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4890 TRACTORS

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Rac 8-22051

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Section

1210

GENERAL SPECIFICATIONS

4890 Tractors

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Section

2201

ENGINE TROUBLESHOOTING

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Section

3210

FUEL SYSTEM AND FILTERS

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Section

4201

ELECTRICAL SYSTEM TROUBLESHOOTING

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Before making any of the tests in this section, make sure that both tractor batteries are fully charged. Inspect the battery cable connections at the battery posts. If there is too much corrosion or the connections are dirty, clean the battery posts and cable connections with a wire brush. Make sure that the connections are tight when the cables are installed again. See Section 4235 to test and service the batteries, if necessary.

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Section

5201

TROUBLESHOOTING THE CASE SOLID STATE SELECTIVE STEERING SYSTEM

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Section

6201

TROUBLESHOOTING
RPS-34 POWER SHIFT TRANSMISSION

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7210

BRAKE PEDAL, MASTER CYLINDER, SERVICE AND PARKING BRAKE

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Section
8202

TROUBLESHOOTING HITCH SYSTEM

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Section

9205

AIR CONDITIONER TROUBLESHOOTING
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15201

TRACTOR STEERING SYSTEM OIL FLOWS

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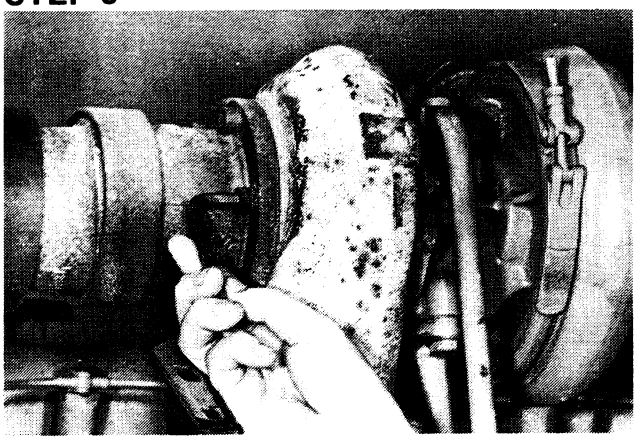
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Hydraulic Triple Pump:		See Section 8225
Charge Pump	P1	
Piston Pump	P2	
Front Steering Gear Pump	P3	
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PTO System Control Valve	CV3	
270 PSI (1 862 kPa)(18.6 bar) Relief Valve	RV2	
200 PSI (1 379 kPa)(13.79 bar) Pressure Regulator	PR1	
Rear Steering Priority Flow Divider:	FD1	See Section 5265
Maximum Rear Steering Pressure Control	CV15	
Front Steering Priority Flow Divider:	FD2	See Section 5250
Front Steering System Relief Valve	RV4	
RPS System Control Valve:	CV9	See Section 6235
65 PSI (448 kPa)(4.48 bar) Pressure Regulator	PR2	
RPS Lubrication System Relief Valve	RV3	
Rear Steering System Control Valve	CV13	See Section 5240
Front Steering System Control Valve	CV8	See Section 5210
Hitch System Control Valve	CV4	See Section 8280
Remote System Control Valve:	CV5	See Section 8250
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Remote Detent Release Control Valve	CV7	
Rear Steering Cylinder Check Valve Assembly	CV14	See Section 5265

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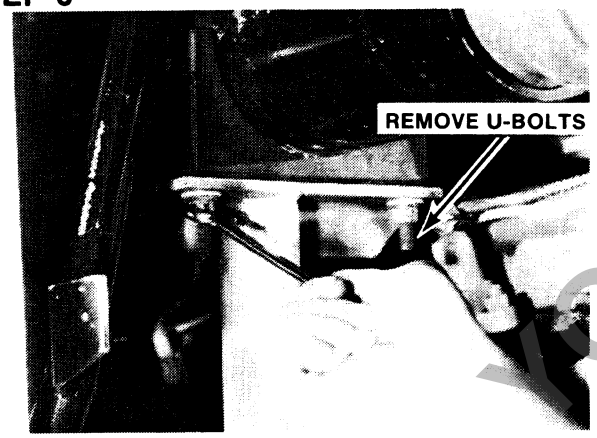
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STEP 5



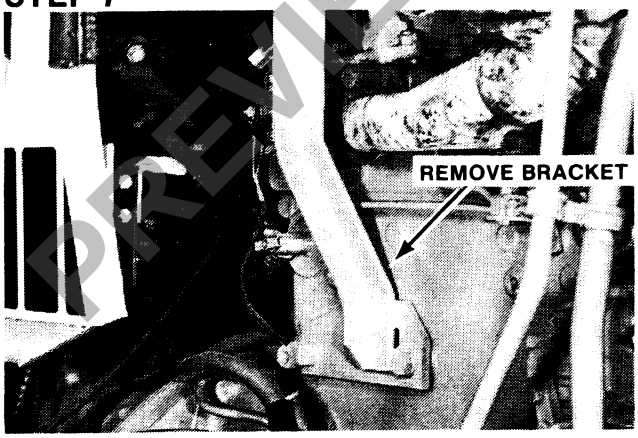
Remove the turbocharger exhaust coupling bolts.

STEP 6



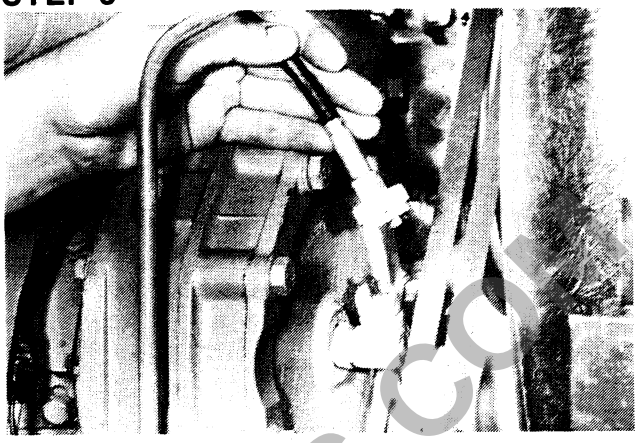
Remove the u-bolts from the exhaust tube and support bracket.

STEP 7



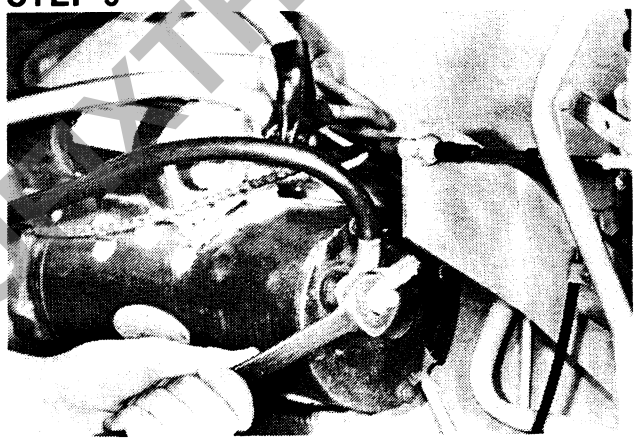
Remove the support bracket from the engine block.

STEP 8



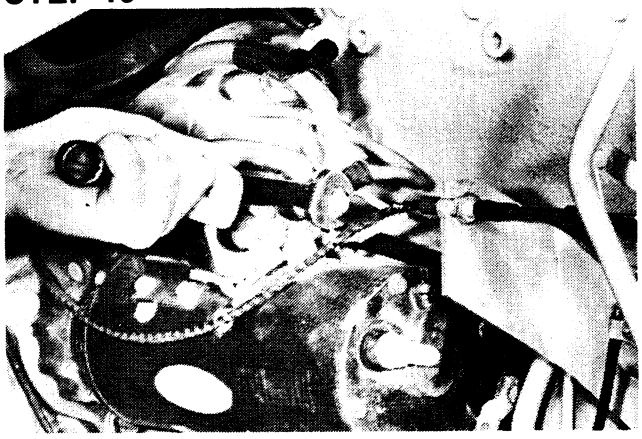
Disconnect the tachometer cable from the engine.

STEP 9



Remove the battery ground cables (negative-black) from the starting motor.

STEP 10



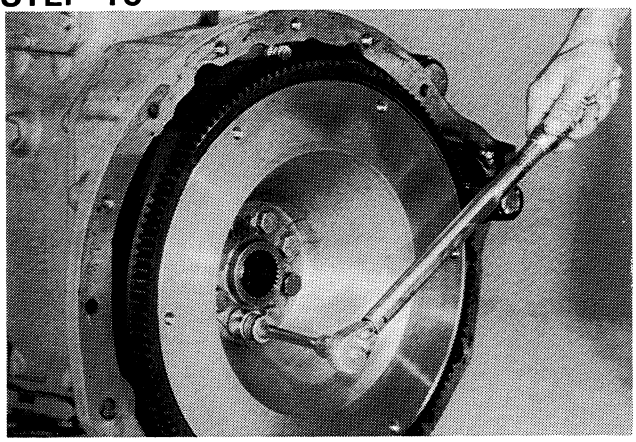
Remove the battery positive (red) cables from the solenoid switch of the starting motor.

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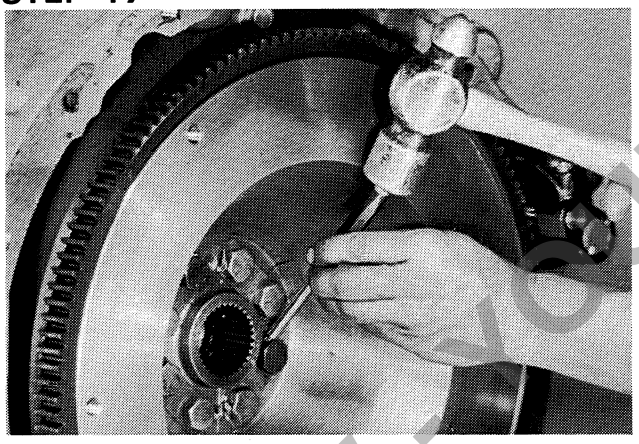
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STEP 16



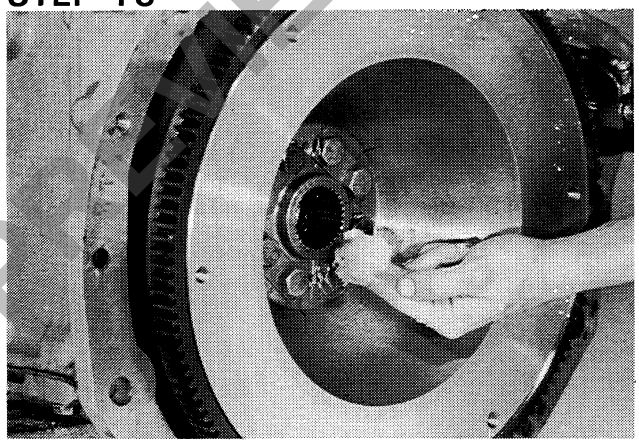
Install the flywheel retaining bolts and the lock straps Tighten the retaining bolts to a torque of 186 Nm (18 6 kgm)

STEP 17



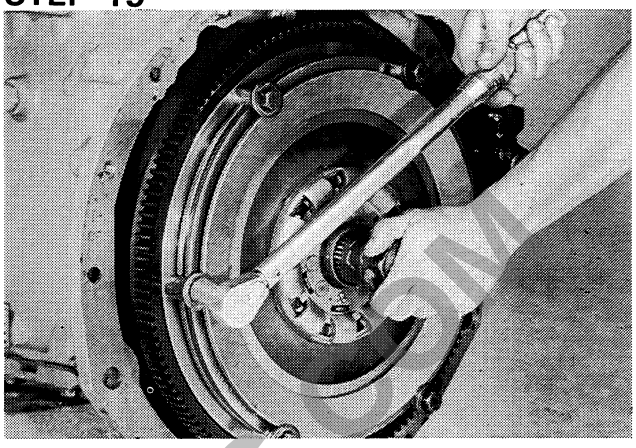
Bend the corners of the lock straps against the bolts to hold the bolts in position

STEP 18



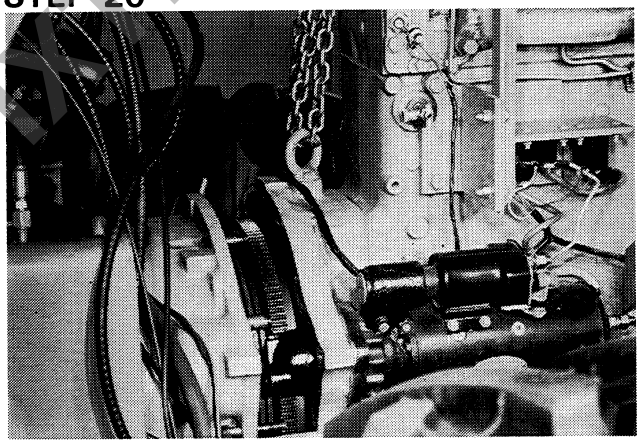
Fill the flywheel cavity two thirds full with Number 2 Molylube

STEP 19



Install the torque limiter clutch on the flywheel See Section 6220 for installing the torque limiter clutch

STEP 20

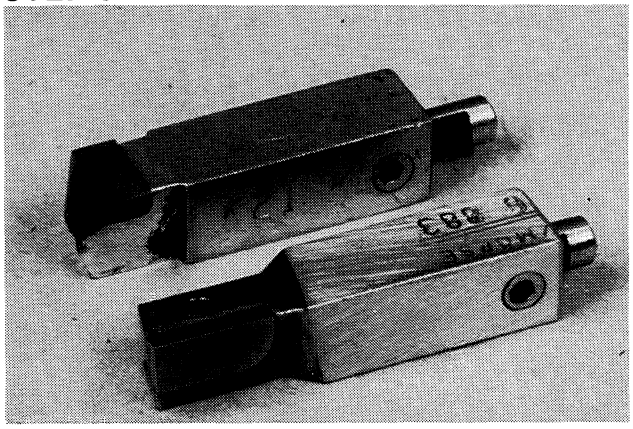


Install the engine to the tractor See Section 2210 for installing the engine

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Troubleshooting The Lower Bore Power Tool

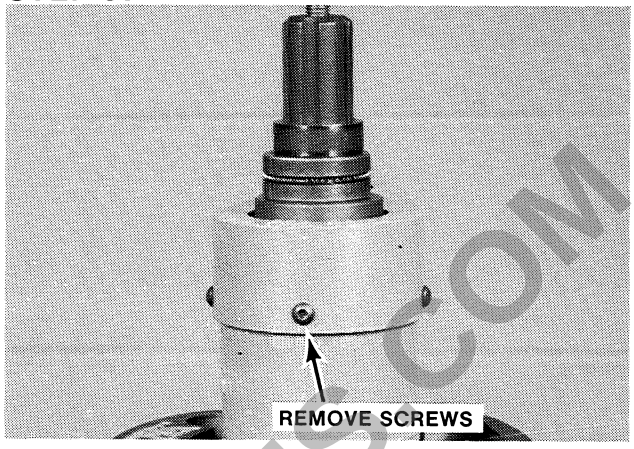
STEP 94



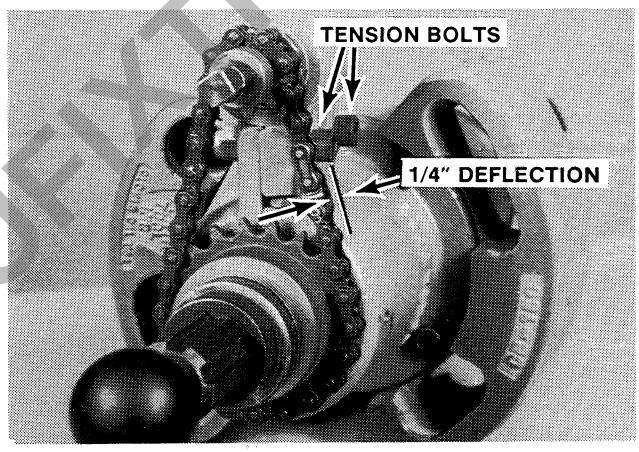
The cutter must be sharp. A cutter that is not sharp will cause vibrations in the tool. Do not grind the cutters yourself. A cutter without chips and bad damage can be returned for sharpening to:

PORTA-TOOL INC.
P.O. BOX 647
812 BARSTOW AVE.
CLOVIS, CALIFORNIA, 93612

STEP 95

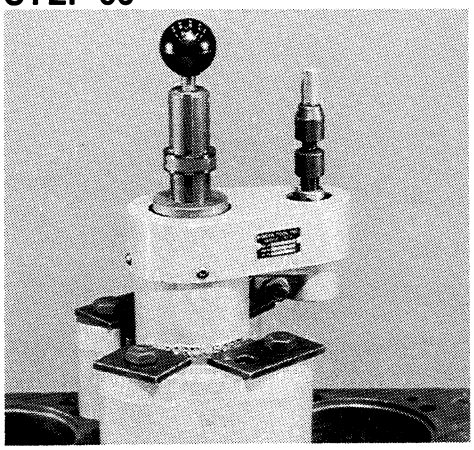


A loose drive chain will cause vibrations in the tool. Remove the screws from the chain guard.



Remove the chain guard to adjust the drive chain. Adjust the chain tension with the tension bolts. There must be 1/4" (6.35 mm) deflection at the center of the chain.

STEP 96

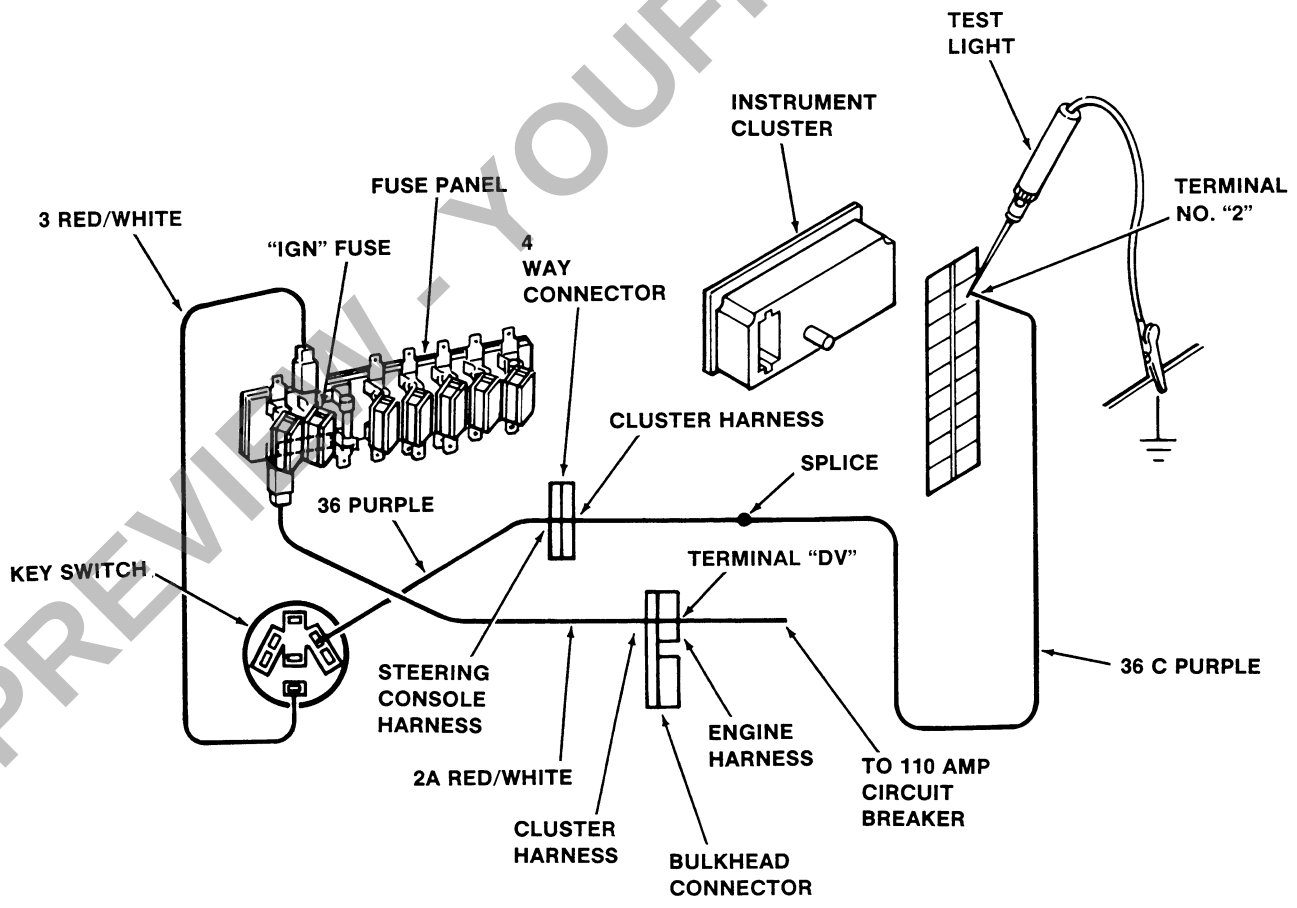


Low oil level in the tool will cause vibrations in the tool. See the instructions that come with the tool on how to check the oil.

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STEP	PROCEDURE	RESULT
1B	Checking power to the instrument cluster: a. Remove the 18 pin connector from the back of the instrument cluster. b. Connect one wire of a 12 volt test light to a good tractor ground. c. Connect the other test light wire to the No. "2" terminal (purple wire) in the 18 pin cluster connector. d. Check for test light illumination.	a. Test light does not illuminate: Check the circuit shown below for bad fuses, bad wiring or bad connections. Repair as necessary and Repeat this Step b. Test light illuminates: Continue to Step 1C

WIRING BEFORE P.I.N. 8841100

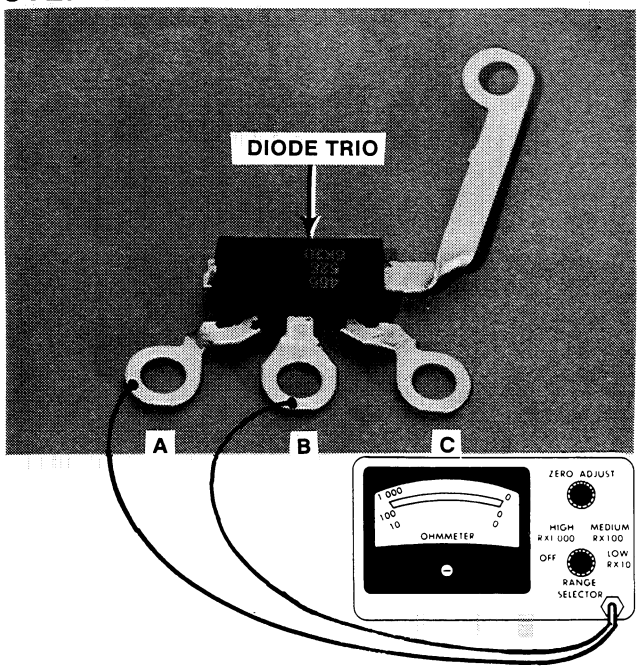


NOTE: *For wiring after P.I.N. 8841100, see next page.*

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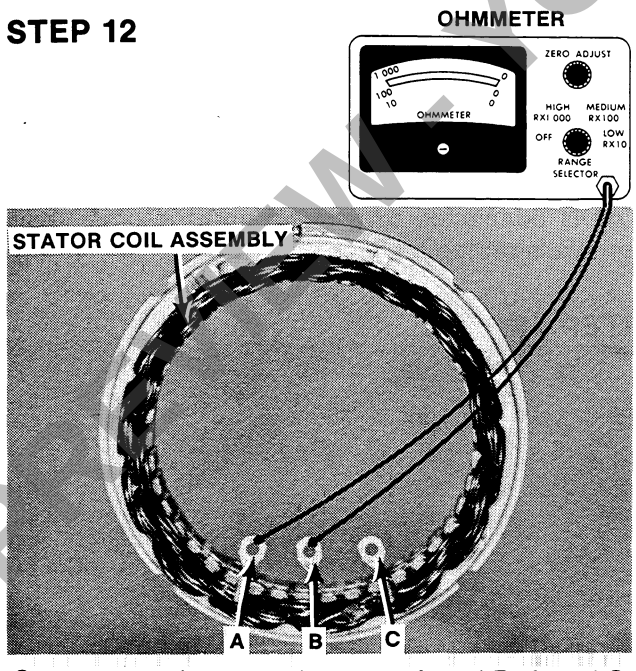
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STEP 11



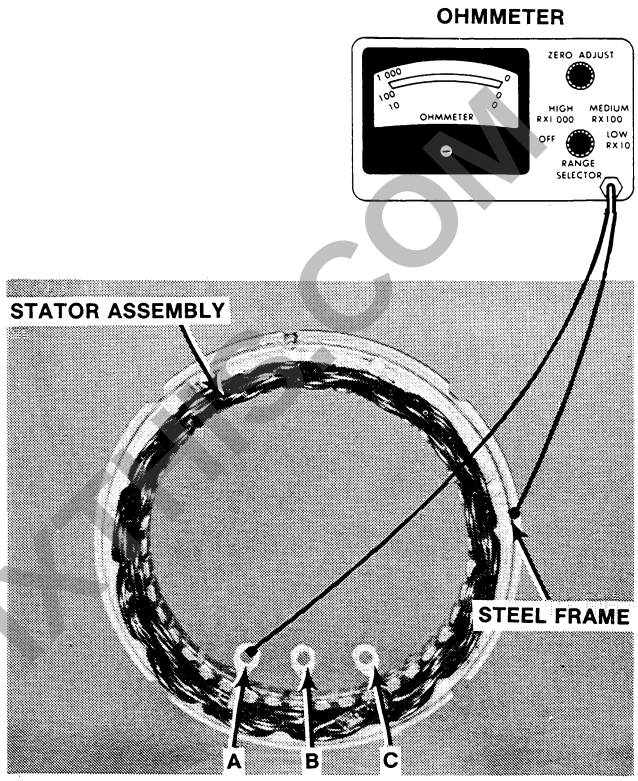
Connect the ohmmeter between A and B, A and C, and then to B and C. There must not be any electrical connection between any of these terminals. The needle must not move to zero ohms. If the needle moves to zero ohms in any of the above connections, replace the diode trio.

STEP 12



Connect an ohmmeter between A and B, A and C, and then to B and C terminals on the stator coil assembly. The reading on the ohmmeter must be very close to zero ohms. If the reading is high in any of the above checks, there is a break in one of the stator coils and the stator assembly must be replaced.

STEP 13

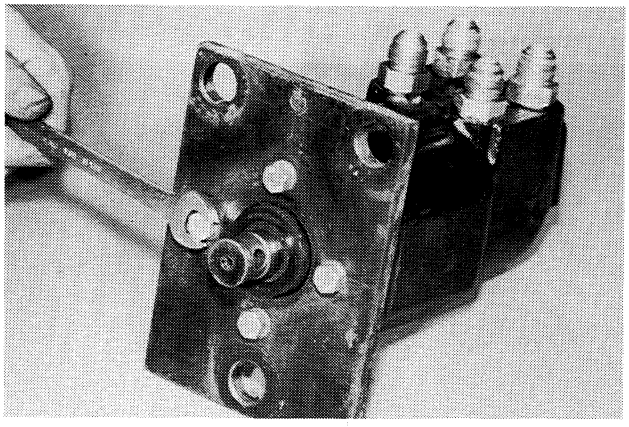


There must not be any electrical connection between any of the three stator leads to the steel stator frame (ground). Connect one wire from the ohmmeter to the stator frame. Connect the other wire from the ohmmeter to A, B, and then to C. The ohmmeter needle must not move to zero ohms in any of the above checks. If the needle moves to zero ohms, there is a direct electrical connection between the stator coils and the stator frame. Replace the stator coil assembly.

NOTE: *Continue to Steps 14 through 40 to check the other alternator components. If all other components are good but alternator does not charge enough, see Step 41 to check the stator coils for low resistance that can not be easily be found in Step 12.*

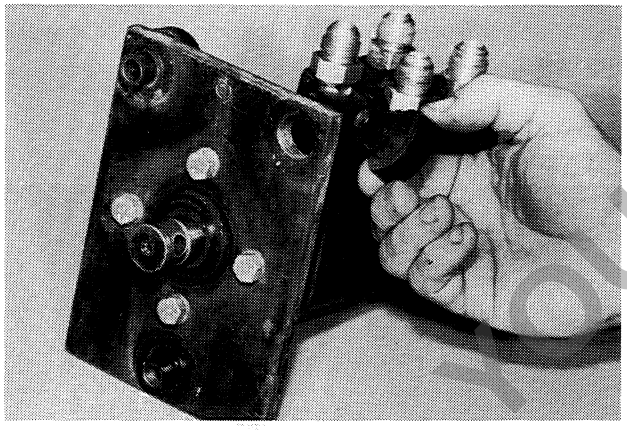
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STEP 94



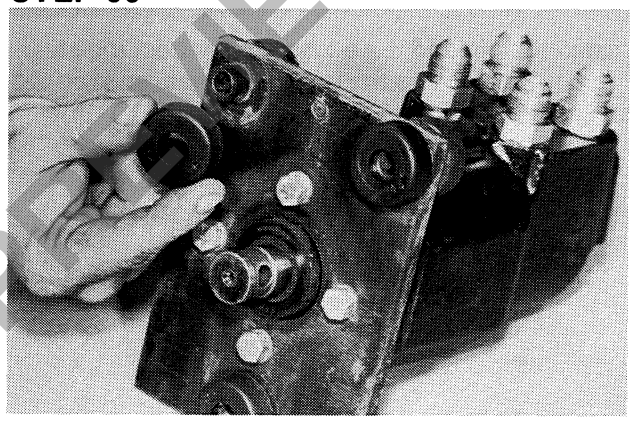
Install the bolts and washers into the mounting plate and tighten bolts.

STEP 95



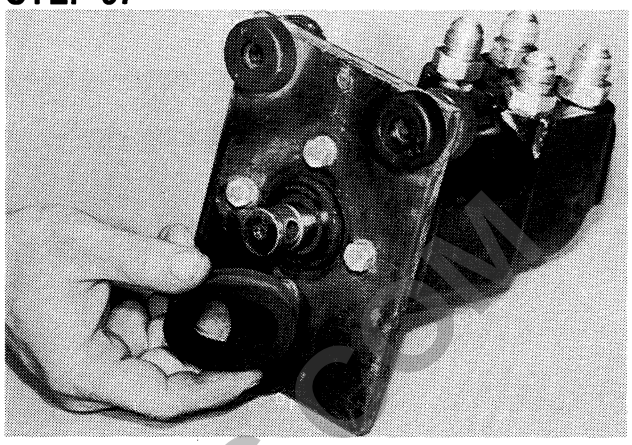
Install the longer rubber grommets through the valve side of the mounting plate.

STEP 96



Install the shorter rubber grommets on the input shaft side of the mounting plate.

STEP 97



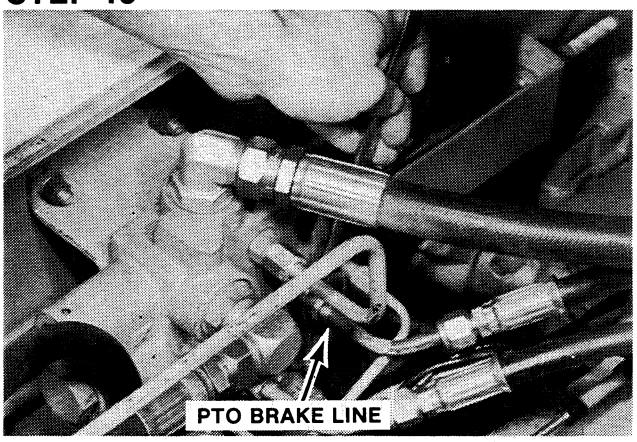
Install the dirt seal on the mounting plate.

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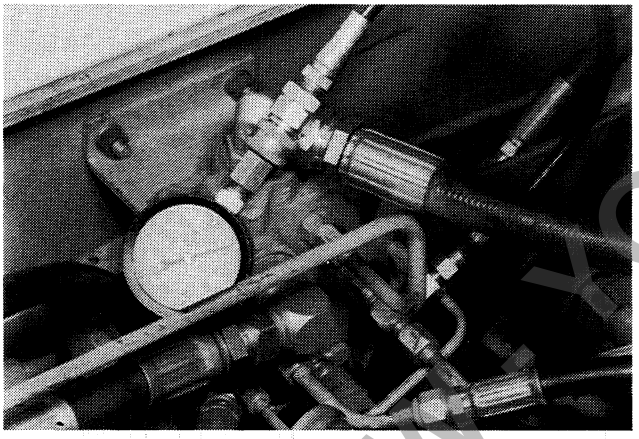
CONNECTIONS NECESSARY TO TEST PTO CLUTCH AND BRAKE

STEP 13



Disconnect the PTO brake line from the CV2 control valve.

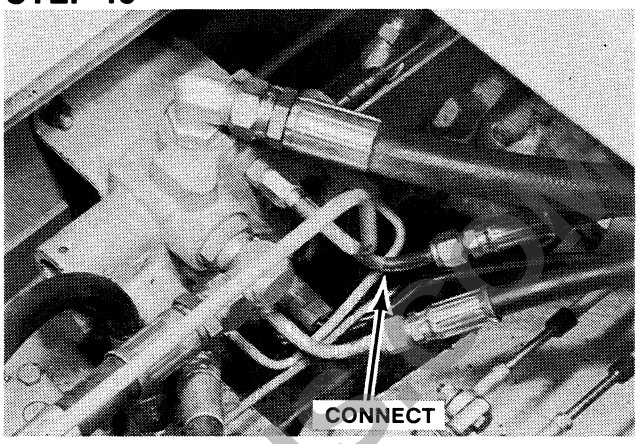
STEP 14



Connect a tee, with a hose and a 300 PSI (2 069 kPa)(20.7 bar) pressure gauge, between the PTO brake line and the port on the CV2 control valve. Do Test 5, parts A and B, on the clutch circuit test sheet.

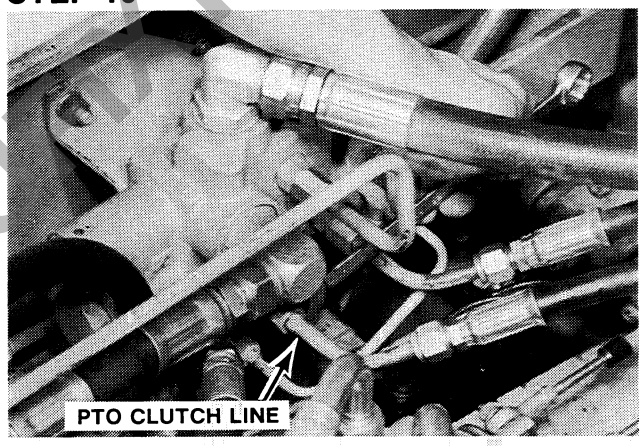
NOTE: *One of the gauges fastened to the gauge bar can be used for this test.*

STEP 15



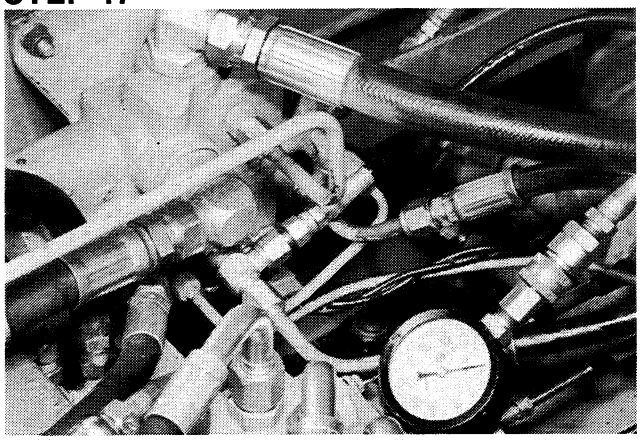
Remove the tee and the gauge and connect the PTO brake line to the port on the CV2 control valve.

STEP 16



Disconnect the PTO clutch line from the CV2 control valve.

STEP 17



Connect the tee and pressure gauge between the PTO brake line and the port on the CV2 control valve. Do Test 5, parts A and B, on the clutch circuit test sheet.

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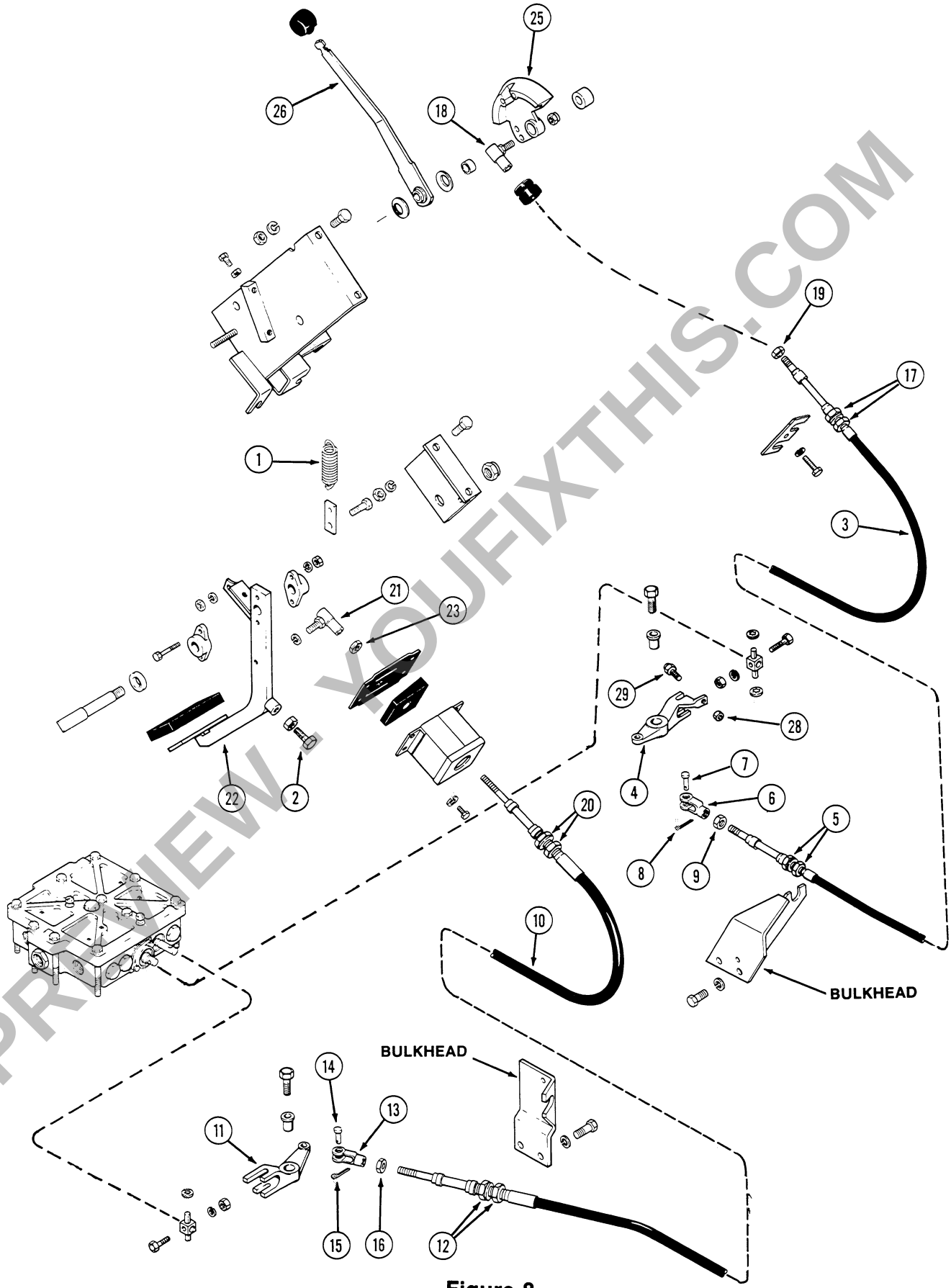
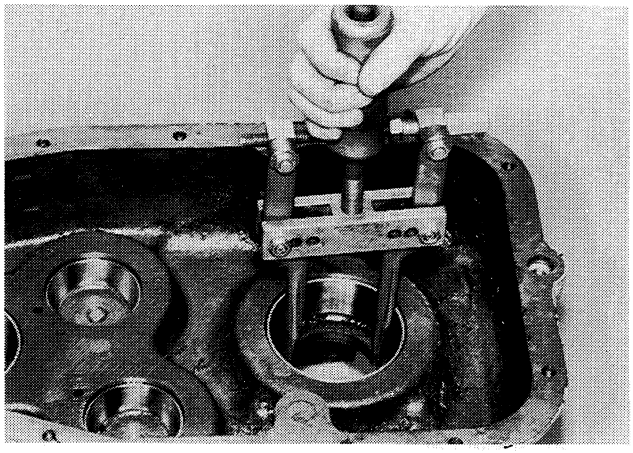


Figure 8

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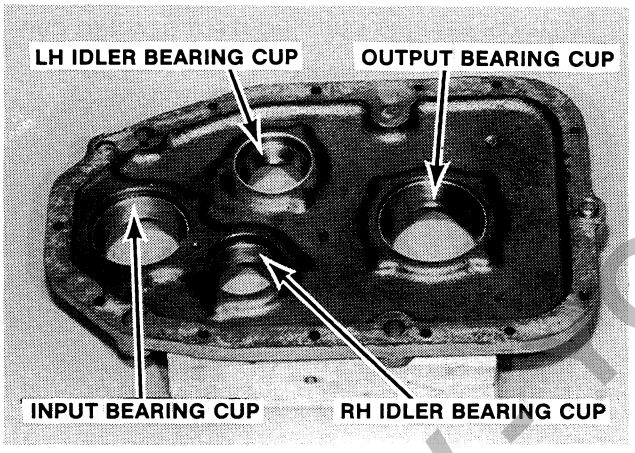
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STEP 93



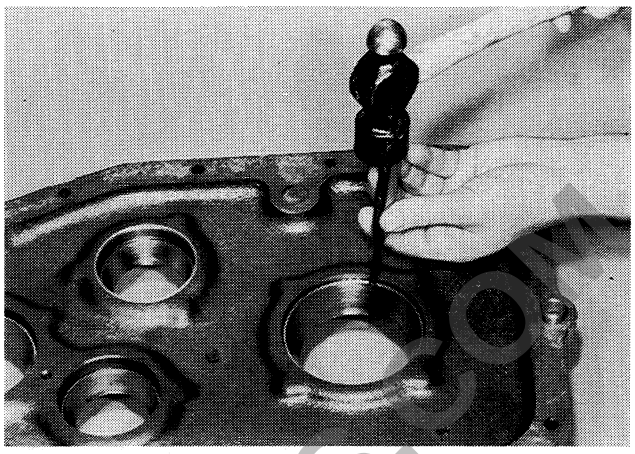
To remove the bearing cups from the drop box housing use a bearing puller.

STEP 94



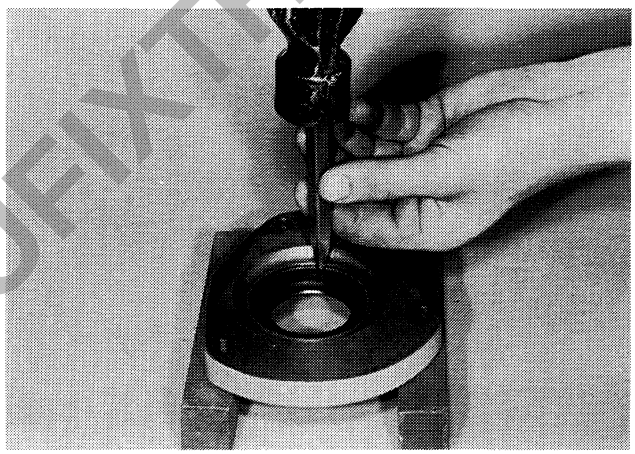
Put the cover for the PTO drop box housing on a work bench.

STEP 95



Remove the bearing cups from the housing cover.

STEP 96



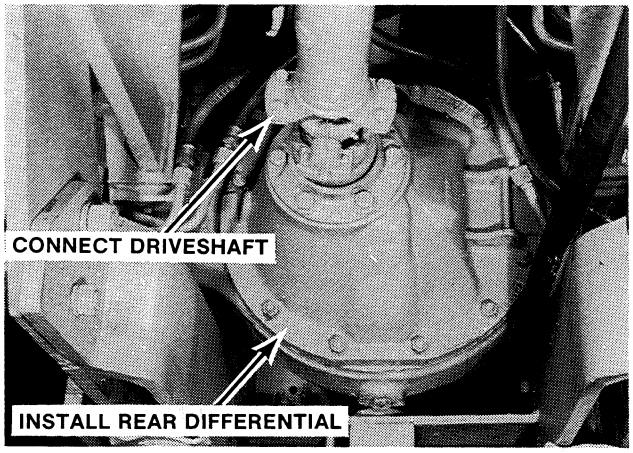
Remove the oil seal from the input shaft cover.

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REAR DIFFERENTIAL INSTALLATION

STEP 183



Apply Loctite 504 gasket compound to the axle housing where the differential makes contact with the housing. Install the differential carrier assembly in the axle housing. Tighten the retaining bolts as follows:

4490-4690 Tractors - 110 to 132 ft. lbs.
(150 to 178 Nm)(15.0 to 17.8 kgm)

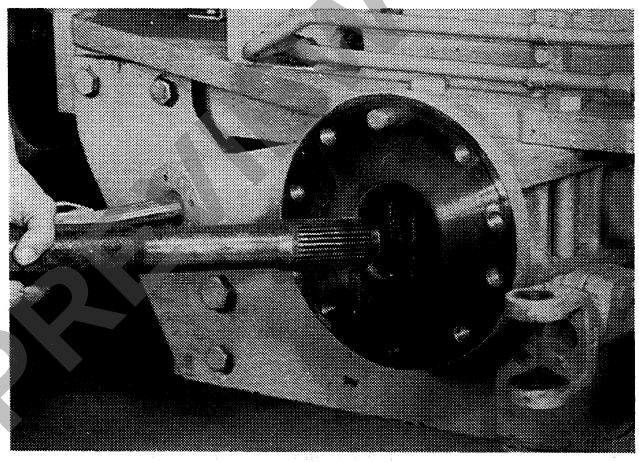
4890 Tractors - 220 to 264 ft. lbs. (299 to 357 Nm)
(29.9 to 35.7 kgm)

Install the drive shaft and tighten the retaining bolts as follows:

3/8" dia. bolts - 37 to 49 ft. lbs.
(50 to 66 Nm)(5.0 to 6.6 kgm)

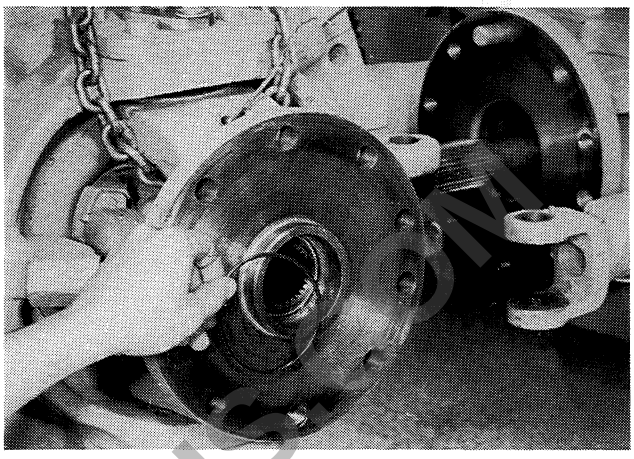
1/2" dia. bolts - 70 to 80 ft. lbs.
(95 to 108 Nm)(9.5 to 10.8 kgm)

STEP 184



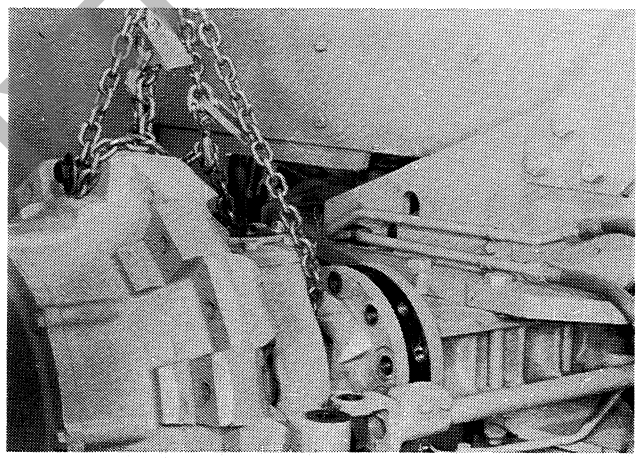
Install the axle drive shaft.

STEP 185



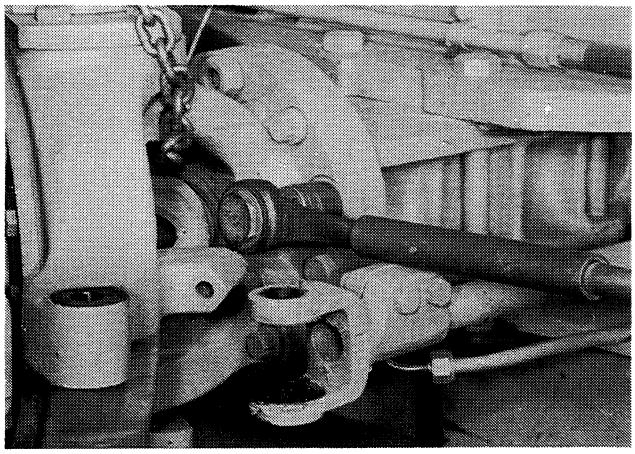
Install a new o-ring to the rear of the trunnion.

STEP 186



Using a chain and hoist, move the planetary and trunnion assembly toward the axle housing. Make sure that the axle drive shaft splines align with the splines in the trunnion universal joint.

STEP 187

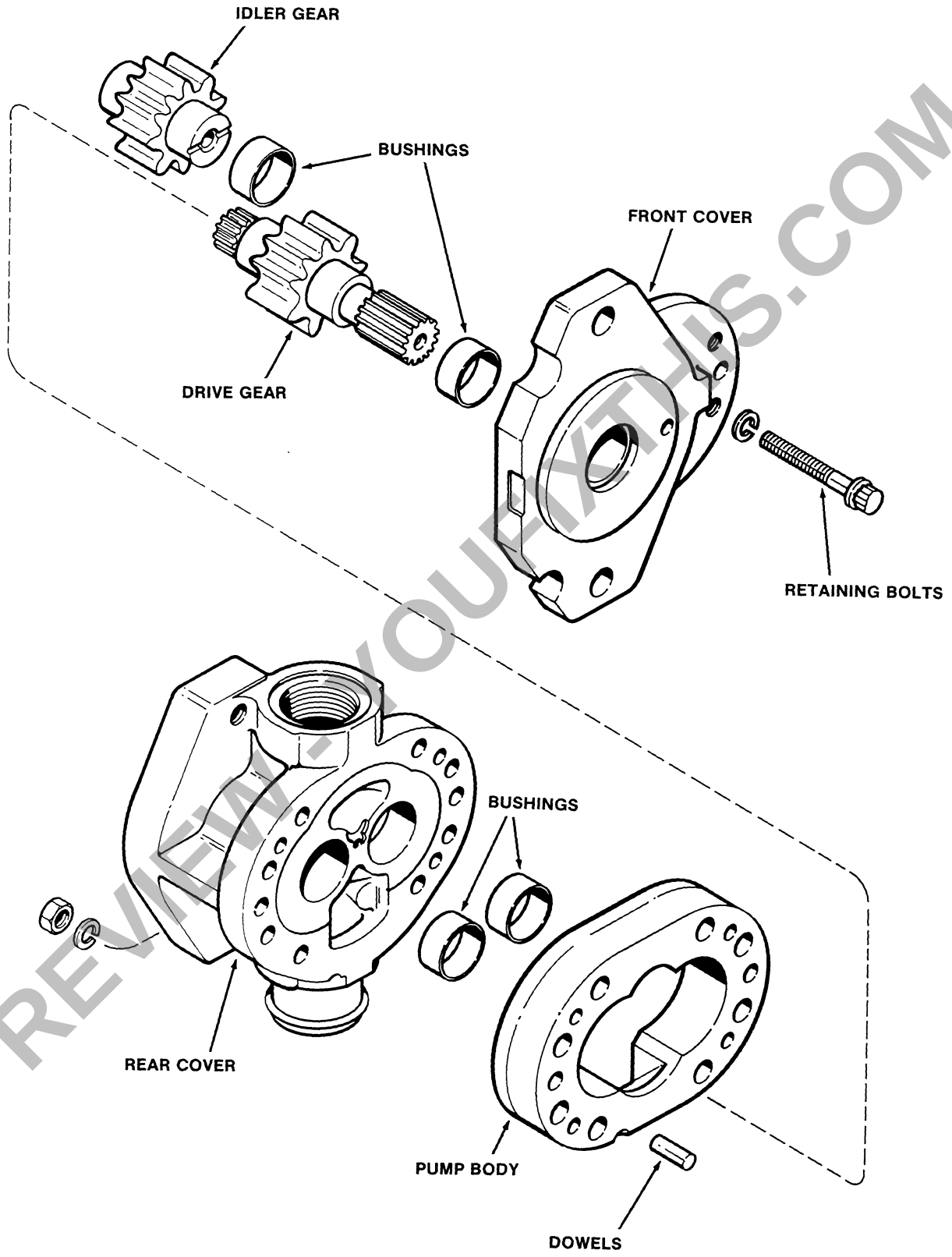


Install and tighten the trunnion retaining bolts to a torque of 380 to 455 ft. lbs. (516 to 616 Nm)(51.6 to 61.6 kgm).

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Assembling The Charge Pump



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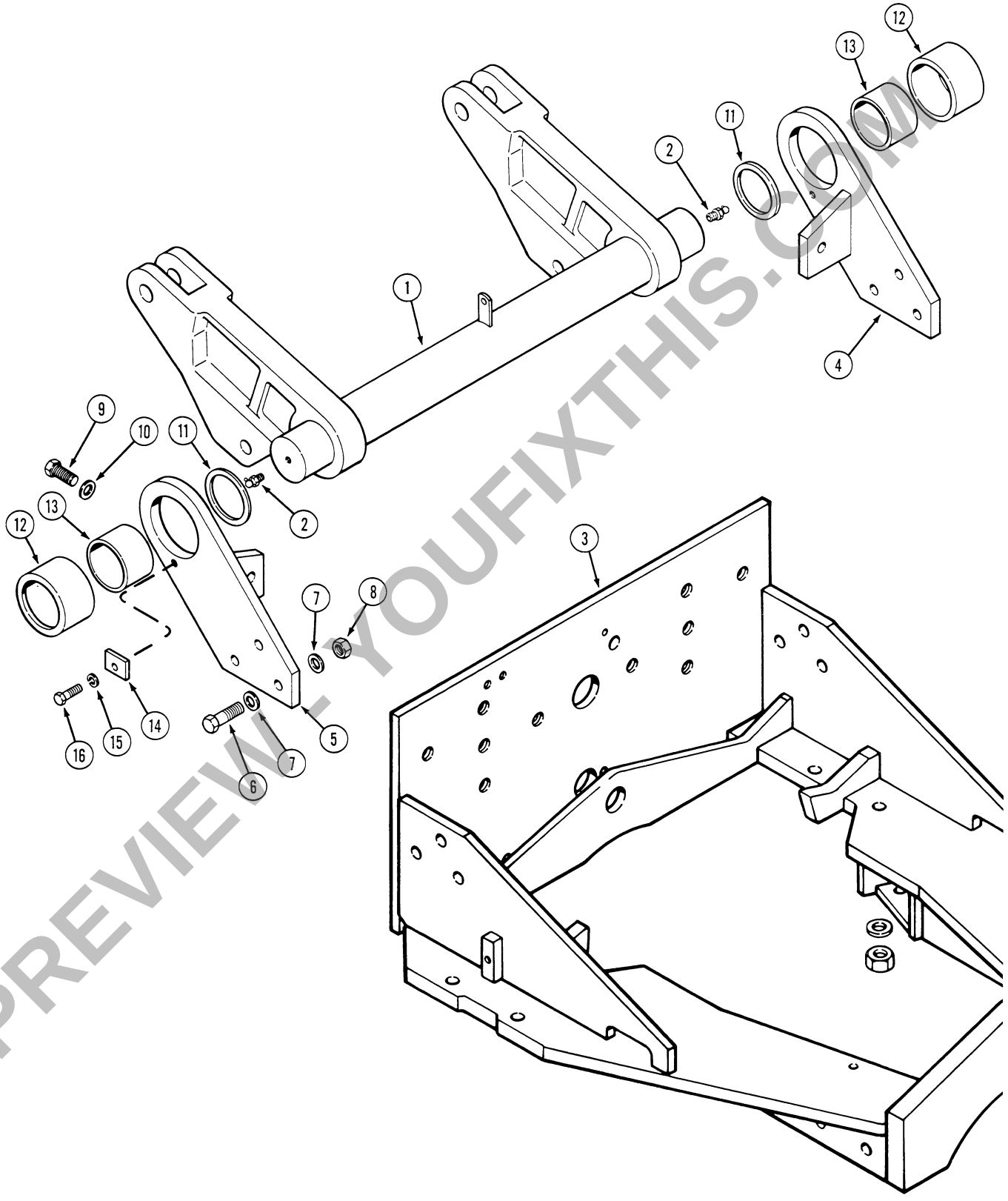
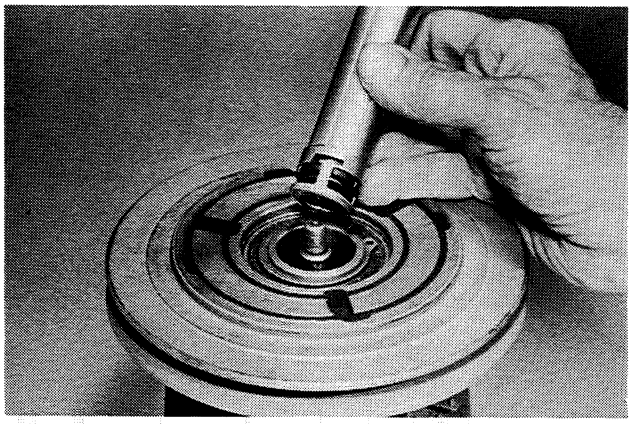


Figure 5

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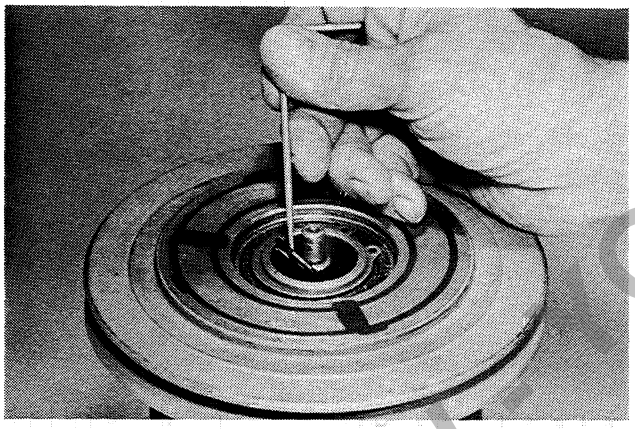
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STEP 11



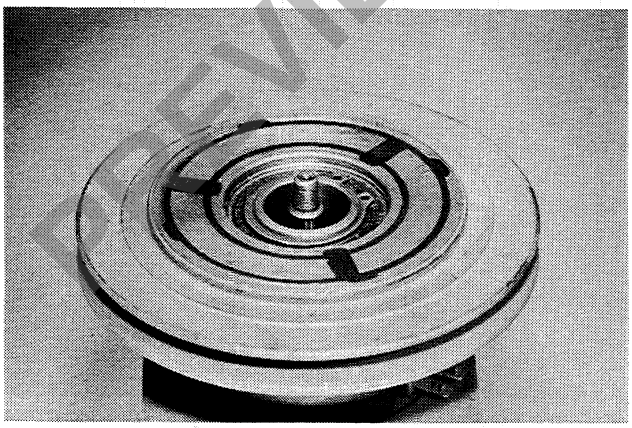
Put seal removal tool (CAS-10282-3) in the neck of the compressor. Press the tool down and turn the tool clockwise to engage the tool tabs with the shaft seal. Then, pull the tool straight out and discard the seal.

STEP 12



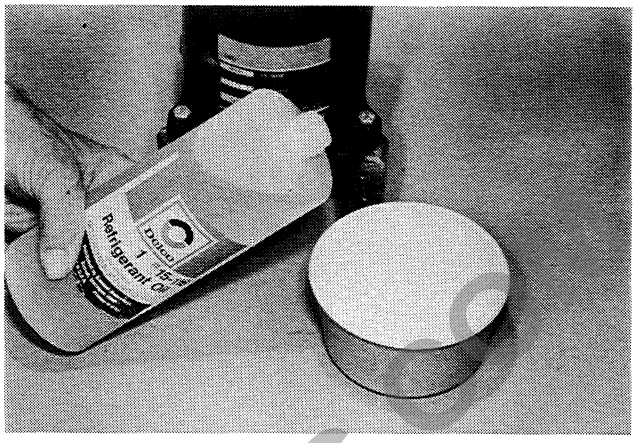
Remove and discard the seal seat o-ring from the compressor using o-ring removal tool (CAS-10282-6).

STEP 13



IMPORTANT: *Before installing new seal parts, check the inside of the compressor neck and shaft. Make sure these areas are clean and have no metal protrusions.*

STEP 14



Put two or three ounces of new refrigerant oil in a clean container.

STEP 15



IMPORTANT: *Follow these rules when you work with oil for refrigerant systems.*

1. Use only oil approved for refrigerant systems.
2. Do not put oil from one container to another container.
3. Do not put oil from an air conditioner system in a container - always discard the oil.
4. Make sure the cap is tight on the container when not in use.
5. Replace old oil if the oil is in bad condition.
6. Do not permit foreign material to get in the oil.

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