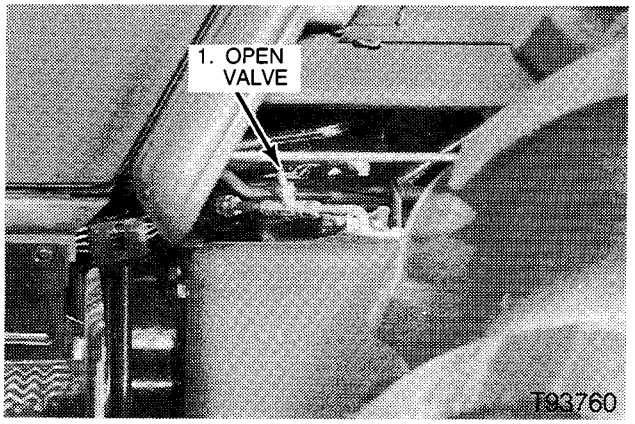
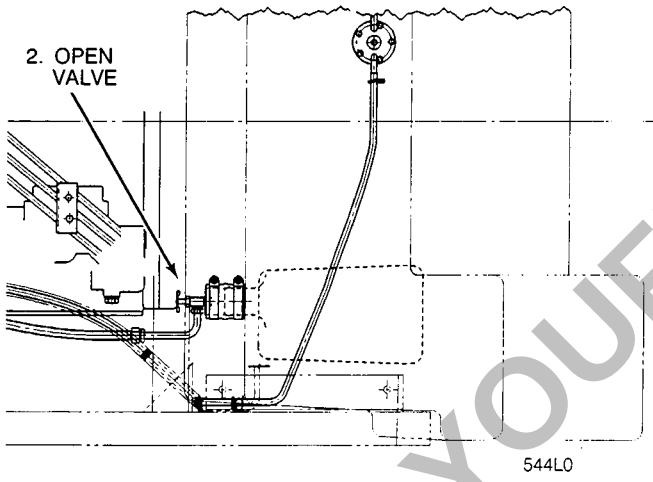
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## STEP 58 AUXILIARY FUEL TANK

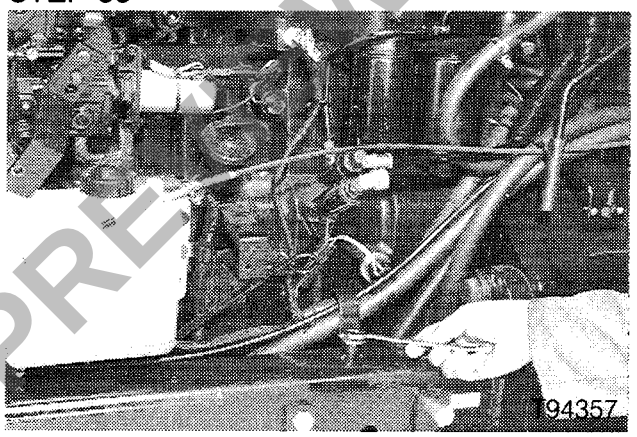



### MAIN FUEL TANK



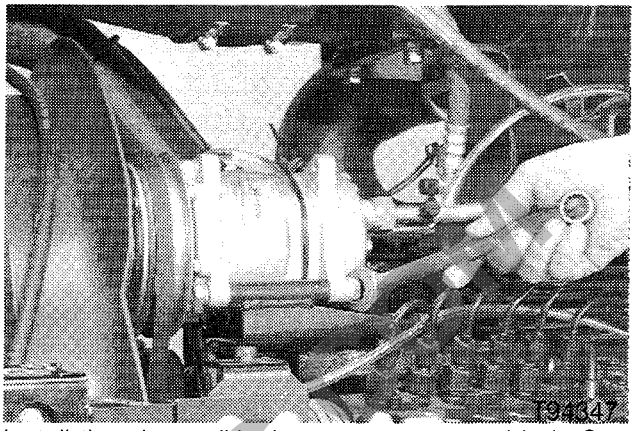

Open the shutoff valve. See Section 3410 for fuel system air removal.

## STEP 59



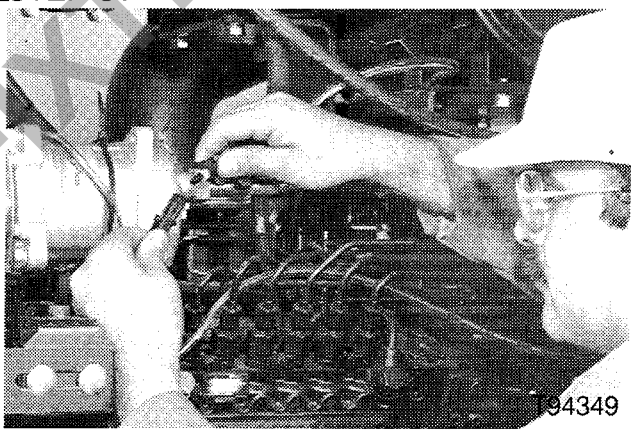

Install the routing clamp around the oil cooler hoses, fuel return line and the LH steering hose. Install the clamps to the LH frame rail.

## STEP 60



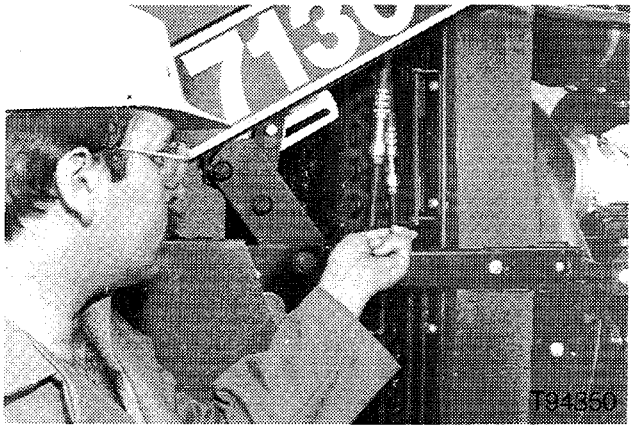

Install the air conditioning compressor and belt. See Section 9004 in this manual for belt tension adjustments.

## STEP 61




Connect the engine wiring harness to the compressor electrical connectors.

## STEP 62




Install the air conditioning condenser.

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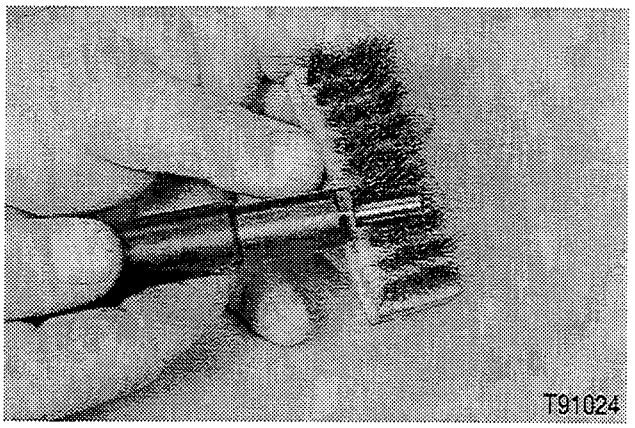


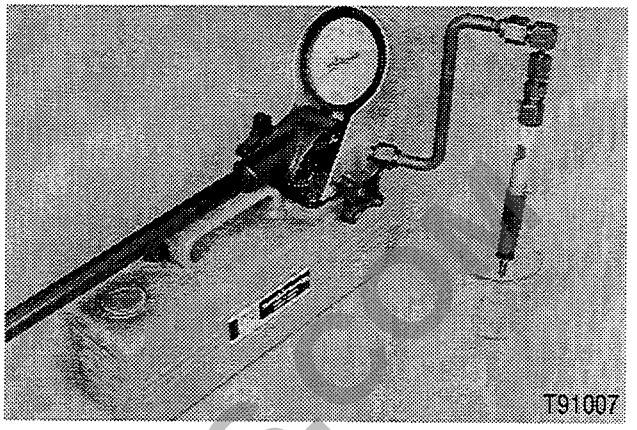
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# TESTING INJECTORS

The injector must be cleaned before testing the injector. Wash the body, nozzle tip and the cap nut in a solvent to remove external dirt, grease and carbon deposits from the cap, body and outside diameter of the tip.

**IMPORTANT:** *Do not permit the wire brush to contact the tip (spray hole area) of the nozzle.*




Connect the injector to the nozzle tester. The nozzle tip must be down. Use adapter elbow (Part Number Y900-3), straight adapter (Part Number U900-5) and adapter nut (Part Number Y900-6).

**WARNING:** *When testing or adjusting fuel injectors, do not put your hands or arms in front of spray. The spray will penetrate the skin causing serious personal injury.* SM126A

Fuel from the spray orifices can enter clothing and skin, causing serious damage. The tip must always be put in a container to hold the spray.

## Checking Opening Pressure

Close the pressure release valve and the gauge protection valve, operate the pump rapidly to flush the injector. Open the gauge protection valve and raise the pressure slowly until the injector valve opens (the gauge reading will fall quickly at this point). Check the opening pressure against the specifications.

**NOTE:** *There must not be more than 150 PSI (1034 kPa) (10.34 bar) difference between any of the injectors that have been removed from the engine.*

If the injectors do not meet the given opening pressure:

1. New injectors can be adjusted to the given opening pressure. See Page 20.
2. Injectors in use must be disassembled and cleaned. See Pages 13 through 17.
3. Check for broken or weak opening pressure control springs.

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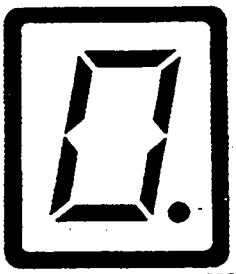
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# DIAGNOSTIC AND DISPLAY CODES

## Diagnostic Code Display

A seven segment LED display will show codes that relate to the performance of the Electronic Hitch Control System. When power is applied to the Electronic Hitch Control System, all display segments are displayed for 1 to 2 seconds for a display check.

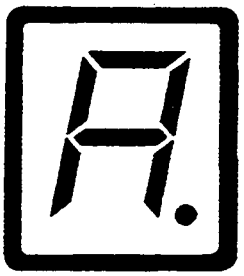
The display code for system normal is



225L90

## Performance Codes

If any of the following codes are displayed, there will be some hitch control. The amount of control is under each failure. The codes are listed from the highest priority to the lowest priority.



225L9A

**Loss of 8 Volt Supply.** An 8 volt ground in the right-hand or left-hand pin sensor circuits or position circuits. Battery voltage less than 9.8 volts disables these sensors and potentiometers.

If the hitch must be raised, move the Up/Down switch from DOWN to UP. This will allow a 3 second raise signal. The hitch will raise a small amount each time the switch is moved.



225L9E

**High Battery Supply Voltage.** If the battery voltage is more than 19 volts the hitch system will shut down.

If the hitch must be raised, move the Up/Down switch from DOWN to UP. This will allow a 3 second raise signal. The hitch will raise a small amount each time the switch is moved.



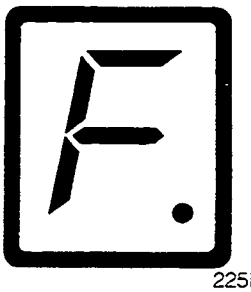
225L92

**Valve Lower Solenoid Circuit Failure.** If the lower solenoid circuit fails, the lower signals will not function. The raise signals will function.

To lower the hitch manually see Section 8011 in the Service Manual.

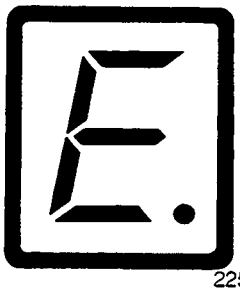


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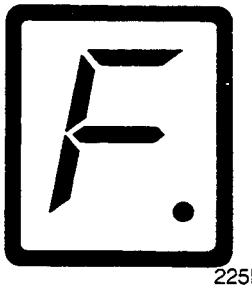

225L9F

Supply voltage is more than 19 volts and failure of the Up/Down Switch.



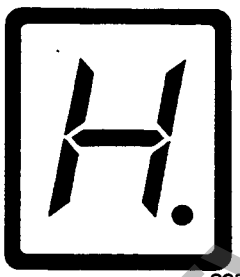

225L9E

If the hitch must be raised or lowered see Section 8011 in the service manual.




225L9F

Failure of Hitch Position Circuit and the Up/Down Switch Circuit.




225L9H

If the hitch must be raised or lowered see Section 8011 in the service manual.

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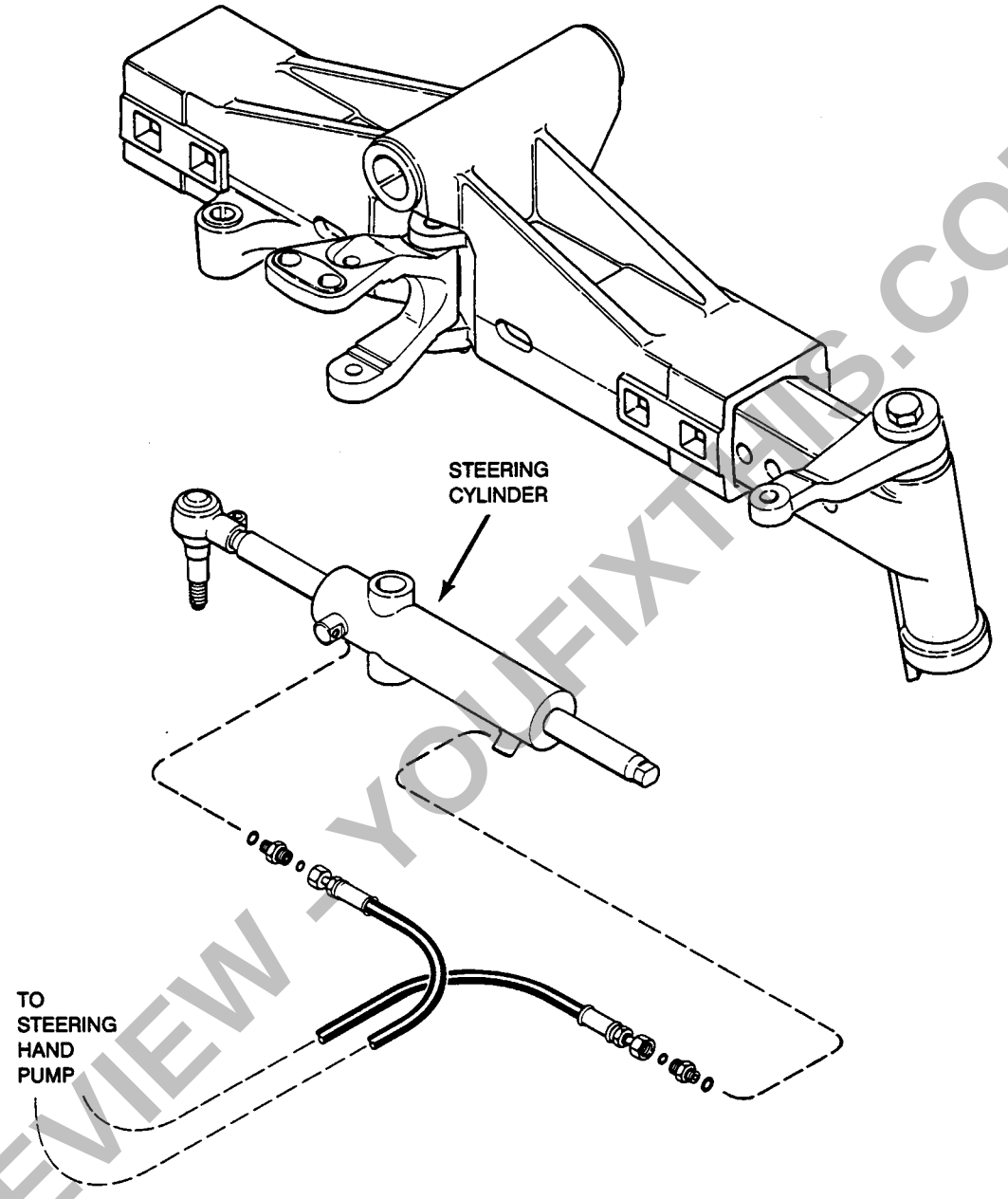
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**NOTE:** The J I Case Company reserves the right to make improvements in design or changes in specifications at any time without incurring any obligation to install them on units previously sold.

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# Axle Steering Lines




Position and secure these hoses to guard against chafing on the chassis and steering axle components.

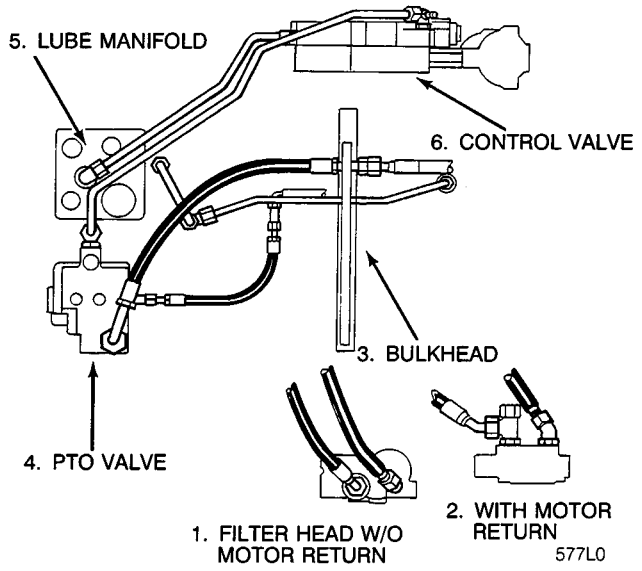
**NOTE:** The J I Case Company reserves the right to make improvements in design or changes in specifications at any time without incurring any obligation to install them on units previously sold.

117L7

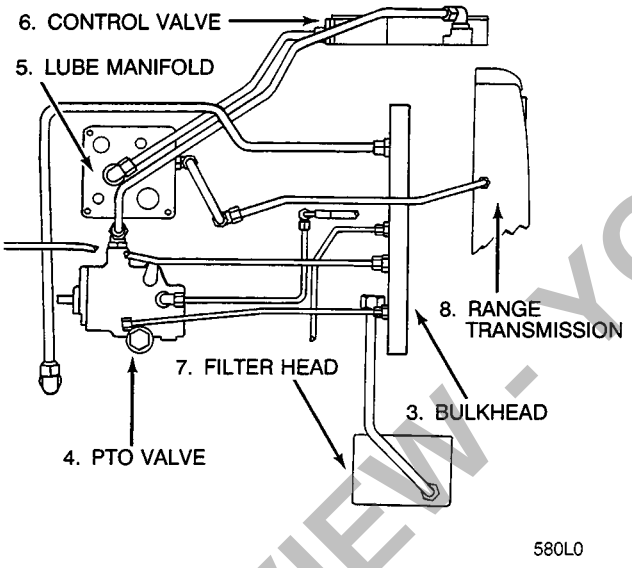


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## STEP 7 Increased Flow Hydraulics

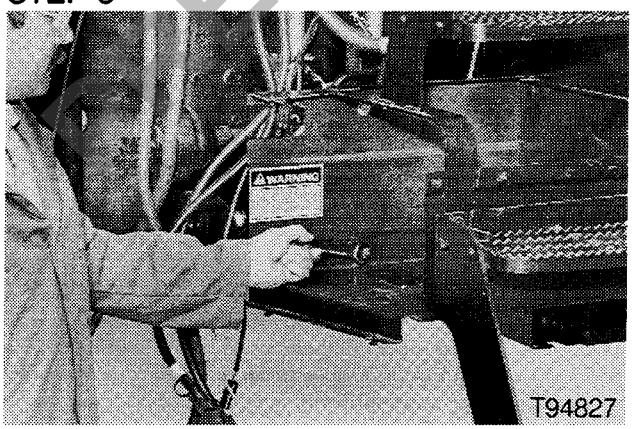



### Standard Flow Hydraulics



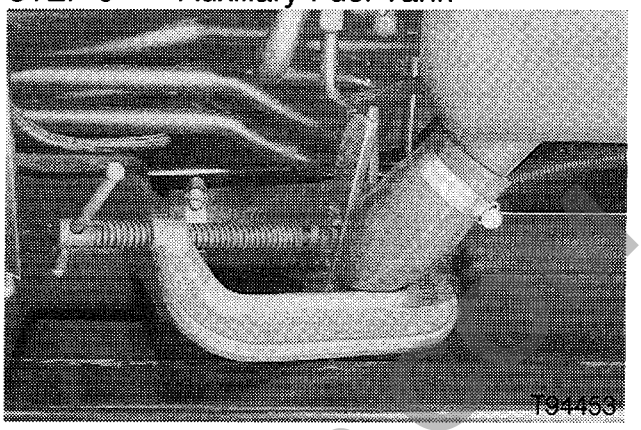

Remove lines shown here.

## STEP 8



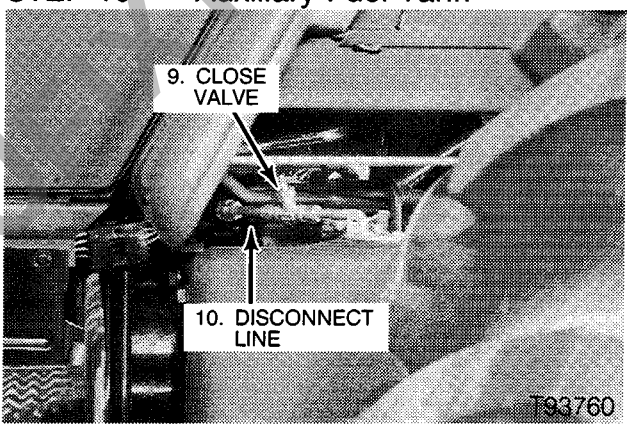

Remove the batteries from the tractor. Remove the battery box and cab steps as an assembly.

## STEP 9 Auxiliary Fuel Tank

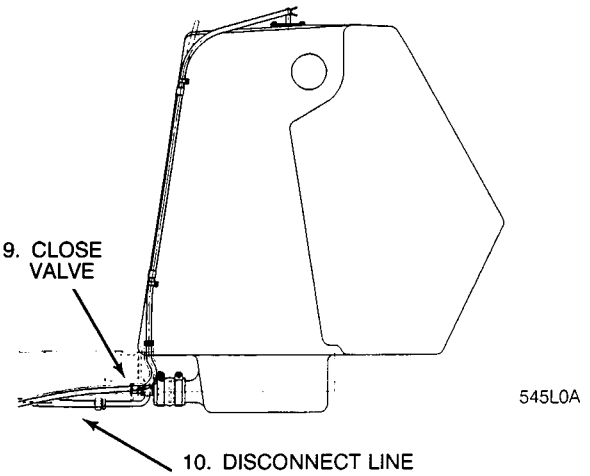



Use a locally made clamp, (see Special Tool To Be Made on page 4) to close the fuel hose between the main fuel tank and the auxiliary fuel tank. Loosen the fuel hose clamp on the auxiliary fuel tank.

## STEP 10 Auxiliary Fuel Tank




### Main Fuel Tank

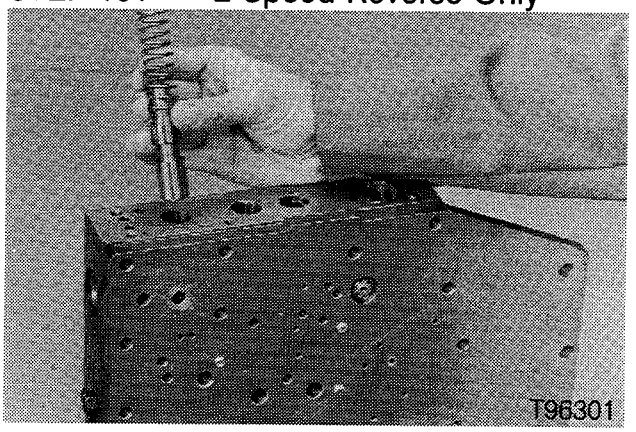



Drain all fuel from the auxiliary tank before removal. Close the fuel tank shutoff valve and disconnect the fuel supply and return lines. Disconnect the wiring harness from the auxiliary fuel tank.



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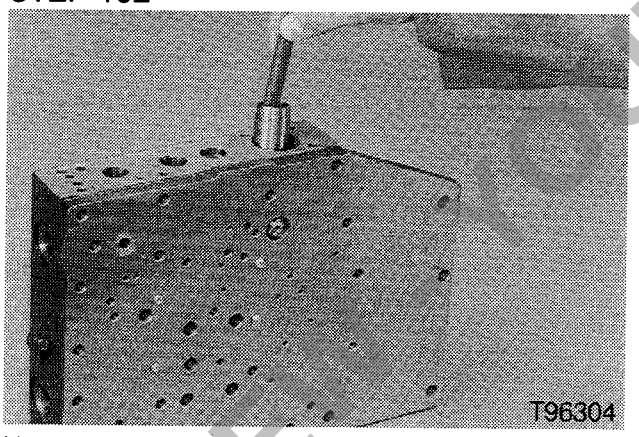
## STEP 101 2 Speed Reverse Only




Remove the piston dump spool and spring (if equipped).

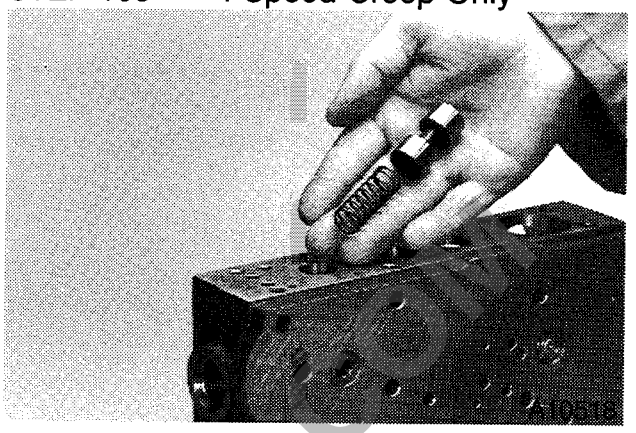
Check the spring condition. If not within specifications, replace.
LENGTH: 67.6 mm (2.66 inch)
COMPRESS TO: 25 mm (0.98 inch)
MUST BE: 115.6 N (25.98 lbf)

## STEP 102




Use a magnet and remove the master clutch control piston.

## STEP 103 4 Speed Creep Only



Remove blocker spool, guide and springs (if equipped).

Check the inner spring condition. If not within specifications, replace.
LENGTH: 41.21 mm (1.62 inch)
COMPRESS TO: 15.01 mm (0.59 inch)
MUST BE: 48.02 N (11.9 lbf)

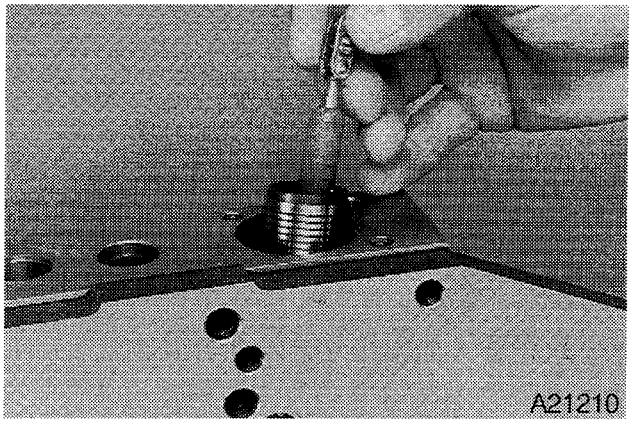
Check the spring condition. If not within specifications, replace.
LENGTH: 42.77 mm (1.6 inch)
COMPRESS TO: 15.01 mm (0.59 inch)
MUST BE: 66.72 N (14.99 lbf)

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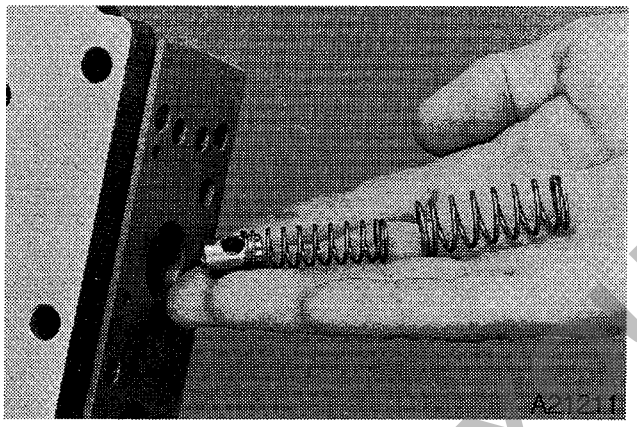
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STEP 171



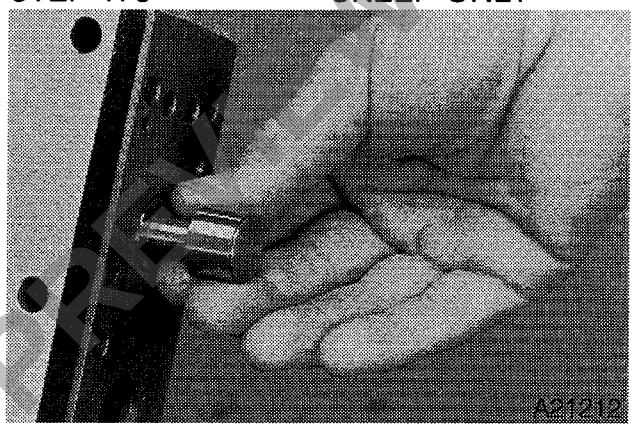

Install the master clutch control piston, open end up.

STEP 172 CREEP ONLY



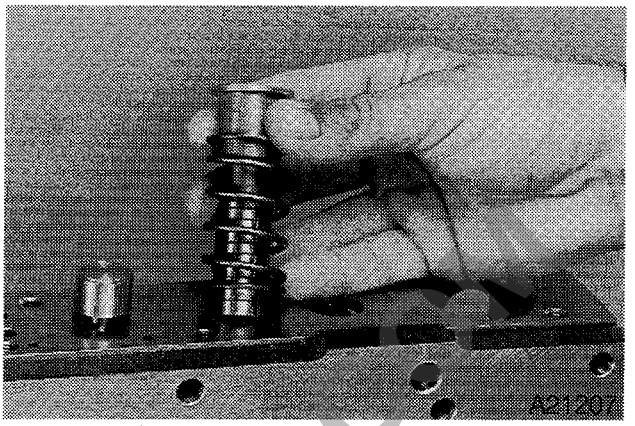

Tip the valve to install the guide, inner and outer springs into the blocker spool bore.

STEP 173 CREEP ONLY



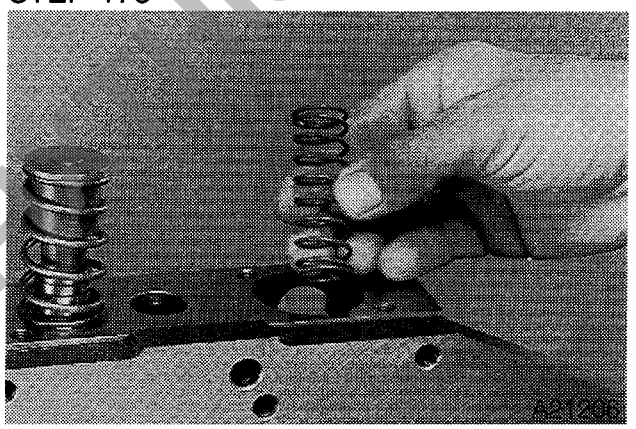

Install the blocker spool. The recessed spool and goes toward springs.

STEP 174



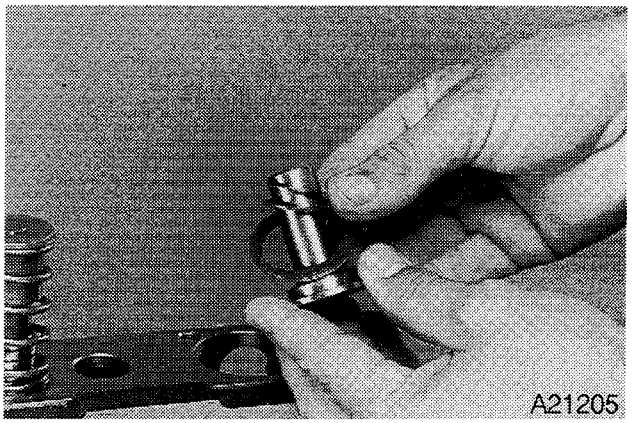

Install the flow sensor spool and spring.

STEP 175




Install the control piston spring (blue).

STEP 176

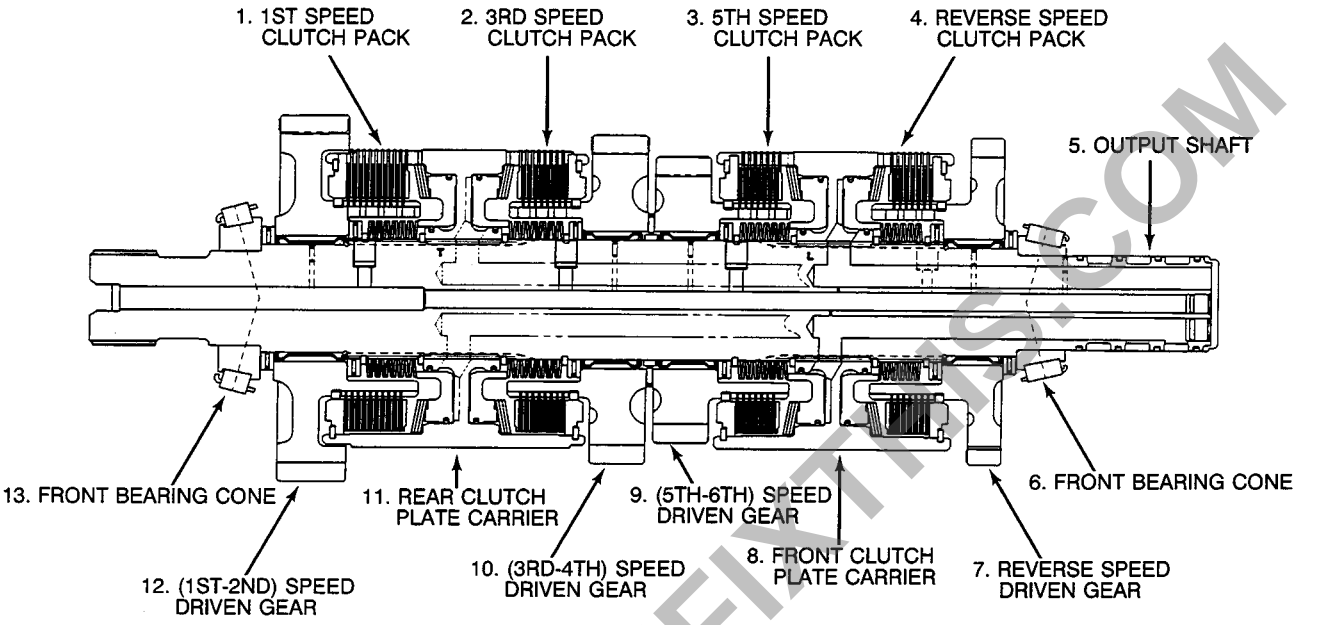



Install the spring guide with the same number of shims that were removed.

NOTE: *If the inner and outer modulating springs are being reused, install the same number of shims that were removed. If a new modulating spring or springs are being installed, start with two inner and two outer shims. See Master Clutch Pressure Adjustment in this section to adjust the shim packs.*



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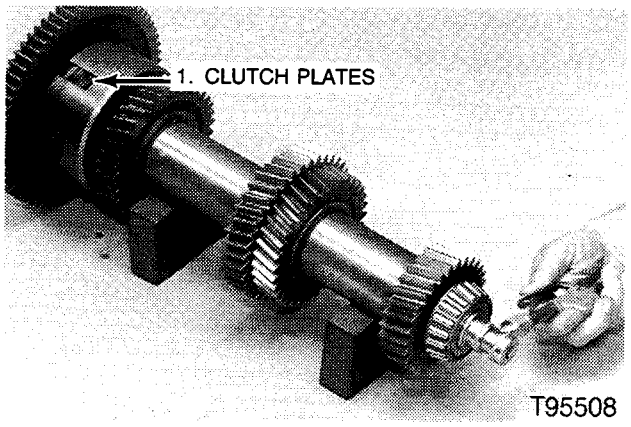

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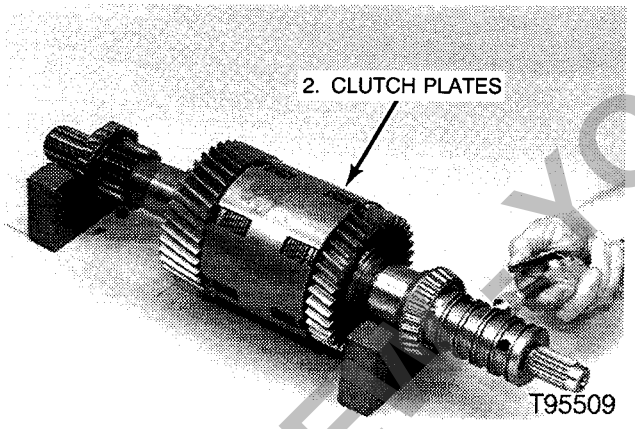
# Air Check for Clutch Piston Operation

## STEP 259



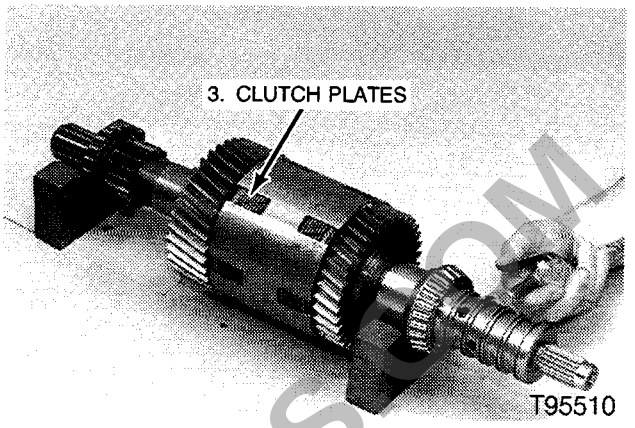

Use an air gun to check the movement of the creeper clutch piston if equipped. Install the tip of the air gun into the oil hole in the rear end of the countershaft. The air pressure will move the clutch plates on the creeper clutch. Replace the seal rings on the piston if the clutch plates do not move.

## STEP 260



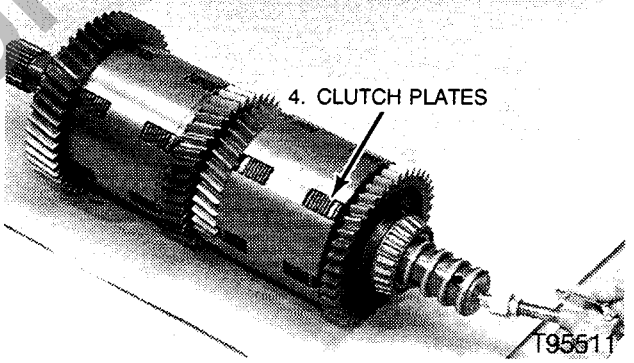

Install the tip of the air gun into one of the two oil holes in the third land of the input shaft. Install a rubber plug in the other oil hole. The air pressure will move the clutch plates in the odd clutch. Replace the seal rings on the clutch piston if the clutch plates do not move.

## STEP 261




Install the tip of the air gun into one of the two oil holes in the fourth land of the input shaft. Install a rubber plug is the other oil hole. The air pressure will move the clutch plates in the even clutch. Replace the seal rings on the clutch piston if the clutch plates do not move.

## STEP 262



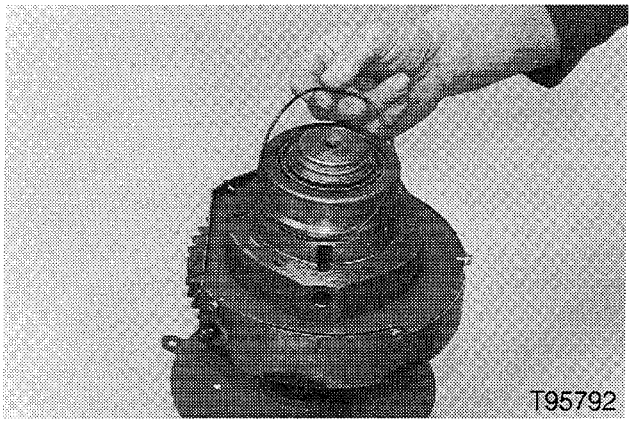

Install the tip of the air gun into the oil hole in the end of the output shaft. The air pressure will move the clutch plates in the reverse speed driven clutch. Replace the seal rings on the clutch piston if the clutch plates do not move.

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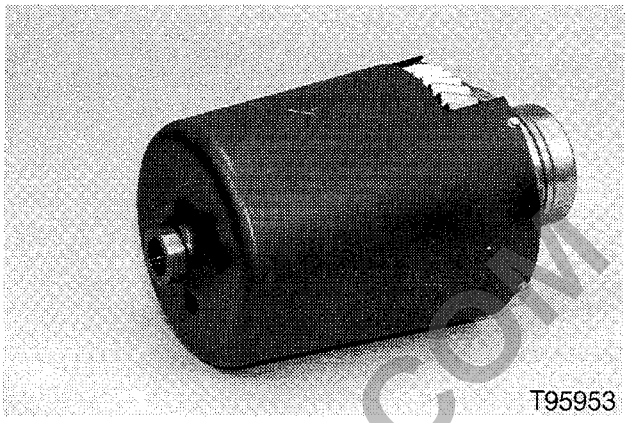
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## STEP 294




Install the nuts and bolts that secure the front gear shield, if equipped. Install a new o-ring on the bearing cage.

## STEP 295



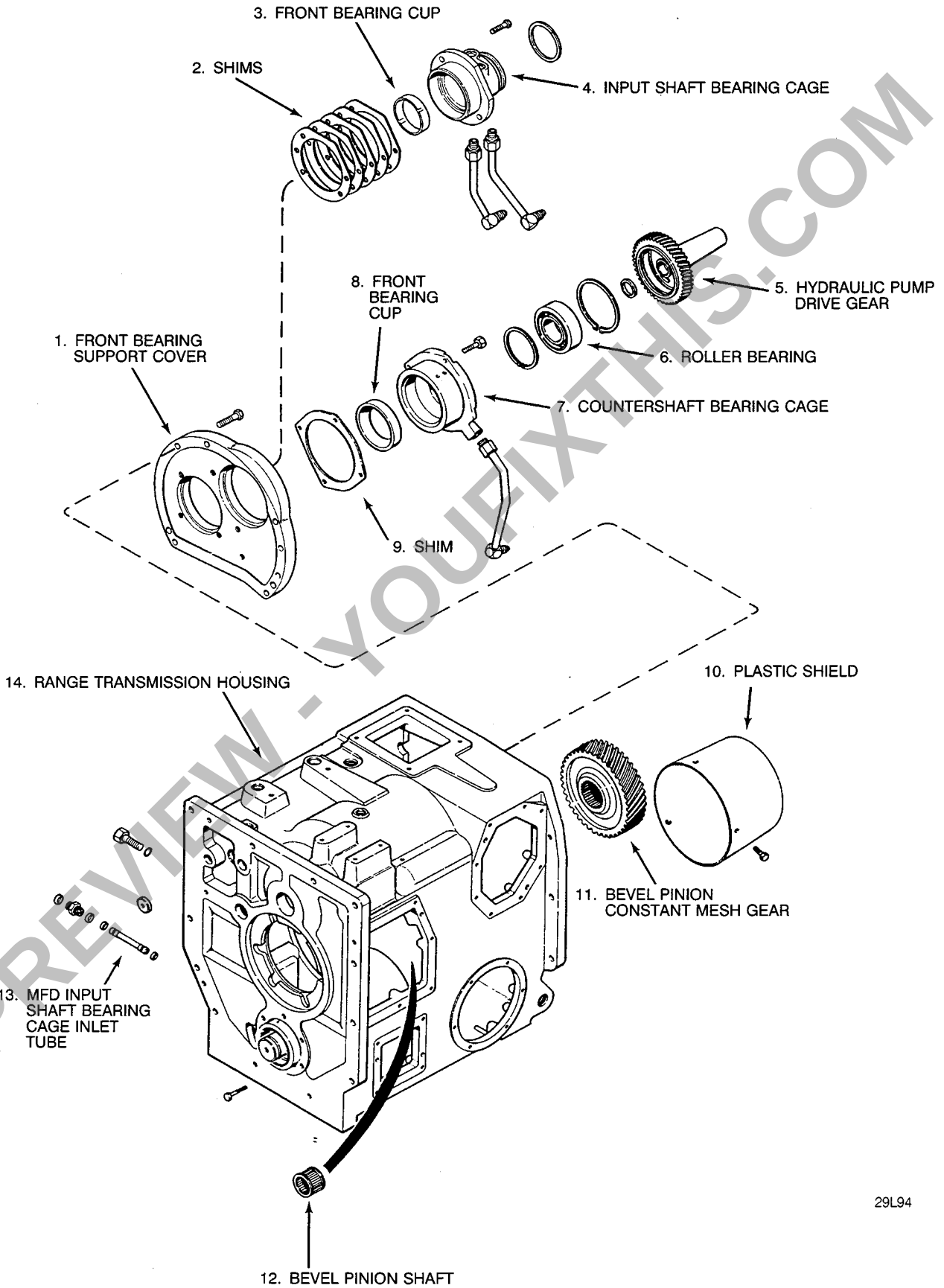

Install the plastic shield onto the MFD input shaft, if equipped.

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# Installing the Range Transmission Countershaft, Input Shaft and MFD Input Shaft into the Range Transmission Housing

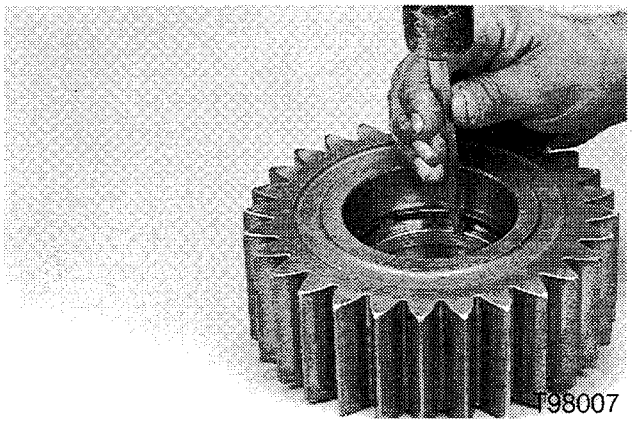



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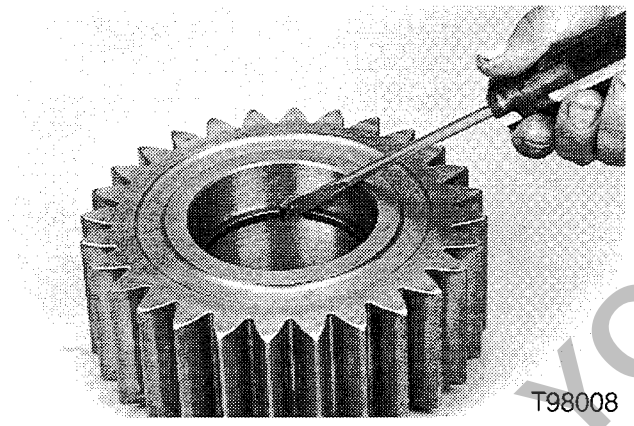
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STEP 38



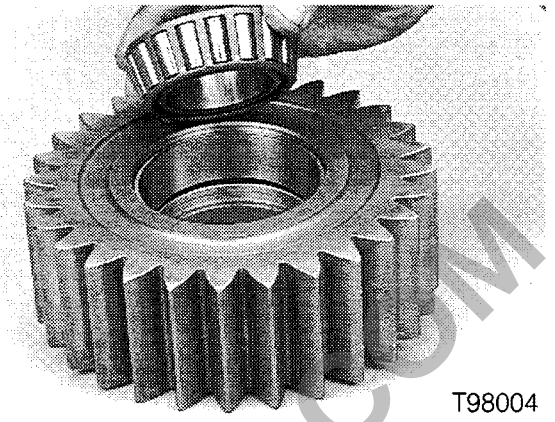

If equipped, remove the bearing spacer from the ID of the planet gear.

STEP 39




Remove the retaining ring from the groove in the ID of the planet gear.

STEP 40

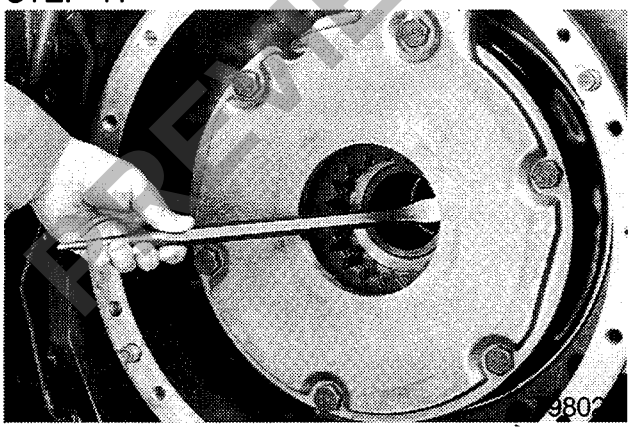



Repeat Steps 33 through 39 for the other planet gear assemblies.

NOTE: *For planetaries with roller bearings, remove the thrust washer from one side of the planet gear, then remove the 29 roller bearings. Turn the planet gear over and remove the other thrust washer and 29 roller bearings. Remove the thrust ring. Repeat for the other planet gear assemblies.*

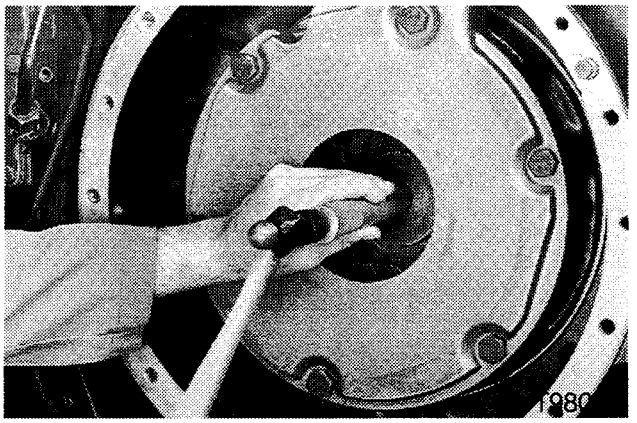
## DIFFERENTIAL CARRIER SEAL REPLACEMENT

STEP 41



Remove the seal from the differential carrier.

STEP 42



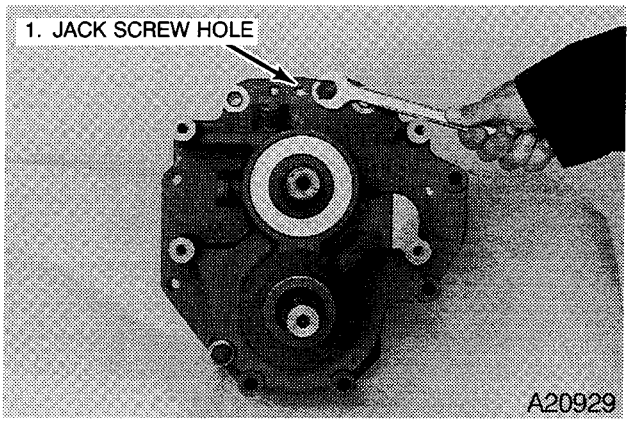
Use a driver to install a new seal until the seal is flush with the surface of the differential carrier.



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# Dual Shaft PTO Housing Disassembly

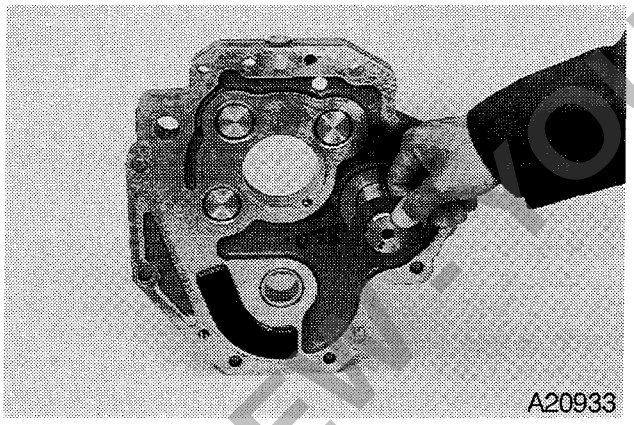
## STEP 38




Remove the two bolts that hold the PTO cover to the housing.

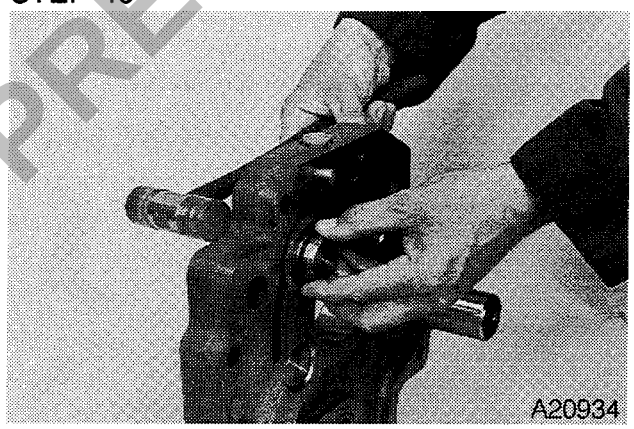
Use one of the bolts in the jack screw hole to separate the cover and housing. Remove the cover from the housing.

## STEP 39



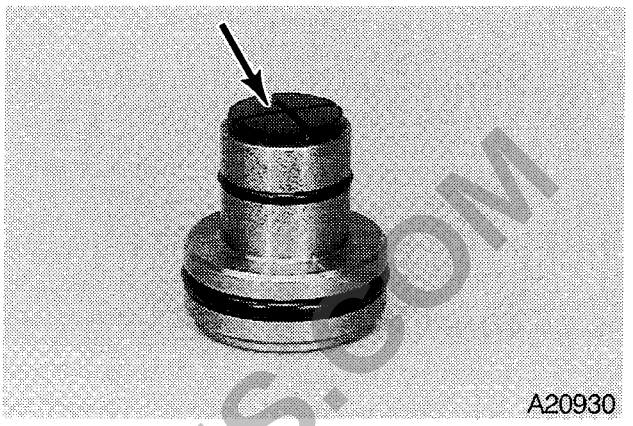

Remove the fiber thrust washer from the idler gear shaft.

## STEP 40




Use a soft hammer to tap out each of the three anti-creep brake pistons from the housing.

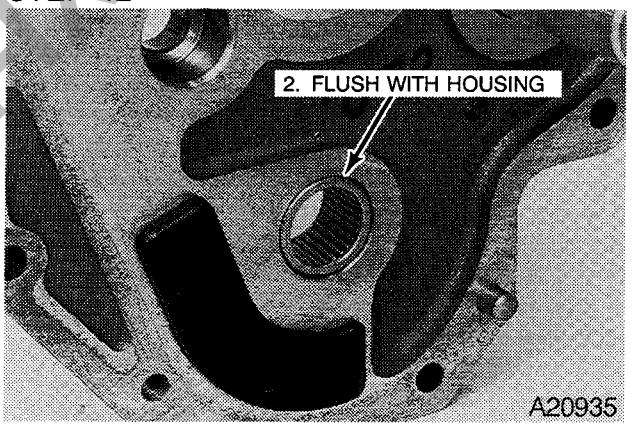
## STEP 41




Inspect the brake friction discs. Replace badly worn or damaged pistons.

Remove the o-ring seals and install new o-ring seals.

## STEP 42



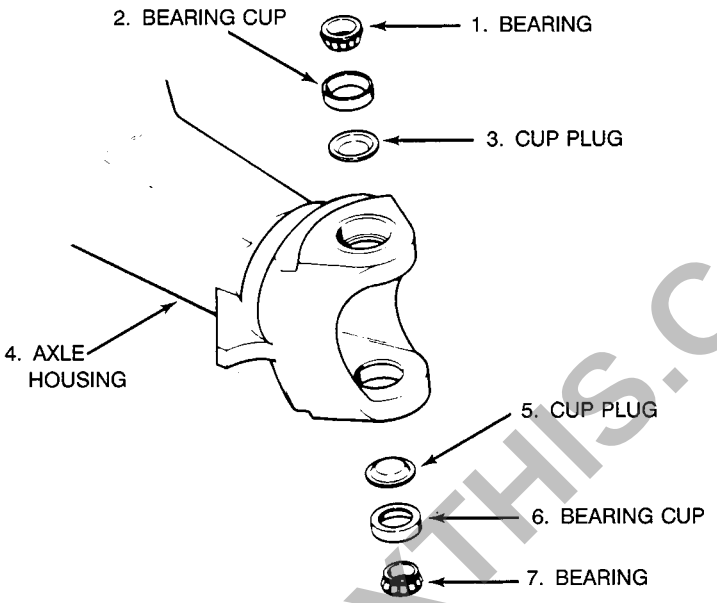

Inspect the 540 r/min shaft needle bearing. If the bearing must be replaced press the old bearing out of the housing. Press a new bearing into the housing. The bearing must be flush with the inside face of the housing.



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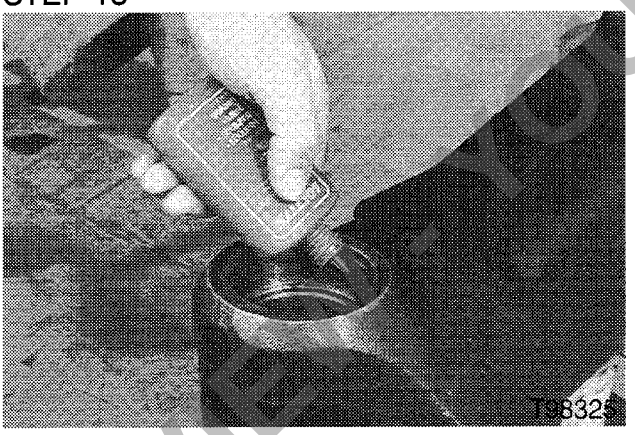
# RECONDITIONING AND ASSEMBLING THE FRONT AXLE AND PLANETARIES

## Servicing the Axle Housing



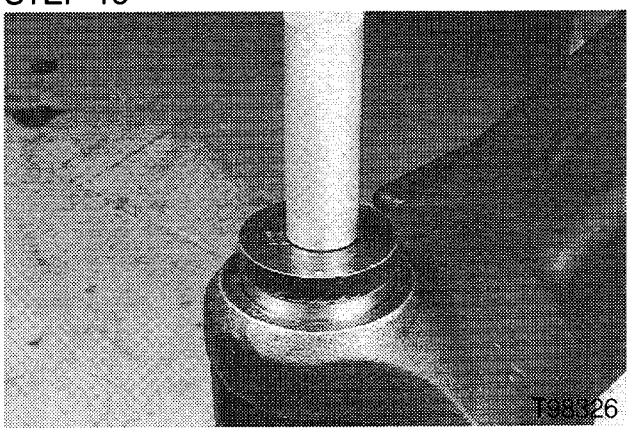

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### STEP 18




Put Loctite 515 on the upper and lower surface of the axle housing that makes contact with the cup plugs and install the upper and lower cup plugs.

### STEP 19




Use a press plate and handle to install the upper and lower bearing cups. Install the bearing cups, with the larger OD facing away from the axle housing, into the bores until the cups are seated.

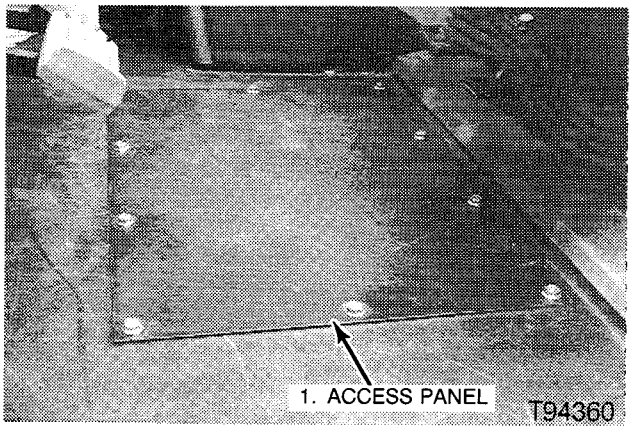
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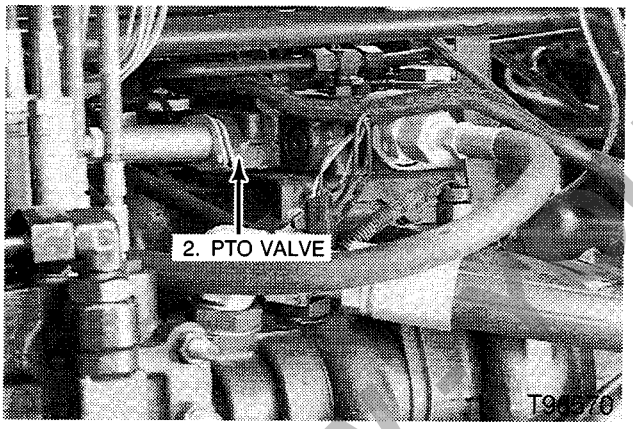
# PTO VALVE REMOVAL

## STEP 1




Remove the bolts that hold the access panel to the cab floor. Remove the access panel. The PTO valve is serviced through the access panel and from the right side of the tractor.

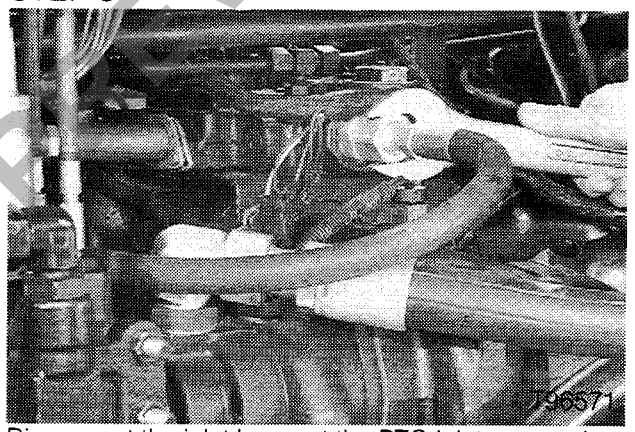
## STEP 2




Clean the external surface of the PTO valve and the lines before doing any service work.

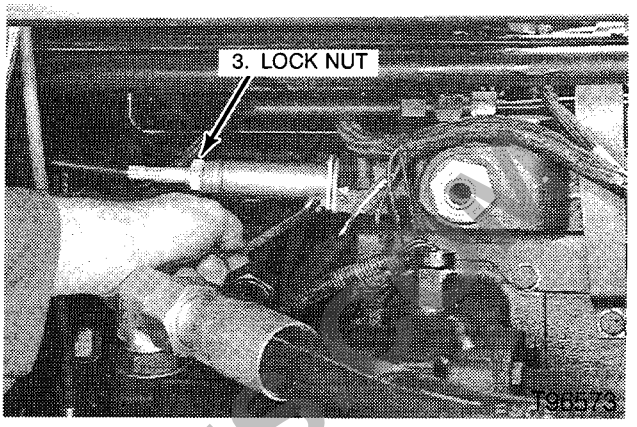
**NOTE:** *The PTO valve removal shown is valve design A. Tag all hose and tube connections to help with future installation.*

## STEP 3



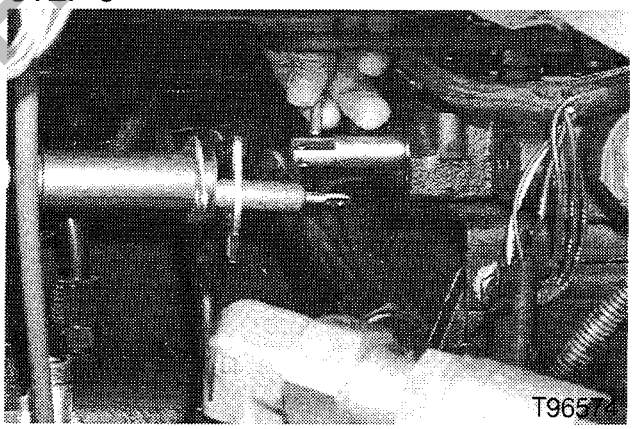

Disconnect the inlet hose, at the PTO inlet connection. This will be a tube assembly for PTO valve design D.

## STEP 4



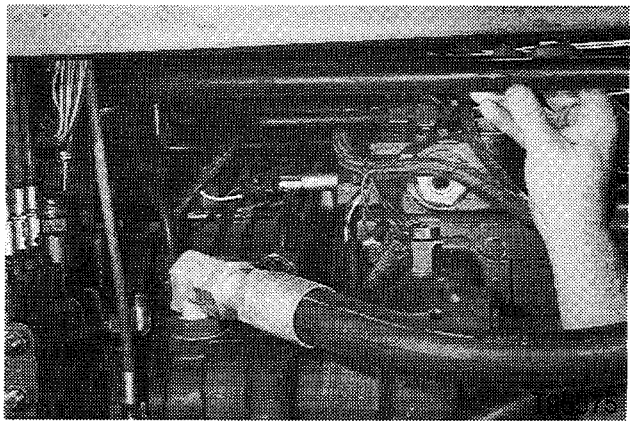

Remove the two bolts that hold the cable support housing to the PTO valve. Loosen the lock nut on the housing. Turn the lock nut and housing counterclockwise until free of the cable threads. Slide the lock nut, housing and flange up the cable to permit access to the valve spool end.

## STEP 5




Remove the clevis pin and cotter pin from the valve spool.

## STEP 6

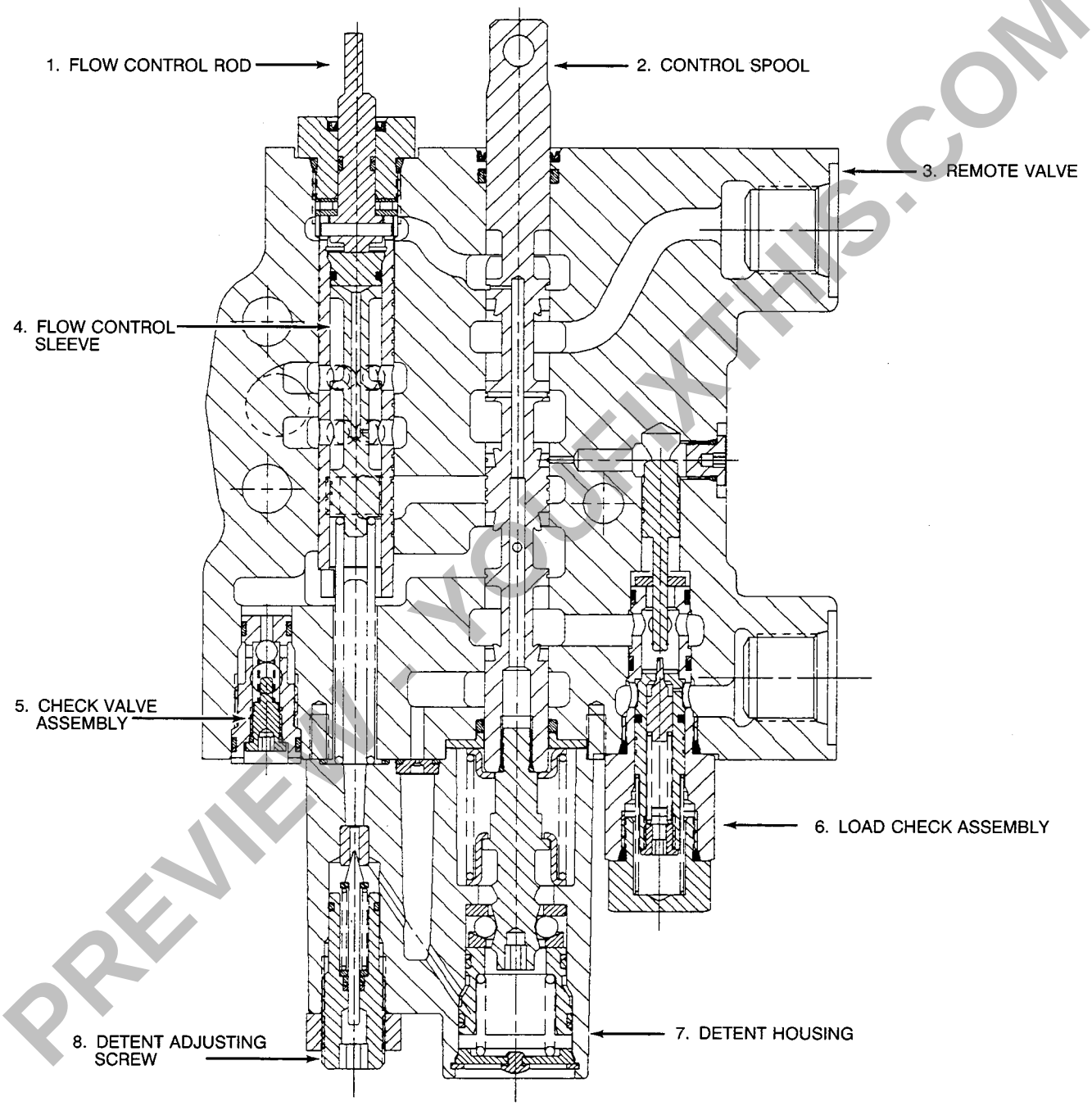


Remove the steering priority valve supply line that goes from the hydraulic pump to the priority valve. Remove and discard the o-rings in the connectors.



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# REMOTE VALVE
## Prior to Transmission S/N AJB0014383



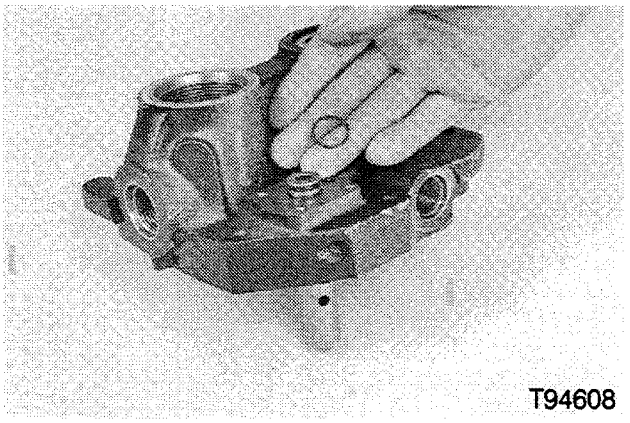

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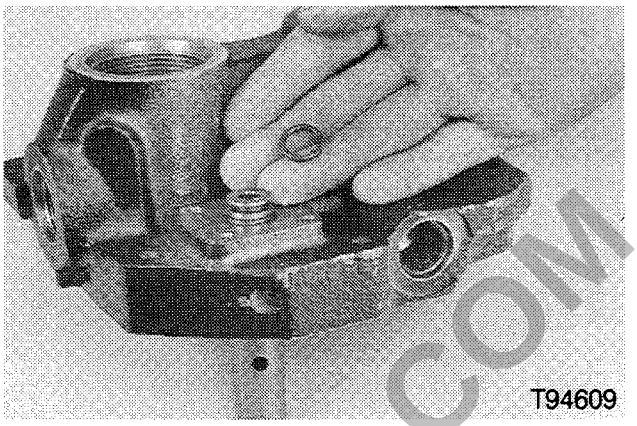
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## STEP 105




Install the spiral retaining ring in the inner groove of the piston rod.

## STEP 106



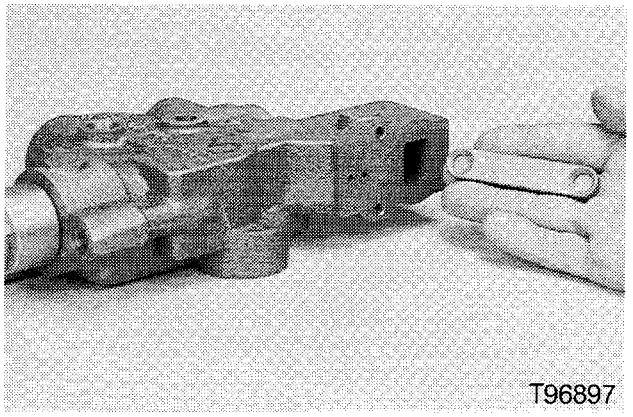

Lubricate the o-ring for the piston rod with petroleum jelly. Install the o-ring on the piston rod.

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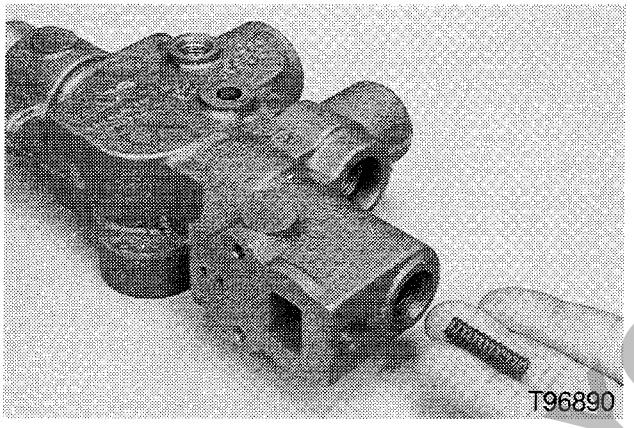
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## STEP 26



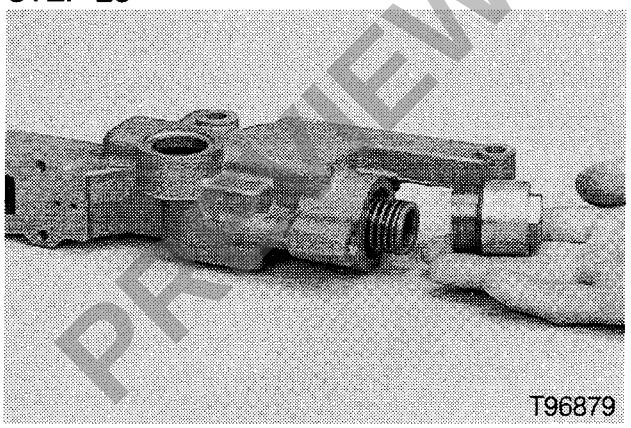

Remove the pivot lever from the valve housing.

## STEP 27



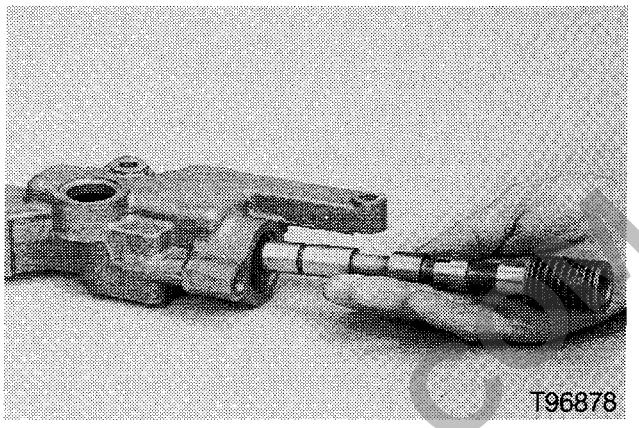

Remove the control spool pivot lever spring from the control spool bore.

## STEP 28



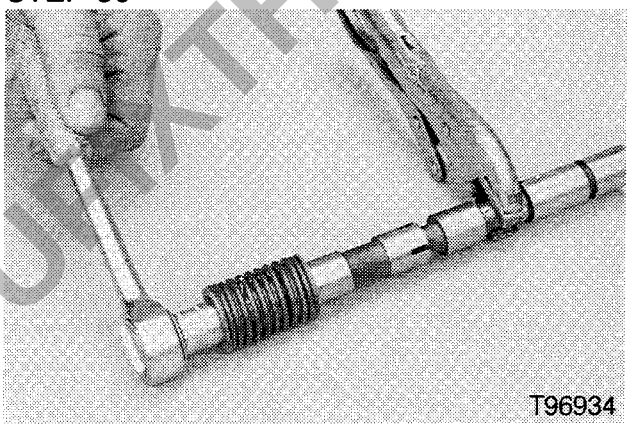

Remove the control spool cap with o-ring from the valve housing. Discard the o-ring.

## STEP 29



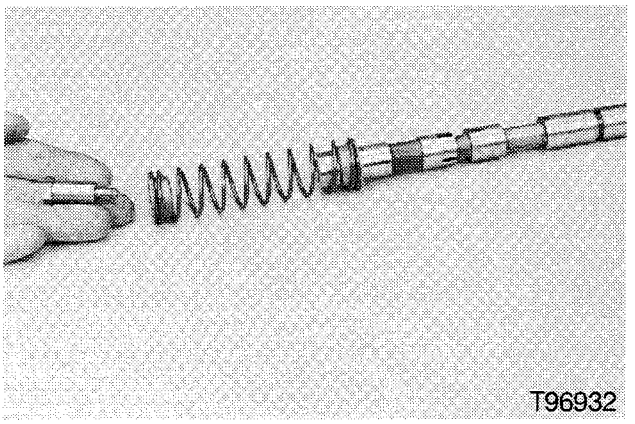

Remove the control spool assembly from the valve housing.

## STEP 30




Hold the control spool on the non machined surface and loosen the spring bolt.

## STEP 31




Remove the spring bolt from the control spool spring.

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(No Cooling Continued)

Expansion Valve Malfunctioning - Indications:

A. Discharge air from heater/evaporator warm.
B. Much condensation on suction hose.
C. Much condensation on evaporator outlet.

1. Check the expansion valve. Remove the top of the cab. Disconnect the low pressure cutout switch.
2. Test expansion valve:
   A. Remove insulation material from top of valve. With engine running and air conditioner on maximum cooling, cool the top of the valve with ice and check for low pressure gauge decrease. Cover the cab roof with airtight material or replace the roof. The flow of air from the blower motor must continue through the evaporator core.
3. Allow the top of the expansion valve to warm. The valve should open and the pressure should rise at the low pressure gauge. Repeat Step 2. If there is little or no decrease in low pressure gauge, go to Step 5.
4. Replace all the expansion valve insulation material.
5. If the expansion valve did not operate correctly, remove refrigerant from the system and remove the expansion valve. See Section 9003.
6. Install new expansion valve, remove air and moisture and charge the system. See Section 9003.
7. Connect the low pressure cutout switch.
8. Continue performance test for other possible problems.

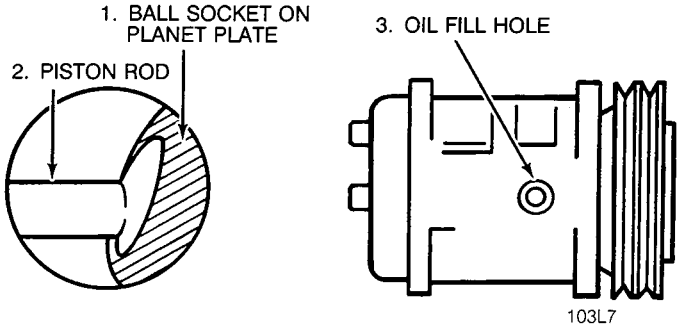
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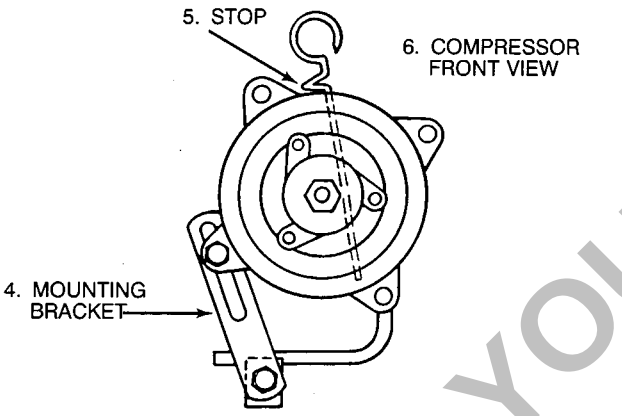
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## STEP 5




Remove the dust cover and use a wrench to rotate the clutch clockwise until the internal parts are in the position shown above. This will permit the dipstick to be inserted all the way.

## STEP 6




Put the dipstick in the oil filler hole to the stop position.

Make sure the dipstick is inserted all the way to the stop.

**NOTE:** *The illustration shows the front view of the compressor with the dust cover removed.*

## STEP 7

Remove the dipstick. Count the oil level marks on the dipstick. Use the following table to find the correct oil level for the mounting angle of the compressor.

COMPRESSOR OIL LEVELS

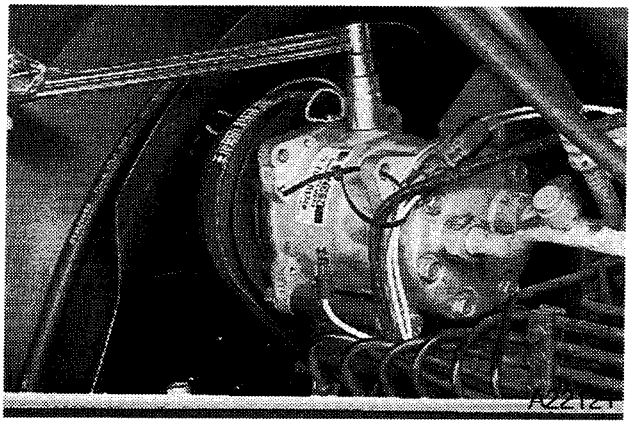
| MOUNTING ANGLE (DEGREES) | DIPSTICK READING |
|---|---|
| 0 | 4 to 6 |
| 10 | 6 to 8 |
| 20 | 7 to 9 |
| 30 | 8 to 10 |
| 40 | 9 to 11 |
| 50 | 9 to 11 |
| 60 | 9 to 12 |
| 90 | 9 to 12 |

## STEP 8

If the oil level is not correct, add or subtract oil to the correct level as shown in the above chart.

**IMPORTANT:** *Use only SP-20 PAG oil.*

## STEP 9



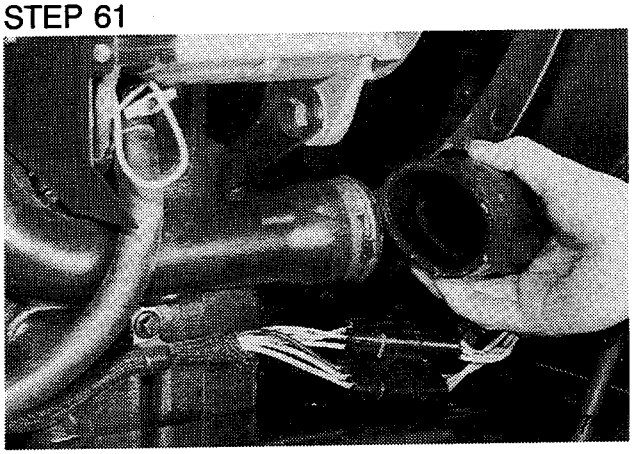
Install a new o-ring on the oil filler plug. Install the plug and tighten to a torque of 15 to 24 Nm (11 to 18 lb ft).

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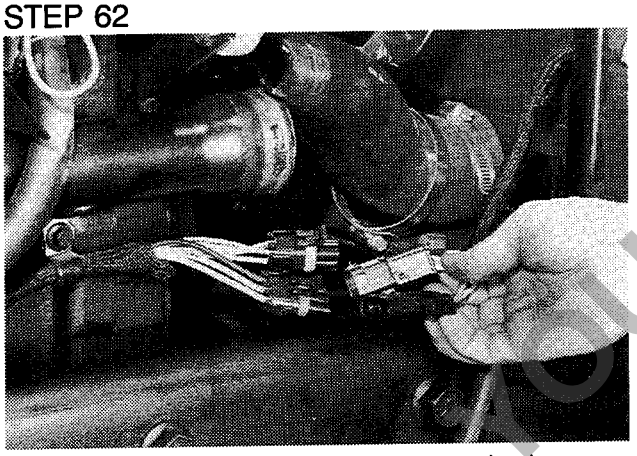
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STEP 61



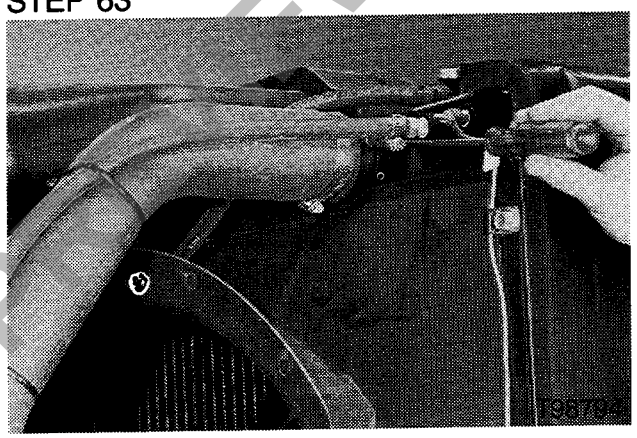
Disconnect the lower radiator hose.

STEP 62



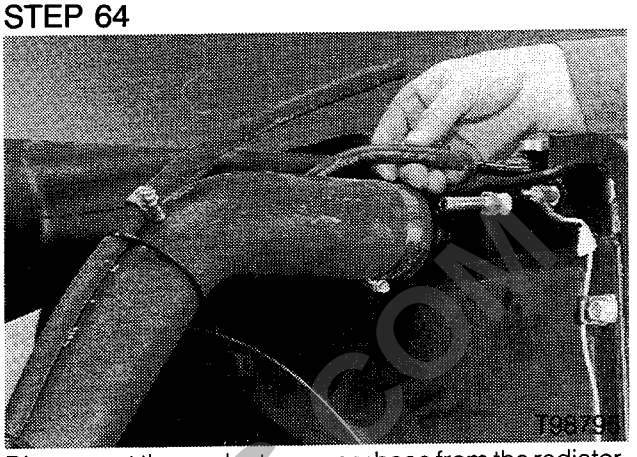
Disconnect the front harness from the engine harness, if equipped. The harness must be removed from the front of the tractor when there are no disconnects.

STEP 63



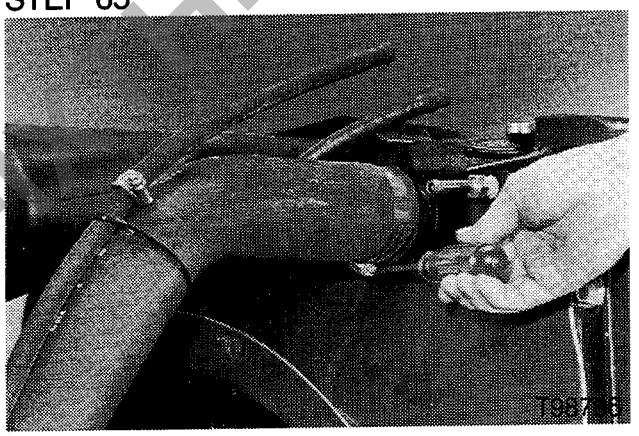
Disconnect the clamp on the hose from the radiator to the coolant filter. Remove the hose from the radiator.

STEP 64



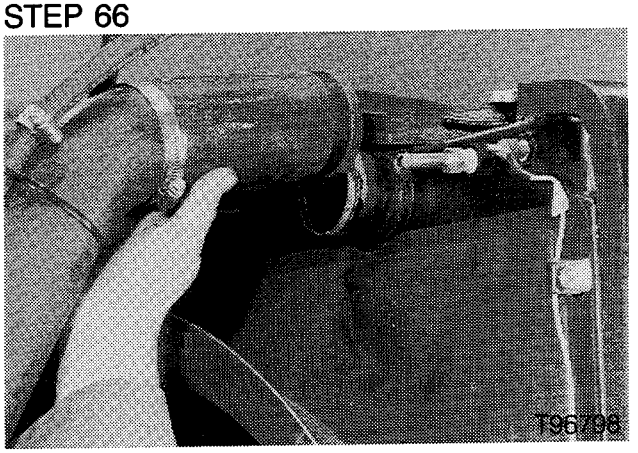
Disconnect the coolant recovery hose from the radiator.

STEP 65



Disconnect the clamp on the upper radiator hose.

STEP 66



Disconnect the upper radiator hose.

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# SWIVEL, LATERAL ISOLATOR AND SLIDE RAIL DISASSEMBLY AND ASSEMBLY
## Deluxe Seat

Refer to figure on Page 8.

### Disassembly

1. Remove the swivel plate assembly. If necessary, remove the cotter pin, detent spring and control rod from the swivel plate.
2. Remove the lateral isolator assembly from the slide rails.
3. Drive the inner roll pin from the control rod. Remove the angle brackets and control rod from the plate.
4. Remove the springs and shock absorber.
5. If replacement is necessary, remove the shock adjusting cable, isolator lock cable and the clamping adjustment knob and fore/aft isolator knob.
6. Remove the slide control lever and fore/aft slide control knob from the slide rails.
7. If replacement is necessary, remove the slide rails.

### Assembly

1. Install the slide rails on the suspension assembly upper housing.
2. Install the fore/aft slide control knob and slide control lever on the slide rails.
3. Install the shock adjusting cable and the isolator lock cable with the control knobs. Secure with the pivot control pin and retaining rings.
4. Install the springs and shock absorber.
5. Install the angle brackets and control rod on the lateral isolator plate. Install the roll pin in the control rod.
6. Install the lateral isolator assembly on the slide rails.
7. Install the swivel plate assembly.

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