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Service Manual

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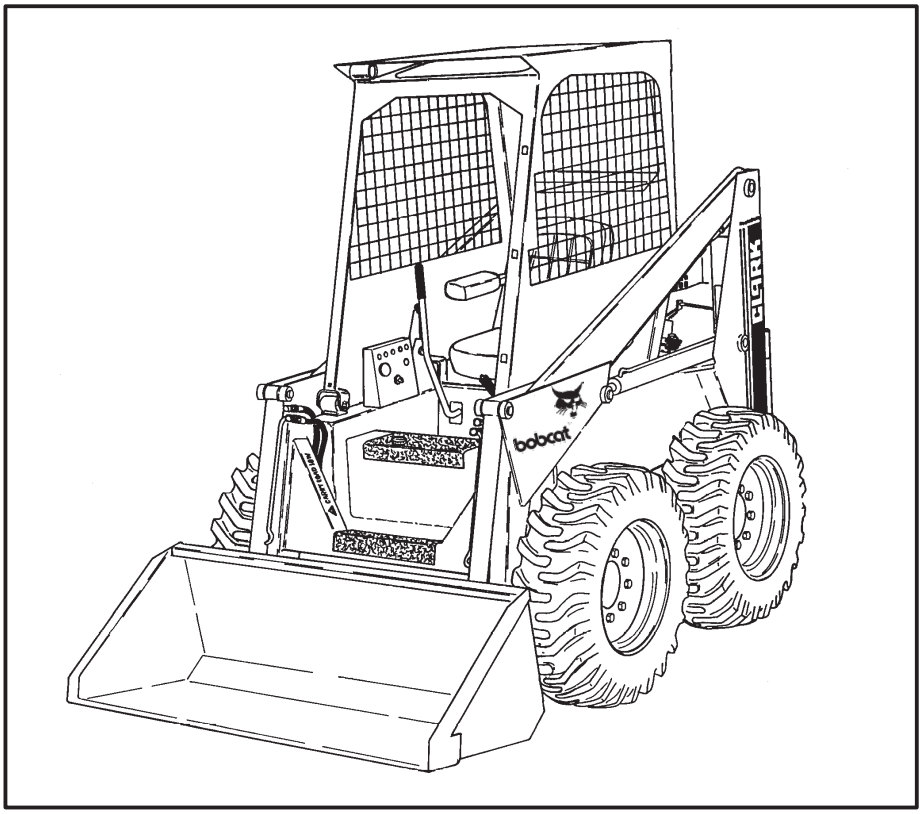

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SERVICE SCHEDULE

Maintenance work must be done at regular intervals. Failure to do so will result in damage to the Bobcat loader or the engine. The *SERVICE SCHEDULE* is a guide for correct maintenance of the Bobcat loader . DO NOT change this *SERVICE SCHEDULE* unless you increase the frequency of service when the Bobcat loader is operated in very hot, cold, dusty or corrosive conditions.

⚠ WARNING

Never go under or reach under lift arms or a lift cylinder without an approved lift arm stop installed, or you could be crushed.

W–2060–0887

SERVICE SCHEDULE		HOURS					
ITEM	**SERVICE REQUIRED**	**8–10**	**50**	**100**	**200**	**500**	**1000**
Engine Oil	Check the oil and add oil as needed.	■					
Engine Air Cleaner	Check the condition indicator. Make inspection of the air cleaner system. Replace the element when the red ring shows in the indicator window.	■					
Engine Cooling System	Make inspection and clean the radiator as necessary. Check the coolant level and add coolant if level is low.	■					
Tires	Check tires for damage and for correct air pressure.	■					
Seat Belt, Operator Guard & Seat Bar	Check the condition of the seat belt. Check the operator guard fastening bolts to make sure they are tight. Check the seat bar for correct operation.	■					
Safety Signs (Decals)	Check for damaged decals. Replace any decals that are not in the correct location.	■					
All Pivot Pins	Add grease to all the fittings.	■					
Hydraulic Fluid	Check fluid level and add recommended fluid as needed.	■					
Water Filter	Remove the trapped water.		■				
Wheel Nuts	Tighten wheel nuts to 120 ft.–lbs. (163 Nm) torque (Check every 8 hours for the first 20 hours).		■				
Engine Oil and Filter	Change oil and filter.		■				
Transmission Fluid	Check fluid level and add fluid as needed.		■				
Battery	Check the battery cables and the water level.		■				
Control Pedals and Steering Linkage	Check both for correct operation. Make repairs and adjustments as needed.		■				
Bob–Tach	Check the locking levers and wedges for their condition and correct operation.		■				
Brake	Check the brake for correct operation. Make adjustment as needed.		■				
Drive Belt (Alternator & Water Pump)	Check condition and tension of the belt.		■				
Drive Chains	Raise the loader and check the tension in the chains.		■				
Hydraulic Tubes & Hoses	Inspect for damage and leaks and replace as needed.		■				
Spark Arrestor Muffler	Empty spark chamber.			■			
Fluid Filter (25 Micron)	Replace the filter element.				■		
Fluid Filter (10 Micron [External])	Replace the filter element.				■		
Final Fuel Filter	Replace the filter element. Remove air from the system.				■		
Transmission Fluid Reservoir	Remove condensation, check level and add as needed.					■	
U–Joint (Hydrostatic & Engine)	Add grease to the fittings (3)					■	
Seat Bar	Lubricate the detent mechanism.					■	
Transmission Fluid Reservoir	Drain the reservoir and fill with the correct fluid.						■
Transmission Fluid Filter (10 Micron [Internal])	Replace the filter element.						■

NOTE: Check the torque of the cylinder head bolts during the 30 hour inspection. Adjust valve tappets after making torque adjustment.

1–16 HYDRAULIC SYSTEM

1–16.1 Hydraulic/Hydrostatic Transmission Fluid

Use Clark hydraulic/hydrostatic transmission fluid (P/N 6563328). This fluid is available at Chicago Central Parts. 10W–30 or 10W–40 SAE Motor Oil API Class SE or SF can also be used.

DO NOT use automatic transmission fluids in this loader or permanent damage to the transmission will result.

Where temperatures below zero are common, loaders must be kept in a warm building. Extra warm–up time must be used each time the loader is started during cold temperature conditions. Cold fluid will not flow easily and it makes action of the hydraulic function slower. Loss of fluid flow to the hydrostatic transmission pump (indicated by *Trans* light ON) will cause transmission damage in less than 60 seconds time.

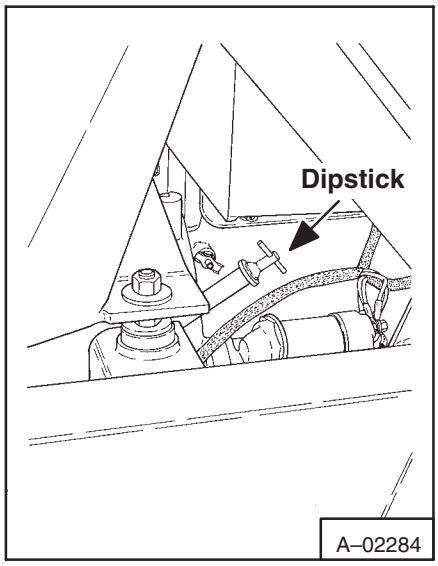


Fig. 1–28 Hydraulic Reservoir Dipstick

1–17 CHECKING AND ADDING HYDRAULIC FLUID

The hydraulic reservoir dipstick is located at the left side of the engine (Fig. 1–28). It is important that correct fluid level be maintained at all times. Add fluid at the reservoir fill pipe or fill plug (Fig. 1–29) (See *Hydraulic/Hydrostatic Transmission Fluid*).

To check and/or add fluid:

1. Place a machine on a level surface.
2. Lower the lift arms and tilt the Bob–Tach fully back.
3. Remove the dipstick and read the fluid level.
4. If the level is below the *Add* mark, add oil and fill to the *Full* mark on the dipstick.

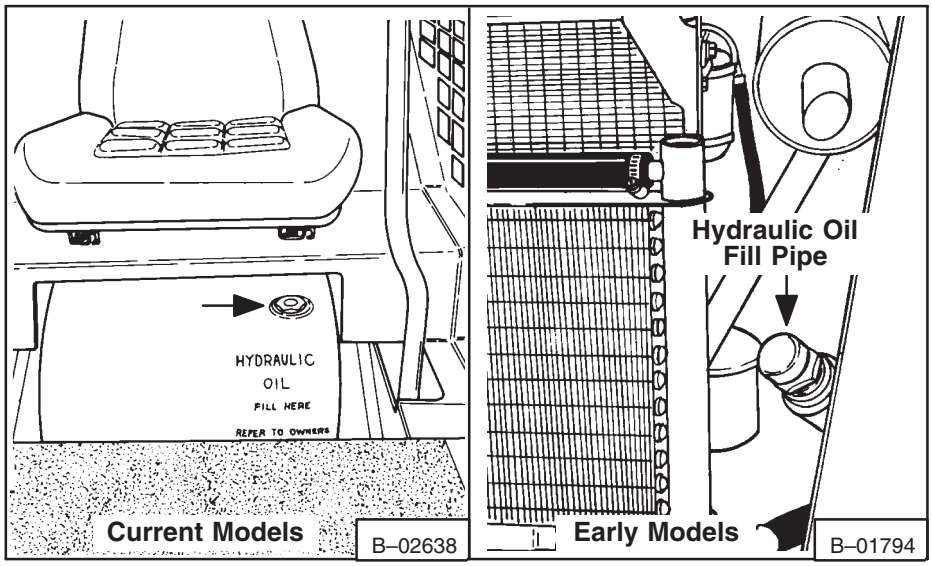


Fig. 1–29 Hydraulic Reservoir Fill

1–18 HYDRAULIC FLUID FILTERS

Three filters are used in the hydrostatic system. The first filter (25 Micron) serves as a suction filter and all oil used in the system must pass through it. The second filter (10 Micron) is installed in the return line to the pump. This filters all oil to the final filter for the hydrostatic transmission and return oil to the hydraulic pump. Both filters are located at the right side of the transmission (Fig. 1–30). They use spin–on replacement elements.

Make replacement of the filters after each 250 hours of operation, or sooner, when the (Trans–Filt) warning light is lit during operation. If the *Trans–Filt* light comes on during loader operation, stop the engine at once and make replacement of the return line filter (10 Micron element) first. If this fails to extinguish the warning light, then make replacement of the suction filter (25 Micron element).

A third final filter (10 Micron) is installed inside the hydraulic reservoir (transmission housing). Replace this filter every 1000 hours. You must remove the transmission cover (floor panel) to replace this filter. (See *Final Filter* page 3–10).

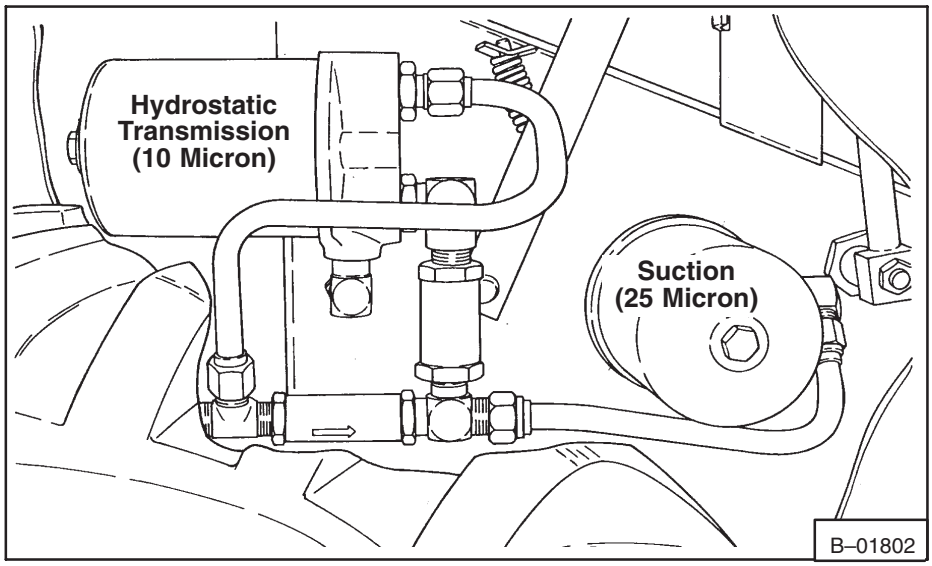
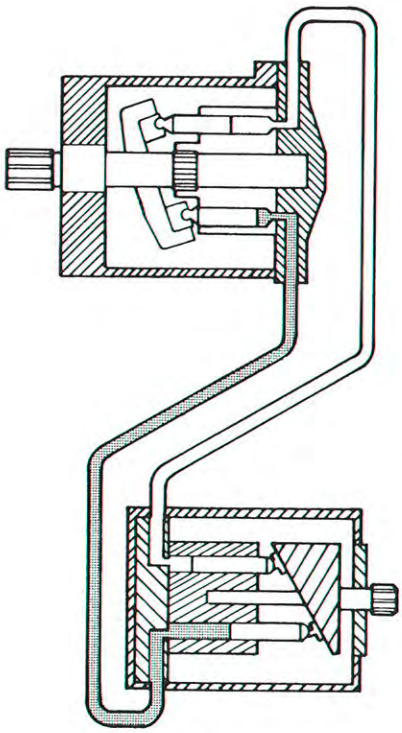


Fig. 1–30 Hydraulic And Hydrostatic Filters



Drive pressure is much higher than charge pressure causing the charge check valve (15) to close alllowing the flow of fluid to go to the hydrostatic motors (6). There are four (4) high pressure relief valves (14), two (2) for each hydrostatic pump (13). One (1) is for forward travel and one (1) is for reverse travel. When the loader is driven, with the bucket down into a pile of dirt, there is a resistance causing high pressure fluid in the "drive loop". The high pressure relief valve (14) releases the high pressure fluid in the drive loop. When the high pressure relief valves (14) opens, the fluid goes from the drive loop to the charge loop to be used again. If the fluid pressure gets above the high pressure relief valves (14) setting in the drive loop, the pressure can break tubelines, damage the hydrostatic pumps (13) and motors (6).

As there is more charge fluid flow than can be used, charge pressure builds up. The charge pressure relief valves (16) regulates the charge pressure so the pressure does not become excessive by relieving to charge pump inlet.

Both hydrostatic pumps (13) and hydrostatic motors (6) have case drain for cooling and lubrication. The fluid flow is directed into the reservoir (1). (NOTE: The front hydrostatic pump (13) usually have more case drain than the rear hydrostatic pump (13) because of the added normal charge pump leakage).

There are two (2) hydrostatic pressure switches (7) (12) that can activate the hydrostatic warning lights on the dash panel.

CHART A

NO OR SLOW HYDRAULICS

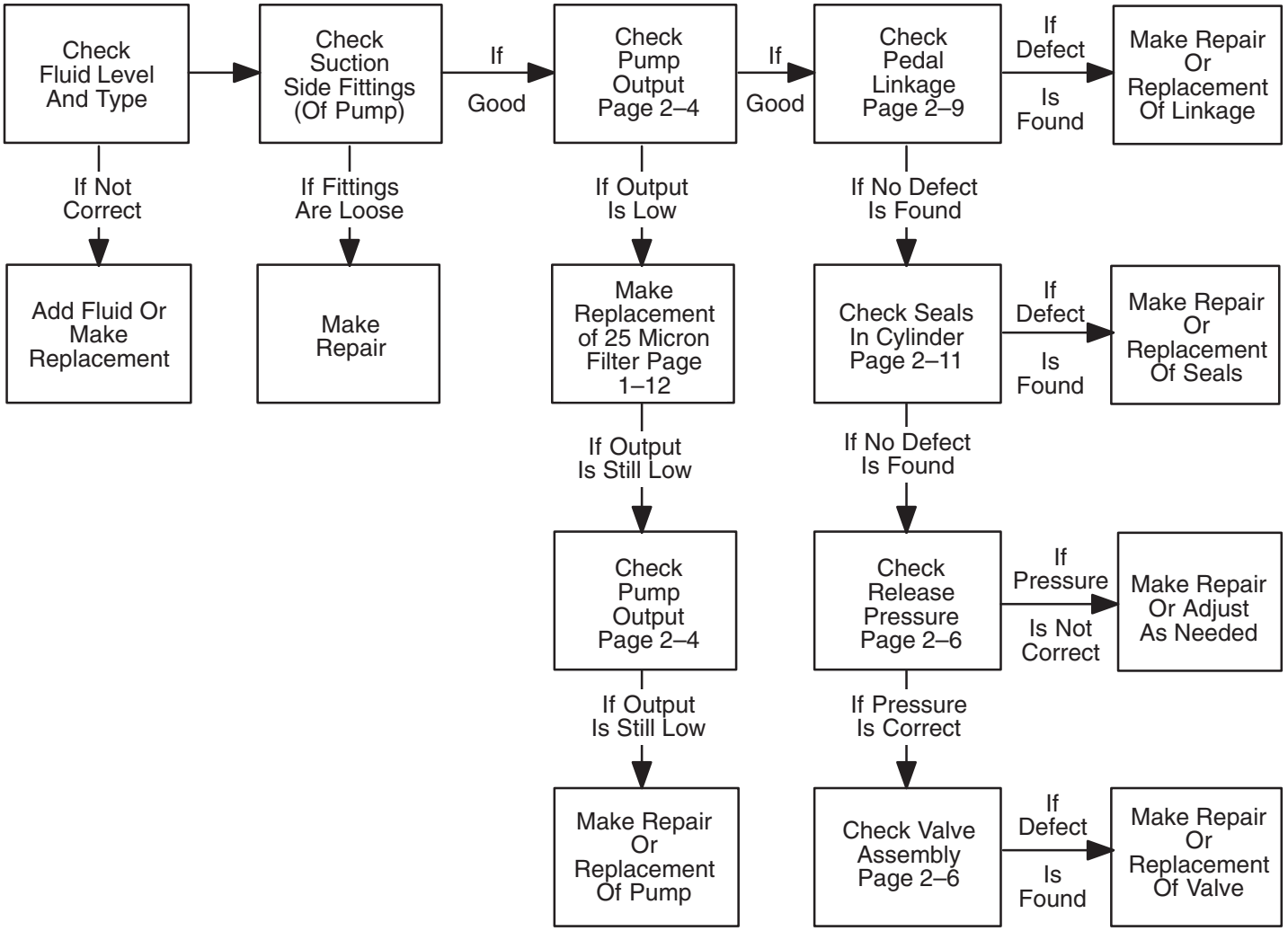


CHART B

ROUGH ACTION OR NO ACTION OF HYDRAULIC CYLINDERS

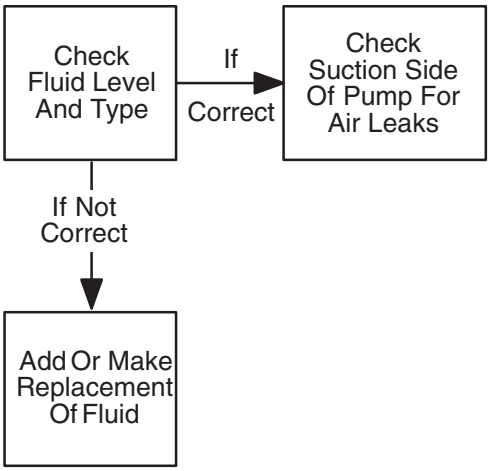
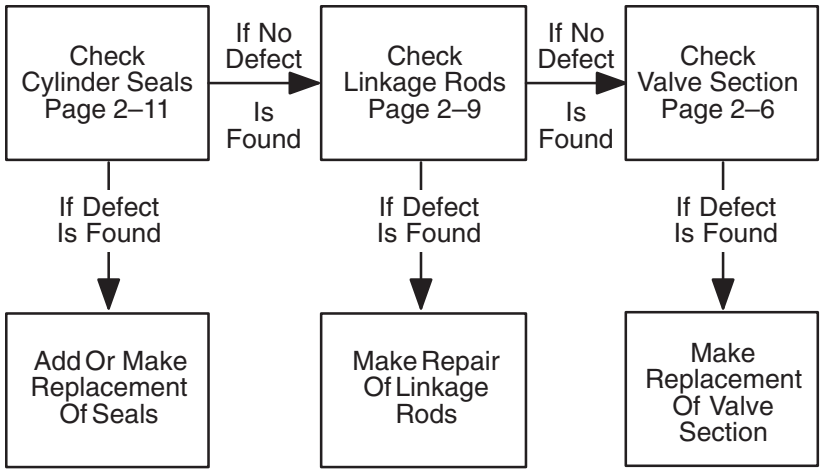


CHART C

NO LIFT, NO TILT OR NO AUXILIARY



HYDROSTATIC SYSTEM

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CHECKING RELIEF VALVES	3–7	3–9
CONTROL LINKAGE	3–3	3–6
HYDROSTATIC DRIVE SYSTEM	3–1	3–1
HYDROSTATIC MOTOR INSTALLATION	3–13	3–12
HYDROSTATIC MOTOR REMOVAL	3–12	3–12
HYDROSTATIC PUMP INSTALLATION	3–11	3–11
HYDROSTATIC PUMP & MOTOR ASSEMBLY	3–16	3–14
HYDROSTATIC PUMP & MOTOR DISASSEMBLY	3–14	3–13
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bobcat

7. Install shaft in housing and install washer (3), shaft seal (2) and hold with snap ring (1).

8. Clamp this assembly in a vise with the open end of the housing up.

9. Compress the pin keep (24) and install the spline. Install the three pins (25) with the head to the inside of the block. Install the wave washer (Fig. 3–24.1). Install pins in the special grooves of the piston block spline.

10. Install the pivot (22), spider (21) and the piston assemblies (20) in the piston block. Install this assembly in the housing assembly, the piston shoes must be in contact with the camplate. Be sure all the parts are in their correct position.

11. Install and tighten the back plate to give a preload to the wave washer. Remove the back plate (motor only).

12. Install new gasket (30).

13. Install back plate (32).

14. Install new O–ring (36) and back–up washer (37) on the check valve assembly (38). Install O–ring next to the roll pin. Install in back plate (32) with roll pin in back plate.

15. Install key (39) on the shaft and install the inner geroter gear (40) over the shaft. Use oil to lubricate the gear.

16. Install the outer geroter gear (41) over the inner geroter gear (40). Use oil to lubricate the outer gear.

NOTE: On the new adaptor plate (Item 43) the bearing has been removed. When installing this type of adaptor plate (Item 43) use the following procedure for correct alignment.

(a) Clamp the drive shaft of the front pump in a protected vise with the back plate up.

(b) Install the adaptor plate and four bolts. Tighten the bolts evenly with your fingers.

(c) Install the coupler and rear pump assembly. Install the two bolts and tighten to 110–115 ft.–lbs. (149–156 Nm) torque.

(d) The four bolts in the adaptor plate can now be tightened to 27–31 ft.–lbs. (37–42 Nm) torque. This procedure will insure the correct alignment between the two pump assemblies.

17. Install a new O–ring (34) on the relief valve assemblies (35) and install seats (33) and relief valves in the back plate (32).

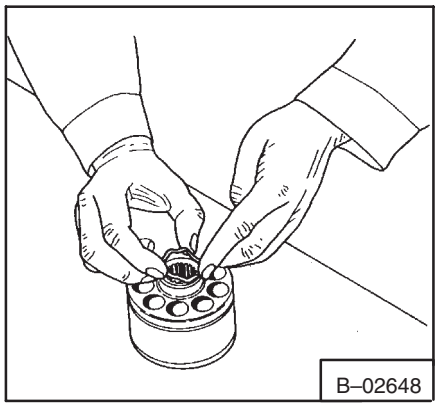

Fig. 3–24.1 Install Wave Washer (Motor)

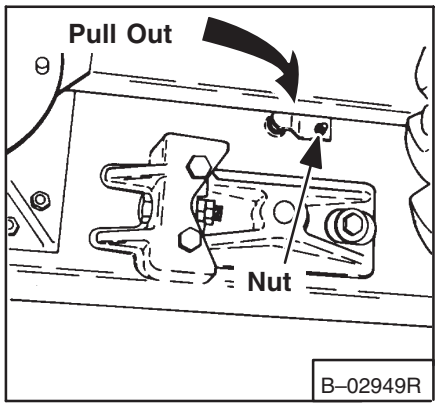

Fig. 3–25 Gearbox Lever

3–17 STARTING PROCEDURE, AFTER REPAIR

The transmission pumps and motors must be primed and charged with clean oil after disassembly and repair.

To prime the system, use the following procedure:

1. Remove the pressure line from the implement pump. Install a hose from the implement pump to the hydraulic reservoir.

2. With the throttle in the OFF position, turn the engine with the starter until oil flows from the pump.

4–7.3 Installation Of The Axle

Reverse the above steps to install axles. Replace the gasket between the axle and the transmission case if damaged. When installing the axle housing, tighten the upright bolts (Item 3) to 240–280 ft.–lbs. (326–380 Nm) torque (Fig. 4–21). Tighten fastening bolts (Item 8) to the frame to 125–140 ft.–lbs. (170–190 Nm) torque.

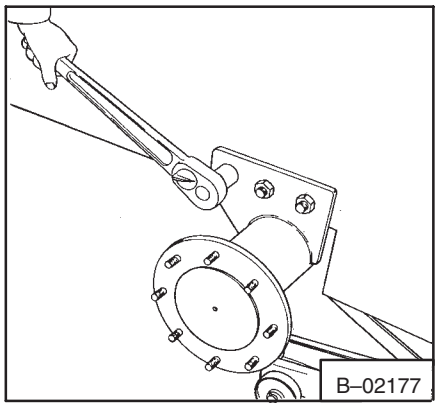

Fig. 4–21 Installing Axle Housing

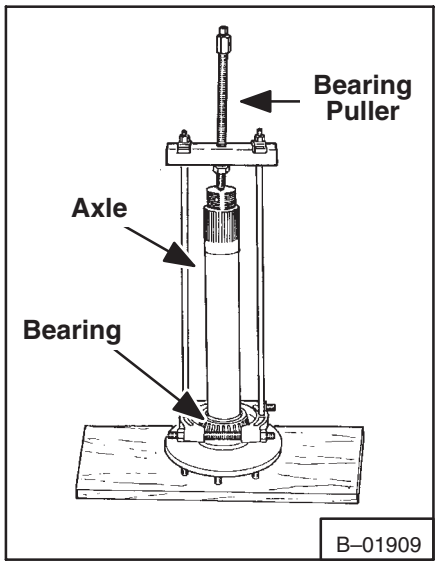

Fig. 4–22 Removing Outer Axle Bearing

NOTE: If repairs are being done on loaders (S/N 15640 & Below) used in heavy work conditions or when solid tires are used also weld the axle housing to the loader main frame (Fig. 4–20a). The welds shown in Figure 4–20a are all that are needed. Any more than this will cause axle housing distortion and removal will not be possible.

4–8 AXLE BEARING AND SEAL REPLACEMENT

1. Remove the axle assembly (axle with housing) from the loader.
2. Remove the inner bearing and axle from the housing.
3. Remove the outer bearing from the axle (Fig. 4–22).
4. Remove the seals and races from the axle housing. Check the wear ring (Fig. 4–27, Item 5) for damage and replace as needed.

NOTE: The early model 825s use a wear ring with an inside diameter of 2.7553–2.7559 inch (69,984–69,999 mm). The later model 825s use a wear ring with an inside diameter of 3.117–3.121 inch (79,17–79,27 mm).

Put heat on the wear ring until it can be removed from the axle. To install a new ring, put LOCTITE on it, heat it and put it on a cold axle.

5. Install new races, outer bearing and seal in housing (Fig. 4–23, 4–24 & 4–25).
6. Install axle in housing. Use a press to prevent damage to the bearing and seal (Fig. 4–26).
7. Use a press to install the inner bearing.
8. Assemble the sprocket on the axle.
9. Tighten the axle nut (Fig. 4–19) until there is no free play.
10. Tighten the nut one slot further to align it with the bolt hole and install the lock bolt and nut.

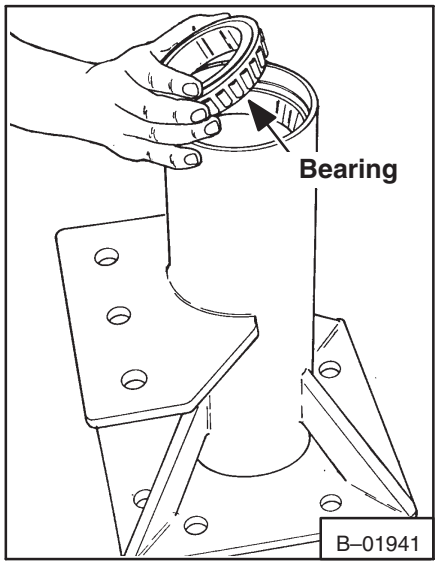

Fig. 4–23 Installing The Axle Bearings

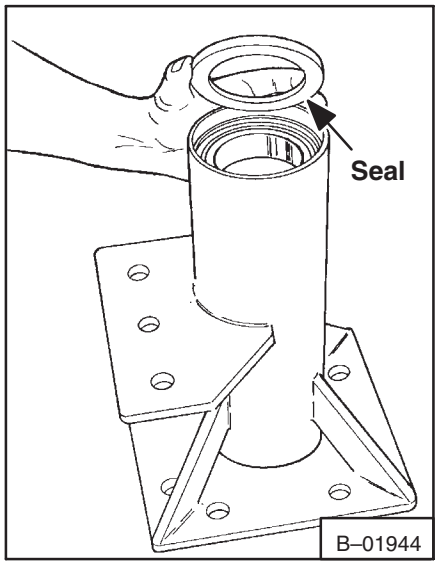

Fig. 4–24 Installing Axle Seal

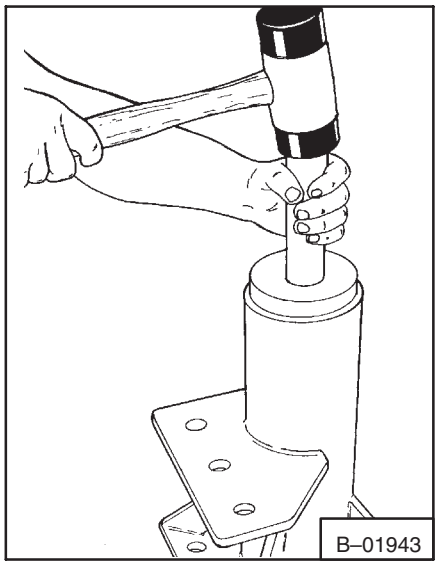

Fig. 4–25 Seating Axle Seal

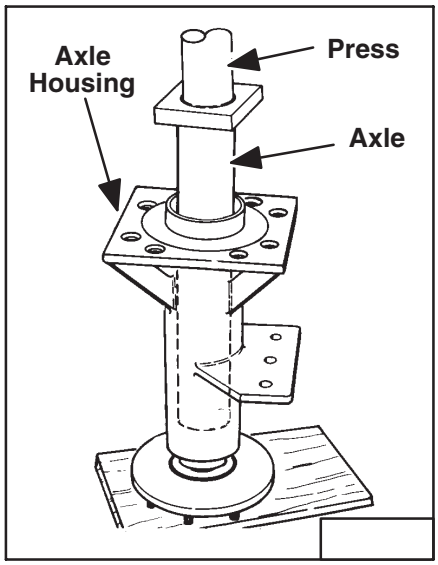

Fig. 4–26 Installing Axle In Housing

6–6.5 To Check Diode Trio (Fig. 6–8)

1. Connect a D.C. test light from one of the three connections to the single connection. Then, reverse the connections. The light must come on when connected one way, but not when connected the other way.

⚠ WARNING

Do not use high voltage to check diode trio or rectifier.

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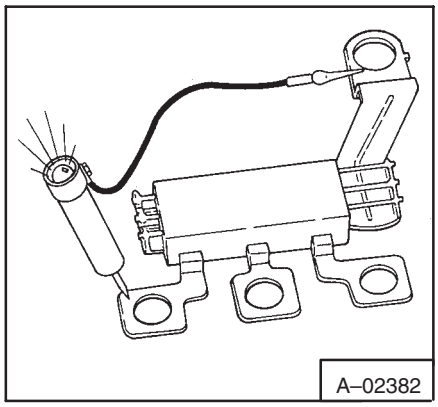

Fig. 6–8 Checking Diode Trio

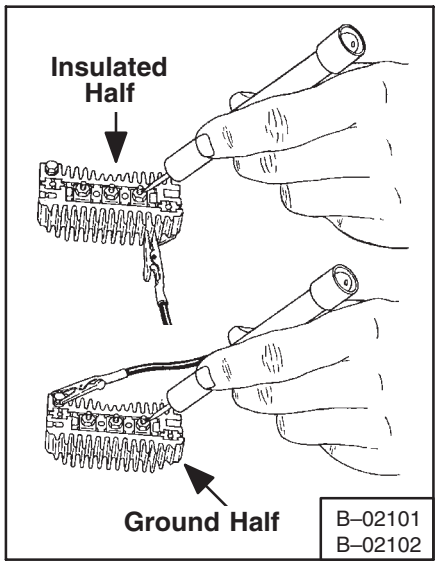

Fig. 6–9 Checking Rectifier

2. Do Step 1 for the other two diodes.

3. Connect the test light from the middle connection to each outside connection. If the light comes on, there is a defect in the diode trio.

6–6.6 To Check Rectifier (Fig. 6–9)

1. Remove the rectifier from the generator.

2. Tighten the three nuts on the connections.

3. Connect the test light from one connection, to the insulated heat sink. Then, reverse the connections. The light should come on when connected one way, but not when connected the other way.

4. Connect the test light from the grounded heat sink to the same connection. Then, reverse the connections. The light must come on when connected one way, but not when connected the other way.

5. Repeat Steps 3 and 4 on both the other connections. If any of the tests are bad, complete rectifier replacement is necessary.

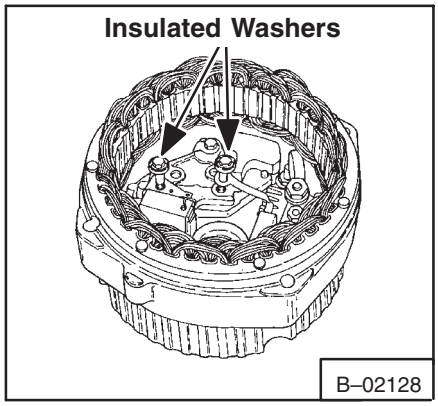

Fig. 6–10 Insulation Washers And Spacers

6–6.7 Assembly

Assembly is basically the reverse of disassembly.

If the regulator is removed, make sure the insulation washers and spacers are in good condition on the two regulator screws (Fig. 6–10).

To install the rotor, put a piece of straight wire through the case to hold the brushes in place (Fig. 6–11).

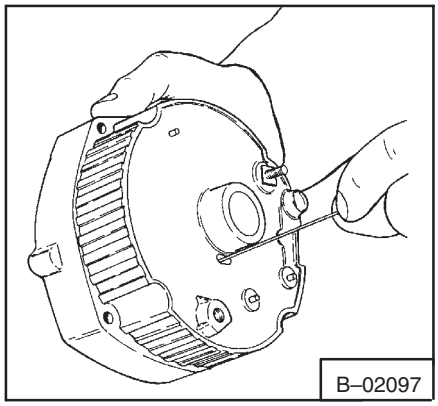

Fig. 6–11 Holding Brushes

NOTE: When fitting new bushings, see that the oil feed holes are in alignment before pressing in, and when pressed fully in see that the holes are in alignment (Fig. 7–14).

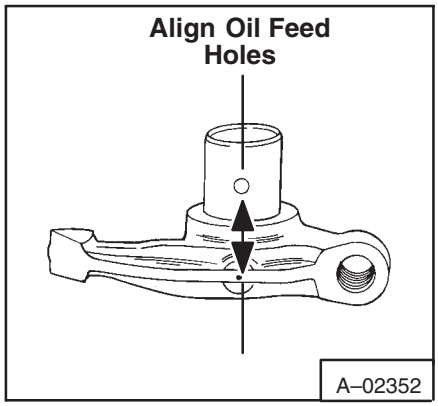

Fig. 7–14 Rocker Arm Bearing

7–3.11 To Assemble The Rocker Shaft Assembly

1. Install the oil feed connection and locate with the feed pipe.
2. Install the rocker levers, springs and support brackets in the opposite order to which they were removed. Lightly oil the components during re–assembly and ensure that each rocker lever does not bind on the shaft. The assembly should now be as shown in figure 7–15.

7–3.12 Push Rods

Make a replacement of any bent push rods.

Replacement of push rods may be made without removing the rocker shaft, as follows:

1. Ensure that the valve is closed.
2. Loosen the valve adjusting screw until the rocker lever can be moved sideways along the shaft.
3. Remove the old push rod and install new rod.
4. Make adjustment of valve clearance.

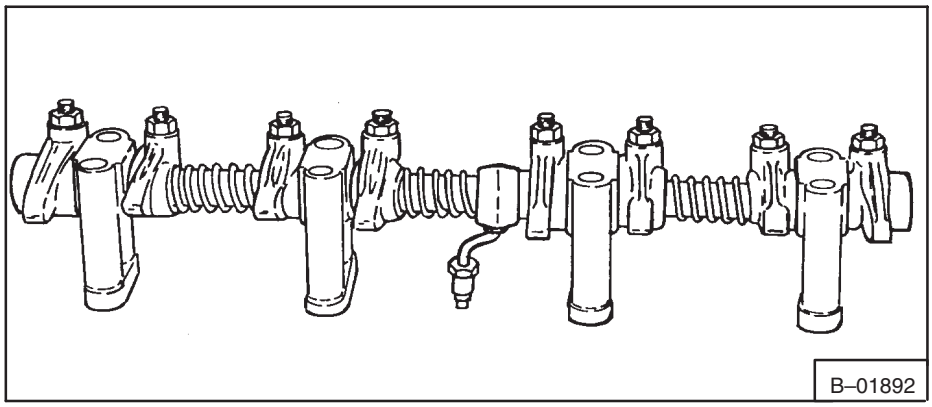

Fig. 7–15 Rocker Shaft Assembly

NOTE: This procedure does not apply to No. 5 rocker lever as the connector prevents the side movement. Nos. 1 and 8 rocker levers may be removed after removal of the snap ring and push rod replacement.

7–3.13 To Install The Valves

1. Ensure that the cylinder head and all parts are clean.
2. Put oil on the valve stems to provide the initial lubrication.
3. Insert each valve into its correct guide.
4. Locate the spring seat washers, valve springs and spring caps in position.

NOTE: The valve springs have a damper coil, when correctly installed this coil is nearest the cylinder head top face. See note on spring caps on page 8–4.

5. Use a valve spring compressor, as shown in Figure 7–16, to compress the valve springs and locate the retaining semi–conical collets.

NOTE: Inlet valve stems are fitted with rubber O–ring seals. They fit inside the valve spring cap bore and must align with groove on the valve stem. Assembly of the inlet valve assemblies should be carried out as follows: (Fig. 7–17).

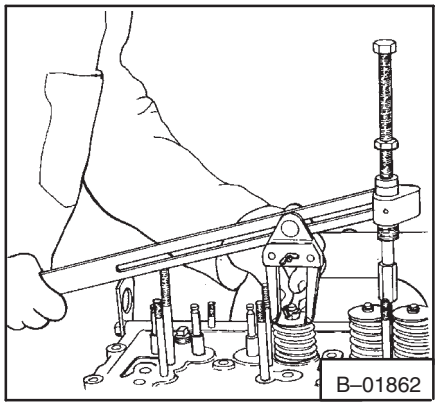

Fig. 7–16 Valve Spring Compression

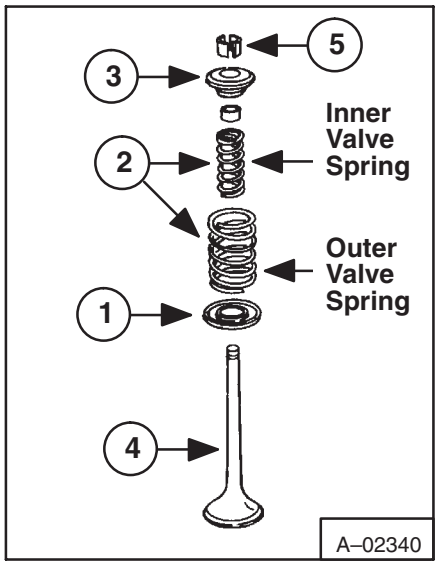

Fig. 7–17 Valve Assembly

7–6.6 Crankshaft Rear End Oil Seal

The seal assembly location is in two half housings bolted around the rear of the crankshaft.

NOTE: When traces of oil is noticed from behind the flywheel and a faulty rear oil seal is expected, first make sure that the crankcase is vented correctly. Any build up in crankcase pressure could cause oil to be forced past the rear sealing assembly. If crackcase pressure is normal and new seals need to be installed, the following procedure should be followed with the crankshaft in position.

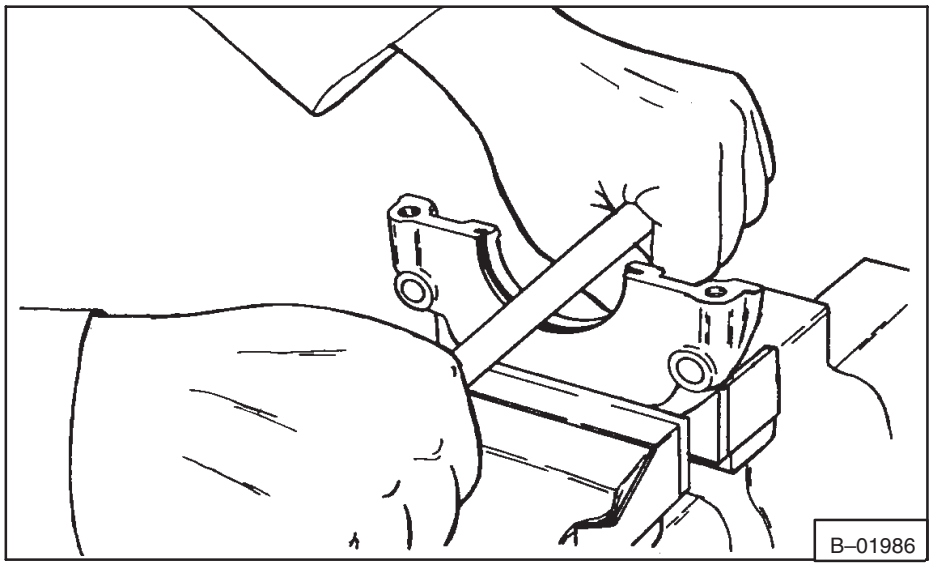

Fig. 7–39 Seating New Seal

1. Set up a half housing in a vise with the seal recess.
2. Press about 1.0 inch (25 mm) of the strip, at each end, into the ends of the groove making sure that each end of the strip goes 0.010/0.020 inch (0,25/0,50 mm) beyond the half housing face.
3. With the thumb or finger press the remainder of the strip into the groove, working from the center, then use a round bar to force the strip into position by rolling and pressing its inner diameter as shown in Figure 7–39.
4. Fit the sealing strip to the other half housing, using same method.
5. Remove all of the old gasket from the cylinder block rear face and fit a new gasket treated with a good sealing material.
6. Put sealing material on the faces of the housing.
7. Put graphite grease over the inside diameter surface of the strip.
8. Assemble the half housings around the crankshaft rear journal and fasten together by the two bolts (See Fig. 7–40).
9. Turn the complete seal housing on the shaft to seal in the strips and to make sure that the assembly turns on the crankshaft.
10. Bolt the seal housing in position on the block and the rear main bearing cap then tighten the bolts to block.

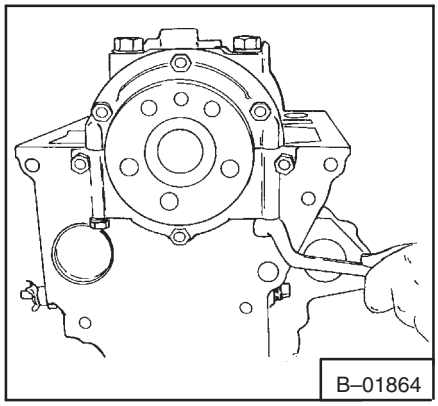

Fig. 7–40 Rear Main Seal Installation

7–7 FLYWHEEL AND FLYWHEEL HOUSING

7–7.1 To Remove The Flywheel

1. Remove the transfer chaincase and clutch housing from the flywheel housing.
2. Straighten the locking tabs on the flywheel fastening bolts.
3. Remove the bolts and carefully remove the flywheel from the crankshaft flange.

7–7.2 To Replace The Flywheel Ring Gear

1. The flywheel ring gear is a shrink fit on the flywheel. It can be removed by cutting partway through the gear with a hacksaw and chisel cutting it from the flywheel. Another method is to heat the ring gear to expand it enough to hit it loose with a hammer, evenly, from the flywheel.

2. Install the drive shaft complete with inner rotor, then the outer (driven) rotor making sure that the face which holds the tapered edge enters the pump body first (Fig. 7–63). Now make the three following dimensional checks:

   (a) Check the clearance between the inner and outer rotor (Fig. 7–64).

   (b) Check the clearance between the outer rotor and the pump body (Fig. 7–65).

   (c) Check the clearance between the rotors and the end cover assembly using a straight edge and feeler gauge (Fig. 7–66).

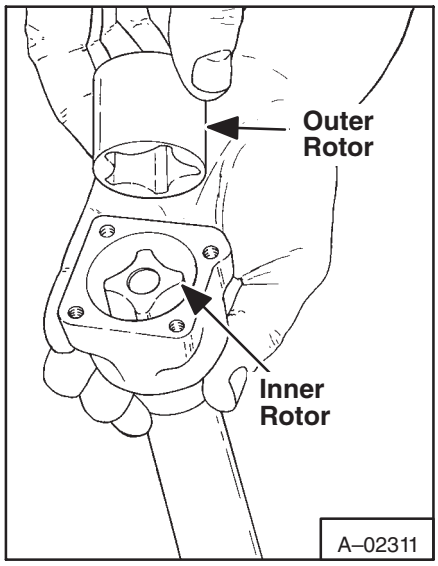

Fig. 7–63 Rotor And Oil Pump

7–9.7 To Assemble The Oil Pump

1. Install the outer rotor making sure that the face which holds the tapered edge enters the pump body first (Fig. 7–63).
2. Install the drive shaft complete with inner rotor into the pump body.
3. Install the end cover assembly and install the four bolts. Be sure of correct positioning so that the suction and delivery pipes will fit correctly.
4. Press the oil pump drive gear onto the shaft.
5. Rotate the pump by hand to make sure that it turns quite freely.

7–9.8 To Install The Oil Pump

1. Connect the suction and delivery pipes but do not tighten the pipes at this time.
2. Put the lubricating oil pump assembly in position, install the securing screw and lock it by bending the washer.
3. Tighten the delivery pipe at both ends, install the screw holding the suction pipe assembly.
4. Tighten the suction pipe at the pump end, then install the strainer on the end of the suction pipe.

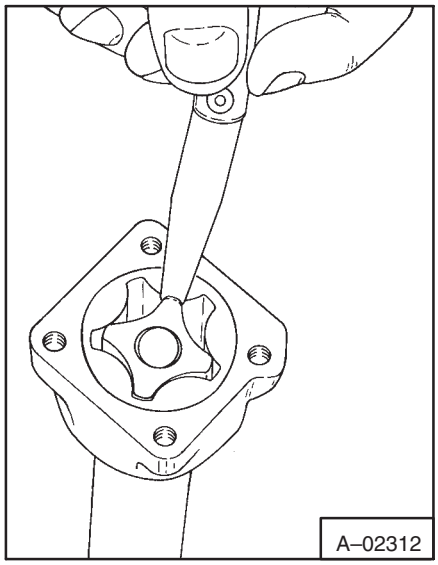

Fig. 7–64 Checking Rotor Clearance

NOTE: The strainer which fits on the end of the suction pipe must be thoroughly cleaned in cleaning fluid before being installed. It is best to remove the strainer and clean it thoroughly whenever the oil pan is removed.

5. Carefully install the sump as described earlier and fasten with the bolts.
6. Fill the oil pan to the correct level with clean oil of an approved grade.

NOTE: Be careful starting the engine, since it will take a moment for the oil pump and pipes to charge. The engine speed should be kept to a minimum until the gauge shows enough pressure. (Oil pressure warning light is off.)

The best way to prime the lubricating oil pump is to crank the engine for about 10 to 20 seconds before starting the engine.

7–9.9 Oil Pressure Relief Valve

The oil pressure relief valve is part of the oil pump end cover, which is fastened to the rotor housing by four capscrews. This relief valve controls the maximum oil pressure by moving a spring loaded plunger and sending extra oil back to the oil pan when the oil pressure goes above the spring pressure setting.

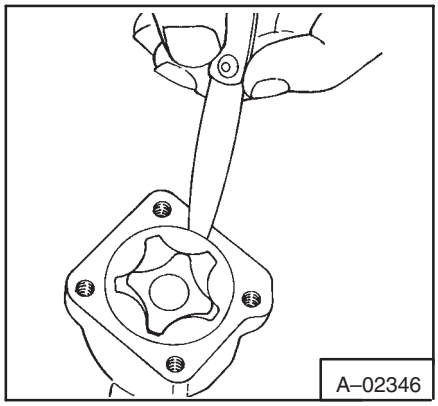

Fig. 7–65 Checking Outer Rotor Clearance

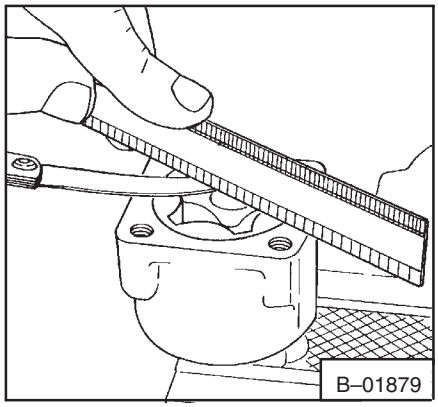

Fig. 7–66 Oil Pump Rotor Clearance

The pipes must be clean (wash in clean fuel oil and blow through the fine bore with compressed air), the fittings at each end should not be split or compressed, or leakage will result and a new pipe will be needed.

Be sure when installing, that the pipe fits squarely at both ends and that the nuts are tight but not over tight.

When changing an injector, always loosen both the nuts or remove the pipe completely, do not leave one end tight and the pipe under tension. The correct size wrench for the job is a 5/8 inch open end.

7–11.13a Using C.A.V. Thermostart Units

IMPORTANT

Be sure there is fuel getting to the thermostart unit. If you operate the thermostart unit without fuel, the unit will be damaged.

I–2163–0298

If the engine is difficult to start in cold weather or, black smoke is coming from the exhaust, the thermostart unit has a defect and must be replaced.

If the engine has not been started for five days or more, operate the starter until it turns the engine several times or operate the priming lever several times to get fuel pressure.

If (1) the temperature is below 40°F (3° – 4°C), (2) the engine turns fast with the starter, and (3) there is white smoke coming from the exhaust, but the engine does not start, use the thermostart unit.

To use the thermostart system:

1. Move the throttle to the full open (fast) position.
2. Push and hold the preheat button for 15 to 20 seconds.
3. Try to start the engine. If the engine does not start in 20 seconds, push the preheat button again and hold it ON for 10 seconds.
4. Try to start the engine again.

NOTE: If the engine still does not start, check to see that there is fuel getting to the inlet of the thermostart. Also check the voltage at the thermostart (There must be 12 volts). If the fuel and the voltage are correct, remove the air–cleaner hose from the manifold. Then push the preheat button and look at the thermostart unit to see if the heating element gets red. If it does not get red, the unit has a defect and must be replaced. If fuel is not getting to the inlet of the thermostart, you will need to *charge* the fuel line (See *Charging The Fuel Line* below). Troubleshoot the electrical system if there is not 12 volts at the thermostart unit.

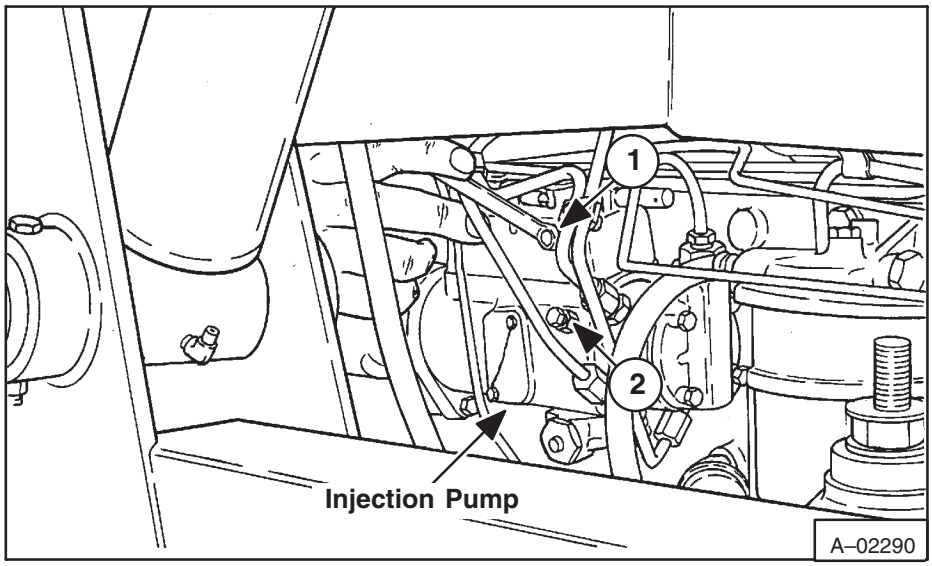

Fig. 7–80 Venting Injection Pump

8–7 DE–RATING FOR ALTITUDE

When engines are operated in high altitude areas, such engine should be de–rated. The following table is given as a general guide, which may be applied on a percentage basis, where specific figures for a particular engine rating are not available.

Altitude	Maximum Fuel Delivery De–rating Measured at 800 RPM Pump Speed
0–2,000 feet (600 meters)	No Change
2,000–4,000 feet (1,200 meters)	6%
4,000–6,000 feet (1,800 meters)	12%
6,000–8,000 feet (2,400 meters)	18%
8,000–10,000 feet (3,000 meters)	24%
10,000–12,000 feet (3,600 meters)	30%

Any necessary adjustments in this respect to the fuel pump should be carrier out by the C.A.V. dealer for the territory concerned.

8–8 TORQUE SPECIFICATIONS

The following torque figures are with the components lightly oiled before assembly.

	Ft.–Lbs.	(Nm)
Cylinder Head Nuts	60	(81)
Connecting Rod Bolts	42	(57)
Main Bearing Bolts	85	(115)
Flywheel Bolts	60	(81)
Idler Gear Hub Bolts	32	(43)
Crankshaft Pulley Bolts	150	(203)
Injector Fastening Nuts	12	(16)
Generator Pulley Nut	20	(27)

The tab and shim washers can be left out where used on earlier engines, but the capscrews must be tightened to the torque loading shown.

	Ft.–Lbs.	(Nm)
8–8.1 Hydrostatic Pump and Motor:		
3/8 inch Fastening Bolts	30	(40,6)
8–8.2 High Pressure Relief Valves:		
Hex Plugs	60	(81,4)
8–8.3 Loader Torque Specs		
Bolts at Pivot Points	40	(54,2)
Wheel Lub Nuts	90–100	(122–136)
Final Drive Idler: 3/4 Bolt	125–145	(170–197)
1/2 Bolt	45–55	(61–75)
Gearbox–to–Frame Bolts	220–230	(298–312)
Axle Housing to Upright Bolts	240–280	(325–380)
Axle Housing to Frame Bolts	125–140	(170–190)
Bushings Through Frame Walls for Steering Shaft	100–120	(136–163)
5/8 Nut on the End of Steering Shaft	50–70	(68–95)
Piston Nut for the Lift Cylinder		
(1–1/2 inch Rod)	200	(271,2)
(1–1/4 inch Rod)	160	(216,9)
Piston Nut for the Tilt Cylinder	160	(216,9)

Nuts on the end of axles: tighten until there is resistance when turning axle by hand.

Nuts on steering centering spring: tighten until length of spring if 2.260 inches – 2.340 inches (57,5–59,4 mm)

CLARK Melroe Division

bobcat

825—001

Bulletin Number

26 JUNE 79

Date

SERVICE BULLETIN

AFFECTING:

Product BOBCAT LOADER

Model 825

Serial No. 16089 AND BELOW

Manual No.

ROUTE TO ATTENTION

PARTS MANAGER ☐
SERVICE MANAGER ☑
SALES MANAGER ☐

SUBJECT: BYPASS HOSE FOR OIL COOLER

PROBLEM:
Bypass hose is breaking on Hydraulic Oil Cooler.

CAUSE:
Hydraulic pressure at cooler inlet is above the pressure rating of the hose.

CORRECTION:
Install new hose (Fig. 1) P/N 6591285. Order hose from Chicago Central Parts.

POLICY:
Melroe will give warranty compensation for the hose and ½ hour labor for loaders in warranty period.

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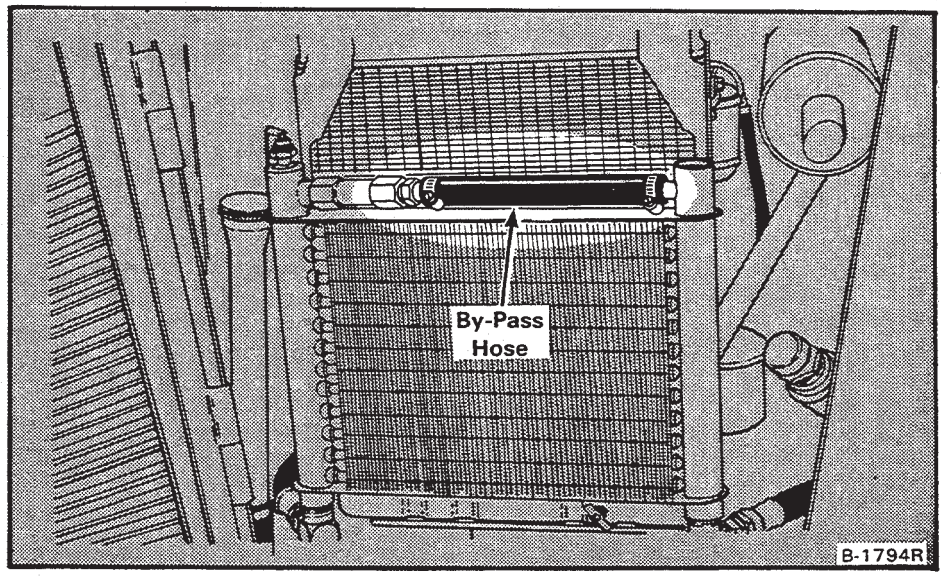

Fig. 1 By-Pass Hose Location

Refer To Bulletin No.(s) _____

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