

# GROUP 1 MAINTENANCE

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### 1-1 ENGINE OIL RECOMMENDATIONS

#### a. Engine Oil

Engine crankcase oils have a definite effect on ease of starting, oil economy, combustion chamber deposits and engine wear. It is recommended that you use an oil which, according to the label on the can, is: (1) intended for service MS and (2) passes car makers' tests or meets General Motors Standard GM 4745-M. Oils conforming to these types contain detergent additives.

#### b. Grade or Viscosity

The grade or viscosity (SAE number) of engine oil should be selected for the lowest anticipated temperature at which cold engine starting will be required as recommended in the temperature-viscosity chart below.

#### c. Engine Oil Change and Viscosity Recommendations

Oil level should be checked more frequently during the break-in period since somewhat higher oil consumption is normal until piston rings become seated.

The oil level should be maintained between the "Operating Range"

marks on the gauge rod; each space between marks represents one quart. Do not fill above upper mark.

#### d. Oil Color

The color of "Service MS"-type oil does not indicate its condition since it normally becomes dark (black or gray) after only a few hundred miles of driving. This is because the detergent content envelops and holds in suspension extremely fine but harmless soot (soft carbon) and lead particles. The oil filter element does not

remove this harmless material but it does remove harmful particles such as road dust, metal chips and hard carbon.

#### e. Crankcase Flushing

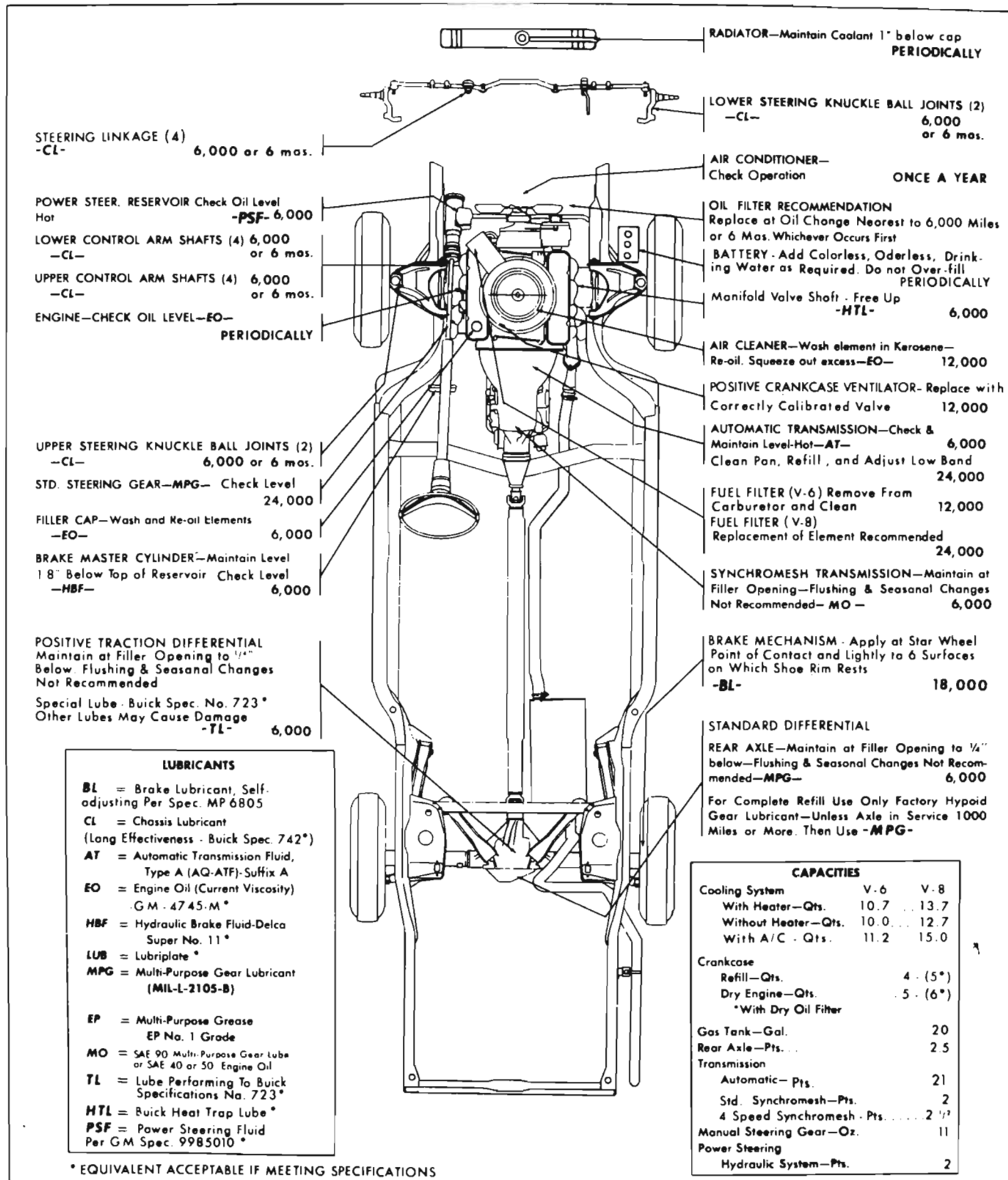
Flushing the crankcase with oils or solutions other than a good grade of 10W engine oil is not recommended. When flushing to remove contamination appears advisable, use 3 quarts 10W oil (4 quarts if filter is drained) and idle the engine at 1000 RPM (equivalent to 20 MPH) until the oil is hot, then drain crankcase

Anticipated Lowest Temperatures	Use S.A.E. Viscosity Number	Change Your Oil At Least
Above Freezing (+32°F.)	S.A.E. 20W S.A.E. 10W-30	Every 60 days*
Below Freezing (+32°F. to 0°F.)	SS.A.E. 10W S.A.E. 10W-30	Every 60 days*
Below 0°F.	S.A.E. 5W S.A.E. 5W-20	Every 60 days*

\*Never exceed 6000 miles between oil changes. During extreme driving conditions which produce oil contamination by dust, water, or other foreign material, the oil should be changed more frequently than every 60 days. Your authorized Buick dealer is well qualified to advise you.

# 1965 BUICK LUBRICATION CHART

43000 - 44000 SERIES



STEERING LINKAGE (4)  
-CL- 6,000 or 6 mos.

POWER STEER. RESERVOIR Check Oil Level  
Hot -PSF- 6,000

LOWER CONTROL ARM SHAFTS (4) 6,000  
-CL- or 6 mos.

UPPER CONTROL ARM SHAFTS (4) 6,000  
-CL- or 6 mos.

ENGINE—CHECK OIL LEVEL—EO—  
PERIODICALLY

UPPER STEERING KNUCKLE BALL JOINTS (2)  
-CL- 6,000 or 6 mos.

STD. STEERING GEAR—MPG— Check Level  
24,000

FILLER CAP—Wash and Re-oil Elements  
-EO- 6,000

BRAKE MASTER CYLINDER—Maintain Level  
1/8" Below Top of Reservoir Check Level  
-HBF- 6,000

POSITIVE TRACTION DIFFERENTIAL  
Maintain at Filler Opening to 1/4"  
Below Flushing & Seasonal Changes  
Not Recommended

Special Lube - Buick Spec. No. 723\*  
Other Lubes May Cause Damage  
-TL- 6,000

RADIATOR—Maintain Coolant 1" below cap  
PERIODICALLY

LOWER STEERING KNUCKLE BALL JOINTS (2)  
-CL- 6,000  
or 6 mos.

AIR CONDITIONER—  
Check Operation ONCE A YEAR

OIL FILTER RECOMMENDATION  
Replace at Oil Change Nearest to 6,000 Miles  
or 6 Mos. Whichever Occurs First

BATTERY - Add Colorless, Oderless, Drink-  
ing Water as Required. Do not Over-fill  
PERIODICALLY

Manifold Valve Shaft - Free Up  
-HTL- 6,000

AIR CLEANER—Wash element in Kerosene—  
Re-oil. Squeeze out excess—EO— 12,000

POSITIVE CRANKCASE VENTILATOR—Replace with  
Correctly Calibrated Valve 12,000

AUTOMATIC TRANSMISSION—Check &  
Maintain Level—Hot—AT— 6,000  
Clean Pan, Refill, and Adjust Low Band  
24,000

FUEL FILTER (V-6) Remove From  
Carburetor and Clean 12,000

FUEL FILTER (V-8)  
Replacement of Element Recommended  
24,000

SYNCHROMESH TRANSMISSION—Maintain at  
Filler Opening—Flushing & Seasonal Changes  
Not Recommended—MO— 6,000

BRAKE MECHANISM - Apply at Star Wheel  
Point of Contact and Lightly to 6 Surfaces  
on Which Shoe Rim Rests  
-BL- 18,000

STANDARD DIFFERENTIAL  
REAR AXLE—Maintain at Filler Opening to 1/4"  
below—Flushing & Seasonal Changes Not Recom-  
mended—MPG— 6,000

For Complete Refill Use Only Factory Hypoid  
Gear Lubricant—Unless Axle in Service 1000  
Miles or More. Then Use -MPG-

LUBRICANTS	
<b>BL</b>	= Brake Lubricant, Self-adjusting Per Spec. MP 6805
<b>CL</b>	= Chassis Lubricant (Long Effectiveness - Buick Spec. 742*)
<b>AT</b>	= Automatic Transmission Fluid, Type A (AQ-ATF)-Suffix A
<b>EO</b>	= Engine Oil (Current Viscosity) G.M. 4745-M*
<b>HBF</b>	= Hydraulic Brake Fluid-Delca Super No. 11*
<b>LUB</b>	= Lubriplate*
<b>MPG</b>	= Multi-Purpose Gear Lubricant (MIL-L-2105-B)
<b>EP</b>	= Multi-Purpose Grease EP No. 1 Grade
<b>MO</b>	= SAE 90 Multi-Purpose Gear Lube or SAE 40 or 50 Engine Oil
<b>TL</b>	= Lube Performing To Buick Specifications No. 723*
<b>HTL</b>	= Buick Heat Trap Lube*
<b>PSF</b>	= Power Steering Fluid Per G.M. Spec. 9985010*

CAPACITIES		
Cooling System	V-6	V-8
With Heater—Qts.	10.7	13.7
Without Heater—Qts.	10.0	12.7
With A/C - Qts.	11.2	15.0
Crankcase		
Refill—Qts.	4	(5*)
Dry Engine—Qts.	5	(6*)
	*With Dry Oil Filter	
Gas Tank—Gal.		20
Rear Axle—Pts.		2.5
Transmission		
Automatic—Pts.		21
Std. Synchromesh—Pts.		2
4 Speed Synchromesh - Pts.		2 1/2
Manual Steering Gear—Oz.		11
Power Steering		
Hydraulic System—Pts.		2

\* EQUIVALENT ACCEPTABLE IF MEETING SPECIFICATIONS

Figure 1-1—Lubrication Chart

and oil filter immediately after stopping engine. Fill crankcase with correct quantity and seasonal grade of oil. Install new oil filter element.

#### f. Use of Buick HD Concentrate

Buick HD Concentrate, available through Buick Parts Department under Group 1.850, is a compound of the materials used by oil refiners to manufacture high detergency motor oils. It is intended for use in engines operating under aggravated conditions where engine deposits, rust and corrosion cannot be adequately retarded by motor oils readily available to the average motorist. It is especially recommended for engines operated under restricted conditions, such as frequent stops, short trips and slow speeds where such symptoms as sticking valves, valve lifters and rings are noticed.

Although HD Concentrate may be used continually, it is normally unnecessary to use it with every crankcase refill. When used, the instructions on the container should be carefully observed.

Adverse driving conditions require more frequent draining and refilling. Adverse driving conditions are those which may cause early contamination of engine oil, such as operation under severe dust conditions or short runs with a cold engine.

### 1-2 MAINTENANCE— PERIODICALLY WHILE VEHICLE IS BEING REFUELED

#### a. Battery- Check Level.

If necessary add colorless, odorless drinking water to bring level to split ring at bottom of filler wells.

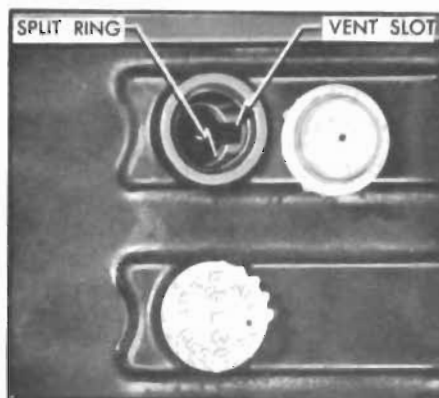


Figure 1-2—Battery Filler Well

**NOTE:** Do not overfill. Clean top of battery; if wet with acid, neutralize with soda and wash clean. See Figure 1-2.

#### b. Tires

For maximum tire life with corresponding good ride characteristics, maintain the tire pressure recommended in Group 7, Paragraph 7-1.

#### c. Oil Filler Cap

Check periodically for signs of dirt and other accumulations in filter portion of cap. Clean as often as necessary. This can be done by quickly washing in a suitable solvent and dipping in engine oil.

#### d. Radiator Coolant

Radiator coolant level should be checked when the engine is cold if at all possible. If the radiator cap is removed when the system is at normal operating temperature the coolant will boil and spurt out due to the release of pressure. Coolant lost in this manner must of course be replaced. If coolant should be needed, fill radiator to approximately 1" below filler neck when cold. Do not overfill as loss of coolant due to expansion will result.

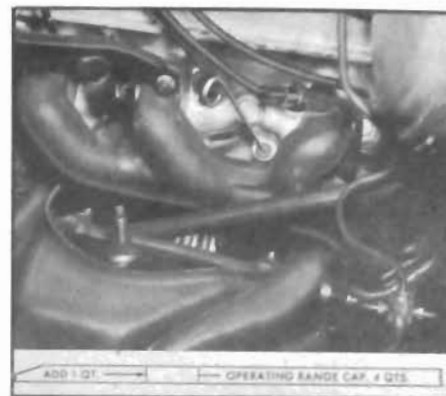


Figure 1-3—Engine Oil Gauge Rod

#### e. Engine Oil

This check should be performed last to allow the oil to drain back into the pan. Adding oil between changes may be necessary but only if the level is below the lower mark on the dip stick. See Figure 1-3.

**NOTE:** Oil level should only be checked when the engine is warm, as cold oil drains back to the oil pan very slowly.

### 1-3 MAINTENANCE— EVERY 6,000 MILES

#### a. Engine Oil Change Recommendations

Drain and refill engine crankcase every 60 days. However, never exceed 6,000 miles between changes. See Page 1-1 for oil recommendations.

#### b. Engine Oil Filter Change Recommendations

Replace engine oil filter with the engine oil change which comes nearest 6,000 miles or 6 months—whichever occurs first.

To change, screw filter off the filter base and discard. Wipe the gasket area of the base clean and install a new gasket in the groove



Figure 1-4—Oil Filter Installation

of a new AC Type PF-10 filter or equivalent. Lubricate the gasket and screw the filter on the nipple until the gasket just touches the base; tighten filter 2/3 turn more. Start engine. Do not accelerate engine beyond the normal idle until oil pressure is indicated. Check the filter area for leaks after the engine has run for five (5) minutes. See Figure 1-4.

#### c. Oil Filler Cap

Wash cap thoroughly in a suitable solvent and dry. Dip in engine oil and allow to drain while performing other services. Just prior to installation re-oil and install on cover.

#### d. Front Suspension and Steering Linkage

The Buick front suspension and steering linkage has been lubricated with a long-effectiveness lubricant at the factory and should be re-lubricated with a long-effectiveness lubricant equivalent to Buick Spec. #742 every 6,000 miles or six months whichever occurs first

NOTE: If lubricants not intended for long-effectiveness application are used, the lubrication interval should be shortened and should not exceed 2,000 miles.

Wipe dirt from the lubrication fittings and apply the lubricant under pressure at the following points (Figure 1-1):

- Upper Ball Joints (2 fittings)
- Lower Ball Joints (2 fittings)
- Steering Linkage (4 fittings)

#### e. Manifold Heat Valve

Place a few drops of "Buick Heat Trap Lube" or equivalent on shaft at each end, and free up if necessary. This can be found in the Buick Parts Book under Gr. 8.800, Part 980108. See Figure 1-5.

#### f. Check Fluid Level

1. Master Brake Cylinder - Maintain fluid level 1/8" below top of filler opening. When adding brake fluid, use only Delco Supreme #11 hydraulic brake fluid or equivalent. Never use reclaimed fluid, mineral oil or fluid inferior to SAE Standard 70-R-1.

2. Synchromesh Transmission. Check oil level, after allowing time for oil to settle. Clean the surrounding area before removing filler plug. Level should be maintained at filler plug opening by adding SAE 90 multi-purpose gear lubricant.

NOTE: Draining and flushing transmission are not necessary unless the lubricant has become contaminated.

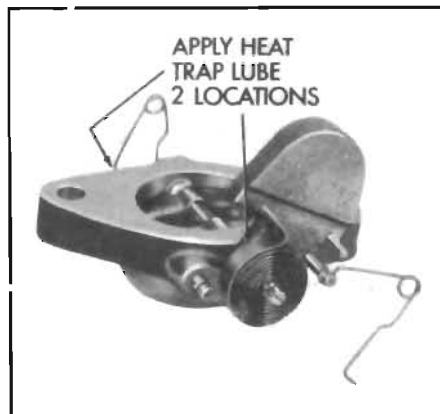


Figure 1-5—Exhaust Manifold Valve

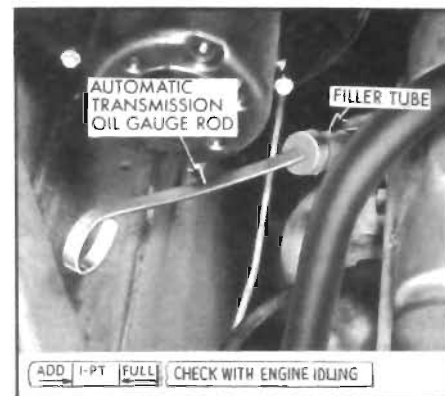


Figure 1-6—Automatic Transmission Oil Gauge Rod

#### 3. Automatic Transmission.

Check transmission oil level, with transmission oil at operating temperature (180° approximate), transmission in park and engine idling.

Remove gauge rod located under right side of hood, see Figure 1-6, wipe dry with clean cloth, then reinstall to full depth. Remove rod and note oil level.

If oil level is below the "ADD" mark on gauge rod, add oil specified under "every 24,000 miles" but do not fill above the "FULL" mark. Distance between the "FULL" and "ADD" marks represents approximately one pint.

4. Manual Steering Gear. Clean adjacent area, then remove gear housing filler plug. Add lubricant only as required to bring level to bottom of filler opening, using Chassis Lube. Seasonal or periodic change of lubricant is unnecessary.

5. Power Steering Gear. Thoroughly clean dirt from reservoir cap on top of oil pump, then remove cap. Fill within 1" of top of neck. Use only Buick Power Steering Fluid or equivalent meeting GM specification 9985010.

6. Rear Axle. Check lubricant level after allowing time for lube to settle. Clean the surrounding area before removing filler plug. Level should be maintained at

filler plug opening to 1/4" below by adding SAE 90 Multi-Purpose Gear Lubricant (MIL-1L-2105-B). See Figure 1-7. When car is operated in temperatures continuously below -10°F., use SAE 80 Multi-Purpose Gear Lubricant.

**NOTE:** Draining and flushing are not recommended, unless the lubricant has become contaminated. When complete refilling is necessary, SAE 80 or 90 Multi-Purpose Gear Lubricant may be used, provided the axle has been in service for 1000 miles or more. Axles with less than 1000 miles must not be completely refilled with any lubricant other than Factory Hypoid Lubricant. See paragraph 1-9.

**7. Positive Traction Differential Rear Axle.** Identified by embossed tag attached to the axle cover lower bolt stating "Use limited slip differential lube only." Check lubrication level after allowing time for lubricant to settle. Clean the surrounding area before removing filler plug. Level should be maintained at filler plug opening to 1/4" below by adding lubricant conforming to Buick Specification #723 only, as specified in paragraph 1-9. See Figure 1-7.

**NOTE:** If Positive Traction Differential lube becomes contaminated, the axle assembly may be flushed with light engine oil and then refilled with Positive Traction Lube.

#### g. Minor Lubrication

Occasionally lubricate the pivot points of moving parts such as door and hood hinges and latches, door hold open, clutch, transmission, parking brake and folding top linkages with Lubriplate, or equivalent, or engine oil where applicable. A small quantity of lock lubricant occasionally applied to lock cylinders will prevent sticking. See details under "Maintenance - As Required".

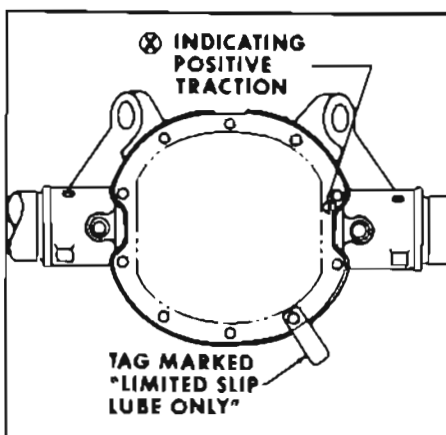


Figure 1-7—Differential Filler Plug (Positive Traction Shown)

**NOTE:** Do not lubricate carburetor or throttle linkage.

#### h. Body Rubber Parts

Door, hood, and rear compartment rubber weatherstrips and bumpers may be kept pliable and quiet by the application of a light coat of Buick 4-X Compound or suitable silicone lubricant equivalent.

#### i. Tires

For best tire mileage switch tires as recommended in Group 7.

### 1-4 MAINTENANCE— EVERY 12,000 MILES OR ONCE A YEAR

(Suggested in addition to the 6,000 mile recommendation)

#### a. Tune-Care

Tune-Care includes: Clean and/or replace spark plugs and ignition points, check compression, battery, cranking system, charging system, fuel pump, choke, hose connection, belts, carburetor, set engine timing and adjust idle speed.

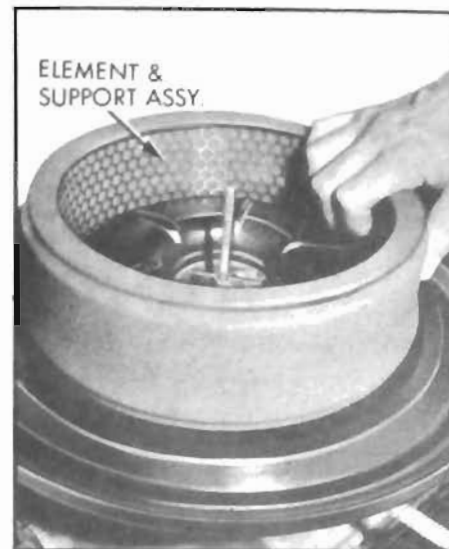


Figure 1-8—Air Cleaner Element and Support

#### b. Air Cleaner

Recommendation is to normally service every 12,000 miles. If car is operated in dusty territory, check condition of air cleaner element more frequently and clean if dirty. See paragraph 1-10.

To clean the element, carefully remove from the mesh support, wash in kerosene and squeeze out. **CAUTION:** Take precautions against the possibility of fire. Do not wring the element or it may be torn. Wrap the element in a dry cloth and squeeze to remove all possible solvent.

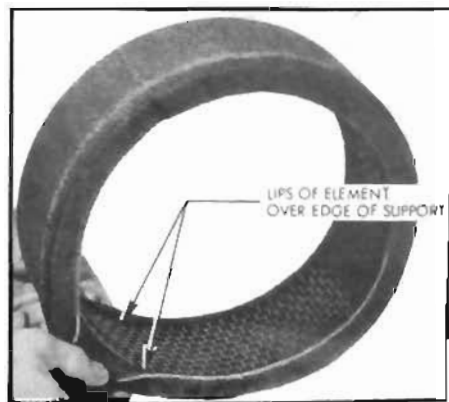


Figure 1-9—Installing Element on Support

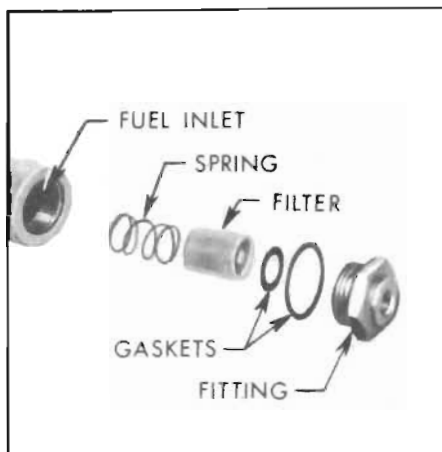


Figure 1-10—V-6 Engine Carburetor Fuel Filter

Oil the element liberally with engine oil and squeeze to evenly distribute the oil through the element and remove excess.

**NOTE:** The element should be only damp with oil not dripping.

Reinstall the element on mesh support, taking care to have edges of the element over the support to effect a good seal. See Figure 1-9. Clean any oil or accumulated dirt out of air cleaner housing before installing element. If the element becomes damaged, replace with AC-type A 96C or equivalent on V-8 engines and AC-type A 132C or equivalent on V-6 engines.

### c. Fuel Filter (V-6 Engine)

Remove from carburetor fuel inlet, inspect, clean, or replace, if necessary. More frequent servicing may be necessary if contaminants have entered the fuel system.

### d. Belts

Inspect engine driven belts for cracks and proper tension.

## 1-5 MAINTENANCE— EVERY 18,000 MILES

### a. Brakes

Examine brake linings for wear and the self-adjusting mechanism

for proper functioning. Although linings may not be excessively worn, this check will indicate when another inspection should be made. If required, use Buick Factory Engineered replacement linings or equivalent. Lubricate the self-adjusting mechanism adjusting screw with Delco Moraine Special Brake Lubricant or equivalent.

### b. Front Wheel Bearings

There is no periodic lubrication schedule for front wheel bearings. They may be relubricated whenever brake drums are removed. Always follow with the correct bearing adjustment as outlined in paragraph 7-11.

## 1-6 MAINTENANCE— EVERY 24,000 MILES

(Suggested in addition to the 6,000 & 12,000 mile Recommendations)

### a. Fuel Filter (Exc. V-6's)

Replacement of the disposable filter is recommended. More frequent replacement may be necessary if contaminants have entered the fuel system. Replace with filter type GF-94 or equivalent on non-air conditioned cars and type GF-96 or equivalent for air conditioned cars.

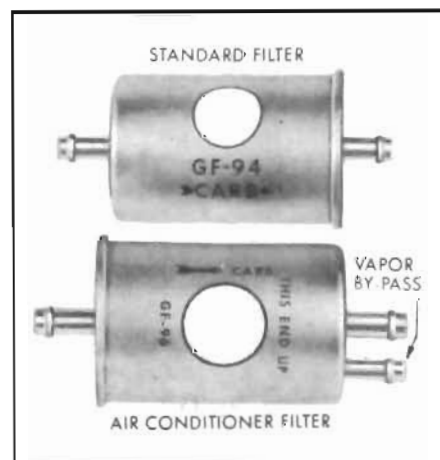


Figure 1-11—Fuel Filters (V-8 Engines)

### b. Automatic Transmission

At this interval the automatic transmission should be drained, the oil pan cleaned, the oil filter changed, new oil added, and the low band adjusted.

1. Approved Oil For Buick Automatic Transmissions - The following oils are approved for Buick Automatic Transmissions and no other fluid should be used:

Special Buick Oil - available through Buick Warehouses under Group 4.101.

Automatic Transmission Fluid Type A - available through petroleum suppliers. This fluid must have AQ-ATF and an identification number, suffix A, embossed on the lid of the can.

2. Installing New Oil Filter (Transmissions used with V-8 engines only)

a. Remove bolts from transmission oil pan, remove pan, and allow transmission to drain.

b. Carefully remove filter and pipe assembly from transmission.

c. Inspect seal near end of pipe. If it is damaged in any way, discard it along with the filter. If no damage is obvious, save seal for installation on new filter.



Figure 1-12—Torquing Low Band Screw

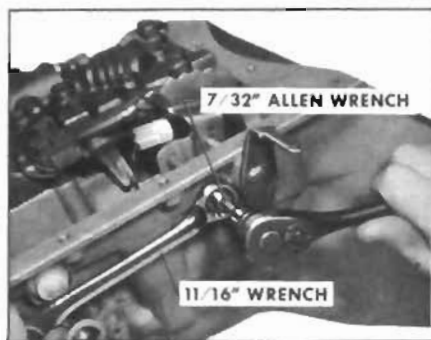


Figure 1-13—Backing Off Low Band Screw

d. Place seal on new filter. Use an AC Type PF-162 or equivalent for replacement purposes.

e. Carefully install new filter on transmission taking care not to cut or tear the "O" ring seal.

f. Clean oil pan and install on transmission. Torque pan bolts to 8-12 ft. lbs.

### 3. Draining Oil Pan (Transmissions used with V-6 engines only)

Follow the procedure outlined above with the exception of those references to an oil filter. Transmissions used with V-6 engines do not use an oil filter. Instead an oil screen is attached to the oil pipe. This screen and pipe assembly can be removed and cleaned in a suitable solvent. Upon reassembling, take care not to cut or tear the "O" ring located near the end of the pipe. If it is damaged in any way it must be replaced with a new one.

### 4. Low Band Adjustment

1. Adjust low band adjusting screw to 40 in. lbs. See Figure 1-12.

2. Back off adjusting screw four (4) turns and lock nut. See Figure 1-13.

3. Replace adjusting screw cap. Refer to Figure 1-14.

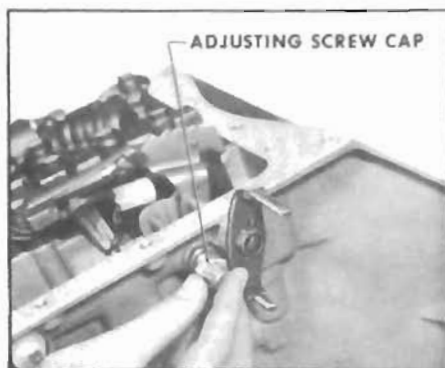


Figure 1-14—Installing Adjuster Screw Cap

### c. Manual Steering Gear

At this interval the manual steering gear lubricant level should be checked. Remove the lower bolt on gear cover marked "Lube". Add chassis lubricant conforming to Buick Specification #742 as necessary.

## 1-7 MAINTENANCE—SEASONAL (COOLING SYSTEM AND AIR CONDITIONER SERVICES)

### a. Anti-Freeze

A permanent glycol type corrosion and anti-freeze cooling system protection solution developed for year around use (General Motors Specification, GM 1899-M) has been installed in the cooling system of the Buick Special or Skylark at the factory.

Although this type coolant should be used continuously throughout the year, once a year the cooling system should be drained, flushed and permanent type anti-freeze also conforming to General Motors Specification GM 1899-M installed. Water alone, Methanol, or alcohol type anti-freeze is definitely not recommended.

If water alone must be used as coolant in an emergency, it is extremely important that Buick

Heavy Duty Cooling System Protector and Water Pump Lubricant be added to the cooling system as soon as possible. This material is supplied under Buick Part #980504. If any other cooling system protector is used, be sure it is labeled to indicate that it meets General Motors Specification GM 1894-M.

### b. Air Conditioner-Equipped Models

It is recommended that the air conditioner be checked each Spring in preparation for Summer operation.

It is good practice to occasionally remove insects and dirt from the air conditioner condenser.

## 1-8 MAINTENANCE—AS REQUIRED

### a. Body Lubrication

The movable mechanical parts of the body are lubricated at the factory to insure proper and quiet operation. If additional lubrication is required, the following specified materials should be used at the locations listed.

1. Front and Rear Door Hinge Hold Open - Wipe off dirt and apply a thin coat of Lubriplate or equivalent at points indicated in Figure 1-15.

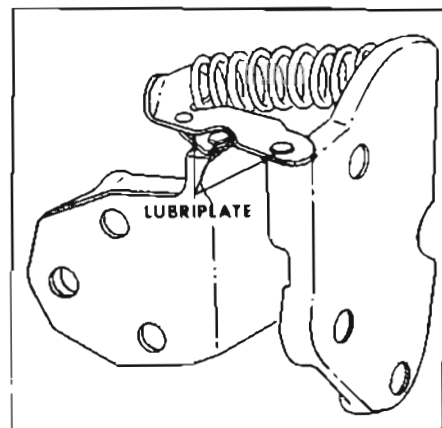


Figure 1-15—Door Hold Open Lubrication