter

La Salle engines are equipped with a crankcase ventilating system and an oil filter to keep the oil in the best condition possible. The ventilating system, which functions automatically, prevents dilution and contamination of the oil by removing the vapors which seep past the pistons.

The oil filter removes dirt and solid matter from the oil until it gradually becomes so clogged that it ceases to function. The filter cartridge must then be replaced. Normally, replacement should be at 12,000 miles.

The oil pan and screen should be removed and thoroughly washed with gasoline every 12,000 miles to remove any carbon or foreign particles that may have collected.

Changing Engine Oil

The useful life of the engine oil is greatly prolonged by the use of the crankcase ventilating system and the oil filter, but the oil pan should be drained and the engine oil replaced every 2000 miles. To drain the oil, simply remove the drain plug (figure 6) and allow the oil to flow into a receptacle placed under the car. The drain plug should then be reinstalled and tightened securely before pouring in fresh oil. Eight quarts are required to bring the oil level indicator to "Full."

CHAPTER III

OPERATION

ONE of the first things the driver of the La Salle should do is to familiarize himself with the location and use of the instruments and controls described in this chapter.

Gasoline Gauge

The gauge marked "Gasoline" indicates in gallons the quantity of fuel in the tank at the rear of the car. This gauge operates

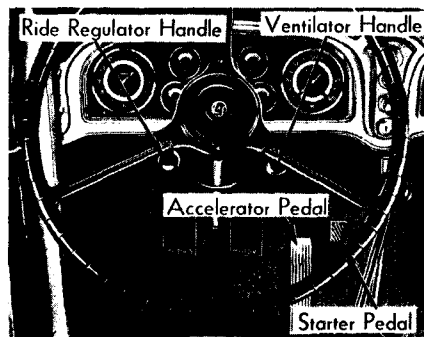


Fig. 7. General arrangement of the driving controls.

electrically and indicates the quantity of fuel *only* when the ignition is turned on. When the tank is being filled and the driver wishes to check the amount of fuel in the tank, he should first shut off the engine to comply with filling station regulations and then switch on the ignition so that the gauge will operate.

Oil Pressure Gauge

The oil pressure gauge indicates only the pressure under which the oil is being forced to the engine bearings. It *does not* indicate the *quantity* of oil in the engine. The gauge should indicate zero as long as the engine is not running, but as soon as it is started and as long as it runs, it should show pressure. If no pressure is indicated when the engine is running, the engine should be stopped at once. Serious damage may result if the engine is run for any length of time whatever with no oil pressure.

Ammeter

The gauge marked "Amperes" indicates the rate of charge or discharge of the battery. It does not indicate the total output of the generator at any time nor does it indicate the current drawn by the starting motor when starting the car.

The ammeter should indicate on the charge side most of the time; otherwise more current will be drawn from the battery than is put into it and the battery will eventually become fully dis-

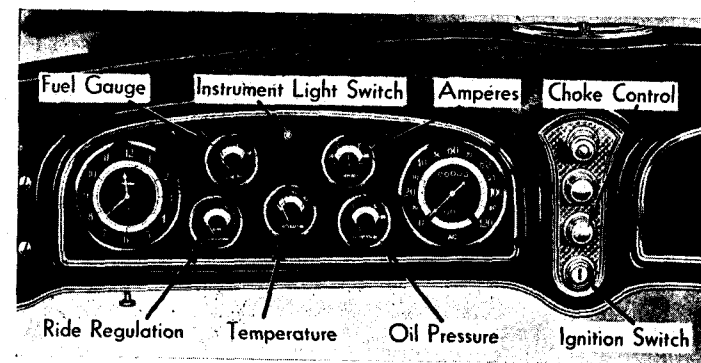


Fig. 8. Arrangement of the instrument panel.

charged. Normally, when no lights are in use, the ammeter should show "charge" as soon as the car is running ten or twelve miles an hour in high gear. If it fails to show a charge under these conditions, or if it shows a discharge when the engine is not running and no electrical equipment is in use, the cause should be investigated.

Temperature Indicator

The temperature of the cooling liquid in the radiator is indicated by the gauge marked "Temperature." For ordinary driving, after the engine has warmed up, the indicator should

stay within the "Normal" range, but under conditions of long hard driving, especially in summer weather, it may indicate "Hot." This is to be expected and will not interfere with efficient operation of the engine. If it indicates "Hot" after short runs and under average operating conditions, however, the cause

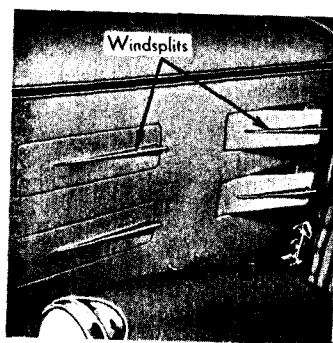


Fig. 9. The hood ports may be opened by pulling out on the windsplits.

should be investigated. The temperature indicator will always show a temporary rise in temperature immediately after stopping the engine. This likewise is a natural condition and is due to the residual heat in the engine.

For average operation in warm weather, the hood ports should be open. Ordinarily, these ports should be opened at the start of warm weather in the spring and left open until the beginning of cold weather in the fall. They may be opened by simply pulling out on the windsplits on the hood ports.

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 "CLOSED." 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

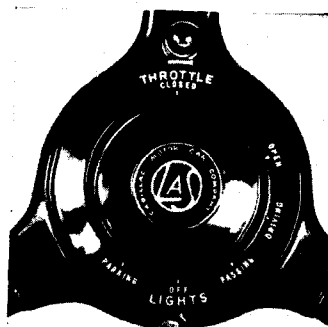


Fig. 10. The throttle hand control is the top lever on the hub of the steering wheel.

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.")

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. The button should be pushed all the way in as soon as this can be done without causing "popping-back."

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, it must be pulled out and kept partly out during the cranking operation.

Starting the Car

To start the car, first make sure the transmission is in neutral and the hand throttle is one fourth the way down. Then pull

out the choke (unless the car is warm from previous running), switch on the ignition by turning the key to the left until the lock cylinder springs out, and step on the starter.

As soon as the engine starts, release the starter pedal and push the choke button in as far as possible without stalling the engine. When the engine warms up, *push the choke button all the way in*. The proper use of the choke control will permit the engine to run smoothly until it warms up. The engine should never be raced to warm it up. Racing the engine is not only unnecessary, but ineffective.

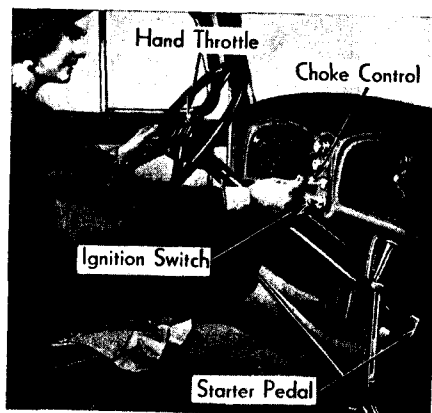


Fig. 11. The position of the hand throttle and the proper use of the choke control is of particular importance in starting the car.

Starting Hints

In cold weather, disengage the clutch to get a quicker start and to relieve the battery of the strain of turning the transmission gears.

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

Do not run down the battery by too much use of the starter motor when the engine does not start readily. First find the cause; otherwise, the battery may be run down sufficiently to make starting impossible.

Check the contents of the gasoline tank.

See that the throttle hand lever is in the normal starting position and that the choke control has been used properly.

If the carburetor is choked from unnecessary use of the choke control or unnecessary priming with the accelerator pedal (see

page 33), turn off the ignition, move the hand throttle to the fully open position and hold the starter pedal down for 10 to 15 seconds to get rid of the surplus gasoline. Next, return the hand throttle to the normal starting position, turn on the ignition and step on the starter.

Ride Regulation

The driver may control the action of the shock absorbers at any time to suit the conditions of road and speed. The control handle is located beneath the instrument panel on the left-hand side of the car next to the steering column.



Fig. 12. The degree of ride regulation can be controlled by the handle on the left hand side of the steering column.

The degree of control is indicated by a dial on the instrument panel labeled "Ride Regulation," and marked with five degrees, ranging from "free" to "firm." In general, "free" is for slow speeds over city pavements, while "firm" is for fast speeds over rough roads, but the

driver can best determine by trial the degree of firmness or softness best suited to his requirements under conditions of car load, speed and the road.

Lighting Switch

The lighting switch control is located at the center of the steering wheel opposite the throttle control. The lever has four

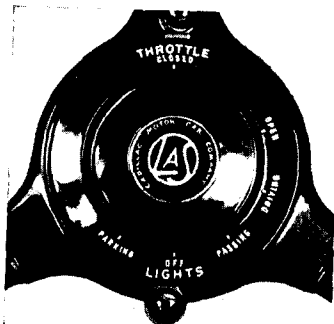


Fig. 13. The headlight switch is the lower lever on the hub of the steering wheel.

positions: "Parking," "Off," "Passing" and "Driving." Turning the lever to "Parking" turns on the parking lamps and the two rear lamps. Turning the lever to "Passing" turns on the headlamp lower beam and the two rear lamps, while turning the lever to "Driving" turns on the headlamp upper beams and the two rear lamps.

Driving Hints

The driver owes it to other users of the streets and highways as well as himself to drive in such a way that the car is always under his complete control. The driving equipment on the La Salle—the brakes, the ride regulation, the lighting equipment and the synchro-mesh transmission—is designed to afford maximum safety at all times, but there are certain conditions requiring special care to make its use fully effective.

Speed

The La Salle can be driven at speeds faster than the driver will ever require. The car operates so smoothly that the driver sometimes fails to appreciate the speed at which he is driving. He must, therefore, use judgment in driving to keep the car always in control. Blind curves, hills, rough roads, side roads and winding roads require a slower speed than smooth concrete straightaways where the driver may see clearly for considerable distance ahead. Where the vision ahead is limited,

speed should be kept low enough so that the car can be stopped within a safe distance for any emergency.

Gravel Roads

Adjust the Ride Regulator control to whatever degree of firmness required to prevent excessive bouncing and side sway. Do not swerve quickly or hold to the outside edge of the road on a curve.

Hills

When approaching the top of a hill, be prepared for any cars coming up the other side.

The transmission should never be shifted to neutral for coasting downhill. If it is desired to coast, keep the transmission in gear and simply disengage the clutch. If the speed of the car becomes excessive while coasting down hill, engage the clutch and use the engine to assist the brakes. It must be remembered that the brakes are subjected to much more severe use on grades, where they must absorb the force of gravity as well as the momentum of the car, than on the level where they must absorb only the momentum of the car.

Ordinarily, the resistance offered by the engine with the transmission in high gear, supplemented by moderate use of the brakes, is sufficient to control the speed of the car. If excessive use of the brakes is still required, however, the transmission should be shifted to intermediate.

Slippery Roads

When stopping on slippery pavements, keep the car in gear and the clutch engaged until the car is nearly stopped. Apply the brakes gently. This will minimize the possibility of skidding. Do not attempt sudden stops.

Danger of Running the Car in Closed Garage

Always open the doors of the garage before starting the car.

Carbon monoxide, a deadly poison gas, is present in the exhaust of all internal combustion engines and, for safety, this gas must be allowed to escape outside the garage. Under normal starting and warming up of the engine in a two car garage enough gas will accumulate in three or four minutes to overcome any occupants. When the choke is used excessively, such as for cold weather starting, the accumulation is more rapid.

Carbon monoxide is colorless, tasteless and almost odorless. *It gives no warning.*

Open the garage doors before starting the engine.

CHAPTER IV

COLD WEATHER OPERATION

SATISFACTORY operation of the car in freezing temperatures depends upon having the car prepared for cold weather and in giving it the special attentions which are required under such conditions. All the information relating to the care and operation of the car during cold weather has been grouped in this chapter to assist the operator in maintaining the fine performance of the car throughout the winter as well as the summer. This chapter should be reviewed just before the beginning of the winter season so that full benefit may be had of all the suggestions it contains.

Preparing for Cold Weather

Anti-Freezing Solutions

In selecting anti-freezing solutions for winter operation the local conditions and the type of service must be considered. The following information is given to enable the individual owner to more intelligently select the anti-freezing solution best suited to meet his own conditions.

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. Denatured alcohol and methanol are widely distributed, afford protection against freezing, and are not injurious to the materials used in the cooling system.

There are two principal objections to denatured alcohol and methanol. These materials are lost by evaporation, especially on heavy runs, and unless the solution in the radiator is tested periodically and sufficient anti-freeze added to replace the loss by evaporation, the motor or radiator, or both, are likely to be damaged by freezing. The car finish is damaged by contact with denatured alcohol or methanol solutions or vapors, and any material accidentally spilled on the finish should be flushed off immediately with a large quantity of water.

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 or Methanol required to make 6½ gal. solution
		Denatured Alcohol	Methanol	
10 F.	30	.9668	.972	7¾
0 F.	38	.9567	.964	10
—10 F.	45	.9475	.957	11¾
—20 F.	51	.9350	.950	13¼
—30 F.	57	.9260	.944	14¾

Important: The special inhibitor used in the cooling system (see page 46) affects the hydrometer readings of the solution and allowances must be made for the difference. With the inhibitor in the cooling system, the actual freezing temperature of an alcohol or methanol solution is five degrees higher than indicated by the hydrometer. In other words, if the hydrometer reading indicates protection down to zero, the actual protection would only be down to five degrees above zero and similarly throughout the scale.

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. Any solution lost mechanically, however, either by

leakage or foaming, must be replaced by additional new anti-freezing solution. These solutions, under ordinary conditions, are not harmful to the car finish.

The principal objections to glycerine and ethylene glycol are the tendency of these solutions to loosen rust and scale, which form in the water passages of the cylinder blocks and heads, and the difficulty of securing and maintaining tight, leakproof connections. It is absolutely necessary that the entire cooling system be thoroughly cleaned and flushed before glycerine or ethylene glycol is used.

It is also necessary to tighten or replace the cylinder head gaskets, hose connections 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 (Prestone), sold in the United States for anti-freezing purposes, and radiator glycerine, produced under the formula approved by the Glycerine Producers' Association, are chemically treated to overcome the 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 system.

Glycerine and ethylene glycol should be used in accordance with the instructions and in the proportions recommended by the anti-freeze manufacturer. These solutions generally contain inhibitors acting in the same manner as the special inhibitor used in Cadillac and LaSalle cars, and when these solutions are used, the proportion of the inhibitor should not be increased by the addition of the special inhibitor used in LaSalle cars. Too large a percentage of the inhibitor will increase rather than retard foaming and will result in more rapid formation of rust and scale as well as the loss of the anti-freeze solution by spillage.

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 large errors may result. In some cases these errors may be as large as 30 degrees Fahrenheit. Freezing point hydrometers are not interchangeable. A different float is required for denatured alcohol, methanol, glycerine and ethylene glycol.

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

The capacity of the cooling system is $6\frac{1}{2}$ gallons when filled to a point about $1\frac{1}{2}$ inches below the top of the filler neck which is located under the hood on the right-hand side of the car. See Fig. 26, page 46.

Winter Lubrication

Lubrication of the car requires special attention in winter, not only to insure proper protection for 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 13 gives the proper grade of engine oil to be used for cold weather driving. It will be noticed that lighter oils can be used during cold weather providing the car is not driven at high speeds. "Heavy duty" oils, however, must be used for prolonged high speed driving in winter as well as summer to prevent excessive oil consumption.

The lubricant in the transmission and rear axle should be thinned or replaced with a lubricant of suitable cold viscosity as soon as the gears are hard to shift.

The lubricant used during winter weather in the steering gear should have a low cold viscosity and should preferably be an all year-round lubricant. Steering gear lubricants should not under

any circumstances be thinned with kerosine as the pressure between the worm and sector will force out a thinned lubricant and permit excessive wear at this point.

Storage Battery

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

It is a good plan in preparing for the winter season, therefore, 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. At the same time, the spark plugs, the contact points and the ignition timing should be checked to assure easy starting and smooth performance.

Gasoline System

A small amount of water in the gasoline system during warm weather 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 carburetors. It is important, therefore, to clean the filter and the strainers in the gasoline system before the start of cold weather. (See page 48.) It is also advisable to check the adjustment of the carburetors and the operation of the choke control.

Starting the Engine

Choke Button

Gasoline does not vaporize as readily in cold weather as in warm weather 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. This is accomplished by the greater use of the choke control.

For cold weather starting, pull the choke control button all the way out until the engine starts. After the engine starts push the control button part way in. Experience will show the correct place to set the control, which will depend to some extent on the temperature. As the engine warms up the control button should be pushed further in until it has been pushed all the way in. The choke should not be left out any longer than necessary.

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 "close." 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.

Priming the Carburetor

In extremely cold weather the carburetor may be primed by quickly depressing and releasing the accelerator pedal a few times. This procedure forces a larger quantity of gasoline into the mixing chamber and provides a richer mixture. The carburetor should never be primed in warm weather or in cold weather when the engine is warm. Excessive priming at any time is likely to make starting difficult rather than easy.

Use of Starter

It is a good plan to disengage the clutch during the cranking operation in winter weather to relieve the strain on the battery. With the clutch disengaged the starter is not called upon to turn the transmission gears which are immersed in lubricant. At ordinary temperatures the resistance created by the gears turning in the lubricant is negligible, but in cold weather, when the lubricant is stiffened considerably, the strain is sufficient to retard the cranking speed and increase the demand on the battery.

Use of the Accelerator Before Engine is Warm

In cold weather, after the engine is started and before it has run long enough to become warm, the engine cannot deliver its normal power and should not be called on to do so. In accelerating the engine to start the car and in accelerating the car after the transmission is in gear, the throttle should not be opened too suddenly or too far. This merely invites "popping back" in the carburetors and an increase in the amount of excess unvaporized gasoline in the combustion chamber. Unvaporized gasoline in the cylinders washes the oil off of the pistons and cylinder walls, leaving the surface unprotected and open to scoring.

CHAPTER V

EQUIPMENT

THE equipment provided on the La Salle is designed for the comfort, convenience and protection of the occupants. The driver, therefore, should acquaint himself with the operation of the equipment described in this chapter so that he may derive full benefit from its use as occasion demands.

Locks and Keys

The locks on the car are for protection against theft, and full use should be made of this protection whenever the car is to be left unattended for any length of time whatever.

Two sets of two keys each, which may be distinguished by the shapes of their handles, are provided with the car. Two different keys are provided so that the owner may leave the car temporarily in the hands of another operator without foregoing the protection of the various compartments.

The handle of one key is hexagonal in shape while the other is rounded. The hexagonal shaped key operates the combination ignition switch and transmission lock, the right front door and the spare wheel carrier. The key with the rounded handle operates the instrument panel package compartment lock, the rear deck lock, the golf compartment

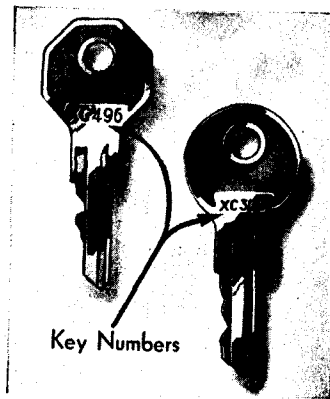


Fig. 14. A record should be kept of the key numbers so that new keys may be easily obtained in case of loss.

lock on roadsters and coupes, the trunk lock on town sedans and 5-passenger coupes, and the rear door lock on town cars and imperial sedans.

Each key has the lock number stamped on the handle, as shown in figure 14, but this number does not appear on the lock. The owner should make a record of the key numbers as soon as he takes delivery of the car so that in case both keys are lost, a duplicate key may be easily obtained from a La Salle distributor or dealer.

Ignition Switch Lock

The ignition switch lock is located in the center of the instrument panel. When the key is placed in this lock and is turned, the cylinder of the lock slides out about one half an inch, turning on the ignition. Turning the key to the locked position and pushing the cylinder all the way in shuts off and locks the ignition.

This lock is also connected to the transmission through a cable. The transmission is thus automatically locked when the ignition is turned off, but the construction of the cable connection at the transmission is such that the car can be locked only in neutral or reverse. No attempt should be made to turn off the ignition when the transmission is in any forward speed.

Be sure to remove the key before leaving the car.

Door Locks

All the doors of the car can be locked from the inside by tilting the inside door handles up above their normal closed position. The driver, however, cannot lock himself out because only the right front door can be locked from the outside.

If the driver leaves the car through any door other than the right front door, the lock will be automatically released as soon as he shuts the door. The right-hand front door lock operates similarly, but it can be locked from the outside with the key. To lock the car completely, the driver must go out through the right-

hand front door after the handles of all the other doors have been tilted up. The right-hand front door must then be locked from the outside with the key.

Package Compartment

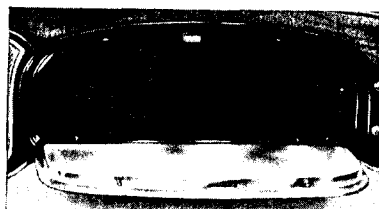


Fig. 15. The compartment on the right-hand side of instrument panel may be used for carrying small articles.

A compartment is provided at the right hand side of the instrument panel for the convenience of the driver in carrying small articles where they will be readily accessible. Maps, gloves, small packages and other articles can be carried there within easy reach. The Operator's Manual should be

carried in this compartment to be available for handy reference. The door of the compartment swings down to a horizontal position for convenience in resting maps or making notes.

Interior Lights and Switches

A map lamp, which may be turned on by pulling it straight out, is located so that it may be used to illuminate the driving compartment for reading maps or making notes when driving at night. This lamp is located at the top of the center panel directly above the ignition lock and the choke button. It may be turned around in its socket toward either side to throw the light in any direction desired.

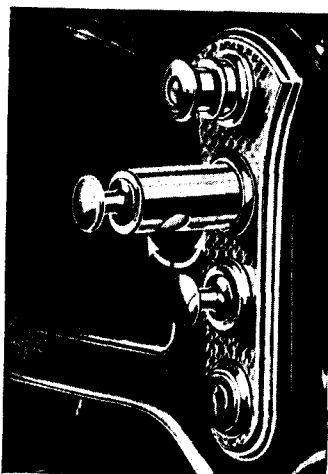


Fig. 16. The map lamp may be turned to either side.

Dome lights on sedans and town cars and quarter lights on coupes turn on automatically when the doors are opened. When the doors are closed the lights are turned off, but they may also be turned on and off when the doors are closed by a switch located on the right-hand door pillar. Quarter lights on cars having dome lights do not operate with the doors but can be controlled by a switch on the left hand rear door pillar.

Phaeton and All-Weather Phaeton cars have a tonneau light operated by the door and by a switch integral with the lamp. Deck compartment lights in roadsters and convertible coupes are operated in a like manner.

A chart of bulbs for replacement on all of these lights will be found on page 52, chapter VI.

No-Draft Ventilation

LaSalle closed cars are provided with the "No-Draft" system of ventilation which makes it possible for any occupant, while the car is moving, to control the circulation of air in the area of the car in which he is seated without noticeably affecting any other area. This is accomplished by means of the laterally operated ventilators in the front compartment windows and in the rear-quarter windows in the rear compartment.

The No-Draft ventilators are operated by the T-handle just below and toward the front of the windows as shown in the illustration. The ventilator may be turned in or out to obtain the desired circulation by turning this handle.

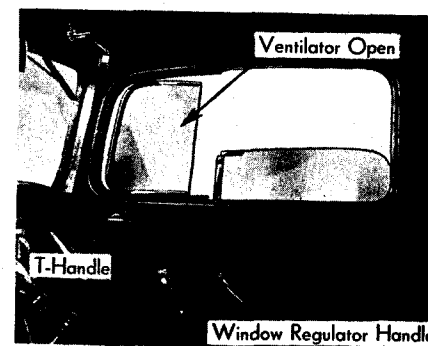


Fig. 17. The window should be lowered about half-way when opening or closing the ventilator.

Important: To operate the No-Draft ventilators in the front compartment windows, first lower the window half way, as shown in the illustration, in order to release the ventilator from the channel section of the window glass. The ventilator may then be turned to any desired position and the window may be raised.

In order to make sure the car is safe against intrusion when the car is to be locked, the ventilators should be closed. In closing the front compartment ventilators, first lower the window half way, shut the No-Draft ventilator, and raise the window. This securely locks both window sections.

The front compartment is provided with a weather-proof cowl ventilator in addition to the No-Draft system. This ventilator is controlled by the knob at the right-hand side of the steering column and may be opened for increased air circulation in the front compartment as desired. The design of the cowl ventilator is such that it may be kept open in any weather, without possibility of rain entering the driving compartment.

Windshield Cleaner

The windshield cleaner consists of two wiper blades operated simultaneously by suction from a vacuum pump on the engine.

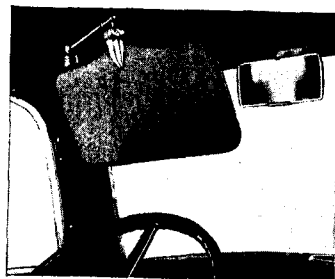


Fig. 18. The sun visor may be turned and tilted in any direction.

On closed cars the wipers are controlled by one push button located on the header-board above the center of the windshield. On open and convertible cars, each wiper is controlled separately by the two buttons located on the cowl at each side of the center section above the instrument panel.

Sun Visor

A sun visor is provided on each side of the driving compartment to protect the occu-

pants from the glare of the sun. The visors operate on a universal joint and can be turned down or up or tilted to either side to give the protection desired.

Adjustable Seat

The driver's seat on closed cars may be adjusted to suit individual requirements in giving the most comfortable reach to the controls. A crank located on the left-hand side of the driving compartment at the seat base just above the floor boards, operates the control mechanism.



Fig. 19. To operate the cigar lighter press it in its socket, hold until the glow is seen; then remove it.

Cigar Lighter

Cordless lighters are provided on the instrument panel and in the smoking sets of the various body styles. These lighters have a green translucent button through which the glow of the heating element may be seen when the lighter is ready for use. To use a lighter, press it all the way into its socket and hold it there until the glow of the heating element is seen; then lift it out.



Fig. 20. Arrangement of the tools in the tool compartment.

Tools

A compartment for the tools is located under the front seat except in 5-passenger coupes. In these cars it is located under the

rear seat. A compartment for tire chains is provided in the left hand front fender corresponding to the battery box on the right-hand side.

It is important that the tools be placed on the tool compartment in such a way that they do not interfere with the proper placing of the seat cushion or with the seat adjusting mechanism. The jack should be placed under the driver's seat with the base toward the rear and the remainder of the tools should be arranged as shown in figure 20.

Tool equipment provided with the car is as follows.

Hammer	Jack Handle
Large Screw Driver	Jack
Small Screw Driver	Hub Cap and Wheel
Pliers	Mounting Wrench
Spark Plug Wrench	Tool Bag
Crescent Adjustable Wrench	Operator's Manual

Tires

For normal driving the front and 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.

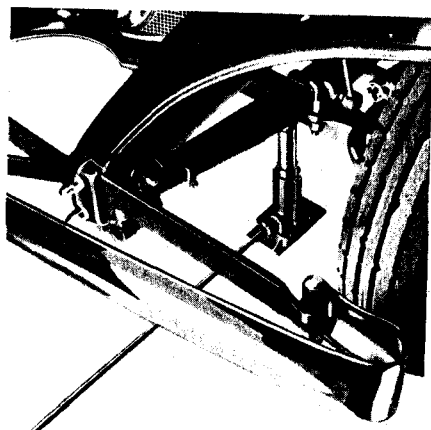


Fig. 21. The jack should be placed under the spring as near the axle as possible.

[40]

The tires should be checked at least weekly and brought up to the recommended pressure if necessary. The pressure should never be permitted to drop more than five pounds. If this precaution is taken tire wear will be kept at a minimum.

Use of Jack

When a tire is flat, the axle is not al-

ways far enough above the ground to permit the jack directly under the axle. In such cases the jack should be placed under the spring, as shown in figure 21, as near the axle as possible.

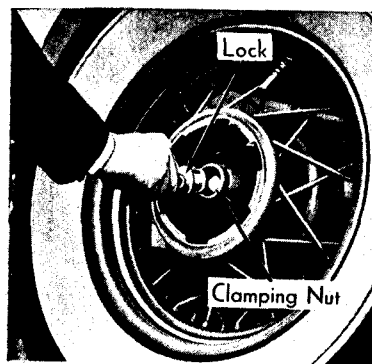


Fig. 22. The clamping nut may be reached after unlocking and removing the lock.

in the rear, the wheel may then be lifted off. On cars with fenderwell carriers, however, the clamping knob on the brace rod must first be loosened by turning to the left until the wheel may be cleared from the brace rod and lifted off.

To reinstall a spare wheel on the rear carrier, mount it on the carrier, reinstall the clamping nut, snap the lock back into place and place the dust shield in position. On fenderwell carriers, place the wheel in the well, screw the clamping knob on the brace rod down until the clamping screw can be pushed into

Spare Wheel Carrier

To remove a spare wheel from the carrier either on the rear of the car or in the fenders, first remove the hub cap; then unlock the lock and take it out, using the key as a handle. It may be necessary to hold the lock while turning the key. Unscrew the clamping nut underneath the lock. On cars with the wheel carrier

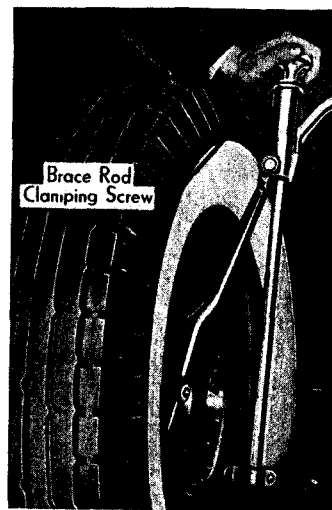


Fig. 23. The spare wheels on cars with fenderwell carriers may be removed after loosening the brace rod clamping screw.

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position and install the clamping nut. Reinstall the lock and the hub cap, then screw the brace rod clamping knob down until the wheel is held solidly in place.

Changing Wheels

If a fully inflated spare tire is always carried, it is only necessary, in case of tire trouble, to remove the wheel with the flat tire and install the spare wheel in its place. Illustrated directions for performing this work are given in figure 24, page 43.

In case tire trouble develops when no spare is available, the tire can be easily removed from the drop-center rim for repair. Instructions for removing and installing tires on the wheels are given on page 53, Chapter VI.

Fig. 24a. Set the hand brake lever to prevent the car from rolling and jack up the axle. Remove the hub cap with the wrench in the tool kit. Arrows on the hub cap indicate the direction in which it turns off and on.

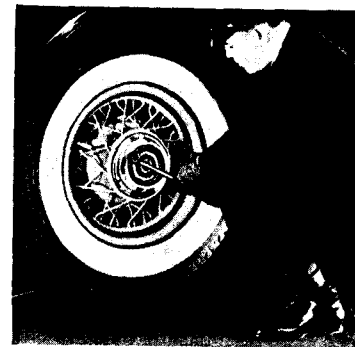
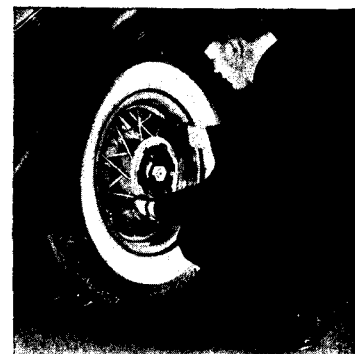


Fig. 24b. Loosen the nuts around the wheel hub by turning them in a counter-clockwise direction with the wrench. Remove the nuts and pull the wheel off of the hub.



Fig. 24c. To remount the wheel, set it up on the hub and start the nuts by hand; then tighten the nuts with the wrench, but not in rotation. After tightening one nut, tighten the nut directly opposite until all have been securely drawn up. Replace the hub cap, using the hub cap wrench, and lower the jack.



NOTE: In drawing up the nuts to the last turn, a slight alternate increase and decrease in resistance may be noticed which simply indicates that the locking feature is taking effect. After all the nuts have been tightened, they should again be tried to make sure that none has been resting on a high point without being sufficiently tight.

Fig. 24. Changing Wheels

CHAPTER VI

GENERAL CARE

NO ATTEMPT has been made to include in this manual directions for making adjustments and repairs to the car. Most La Salle owners prefer to depend on authorized Cadillac-La Salle service stations for such work 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 also can be done in the service station if desired.

Storage Battery

The Delco Storage battery is carried in a compartment in the right-hand front fender. The battery may be reached after removing the four screws and taking off the cover shown in figure 25.

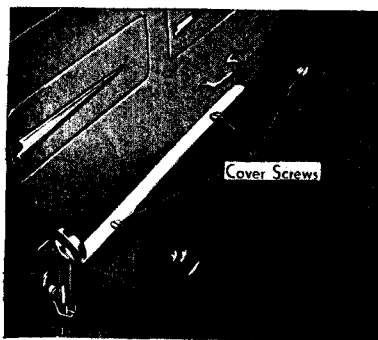


Fig. 25. The cover of the battery compartment is held by four screws.

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. Hydrant water or water that has been in contact with metallic surfaces is not satisfactory.

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

No attempt should be made to add acid or any so-called "rejuvenator solution" to the battery. Adding anything other than distilled water will materially shorten the life of the battery.

The specific gravity of the acid solution changes as the battery is charged and discharged. The state of charge of the battery can thus be determined by measuring the specific gravity of the solution with a hydrometer. As the battery is charged, the specific gravity of the solution increases, reaching 1.270 to 1.285 when the battery is fully charged. A fully discharged battery has a specific gravity of 1.150 to 1.165.

An accurate test cannot be made immediately after adding distilled water. The hydrometer reading should be taken before water is added, or, if the solution is so low that it cannot be reached, distilled water should be added to bring the solution up to the proper level and the car run for several hours until the solution is properly mixed before the test is made.

Generator Charging Rate

Current is supplied to the battery from a generator driven by the engine and the generator charging rate must be high enough to keep the battery charged. Under normal operating conditions, if a hydrometer test shows the battery is low the charging rate should be checked and adjusted at a service station. If the test shows the battery is extremely low, the battery should be recharged from an outside source before continuing to drive the car.

Winter driving places greater strains on the battery than summer driving and the generator charging rate should be ad-

justed to take care of the increased demands. If the maximum charging rate is not sufficient to take care of this extra load, arrangements should be made to have the battery charged from an outside source periodically to insure dependable operation throughout the winter months.

Spark Plugs

The spark plugs provide the spark which ignites the gasoline mixture in the cylinders, and smooth and economical engine performance depends largely upon their efficiency. The accumulation of carbon and improper gap setting are generally the cause of inefficient spark plug operation. Their efficiency can be increased in such cases by cleaning out the carbon and by resetting the gap.

To clean carbon from the insulator, fill the lower part of the plug with alcohol, liquid metal polish or equal parts of ammonia and water and allow it to stand for a few seconds. Rub the carbon from the insulator with a wire covered with one thickness of cloth; then wipe it clean and dry before replacing the spark plug in the engine.

Whenever spark plugs are reinstalled in the engine, the firing points should be tested to make sure they are properly spaced. The gap should be .025 to .028 inches, measured with a feeler gauge. All adjustments of the gap should be made by moving the side wire only.

Cooling System

The radiator filler cap is located on the right hand side of the engine under the hood. The capacity of the cooling system is $6\frac{1}{2}$ gallons when filled to a point about $1\frac{1}{2}$ inches below the top

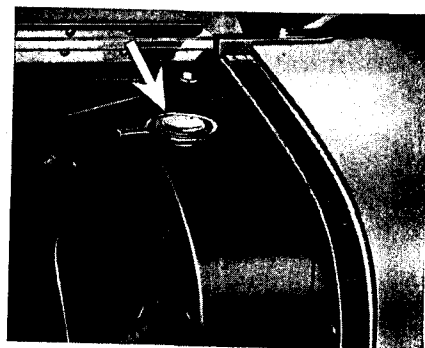


Fig. 26. The radiator filler cap is on the right hand of the car under the hood.

of the filler neck. When the car is delivered to the owner, the cooling system contains, in addition to the water and whatever anti-freeze is used, a small amount of a special inhibitor which gives the cooling liquid a milky appearance. This inhibitor has particular advantages in reducing foaming and retarding the formation of rust and scale, thus helping to keep the cooling system clean so that it will better perform its cooling action. It is not necessary to add the inhibitor each time water or anti-freeze is added. Whenever the cooling system is drained and refilled, however, it is recommended that $\frac{1}{8}$ of a pint (about 6 ounces) of a suitable inhibitor be added. Consult your Distributors or Dealer concerning the proper inhibitor to use.

In freezing weather a suitable anti-freeze solution, such as those described on page 27, should be used. The inhibitor, although it has no anti-freezing qualities in itself, will blend satisfactorily with any approved anti-freeze but should not be used with any solution already containing an inhibitor (see page 29). Allowances must, of course, be made when testing the cooling solution for the effect the inhibitor has on its specific gravity.

Before the start of cold weather, the cooling system should be cleaned and thoroughly inspected to make sure all connections are tight. If an inhibitor is used, this cleaning will suffice for the entire year; otherwise it is advisable to clean it thoroughly every 6000 miles, using the reverse flow method which is standard at all Authorized Cadillac-La Salle Service Stations.

If this is not possible, a satisfactory cleaning, although not as effective as the reverse flow method, may be obtained by using the following procedure.

Run the engine until the opening of the radiator shutters indicates that the engine

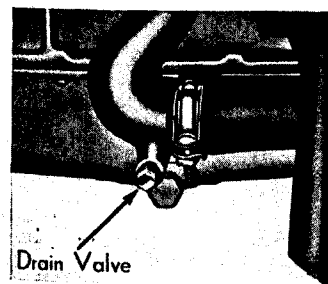


Fig. 27. The cooling system may be drained by opening the one valve.

is warm; then stop the engine and open the drain valve on the right-hand side of the engine at the water inlet elbow below and a little to the rear of the generator as shown in figure 27. After the liquid has drained off, refill the cooling system with warm water, run the engine for a few moments, and drain the system. Repeat this operation until the water is clean when it is drained.

In cases where the accumulation of rust and scale is so great that this method does not clean the system sufficiently, the flushing operation should again be repeated after one or two handfuls of sal soda have been added. Care must be taken, of course, that the cooling system is thoroughly flushed after this operation to clean out all traces of the sal soda, and that none of the solution is allowed to reach the car finish.

Gasoline System

A gasoline filter is provided at the bottom of the fuel pump on the front left-hand side of the engine. Any accumulation of water or sediment should be cleaned out when it can be seen in the glass bowl.

The bowl may be removed by unscrewing the thumb nut on the underside of the bowl and swinging the yoke to one side. The screen strainer at the top of the bowl usually comes off with the bowl but if it does not, it may be removed by pulling it straight down.

Any dirt on the strainer should be washed off with gasoline and the bowl should be wiped clean. The bowl should then be reinstalled with the screen on top. Make sure the bowl seats properly against the cork gasket at the top of

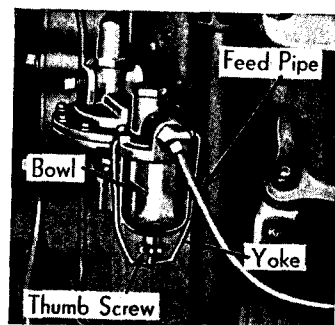


Fig. 28. The gasoline filter should be removed and cleaned whenever water or sediment appears in the bowl.

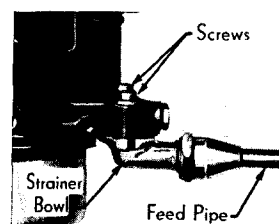


Fig. 29. The strainer in the carburetor bowl may be removed by disconnecting the feed pipe and removing the two screws.

cleaned in the same manner as the gasoline filter.

Carburetor Air Cleaner

The carburetor intake silencer serves also as an air cleaner. This cleaner is designed to catch any dust or lint in the air before it is drawn into the carburetor. It is automatic in operation and requires no attention other than periodic cleaning.

The mileage at which the air cleaner requires attention depends entirely upon the conditions under which the car is operated. For normal driving in cities and on hard surfaced roads, cleaning once every 6000 miles is sufficient. Under extreme conditions, however, such as continuous driving on dusty roads or in localities where there is considerable dust in the air, cleaning may be required as frequently as every 2000 miles.

The air cleaner may be lifted out, as shown in figure 30, after the cover of the intake silencer has been removed. The cover of the silencer is held by two acorn nuts. After the air cleaner

the filter, swing the yoke into place and tighten the thumb nut.

The strainer on the carburetor where the gasoline enters should also be cleaned periodically. It may be removed by disconnecting the feed pipe and removing the two cap screws above the inlet connection shown in figure 29. Both the strainer and the sediment chamber should be

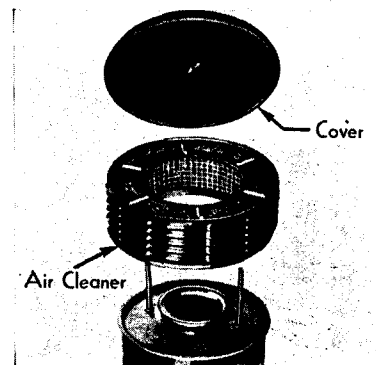


Fig. 30. The cover to the air cleaner and silencer should not be washed under any circumstances.

has been removed it should be thoroughly washed in gasoline, permitted to drain and then dipped in fresh engine oil. *Do not wash the cover.* It may then be reinstalled by placing it on the top of the silencer cylinder and replacing the cover.

Brakes

The importance of the proper operation of the brake system as an essential measure of safety is so great that all service on it should be performed at a service station where proper adjustments and tests can be made with the greatest accuracy. Adjustment should never be neglected so long that the pedal reaches the floor

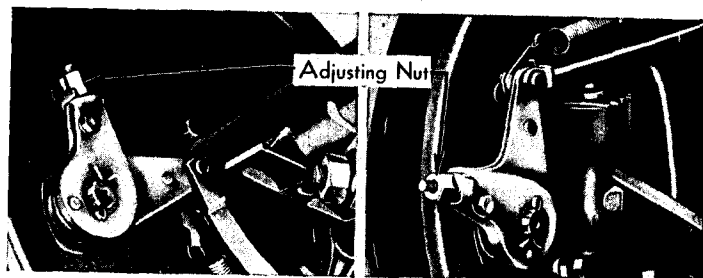


Fig. 31. A temporary brake adjustment can be secured by turning the adjusting nut on each brake one-half a turn clockwise.

board before the brakes take effect. In case of emergency, however, should this occur, the following temporary adjustment can be made by the driver.

Turn the adjusting nut on the cam lever, shown in figure 31, of each of the four brakes one half a turn in a clock-wise direction. These adjusting nuts lock each sixth of a turn to hold the adjustment.

A permanent adjustment should be made as soon as a service station can be reached.

Tires

The most important factor in the life of a tire is its inflation pressure. Each tire should be tested at least once a week and the pressure should be kept at 40 pounds front and rear; if the car is

to be used for high speed driving the pressure of the front tires should be increased to 45 pounds.

With the inflation pressure properly maintained injuries to the tire structure will be kept at a minimum. Severe cuts, however, caused by sharp obstructions in the street or on the road, will invariably appear. If these cuts are neglected, the action of the weather and grit and gravel will in time weaken the tire around those points. If the cuts are sealed immediately by a good vulcanizer, however, these points will be protected and the life of the tire will be lengthened.

Removing Tires from Wheels

The wheels used on the La Salle have rims of the drop center type, constructed as shown in figure 32. The tires supplied with this type of wheel have a soft rubber tip on the bead to protect the tube from chafing and a hoop of wire inside the bead to maintain the shape of the tire.

The removal and installation of tires on the drop center rim is simple and easy, because the bead can be pushed down into the well on one side while it is being pulled over the flange on the opposite side. Illustrated directions for removing and installing tires are given on pages 53 and 54. Care must be taken in removing and installing the tires not to damage the soft rubber tip or to break or unnecessarily strain the hoop of wire. If prying the bead over the flange seems to require too much force it is an indication that the bead is not down in the well on the opposite side of the wheel.

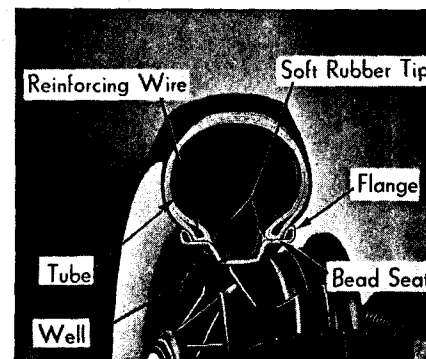


Fig. 32. Principal features of the drop center rim and special tires.

The changing of tires on drop center rims is made easier by coating the inside and outside of the bead as required with a vegetable oil soft soap. *Do not use oil or grease.* If it is applied each time a tire is changed there should never be any difficulty in removing or installing the tire. If, when removing the tire, however, some difficulty is experienced in removing the second bead, coating the bead with the vegetable oil soft soap will make the removal easier.

Tire Balancing Marks

The tires used on the La Salle are balanced to offset the weight of the valve stem and 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 dot branded in the side wall of the tire indicates the point of balance. This mark must always be kept in line with the valve stem.

Lights

In replacing lamp bulbs in any of the lights on the car, the same candle power bulb should be used for replacement as was originally installed. It is a good plan to carry a spare set of these lamp bulbs at all times in the car.

The lamp bulbs used in the car are as follows:

Location	Voltage	Candle Power	Mazda No.
Headlamps	6-8	$\left\{ \begin{array}{l} 32 \\ 32 \end{array} \right.$ (two filament)	1000
Rear Lamps (signal position)	6-8	15	87
Rear Lamps (parking, driving)	6-8	3	63
Instrument Lamp	6-8		
Map Lamp	6-8		
Fender Lamps	6-8		
Dome Lamp	6-8	6	81
Quarter Lamps	6-8		
Deck Compartment Lamps	6-8		
Tonneau Lamp	6-8		

Fig. 33a. Deflate the tube completely and remove the rim nut on the valve stem. Loosen both beads from the bead seats, using a tire tool if necessary. Stand on the tire, opposite the valve stem, with the feet about 15 in. apart, to force the bead into the rim well.



Fig. 33b. Insert two tire tools, about 8 in. apart, between the bead and the rim flange near the valve. Leaving one tool in position, pry short lengths of the bead over the flange with the other until the entire bead has been removed.



Fig. 33c. Remove the inner tube before attempting to remove the second bead. Raise the wheel to an upright position, insert a tire tool between the second bead and the rim flange at the top side of the wheel and pry the wheel out of the tire. This operation will be simplified if the soft tip of the bead is first coated with a vegetable oil soft soap.

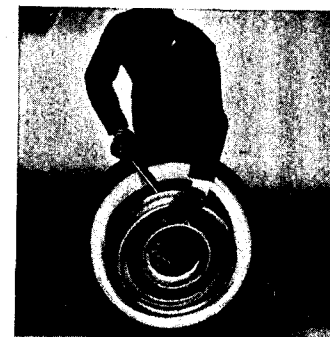


Fig. 33. Removing Tire



Fig. 34a. Coat both beads of the tire with vegetable oil soft soap before reinstalling the tire. Inflate the tube until barely rounded out and insert in the tire with the stem at the tire balancing mark. Place the tire on the rim, guiding the valve through the hole, and apply the rim nut loosely. Push the bottom bead down into the well at the valve and force the remaining portion of the bead over the rim flange, using a tire tool if necessary.



Fig. 34b. Force the top bead over the rim flange and into the well at the point opposite the valve. Kneeling on this side of the tire to hold it in the well, pry short lengths of the remaining portion of the bead, working around the rim until the entire bead is in place. Always keep as much of the top bead in the well as possible while prying the remainder of the bead.

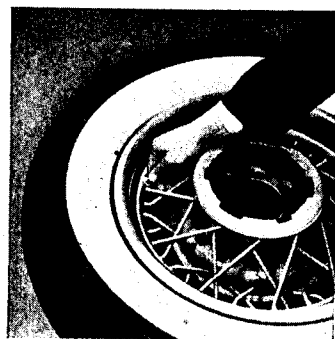


Fig. 34c. Remove the rim nut and push the valve stem back into the casing as far as possible without letting go of the stem to make certain that the tube is not pinched under the bead; then reapply the rim nut. With the wheel flat on the floor, inflate the tire slowly, making sure that both sides of the tire are centered on the rim.

Fig. 34. Reinstalling Tire

Replacing Map Lamp Bulb

The bulb in the map lamp may be replaced after the lamp shield has been removed. To remove the shield, pull the lamp out until the threaded terminal at the rear (behind the instrument panel) is about flush with the edge of the lamp cylinder. Turn the lamp slowly until the hole in the plunger lines up with the hole in the lamp cylinder and insert a small nail as shown in figure 35, to keep the plunger from turning. The shield may then be unscrewed by turning to the left. The nail should be kept in place until after the bulb has been replaced and the shield reinstalled.

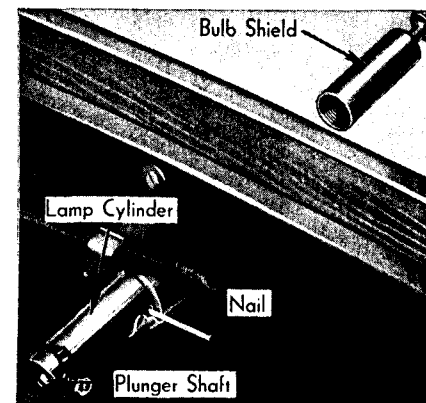


Fig. 35. The bulb shield may be unscrewed after the holes in the lamp cylinder and the plunger have been lined up and a nail inserted to hold the plunger.

Aiming the Headlamps

The headlamps used on the La Salle V-8 are of the Depress-Beam fixed-focus type and the only adjustment ever necessary is the aiming of the beam. The aim of the lamps should be tested periodically according to the following procedure, except when state or local regulations apply, and aimed if necessary. In cases of state or local regulations, this procedure should be modified to meet the legal requirements.

A light colored vertical surface, such as a blank wall or the garage door, on which the light beams can be projected from the car at a distance of about 25 feet, should be used to make the test. Draw in the lines shown in figure 36 according to the dimensions

indicated. The vertical center line may be located by sighting through the center of the rear window of the car across the radiator cap to the wall.

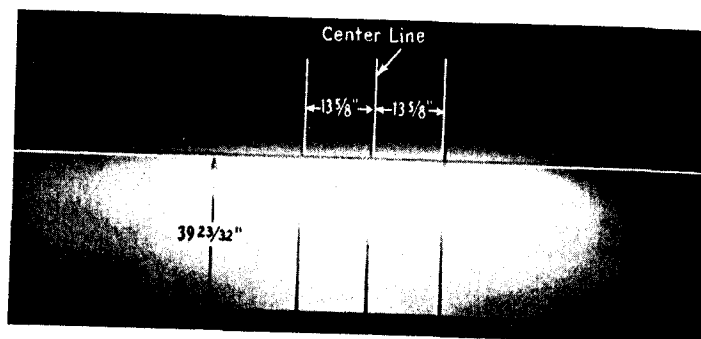


Fig. 36. Light pattern of the left-hand headlamp with the car twenty-five feet from the vertical surface and the light switch in the "Driving" position. The location of the beam should be determined in relation to the lines drawn in at the dimensions indicated.

One lamp at a time should be tested with the lens in place and with the light switch lever in the driving position. If the aim is correct, the light beam will be patterned and located as shown in figure 36 for the left-hand lamp and as in figure 37 for the right-hand lamp.

If the pattern of either lamp is not located as shown in the diagrams, the lamp out of alignment should be re-aimed. This

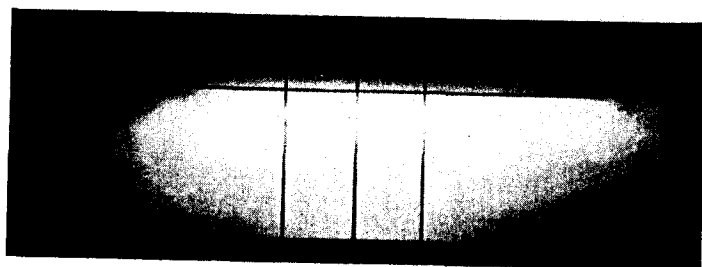


Fig. 37. Light pattern of the right-hand headlamp projected under the same conditions as the left-hand headlamp.

may be done by loosening the acorn nut (figure 38) and turning the lamp sidewise and up or down until the pattern is correctly located. It is important of course that the flutes on the lens



Fig. 38. The headlamps may be turned in any direction necessary for aiming after loosening the clamping nut at the base of the lamp.

be straight up and down at all times. The lamp should then be held in place while the adjusting nut is securely tightened.

Any replacement of parts of the lamps should be with identical parts of the same make. The manufacturer's name is clearly marked on the lens, on the reflector and on the lamp housing. Two-filament bulbs of 32-32 candle power are originally supplied with the car and should be

specified for replacement.

Storing the Car

If the car is to be stored for any length of time it is important that a few precautions be taken to protect it from deterioration. Blocking up the car to take the weight off of the tires and placing a cover over the entire body will protect the tires and finish. The engine and the storage battery, however, require special attention.

Oil should be injected into the cylinders while the engine is warm. This may be done by pouring two or three tablespoonsful of engine oil into the spark plug holes after the engine has been run long enough to warm it up. Cranking the engine a few times after this is done will distribute the oil evenly over the pistons and cylinder walls. The cooling system should then be drained.

The battery should be fully charged and the solution should be at the proper level. If possible, arrangements should be made to have the battery charged from an outside source every two months during the storage period.

Body

The body of a La Salle car is deserving of care and attention the same as the most intricate working parts of the chassis. In

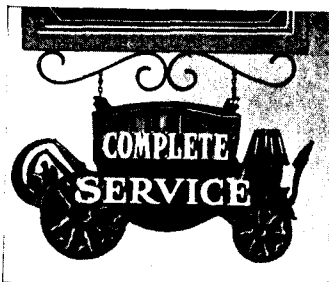


Fig. 39. Authorized Cadillac-La Salle Service Stations displaying this sign are equipped to render complete body service.

recognition of this fact, authorized Cadillac-La Salle Service Stations displaying the *Complete Service Sign*, shown in figure 39, at the bottom of the Authorized Service Sign have equipped themselves to service the body with as much expert skill and care as the chassis. The simple attentions described below, however, are frequently performed by the owner or under his immediate supervision.

Care of the Finish

Keeping the lacquer finish of the car new and lustrous requires only a thorough wiping with a soft dry cloth every few days and an occasional polishing with a recognized lacquer polish. With this care, the car will need to be washed only when considerable mud or dust has accumulated.

Washing of the car can be accomplished simply and easily with plenty of clean cold water, a soft wool sponge and a clean chamois. Soap and hot water are not only unnecessary but undesirable. The dust or mud should be flushed off with a *gentle* stream of water from a hose without a nozzle, using the sponge merely to loosen the dirt. After all the dirt has been removed in this way, the sponge should be squeezed dry and used to pick up the water from the crevices. Thoroughly wet the chamois and squeeze it dry, then rub the finish with it until all of the water has been removed.

Care of the Top

The top may be kept clean by an occasional wiping to remove the dust. This is all the care required to keep the top clean unless

grease spots, stains or dirt film occur. In these cases washing with a mild, neutral soap may be resorted to. Gasoline, naphtha, kerosine and fabric cleaners should never be used since such preparations can easily dull the finish and damage the fabric. Soap and water is not harmful and is fully as effective.

Cleaning Upholstery

Regular monthly cleaning of the car interior with a vacuum cleaner and a whisk broom will keep the upholstery in the best of condition and will prevent excessive wear. The whisk broom should be used to loosen the dirt and grit, which causes more rapid wear than use, while the vacuum cleaner should be used to lift out the loosened dirt.

Spots on the upholstery may be cleaned with any good dry cleaner used sparingly. When the cleaner has thoroughly evaporated, fold a piece of cheese cloth four or five times, dampen it, and place it over the spotted surface; then run a hot iron over surface just long enough to raise a good steam. Plush fabrics can be restored to their original appearance by rubbing lightly against the nap with a brush after the fabric has been steamed in this way.

Door Hardware

The lubrication of the body hardware on the car is fully as essential as the lubrication of chassis parts if it is to work smoothly and silently. Directions for the lubrication of door locks, hinges and striker plates every 1000 miles are included on the lubrication chart. These directions should be followed as faithfully as the rest of the chart.

Body Adjustments

Preventive service on the body at regular intervals will keep the appearance of the car at its best and will eliminate more extensive repairs at a later date. This service should include body bolts, tie-down bolts, door adjustments and the operation of window regulators.

Authorized Cadillac-La Salle Service Stations include the body as well as chassis in the regular monthly or 1000 mile inspection and quote flat rate prices for necessary body service. The necessary work may be authorized by the owner at the time he has chassis adjustments made and the car lubricated.

CHAPTER VII

SPECIFICATIONS AND LICENSE DATA

Type of engine.....	8 cyl. V-type
Diameter of cylinder bore.....	3 $\frac{3}{8}$ in.
Length of stroke.....	4 $\frac{1}{8}$ in.
Piston displacement.....	353 cu. in.
Horsepower (N. A. C. C. rating).....	36.45
Engine number.....	see below
Capacity of gasoline tank.....	30 gals.
Capacity of engine lubricating system.....	8 qts.
Capacity of cooling system.....	6 $\frac{1}{2}$ gals.
Capacity of transmission.....	2 $\frac{1}{4}$ qts.
Capacity of rear axle.....	3 qts.
Wheelbase.....	130-136 in.
Tires.....	7.00 x 17
Spark plug setting.....	.025-.028 in.
Contact point setting.....	.018-.024 in.
Generator charging rate, maximum.....	<div> <div></div> <div>22-24 amps. cold</div> <div>13$\frac{1}{2}$-16$\frac{1}{2}$ amps. hot</div> </div>

Engine and Unit Assembly Numbers

Each La Salle 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 near 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 starting motor, 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 right-hand side of the axle housing 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.

Job and body numbers—on the right-hand side of the cowl under the hood.

INDEX

A

Accelerator	20
Accelerator, use in cold weather	33
Adding water to battery	44
Adjustable seats	39
Air cleaner	49
Alcohol for anti-freeze	27
Ammeter	19
Anti-freeze solutions	27
Authorized service stations	5

B

Balancing marks on tires	52
Battery	31, 44
Battery, preparing for storage	57
Body, Care of	58
Brake adjustment	50

C

Cadillac service	3
Carbon monoxide poisoning	26
Carburetor air cleaner	49
Carburetor flooded	22
Carburetor, to prime	33
Card, identification	4
Changing engine oil	17
Changing tires	51
Charging rate	45
Charges for service	7
Chart, lubrication	10
Chassis lubricant	14
Choke control	21
Cigar lighters	39
Clutch, use of	22
Coasting	26
Cold weather lubrication	30
Cold weather operation	27
Compartment for tools	39
Contract, Service	8
Cooling system	46
Crankcase ventilating system	16

D

Danger from carbon monoxide	26
Door Locks	35
Driving Hints	24
Driver's seat adjustment	39
Driving speed when new	5

E

Effect of alcohol on finish	28
Engine fails to start	22
Engine lubrication	15
Engine number	61
Engine oil	13
Engine oil, changing	17
Engine, preparing for storage	57
Engine, running in garage	26
Equipment	34

F

Filter for gasoline	48
Filter for oil	16
Flat-rate service charges	7
Flooded carburetor	22
Flushing cooling system	47

G

Gasoline filter	48
Gasoline gauge	18
Gasoline system, cold weather	31
General care	44
Glycerine for anti-freeze	28

H

Headlamps	23, 55
Hood Ports	20

I

Identification card	4
Ignition switch lock	35
Inflation pressure	40, 50
Inspections	6
Instrument Panel Package Compartment	36

K

Keys	34
------	----

L

License data	60
Lighting switch	23
Locks	34
Locks for spare tires	34, 41
Lubricants	12
Lubrication	11
Lubrication Agreement	8
Lubrication, chart	11
Lubrication, cold weather	30
Lubrication, engine	15
Lubrication notice	11
Lubrication, schedule	10

M

Map Lamp	36, 55
----------	--------

N

No-Draft ventilation	37
----------------------	----

O

Obligations of owner	5
Oil filter	16
Oil level	16
Oil pressure	18
Operation	18

P

Parts, uniform prices	6
Preventive service	6
Priming carburetor	32

R

Radiator filler cap	46
Rear axle lubricant	14
Repair parts	6
Replacing engine oil	17
Replacing filter cartridge	16
Ride Regulation	23

S

Schedule lubrication	10
Seat adjustments	39
Service contract	8

T

Throttle control	20, 32
Tire balancing marks	52
Tire carrier	41
Tire pressure	40, 50
Tires, changing	51
Tires, preparing for storage	57
Tools	39
Tourists, service to	4
Transmission lock	35
Transmission lubricant	14

U

Unit assembly numbers	61
Use of accelerator before engine is warm	33

V

Ventilator cowl	37
Ventilator, No-Draft	37
Visor	38

W

Water pump lubricant	15
Wheel bearing lubricant	14
Windshield cleaner	38
Winter lubrication	30
Winter operation	27
Wheel carrier	41

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LASALLE

COLOR SPECIFICATIONS FOR 1933 MODELS



COMB. NO.	UPPER PANELS ROOF, REAR QUARTERS, AND LOWER PANELS	MOULDINGS & WINDOW REVEALS	FENDERS AND CHASSIS	BODY STRIPING	WIRE WHEEL COLOR APPLICATION IN PRODUCTION	WIRE WHEEL SPECIAL COLOR SUGGESTIONS
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CONSERVATIVE COLOR GROUP SUITABLE FOR CLOSED BODY STYLES

101	Classic Blue Blend 296	*Black B L 14	*Black B L 14	Tokio Ivory	Black	Tokio Ivory
102	*Black B L 14	*Black B L 14	*Black B L 14	Tokio Ivory	Black	Tokio Ivory
103	*Black B L 14	*Black B L 14	*Black B L 14	Vincennes Red	Vincennes Red	Vincennes Red
104	*Black B L 14	*Black B L 14	*Black B L 14	Chantilly Green	Black	Chantilly Green
115	Glenbrook Green Blend 166	*Black B L 14	*Black B L 14	Billiard Green Light	Black	Billiard Green Light
116	Marshall Maroon Blend 49	*Black B L 14	*Black B L 14	Flamingo Carmine	Black	Flamingo Carmine

SEMI-CONSERVATIVE COLOR GROUP APPLICABLE TO CONVERTIBLE COUPE OR CLOSED BODY STYLES

111	Radium Blue Blend 255	*Black B L 14	*Black B L 14	Tokio Ivory	Black	Radium Blue
112	Labrador Gray Blend 528	*Black B L 14	*Black B L 14	Grecian Gray	Black	Grecian Gray
117	Maylene Maroon Blend 19	*Black B L 14	*Black B L 14	Tokio Ivory	Flamingo Carmine	Flamingo Carmine

SPORT COLOR GROUP ESPECIALLY FOR CONVERTIBLE COUPE AND 2 PASSENGER COUPE BODY STYLES

113	Quebec Gray Blend 520	Arlington Gray Blend 522	Arlington Gray Blend 522	White	Quebec Gray	Quebec Gray
114	Ludington Green Blend 526	English Gray Blend 531	English Gray Blend 531	Fleetwood Ulster Gr.	Ludington Green	Fleetwood Ulster Gr.
118	Carolina Green Blend 530	Bedell Green Blend 121	Bedell Green Blend 121	Tokio Ivory	Bedell Green	Tokio Ivory
119	Riviera Beige Blend 398	Ravenswood Brown Blend 461	Ravenswood Brown Blend 461	Manor Buff	Riviera Beige	Manor Buff

Black wire wheels are optional with combinations 103 and 117 when built to order. Demountable wood wheels will be finished in the lower body panel color.

Colored fenders are necessary for good appearance in the Sport Group Color Combinations and black fenders should not be substituted. However, with black fenders, the wheels also will be black.

*Standard Murphy Blending Lacquer requiring no formulation.

MASTER

Cadillac V-16, Series 452C

(149-inch Wheelbase)

(BODY BY FLEETWOOD)

Fleetwood Style No.	Type	List Excise Tax to	Delivered to be Added
5530-S	5-Pass. Sedan.....	\$6250.00	_____
5575-S	7-Pass. Sedan.....	6400.00	_____
5575	7-Pass. Limousine.....	6600.00	_____
5512	Town Cabriolet, Opera Seats	6850.00	_____
5525	Town Cabriolet, 7-Pass.....	6850.00	_____
5591	Limousine Brougham, 7-Pass.	6850.00	_____

143-inch Wheelbase Chassis 4500.00

149-inch Wheelbase Chassis 4500.00

Tire Size, 7.50—17.

White side wall standard; black optional.

Other Fleetwood Custom Types, built to individual order.

Prices furnished upon request.

List price of Cadillac V-16, Series 452-C, includes either five wheel equipment with spare tire, or 6 wheels, fender wells, two extra tires, and folding trunk rack. Also any color, body or chassis and wide options on upholstery, method of trimming, hardware finish, wood paneling and other appointments.

Accessory Groups

La Salle V-8

Accessory Group No. 1—(for cars with 5 wheels) —Black metal tire cover and protection bar, hinge mirror, moto-pack, cowl ventilator screen.....	\$ 40.00
Accessory Group No. 1A—Same as Group No. 1 with metal tire cover in color to match fender set.....	42.50
Accessory Group No. 2—(for cars with 6 wheels) —2 black metal tire covers and mirrors, moto- pack, cowl ventilator screen.....	66.50
Accessory Group No. 2A—Same as Group No. 2 with tire covers in color to match fender set..	71.50

Cadillac V-8

Accessory Group No. 3—(for cars with 5 wheels) —Black metal tire cover, hinge mirror, Moto- Pack, cowl ventilator screen.....	\$ 34.50
Accessory Group No. 3A—Same as Group No. 3 with metal tire cover to match fender set....	37.00
Accessory Group No. 4—(for cars with 6 wheels) —2 black metal tire covers and mirrors, Moto- Pack, cowl ventilator screen.....	67.00
Accessory Group No. 4A—Same as Group No. 4 with metal tire covers in color to match fender set.....	72.00

Cadillac V-12

Accessory Group No. 5—(for cars with 5 wheels) —Black metal tire cover, hinge mirror, moto- pack, cowl ventilator screen.....	\$ 36.50
Accessory Group No. 5A—Same as Group No. 5 with metal tire cover in color to match fender set.....	39.00
Accessory Group No. 6—(for cars with 6 wheels) —2 black metal tire covers and mirrors, moto- pack, cowl ventilator screen.....	71.00
Accessory Group No. 6A—Same as Group No. 6 with metal tire covers in color to match fender set.....	76.00

Accessories

(All prices include installation)

Electric curtain control.....	\$ 13.50
Radio.....	89.50
Hot air heater (single register).....	31.50
Hot air heater (double register).....	34.50
Chromium wheel discs.....each	9.50
Spot light.....	37.50
Trunks.....	\$100.00 to 180.00
Robe.....	45.00

1933 PRICE LIST

La Salle V-8—345-C
Cadillac V-8—355-C
Cadillac V-12—370-C
Cadillac V-16—452-C



January 3, 1933

All prices f. o. b. Detroit
Subject to change without notice

EXCISE TAX TO BE ADDED

CADILLAC MOTOR CAR COMPANY
Detroit, Michigan, U.S.A.

La Salle V-8, Series 345-C

(130-inch Wheelbase)
(BODY BY FISHER)

Style	List Excise Tax to be added	Delivered
5-Passenger Sedan.....	\$2245.00	_____
2-Passenger Coupe.....	2245.00	_____
2-Passenger Convertible Coupe....	2395.00	_____
5-Passenger Town Coupe.....	2395.00	_____

(136-inch Wheelbase)
(BODY BY FISHER)

5-Passenger Town Sedan.....	\$2495.00	_____
7-Passenger Sedan.....	2495.00	_____
7-Passenger Imperial.....	2645.00	_____

Standard wheel equipment—5 wire; tire size 7.00—17.
U. S. Royal Black sidewall tires standard equipment.
U. S. Royal White sidewall tires \$3.00 extra per tire.

Suggested Minimum Equipment— Factory Installation

For Cars with 5 Wire Wheels

Spare tire and tube (Distributor installation).....	\$_____
Torpedo radiator ornament.....	20.00
License frames.....	7.00

For Cars with 6 Wire Wheels

Fender wells, 2 spare wheels and tires and folding trunk rack.....	\$110.00
Torpedo radiator ornament.....	20.00
License frames.....	7.00

Group Equipment and Extras

Accessory Group No. 1.....	\$ 40.00
Accessory Group No. 2.....	66.50
Colored fender set and chassis.....	25.00
Standard Service Contract.....	110.00

Cadillac V-8, Series 355-C

(134-inch Wheelbase)
(BODY BY FISHER)

Style	List Excise Tax to be Added	Delivered
2-Passenger Coupe.....	\$2695.00	_____
2-Passenger Roadster.....	2795.00	_____
2-Passenger Convertible Coupe....	2845.00	_____

(140-inch Wheelbase)
(BODY BY FISHER)

5-Passenger Sedan.....	\$2895.00	_____
5-Passenger Phaeton.....	2895.00	_____
5-Passenger Coupe.....	2895.00	_____
5-Passenger Town Sedan.....	2995.00	_____
7-Passenger Sedan.....	3045.00	_____
7-Passenger Imperial.....	3195.00	_____
5-Passenger All Weather Phaeton..	3395.00	_____

(140-inch Wheelbase)
(BODY BY FLEETWOOD)

5-Passenger Sedan.....	\$3295.00	_____
7-Passenger Sedan.....	3445.00	_____
7-Passenger Limousine.....	3645.00	_____
5-Passenger Town Cabriolet.....	3995.00	_____
7-Passenger Town Cabriolet.....	4145.00	_____
7-Passenger Limousine Brougham..	4145.00	_____

Standard wheel equipment—5 wire; tire size 7.00—17.
White side wall tires standard; black side wall optional.

Suggested Minimum Equipment— Factory Installation

For Cars with 5 Wire Wheels

Spare tire and tube (Distributor installation).....	\$_____
Heron radiator ornament.....	20.00
License frames.....	7.00

For Cars with 6 Wire Wheels

Fender wells, 2 spare wheels and tires and folding trunk rack.....	110.00
Heron radiator ornament.....	20.00
License frames.....	7.00

Group Equipment and Extras

Accessory Group No. 3.....	\$ 34.50
Accessory Group No. 4.....	67.00
Colored fender set and chassis.....	25.00
Standard Service Contract.....	125.00

Cadillac V-12, Series 370-C

(134-inch Wheelbase)
(BODY BY FISHER)

Style	List Excise Tax to be Added	Delivered
2-Passenger Coupe.....	\$3395.00	_____
2-Passenger Roadster.....	3495.00	_____
2-Passenger Convertible Coupe....	3545.00	_____

(140-inch Wheelbase)
(BODY BY FISHER)

5-Passenger Sedan.....	\$3595.00	_____
5-Passenger Phaeton.....	3595.00	_____
5-Passenger Coupe.....	3595.00	_____
5-Passenger Town Sedan.....	3695.00	_____
7-Passenger Sedan.....	3745.00	_____
7-Passenger Imperial.....	3895.00	_____
5-Passenger All Weather Phaeton..	4095.00	_____

(140-inch Wheelbase)
(BODY BY FLEETWOOD)

5-Passenger Sedan.....	\$3995.00	_____
7-Passenger Sedan.....	4145.00	_____
7-Passenger Limousine.....	4345.00	_____
5-Passenger Town Cabriolet.....	4695.00	_____
7-Passenger Town Cabriolet.....	4845.00	_____
7-Passenger Limousine Brougham..	4845.00	_____

Standard wheel equipment—5 wire; tire size 7.50—17.
White side wall tires standard; black side wall optional.

Suggested Minimum Equipment— Factory Installation

For Cars with 5 Wire Wheels

Spare tire and tube (Distributor installation).....	\$_____
Heron radiator ornament.....	20.00
License frames.....	7.00

For Cars with 6 Wire Wheels

Fender wells, 2 spare wheels and tires and folding trunk rack.....	130.00
Heron radiator ornament.....	20.00
License frames.....	7.00

Group Equipment and Extras

Accessory Group No. 5.....	\$ 36.50
Accessory Group No. 6.....	71.00
Colored fender set and chassis.....	25.00
Standard Service Contract.....	160.00

Suggested Auxiliary Equipment for the CADILLAC V-16—SERIES 452C

Part Number		Distrib- utor Cost	Dealer Cost	List Price
A-979	Metal Tire Covers			
A-980	with Mirrors.....	\$ 27.10	\$ 35.80	*\$63.00
A-974	License Frames.....	2.50	3.25	7.00
A-914	Radio.....	54.50	64.50	89.50
	Built-in Speaker in Rear Compartment extra.			
47276	Fleetwood Robe.....	27.00	31.50	45.00
885880	Dual Heater.....	19.75	23.25	34.50
892404	Cowl Ventilator Screen	.55	.70	1.25
Total		131.40	159.00	240.25

*On colored Metal Covers ducoed to
match fendersets add \$5.00 net and list.

Other Exclusive Cadillac Auxiliary Equipment

	Distrib- utor Net Factory Inst.	Dealer Net Factory Inst.	In- stalled
CADILLAC RADIO.....	\$ 54.50	\$ 64.50	\$ 89.50
CADILLAC HOT AIR HEATER			
Dual Installation.....	19.75	23.25	34.50
Single Installation.....	17.75	21.25	31.50
CADILLAC CUSTOM INSTRUMENT PANELS...	10.00	12.00	17.50
CADILLAC WHEEL DISCS			
Per set of six.....	27.00	36.00	57.00
Per set of five.....	22.50	30.00	47.50
CADILLAC DUPLEX PILOT RAY LIGHT.....	28.70	32.65	44.50
CADILLAC LORRAINE LIGHT.....	20.00	23.50	37.50
CADILLAC FLEETWOOD ROBE.....	27.00	31.50	45.00
ROBE MONOGRAM.....	3.50	3.85	5.50
CADILLAC DOUBLE ALPACA ROBE.....	18.00	21.00	30.00
CADILLAC DOUBLE PLUSH ROBE.....	16.50	19.25	27.50
CADILLAC METAL COV- ERED TRUNKS			
A-912 Standard 3 case equip- ment.....	\$ 56.50	\$ 69.50	\$107.00
1098279 Standard 4 case equip- ment.....	62.50	76.00	119.00
1098280 Standard 3 long case equipment.....	60.00	73.00	115.00
A-852 Custom Aero Type Luggage Equipment	89.00	111.15	160.00
A-851 Custom Genuine Cow- hide Luggage Equip- ment.....	101.00	126.10	180.00
85059 Fleetwood 3 case equipment.....	54.00	66.00	104.00
1098281 Fleetwood 2 long case equipment.....	52.00	63.50	100.00
CADILLAC TOWN SEDAN AND TOWN COUPE LUG- GAGE			
3 Standard Black Cases....	20.35	24.05	37.00
CADILLAC OPEN CAR SIDE WINGS.....	25.00	31.65	47.50

DISTRIBUTORS GROUP EQUIPMENT LIST

La Salle V-8 —Series 345-C
Cadillac V-8 —Series 355-C
Cadillac V-12—Series 370-C
Cadillac V-16—Series 452-C



Issued December 15, 1932

CADILLAC MOTOR CAR COMPANY
Detroit, Michigan, U. S. A.

LaSALLE V-8—SERIES 345C*Five Wheel Equipment***BASIC GROUP**

Part Number		Distrib- utor Cost	Dealer Cost	List Price
A-975	Torpedo Ornament.....	\$ 9.50	\$12.00	\$20.00
A-974	License Frame.....	2.50	3.25	7.00

Basic Group Total \$12.00 \$15.25 \$27.00

GROUP NO. 1

A-877	Metal Tire Cover.....	7.70	10.10	18.50
891697	Protection Bar.....	2.90	3.90	6.00
891623	Hinge Mirror.....	3.60	4.80	8.00
A-945	Moto Pack.....	3.25	4.05	6.25
892404	Cowl Ventilator Screen	.55	.70	1.25

Group 1 Total ~~\$18.00~~ \$23.55 \$40.00

BASIC AND GROUP 1 \$30.00 \$38.80 \$67.00

On colored fender sets with Metal Tire Cover to match specify Group 1A. Extra charge \$2.50 net and list.

BASIC AND GROUP 1A \$32.50 \$41.30 \$69.50

*Six Wheel Equipment***BASIC GROUP**

A-975	Torpedo Ornament....	\$ 9.50	\$12.00	\$20.00
A-974	License Frames.....	2.50	3.25	7.00

Basic Group Total \$12.00 \$15.25 \$27.00

GROUP NO. 2

A-981-2	Metal Tire Covers with Mirrors.....	25.30	33.40	59.00
A-945	Moto Pack.....	3.25	4.05	6.25
892404	Cowl Ventilator Screen	.55	.70	1.25

Group 2 Total ~~\$29.10~~ \$38.15 \$66.50

BASIC AND GROUP 2 ~~\$41.10~~ \$53.40 \$93.50

On colored fender sets with Metal Covers ducoed to specify Group 2A. Extra charge \$5.00 net & list.

BASIC AND GROUP 2A \$46.10 \$58.40 \$98.50

CADILLAC V-8—SERIES 355C*Five Wheel Equipment***BASIC GROUP**

Part Number		Distrib- utor Cost	Dealer Cost	List Price
A-965	Heron Ornament.....	\$ 9.50	\$12.00	\$20.00
A-974	License Frames.....	2.50	3.25	7.00

Basic Group Total \$12.00 \$15.25 \$27.00

GROUP NO. 3

A-877	Metal Tire Cover, F. & U. S.....	7.70	10.10	18.50
A-878	Metal Tire Cover, Goodyear.....			
891623	Hinge Mirror.....	3.60	4.80	8.00
A-946	Moto Pack.....	3.45	4.30	6.75
892404	Cowl Ventilator Screen	.55	.70	1.25

Group 3 Total \$15.30 \$19.90 \$34.50

BASIC AND GROUP 3 \$27.30 \$35.15 \$61.50

On colored fender sets with Metal Tire Cover to match specify Group 3A. Extra charge \$2.50 net and list.

BASIC AND GROUP 3A \$29.80 \$37.65 \$64.00

*Six Wheel Equipment***BASIC GROUP**

A-965	Heron Ornament.....	\$ 9.50	\$12.00	\$20.00
A-974	License Frames.....	2.50	3.25	7.00

Basic Group Total \$12.00 \$15.25 \$27.00

GROUP NO. 4

A-981-2	Metal Tire Covers with Mirrors.....	25.30	33.40	59.00
A-946	Moto Pack.....	3.45	4.30	6.75
892404	Cowl Ventilator Screen	.55	.70	1.25

Group 4 Total \$29.30 \$38.40 \$67.00

BASIC AND GROUP 4 \$41.30 \$53.65 \$94.00

On colored fender sets with Metal Covers ducoed to match specify Group 4A. Extra charge \$5.00 net & list.

BASIC AND GROUP 4A \$46.30 \$58.65 \$99.00

CADILLAC V-12—SERIES 370C*Five Wheel Equipment***BASIC GROUP**

Part Number		Distrib- utor Cost	Dealer Cost	List Price
A-965	Heron Ornament.....	\$ 9.50	\$12.00	\$20.00
A-974	License Frames.....	2.50	3.25	7.00

Basic Group Total \$12.00 \$15.25 \$27.00

GROUP NO. 5

A-881	Metal Tire Cover, F. & U. S.....	8.60	11.30	20.50
A-882	Metal Tire Cover, Goodyear.....			
891623	Hinge Mirror.....	3.60	4.80	8.00
A-946	Moto Pack.....	3.45	4.30	6.75
892404	Cowl Ventilator Screen	.55	.70	1.25

Group 5 Total \$16.20 \$21.10 \$36.50

BASIC AND GROUP 5 \$28.20 \$36.35 \$63.50

On colored fender sets with Metal Tire Cover to match specify Group 5A. Extra charge \$2.50 net and list.

BASIC AND GROUP 5A \$30.70 \$38.85 \$66.00

*Six Wheel Equipment***BASIC GROUP**

A-965	Heron Ornament.....	\$ 9.50	\$12.00	\$20.00
A-974	License Frames.....	2.50	3.25	7.00

Basic Group Total \$12.00 \$15.25 \$27.00

GROUP NO. 6

A-979-80	Metal Tire Covers with Mirrors.....	27.10	35.80	63.00
A-946	Moto Pack.....	3.45	4.30	6.75
892404	Cowl Ventilator Screen	.55	.70	1.25

Group 6 Total \$31.10 \$40.80 \$71.00

BASIC AND GROUP 6 \$43.10 \$56.05 \$98.00

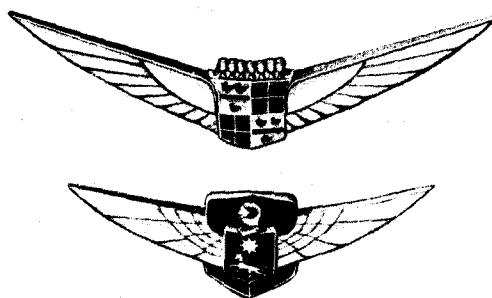
On colored fender sets with Metal Covers ducoed to match specify Group 6A. Extra charge \$5.00 net & list.

BASIC AND GROUP 6A \$48.10 \$61.05 \$103.00

1933

PRELIMINARY SERVICE INFORMATION

CADILLAC 355-C, 370-C, 452-C
LA SALLE 345-C



Service Department
CADILLAC MOTOR CAR COMPANY
DETROIT, MICHIGAN

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CONTENTS

	<i>Page</i>
Front Axle.....	3
Rear Axle.....	3
Body.....	3
Brakes.....	7
Clutch.....	10
Cooling System.....	10
Electrical System.....	12
Engine.....	12
Fenders and Running Boards.....	13
Frame.....	13
Gasoline System.....	13
Lighting System.....	13
Lubrication.....	14
Springs and Shock Absorbers.....	14
Steering Gear.....	15
Transmission.....	15
Wheels, Rims and Tires.....	15

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Preliminary Service Information

Axles

Front Axle

The front axles used on the "C" series cars are of the same construction as the corresponding "B" series axles. The steering connections on the front axle also remain unchanged. The same parts, therefore, are interchangeable on "B" and "C" series cars except the brake support assembly on the 452-C, which is the same as the 370-C assembly.

Since there is no change in the axle specifications, all service operations are the same as on the previous units.

Rear Axle

The rear axle is of the same construction as the "B" series axle except that an oil retainer is used in front of the large pinion bearing as shown in Fig. 1. Likewise, the gear ratios of the new axles remain the same as in the "B" cars.

The oil retainer is installed between the torque tube and the differential carrier to prevent the rear axle lubricant from leaking into the torque tube and eventually into the transmission, in localities where steep grades are common.

The service operations on the rear axle and the interchangeability of parts between the various models remain the same as on the "B" series cars.

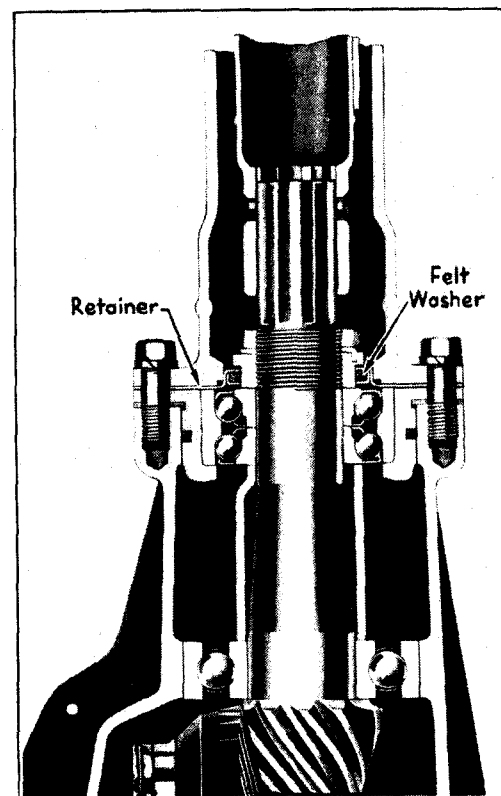


Fig. 1. Oil retainer on rear axle pinion shaft

Body

The bodies on the new models are of the same general construction as on the "B" series. A number of new features, however, have been added, which will be of special interest to service men.

The garnish mouldings are of the same type used on the "B" cars but the method of retaining them in place has been changed slightly in that the invisible fastenings have been eliminated at the sides and top.



Fig. 2. Interior view of front compartment showing controls for door No-Draft ventilators

Visible screws are now used at these points for holding the garnish mouldings in position.

The trigger type lock is retained at the lower side of the garnish mouldings on all door windows while a bayonet lock is used at the rear quarter windows.

The garnish moulding panels are separate from the garnish mouldings on the new Cadillac bodies. These panels are held in place by bayonet locks such as used on the garnish mouldings. To remove these panels it is necessary first to remove the garnish mouldings and then lift the panels up out of position.

The most striking change in the new bodies is the No-Draft ventilating system. This includes pivoting glass panels in the front door and rear quarter windows on all 5 and 7-passenger sedans and the rear doors on Town sedans and Town cars, and the cowl ventilator

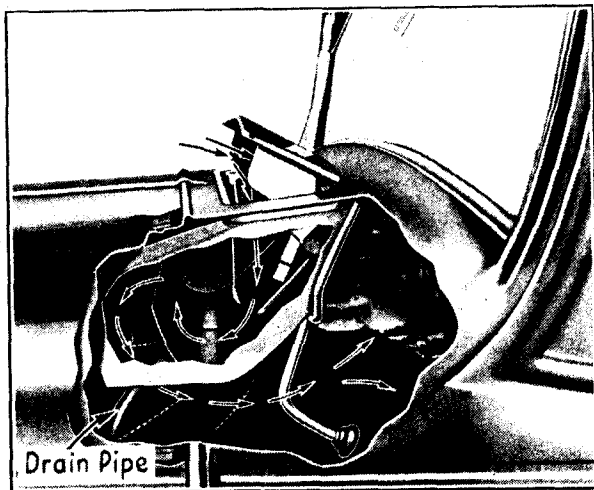


Fig. 3. Shroud cut away to show construction of rain-proof cowl ventilator. Arrows indicate direction of air through ventilator into car body

(Fig. 3) which is baffled and drained in such a way as to be completely rain-proof.

In Fig. 4 is illustrated the circulation of air in the body. The arrows indicate the approximate passage of air through each ventilating panel. With only one ventilating panel open the air circulates only in the area close to that ventilator. Thus ventilation to suit the individual desire can be readily accomplished. When the ventilating panels are opened slightly, they provide circulation of air within the car but without direct draft on the driver or other passengers. The ventilating panels can also be opened to a position where they will deflect a breeze directly into the car.

The ventilating panels in the door windows (Fig 5), are controlled by a handle conveniently located in front end of the garnish moulding panel as shown in Fig. 2. The rear quarter windows (Fig. 6) are now

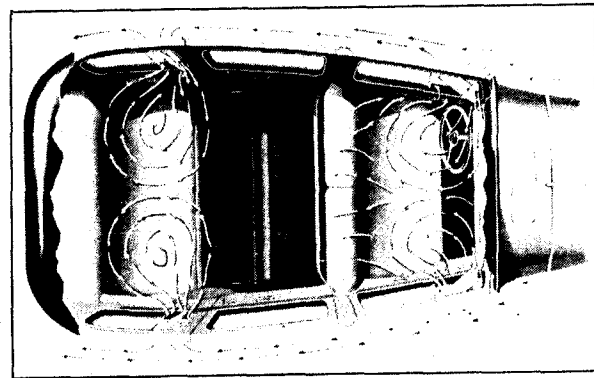


Fig. 4. Cut-away view of car body illustrating circulation of air with No-Draft ventilating system

stationary and the control for the ventilating panel is located just below the window ledge corresponding to the position of the window control on the "B" models. All window ventilator controls are worm-gear for easy operation.

To open the ventilating panel in the front doors, it is first necessary to lower the window glass far enough to disengage the two sections from each other and permit the ventilating panel to turn. The window glass can then be raised or lowered as desired.

In order to remove the front door windows or the No-Draft ventilators, it is first necessary to remove the garnish moulding, the garnish moulding panel (Cadillac cars), the control handles and the trim panel. Then to remove the ventilator proceed as follows:

1. Remove the narrow wooden strip on top of the lock board.

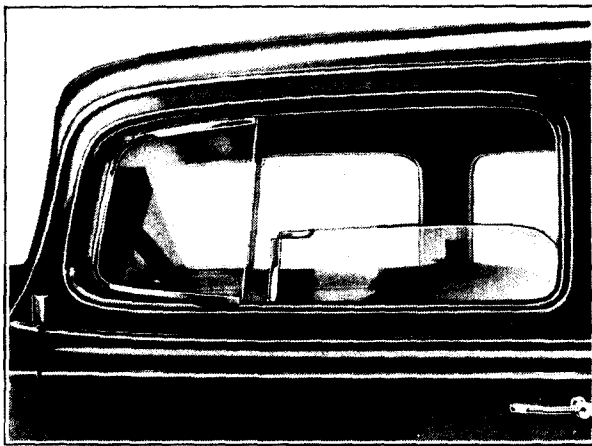


Fig. 5. View of front door window with the No-Draft ventilating panel partly open

2. Remove the screws from the gear box mechanism.
3. Remove the nail from the rear end of the rubber channel.
4. Remove the glass and channel.

In case it is necessary to replace the ventilator glass, the new glass can be installed in the channel simply by pushing it in place, making sure that the channel rubber is in the proper position.

Then to remove the window glass proceed as follows:

1. Remove the two screws which hold the regulator to the lower glass channel.
2. Move the regulator mechanism to one side and lift up on the glass, pushing the top edge forward.

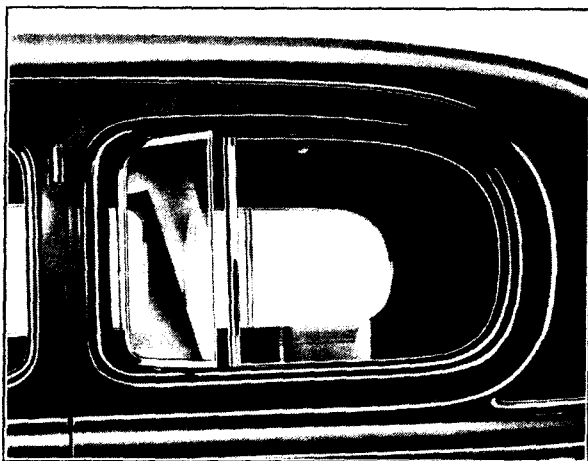


Fig. 6. Rear quarter window with the No-Draft ventilating panel partly open

The No-Draft ventilator can be removed from the rear quarter window as follows:

1. Remove the garnish moulding.
2. Remove the trim at the top edge.
3. Remove the small trim stick and loosen the screws in the bottom bracket of the gear box.

Among the other features of the new bodies are the rubber dams installed at the tops of all doors on the closed bodies. See Fig. 7. The purpose of these dams is to give added protection against wind and rain.

The windshield construction differs from that on previous models, in that it is stationary and cannot be opened. To remove the windshield it is only

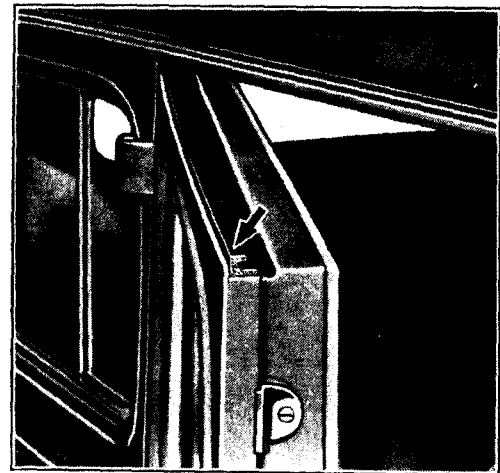


Fig. 7. Rubber dam at top of doors gives added protection against wind and rain

necessary to remove the garnish moulding, the visors, the header-board and the windshield wiper assembly.

The windshield wiper assembly on closed bodies is the same as on the "B" models except that the motor unit is concealed under the header-board. The wiper assemblies used on convertible coupes and open cars are of a different construction.

The removal of the windshield wiper motor on closed bodies necessitates the removal of the header-board which is done in the same manner as on the "B" cars.

BODY STYLES AND JOB NUMBERS

Fisher and Fleetwood Bodies

When ordering chassis parts affected by wheelbase, the *Body Job Number* must be given the same as when ordering body parts.

Body Type	Job Number	Wheelbase
345-C (LaSalle)		
Fisher Bodies		
2-Pass. Coupe.....	33-678	130"
2-Pass. Convertible Coupe.....	33-668	130"
5-Pass. Town Coupe.....	33-672	130"
5-Pass. Sedan.....	33-659	130"
5-Pass. Town Sedan.....	33-652	136"
7-Pass. Sedan.....	33-662	136"
7-Pass. Imperial Sedan.....	33-663	136"
355-C (Cadillac)		
Fisher Bodies		
2-Pass. Roadster.....	33-8-155	134"
2-Pass. Coupe.....	33-8-178	134"
2-Pass. Convertible Coupe.....	33-8-168	134"
5-Pass. Phaeton.....	33-8-256	140"
5-Pass. All-Weather Phaeton.....	33-8-273	140"
5-Pass. Coupe.....	33-8-272	140"
5-Pass. Sedan.....	33-8-259	140"
5-Pass. Town Sedan.....	33-8-252	140"
7-Pass. Sedan.....	33-8-262	140"
7-Pass. Imperial Sedan.....	33-8-263	140"
Fleetwood Bodies		
5-Pass. Sedan.....	33-8-209	140"
5-Pass. Town Car with Opera Seats—leather back.....	33-8-225	140"
7-Pass. Sedan.....	33-8-212	140"
7-Pass. Imperial Sedan.....	33-8-213	140"
7-Pass. Town Car—leather back.....	33-8-227	140"
7-Pass. Town Car—metal back.....	33-8-226	140"
370-C (Cadillac)		
Fisher Bodies		
2-Pass. Roadster.....	33-12-155	134"
2-Pass. Coupe.....	33-12-178	134"
2-Pass. Convertible Coupe.....	33-12-168	134"

Body Type	Job Number	Wheelbase
Fisher Bodies—Continued		
5-Pass. Phaeton.....	33-12-256	140"
5-Pass. All-Weather Phaeton.....	33-12-273	140"
5-Pass. Coupe.....	33-12-272	140"
5-Pass. Sedan.....	33-12-259	140"
5-Pass. Town Sedan.....	33-12-252	140"
7-Pass. Sedan.....	33-12-262	140"
7-Pass. Imperial Sedan.....	33-12-263	140"
Fleetwood Bodies		
5-Pass. Sedan.....	33-12-209	140"
5-Pass. Town Car with Opera Seats—leather back.....	33-12-225	140"
7-Pass. Sedan.....	33-12-212	140"
7-Pass. Imperial Sedan.....	33-12-213	140"
7-Pass. Town Car—leather back.....	33-12-227	140"
7-Pass. Town Car—metal back.....	33-12-226	140"
452-C (Cadillac)		
Fisher Bodies		
2-Pass. Roadster.....	33-16-155	143"
2-Pass. Coupe.....	33-16-178	143"
2-Pass. Convertible Coupe.....	33-16-168	143"
5-Pass. Phaeton.....	33-16-256	149"
5-Pass. All-Weather Phaeton.....	33-16-273	149"
Fleetwood Bodies		
5-Pass. Sedan.....	33-16-209	149"
5-Pass. Town Car with Opera Seats—leather back.....	33-16-225	149"
7-Pass. Sedan.....	33-16-212	149"
7-Pass. Imperial Sedan.....	33-16-213	149"
7-Pass. Town Car—leather back.....	33-16-227	149"
7-Pass. Town Car—metal back.....	33-16-226	149"

Brakes

The new brakes are the same as on the corresponding "B" series cars with the exception that a brake assister has been installed in the LaSalle 345-C and Cadillac 355-C braking systems. See Fig. 8. Although similar in principle to the assister used on the V-12 and V-16 cars, it differs in construction and operation. Because of a difference in the length of the operating tube, the 345-C assister unit is not interchangeable with that used on the 355-C.

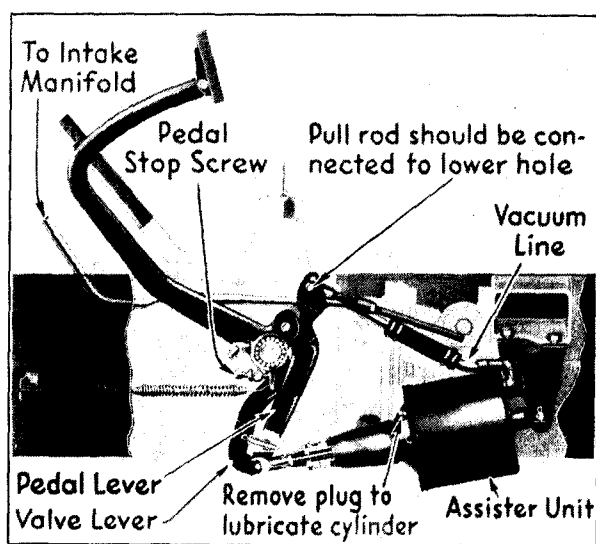


Fig. 8. Brake assister connections on the Cadillac V-8 and La Salle

With the addition of the brake assister, the foot pedal travel has been shortened by relocating the two holes in the pedal arm to which the brake pull rod is connected, making the pedal interchangeable on all four model cars. While this change in the location of the pedal arm holes results in less mechanical leverage for applying the brakes, easier and more efficient braking is secured than heretofore by the aid of the brake assister. With this pedal arrangement, more cam travel is secured; consequently less frequent brake adjustment is required.

As with the Cadillac V-12 and V-16 brakes, the assister on the V-8 cars does not affect the adjustment of the brakes or of the brake connections up to the pedal.

Aside from the brake assister on the 345-C and 355-C cars, all adjustments of the brakes and brake connections remain the same as in the "B" cars. Like-

wise the brake assister adjustments remain the same on the 370-C and 452-C as on the earlier 370 and 452 models.

A coil spring surrounds each drum on all cars to give additional cooling surface and to absorb any noise produced by vibrations in the drum. See Fig. 9.

The same brake lining is used as on the "B" models.

Brake Assister (345-C, 355-C)

Although the assister on the 345-C and 355-C operates on the same principle as that on the other models, the differences in construction require a detailed explanation.

The brake assister connections on the 345-C and 355-C cars are the same as on the V-12 and V-16 cars. That is, the assister is connected to the intake manifold which furnishes the necessary vacuum. The force thus developed is applied to a lever on the pedal shaft and is added to the force applied by the driver to the pedal. Although the assister is connected to the brake pedal it does not interfere with the pedal action and the foot brakes can be applied whether the engine is running or not.

The control is positive, the valve being regulated by the movement of the brake pedal. The assister

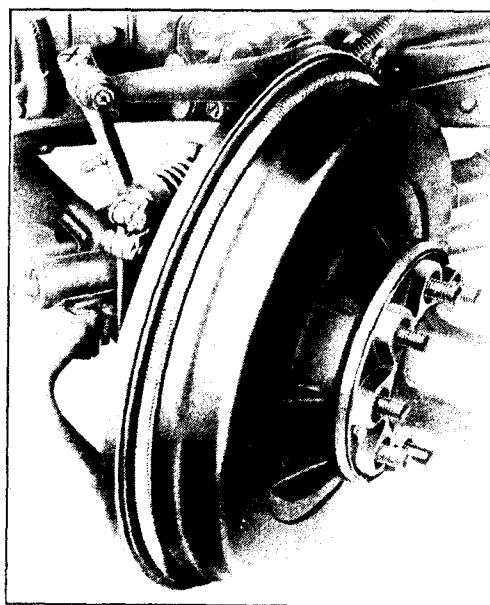


Fig. 9. Brake drum spring

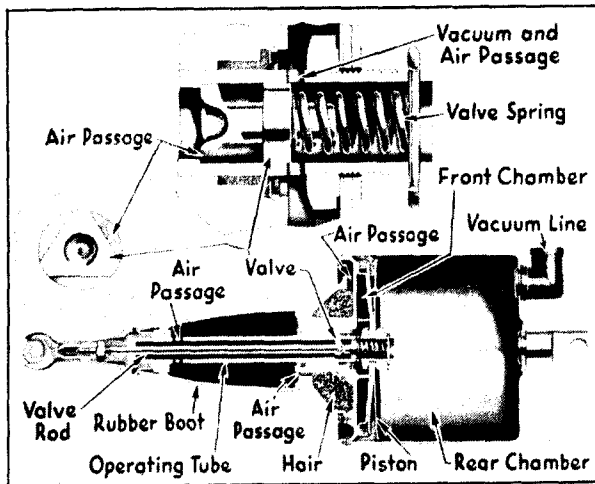


Fig. 10. Sectional views of brake assister used on 345-C and 355-C cars

develops power only as long as the driver continues to push on the pedal. As soon as the driver stops pushing on the pedal, the assister ceases to build up additional force and merely holds the position which has been reached. The assister releases automatically when the driver releases his foot from the pedal.

The relative position of the brake assister parts is shown in Fig. 10. The piston divides the housing into two chambers; the front or atmospheric chamber which is open to the rear chamber when the brakes are not in operation, and the rear or vacuum chamber which is connected to the intake manifold vacuum line. The assister operating tube carries an inner rod which operates the vacuum and atmospheric valve located in the rear end of the operating tube. The operating tube, of course, also connects the piston mechanism to the pedal lever.

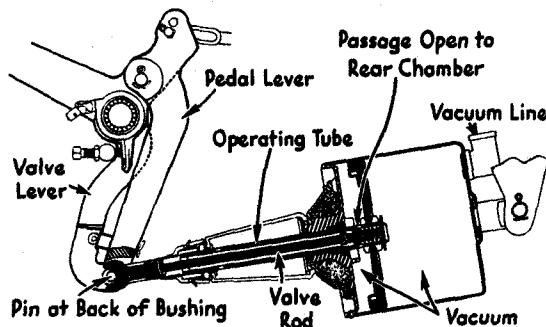


Fig. 11. Brake assister in normal released position. The vacuum and atmospheric valve is all the way forward uncovering the passage in the operating tube and opening the front chamber to the intake vacuum line through the rear chamber

The vacuum and atmospheric valve is of the piston type and controls the vacuum passage between the two chambers in the cylinder and the passage between the front chamber and the atmosphere outside of the cylinder. The valve is held in the closed position by means of a spring as shown in Fig. 10. When the valve is moved part of the way back toward the rear it closes the vacuum passage between the two chambers in the cylinder, and when moved all the way back, the valve keeps the vacuum passage closed and opens the front chamber to the atmosphere. The air entering the cylinder passes through a chamber filled with hair (Fig. 10) which serves as an air cleaner to exclude dust and dirt.

The construction of the pedal lever assembly is the same as that used on the V-12 and V-16 cars and the adjustments are made in identically the same manner.

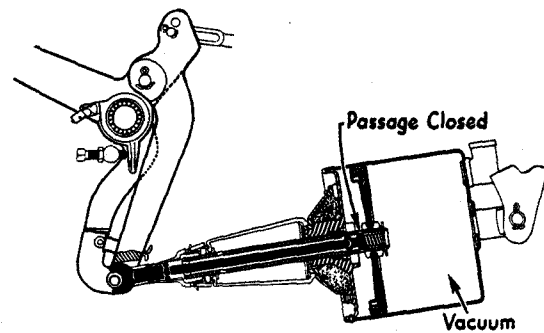


Fig. 12. The brake pedal has been depressed sufficiently to move the valve back far enough to close the passage between the front and rear chambers. The assister cannot function even though the passage between the two cylinders is closed as the front chamber is not yet open to the atmosphere

Assister Operation: The various steps in the operation of the vacuum brake assister are shown in Figs. 11 to 16 inclusive.

In Fig. 11, the brakes are in the released position. It will be seen that the valve rod and valve are all the way forward with relation to the piston. With the valve in this closed position, the passage between the two cylinder chambers is open and the atmospheric passage is closed. Both chambers are now connected to the intake manifold and the vacuum on both sides of the piston is equal.

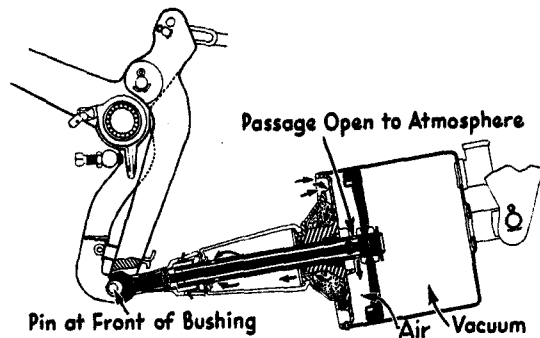


Fig. 13. Further pedal movement has moved the valve back far enough to uncover again the passage in the operating tube keeping closed the passage between the two chambers, and thus opening the front chamber to the atmosphere

The pedal in Fig. 12 has been depressed only enough to push the valve rod and valve back to a point closing the vacuum passage between the two cylinder chambers. A slight additional pedal movement has pushed the valve rod and valve back the rest of the way in Fig. 13, admitting air into the front chamber. Atmospheric pressure then forces the piston back as long as the pedal movement continues.

In Fig. 14, atmospheric pressure on the front side of the piston is forcing the piston back as indicated by the arrow to assist the pedal in making application of the brakes. The pedal is still moving downward, keeping the atmospheric passage open.

In Fig. 15 the operator has applied the desired braking force and the pedal movement has ceased, allowing the valve to close the vacuum and atmospheric passages automatically. With the vacuum and atmospheric passages closed, the assister ceases to

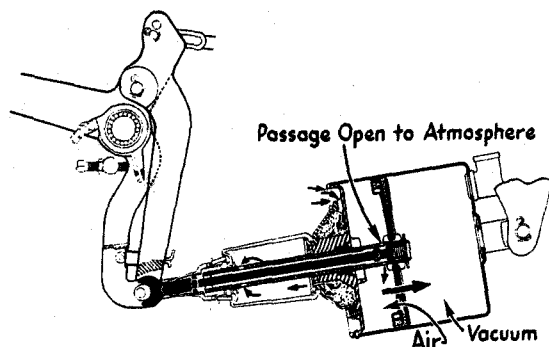


Fig. 14. Atmospheric pressure in the front chamber is forcing the piston back as indicated by the large arrow. The pedal is still moving downward so as to keep the valve back, leaving the atmospheric passage open

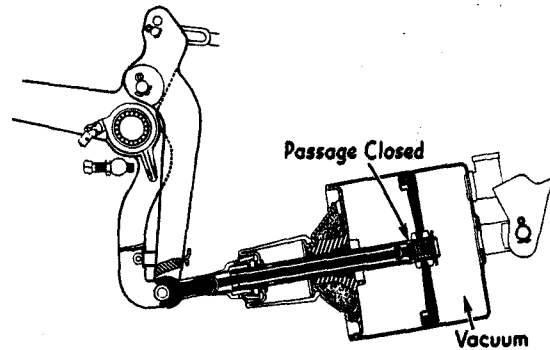


Fig. 15. The pedal movement has ceased, allowing the valve to close the atmospheric passage automatically. As the air in the front chamber cannot escape, it prevents the piston from moving forward and keeps the piston in the position just reached

build up any additional force while the air already in the assister helps to hold the piston and pedal in place. Any additional pedal movement forward will push the valve rod and valve back, opening the atmospheric passage and in turn forcing the piston back to apply the brakes still further.

In Fig. 16 the operator has removed his foot from the pedal, allowing the valve rod and valve to be moved all the way forward by the action of the valve spring. This forward motion of the valve has opened the vacuum passage between the two cylinder chambers, equalizing the vacuum on both sides of the piston and allowing the brake retracting springs to pull the pedal back and the piston forward to their normal released position.

Adjustments: The brake assister and pedal adjustments are made in the same manner as the assister adjustments on the 370-B and 452-B cars. The

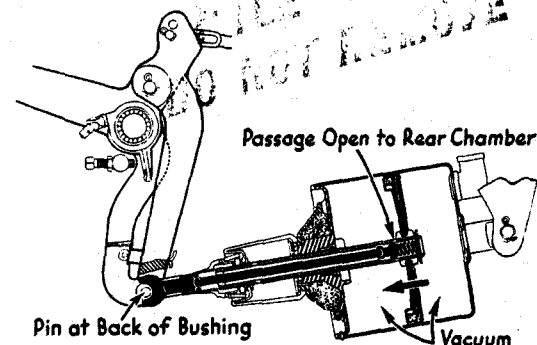


Fig. 16. The pedal has been released, permitting the valve to return to its forward position opening the passage between the two chambers. This equalizes the vacuum pressure on both sides of the piston allowing the piston and pedal to return to their normal released positions

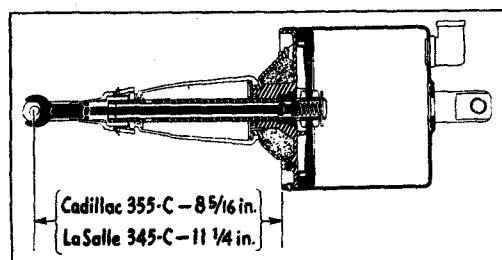


Fig. 17 . Operating tube clevis adjustment for Cadillac V-8 and La Salle brake assister

operating tube clevis adjustment, however, is made to a different dimension as shown in Fig. 17. This adjustment is necessary to provide a slight amount of clearance between the piston and the cylinder head at the front end of the cylinder when the brakes are released and the piston is in the forward position. The piston has this clearance only when the assister is connected in the brake system and the clearance varies slightly depending on the exact setting of the brake pedal lever.

The vacuum and atmospheric valve should have $\frac{1}{4}$ inch travel. This can be checked by measuring the

amount of travel at the lower end of the valve lever.

The dimension for making the operating tube adjustment with the tube connected to the pedal as shown in the "B" series shop manual should be disregarded on all models. This adjustment is unnecessary when the pedal stop and the assister operating tube adjustments are correctly made. All other brake adjustments remain the same as in the corresponding previous models.

Lubrication: The brake assister on the V-8 cars requires the same lubrication as the clutch power cylinder on the "B" models. That is, one ounce of light machine oil (*not* engine oil) should be injected in the front chamber of the cylinder through the plugged opening in the cylinder head every 6000 miles. The brake assister on the 370-C and 452-C requires the same lubrication as on the 370-B and 452-B cars.

No attempt should be made to disassemble the assister used on the 345-C and 355-C. In the event that the assister unit cannot be made to function satisfactorily it should be returned to the factory on an exchange basis.

Clutch

The clutch used on the new cars is of the same construction as the "B" clutch and all clutches are fully interchangeable with those of the corresponding "B" models.

The clutch release rod and pedal stop adjustments are made in the same manner as on the "B" cars.

Controlled free-wheeling has been discontinued on the new cars.

Cooling System

The cooling system is essentially the same as on the corresponding "B" series cars; however, several minor changes have been made.

The radiator core is of a new "louver-center" fin construction as shown in Fig. 18 which results in 5% greater cooling efficiency due to the air being deflected around the cooling fins instead of passing straight through the core as in the conventional type radiator.

The V-16 water pump has also been improved to give longer life. It is provided with a floating bushing and *two* new packings as shown in Fig. 19. The water

packing is at the inner end of the floating bushing where it is kept cool by the water. The outer packing is simply to keep the lubricant from running out.

To repack this pump it is necessary to remove the pump from the engine and to disassemble it in order to remove the old packings. When reassembling the pump, care should be taken to register the slot in the bushing with the hole in the pump body for the bushing locating screw. This is important as the screw should enter the slot in the bushing so as not to lock the bushing in place. The washer should also be in position under the head of the locating screw.

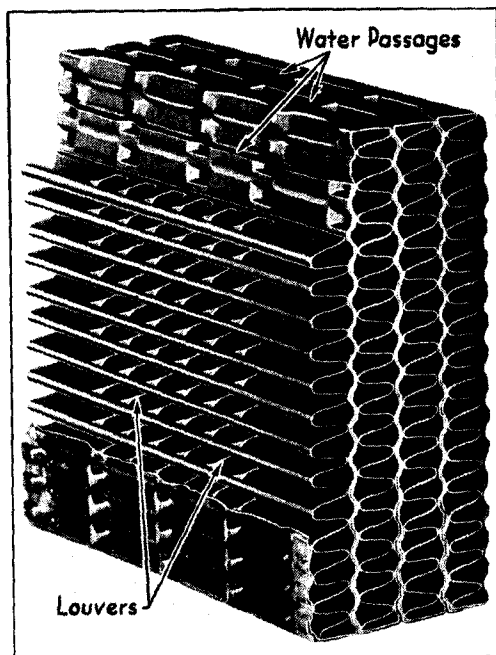


Fig. 18. Section of radiator showing new louvers for deflecting the air through the fins for giving more efficient cooling

The radiator filler cap (Fig. 20) has been placed under the hood on all new cars to aid in giving a streamline appearance to the car and to prevent the spilling of anti-freeze solution and rusty water, on the hood.

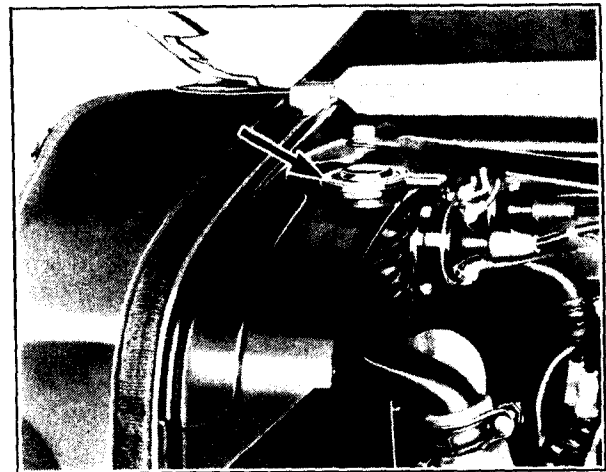


Fig. 20. The radiator filler cap is located under the hood. It is on the left side on the 370-C and 452-C and on the right side on the Cadillac V-8 and La Salle, to correspond to the location of the oil level indicator

The filler opening is on the same side of the engine as the oil level gauge, it being on the right-hand side in the 345-C and 355-C cars and on the left-hand side in the 370-C and 452-C. When filling the radiator, the water level should be brought to a point about $1\frac{1}{2}$ inches below the filler opening.

The construction of the radiator shutter and automatic shutter control is identical with that of the

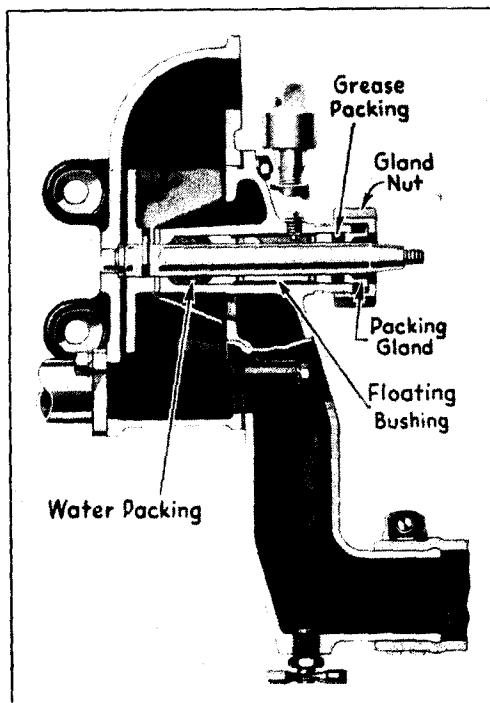


Fig. 19. Sectional view of 452-C water pump

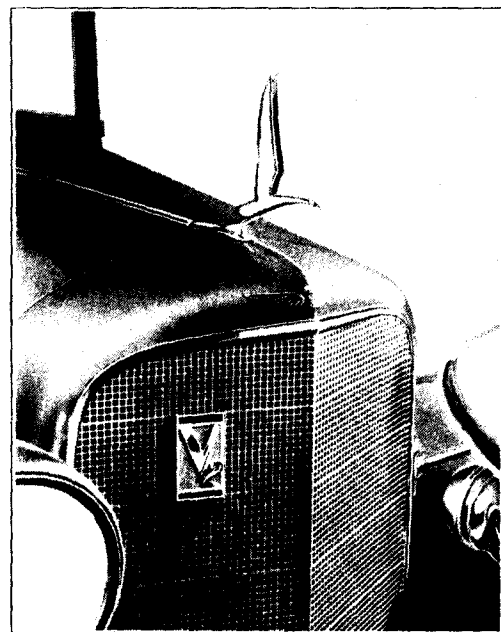


Fig. 21. The new radiator ornaments and medallions are of modernistic design

"B" models and these parts are interchangeable between the corresponding "B" and "C" series.

The radiator casing and grille are of the same construction as on the "B" models but are of the "V" type. The radiator splash shield is also new to conform to the new casing.

The radiator ornament is new as well as the medallions which are of modernistic design. See

Fig. 21. New medallions are also used on the wheel hubs, the trunk rack and the steering wheel.

In case it is necessary to remove the radiator ornament, it should be done in the following manner. First remove the rear hood hinge bracket and slide the hood back away from the radiator. Then remove the front hood hinge bracket and unscrew the nuts from the two studs on the ornament after which the ornament can be lifted out of position.

Electrical System

The electrical system remains practically the same on the new models as on the corresponding "B" models. The only changes that have been made in the new series are in the spark plugs and the distributor advance mechanism in the 370-C and 452-C cars.

The spark plugs used on these cars are new. They are of the "G-7" type, especially designed with a pointed porcelain at the electrode end for use in extremely high compression engines. The construction of these plugs differs from that of the "G-7" plugs previously supplied for the "A" series cars where a cooler plug was required. Only the new "G-7" plugs

should be used on the 370-C and 452-C as they will meet all the requirements of these engines. Other plugs of the "G" series should not be used.

The advanced mechanism incorporates new advance characteristics to compensate for the higher engine compression ratios used in these cars. The new distributors can be identified by the type numbers 004110 for the 370-C and 004111 for the 452-C.

The method of timing the engine is the same as on the corresponding "B" cars and the contact gap for both the distributor and the spark plugs should be adjusted the same as before.

Engine

The new engines are essentially the same as the "B" series. However, the compression ratios have been increased on the V-12 and V-16 engines as shown in the following chart.

H.C. (Optional)	H.H.C. (Standard)
370-B—5.1 to 1	5.3 to 1
370-C—5.4 to 1	5.6 to 1
452-B—5.1 to 1	5.4 to 1
452-C—5.4 to 1	5.7 to 1

This increase in compression ratios necessitates a change in the ignition timing and the flywheel marks have been changed accordingly. That is, the I.G.A. marking on the 370-C and 452-C is 4° or approximately $\frac{1}{2}$ in. ahead of center instead of 15° and 10° 15' respectively.

The compression ratio of the 370-C and 452-C engines can be altered the same as in the "B" models by changing the cylinder head gaskets.

A slight change has been made in the front and intermediate engine supports on the V-8 engines to give a softer mounting. The engine supports are similar in construction to those on the "B" models, but differ somewhat in dimensions as more rubber is used in the cushions.

Exhaust System

The exhaust system is the same and the same parts are interchangeable as on the "B" series cars.

A slight change, however, has been made in the design of the muffler support grommets. It is unnecessary to adjust these grommets as on the "B" models. The nuts can now be drawn up tight without danger of squeezing the rubber.

Fenders and Running Boards

The front and rear fenders are new on all models, both having a skirt at the rear end. The front fenders and head lamps are tied rigidly together at the front end through the radiator casing as shown in Fig. 22. A rear view of the fender tie rod showing how it is attached to the headlamp bracket is presented in Fig. 23.

The fender tie rods must be removed to remove the radiator and casing assembly, simply by disconnecting them from the radiator casing, the headlamp brackets and the fenders. The brace rod in the radiator casing will remain in position.

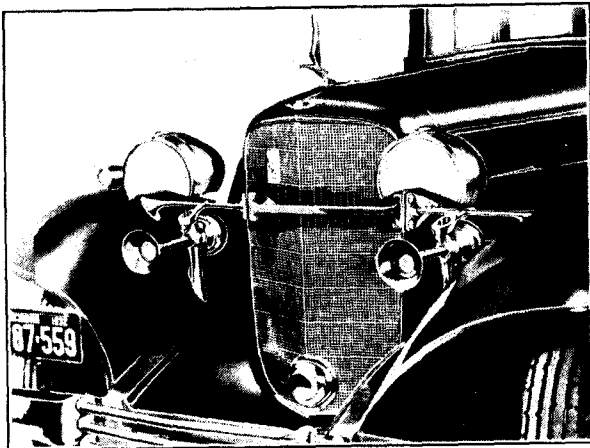


Fig. 22. Radiator grille cut away to show casing brace rod assembly to which the fender tie rods are attached

In order to insure proper alignment of the fender tie rods, when reinstalling the radiator and casing assembly, the tie rods should be attached to the headlamp brackets before they are fastened to the radiator casing. The tie rods can be adjusted to the proper length simply by turning them in or out of the radiator casing bracket.

The running boards are of the same construction as on the "B" series but they are made deeper at the ends to conform to the new fenders.

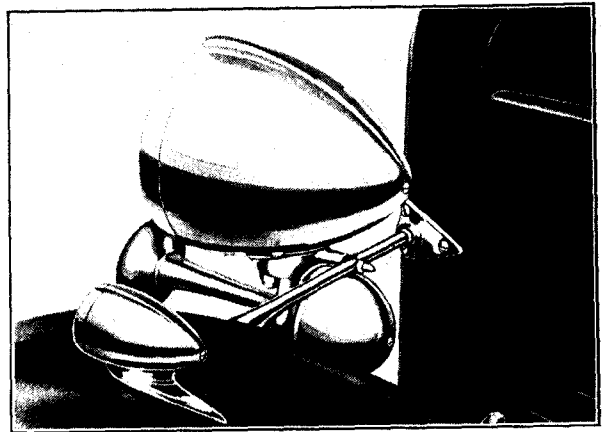


Fig. 23. The fender tie rods not only reinforce the front fenders but also form an additional support for the headlamp brackets

Frame

The series "C" frames are of the same construction as the corresponding "B" models.

Gasoline System

All adjustments and service operations on the gasoline system are made the same as on the "B" series cars.

Lighting System

The lighting system on the new cars is the same as on the "B" series and the aiming of the headlamp is done in the same manner as before. Super-Safe headlamps are used on all models except the LaSalle.

A new type headlamp door is used on the LaSalle. The door and lamp both have a rolled joint for neater appearance. A slight change has also been made in the LaSalle headlamp mounting bracket. It is no longer fastened to the fender at the side but supported at the rear to the fender tie-rod which is attached to the radiator casing.

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Lubrication

Lubrication of the series "C" cars is essentially the same as that of the corresponding "B" models with the exception of a couple of points. The clutch power

cylinder has been eliminated on all models and the brake assister added on the Cadillac V-8 and LaSalle. Lubrication of the brake assister is covered in the brake section.

Springs and Shock Absorbers

The spring equipment on the new cars is the same as on the "B" models.

The shock absorbers are the same on the new Cadillac cars with the exception of the control valve assembly on the 370-C and 452-C. See Fig. 24. The shock absorbers used on the LaSalle are of slightly different design from those used on the Cadillac cars

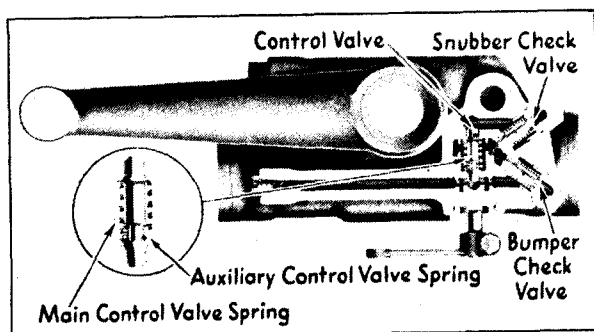


Fig. 24. Sectional view of 370-C and 452-C shock absorber showing the auxiliary spring on the control valve

but they operate on identically the same principle. A sectional view of the LaSalle shock absorber is shown in Fig. 25. The LaSalle shock absorber connections are also new. They are of the rubber type requiring no lubrication.

The new control valve assembly used on the 370-C and 452-C is of the two-stage type. An additional or auxiliary spring has been added to the control valve

to give more rigid control in the No. 4 and No. 5 positions of the dash ride regulator. This auxiliary spring is effective only for the last .040 in. of valve travel.

All models have the same control valves. Thus the main spring on the control valve in the 452-C shock absorber is lighter than on the 452-B to give a softer ride in Nos. 1, 2 and 3 positions of the ride regulator.

The shock absorbers can be identified for type and location on the car by the code number stamped on the under side of the control valve operating lever as given in the table on page 15.

The lubrication of the shock absorbers is done in the same manner as on the "B" models.

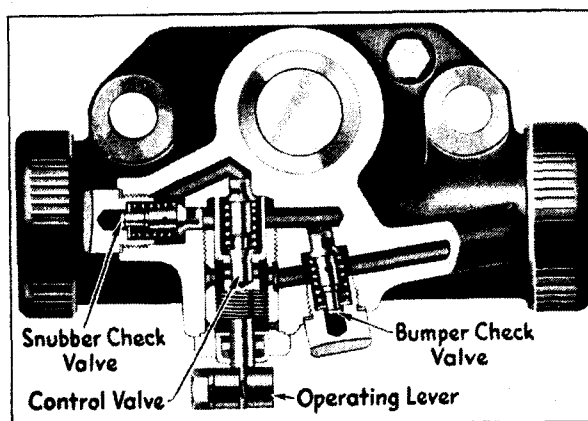


Fig. 25. Sectional view of La Salle 345-C shock absorber

Table of Shock Absorbers and Shock Absorber Valves

Shock Absorber		Control Valve			Bumper Check Valve		Snubber Check Valve	
Location	Part No.	Code on Lever	Identification	Part No.	Identification	Part No.	Identification	Part No.
345-C								
Left Front	1054075	5 E 5	Copper Oxide Finish	047708	5	047678	5	047678
Right Front	1054077	5 E 5	Copper Oxide Finish	047708	5	047678	5	047678
Left Rear	1054081	5 L 5	Nickel Finish	047706	5	047678	5	047678
Right Rear	1054079	5 L 5	Nickel Finish	047706	5	047678	5	047678
355-C								
Left Front	047717	1 C 5	Steel Finish	047707	5	047678	1	047677
Right Front	047718	1 C 5	Steel Finish	047707	5	047678	1	047677
Left Rear	047720	5 G 1	Copper Finish	047704	1	047677	5	047678
Right Rear	047719	5 G 1	Copper Finish	047704	1	047677	5	047678
370-C, 452-C								
Left Front	047717	1 C D 5	Steel Finish	1060149	5	047678	1	047677
Right Front	047718	1 C D 5	Steel Finish	1060149	5	047678	1	047677
Left Rear	047720	5 G D 1	Copper Finish	1060148	1	047677	5	047678
Right Rear	047719	5 G D 1	Copper Finish	1060148	1	047677	5	047678

Steering Gear

No changes have been made in the steering system and the steering gear adjustments are identical with those on the "B" models.

operations and the interchangeability of parts between models are the same as on the "B" series cars.

Transmission

The transmission remains unchanged. The service

Wheels, Rims and Tires

These units remain the same as on the "B" models, except the wheel and tire size on the 452-C, and the same service operations apply to both series. The same size wheels and tires are now used on the 452-C as on the 370-C cars.