

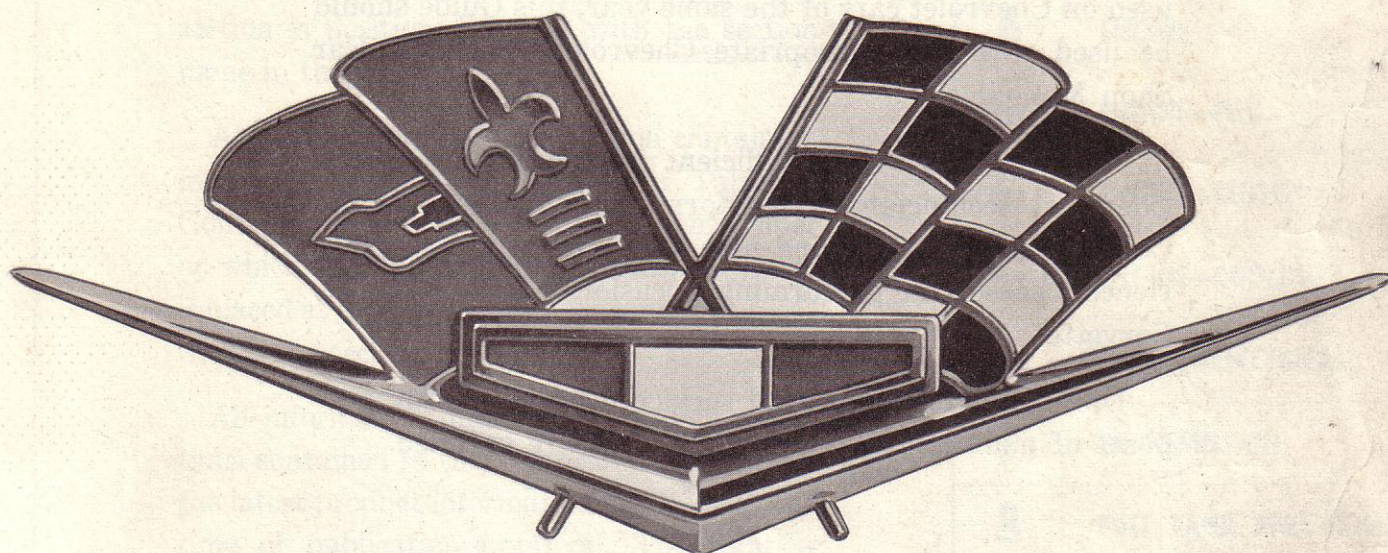
CORVETTE SERVICING GUIDE

SEVEN DAY ITEM
NO. 7858 APR 62
DETROIT



Corvette

SERVICING GUIDE



Technical Service Department
CHEVROLET MOTOR DIVISION
GENERAL MOTORS CORPORATION
DETROIT, MICHIGAN

FOREWORD

This Corvette Servicing Guide provides maintenance and repair information which is not fully covered in other Chevrolet Shop Manuals.

Since many major components are identical to the units used on Chevrolet cars of the same year, this Guide should be used with the appropriate Chevrolet Passenger Car Shop Manual.

This Guide provides sufficient information to enable Chevrolet technicians to perform any maintenance the Corvette may require and also will assist the less experienced person in performing occasional service on his Corvette.

Only Chevrolet approved service procedures, for purposes of maintaining design standards, are outlined.

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At the beginning of each section containing more than one major subject, a Table of Contents lists the subject and the page number on which each major subject begins. An Index is placed at the beginning of each major subject within the section.

All information, illustrations and specifications contained in this literature are based on the latest product information available at the time of publication approval. The right is reserved to make changes at any time without notice.

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SECTION 0

GENERAL INFORMATION AND LUBRICATION

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GENERAL INFORMATION

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VEHICLE DIMENSIONS

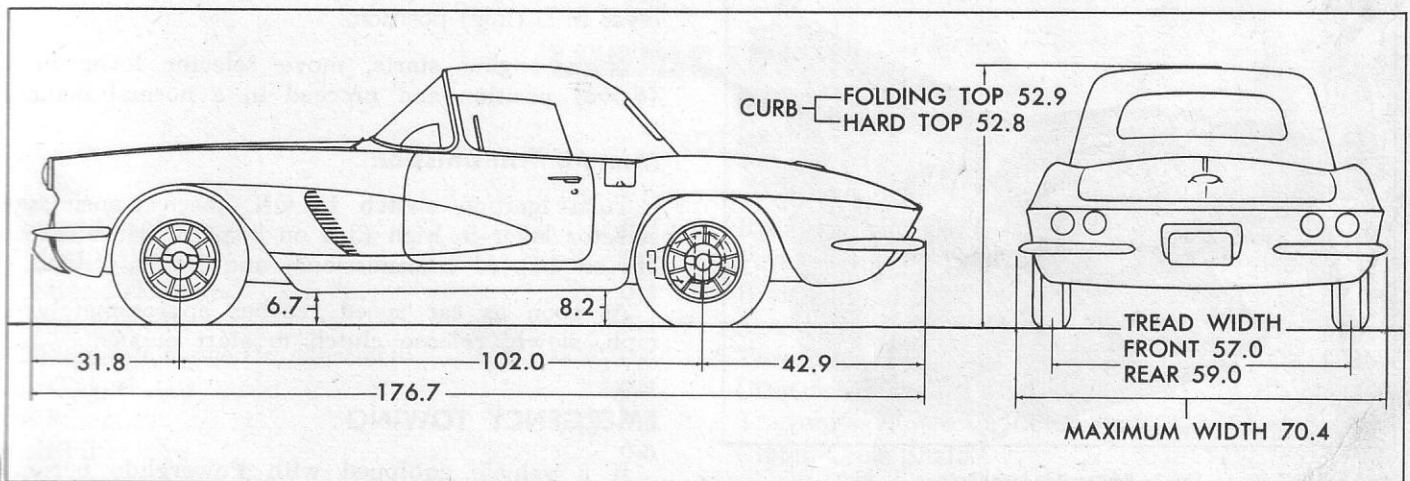


Fig. 1—Vehicle Dimensions

UNIT AND SERIAL NUMBER LOCATIONS

Vehicle Serial Number

The vehicle serial number (fig. 2) is located within the engine compartment and secured to the upper portion of the steering column.

Positraction Identification

Positraction units are not visibly distinguished from the conventional differential, that is both are contained within the same type carrier. However, positraction units require special lubricant (see General Lubrication) and are identified by the prefix "P" stamped with the serial number on the left front side of the differential carrier. Further identification

is provided in the form of a circular metal tag affixed to the filler plug opening.

Powerglide Transmission Serial Number

On aluminum Powerglide transmissions produced prior to November 11, 1961, the serial number is stamped on the right front corner of case, forward of oil pan and under the converter underpan (fig. 3). Subsequent serial numbers have been relocated to the bottom center of the oil pan (fig. 4).

SELECTION OF GASOLINE

The V-8 engine in your Corvette is designed to deliver maximum performance when using a "Premium" grade of gasoline. The best indication of a

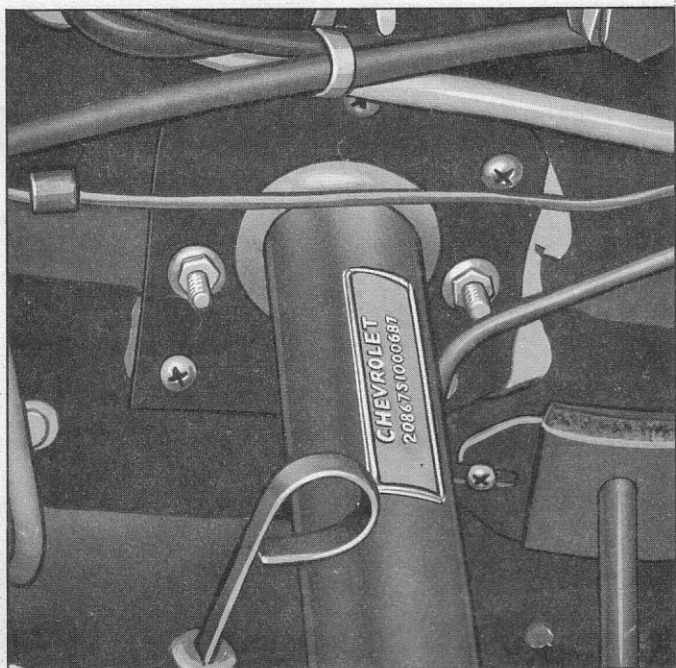


Fig. 2—Vehicle Serial Number

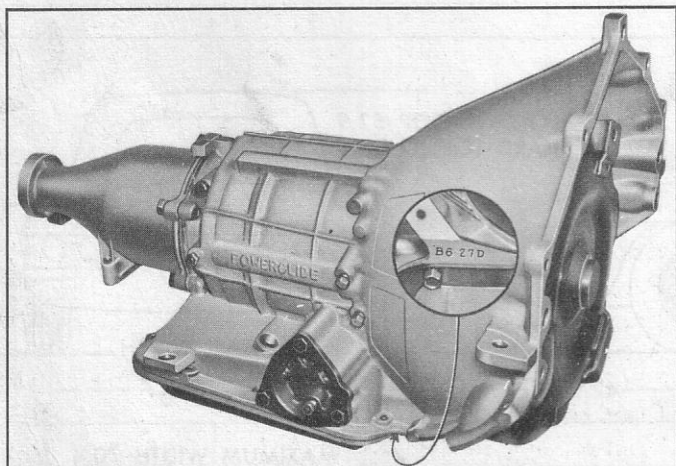


Fig. 3—Powerglide Identification

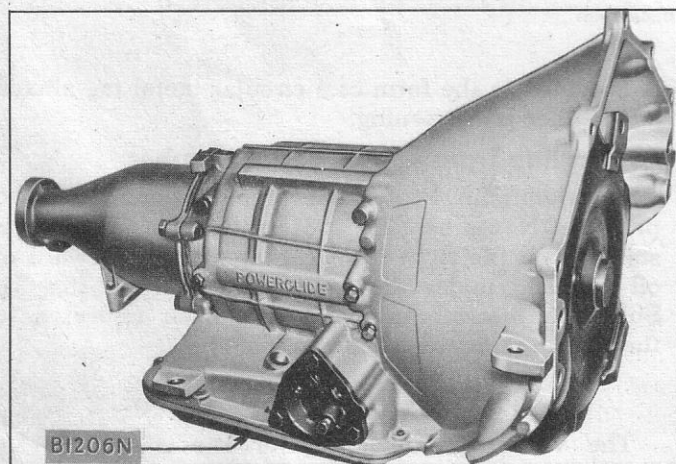


Fig. 4—Powerglide Identification

good grade of "premium" gasoline is the reputation of the manufacturer.

In areas where grades of gasolines are encountered which result in severe detonation, the owner should consult an authorized dealer so that adjustments to eliminate or reduce this detonation to a safe level may be made.

Detonation is not due to any manufacturing defect. Always use fuel which permits operation without heavy or continuous detonation.

PUSHING, TOWING AND LIFTING

PUSHING CAR TO START

NOTE: Towing car to start is not recommended due to the possibility of the disabled car accelerating into tow car.

Automatic Transmission

Turn ignition switch to ON, place transmission selector lever in N (neutral) position until a speed of approximately 25 mph is obtained; then place selector lever in L (low) position.

When engine starts, move selector lever to D (drive) position and proceed in a normal manner.

Manual Transmission

Turn ignition switch to ON, place transmission selector lever in high (3rd on 3-speed transmissions, 4th on 4-speed transmissions) and depress clutch.

As soon as car speed reaches approximately 15 mph, slowly release clutch to start engine.

EMERGENCY TOWING

If a vehicle equipped with Powerglide becomes disabled and requires towing or pushing, speed must not exceed 30 mph. Drive shaft must be disconnected if vehicle is to be towed at speeds exceeding 30 mph.

Both manual and Powerglide transmission equipped vehicles should be towed with transmission in neutral only. Parking brakes must be fully released.

When towing a vehicle on its front wheels only, the steering wheel should be secured so that the front wheels will maintain a straight forward position.

LIFTING CAR WITH DRIVE-ON HOIST

Many dealer service facilities and service stations are now equipped with a type of automotive hoist which must bear upon some part of the frame in order to lift the vehicle. Recommended hoist contact areas are illustrated in Figure 5.

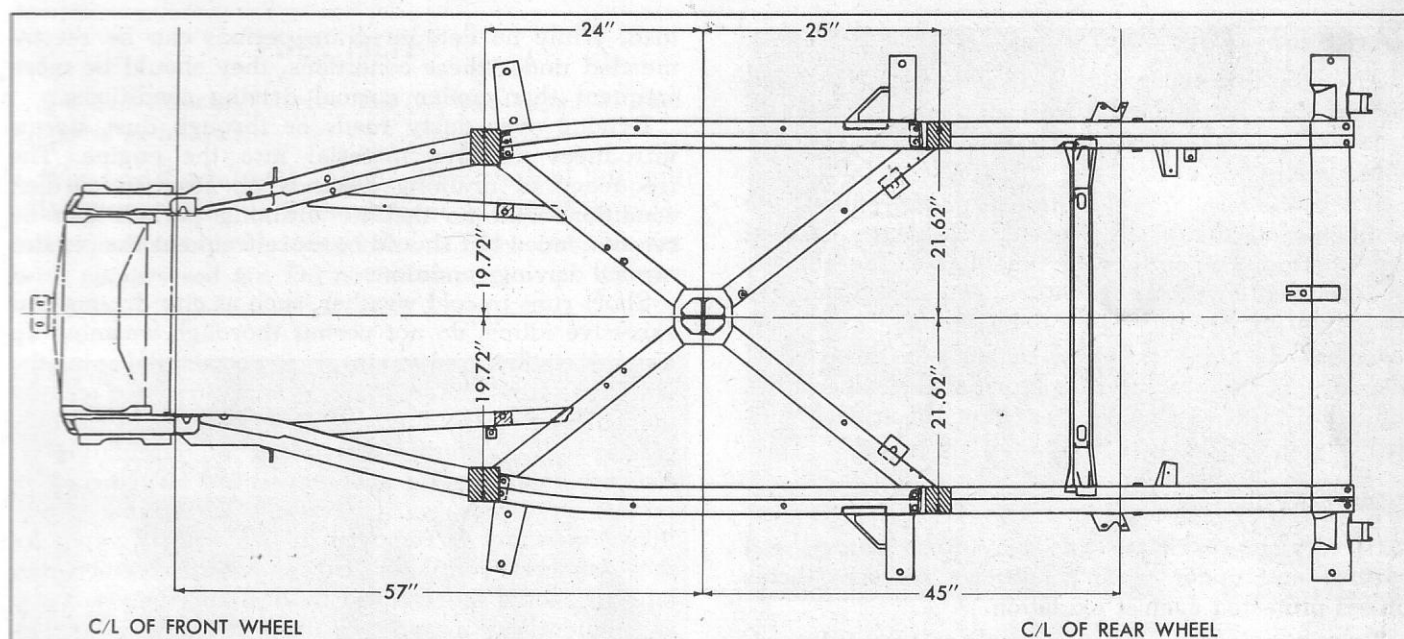


Fig. 5—Vehicle Lifting Point

LUBRICATION

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GENERAL LUBRICATION

The following lubrication and maintenance recommendations are intended as a guide for vehicles operated under normal driving conditions. Sustained heavy duty or high speed operation, or operation under adverse driving conditions, may necessitate more frequent lubrication and maintenance.

Selection of the proper lubricant and its correct application at regular intervals does much to increase the life and operation of all moving parts of the vehicle. Consequently, it is important that the correct grade of oil or grease, as noted in the following pages, be used.

ENGINE CRANKCASE OIL

Lubrication—First 4000 Miles

The engine crankcase of all new vehicles is filled with a high grade oil of the type designated "Service MS." It also contains a special "anti-wear" additive to assist in better "mating-in" of moving parts. Use this oil only during the first 4000 miles. Check frequently and maintain the proper level. If it is necessary to add oil, use one of light body oils described under "SAE Viscosity Oils."

Lubrication—After 4000 Miles

After the first 4000 miles of driving, drain the original oil when hot and refill with an oil of the viscosity number and type described under "SAE Viscosity Oils."

When the crankcase is drained and refilled, the crankcase oil should be selected, not on the basis of the existing temperature at the time of the change, but on the lowest temperature anticipated for the period during which the oil is to be used.

Unless the crankcase oil is selected on the basis of viscosity or fluidity at the anticipated temperature, difficulty in starting will be experienced at each sudden drop in temperature.

Types of Oils

In service, crankcase oils may form sludge and varnish and under some conditions, corrosive acids unless protected against oxidation.

To minimize the formation of these harmful products and to assure the use of oil best suited for present day operating conditions, automobile manufacturers have developed a series of sequence tests designed to evaluate the ability of any oil to properly lubricate automobile engines.

It is recommended that only those oils which are certified by their suppliers as meeting or exceeding the maximum severity requirements of these sequence tests (or G.M. Standard 4745-M) be used in Chevrolet engines. Certified sequence tested oils will be described as such on their containers.

When to Change Crankcase Oil

Oils have been greatly improved, driving conditions have changed and improvements in engines, such as the crankcase ventilating system, have greatly lengthened the life of good lubricating oils. However, to insure continuation of best performance, low maintenance cost and long engine life, it is necessary to change the crankcase oil whenever it becomes contaminated with harmful foreign materials. Under normal driving conditions draining the crankcase and refilling with fresh oil every 4000 miles is recommended.

Frequent long runs at high speed; with resultant high engine operating temperatures, may oxidize the oil and may result in the formation of sludge and var-

nish. While no definite drain periods can be recommended under these conditions, they should be more frequent than under normal driving conditions.

Driving over dusty roads or through dust storms introduces abrasive material into the engine. The frequency of draining depends on severity of dust conditions and no definite draining periods can be recommended but should be more frequent than under normal driving conditions.

Short runs in cold weather, such as city driving and excessive idling, do not permit thorough warming up of the engine and water may accumulate in the crankcase from condensation of moisture produced by the burning of the fuel. Water in the crankcase may freeze and interfere with proper oil circulation. It also promotes rusting and may cause clogging of oil screens and passages. Under normal driving conditions this water is removed in the form of vapor by the crankcase ventilator. However, if water accumulates, it should be removed by draining the crankcase as frequently as may be required. It is always advisable to drain the crankcase only after the engine has become thoroughly warmed up or reached normal operating temperature. The benefit of draining is, to a large extent, lost if the crankcase is drained when the engine is cold, as some of the suspended foreign material will cling to the sides of the oil pan and will not drain out readily with the cold, slower moving oil. Flushing the crankcase with oils or solutions other than a good grade of SAE 10W engine oil is not recommended.

AIR CLEANER

The polyurethane element type air cleaner should be cleaned every 8000 miles, or more often if necessary. Wash element in nonchlorinated cleaning solvent such as kerosene and reoil with engine oil. Do not wring, twist, or distort element or subject it to heat. Excess oil may be squeezed out gently.

OIL FILTER

Change the oil filter at the first 4000-mile point and every 4000 miles thereafter or six months, whichever occurs first. Adverse driving conditions such as dust storms, very dusty roads, cold or severe weather may necessitate more frequent changes.

| ENGINE OIL DRAIN PERIODS | Every Month | Every 2 Months | Every Six Months | First 4000 Miles | Every 1000 Miles | Every 4000 Miles |
|---|-------------|----------------|------------------|------------------|------------------|------------------|
| Initial Drain Period | | | | ● | | |
| Favorable Operations—(over 10 miles average per trip) | | | | | | ● |
| Summer (over 32° F. aver. Outdoor Temp.) | | ●* | | | | ●* |
| Winter (Below 32° F. aver. Outdoor Temp.) | ●* | | | | | ●* |
| Dusty Driving Conditions | | | | | ● | |
| Change Oil Filter Element | | | ●* | ● | | ●* |
| *Whichever comes first. | | | | | | |

FUEL FILTER

Service information for the various types of fuel filters is as follows.

Standard Carburetor (fig. 6)—Remove fuel line and inlet fitting. Remove filter element and wash in alcohol or carburetor cleaning solvent. Blow out element with compressed air. Do not attempt to wipe off dirt with rag.

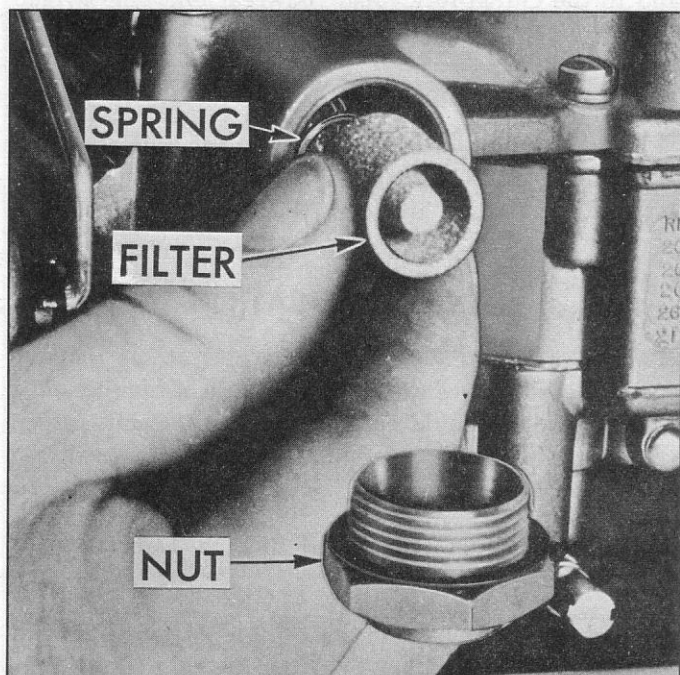


Fig. 6—Standard Carburetor Fuel Filter

Optional AFB Carburetor (fig. 7)—Loosen thumb screw at bottom of glass bowl and remove bowl and element. Wash bowl and replace element if necessary. Always reassemble with a new bowl gasket.

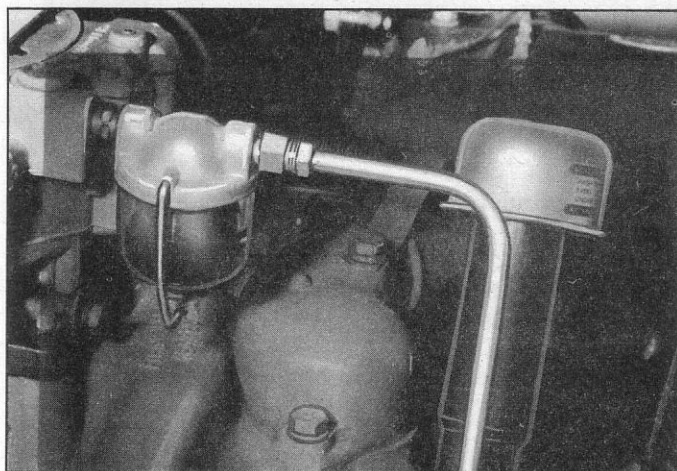


Fig. 7—Optional AFB Carburetor Fuel Filter

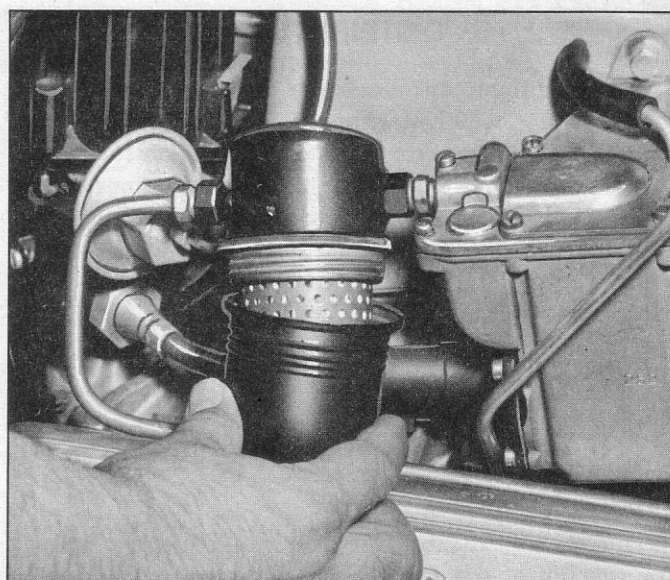


Fig. 8—Fuel Injection Fuel Filter (Bowl Type)

Fuel Injection (fig. 8)—Replace fuel filter element semi-annually—in spring and in fall. To remove element, unscrew bottom of filter canister.

Fuel Injection (fig. 9)—Replace fuel filter at least every 15,000 miles, more often if conditions dictate. Do not attempt to service this filter—replace only with a new filter.

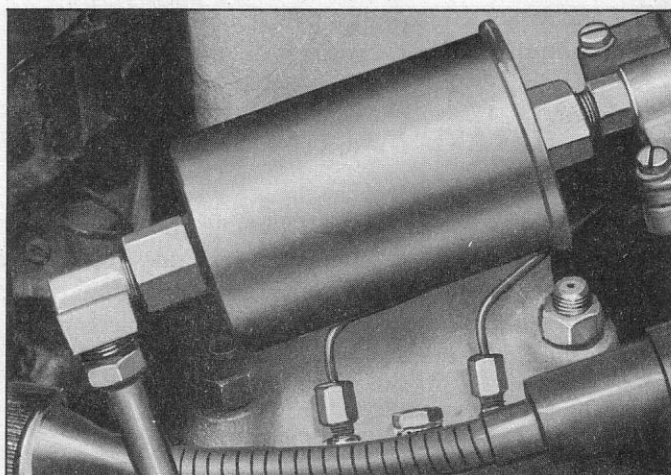


Fig. 9—Fuel Injection Fuel Filter (In Line Type)

BATTERY

Check fluid level at least every 1000 miles. Add only distilled water until the level rises to the bottom of the split ring in the vent well. **DO NOT OVERFILL.** If the fluid level drops below plates more often than 1000 miles, perform necessary tests to determine cause. Saturate battery terminal washers with engine oil every 1000 miles.

DISTRIBUTOR

Fill the hinge cap oiler with engine oil every 1000 miles. Every 5000 miles, apply 1-2 drops of light engine oil to both breaker lever pivots, and on fuel injection and optional carburetor equipped engines, apply Delco Ball Bearing and Cam Lubricant to the cam surface. On distributors used with standard carburetor, replace felt wick when contact point set is replaced or at least every 25,000 miles.

REAR AXLE AND CONVENTIONAL TRANSMISSION

Lubricant Changes

The rear axle lubricant does not require changing for the life of the vehicle. If additions are needed, or when refilling the axle after service procedures, use lubricants referenced in 1961 Passenger Car Shop Manual.

PARKING BRAKE

The parking brake idler lever pivot bolt, rear cable studs, and front cable stud should be lubricated with engine oil at 1000 mile intervals.

Every 10,000 miles or semi-annually the idler lever return spring attaching points, rear cables at conduit, and hand lever shaft should be lubricated with Lubriplate or equivalent.

BRAKE MAIN CYLINDER

Check the fluid level at least every 1000 miles. Maintain the level at $\frac{1}{2}$ " to 1" below the filler opening, using G. M. Hydraulic Brake Fluid, Super No. 11. If addition of fluid is required more often than every 1000 miles, an inspection of the complete brake system should be made.

ACCELERATOR CONTROL ROD

Every 1000 miles apply several drops of engine oil to the idler lever.

THROTTLE BELL CRANK

Apply several drops of engine oil every 1000 miles.

CRANKCASE BREATHER CAP

Wash in cleaning solvent every 2000 miles. More often if required. Recoil with engine oil.

TRANSMISSION SELECTOR LEVER SHAFT

On three-speed, four-speed, and Powerglide apply a few drops of light engine oil every 1000 miles.

CLUTCH CROSS SHAFT

Every 1000 miles apply a few drops of engine oil to cross shaft pivot points, both ends of the return spring, and to the clutch fork push rod—rear end and swivel.

CHASSIS LUBRICATION

The application of chassis lubricant is recommended every 1000 miles. Consult the lubrication chart (fig. 10) for location of the chassis lubrication fittings.

BODY LUBRICATION

Many of the annoying squeaks and noises that occur in closed bodies are due to neglect of maintenance that all bodies should receive regularly. Points which should be lubricated, and the lubricant required, are as follows.

Cowl vent pivot points and linkage—Lubriplate or equivalent.

Hood latch mechanism and hinges—Apply light engine oil to pivot points.

NOTE: Do not oil hood lock pin or catch plate.

Folding top compartment lid hinges and lid release—Apply light engine oil.

Door lock rotor and striker plate—Apply light engine oil or stainless stick lubricant.

Rear compartment lid lock mechanism—Lubricate moving parts with cup grease or chassis lubricant.

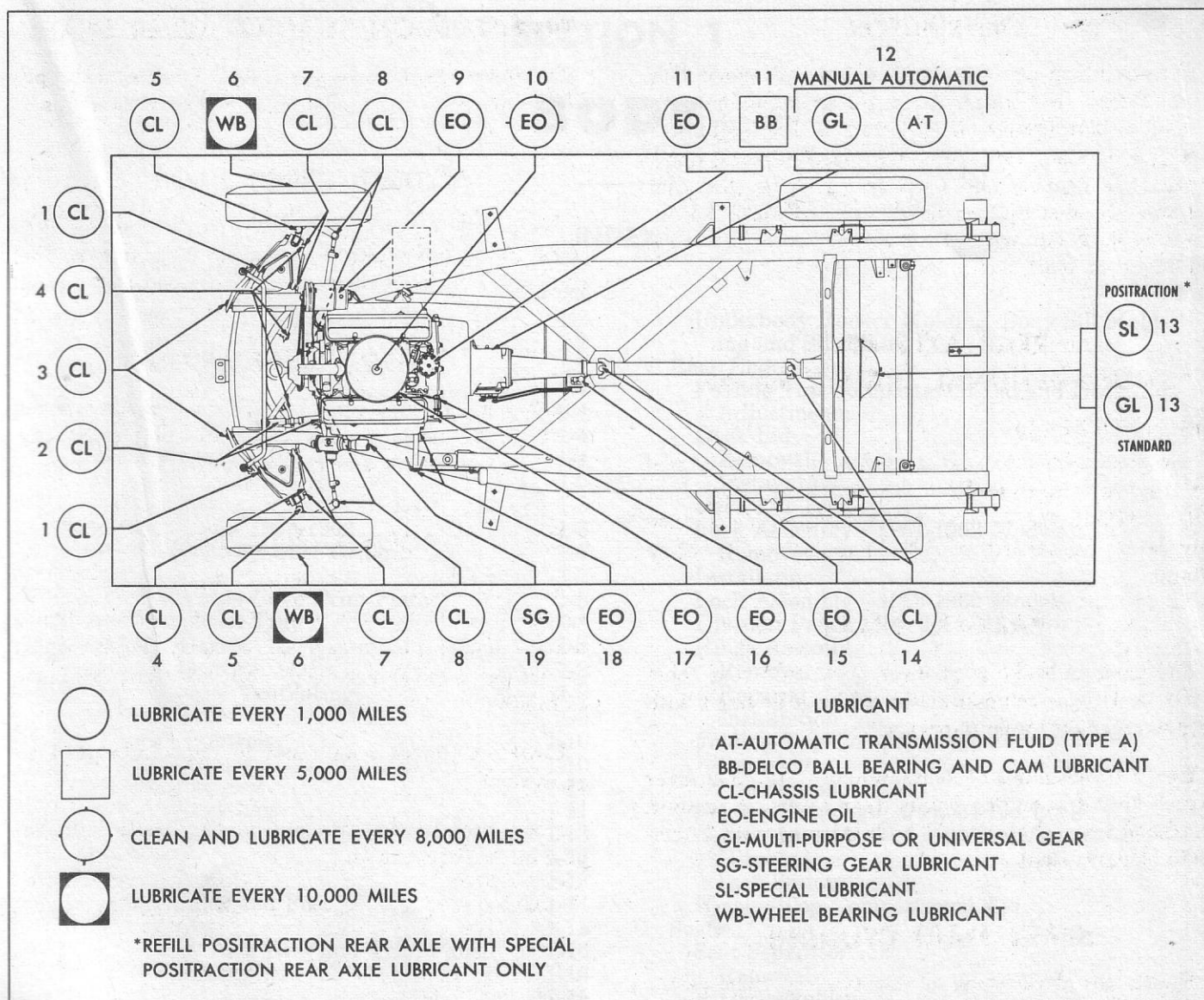
Rear compartment lid hinges—Lubricate moving parts with chassis lubricant.

Lock cylinders—Lubricate with powdered graphite.

Window regulators and controls and door lock remote link—Apply light engine oil to operating mechanism. Door trim panel should be removed.

Gas tank filler cap door hinge—Apply light engine oil.

Weatherstrips and rubber bumpers—Coat lightly with a rubber lubricant such as Chevrolet Spray-a-Squeak—G. M. Part No. 987883.



1. Upper Control Arm—Front
2. Steering Connecting Rod
3. Lower Control Arm—Front
4. Lower Control Arm—Rear
5. Kingpin
6. Wheel Bearings—Front
7. Upper Control Arm—Rear

8. Tie Rod
9. Generator
10. Air Cleaner
11. Distributor
12. Transmission
13. Rear Axle
14. Universal Joints

15. Transmission Selector Lever Shaft
16. Throttle Bell Crank
17. Accelerator Lever
18. Clutch Cross Shaft
19. Steering Gear