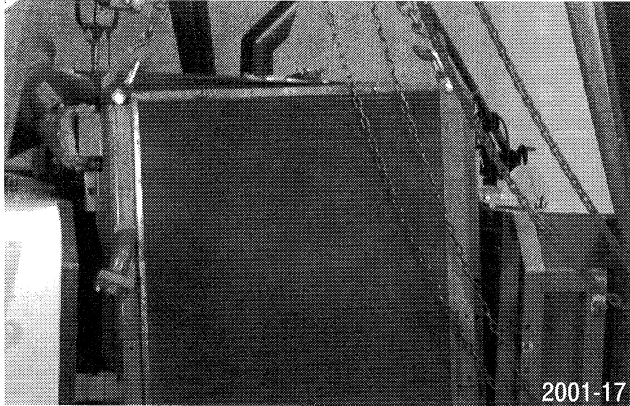
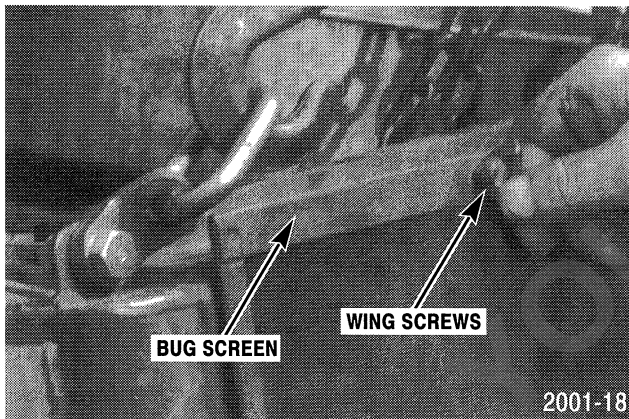
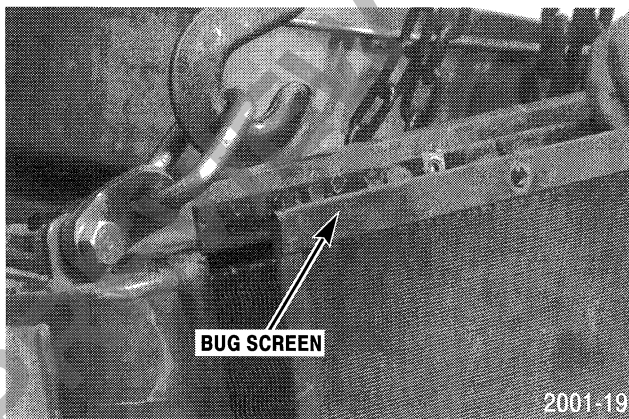
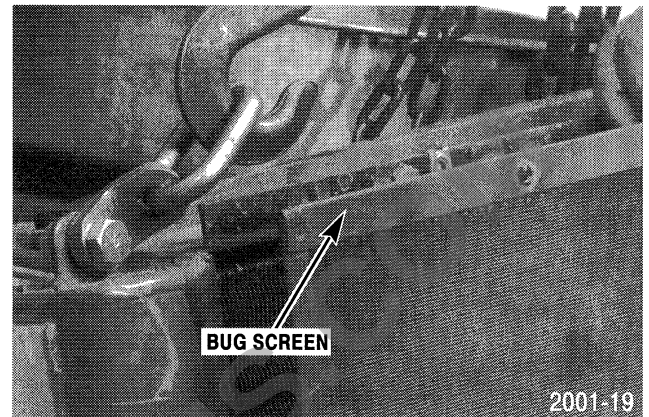
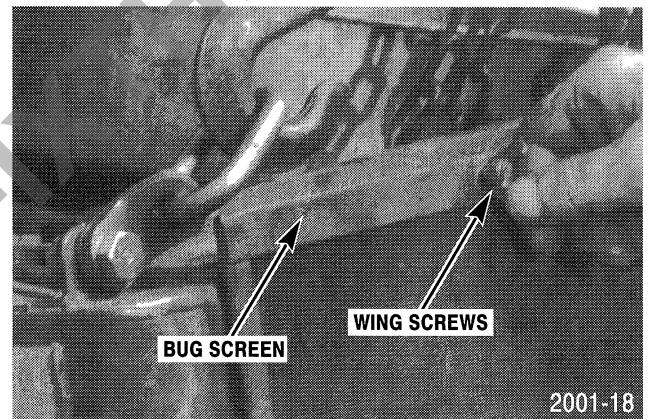


STEP 30

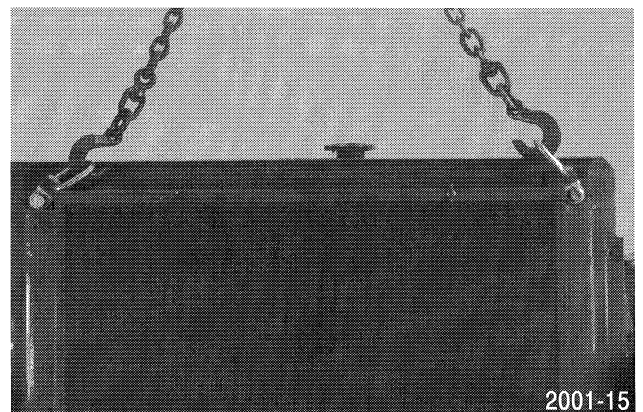
Lift the oil cooler out of the compartment and swing it clear of the machine. Place the oil cooler on suitable supports.

STEP 31

Remove the two wing screws from the oil cooler bug screen and lift the screen out.

Installation**STEP 1**

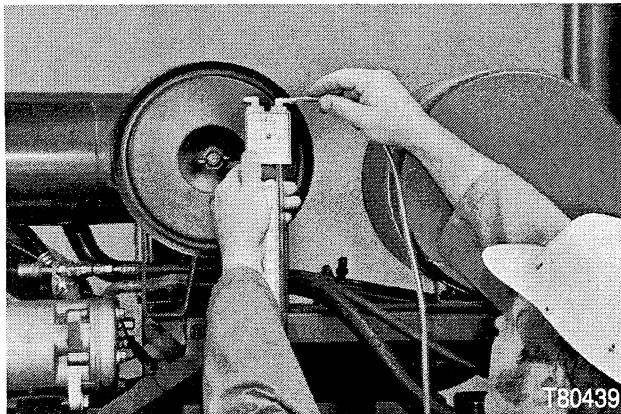
Place the oil cooler bug screen in position and install the two wing screws.

STEP 2

Install lifting eyes in the oil cooler tabs if not already installed. Attach and secure the lifting device (chain) to the eyes in the oil cooler tabs.

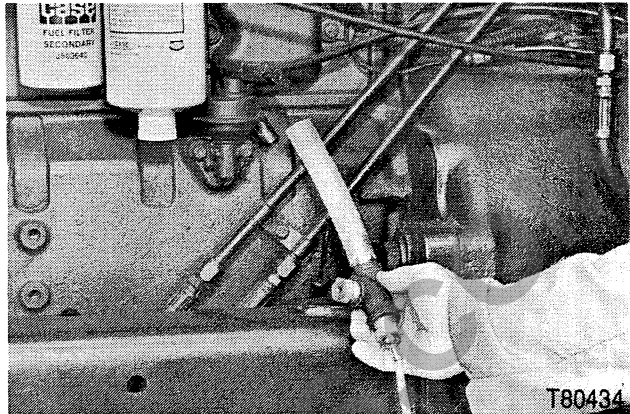
Manometer Removal

STEP 328



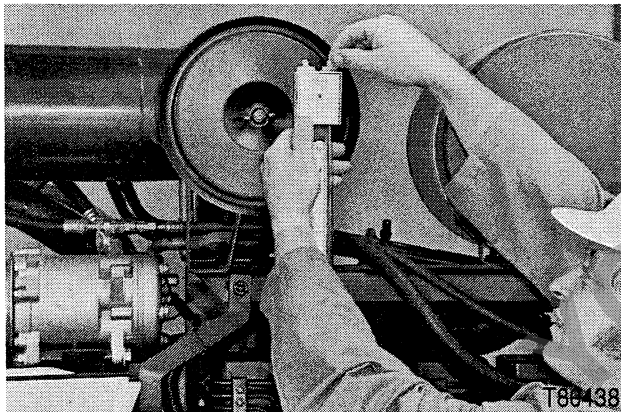
Disconnect the tube from the connector.

STEP 331



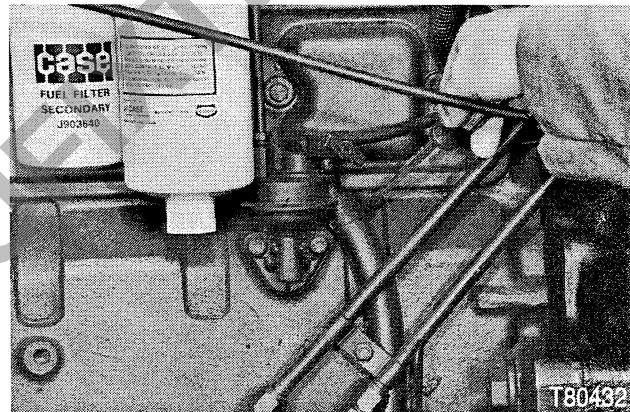
Remove the adapter from the breather tube.

STEP 329



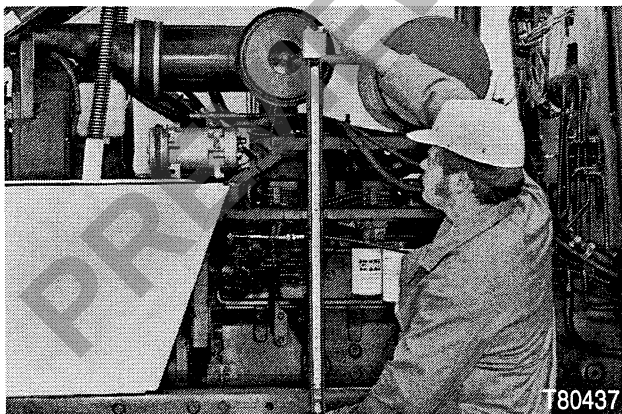
Turn each connector on the manometer one turn clockwise.

STEP 332



Install breather hose and tighten the clamp.

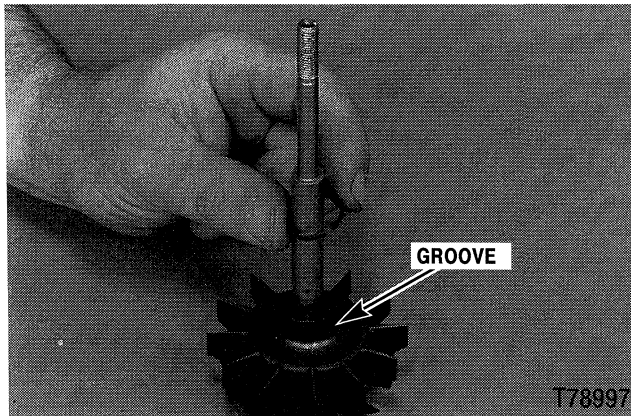
STEP 330



Remove the manometer.

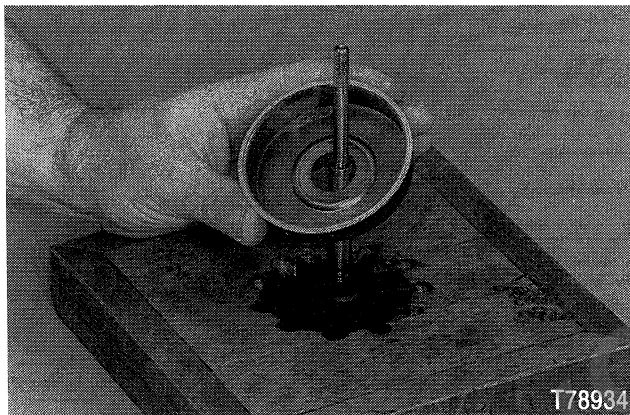
NOTE: The Case Corporation reserves the right to make improvements in design or changes in specifications at any time without incurring any obligation to install them on units previously sold.

STEP 77



Install a new seal ring in the groove of the turbine wheel.

STEP 78



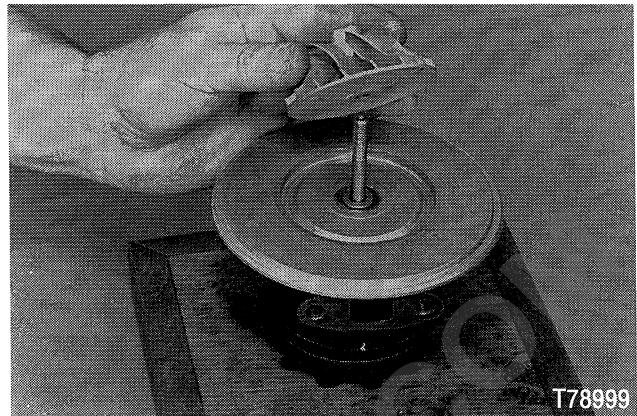
Install the turbine wheel in the fixture and install the heat shield on the turbine wheel.

STEP 79



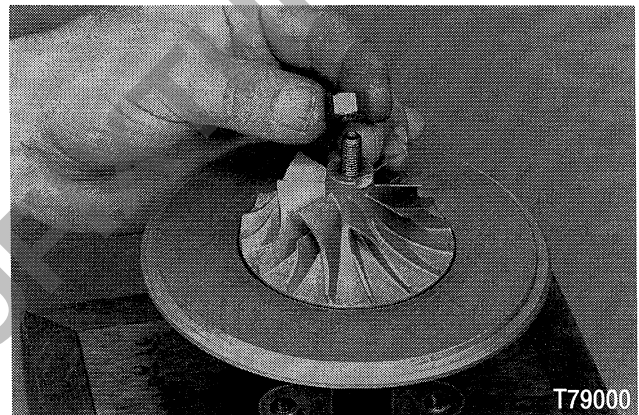
Install the center housing on the turbine shaft. Be careful not to damage the seal ring.

STEP 80



Install the compressor wheel on the turbine shaft.

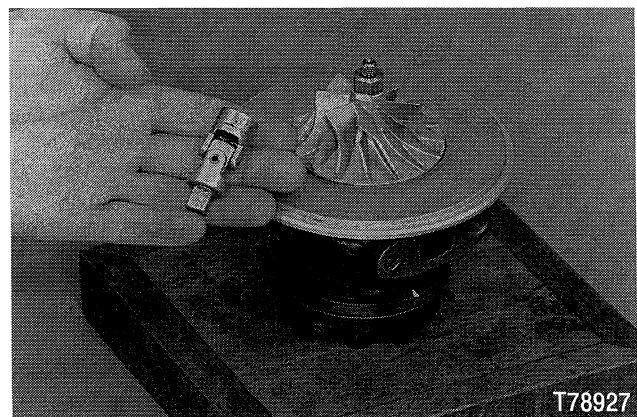
STEP 81



Install a new compressor wheel lock nut.

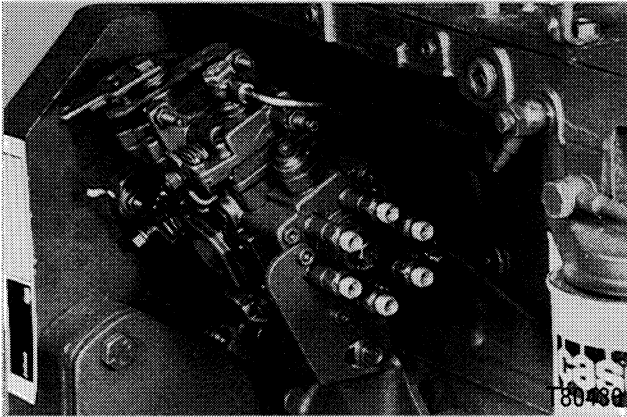
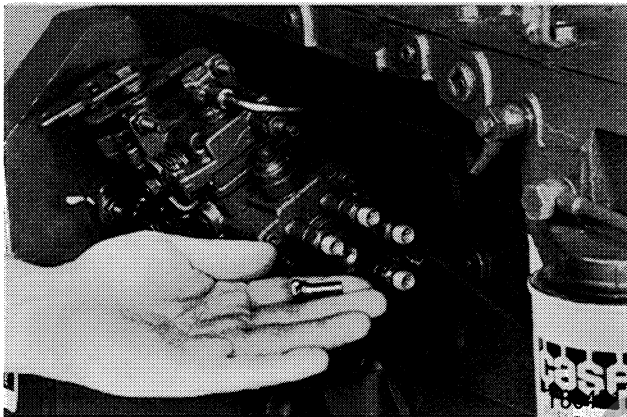
NOTE: The compressor wheel lock nut is left hand thread.

STEP 82



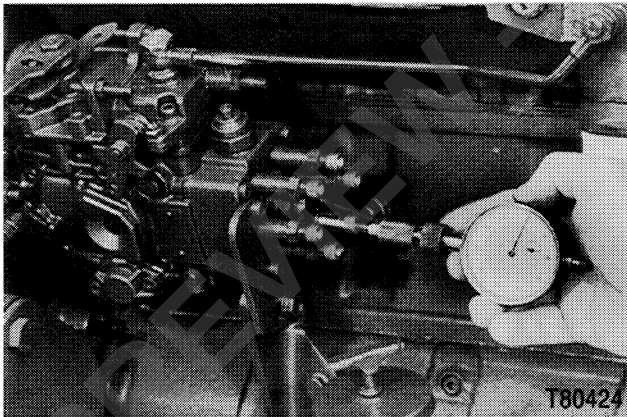
Use a double universal joint socket to tighten the lock nut on the compressor wheel. This procedure will stop the turbine shaft from bending.

STEP 70



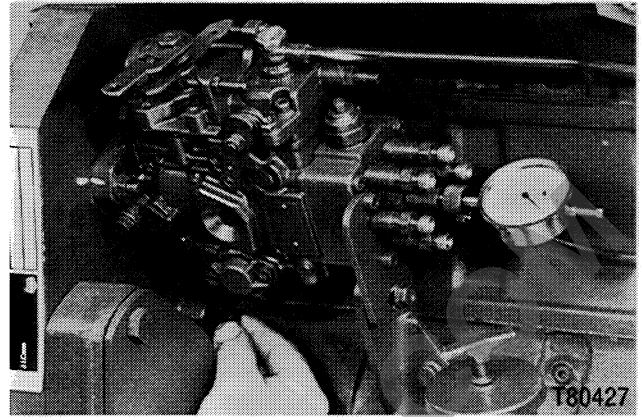
Remove the plug from the rear of the injection pump.

STEP 71



Install a dial indicator in the injection pump.

STEP 72

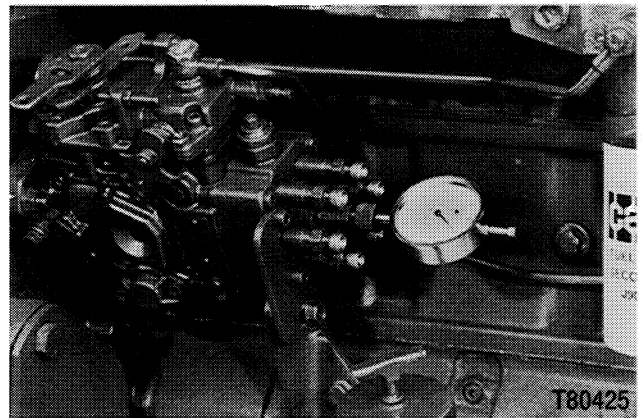


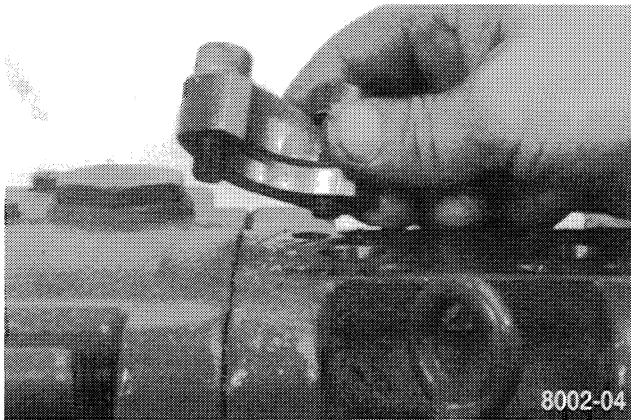
Pull the timing pin out of the camshaft gear.

STEP 73

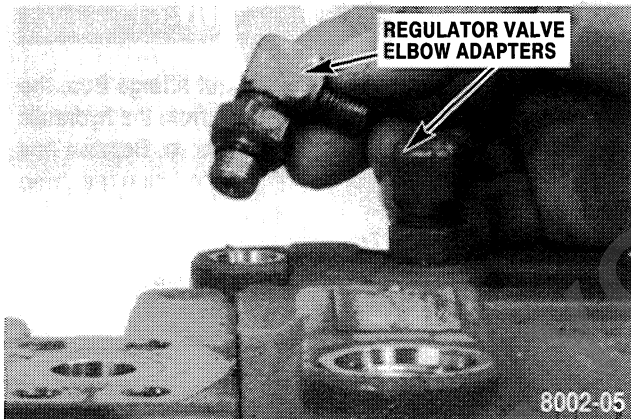


Install the engine turn over tool into the flywheel housing and turn the engine counterclockwise until there is no movement in the dial indicator.

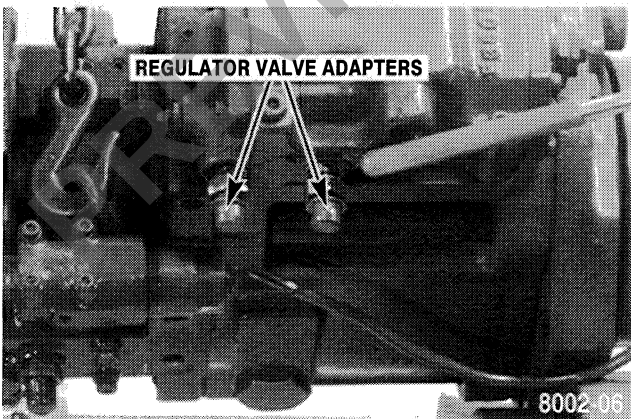


STEP 36

If not already removed, remove the eight socket head cap screws. Remove the four split flanges from the top of the hydraulic pump assembly valve block. Cap or plug the ports.

STEP 37

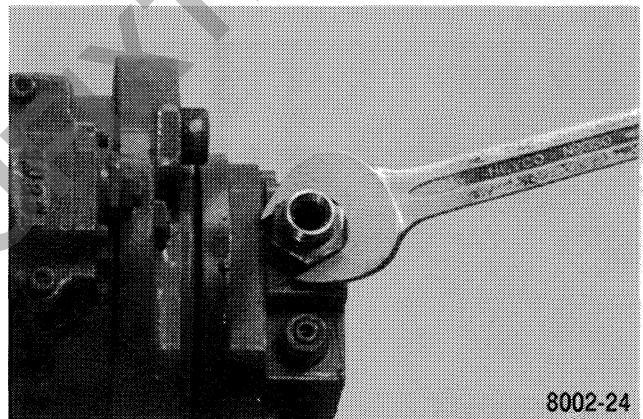
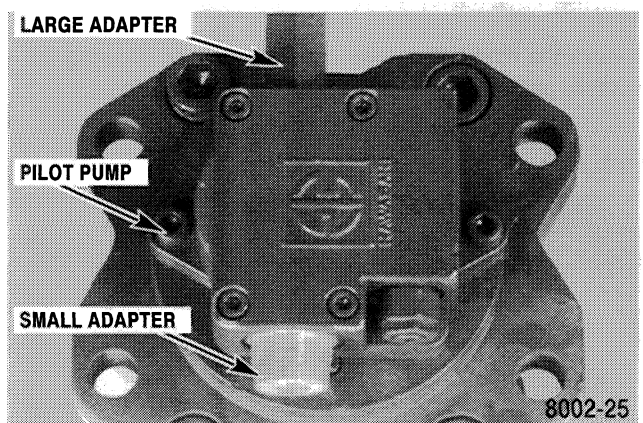
Remove the two small elbows from No. 2 hydraulic pump regulator valve. Remove and discard O-rings from the elbows and plug the ports.

STEP 38

Remove the two adapters from the No. 1 hydraulic pump regulator valve. Remove and discard O-rings from the adapters and plug the regulator valve ports.

STEP 39

Remove the adapter from the manifold block valve. Remove and discard O-ring from the adapter and plug the manifold block valve port.

STEP 40

Remove the two adapters (one large and one small) from the pilot pump. Remove and discard O-rings from the adapters and plug the pilot pump ports.

Inspection

STEP 1

Clean all parts with cleaning solvent and dry with low pressure compressed air.

STEP 2

Check the seat face of each poppet and sleeve end and ensure that there are no defects and that the contact surfaces are even.

NOTE: *Replace the relief valve assembly if defective parts are found.*

STEP 3

Check that the main poppet (4) and sleeve (3) and the piston (16) and plug (18) slide smoothly.

NOTE: *Replace the relief valve assembly if defective parts are found.*

STEP 4

Check the springs for defects, deformation and wear.

STEP 5

Check that there is no foreign matter clogging the main poppet and pilot seat orifice.

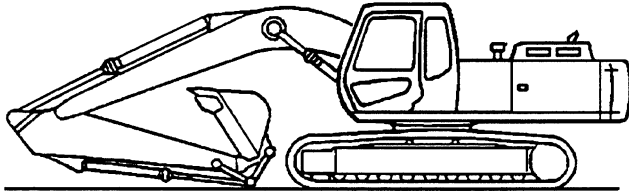
STEP 6

Discard the O-rings and back-up rings.

SHUTTLE VALVE

Removal

STEP 1



UA-01

Park the machine on a level surface. Lower the attachment to the ground.

STEP 2

Turn the starter switch to the OFF position to stop the engine.

STEP 3

Turn the starter switch to the ON position. Check that the CONTROLS LOCK symbol is not displayed on the systems display panel.

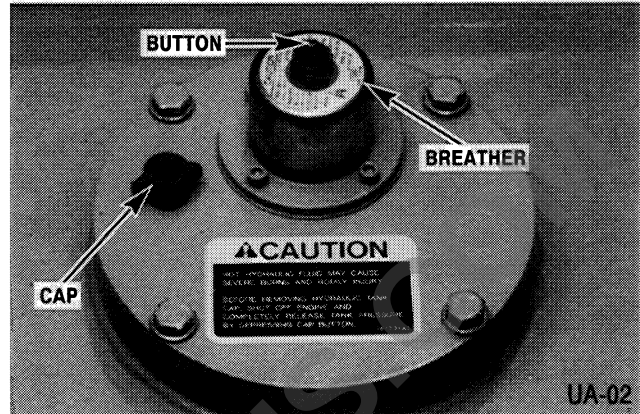
STEP 4

Operate the swing and attachments control levers back and forth, left and right ten times, to release hydraulic system pressure.

STEP 5

Turn the starter switch to the OFF position.

STEP 6



UA-02

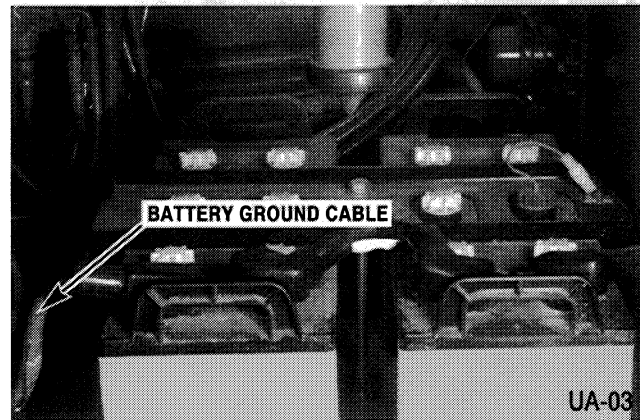
At the top of the hydraulic reservoir, remove the cap from the breather. Push down on the button to release the air pressure in the hydraulic reservoir. Install the cap on the breather.



WARNING: Before doing any maintenance on the hydraulic system, make sure that all hydraulic pressure has been released by operating the control levers several times and the hydraulic reservoir air pressure has been released. Failure to do so could cause serious injury.

CSM120

STEP 7



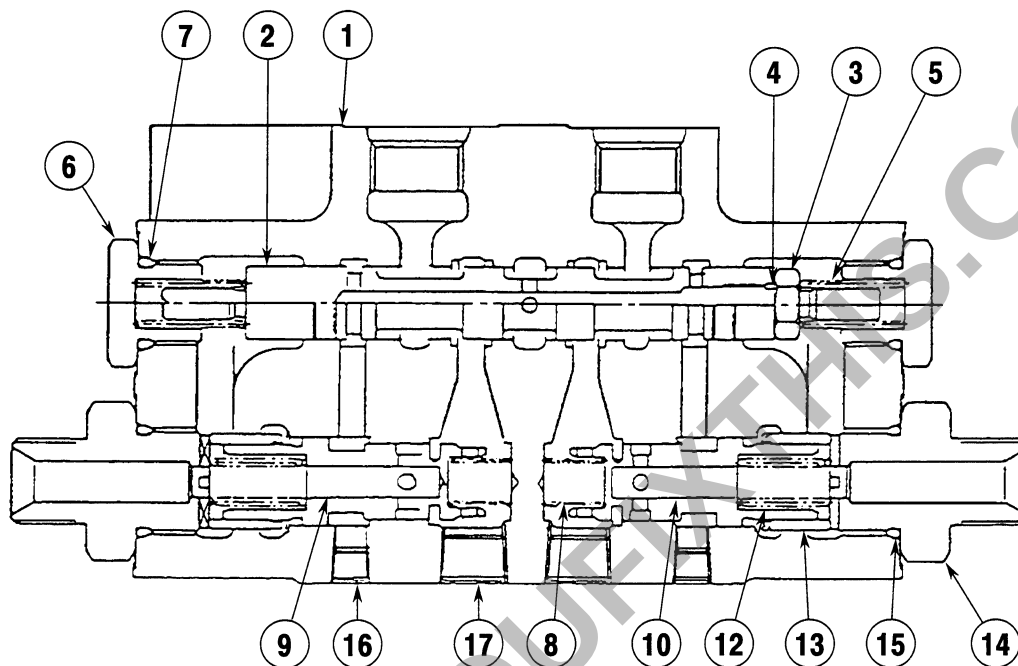
UA-03

Open the left side access doors. Disconnect the battery ground (-) cable from the battery.

STEP 8

To prevent loss of hydraulic oil when disconnecting the hydraulic lines, connect a vacuum pump to the hydraulic reservoir. (See Section 8000.)

Assembly



8007-18

Cushion Valve

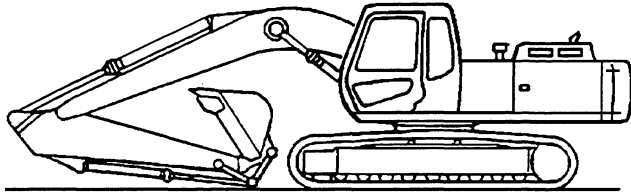
- 1. Valve Housing
- 2. Spool
- 3. Spring Guide
- 4. O-Ring
- 5. Spring
- 6. Plug

- 7. O-Ring
- 8. Spring
- 9. Spool
- 10. Spool
- 11. Spool (not shown)
- 12. Spring

- 13. Collar
- 14. Flow Restriction Adapter
- 15. O-Ring
- 16. Plug
- 17. Plug
- 18. Spool (not shown)

STEP 7

Place the two bottom covers on the machine and secure with the eight cap screws, lock washers and flat washers.

Removal**STEP 1**

UA-01

Park the machine on a hard level surface. Lower the attachment to the ground.

STEP 2

Turn the starter switch to the OFF position to stop the engine.

STEP 3

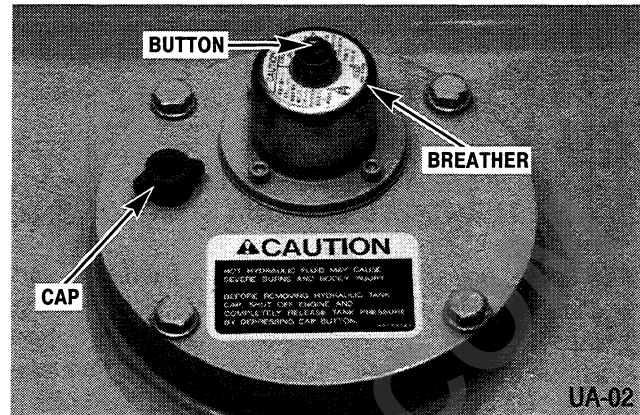
Turn the starter switch to the ON position. Check that the CONTROLS LOCK symbol is not displayed on the systems display panel.

STEP 4

Operate the swing and attachments control levers back and forth, left and right ten times, to release hydraulic system pressure.

STEP 5

Turn the starter switch to the OFF position.

STEP 6

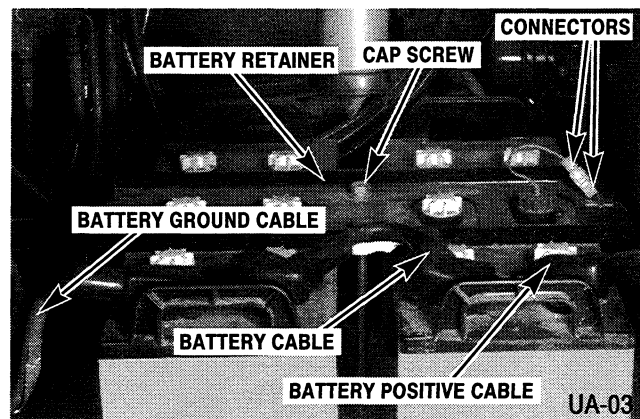
UA-02

At the top of the hydraulic reservoir, remove the cap from the breather. Push down on the button to release the air pressure in the hydraulic reservoir. Install the cap on the breather.



WARNING: Before doing any maintenance on the hydraulic system, make sure that all hydraulic pressure has been released by operating the control levers several times and the hydraulic reservoir air pressure has been released. Failure to do so could cause serious injury.

CSM120

STEP 7

UA-03

Open the left side access doors. Disconnect the battery ground (-) cable then the battery positive cable from the two batteries. Disconnect and remove the battery cable. Disconnect the two connectors. Remove the two cap screws, lock washers, and flat washers securing the batteries retainer. Remove the battery retainer and the two batteries. Close the access doors.

NOTE: Refer to the illustration on page 16 for location of parts using the numbers in parenthesis.

STEP 1

Place the wiper motor (11) in position on the cab bracket. Connect the wiper motor connector (12) to the cab connector.

STEP 2

Install the wiper motor (11) on the bracket with the three screws (10). Tighten the screws.

STEP 3

Install the cover (9) over the wiper motor and secure the cover with screw (7) and tie strap (8).

STEP 4

Install the metal washer (6) and nut (5) on the wiper motor shaft. Tighten nut fingertight.

STEP 5

Install the rubber cap (4) over the wiper motor shaft.

STEP 6

Install the wiper arm (3) on the wiper motor shaft. Check that the wiper arm is installed in the same position noted in step 6 of Removal. Secure the arm with the nut (2).

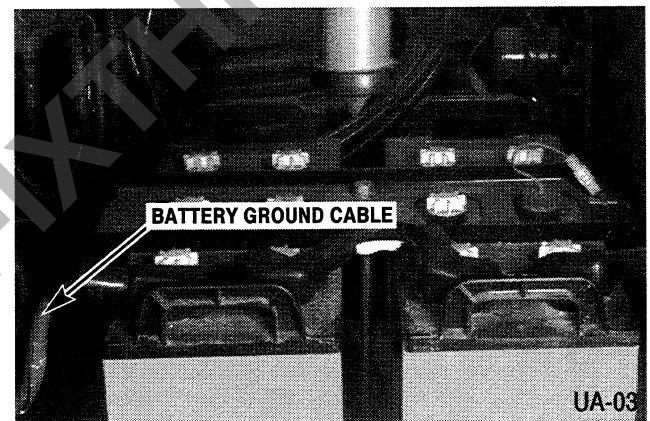
STEP 7

Snap the protective flap (1) down over the end of the wiper motor shaft.

STEP 8

Close the cab door.

STEP 9

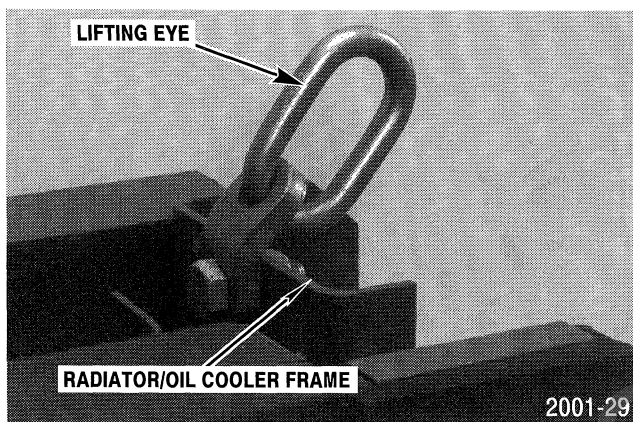


Open left side access doors. Connect the battery ground (-) cable. Close the access doors.

STEP 8



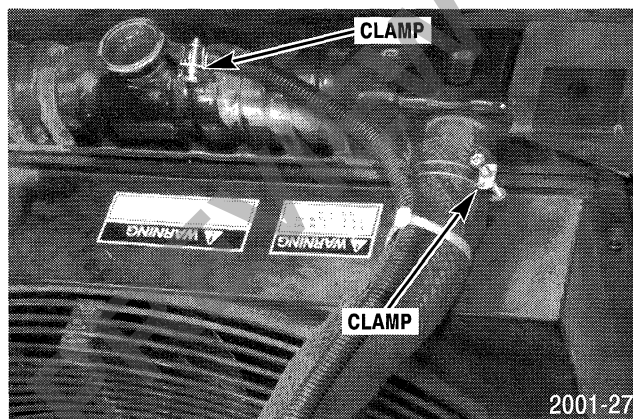
2001-30



2001-29

Disconnect the chain and remove the lifting eyes from the radiator/oil cooler frame eyes.

STEP 9



2001-27

Install the two upper radiator hoses and tighten the clamps.

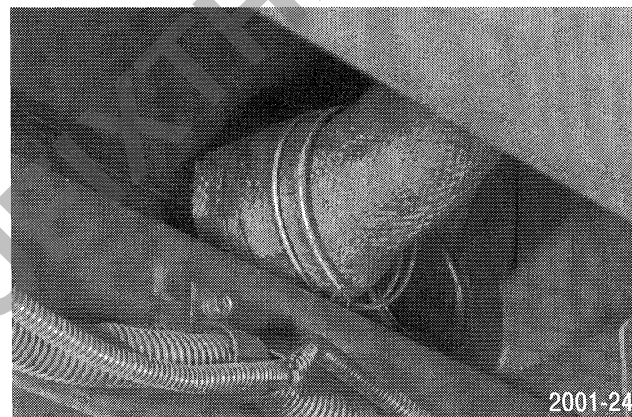
STEP 10



2001-67

Install the radiator fan grill guard with four cap screws.

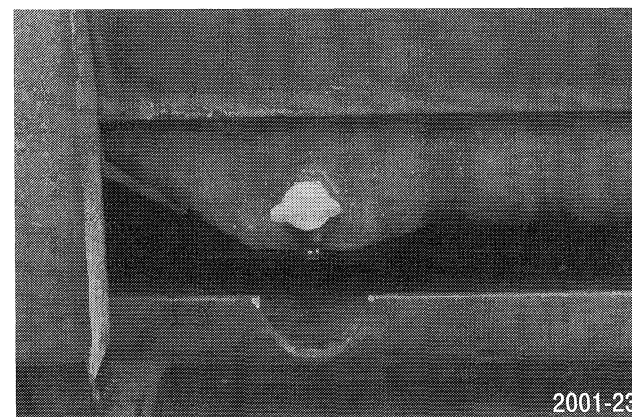
STEP 11



2001-24

Connect the lower radiator hose to the radiator and tighten the clamp.

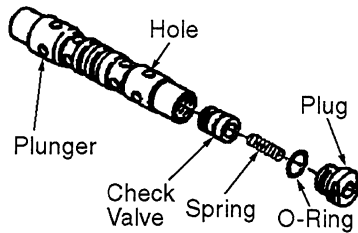
STEP 12



2001-23

Close the radiator drain valve.

3. Remove spring and check valve.

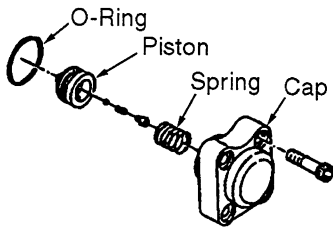


6002-96

STEP 7

Cap Disassembly

1. Remove and discard O-ring.
2. Remove piston and spring from cap.



6002-97

Inspection

NOTE: Numbers in parentheses in the following steps refer to numbers shown in illustration on page 15.

STEP 1

Clean all parts using suitable cleaning solvent. Dry using low-pressure compressed air.

STEP 2

Inspect springs (2, 13, 25, and 29) for cracks, breaks, distortion, bent condition, or signs of permanent set. Replace a spring if defective.

STEP 3

Inspect cylinder block (4) for pitting, scoring, grooves, cracks, flaking of finish, or other damage. Check piston bores for wear indicated by damage to finish, scoring, or grooves. Check splines for wear, cracks, or breaks. Replace cylinder block if any of these conditions are observed.

STEP 4

Check retainer holder (7), retainer plate (9), and valve plate (24) for pitting, scoring, grooves, cracks, breaks, flaking of finish, or other damage. Replace if any of these conditions are observed.

STEP 5

Check pistons (8 and 14) for pitting, scoring, grooves, cracks, flaking of finish, or other damage. Replace a piston if any defects are observed.

STEP 6

Inspect bearings (11 and 36) for flaking on the outer race. Check bearings for rough rotation. Check outer and inner races for wear, chipping, nicks, flaking, or other damage. Replace a bearing as necessary.

STEP 7

Inspect steel balls (12) for pitting, scores, cracks, out-of-roundness, or other defects. Check for wear at area where contact is made with swash plate (16); wear is indicated by damage to finish. Replace if any defects are observed.

STEP 8

Check shaft (15) for cracks, breaks, distortion, nicked or worn splines, or other damage. Replace shaft if any of these conditions are observed.

STEP 9

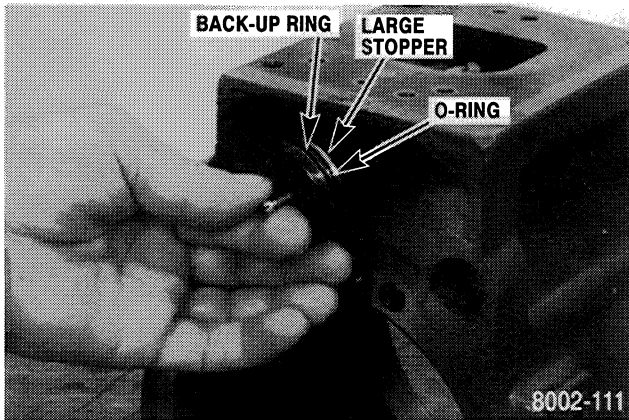
Inspect the swash plate (16) for pitting, scoring, cracks, breaks, or other damage. Check that ball (12) contact area on swash plate is not worn, cracked, or pitted. Replace the swash plate if any of these conditions are observed.

STEP 10

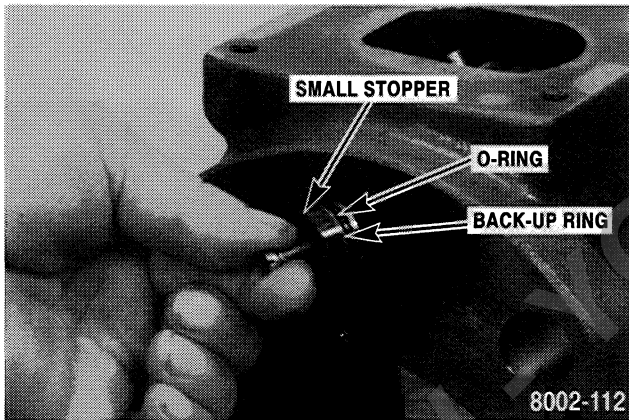
Inspect disk plates (18) for grooves or flaking. Replace as necessary.

STEP 11

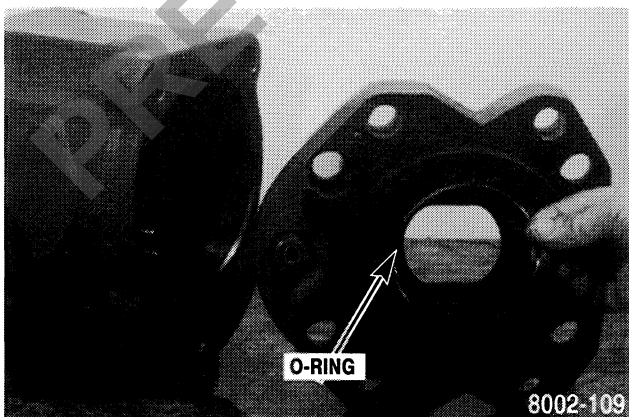
Check friction plates (19) for cracks, distortion, broken or missing teeth, and grooves. Replace if any of these defects are observed.

STEP 9

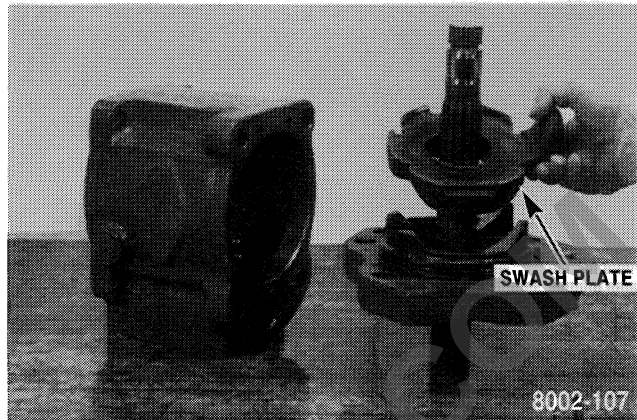
Install a screw into the center threaded hole of the large stopper. Install a new O-ring and back-up ring on the large stopper. Insert the large stopper into the hydraulic pump housing port. Remove the screw from the large stopper.

STEP 10

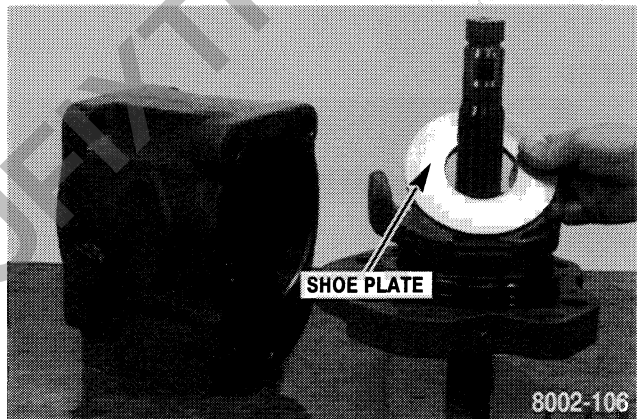
Install a screw into the center threaded hole of the small stopper. Install a new O-ring and back-up ring on the small stopper. Insert the stopper into the hydraulic pump port. Remove the screw from the small stopper.

STEP 11

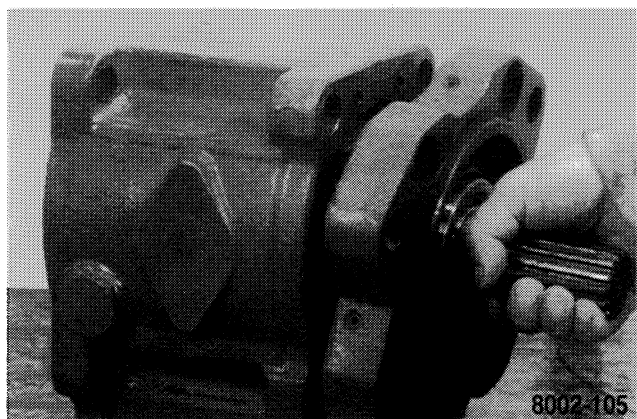
Install a new O-ring on the swash plate support cover.

STEP 12

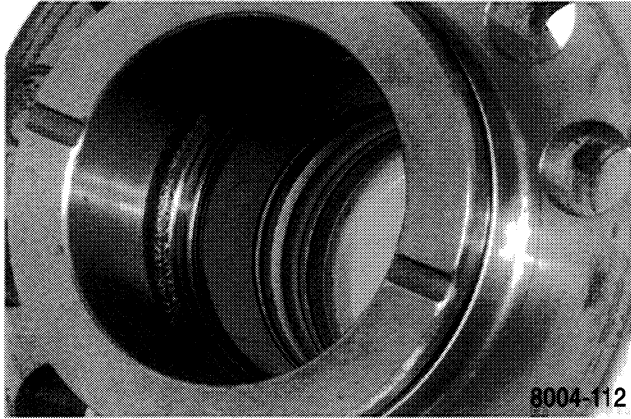
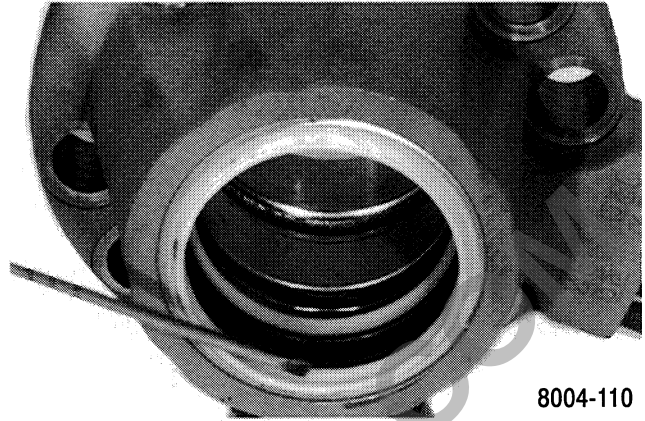
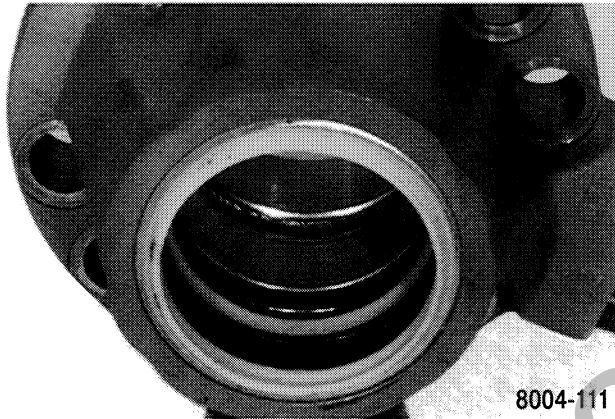
Install the swash plate support cover, and swash plate on the hydraulic pump drive shaft.

STEP 13

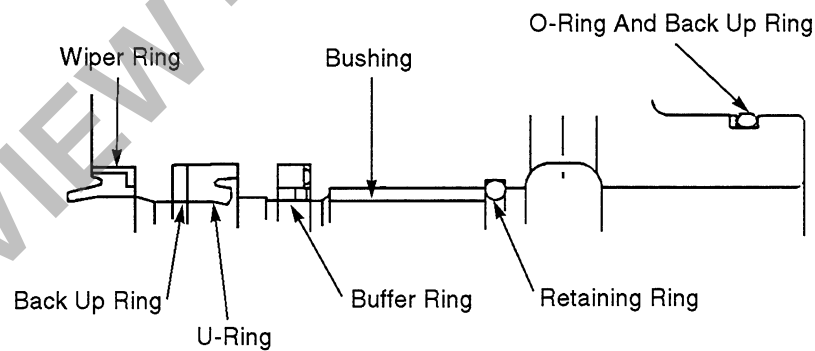
Install the shoe plate on the swash plate.

STEP 14

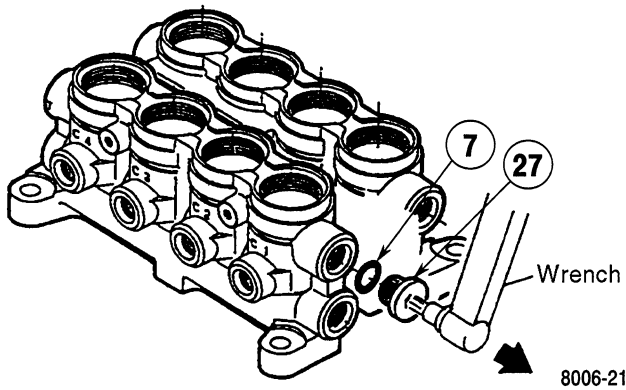
Install the swash plate support cover.

STEP 5

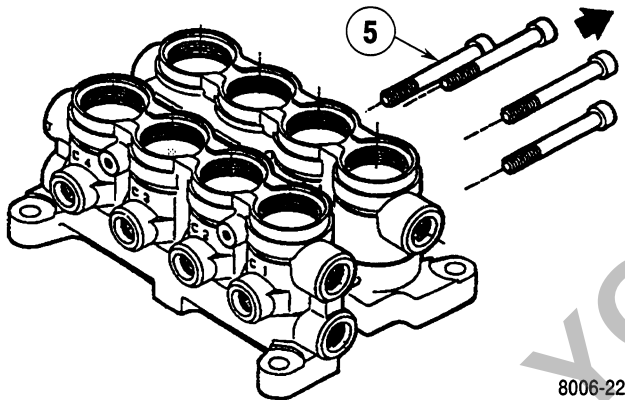
Install a new O-ring and back up ring. Install a new wiper ring. Install a new U-ring and back up ring. Install a new buffer ring which consists of a wear ring, a back up ring, and a square ring.



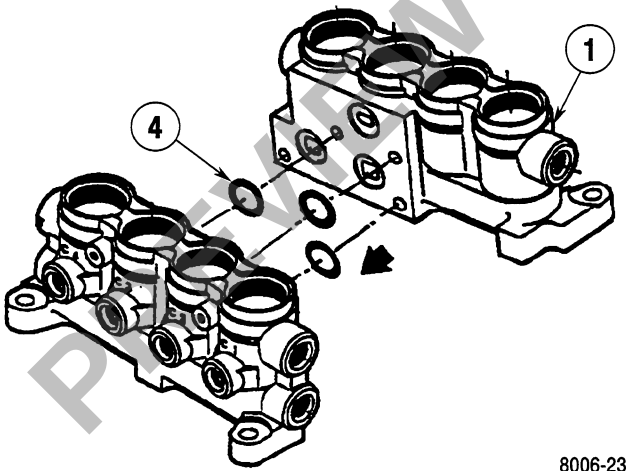
8004-61

STEP 11**Housing Disassembly**

1. Remove the four plugs (27) and O-rings (7). Discard O-rings.



2. Remove the four socket head cap screws (5).



3. Remove and discard the three O-rings (4) from the housing (1).

Inspection**STEP 1**

Clean all parts except solenoids using suitable cleaning solvent. Wipe exterior of solenoids clean using clean cloth moistened with suitable cleaning solvent.

STEP 2

Inspect the springs for cracks, distortion, or evidence of permanent set. Replace a spring if any of these defects are seen.

STEP 3

Inspect the spools for damage to the finish, bent condition, or other damage. Check that spool slides easily in the bore of the valve body. Replace the complete eight spool solenoid valve if any defects are observed.

STEP 4

Check plugs, cap screws, and retaining nuts for damaged threads and corrosion. Replace the part if threads are damaged or if the part is corroded.

STEP 5

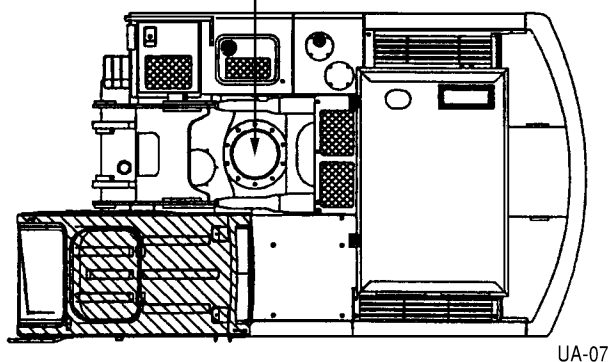
Inspect the coil assembly connector for cracks and missing or broken contacts. Replace the coil assembly if any of these conditions are seen. Check wires for damaged insulation; if insulation is damaged, repair using electrical tape. Connect an ohmmeter across the contacts of the connector; check that ohmmeter indicates continuity. If ohmmeter does not indicate continuity, replace the coil assembly.

STEP 6

Check valve housings for damaged bores, internal thread damage, and signs of internal wear. If any defects are seen, replace the valve as a complete assembly.

STEP 12

Top Center Access Cover



Install top center access cover and secure with six washers and cap screws.

STEP 13

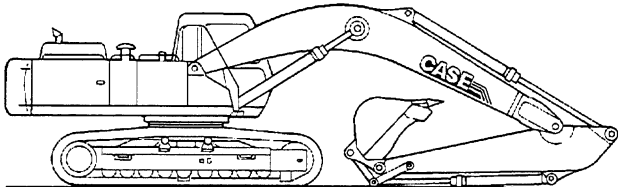
Remove the DO NOT OPERATE tag from the ignition key.

REFRIGERANT RECOVERY

Recovered refrigerant passes through an oil separator and a filter-drier before entering the refrigerant tank. The moisture indicator will turn green when dry refrigerant passes over it.

NOTE: If possible, run the air conditioner system for a few minutes before starting the recovery process. Turn the system off before proceeding.

STEP 1



JS01204A

Park the machine on a level surface. Lower the attachment to the ground.

STEP 2

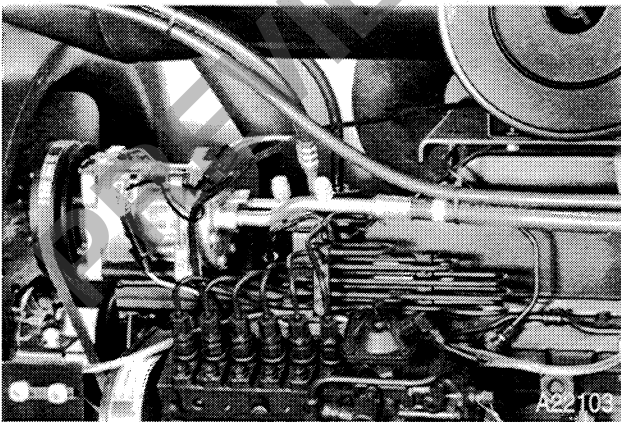
Turn the starter switch to the OFF position to stop the engine. Install a DO NOT OPERATE tag on the ignition key.

STEP 3

Open the engine hood. Engage the hood lock in the open position.

NOTE: Be sure the hood lock is engaged in the open position. Failure to do so could cause serious injury due to falling engine hood.

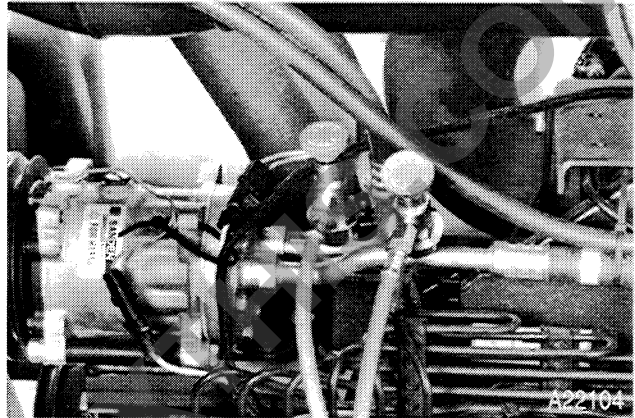
STEP 4



A22103

Clean the external surfaces of the compressor and hoses. Remove the caps from the service ports on the suction and pressure hoses.

STEP 5



A22104

With the charging station manifold gauge valves in the closed position, connect the hoses from the test gauges to the service ports. Connect the hose from the low pressure gauge to the port on the suction hose. Connect the hose from the high pressure gauge to the port on the discharge hose.

STEP 6



A22114

Open the high and low valves.

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