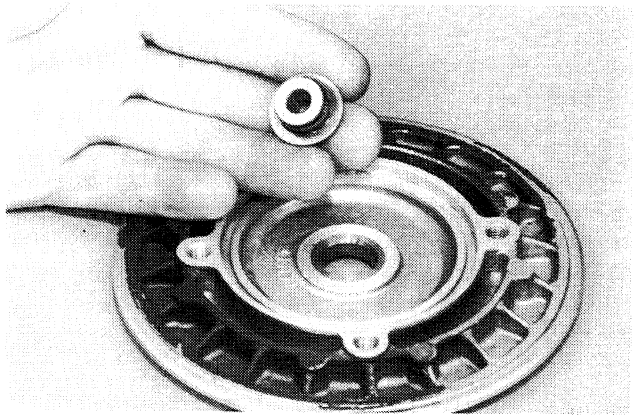
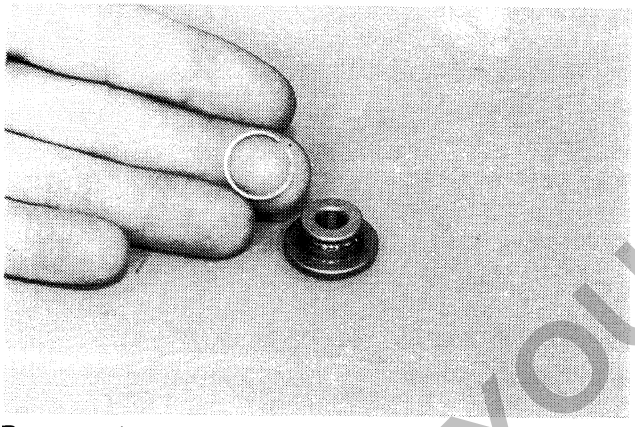
STEP 37



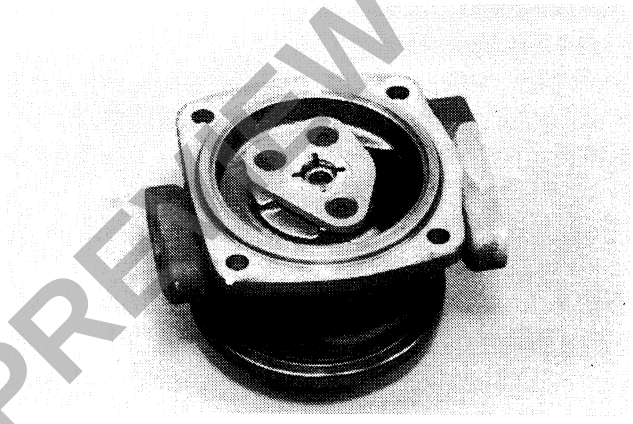
Remove the oil slinger from the back plate.

STEP 38



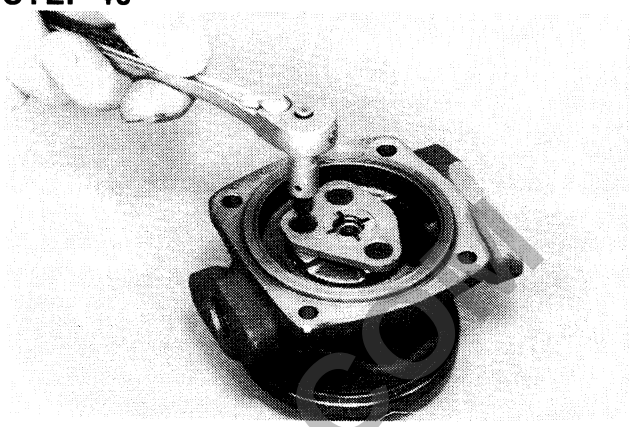
Remove the seal ring from the oil slinger.

STEP 39



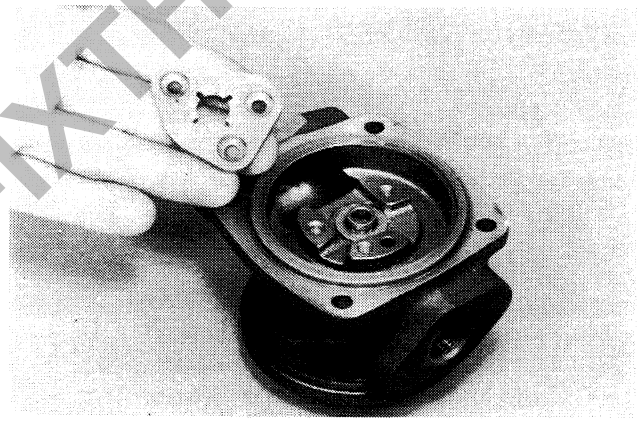
Turbocharger center housing.

STEP 40



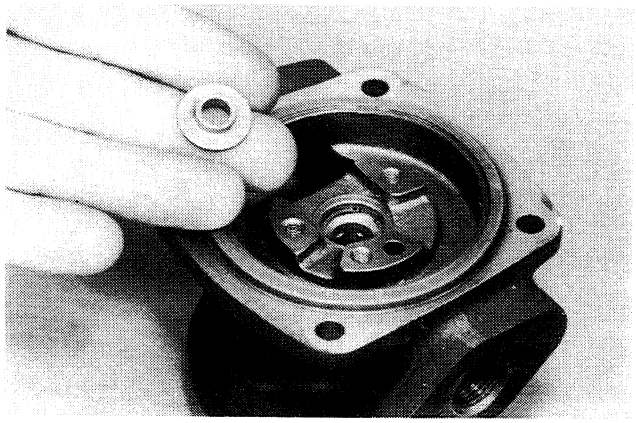
Remove the torx head screws from the center housing.

STEP 41



Remove the thrust bearing.

STEP 42



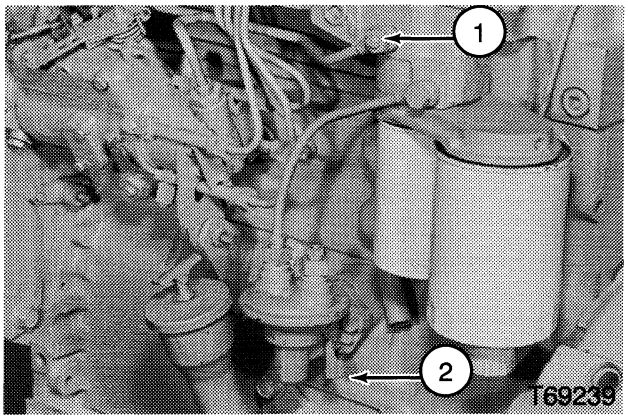
Remove the thrust collar.

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BLEEDING AIR FROM THE FUEL SYSTEM

STEP 5 4-390 ENGINE

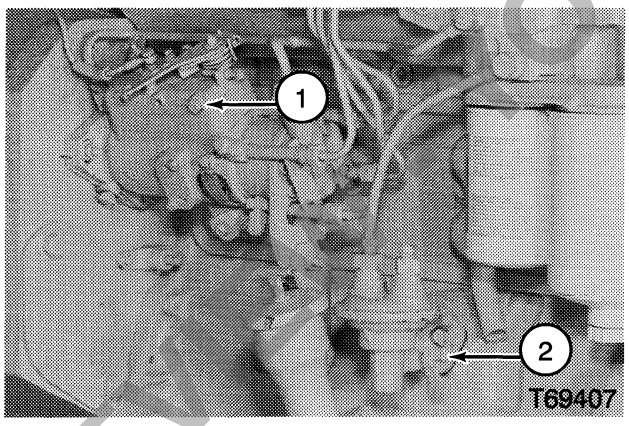


1. Bleed Screw
2. Primer Pump

Make sure there is fuel in the fuel tank. Loosen the bleed screw and actuate the primer pump. Tighten the bleed screw when clear fuel with no air bubbles flows from the bleed screw.

NOTE: *If the primer pump can not be actuated, rotate the engine until the primer pump can be actuated.*

STEP 6 4-390 ENGINE

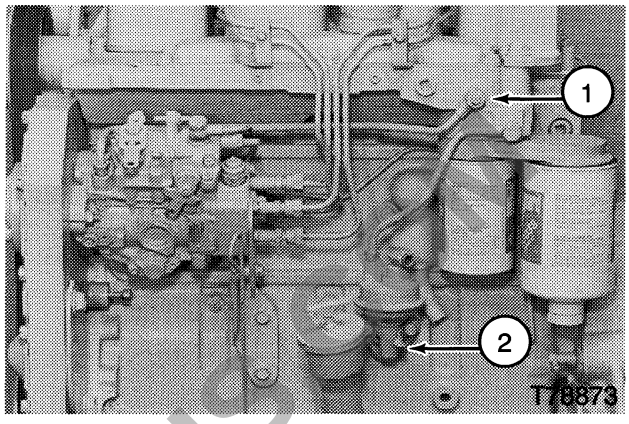


1. Bleed Screw
2. Primer Pump

Put the key switch in the ON position. Loosen the bleed screw on the fuel injection pump. Actuate the primer pump. Tighten the bleed screw when clear fuel with no air bubbles flows from the bleed screw.

NOTE: *If the primer pump can not be actuated, rotate the engine until the primer pump can be actuated.*

STEP 7 4T-390 ENGINE



1. Bleed Screw
2. Primer Pump

Make sure there is fuel in the fuel tank. Loosen the bleed screw and actuate the primer pump. Tighten the bleed screw when clear fuel with no air bubbles flows from the bleed screw.

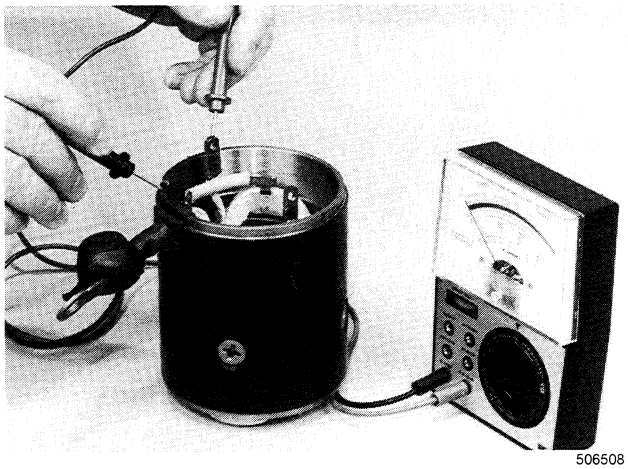
NOTE: *If the primer pump can not be actuated, rotate the engine until the primer pump can be actuated.*

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Field Coil Test

1. Hold the leads of an ohmmeter against one of the leads from the field coil and against the field frame. The needle of the ohmmeter must not move.



506508

2. If the needle of the ohmmeter moved, install a new field assembly.

3. Hold one of the leads of the ohmmeter against the end of the cable. Hold the other lead of the ohmmeter against one of the leads from the field coil and read the ohmmeter. Move the lead of the ohmmeter to the other lead from the field coil and read the ohmmeter. The needle must move in both tests.



506610

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TRACK ADJUSTMENT CYLINDER

Removal

1. See Track Removal in this section and do steps 1 through 9.
2. Start the engine. Drive the machine rearward until the track chain is off the idler wheel. Stop the engine.
3. Connect acceptable holding equipment to the track chain to hold the track chain in place.
4. Connect acceptable lifting equipment to the idler wheel.
5. Remove the idler wheel and the recoil spring assembly.
6. Remove the cap screws and hardened washers that hold the track adjustment cylinder to the track frame. Remove the track adjustment cylinder.

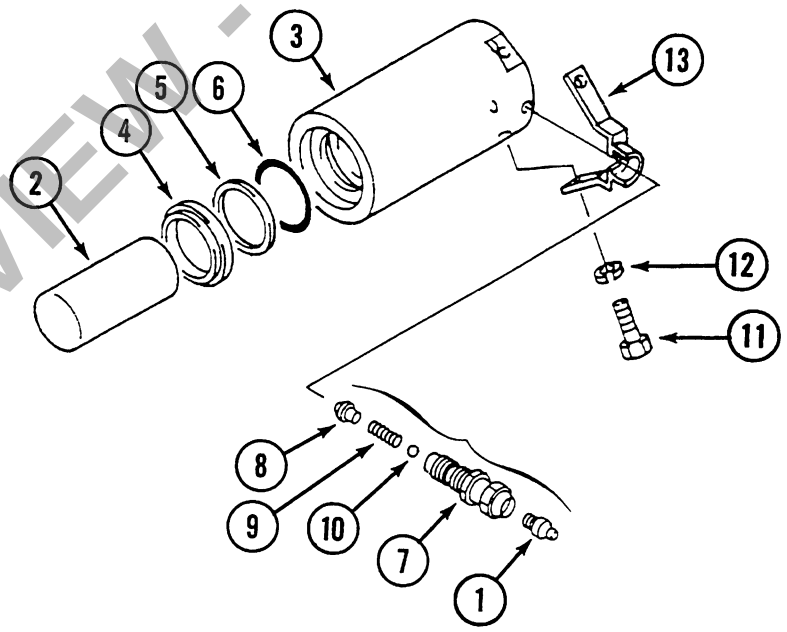
Installation

Installation is the reverse sequence of removal.

1. Tighten the cap screws that hold the track adjustment cylinder to the track frame to the torque specifications shown on page 3.
2. See Track Installation in this section and do steps 4 through 11.

Disassembly

1. Inject grease from a grease gun into the grease fitting (1) to push the piston (2) out of the tube (3).
2. Remove and discard the wiper seal (4), backup ring (5), and the O-ring (6) from the tube (3).
3. Remove the cap screws (11), lock washers (12), and retainer (13) for the check valve assembly.
4. Remove the check valve assembly.
5. Remove the cap (8), spring (9), and ball (10) from the body (7).
6. Remove the grease fitting (1) from the body (7).



B921922J

1. Grease Fitting
2. Piston
3. Tube
4. Wiper Seal
5. Backup Ring
6. O-ring
7. Body
8.
9. Cap
10. Spring
11. Ball
12.
13. Cap Screw
14. Lock Washer
15. Retainer

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Problem in All Rear Pump Circuits — Auxiliary, LH Travel, Boom (2), Swing, and Arm (1)

NOTE: *Before you begin the following steps, clean any dirt and debris from the area of the auxiliary control valve. Make sure that the spool of the auxiliary control valve is working freely and is not stuck partially into a power position. This step is especially important if you do not normally use the auxiliary circuit.*

See page 22 and check the main relief valve for the auxiliary control valve. Is the pressure correct?

→ NO → See page 22 and adjust the main relief valve for the auxiliary control valve.

↓ YES

See page 15 and do the pump test for the rear pump.Is the rear pump good?

→ NO → Repair or replace the hydraulic pump.

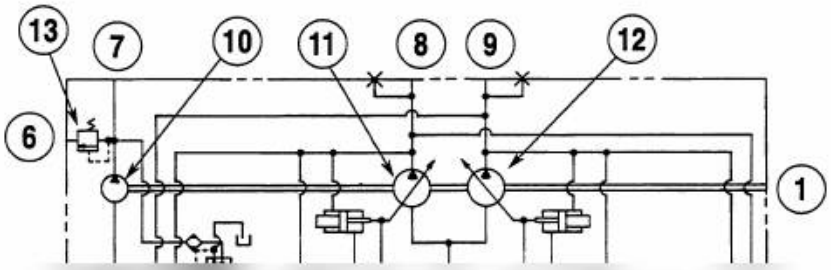
↓ YES

See the following topics for other circuits.

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(5) HYDRAULIC PUMP
(INCLUDES FRONT PUMP, REAR PUMP, AND PILOT PUMP)



1. *Driven by Engine*
2. *From Bucket Side of Main Control Valve*
3. *From Hydraulic Reservoir*
4. *From Swing Control Circuit*
5. *From Swing Side of Main Control Valve*
6. *To Hydraulic Reservoir*

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Disassembly

1. Remove the Allen head screws (7) that hold the cover (6) to the housing (4).

2. Remove the cover (6).

3. Remove the O-ring (8).

4. Remove the Allen head screws (5) that hold the thrust plate (9).

5. Remove the thrust plate (12).

6. Use the special tool shown on page 3 and remove the shaft (11) from the housing (4).

   A. Install the metal plate on the housing by turning the two cap screws (see page 3) into the threaded holes in the housing (4) that two of the Allen head screws (7) were removed from.

   B. Turn the all thread rod into the hole in the center of the metal plate (see page 3).

   C. Continue turning the all thread rod into the metal plate until the all thread rod pushes the shaft (11) out of the housing (4).

7. Remove and discard the V-ring (1) from the shaft (11).

8. Remove and discard the O-rings (2) and backup rings (3) in the housing (4).

Inspection

1. Clean all parts in cleaning solvent.

2. Inspect the bore in the housing (4) for scoring, pitting, and other damage. If the housing (4) is damaged, replace the housing (4).

3. Inspect the shaft (11) for scoring, pitting, and other damage. If the shaft (11) is damaged, replace the shaft (11).

Assembly

Assembly is the reverse sequence of disassembly.

1. Apply petroleum jelly to the V-ring (1), O-rings (2), and backup rings (3) during assembly.

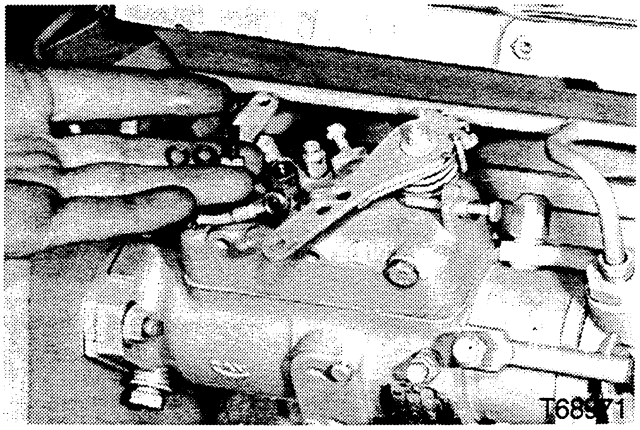
2. Make sure that the O-rings (2) and backup rings (3) are not twisted or protruding from the grooves inside the housing (4) before installing the shaft (11).

3. Tighten the Allen head screws (7) that hold the cover (6) to the housing (4) to the torque specifications shown on page 3.

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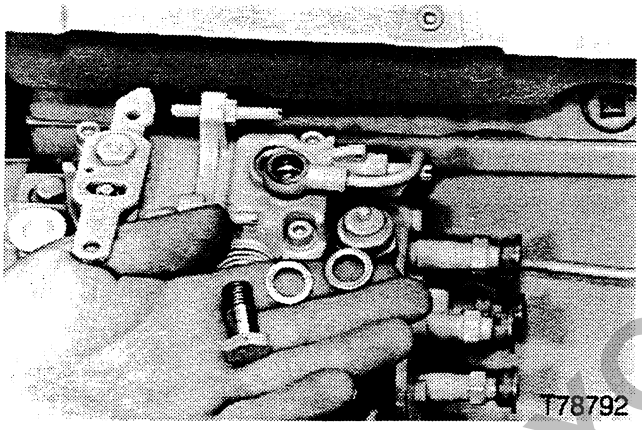
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STEP 13 CAV INJECTION PUMP



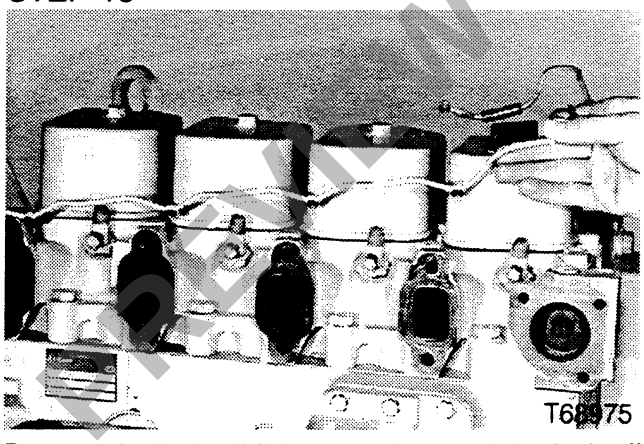
Remove the leak off fitting and gasket.

STEP 14 BOSCH INJECTION PUMP



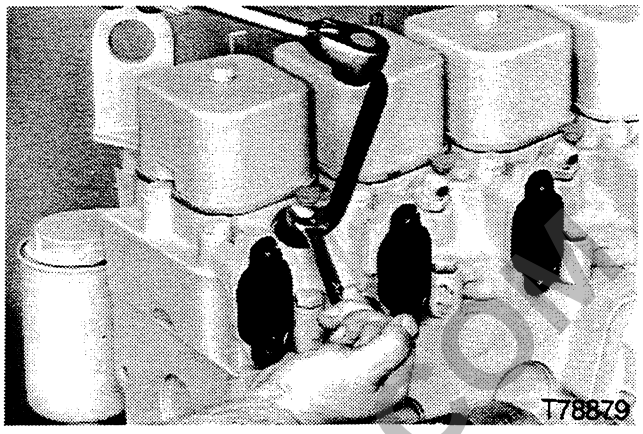
Remove the leak off fitting and gaskets.

STEP 15



Remove the leak off fittings, gaskets and the leak off line.

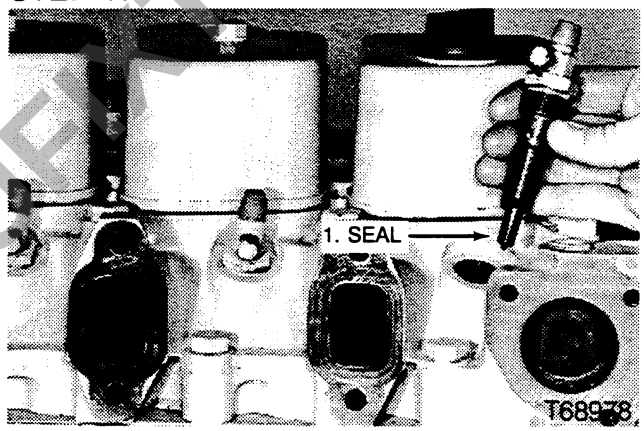
STEP 16



Loosen the nut on the injectors.

NOTE: *The injector must not rotate in the bore of the cylinder head. This will damage the cylinder head.*

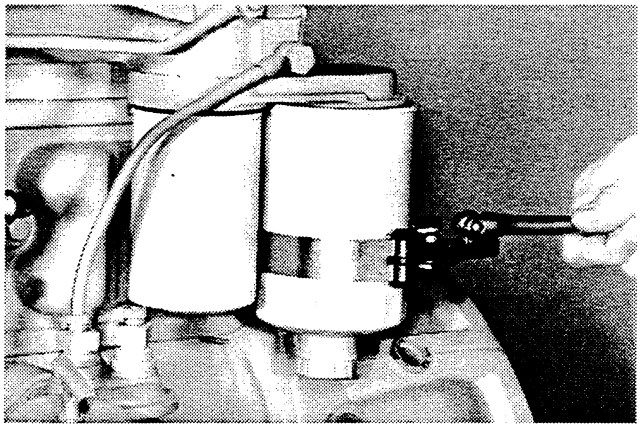
STEP 17



Remove the injectors from the cylinder head.

NOTE: *Make sure the injector seal is removed from the cylinder head.*

STEP 18



Use a strap type wrench to remove the fuel filters.

NOTE: *Some engines have a single fuel filter.*

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SAFETY RULES



THIS SAFETY ALERT SYMBOL INDICATES IMPORTANT SAFETY MESSAGES IN THIS MANUAL. WHEN YOU SEE THIS SYMBOL, CAREFULLY READ THE MESSAGE THAT FOLLOWS AND BE ALERT TO THE POSSIBILITY OF PERSONAL INJURY OR DEATH. M171B



When testing or adjusting diesel fuel injectors, do not place your hands, arms, or any other part of your body into the fuel injector spray.

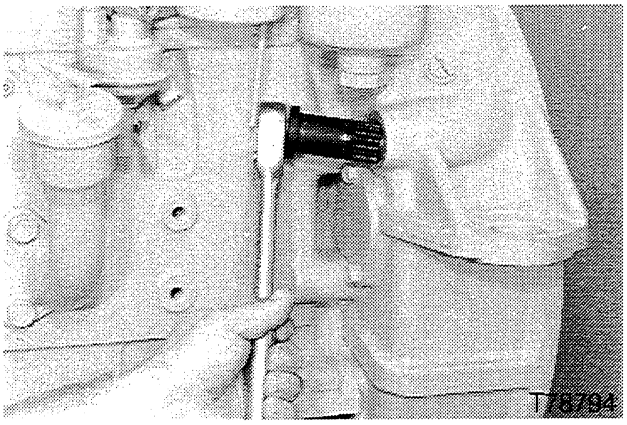
Fuel spray from an injector has sufficient velocity to penetrate the skin and cause serious infection or other reactions. If injured by fuel penetration, see your doctor immediately. SM127A

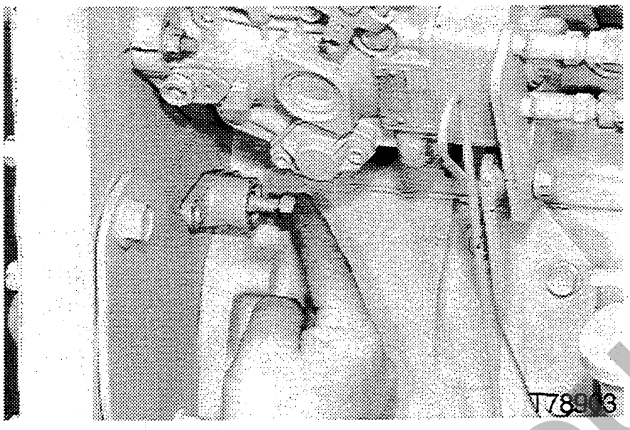
Wash the injured part with boric acid solution, support the injured finger or hand with a splint and sling so the injured part will remain absolutely at rest until a physician can examine it.

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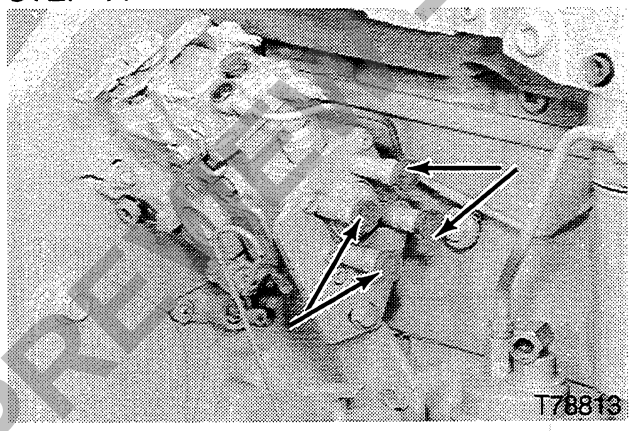
STEP 43





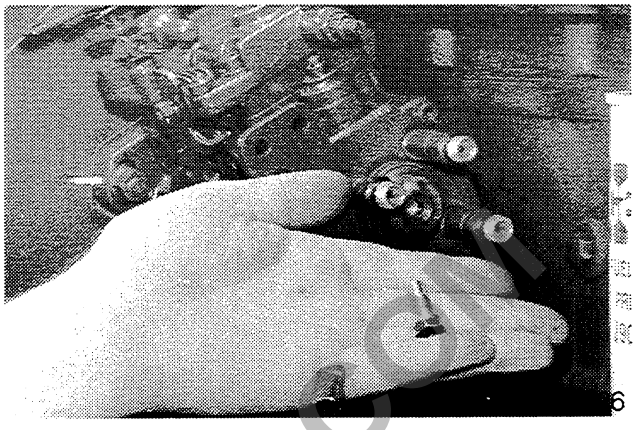
Install the engine turn over tool, push in on the locking pin and turn the engine over until the locking pin engages in the camshaft gear.

STEP 44



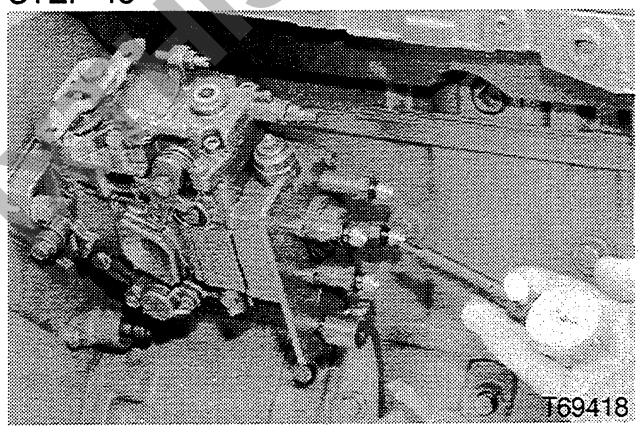
Remove the caps from the injection pump.

STEP 45



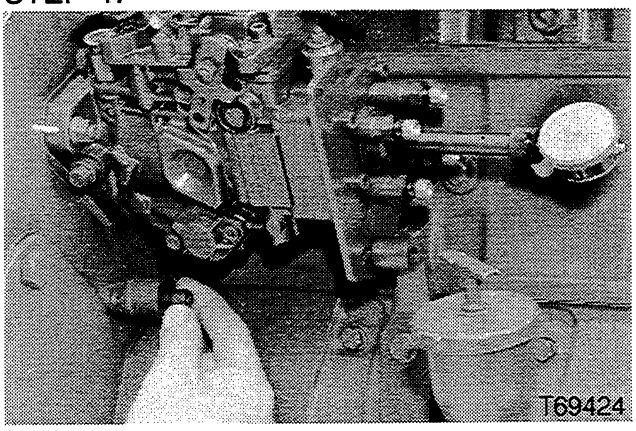
Remove the plug from the rear of the injection pump.

STEP 46



Install a dial indicator in the injector pump.

STEP 47



Pull the locking pin out of the camshaft gear.

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STARTER AND STARTER SOLENOID NIPPONDENSO

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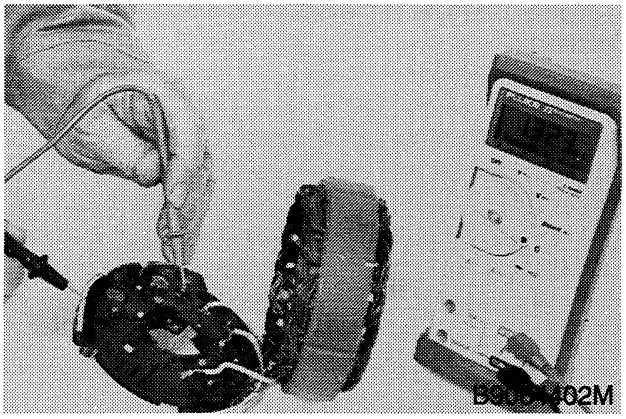
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TESTING THE RECTIFIER BRIDGE

STEP 44



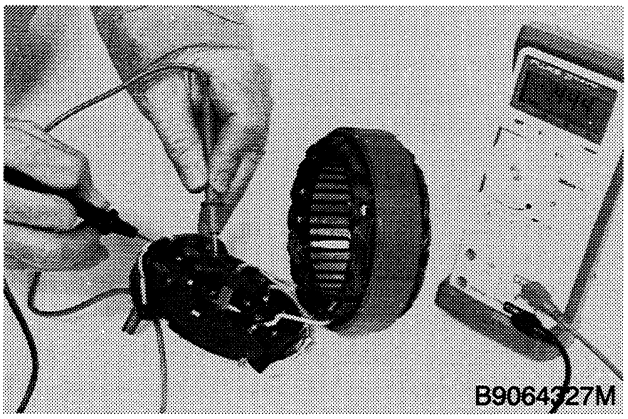
Touch the leads of the ohmmeter to a positive diode and the heat sink as shown. Then reverse the leads. There must be a high reading and a low or zero reading. Then test the other two positive diodes. If a positive diode did not have readings as specified, the positive diode is bad and a new rectifier bridge must be installed.

STEP 45



Touch the leads of the ohmmeter to a negative diode and the heat sink as shown. Then reverse the leads. There must be a high reading and a low or zero reading. Then test the other two negative diodes. If a negative diode did not have readings as specified, the negative diode is bad and a new rectifier bridge must be installed.

NOTE: *If the tester you are using has a diode test function, use the tester according to the instructions of the manufacturer to check the positive and negative diodes.*



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Problem in All Circuits
(See the following pages for other circuits.)

Clean the breather in the hydraulic reservoir. Replace the return line hydraulic filter in the hydraulic reservoir. Check the suction screen in the hydraulic reservoir.

See Section 8000 and check for contaminated oil. Is the oil contaminated?

YES

Clean or replace the oil. See Section 8000.

NO

Do the pilot pressure test on page 26. Is the pilot pressure correct?

YES

NO

See page 26 and adjust the pilot relief valve.

See page 17 and check the main relief valve for the main control valve. Is the pressure correct?

YES

NO

See page 17 and adjust the main relief valve for the main control valve.

Do the pump tests for the front pump and the rear pump on page 15. Are the pumps good?

YES

NO

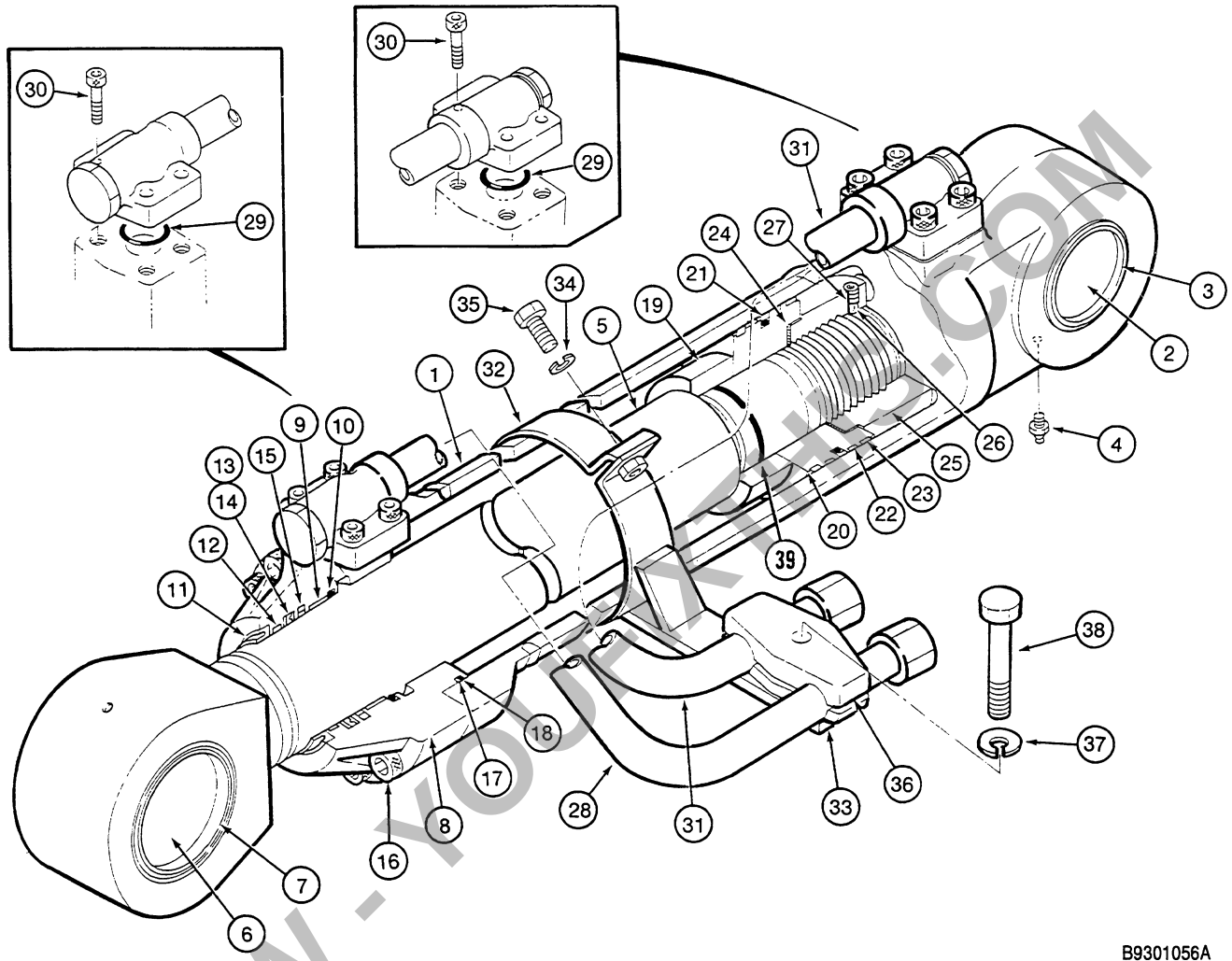
Repair or replace the hydraulic pump.

See the following topics for other circuits.

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BOOM CYLINDER



1. Cylinder Tube
2. Bushing
3. Seal
4. Grease Fitting
5. Piston Rod
6. Bushing
7. Seal
8. Gland
9. Bushing
10. Snap Ring
11. Wiper Seal
12. Wear Ring
13. Backup Ring
14. Seal
15. Seal
16. Socket Head Screw
17. Backup Ring
18. O-Ring
19. Spacer
20. Piston
21. Seal Assembly
22. Wear Ring
23. Wear Wing
24. Shim
25. Nut
26. Steel Ball
27. Set Screw
28. Tube
29. O-Ring
30. Socket Head Screw
31. Tube
32. Clamp
33. Clamp
34. Lock Washer
35. Bolt
36. Clamp
37. Flat Washer
38. Cap Screw
39. Seal

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INTERNAL SEAL REPLACEMENT 4

NOTE: The J I Case Company reserves the right to make improvements in design or changes in specifications at any time without incurring any obligation to install them on units previously sold.

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