# SECTION B MAINTENANCE AND LUBRICATION ALL SERIES

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# DIVISION I SPECIFICATIONS AND ADJUSTMENTS

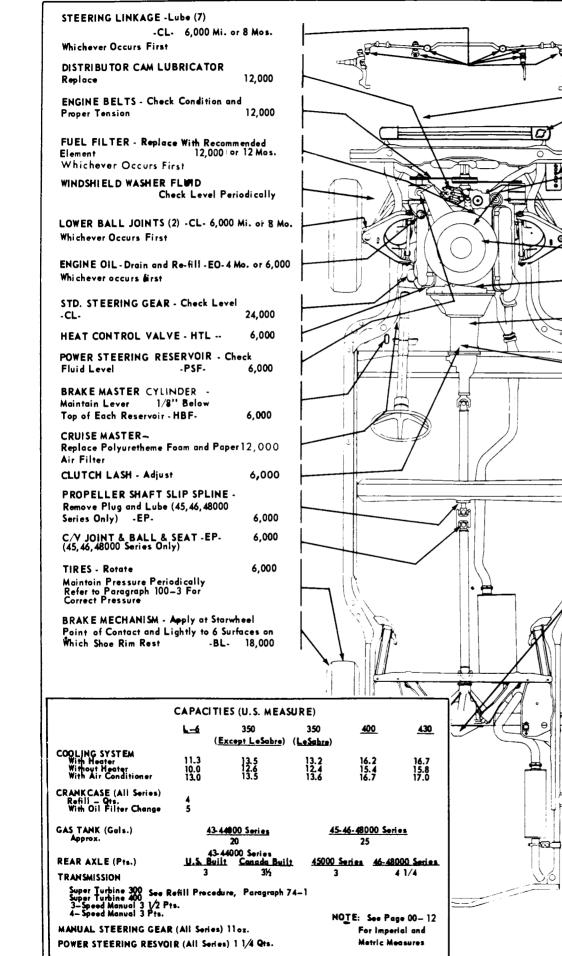
Refer to page 00-12 for U.S., Imperial and Metric Measure Chart.

00-7 LUBRICATION AND CAPACITY CHARTS

Refer to pages 00-10 and 00-11 for lubrication charts.

# 1968 LUBRICATION CHART All models except riviera

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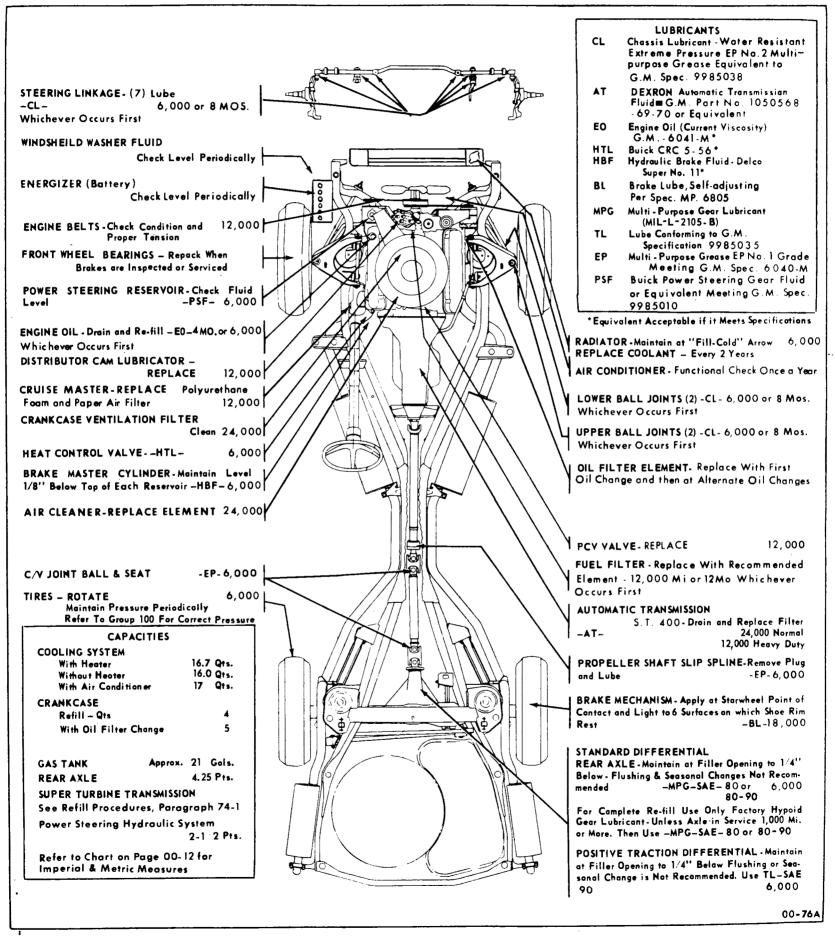
Г		NDITIONER - nal Check ,Once A Year
/	Arrow	TOR - Maintain at ''Fill-Cold'' 6000 e Coolant - Every 2 Years
/	1	JZER (Battery ) - Check Level PERIODICALLY
	CRANK Clean	CASE VENTILATION FILTER - 24,000
		WHEEL BEARINGS - Repack When Brakes pected or Serviced.
		LTER ELEMENT - Replace With First Oil and Then at Alternate Oil Changes
_	] .CL.	R BALL JOINTS (2) - 6,000 Mi. cr 8 Mos. ver Occurs First
		EANER · Replace Element 24,000 ALVE - Replace 12,000
	MANUA at Fille	AL TRANSMISSION - Maintoin er Opening - Flushing & Seasonol
	M.P.G.	s NOT Recommended - SAE - 80 or 80-90 6,000 IATIC TRANSMISSIONS
	SU Drain &	IATIC TRANSMISSIONS PER TURBINE 300 . Clean Strainer & Adjust and - AT - 24,000 Normal 12,000 Heavy Duty
		PER TURBINE 400 Replace Filter 24,000 Normoi 12,000 Heavy Duty
	STAND	ARD DIFFERENTIAL
		AXLE - Maintain at Filler Opening to 1/4" • Flushing & Seasonal Changes NOT Recom- •MPG-SAE-80 or 80-90
	Gear La	nplet e Re-Fill Use Only Factory Hypoid ubricant - Unless Axle in Service 1,000 Mi. . Then Use - MPG-SAE-80 or 80-90
	at Fille sonal C	VE TRACTION DIFFERENTIAL - Maintain er Opening to 1/4" Below Flushing or Sea- hange is NOT Recommended. Use TL-SAE 000
1		
	CL	Chassis Lubricant – Water Resistant Extreme Pressure EP No. 2 Multi– purpose Grease Equivalent to G.M. Spec. 9985038
	AT	DEXRON Automatic Transmission Fluid G.M. Port No. 1050568–69–70 or Equivalent
	EO	Engine Oil (Current Viscosity) G.M. 6041-M*
	HTL	Buick CRC 5-56*
	HBF	Hydraulic Brake Fluid - Delco Super No.11*
	BL	Brake Lub, Self-adjusting Per Spec. MP. 6805
	MPG	Multi-Purpose Geor Lubricant (MIL-L-2105-B)
	TL	Lub Conforming to G.M. Specification 9985035
	EP	Multi-Purpose Grease EP No. 1 Grade Meeting G.M. Spec. 6040-M
	PSF	Buick Power Steering Gear Fluid or Equivalent Meeting G.M. Spec. 9985010

9985010

\* Equivalent Acceptable if it Meets Specifications

00-75 A

# 1968 RIVIERA LUBRICATION CHART



# U.S., IMPERIAL AND METRIC MEASURE CHART

	U.S. Measure	Imp <b>e</b> rial Measure	Metric Measure
Cooling System			
(L-6) 250 Cu. In.			
w/Heater	11.3 Qts.	9.42 Qts.	10.70 Liters
w/o Heater	10.0 Qts.	8.33 Qts.	9.46 Liters
w/Air Conditioner	13.0 Qts.	10.83 Qts.	12.30 Liters
350 Cu. In. (All Except LeSabre)			
w/Heater	13.5 Qts.	11.25 Qts.	12.70 Liters
w/o Heater	12.6 Qts.	10.40 Qts.	11.9 Liters
w/Air Conditioner	13.5 Qts.	11.25 Qts.	12.7 Liters
350 Cu. In. (LeSabre)		-	
w/Heater	13.2 Qts.	11.00 Qts.	12.4 Liters
w/o Heater	12.4 Qts.	10.33 Qts.	11.7 Liters
w/Air Conditioner	13.6 Qts.	=	
	13.0 WIS.	11.33 Qts.	12.8 Liters
400 Cu. In. w/Heater	16.2 Qts.	13.5 Qts.	15.3 Liters
w/o Heater			-
	15.4 Qts.	12.8 Qts.	14.7 Liters
w/Air Contiioner	16.7 Qts.	13.9 Qts.	15.7 Liters
430 Cu. In.			
w/Heater	16.7 Qts.	13.9 Qts.	15.0 Liters
w/o Heater	15.8 Qts.	13.2 Qts.	15.14 Liters
w/Air Conditioner	17.0 Qts.	14.2 Qts.	16.1 Liters
Crankcase (All Series)	•		
Refill	4 Qts.	3.3 Qts.	3.78 Liters
With Oil Filter Change	5 Qts.	4.20 Qts.	4.73 Liters
Gasoline Tank			
43-44000 Series	Approx. 20 Gal.	16.67 Gal.	75.60 Liters
45-46-48000 Series	Approx. 25 Gal.	20.83 Gal.	94.50 Liters
49000 Series	Approx. 21 Gal.	17.50 Gal.	79.38 Liters
Rear Axle			
43-4400 Series			
(U.S. Built)	3 Pts.	2-1/2 Pts.	1.42 Liters
43-44000 Series			
(Canada Built)	3-1/2 Pts.	3 Pts.	1.66 Liters
45000 Series	3 Pts.	2-1/2 Pts.	1.42 Liters
46-48-49000 Series	4-1/4 Pts.	3-1/2 Pts.	2.18 Liters
Transmission			
S.T. 300	See Re-Fill		
S.T. 400	Procedures		
	Paragraph 74-1		
3-Speed Manual	3-1/2 Pts.	3 Pts.	1.66 Liters
4-Speed Manual	3 Pts.	2-1/2 Pts.	1.425 Liters
Manual Steering Gear	11 Oz.	11 Oz.	311.85
(All Series)			Grams
Power Steering (All Series)			
Hydraulic System	2-1/2 Pts.	2	1.19 Liters

# DIVISION III SERVICE PROCEDURES

# 00-8 ENGINE OIL RECOMMENDATIONS

# a. Engine Oil

Engine crankcase oils have a definite effect on ease of starting, oil economy, combustion chamger deposits and engine wear. It is recommended that 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 6041-M be used. 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 temperatureviscosity chart in subparagraph d.

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

# c. 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 envelopes 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.

# d. Engine Oil Change and Viscosity Recommendations

Anticipated Lowest Temperatures	Use SAE Viscosity Number	Change Your Oil at Least
Above Freezing (+32 $^{\circ}$ F.)	SAE 10W-30 SAE 20W	Every 4 Months*
Below Freezing $(+32^{\circ} \text{ F.} $ to $0^{\circ} \text{ F.})$	SAE 10W SAE 10W-30	Every 4 Months*
Below $0^{\circ}$ F.	SAE 5W-20 SAE 5W	Every 4 Months*

\*Never exceed 6,000 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 4 months. Your authorized Buick dealer is well qualified to advise you.

**NOTE:** When changing the oil consider the lowest anticipated temperature for the next 4 months.

SAE 5W and 5W-20 oils are not recommended for sustained high speed driving.

SAE 30 and SAE 20W-40 oils may be used at temperatures above 90°F.

SAE 5W-30 oils may be used at temperatures below  $32^{\circ}$  F.

SAE 10W-40 oils may be used at temperatures between 0 and  $90^{\circ}$ F.

# e. Crankcase Flushing

Flushing the crankcase with oils or solutions other than a good grade of 10-W engine oil is not recommended. When flushing to remove contamination appears advisable, use 3 quarts 10-W 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 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 or equivalent is a compound of the materials used by oil refiners to manufacture high detergent 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.

# 00-9 PERIODICALLY WHILE VEHICLE IS BEING REFUELED

1. Battery - Check Level.

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

CAUTION: DO NOT OVER-FILL.

#### 2. Tires

For maximum tire life with corresponding good ride characteristics, maintain the tire pressure recommended in Group 100.

#### 3. Engine Oil

This check should be performed last to allow the oil to drain back into the pan. Always add oil if the level is below the lower mark on the dip stick. See Figure 00-13.

4. Windshield Washer Solvent

If necessary, add solvent using GM Part No. 1050001 or equivalent. Follow instruction on label for correct concentration of solvent and water.

### 00-10 MAINTENANCE RECOMMENDA-TIONS-EVERY 4 MONTHS

# 1. Engine Oil Change

Drain and refill engine crankcase every 4 months. If more than 6,000 miles are driven in a 4 month period, change oil every 6,000 miles. See subparagraph d. for oil recommendations.

Certain driving conditions including prolonged operation in subzero temperatures, trailer hauling and extensive idling necessitates more frequent oil changes. Under these conditions oil change intervals should not exceed 2 months or 3,000 miles, whichever occurs first.



Figure 00-13-Engine Oil Gauge Rod

# 2. Engine Oil Filter Change

Replace engine oil filter at the first engine oil change and every second oil change thereafter.

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 of a new AC type PF-24 filter (V-8), PF-29 (L-6) or equivalent. Lubricate the gasket and screw the filter on the nipple until the gasket just touches the base; tighten filter 2/3 of a turn more. Start engine. Do not accelerate engine beyond the normal idle speed until oil pressure light goes out. Check the filter area for leaks after the engine has run for five (5) minutes.

# 3. Idle Speed and Mixture

Adjust at 4 months or after approximately 1,000 miles and at each 12,000 miles. Refer to paragraph 64-2 for proper settings.

# 00-11 MAINTENANCE RECOMMENDA-TIONS—EVERY 8 MONTHS OR 6,000 MILES

# 1. Front Suspension and Steering Linkage

The front suspension and steering linkage should be lubricated with a water resistant extreme pressure EP #2 Multi-Purpose grease equivalent to GM Specification 9985038 every 8 months or 6,000 miles which occurs first.

**NOTE:** If lubricants not meeting GM Specification 9985038 are used, the lubrication interval should be shortened and should not exceed 2,000 miles.

Wipe dirt from the lubrication fittings and apply lubricant under pressure at the following points:



Figure 00–14—Lubricating Points on Manifold Heat Control Valve – L-6 Engine

Upper Ball Joints (2 fittings) Lower Ball Joints (2 fittings) Steering Linkage (7 fittings)

# 2. Manifold Heat Valve

Spray "Buick CRC 5-56" or equivalent on end of shaft, and free up it required. See Figure 00-14, or 00-15.

#### 3. Clutch Lash

Should be adjusted every 6,000 miles. See Group 71 for procedures.



Figure 00-15—Lubricating Points on Manifold Heat Control Valve – 350, 400 and 430 Cu. In. Engines

# MAINTENANCE AND LUBRICATION

# 4. <u>Constant Velocity Universal</u> <u>Joint Centering Ball</u> (45-46-48-49000 Series)

Rotate propeller shaft until fitting is visible through frame tunnel (49000) excessible on 45-46-48000 Series. Insert special grease gun adapter to bear solidly against fitting. One or two shots of grease is sufficient. See Figure 00-16 or 00-17. On the 49000 Series lubricate rear constant velocity Universal joint.

NOTE: Multi-Purpose Grease EP#1 grade is the only lubricant applicable at this point. DO NOT USE ORDINARY CHASSIS LUBE. An EP#1 lube is available through the Parts Department under Group 8,800.

On the 49000 series lubricating the constant velocity joint on certain hoists such as the frame contact type can be difficult as they allow the axle to drop and thus move the CV joint grease fitting away from the access hole. To correct, either the axle must be raised or the propeller shaft disconnected from the rear companion flange. **CAUTION**: Reassembly of the propeller shaft should carefully be done as instructed in Group 40.

# 5. Propeller Shaft Slip Spline (45-46-48-49000 Series)

# 45-46-48000

Rotate propeller shaft so plug in propeller shaft is accessible through hole in center bearing support. See Figure 00-16. Remove plug and insert adaptor (J-22513 or equivalent) with rubber cap attached. One or two shots from a lever type grease gun are sufficient. Remove adaptor and reinstall plug.

# 49000

Rotate propeller shaft so plug in propeller shaft is accessible through front hole in frame tunnel. See Figure 00-17. Remove plug and install adapter (Alemite #327045 or equivalent) in propeller shaft. One or two shots from a lever type grease gun are sufficient. Remove adapter and reinstall plug.

Again it is emphasized that a lubricants meeting the GM spec-

ification 6040-M for Multi-Purpose Grease EP number 1 grade is to be used in these areas. Ordinary chassis lube must not be used. An EP#1 lube is available through the Parts Department under Group 8.800.

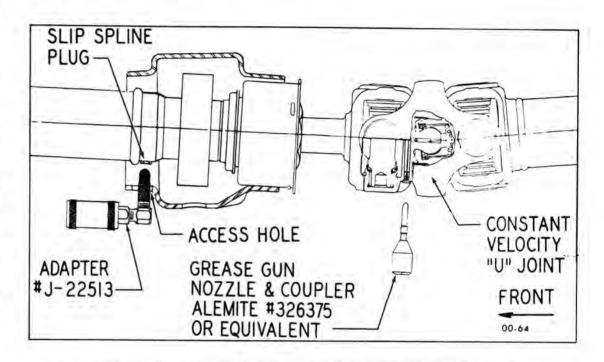


Figure 00-16-Propeller Shaft Lubrication Points (45-46-48000 Series)

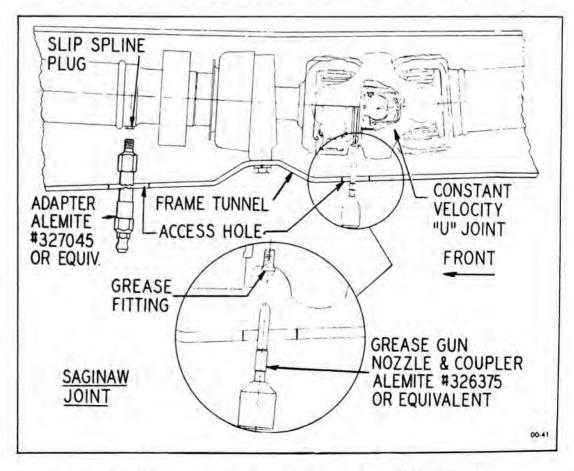


Figure 00-17—Propeller Shaft Lubrication Points (49000 Series)

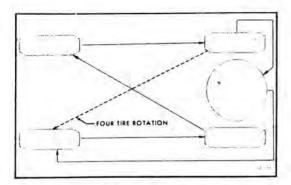


Figure 00-18-Tire Rotation Method

#### 6. Tires

For best tire mileage, rotate tires every 6,000 miles as shown in Figure 00-18. After tire rotation, adjust tire pressure to the recommended pressure listed in Group 100.

A decrease in traction and antiskid properties, as well as road hazard resistance, occurs as tires become worn out. The original equipment tires incorporate builtin tread wear indicators to assist in judging when tires should be replaced. These indicators are molded into the bottom of the tread grooves and will appear as 1/2 inch wide bands when tire tread depth becomes a 1/16 of an inch. When the indicators appears in two or more adjacent grooves, tire replacement is recommended. See Figure 00-19.

# 7. Check Fluid Level

#### Brake Master Cylinder

All models are equipped with dual master cylinders. Maintain fluid level 1/8'' below top of each filler opening. When adding brake fluid,



Figure 00-19-Tread Wear Indicators

use Delco Supreme #11 hydraulic brake fluid or equivalent. Never use reclaimed fluid, mineral oil, or fluid inferior to SAE Standard 70-R-3.

### Manual 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 SAE80 or 90 multipurpose gear lubricant.

**NOTE**: Draining and flushing transmission is not required.

# Automatic Transmission

**IMPORTANT**: Refer to Paragraph 74-1, subparagraph c for correct refill procedures.

# **Power Steering Reservoir**

Thoroughly clean any excessive amounts of dirt from reservoir cap before removing. Maintain level in accordance with fill marking on cap dip stick. Use only Power Steering Fluid meeting GM Specification 9985010.

# Standard Differential Rear Axle

Check lubricant level after allowing time for lube to settle. Clean surrounding area before removing filler plug. Level should be maintained not lower than 1/4" below filler plug opening by adding SAE 80 or 80-90 Multi-Purpose Gear Lubricant meeting MIL-L-2105B specification.



Figure 00–20—Automatic Transmission Oil Gauge Rod

**NOTE:** Draining and flushing are not recommended. When complete refilling is necessary, SAE 80 or 80-90 Multi-Purpose Gear Lubricant may be used, provided the axle has been in service for 1,000 miles or more. Axles with less than 1,000 miles must not be completely refilled with any lubricant other than Factory Hypoid Lubricant or equivalent.

# Positive Traction Differential Rear Axle

### U.S. Built Axles

Identified by a stainless steel plate attached by a rear cover bolt starting "Use limited slip differential lube only" and by an X enclosed in a circle stamped on the bottom of the left axle tube. See Figure 00-21.

#### Canadian Built Axles

Identified by a red plastic tag attached to the filler plug stating "USE POSITRACTION DIFF. LUBRICANT ONLY" and by an E stamped below the production month and date on the front face of right axle tube. See Figure 00-22.

Check lubricant level after allowing time for lubricant to settle. Level should be maintained not lower than 1/4" below filler plug opening by adding SAE 90 gear lube meeting GM Specification 9985035.

**NOTE:** If Positive Traction Differential lube becomes contaminated, the axle assembly

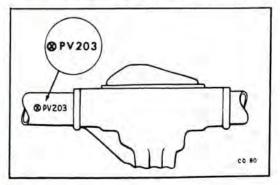


Figure 00–21—Positive Traction Identification – U.S. Built Axles

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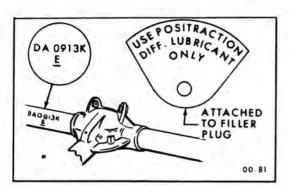


Figure 00-22—Positive Traction Identification - Canadian Built Axles

may be flushed with engine oil. Refer to Group 40 for complete flushing and refill procedures.

#### 8. Minor Lubrication

Occasionally lubricate the pivot points at the following locations with the recommended material.

Hood Hinge - Lubriplate or equivalent

Door Hinges - Lubriplate or equivalent

Door Lock Cylinders - Powered graphite. DO NOT USE OIL.

Gas Tank Door Hinge - Engine Oil

Door Lock Fork Bolt - Stick type lubricant

Rear Compartment lid lock -Lubriplate or equivalent

Door Jam Switch - Lubriplate or equivalent

Front Seat Adjuster Tracks -Lubriplate or equivalent

Convertible Top Mechanism -Lubriplate or equivalent

Station Wagon Folding Seat Linkage - Dripless Oil

Tail Gate Lock Strider - Stick type lubricant

Tail Gate Hinges - Dripless Oil

Folding Top Lift Cylinder Piston - With folding top in raised position, wipe exposed portion of each top lift cylinder piston rod with a cloth dampened with brake fluid to remove any oxidation or accumulated grime. With another clean cloth apply a light film of brake fluid to act as a lubricant.

**NOTE:** Do not allow brake fluid to come in contact with any painted or trimmed parts of the body.

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

#### 9. Body Rubber Parts

Door, hood, and rear compartment rubber weatherstrips may be kept pliable and quiet by the application of a light coat of GM Part No. 1050110 Lubricant or suitable silicone lubricant equivalent.

#### 00–12 MAINTENANCE RECOMMENDA-TIONS—EVERY 12,000 MILES

1. Ignition Points, Timing, Spark Plugs, Point Dwell and Idle Speed Mixture.

It is recommended that the spark plugs be cleaned and gapped or, if necessary replaced, at 12,000 miles. Also the ignition points should be replaced and the engine timing, point dwell and idle speed mixture should be set to specifications as stated in Group 69.

**NOTE:** More frequent service may be required depending on driving conditions.

#### 2. Fuel Filters

Replacement of fuel filter is recommended at 12,000 miles or 12 months whichever occurs first. Remove from carburetor inlet and replace with filter type GF-427 or equivalent for L-6 and 350 2 bbl. or GF-441 or equivalent for all V-8's with 4 bbls. More frequent servicing may be necessary if contaminants have entered the fuel system.

3. Distributor Cam Lubricator

It is recommended that the distributor cam lubricator be re-



Figure 00-23-Distributor Cam Lubricator

placed every 12,000 miles. Remove from post on distributor plate and replace with a new wick. See Figure 00-23.

4. Cruise Master Filter

It is recommended that the cruise master filter be replaced every 12,000 miles. Remove the polyurethane foam and paper element, located in the solenoid and filter cover, and replace with Filter pakcage 6465372 or equivalent. See Figure 00-24.

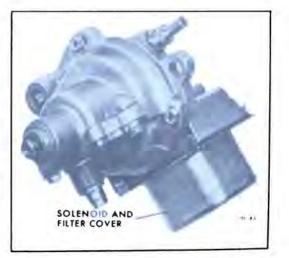


Figure 00–24—Polyurethane Foam and Paper Air Filter Location

# 5. <u>Positive Crankcase Ventilator</u> <u>Valve</u>

Replace PCV valve at 12,000 miles or 12 months whichever occurs first. Remove positive crankcase ventilation valve and replace with a new AC-type CV-079C or equivalent for V-8 Refer to Group 30.

#### 8. Super Turbine 300 and 400

If transmission is subjected to heavy duty usage, such as heavy city traffic during hot weather, or in commercial use, when engine is regularly idled for prolonged periods, the transmission recommendations listed under "24,000 Mile" should be performed at 12,000 miles.

# 9. Air Conditioner - Equipped Model

It is recommended that the system should be functionally checked by the dealer each spring.

Keep insects and dirt from accumulating on the air conditioner condenser.

# 00-13 MAINTENANCE RECOMMENDA-TIONS-EVERY 18,000 MILES

#### 1. 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 equipped with Disc brakes observe friction pad thickness through the inspection opening in the caliper. Refer to Group 50 for service procedure and specifications.

If required use Buick approved replacement linings and friction pads or equivalent. Lubricate self-adjusting mechanism adjusting screw with Delco Moraine

## 1. Automatic Transmission-Super Turbine 300 & 400

At this interval the automatic transmission should be drained, the oil pan and oil strainer cleaned (S.T. 300), and oil filter replaced (S.T. 400) and new oil added as stated in paragraph 74-1, section A, subparagraph c.

When adding transmission fluid use only DEXRON Automatic Transmission Fluid or Automatic Transmission Fluid identified with the mark DEXRON on the container.

LOW BAND ADJUSTMENT -Super Turbine ''300'' Only

Low band adjustment is required at this interval. Refer to paragraph 74-25 for correct adjustment procedure.

# 2. Manual Steering Gear

At this interval, the manual steering gear lubricant level should be checked. Remove the bolt on gear cover marked "Lube". Add chassis lubricant conforming to GM Specification 9985038 as necessary.

3. Engine Air Cleaner Element

Replacement of element is required every 24,000 miles. If car



place if necessary. Service with the following AC type air cleaner element or equivalent for maximum engine protection.

ELEMENT				
Usage	Regular	Heavy Duty		
L-6	A169CW	A227C		
350-2	A169CW	A227C		
350-4 400-4 430-4	A212CW	A279C		

#### 4. Crankcase Ventilation Filter

It is recommended that the crankcase ventilation filter be serviced every 24,000 miles. If car is operated in dusty territory, check condition of filter more frequently and clean if dirty.

To clean, remove the filter from the air cleaner and wash in a suitable petroleum solvent. Dry with air hose and dampen with engine oil. See Figure 00-25. If replacement is required, replace with AC type FB-59 or equivalent.

5. Cooling System Inhibitor

It is required that GM cooling system inhibitor and sealer or equivalent be added every 24,000 miles.

# 00-15 MAINTENANCE RECOMMENDA-TIONS—SEASONAL (COOLING SYSTEM)

# 1. Anti-Freeze

A ethylene 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 vehicle at the factory.

Although this type coolant should be maintained to at least 0°F throughout the year, once every two years the cooling system should be drained, flushed and ethylene glycol type anti-freeze also conforming to General Motors Specification GM 1899-M installed. At this time, also add GM cooling system inhibitor and sealer or equivalent. 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 or equivalent be added to the cooling system as soon as possible. If any other cooling system protector is used, be sure it is labeled to indicate that it meets General Motors Specification GM 1894-M.

# 00–16 VEHICLE OPERATION UNDER DUSTY CONDITIONS

When cars are operated in adverse dusty climates or conditions, the following precautions should be taken to prevent dirt and other foreign materials from entering the engine.

1. Change Engine Oil - Change more often than is recommended in subparagraph C. The severity of the conditions should determine the frequency of oil changes.

2. Oil Filter - Change each time that the oil is changed under these conditions.

3. Air Cleaner Element - Inspect element. If dirty, replace as recommended under subparagraph k.