

GROUP 1

LUBRICARE AND BEARING SERVICE

SECTIONS IN GROUP 1

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SECTION 1-A

LUBRICARE INSTRUCTIONS

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SERVICE BULLETIN REFERENCE

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1-1 EVERY 1000 MILES—CHASSIS AND BODY

a. Chassis Lubricare

1. *Engine.* Check engine oil level only after engine has been stopped for at least two to five minutes to allow oil to drain down. The space between the "FULL" mark and bottom mark on oil gauge rod represents 2 quarts. See figure 1-2.

The oil level should be maintained between the "FULL" and bottom marks on gauge rod. It is best to maintain the oil level within one quart of the "FULL" mark. Do not fill above the "FULL" mark.

See paragraph 1-7 for engine oil recommendations and when to change oil.

2. *Front Suspension, Brake, Clutch and Transmission Controls.* Wipe dirt from lubrication fittings, then apply a good grade of water-resistant chassis lubricant, under pressure, at the following points (fig. 1-1) :

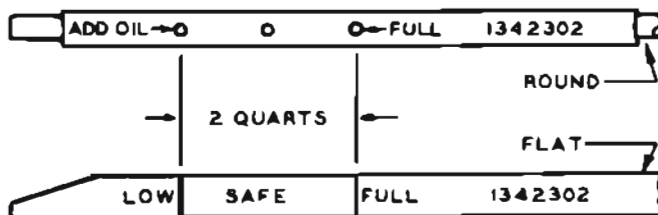


Figure 1-2—Marking on Optional Engine Oil Gauge Rods

- Lower Control Arms, inner and outer ends
- Support Upper Pivot Pins
- Steering Knuckle Bushings
- Tie Rod Ends, inner and outer
- Transmission Shift Idler Lever Pin
- Clutch Release Equalizer
- Clutch and Brake Pedals.

3. *Syncro-Mesh 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 Multi-Purpose Gear Lubricant (U.S. Army Spec. 2-105B). Use SAE 90 for temperatures not lower than 10°F below zero; for temperatures continuously lower than -10°F use SAE 80. NOTE: *Draining and flushing transmission is not necessary at any time unless the lubricant has become contaminated.*

4. **Rear Axle.** 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 (U. S. Army Spec. 2-105B). NOTE: *Draining and flushing is not necessary at any time unless the lubricant has become contaminated.* When complete refilling is required use only Factory Hypoid Lubricant as specified in paragraph 1-8.

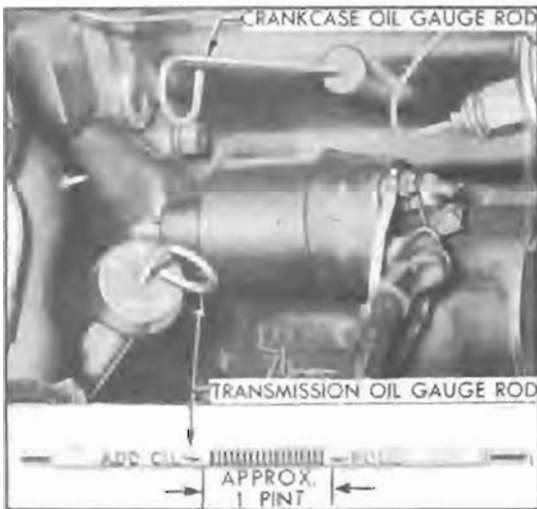


Figure 1-3—Dynaflo Oil Gauge Rod

5. **Dynaflo Transmission.** Check transmission oil level, *with transmission oil warm, transmission in Parking, and engine idling.* Remove gauge rod located under right side of hood (fig. 1-3), wipe dry with clean cloth then reinstall to full depth. Remove rod and note oil level.

If oil level is more than one inch below the "FULL" mark on gauge rod, add oil specified in paragraph 1-4 but do not fill above the "FULL" mark. Distance between the "FULL" and "ADD OIL" mark is one inch and represents approximately one pint.

6. **Cranking Motor (Starter).** Apply a few drops of engine oil to the solenoid link pin and to the bearing between shift lever and stud. *Do not oil solenoid plunger.*

7. **Distributor.** Lubricate shaft with chassis lubricant through fitting on housing; the proper

amount of lubricant is indicated by lubricant emerging from relief hole in front of distributor housing in a continuous unbroken stream. See figure 1-4.

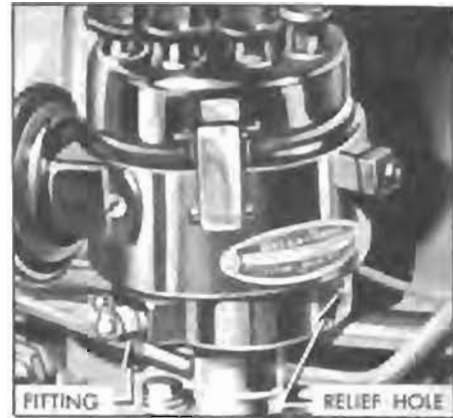


Figure 1-4—Distributor Shaft Lubrication



Figure 1-5—Battery Filler Well

8. **Battery.** Add distilled water to bring level to ledge at bottom of slot in well. See figure 1-5. **WARNING:** *Do not over fill.*

9. **Air Cleaner.** Normally serviced every 5000 miles. If car is operating in dusty territory, however, check conditions of air cleaner and clean it if dirty. See instructions in paragraph 1-2.

10. **Oil Filter.** Change original oil filter element at *first 1000 miles.* See instructions in paragraph 1-2.

11. **Radiator.** Check coolant level when engine is cold and add water to line marked "Filling Level—Cold" stamped on rear side of head tank. See figure 1-6. **CAUTION:** *Radiator cap should not be removed when engine is hot because relieving the pressure may cause the cooling system to boil, with resultant loss of water or anti-freeze solution. Filling radiator when*



Figure 1-6—Radiator Filling Level—Cold

hot, or filling above level line may result in loss of water or anti-freeze solution through overflow pipe.

12. *Generator and Fan Belt.* Place 2 or 3 drops of engine oil in cups at both ends of generator. Avoid excessive oiling which may affect brushes and windings.

Inspect fan belt for cracks and for proper tension. See figure 2-35.

13. *Manifold Valve Shaft.* Place a few drops of graphited kerosene on shaft at each end and rotate shaft to work lubricant into bearings. See figure 1-7. If shaft is frozen, free up by tapping ends of shaft lightly with hammer.

14. *Throttle Control Linkage.* Place a few drops of engine oil at connections. If the accelerator equalizer shaft squeaks in the upper and lower brackets, work Lubriplate or chassis lubricant into the bearings and wipe off excess lubricant.

15. *Control Detent—Dynaflow Drive.* Apply a small amount of Lubriplate or chassis lubricant to notches of control detent at base of steering column. See figure 1-8.

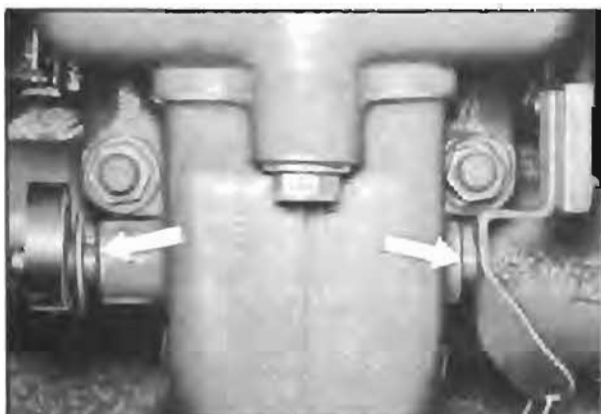


Figure 1-7—Points to Lubricate Manifold Valve Shaft



Figure 1-8—Dynaflow Transmission Control Detent

16. *Brake Master Cylinder.* Thoroughly clean filler cap nut before removal to avoid getting dirt into reservoir. Add fluid as required to bring level to $\frac{1}{2}$ " to 1" below top of filler opening. Use G.M. or Delco Super No. 11 Hydraulic Brake Fluid. *Never use reclaimed fluid or any mineral oil.*

17. *Tires.* Inflate all tires according to tire temperature, as follows:

24 lbs. *Starting Pressure*—after car has been standing for 3 hours or driven less than one mile. *In temperatures below freezing, inflate tires 2 lbs. higher.*

26 lbs. *City Pressure*—after car has been driven 3 miles or more BELOW 40 MPH.

28 lbs. *Highway Pressure*—after car has been driven 3 miles or more ABOVE 40 MPH.

WARNING: *It is impossible to inflate tires correctly when HOT. Pressure normally increases as tires heat up when driving. Do not deflate tires to offset this increase in pressure.*

b. Body Lubricare

1. *Hood Fastener Mechanism.* Lightly coat hinge pilot pins and fastener hooks with Lubriplate or chassis lubricant.

2. *Door Locks and Strikers.* Heavy bodied lubricants tend to gum up and hinder free movement of the lift bolt type locks. Referring to figure 1-9, use only SAE 10 engine oil at (1) roller and bolt (2) edges of bolt slot (3) (4) guide channels in striker (5) surface of bumper. Apply light film, wipe off surplus. Apply solution type graphite lubricant where bumper bears against striker plate at (6).

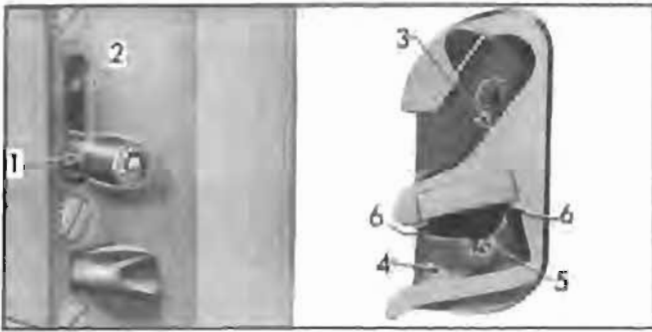


Figure 1-9—Door Lock and Striker

3. *Door Checks and Hinges.* On Series 40, apply Lubriplate or chassis lubricant to hold-open springs in front door hinges. Use same lubricant sparingly on lugs of all rear door check links. On Series 45-50-70 apply light engine oil to check link pins. No lubricant required on hinge pins.

4. *Dome Lamp Switches.* Coat end of switch plunger and contact point on door with G. M. Door-Ease Lubricant.

5. *Glove Box Door.* Apply a few drops of light engine oil to door hinge pins and wipe off surplus. Sparingly coat lock striker with G. M. Door-Ease Lubricant.

6. *Windshield Wiper Cables.* Wipe a few drops of light engine oil on cables where they pass over tensioner pulleys. CAUTION: *Windshield wiper blades must not be rotated by hand for any reason as this places an undue strain on cable fastenings.*

7. *Rear Compartment Lid Lock.* Lightly coat lock latch and striker with Lubriplate or chassis lubricant.

8. *Gas Tank Filler Door.* Apply a few drops of light engine oil or penetrating oil to hinge pins. Wipe off excess oil to prevent accumulation of dirt.

9. *Lock Cylinders.* If key operates roughly in any lock cylinder blow powdered graphite into key slot. DO NOT USE OIL.

c. Lubricare of Miscellaneous Rubber Parts

Rubber parts such as door weatherstrips, cowl ledge lacing, stabilizer bushings, etc., do not require Lubricare unless they are causing squeaks. If Lubricare becomes necessary, make certain that the lubricant used is not injurious to rubber. Where the lubricant can be spread on the rubber part use Lubriplate or white vaseline. Where a penetrating liquid lubricant is required use G. M. Ru Glyde (Group 8.786).

1-2 EVERY 5000 MILES—CHASSIS AND BODY

a. Chassis Lubricare

1. *Distributor.* Apply a few drops of light engine oil to felt wick in top of cam under the rotor. Put one drop of light oil on breaker arm pivot. Work a small amount of petroleum jelly into a cloth, then hold cloth on distributor cam while engine is being cranked. CAUTION: *An excessive amount of jelly will throw off when hot and insulate the contact points, causing ignition failure.*



Figure 1-10—Air Cleaner Element and Sump

2. *Air Cleaner.* Every 5000 miles (more often under dusty operating conditions) remove and wash oil sump and cleaner element in a non-inflammable solvent. DO NOT USE KEROSENE. Wipe sump dry and allow element to drain until dry. *Do not use air blast on cleaner element.*

Fill sump to point marked "OIL LEVEL," using one pint of SAE 50 engine oil. See figure 1-10. *Do not oil cleaner element because oil will drain down into sump and cause sump to be overfull.* Make sure that gasket in center of element is in good condition then install element and sump. Wipe all oil from outer surface of cleaner.

3. *Oil Filter.* Change original filter at first 1000 miles, the second element at first 5000 miles, then change element at each 5000 miles interval thereafter. Remove old element, remove drain plug, and thoroughly wipe out container with CLEAN cloths. Install drain plug, new element and new cover gasket. See figure 1-11. Use only Buick Oil Filter Replacement Element, Part No. 5572129 (AC Type P 127).



Figure 1-11—Changing Oil Filter Element

4. *Pump Operating Countershaft—Carter Carburetor Only.* Remove the 2 dust cover attaching screws, apply several drops of engine oil in screw holes above the countershaft, and install screws. See figure 1-12.



Figure 1-12—Countershaft Lubrication

5. *Steering Gear.* Clean surrounding area then remove filler plug to check oil level. Maintain level at filler opening, preferably using Saginaw All-Season Steering Gear Lubricant, which is marketed through United Motors Service. Multi-Purpose Gear Lubricant as specified for rear axle may be used when adding a small amount but should not be used when complete refilling is required. Do not use pressure when filling because lubricants may be forced up into steering column.

The steering gear is filled at the factory with all-season steering gear lubricant and seasonal or periodic change of lubricant is unnecessary.

b. Body—Hydro-Lectric Power Unit Motor

Swing the oil hole cover aside on upper end of motor and lubricate upper bearing with a few drops of engine oil. See figure 1-13.



Figure 1-13—Power Unit Motor Oil Hole

1-3 EVERY 10,000 MILES—CHASSIS

1. *Front Wheel Bearings.* Inspect, repack, and adjust front wheel bearings as described in paragraph 6-14.

Inspect Brake Linings and Drums while front wheels are off. If linings are thin or drums are beginning to score, the car owner should be notified.

2. *Shock Absorbers.* Check fluid level as described in paragraph 6-23.

1-4 EVERY 25,000 MILES—DYNAFLOW TRANSMISSION

At 25,000 mile intervals the oil pan and torque converter should be completely drained and refilled with fresh oil. Transmission **MUST NOT BE FLUSHED** when oil is changed.

a. Approved Oils for Dynaflo Transmission

The following oils are approved for Dynaflo Drive and no other fluid should be used.

1. Special Buick Oil for Dynaflo Drive, available through Buick Parts Warehouses under Group 4.101.

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

b. Draining and Refilling Dynaflo Transmission

1. Warm up transmission, then remove bell housing cover.

2. Loosen one converter drain plug, through opening in flywheel, then turn flywheel until

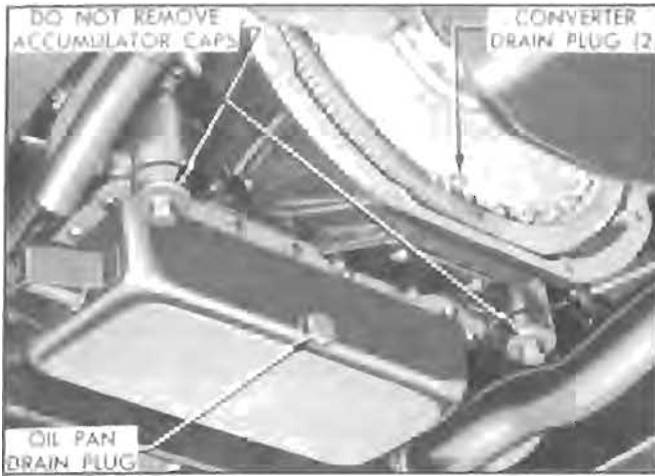


Figure 1-14—Dynaflo Transmission Drain Plugs

opposite drain plug is straight down and remove this plug to allow converter to drain completely. See figure 1-14.

3. Remove drain plug and allow oil pan to drain completely. *Do not remove accumulator Caps.* See figure 1-14.

4. Install and tighten all drain plugs and install bell housing cover.

5. Put 3 quarts of specified oil (subpar. a) in transmission. With engine idling and transmission in Parking (P) complete the refilling to bring oil level to $1\frac{3}{4}$ " below "FULL" mark on gauge rod. When transmission oil is warmed up, the oil level should then be at "FULL" mark on gauge rod.

The Series 40-~~44~~-50 transmission requires approximately $8\frac{1}{2}$ quarts total and the Series 70 transmission requires approximately 10 quarts total. A completely dry transmission requires an additional $1\frac{3}{4}$ pints.

1-5 ONCE A YEAR—HYDRO-LECTRIC POWER SYSTEM

1. Each Fall all windows should be lowered, the seat moved back and the reservoir on the power unit removed, cleaned out with Declene or alcohol and then refilled with G. M. or Delco Super No. 11 Brake Fluid. Brake fluid heavier than No. 11 should not be used in extremely cold climates as it will cause sluggish operation of the Hydro-Lectric system. See figure 1-15.

CAUTION: *Before installing reservoir, make certain that reservoir gasket is in good condition and properly installed. When reservoir is installed make certain that it makes full contact*



Figure 1-15—Filling H-L Power Unit Reservoir

with gasket all around. Any leakage of dirt or water into reservoir will cause serious damage in Hydro-Lectric System.

2. Each Spring the folding top power cylinder piston rods should be lubricated with a few drops of castor oil or brake fluid. *Do not use mineral oil.*

1-6 NON-PERIODIC LUBRICARE INFORMATION

The Lubricare information in this paragraph is not required for general maintenance of the car but is given here to provide complete information on Lubricare.

Since these lubrication procedures are used during repair operations they are placed in the repair sections of the manual where they may be found by reference to the indicated paragraphs.

a. Clutch Internal Lubricare

Lubrication of internal working parts of the clutch is usually required only at time clutch is assembled and installed; however, if lubrication becomes necessary to eliminate squeaks or correct excessive pedal pressure, follow instructions given in paragraph 4-4.

b. Brake Lubricare

Lubrication of all metal contact points at wheel brake assemblies is normally performed during the major brake adjustment (par. 8-15) or may be performed whenever a brake drum is removed.

Lubrication of parking brake cables is also performed during the major brake adjustment; however, operation under conditions where mud and water are frequently encountered may require more frequent lubrication. See paragraph 8-14.

c. Rear Wheel Bearing Lubricare

Rear wheel bearings need not be lubricated more often than 20,000 miles. Whenever rear brakes are relined, or axle shafts are removed for other work, it is advisable to inspect rear wheel bearings and oil seals. Replace seals if leaking or worn. Fill rear wheel bearings and space between oil seals with wheel bearing lubricant. Coat leather edges of seals with lubricant before installation of axle shaft.

d. Speedometer Cable Lubricare

The speedometer cable is factory lubricated with special all-season grease and normally requires no further service unless it becomes noisy. In extremely hot climates or where considerable dirt and water are encountered, however, it may be necessary to lubricate the cable at intervals of approximately 20,000 miles or every two years. See paragraph 10-68.

e. Sunshade Lubricare

If the sunshade rod turns hard in the support as sunshade is moved up and down, remove retainer screw, pull rod from support and apply G. M. Door-Ease Lubricant. *Do not use oil, which may soil body trim.* Install rod in support and adjust retainer screw to proper tension.

1-7 ENGINE OIL RECOMMENDATIONS

a. Choice of Engine Oil

(1) *Brand of Oil.* In the selection of the proper brand of oil it is essential to consider the reputation of the refiner or marketer. *It is imperative that the same brand of oil be used at all times.*

(2) *Type of Oil.* There are several types of oil manufactured for use in internal combustion engines. For use in the Buick engine we recommend that a *Heavy-Duty Type Oil* be used for maximum protection under all driving conditions. If Heavy-Duty Oils are not available *Premium Type Oils* may be used.

The use of so-called Regular Type Oils is not recommended in any series Buick engine.

3. *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 follows:

Temperature	SAE Grade
Not lower than 32°F.	20-W
As low as plus 10°F.	10-W
As low as minus 10°F.	10-W
Below minus 10°F.	*5-W

*If 5-W is not available use 10-W plus 10% kerosene.

(4) *Break-in Oils.* Break-in oils or compounds are not necessary in Buick engines and their use is not recommended. Some of these break-in oils contain certain materials which may be harmful.

b. When to Change Engine Oil

The crankcase should be completely drained and refilled with new oil of proper viscosity at the end of the first 1,000 miles and every 2,000 to 3,000 miles thereafter. Adverse driving conditions may require more frequent draining and refilling. Adverse driving conditions are those which may cause early contamination of engine oil, such as operation under unusual dust conditions or short runs with a cold engine in very cold weather.

c. 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 qts. 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.

1-8 REAR AXLE LUBRICANT RECOMMENDATIONS

a. Lubricant Recommendations

Buick rear axles are filled at the factory with a special hypoid gear lubricant. It is not necessary to drain the original lubricant at any time except when it has become contaminated, or

when draining is required for inspection of parts or for repairs.

Under no circumstances should the factory lubricant be drained from the rear axle to be replaced with any other type of lubricant.

In all cases of complete refilling of rear axle only Factory Hypoid Gear Lubricant is recommended. This is the same lubricant as furnished with Buick replacement ring and pinion gear sets. It may be obtained from any Buick Parts Warehouse under Group 5.535.

When adding lubricant to bring it to proper level Factory Hypoid Gear Lubricant is preferred; however, SAE 90 Multi-Purpose Gear Lubricant conforming to and approved under U. S. Army Specification 2-105 B may be used.

b. Draining, Flushing and Refilling Rear Axle

If rear axle lubricant has become contaminated, the rear axle should be drained, flushed, and refilled with new lubricant as follows:

1. With rear axle jacked up so that wheels are clear of the floor, clean bottom of body, rear end

of chassis and the rear axle housing to remove loose dirt which might get into rear axle when housing cover is removed. **DO NOT TAKE CHANCES ON GETTING ABRASIVE SUBSTANCES INTO AXLE HOUSING OR BEARINGS.**

2. Drain rear axle housing by removing lower cover bolts, then reinstall bolts.

3. Thoroughly flush rear axle housing with SAE-10-W or flushing oil. *Do not use water, steam, gasoline, kerosene, alcohol or other cleaning fluids for flushing.* When flushing, put transmission in high gear and run axle slowly for one or two minutes. **CAUTION: Do not suddenly accelerate or "gun" engine and do not exceed a speed of 25 MPH.**

4. Drain housing, remove cover and wipe out housing with clean cloths. Install housing cover, using a new gasket and coating bolt threads with white lead to avoid oil leaks. Align filler plug with first bolt hole to right of lower center bolt hole in housing. This change from straight position increases oil level to 4 pints.

5. Refill rear axle housing to filler plug opening with Factory Hypoid Gear Lubricant.