GENERAL TORQUE SPECIFICATION TABLE (Revised 11-73)

USE THE FOLLOWING TORQUES WHEN SPECIAL TORQUES ARE NOT GIVEN

NOTE: These values apply to fasteners as received from supplier, dry, or when lubricated with normal engine oil. They do not apply if special graphited or moly-disulphide greases or other extreme pressure lubricants are used. This applies to both UNF and UNC threads.

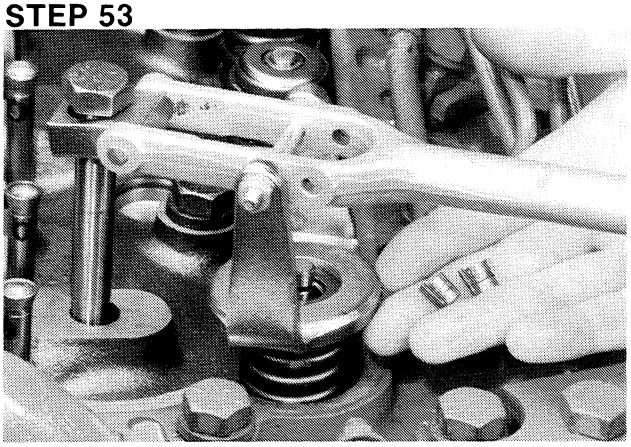
SAE Grade No.		5				8 ★			
Bolt head identification marks as per grade NOTE: Manufacturing Marks Will Vary									
Bolt Size		Torque Foot Pounds		Torque Newton-Meters		Torque Foot Pounds		Torque Newton-Meters	
Inches	Millimeters	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
1/4	6.35	9	11	12.2	14.9	12	15	16.3	20.3
5/16	7.94	17	20.5	23.1	27.8	24	29	32.5	39.3
3/8	9.53	35	42	47.5	57.0	45	54	61.0	73.2
7/16	11.11	54	64	73.2	86.8	70	84	94.9	113.9
1/2	12.70	80	96	108.5	130.2	110	132	149.2	179.0
9/16	14.29	110	132	149.2	179.0	160	192	217.0	260.4
5/8	15.88	150	180	203.4	244.1	220	264	298.3	358.0
3/4	19.05	270	324	366.1	439.3	380	456	515.3	618.3
7/8	22.23	400	480	542.4	650.9	600	720	813.6	976.3
1	25.40	580	696	786.5	943.8	900	1080	1220.4	1464.5
1-1/8	25.58	800	880	1084.8	1193.3	1280	1440	1735.7	1952.6
1-1/4	31.75	1120	1240	1518.7	1681.4	1820	2000	2467.9	2712.0
1-3/8	34.93	1460	1680	1979.8	2278.1	2380	2720	3227.3	3688.3
1-1/2	38.10	1940	2200	2630.6	2983.2	3160	3560	4285.0	4827.4

★ Thick nuts must be used with Grade 8 bolts

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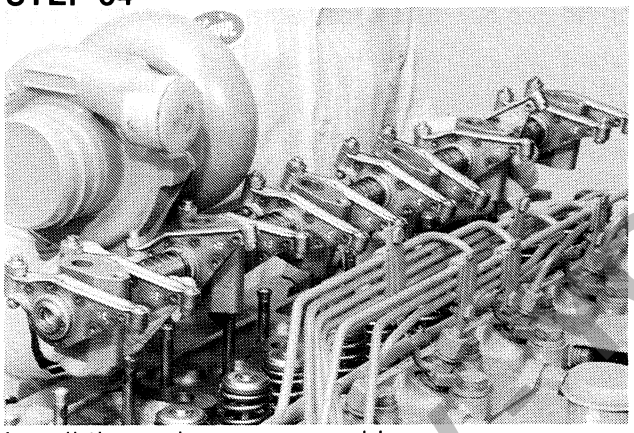
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STEP 53



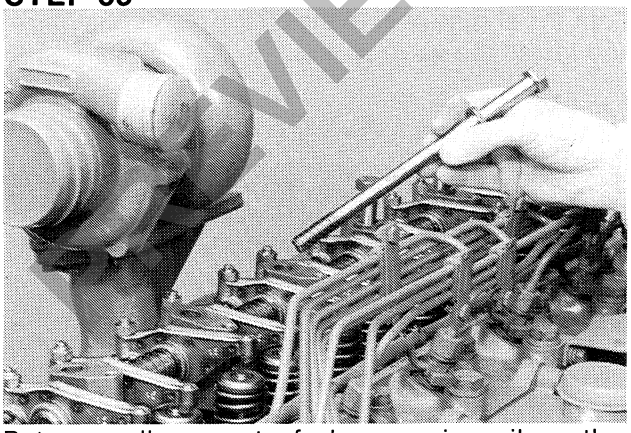
Push down the valve spring and install the valve keepers. Remove the spring compressor. Hit the end of the valve stem lightly to seat the valve keepers.

STEP 54



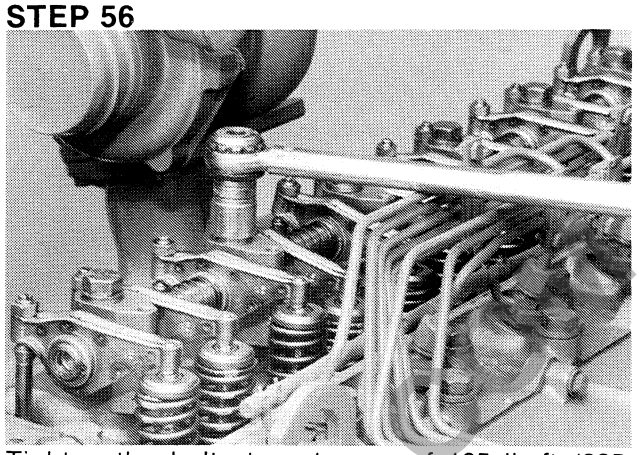
Install the rocker arm assembly.

STEP 55



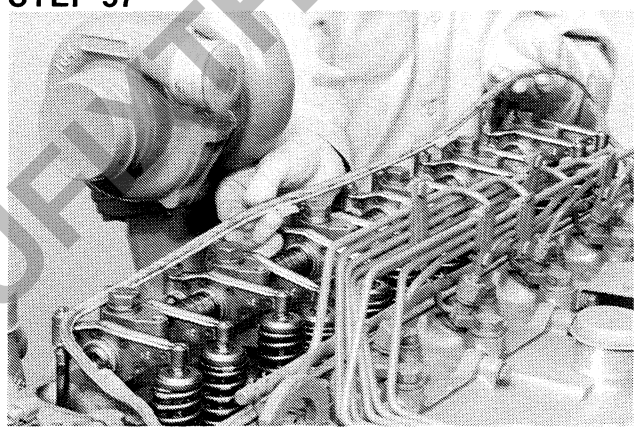
Put a small amount of clean engine oil on the rocker arm bolts, washers and on the washer contact area on the bracket. Install the bolts and washers in the brackets.

STEP 56



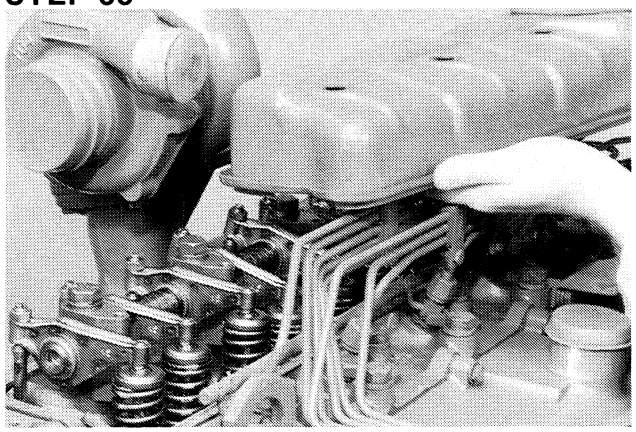
Tighten the bolts to a torque of 165 lb ft (225 Nm)(22.5 kgm).

STEP 57



Install a new valve cover gasket.

STEP 58

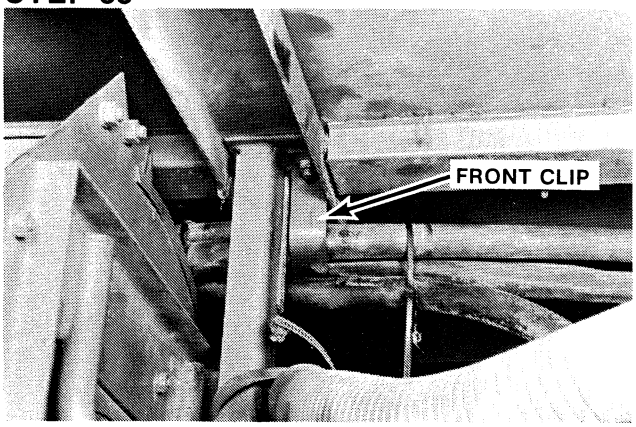


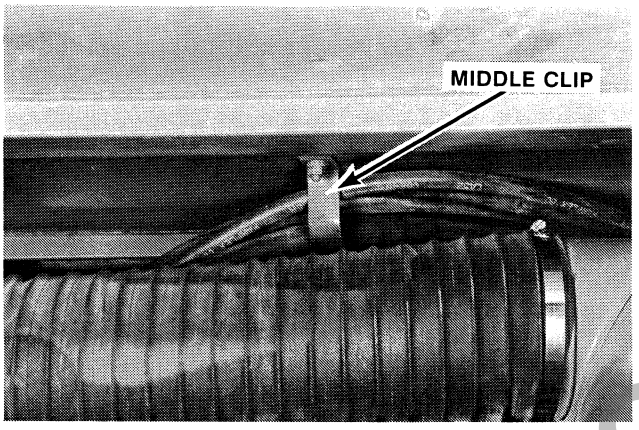
Install the valve cover.

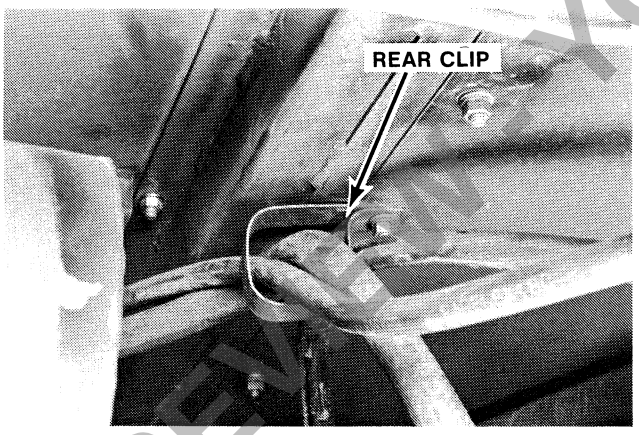
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STEP 85

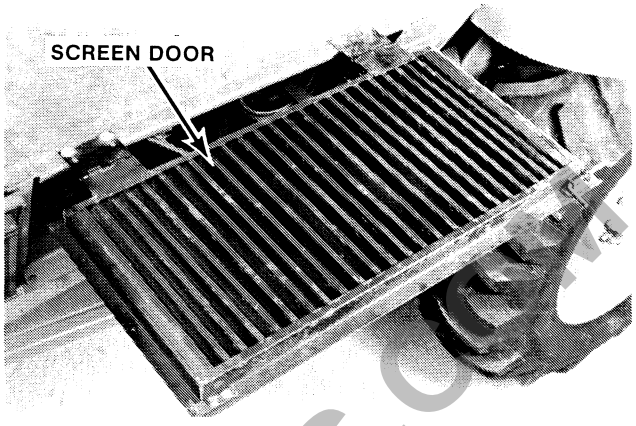






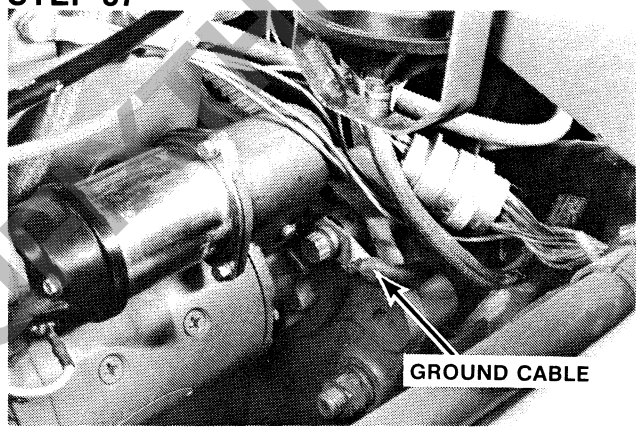
Make sure the hose clips are reinstalled in the proper positions on the engine cover.

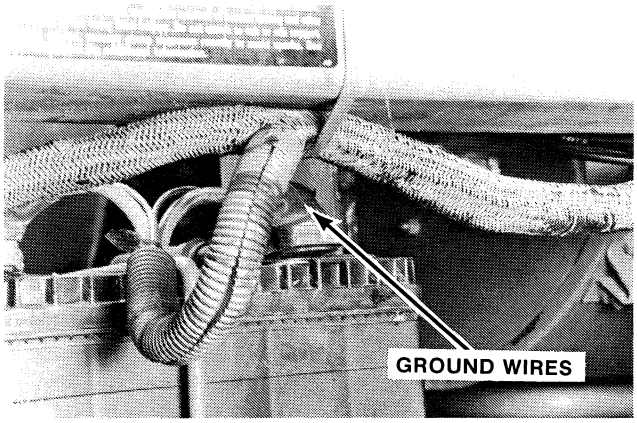
STEP 86



Install the engine side screen doors.

STEP 87



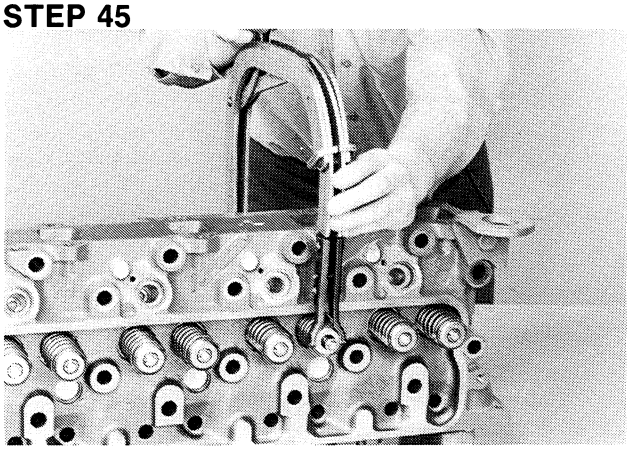


Connect the negative battery cable at the starter and the ground wires at the battery.

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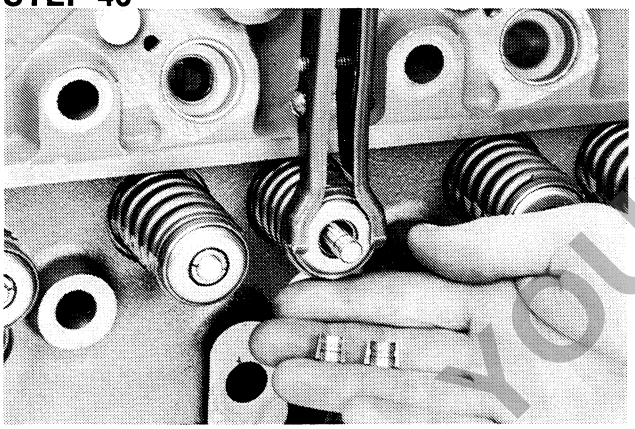
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STEP 45



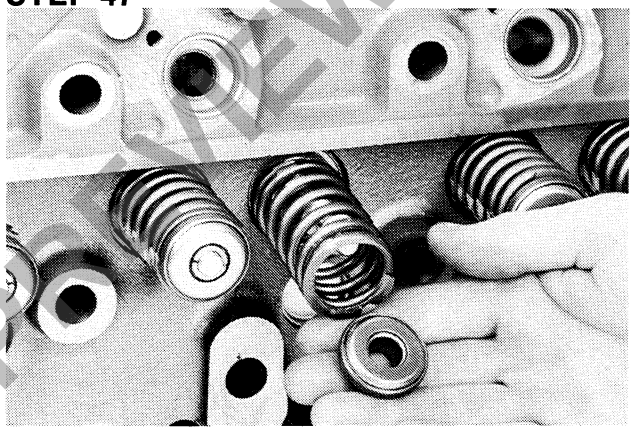
Use a valve spring compressor to push down the valve springs.

STEP 46



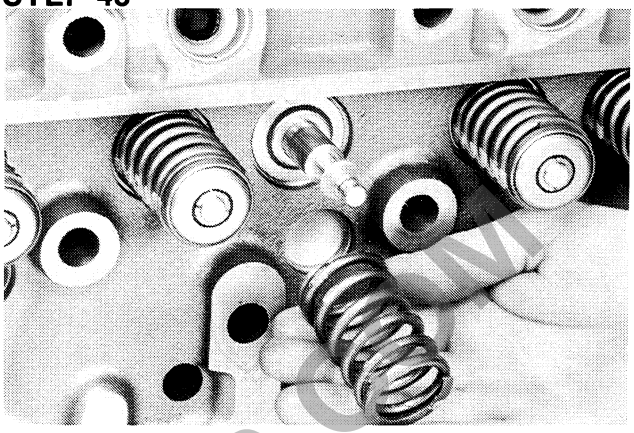
Remove the valve keepers from the valve stems.

STEP 47



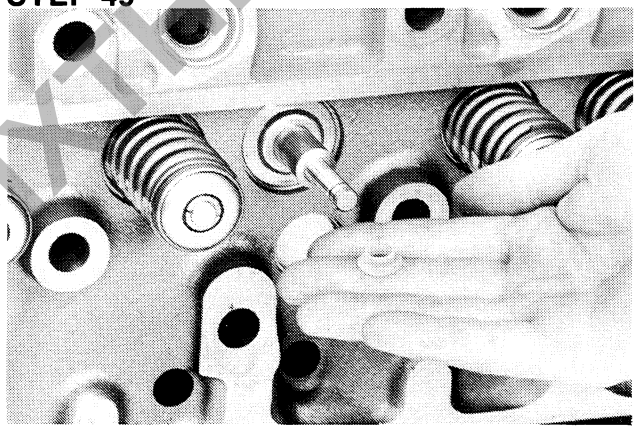
Remove the valve rotators from the valve springs.

STEP 48



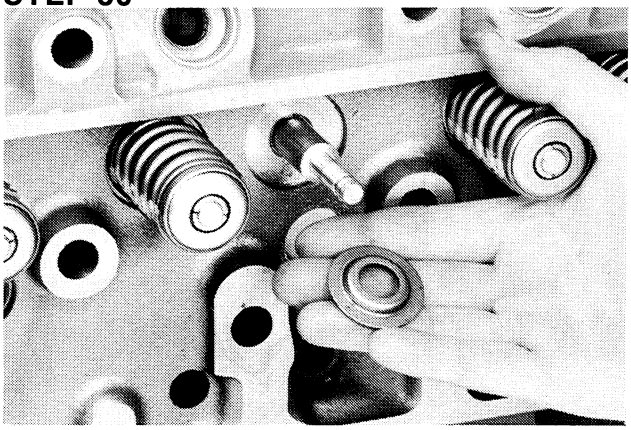
Remove the springs from the valve guides.

STEP 49



Remove the oil shields from the valve stems.

STEP 50

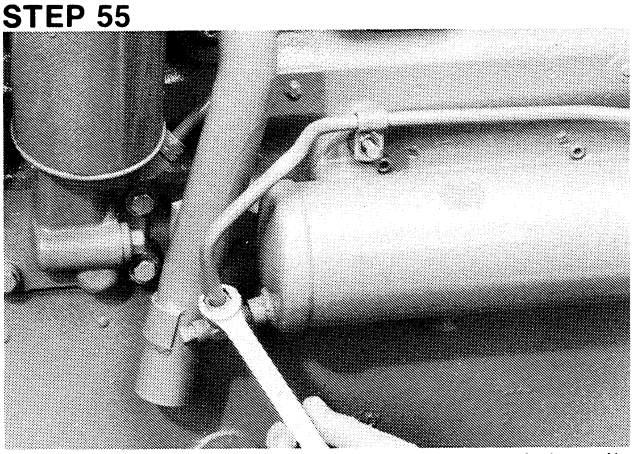


Remove the valve spring seats from the valve guides.

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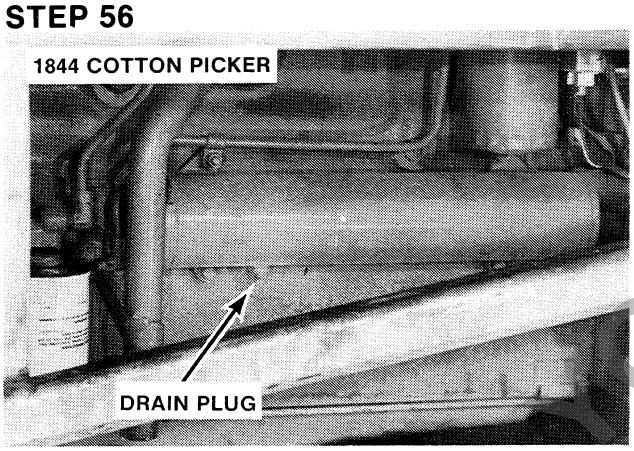
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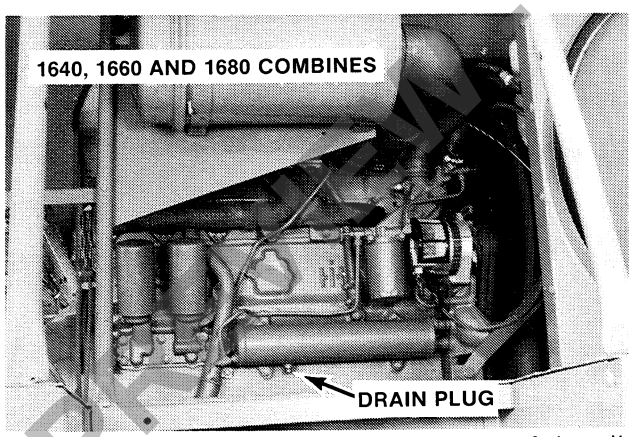
STEP 55



Disconnect the coolant line at the rear of the oil cooler.

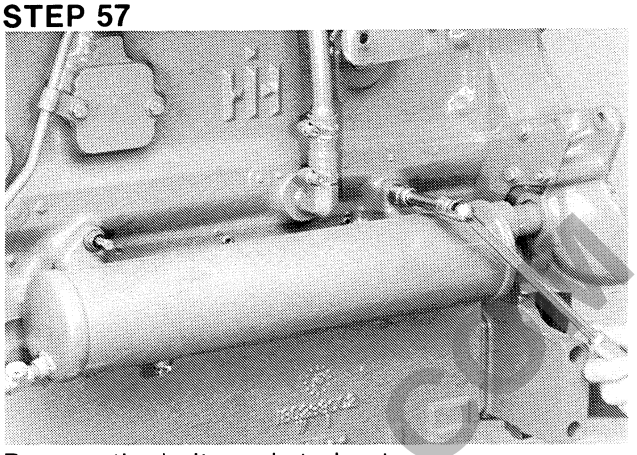
STEP 56





Remove the drain plug from the bottom of the oil cooler and drain the oil.

STEP 57



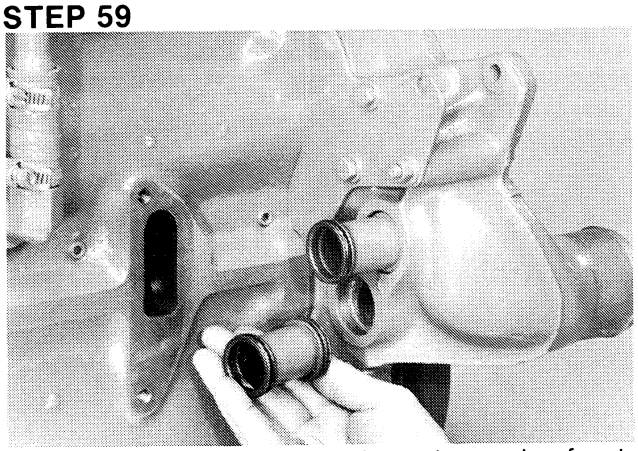
Remove the bolts and stud nut.

STEP 58



Remove the oil cooler.

STEP 59



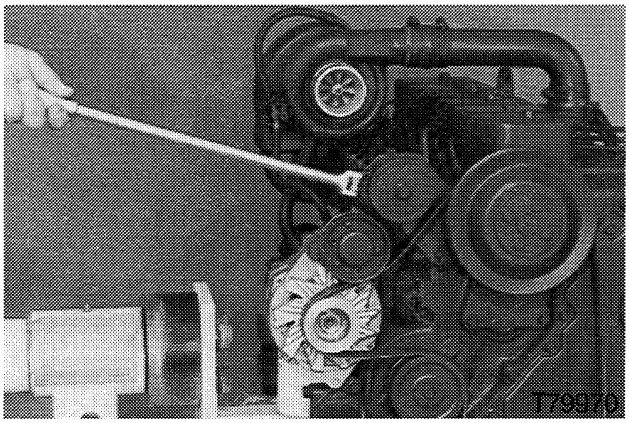
Remove the water couplers from the engine front cover.

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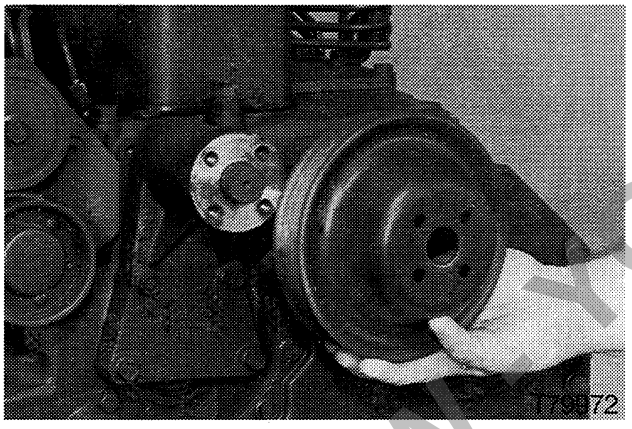
SERVICING THE CYLINDER HEAD AND VALVE TRAIN
Cylinder Head Removal

STEP 1



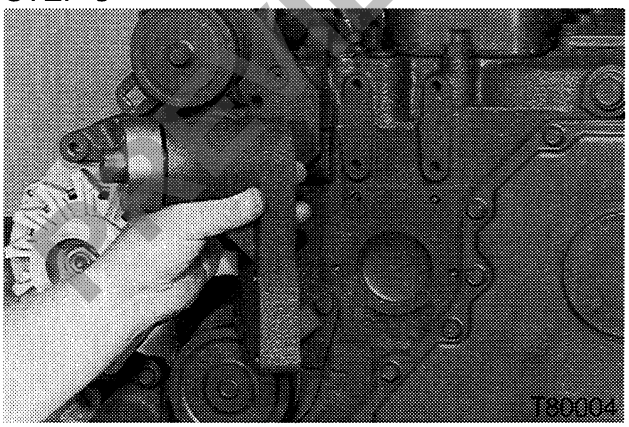
Lift the belt tensioner and remove the fan belt.

STEP 2



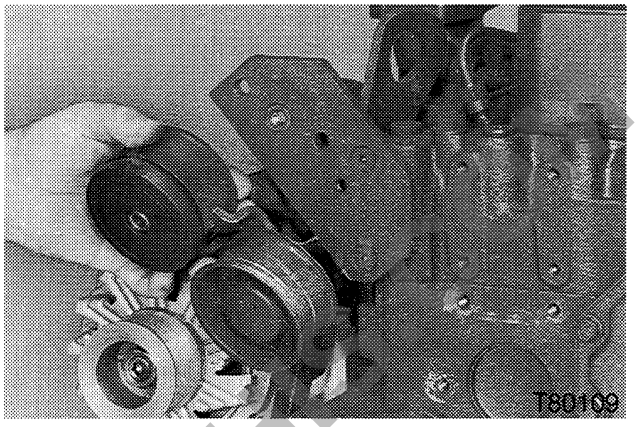
Remove the fan pulley bolts and the fan pulley.

STEP 3



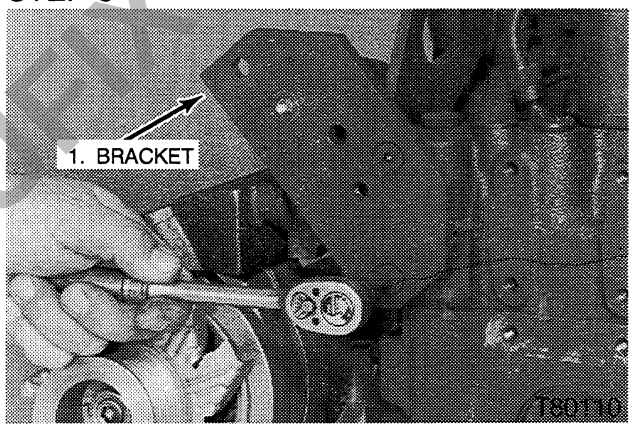
Remove the fan pulley bolts and the pulley bracket.

STEP 4



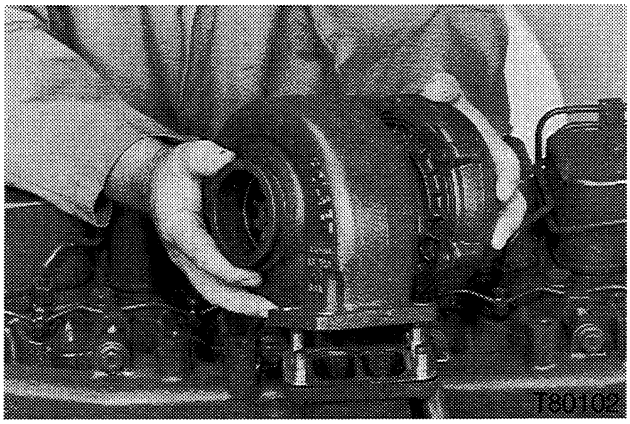
Remove the belt tensioner bolt and the belt tensioner.

STEP 5



Remove the Allen head bolts and the belt tensioner bracket.

STEP 6



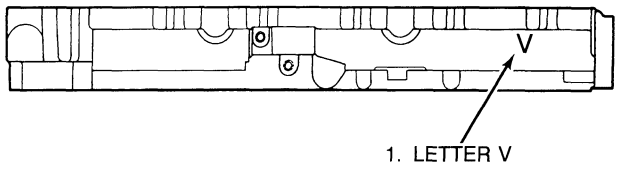
See section 2465 to remove the turbocharger.

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Valve Installation

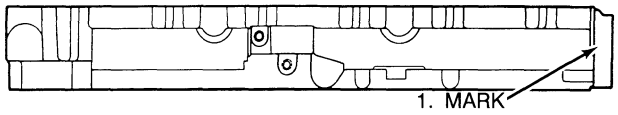
STEP 58



904L0

If you grind the valve seats, mark the cylinder head with the letter "V".

STEP 59

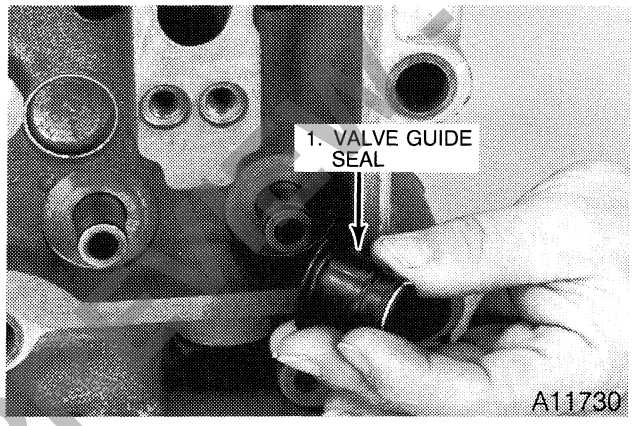


904L0

If the cylinder head has been machined, mark the amount removed on the RH rear of the cylinder head.

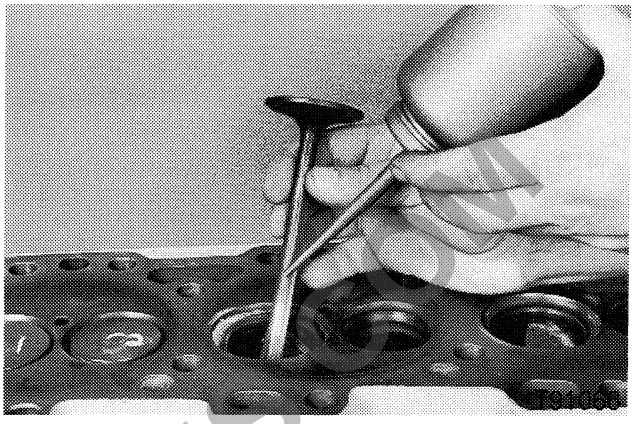
IMPORTANT: *Do not machine more than 1.00 mm from the cylinder head. The head height must not be less than 115.75 mm*

STEP 60



Install the valve guide seal.

STEP 61



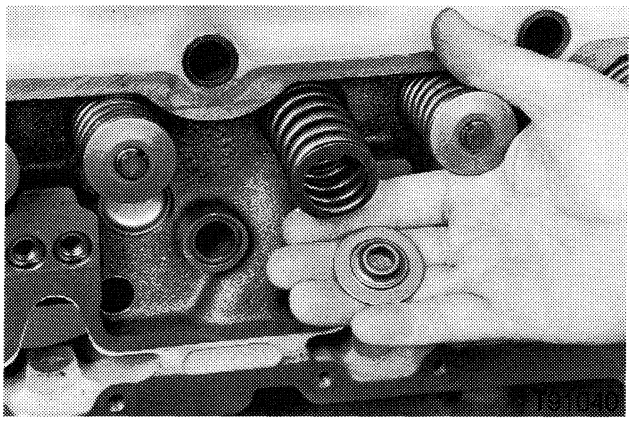
Apply lubrication to the valves. Install the valves in the cylinder head.

STEP 62

Check the valve springs with a valve spring tester. The springs must have these specifications:

Free Length ..... 65.66 mm
Compress to 50.80 mm .....465 to 514 N

STEP 63

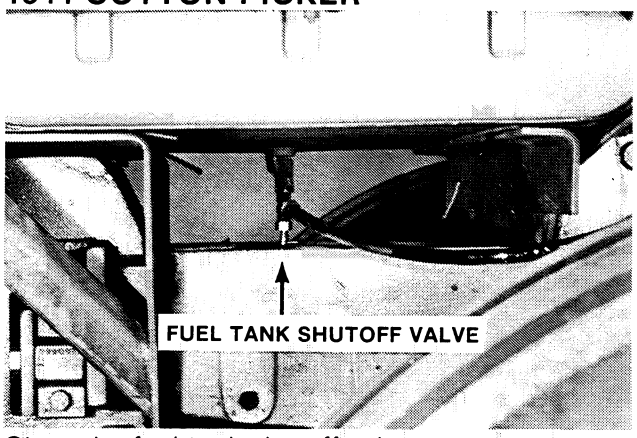


Install the valve spring caps.

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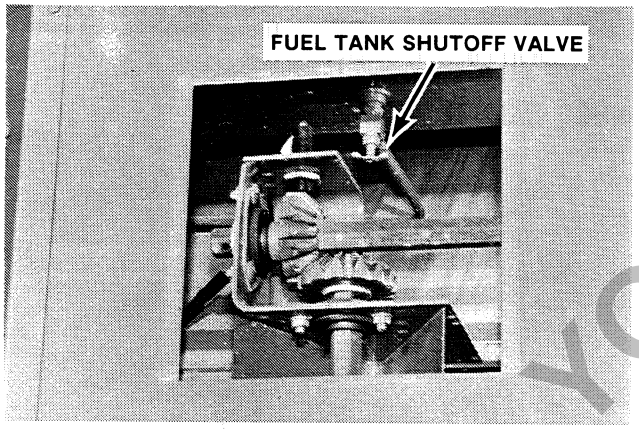
STEP 2

1844 COTTON PICKER



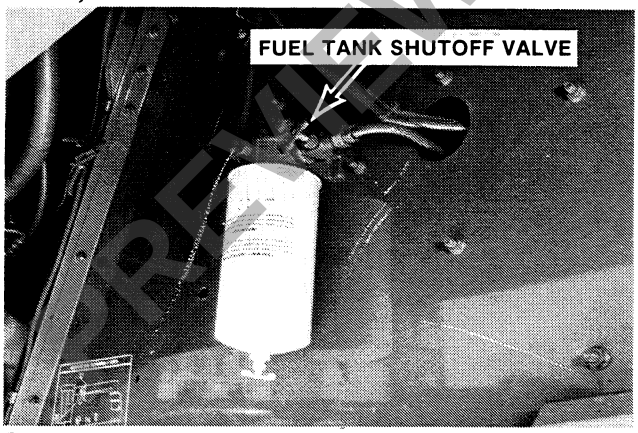
Close the fuel tank shutoff valve.

1620 COMBINE



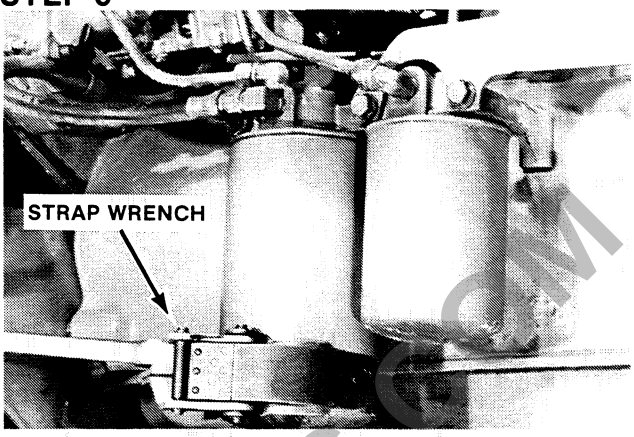
Remove the access panel from behind the rear service ladder. Close the fuel tank shutoff valve.

1640, 1660 AND 1680 COMBINES



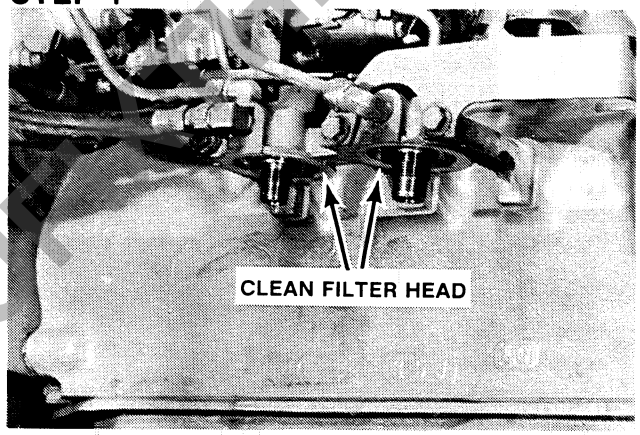
Close the fuel tank shutoff valve.

STEP 3



Use a strap wrench to remove the fuel filters.

STEP 4



Remove all foreign material from the fuel filter head.

STEP 5



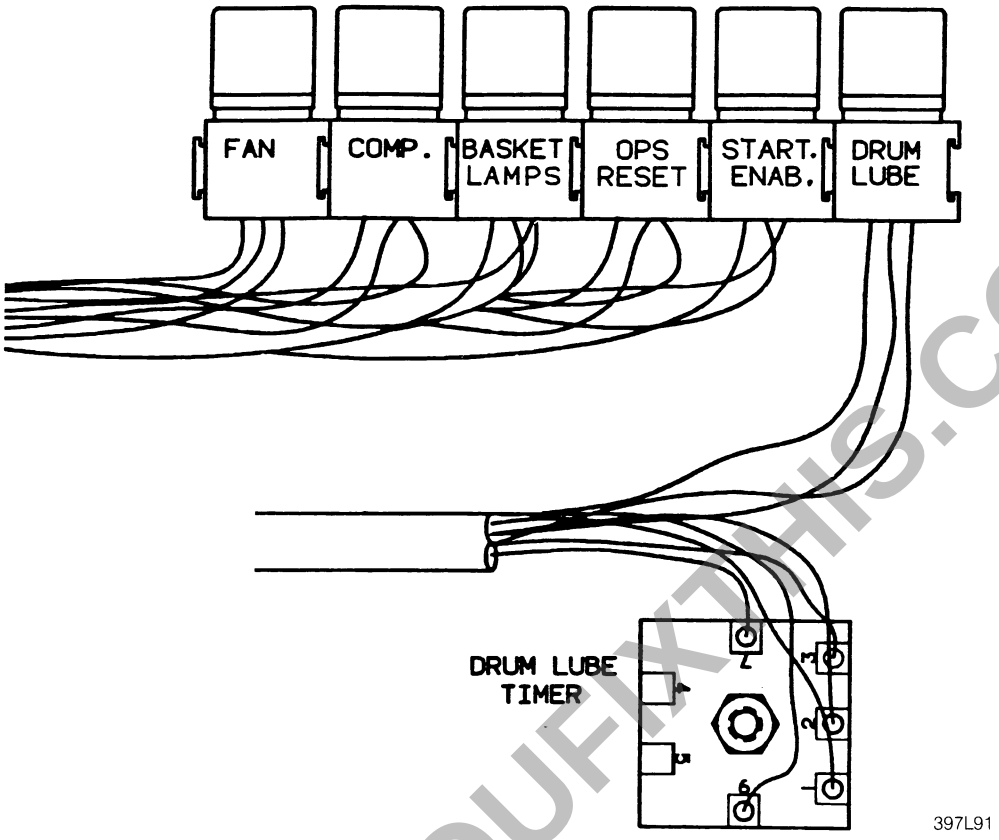
Lubricate the new filter gaskets with a small amount of clean oil or grease.

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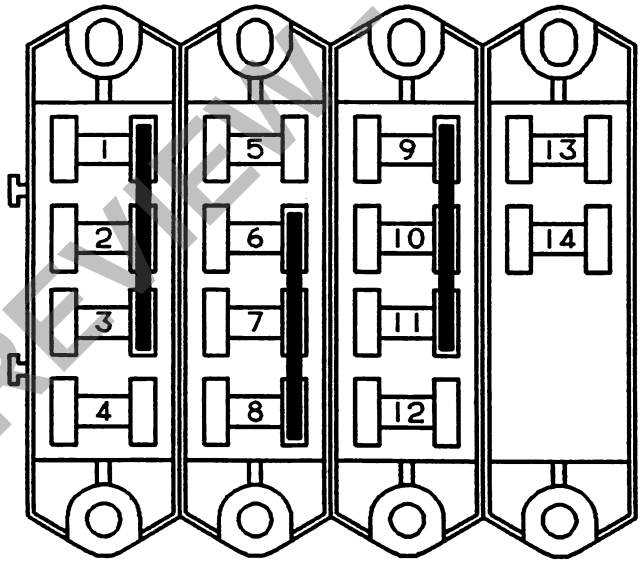
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RH FRONT CONSOLE PANEL RELAYS



FUSE IDENTIFICATION



FUSE BLOCK

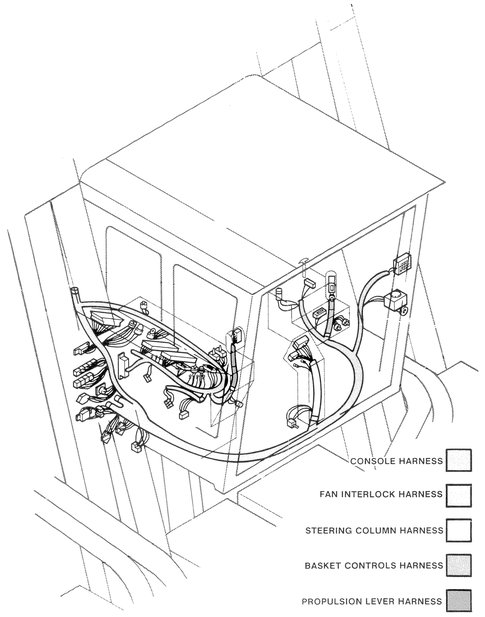
(AS VIEWED FROM OPERATORS AREA)

1-WARNING LPS.(15 AMP)
2-CIGARETTE LIGHTER & DOME LAMP(10 AMP)
3-REAR AUX. LPS. (15AMP)
4-BASKET LAMPS (15AMP)
5-GAUGE CLUSTER & AUD. ALERT (5 AMP)
6-RADIO (3 AMP)
7-COMPACTOR CONTROLS & DIGITAL TACH (5 AMP)
8-SYSTEM MONITOR (NOT SHOWN) (3 AMP)
9-FAN SOLENOID & WATER SYSTEM (10 AMP)
10-DRUM CONTROLS (15 AMP)
11-BASKET CONTROLS (10 AMP)
12-LOAD DUMP MOD. (30 AMP)
13-ENGINE RPM MOD. (5 AMP)
14-OPERATOR PRESENCE SYSTEM (5 AMP)

371L92

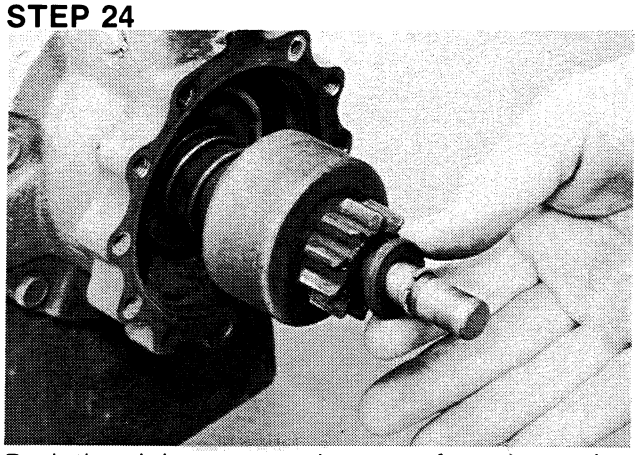
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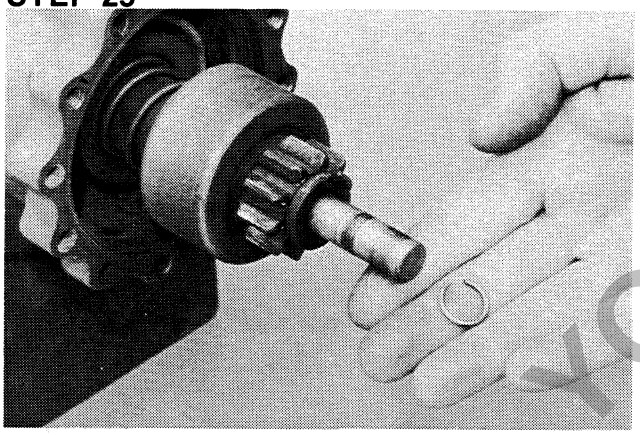
MOOSIHEAD MANUALS

STEP 24



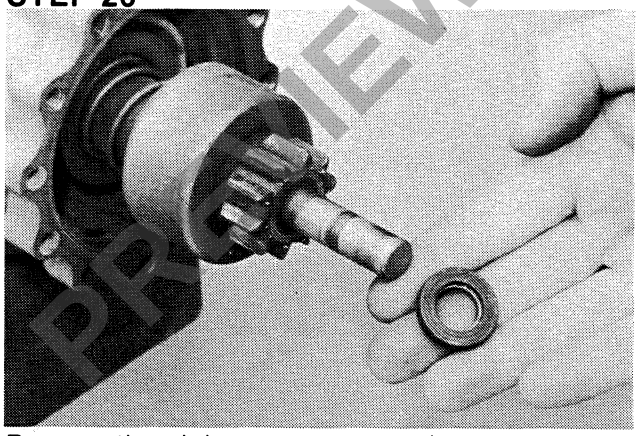
Push the pinion stop washer away from the retaining ring.

STEP 25



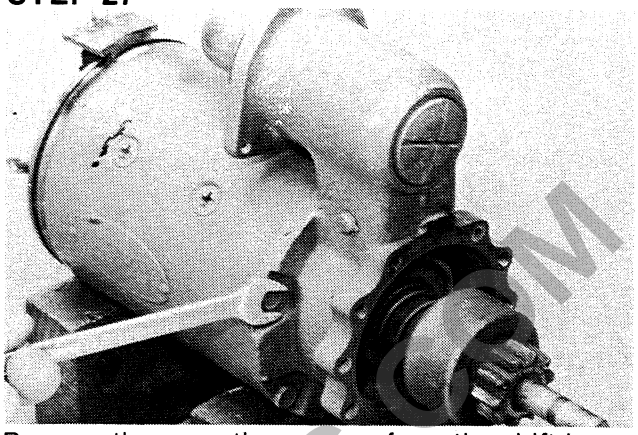
Remove the retaining ring.

STEP 26



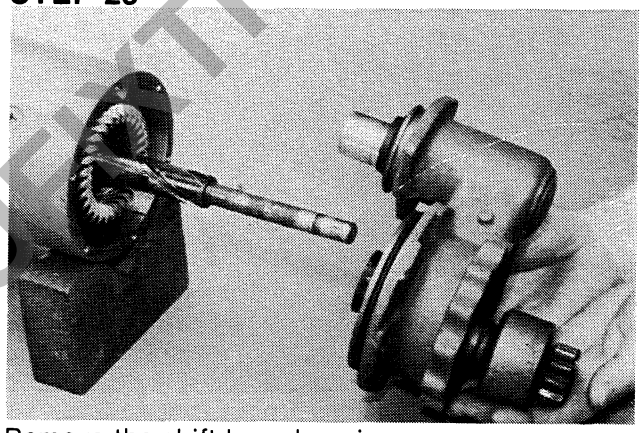
Remove the pinion gear stop washer.

STEP 27



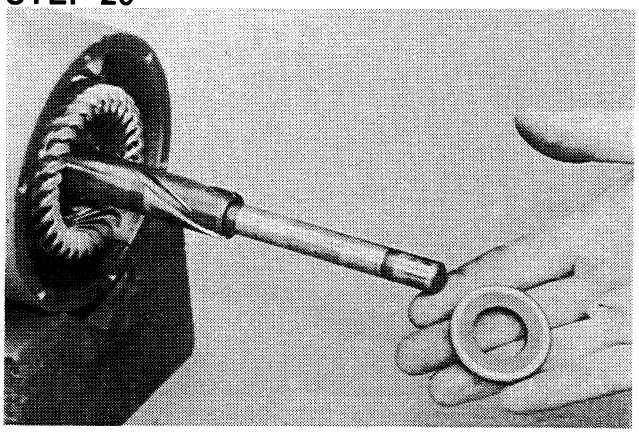
Remove the mounting screws from the shift lever housing.

STEP 28



Remove the shift lever housing.

STEP 29



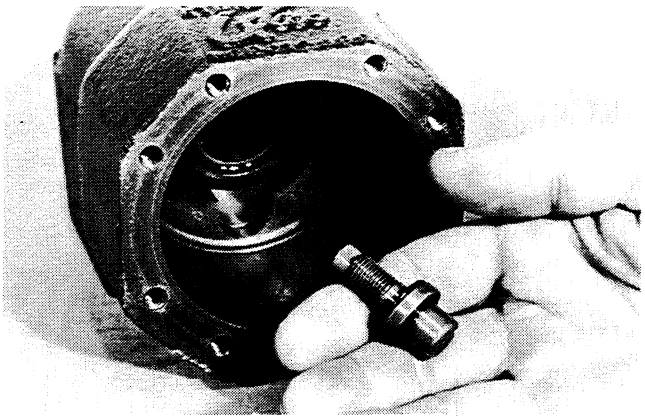
Remove the spacer from the armature.

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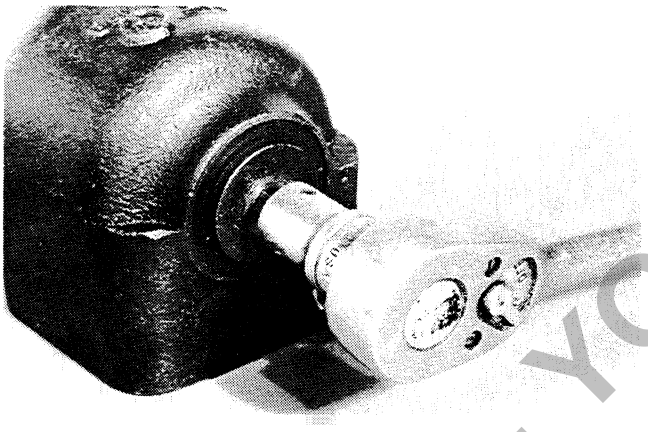
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STEP 26



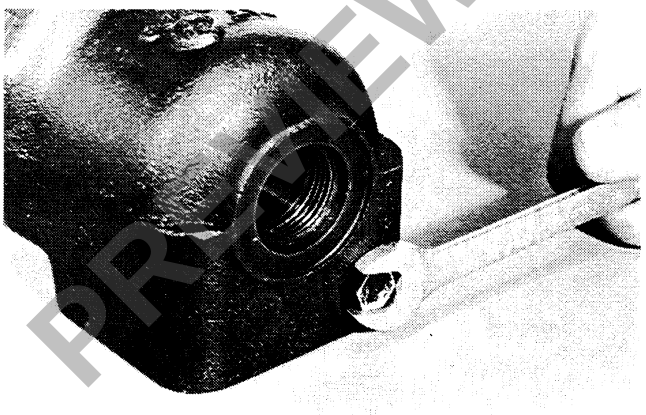
Push the adjusting screw through the pump plug for removal.

STEP 27



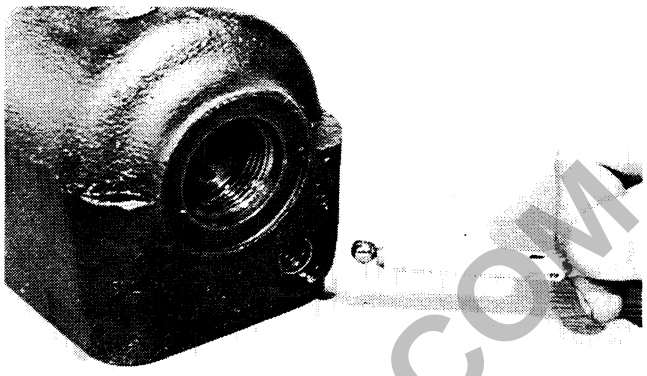
Remove the pump plug.

STEP 28



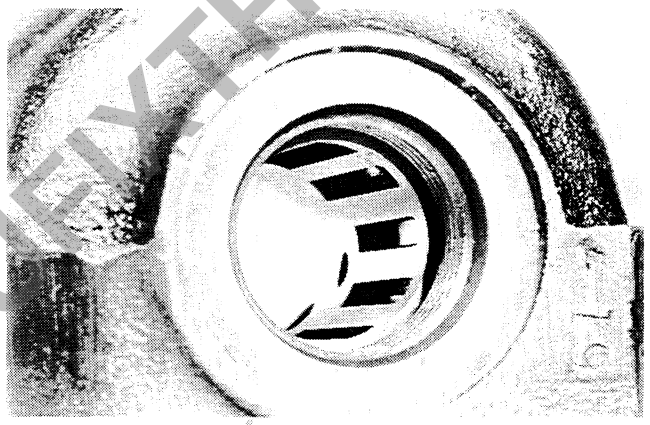
Remove the plug and pin assembly.

STEP 29



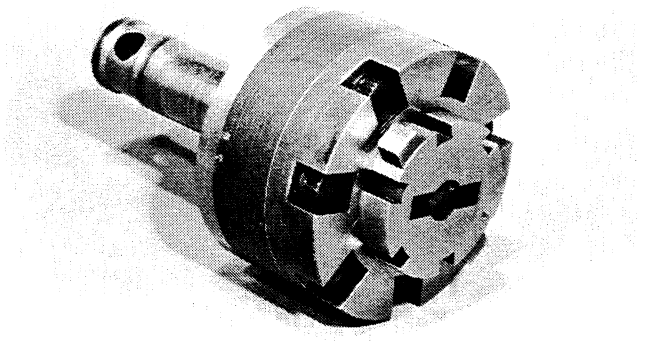
Remove the ball.

STEP 30



Check the sleeve in the body for damage.

STEP 31



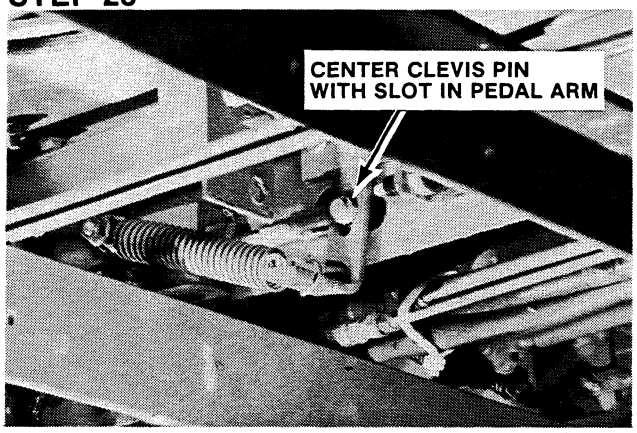
Put the rotor set on a clean work bench.

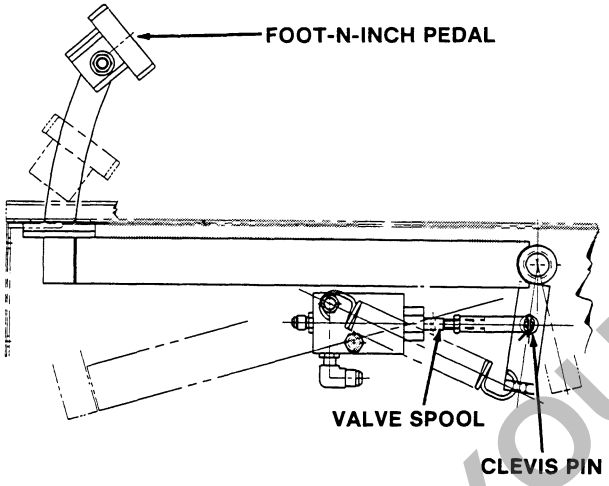
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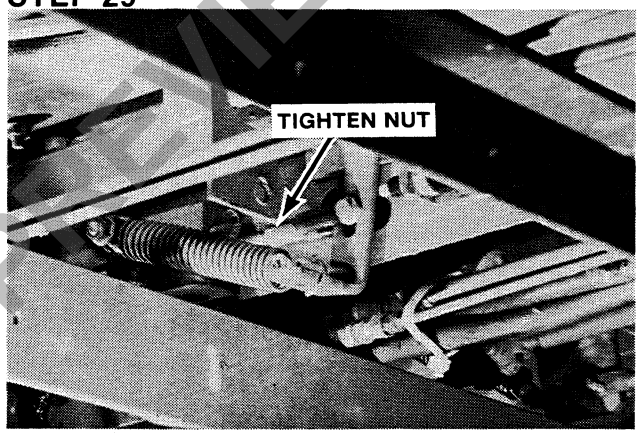
STEP 28





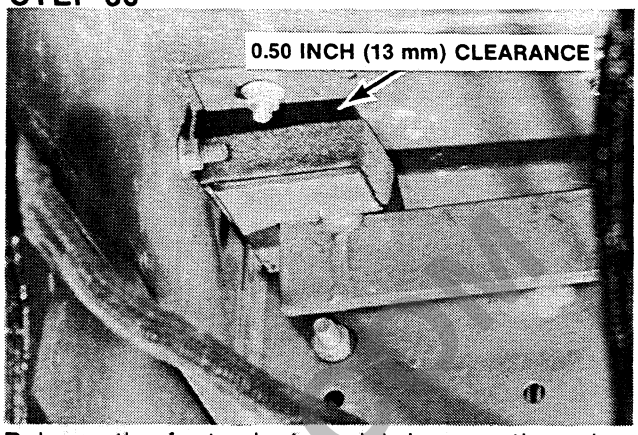
Fully depress the foot-n-inch pedal. Turn the valve spool until the clevis pin is centered between the slot walls in the pedal arm when the valve spool is fully extended.

STEP 29



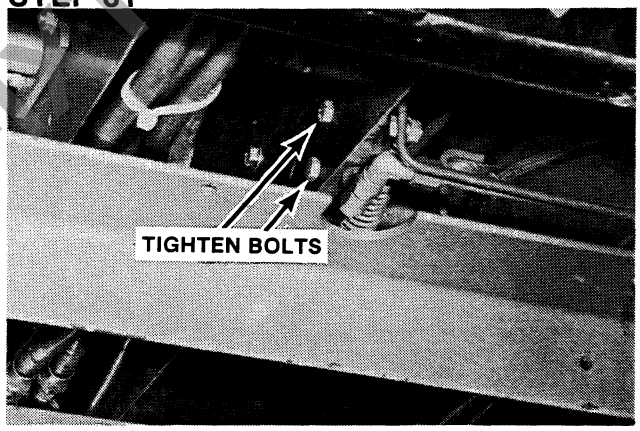
Tighten the clevis lock nut.

STEP 30



Release the foot-n-inch pedal. Loosen the valve mounting bolts. Rotate the valve until there is a 1/2 inch (13 mm) clearance between the top of the seal mounting pad and the bottom of the deck.

STEP 31



Tighten the valve mounting bolts.

STEP 32

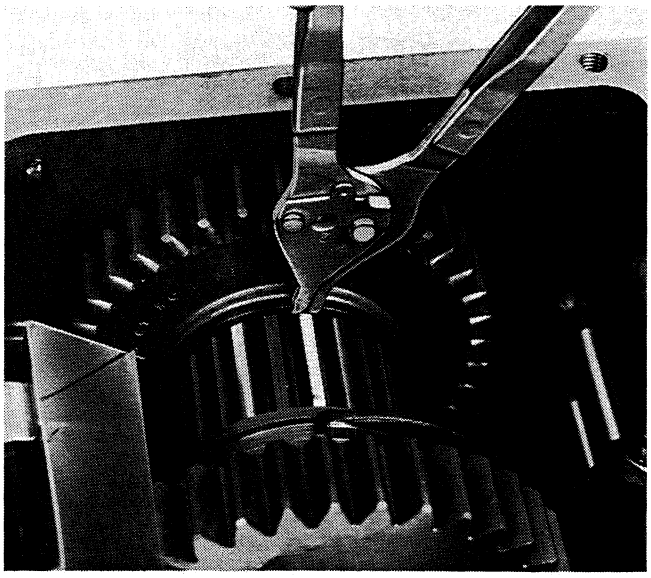
Check the adjustments in Steps 27 and 29 again. Repeat the procedure in Steps 24 through 30 until the adjustment is correct.

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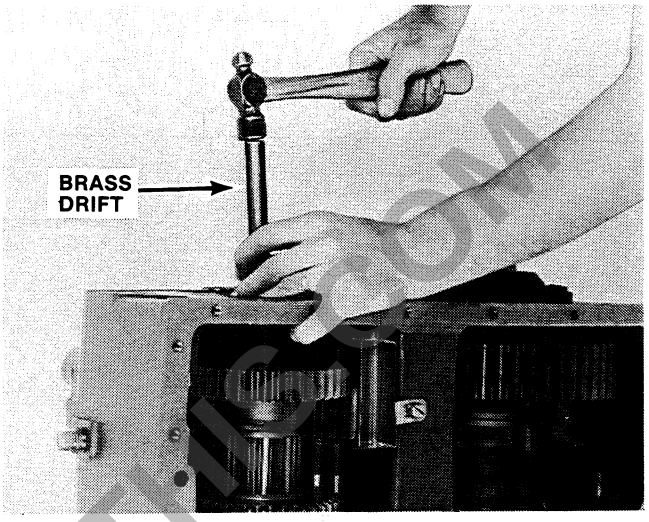
Removal of Input Shaft

STEP 9



Remove the visible snap ring which locates the second drive gear from its groove in the input shaft.

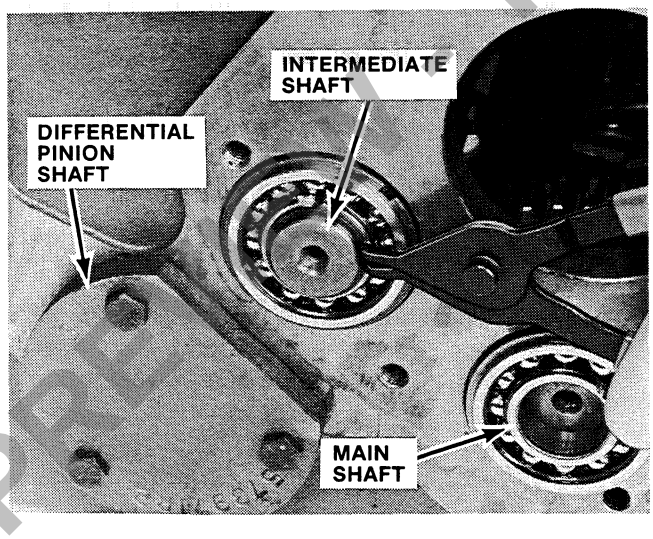
STEP 10



Tap the input shaft out the left hand side of the transmission case. Remove the left hand bearing assembly and slide the gears off the shaft in order. Note the sequence of the gears so that they may be correctly reinstalled.

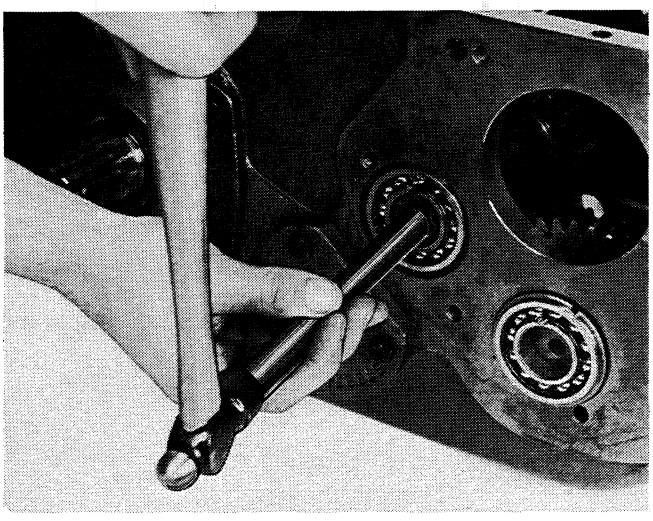
Removal of Intermediate Shaft

STEP 11



Remove the snap ring from the right hand end of the intermediate shaft.

STEP 12

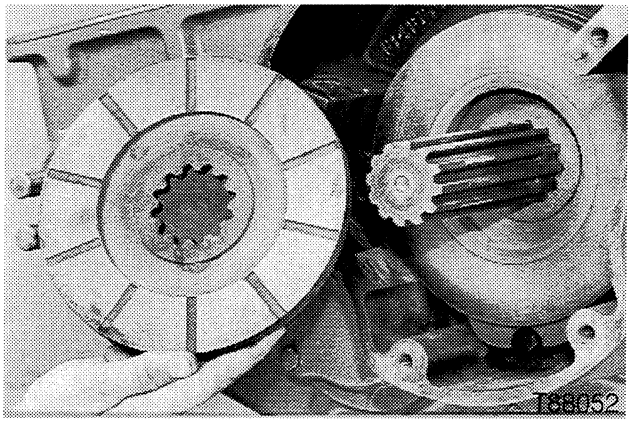


Drive the intermediate shaft out the left side of the transmission case.

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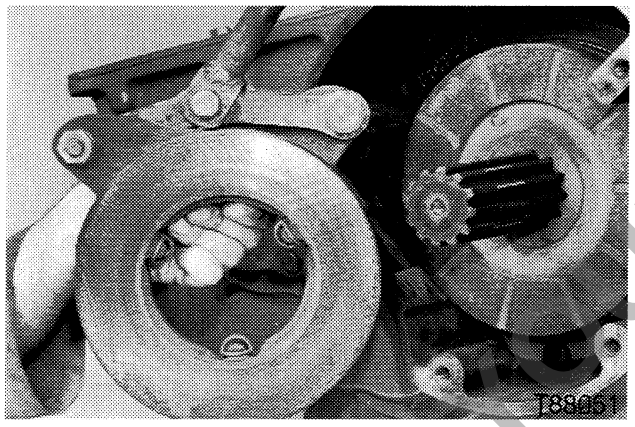
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STEP 13



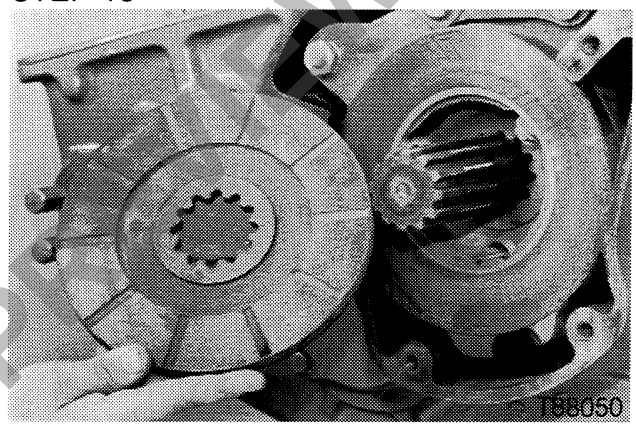
Install a friction disc, steel disc, friction disc, steel disc and a third friction disc into the brake housing.

STEP 14



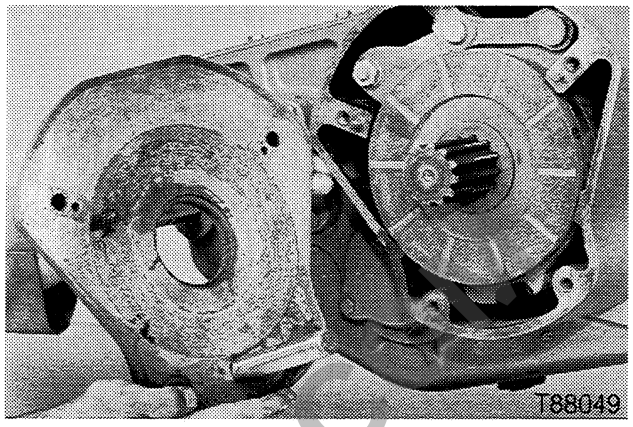
Install the actuator disc assembly into the brake housing.

STEP 15



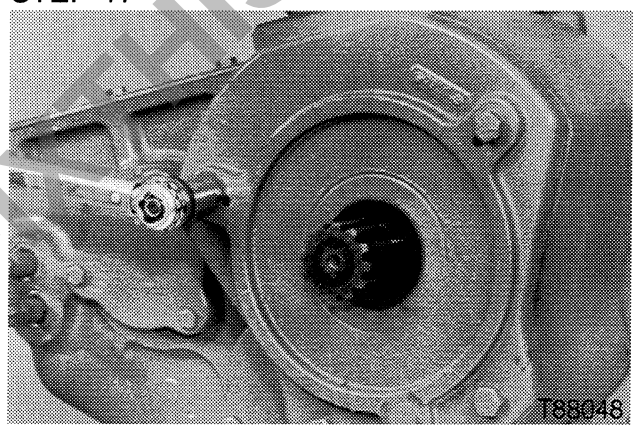
Install the fourth friction disc into the brake housing.

STEP 16



Install the brake housing cover onto the brake housing.

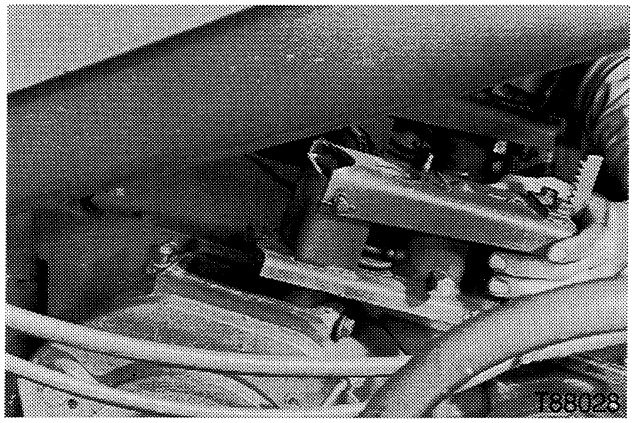
STEP 17



Install the four brake housing bolts. Tighten each bolt to a torque of 80 to 96 lb ft (109 to 130 Nm).

Repeat Steps 13 through 17 on the remaining brake housing.

STEP 18



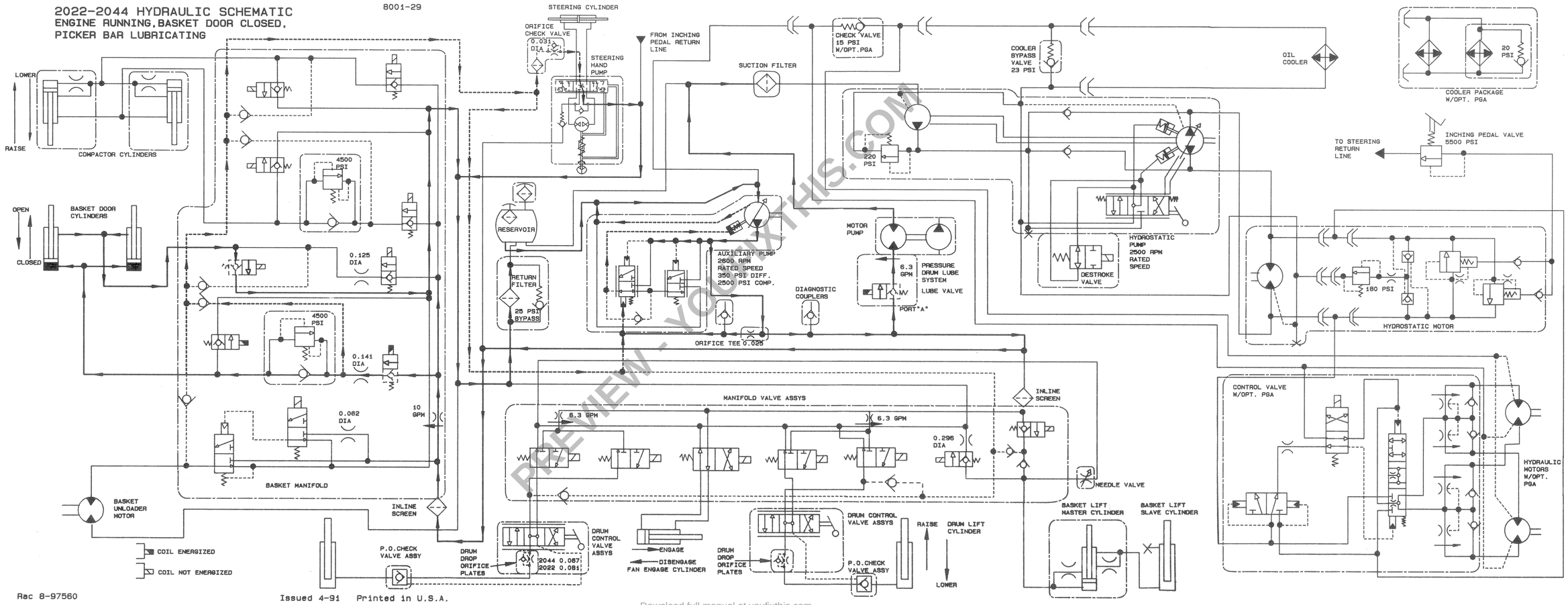
Put the brake cylinder assemblies on the brake housings.

NOTE: *The brake cylinder with the park brake latch and ratchet bar must be installed on the LH brake housing.*

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2022-2044 HYDRAULIC SCHEMATIC
ENGINE RUNNING, BASKET DOOR CLOSED,
PICKER BAR LUBRICATING

8001-29



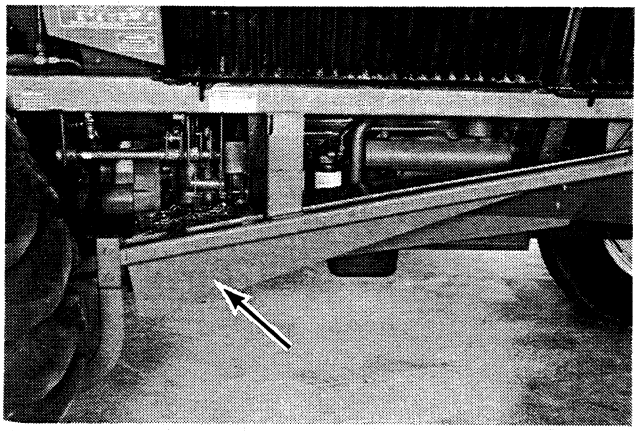
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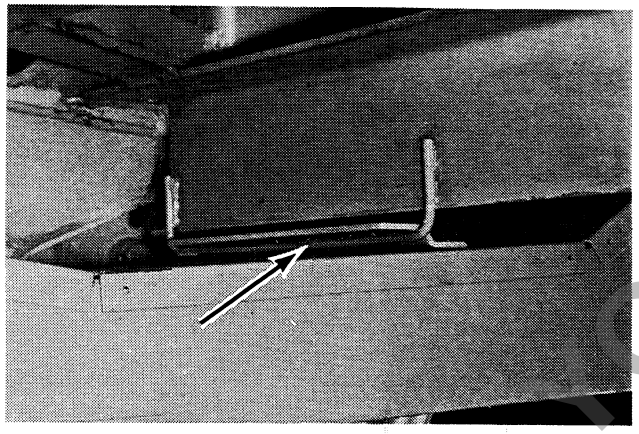
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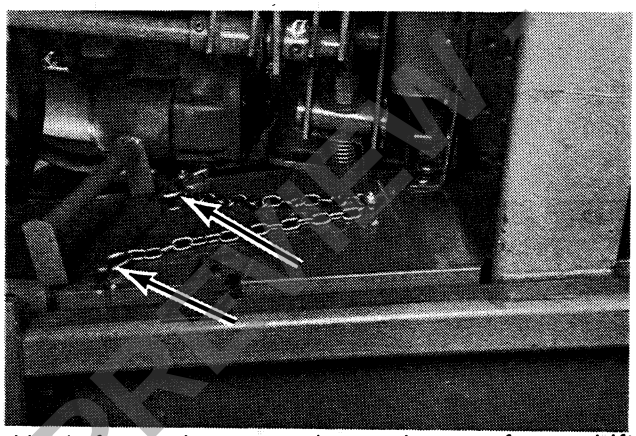
STEP 29



Install rear plant tunnel.

STEP 30





Hook front plant tunnel over bar on frame. Lift tunnel and install hair pins.

STEP 31

Refill reservoir with oil. Refer to operators manual for procedure.

Start Up Procedure

STEP 32

Fill reservoir with Hy-Tran.

STEP 33

Shift transmission to nuetral.

STEP 34

Set throttle to OFF position, turn engine over for 15 seconds.

STEP 35

Start engine and run at low idle for one minute.

If a rattling sound comes from the pump area of the machine, stop the engine and correct the problem.

This rattling sound is an indication of air in the pump and should stop as soon as the oil displaces the air.

STEP 36

Operate the hydraulic systems slowly until they respond fully.

STEP 37

Check fluid level in the reservoir and refill as necessary.

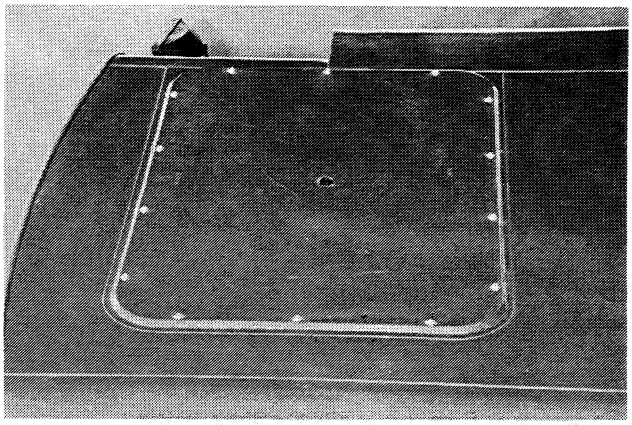
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EXPANSION VALVE TESTING

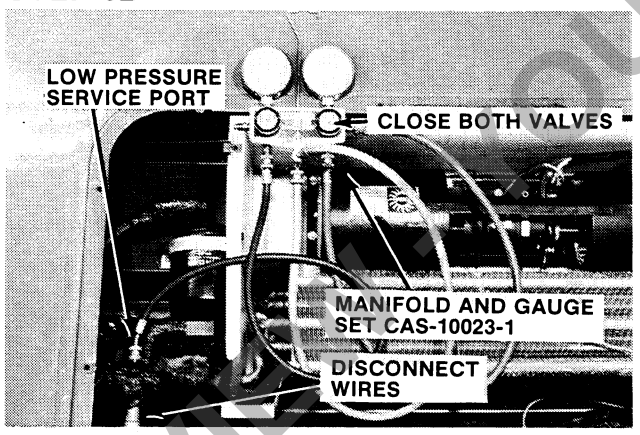
The following test is to be made with the expansion valve mounted in the system. No repair, cleaning or adjustment is recommended for the valve.

STEP 61



Remove cab roof access cover.

STEP 62



Install low pressure hose from Manifold and Gauge Set CAS-10023-1 to low pressure service port. Disconnect low pressure switch wires.

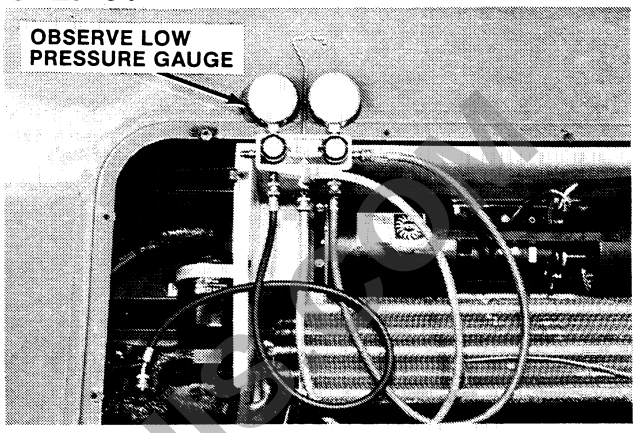
Close both manifold valves.

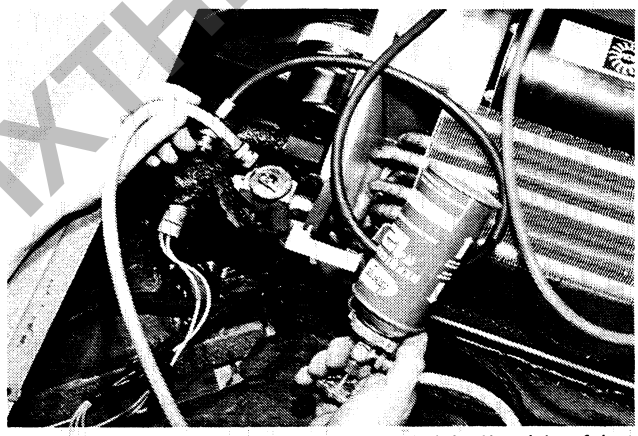
STEP 63

Start the engine, run at 1500 RPM. Turn blower switch to "HI" position, temperature control valve fully clockwise and observe low pressure gauge reading.

The low pressure will fluctuate in the 10 to 40 PSI (70 to 275 kPa) range as the compressor cycles ON and OFF.

STEP 64





Observe low pressure gauge and drip liquid refrigerant (container upside down) on the cap of the expansion valve.

Pressure should start to lower. When the pressure reaches 6 PSI (40 kPa), the compressor will stop and the pressure rise to around 45 to 75 PSI (310 to 520 kPa).

STEP 65

Stop dripping the refrigerant on the expansion valve and observe the low pressure gauge.

Within a few minutes, the expansion valve should open and the pressure should rise at the low pressure gauge.

STEP 66

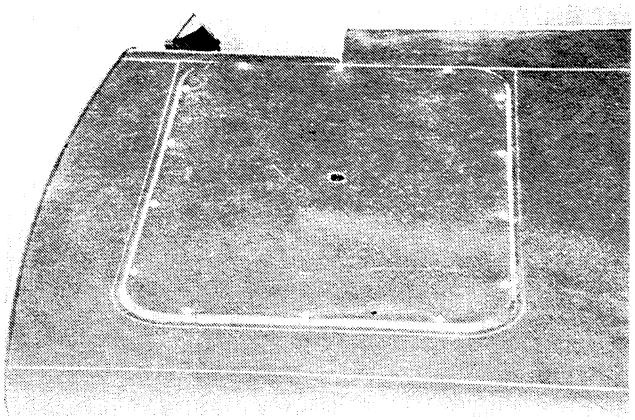
If the pressure does not react as shown here, the valve is not operating. Replace the valve.

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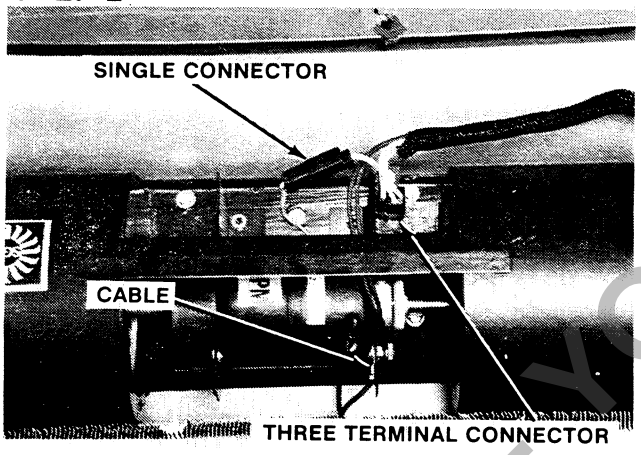
BLOWER HOUSING AND MOTOR REMOVAL

STEP 1



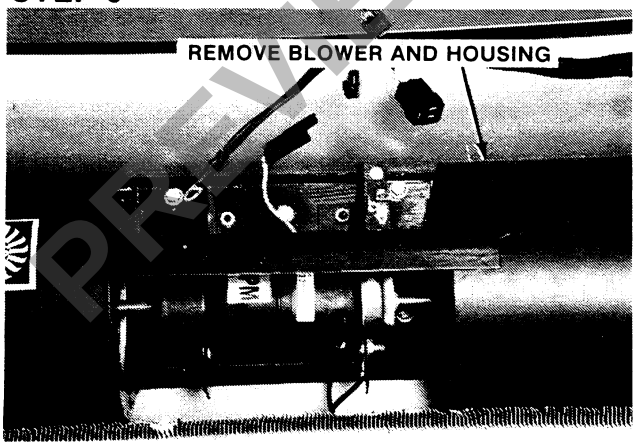
Remove the roof access cover.

STEP 2



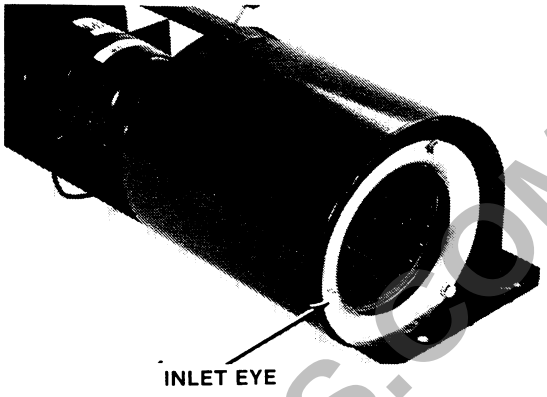
Remove cable from mounting bolt, disconnect single connector and three terminal connector..

STEP 3



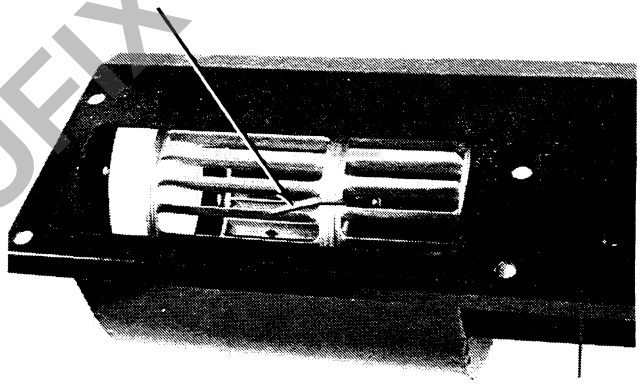
Remove screws securing the blower housing to the cab. Remove blower and housing.

STEP 4



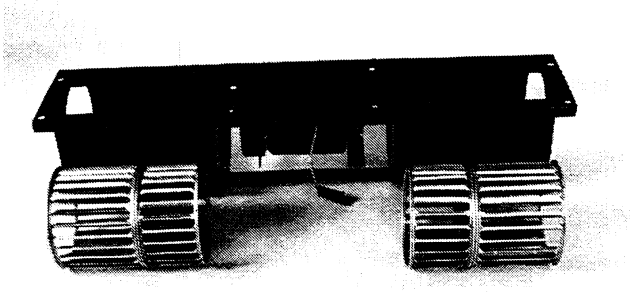
Remove the inlet eye from both ends of blower housing.

STEP 5



Loosen Allen socket screw securing the wheel fans to the motor shaft.

STEP 6

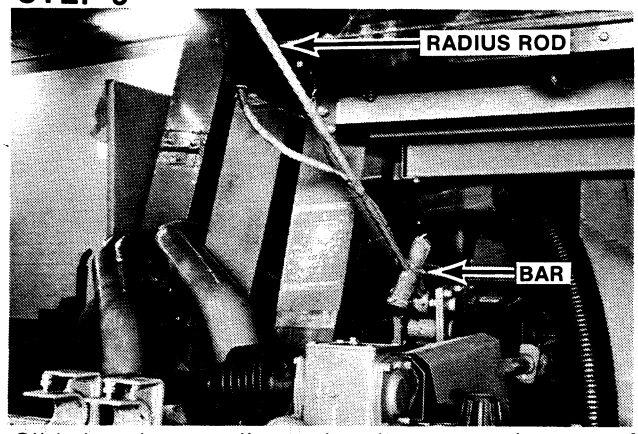


Remove the wheel fans from the blower motor shaft and housing.

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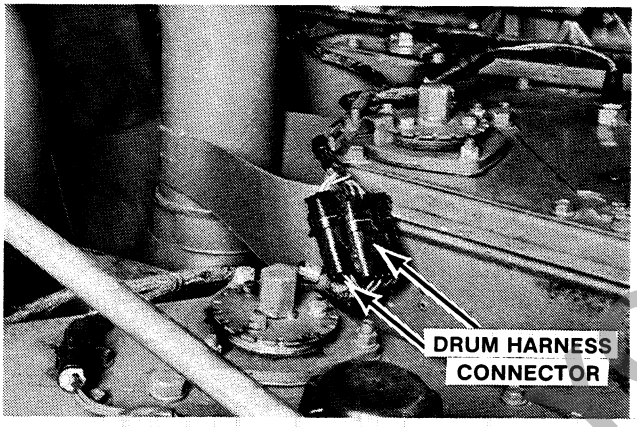
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STEP 8



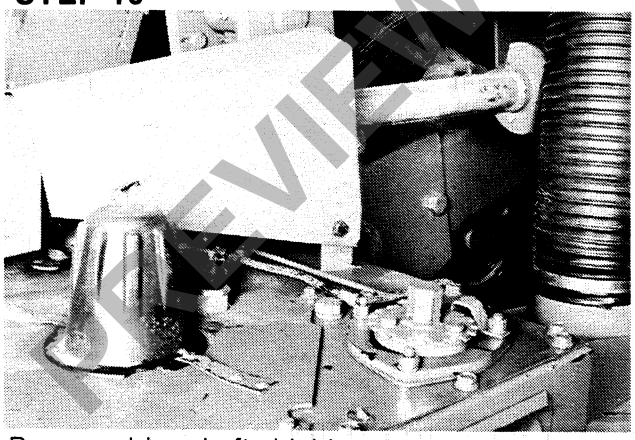
Slide bar down radius rod and secure rod up out of the way.

STEP 9



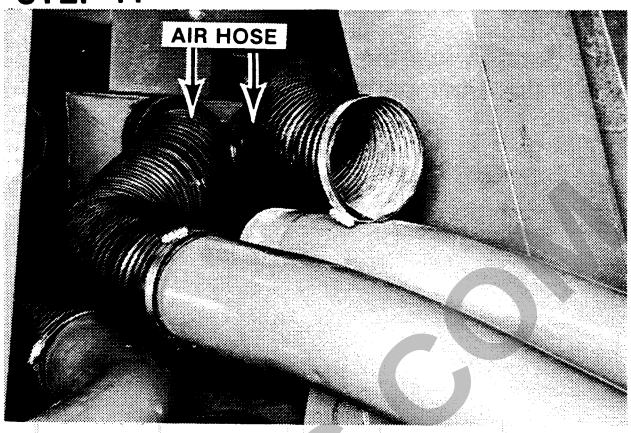
Disconnect drum harness from companion drum (only on 1844) at connector.

STEP 10



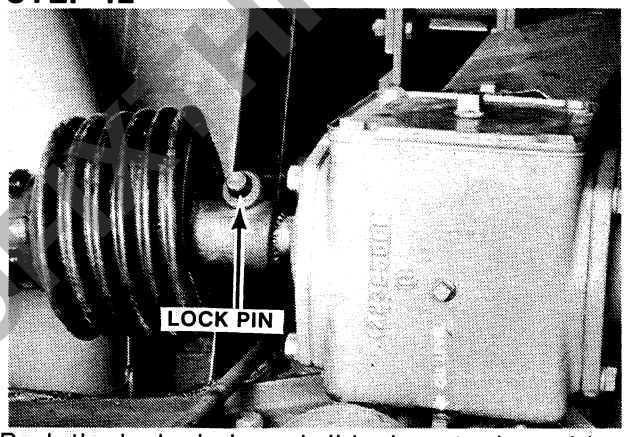
Remove drive shaft shield.

STEP 11



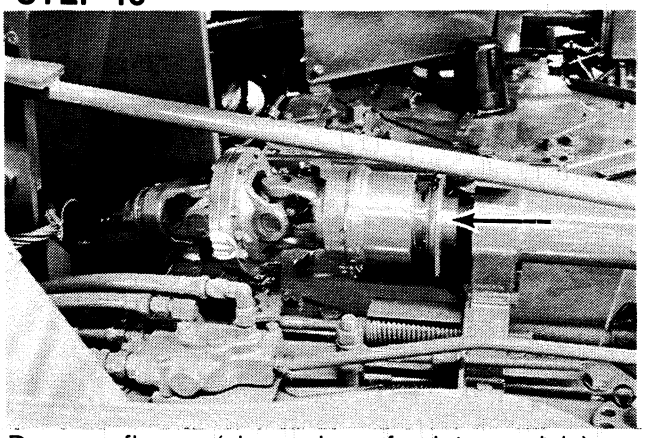
Remove the air hoses from the drum inlet tubes.

STEP 12



Push the lock pin in and slide drum to drum drive shaft from the gear box shaft. Swing shaft out of way or remove. (Only on 1844 Cotton picker)

STEP 13



Depress flange (shown here for late models) or depress push pin on early models and remove drive shaft from gearbox.

Late style drive shafts have a spring positioned flange which retains three locking balls between drum drive shaft and drive shaft yoke. Depress the flange to release.

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LOCTITE PRODUCT CHART

Product	Color	Similar Products	Gap (in inches)	Strength (Steel/Steel)	Working Temperature Range-Fahrenheit	Fixture/Full Cure (Steel/Steel) Time	Primer	Description
#3	Dark Brown					24 hr	764	Form a Gasket (works with oil, fuel or grease) Pliable
80	Yellow					Fast	764	Weatherstrip Adhesive
123	Clear					N/A	N/A	Parts Cleaner Fluid
220	Blue	290	.003	57/143 in lbs	-65 to +250	6 min/24 hr	747	Wicking Threadlocker
221	Purple	222	.005	75/44 in lbs	-65 to +300	2 min/24 hr	747	Low Strength Threadlocker
222	Purple		.005	45/25 in lbs	-65 to +300	10 min/24 hr	747	Low Strength Threadlocker (Small Screws)
225	Brown	222	.010	45/25 in lbs	-65 to +300	7 min/24 hr	747	Low Strength Threadlocker
242	Blue		.005	80/50 in lbs	-65 to +300	10 min/24 hr	747	Medium Strength Threadlocker
262	Red	271	.005	160/190 in lbs	-65 to +300	5 min/24 hr	747	High Strength Threadlocker
270	Green	271	.007	160/320 in lbs	-65 to +300	3 min/24 hr	747	High Strength Threadlocker
271	Red	262	.007	160/320 in lbs	-65 to +300	10 min/24 hr	747	High Strength Threadlocker
272	Red	620	.010	180/270 in lbs	-65 to +450	30 min/24 hr	747	High Temperature, High Strength
275	Green	277	.010	210/300 in lbs	-65 to +300	3 min/24 hr	747	High Strength Threadlocker
277	Red		.010	210/300 in lbs	-65 to +300	60 min/24 hr	747	High Strength Threadlocker
290	Green		.003	85/350 in lbs	-65 to +300	6 min/24 hr	747	Wicking Threadlocker
*404	Clear	495	.006	3200 psi	-65 to +180	30 sec/24 hr	N/A	Instant Adhesive
*406	Clear		.004	3200 psi	-65 to +180	15 sec/24 hr	N/A	Surface Insensitive Adhesive
*409	Clear	454	.008	2500 psi	-65 to +180	50 sec/24 hr	N/A	Gel Instant Adhesive
*414	Clear		.006	2500 psi	-65 to +180	30 sec/24 hr	N/A	Instant Adhesive
*415	Clear	454	.010	2500 psi	-65 to +180	50 sec/24 hr	N/A	Gap Filling Instant Adhesive (Metals)
*416	Clear	454	.010	2500 psi	-65 to +180	50 sec/24 hr	N/A	Gap Filling Instant Adhesive (Plastics)
*420	Clear		.002	2500 psi	-65 to +180	15 sec/24 hr	N/A	Wicking Instant Adhesive
*422	Clear	454	.020	2800 psi	-65 to +180	60 sec/24 hr	N/A	Gap Filling Instant Adhesive
*430	Clear		.005	2500 psi	-65 to +180	20 sec/24 hr	N/A	Metal Bonding Adhesive
*445	White/Black		.250	2000 psi	-65 to +180	5 min/24 hr	N/A	Fast Setting 2 Part Epoxy
*454	Clear		.010	3200 psi	-65 to +180	15 sec/24 hr	N/A	Surface Insensitive Gel Instant Adhesive
*495	Clear		.004	2500 psi	-65 to +180	20 sec/24 hr	N/A	General Purpose Instant Adhesive
*496	Clear		.005	2500 psi	-65 to +180	20 sec/24 hr	N/A	Metal Bonding Adhesive
504	Brt Orange	515	.030	750 psi	-65 to +300	90 min/24 hr	None	Rigid Gasket Eliminator
510	Red		.020	1000 psi	-65 to +400	30 min/24 hr	764	High Temperature, Gasket Eliminator
515	Purple		.010	750 psi	-65 to +300	1 hr/24 hr	764	Gasket Eliminator 515
518	Red	515	.030	500 psi	-65 to +300	1 hr/24 hr	764	Gasket Eliminator 578 for Aluminum

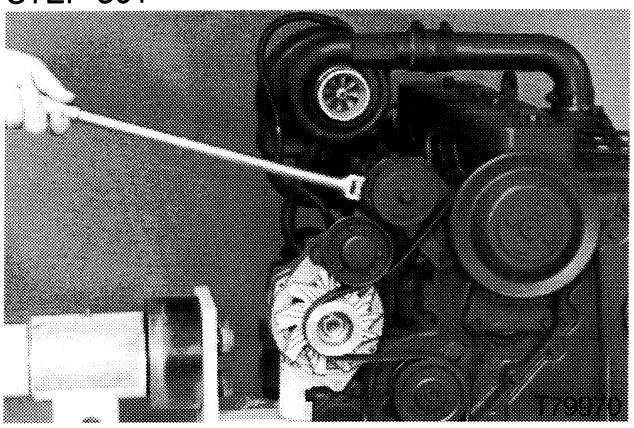
Rac 8-98900

* Products 404-496 (except for #445) are all instant adhesives (super glues) they differ mostly in viscosity.

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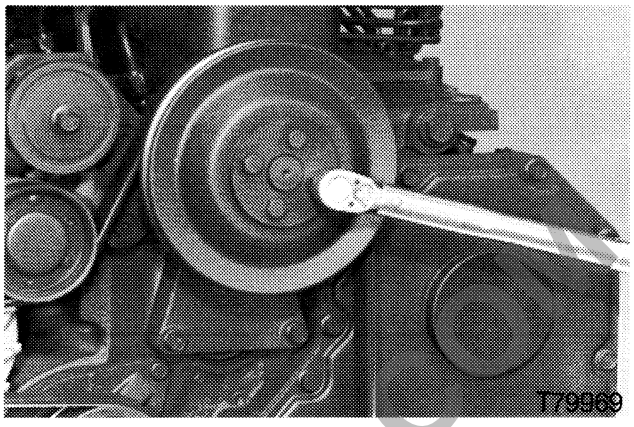
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STEP 301



Lift the belt tensioner and install the fan belt.

STEP 302

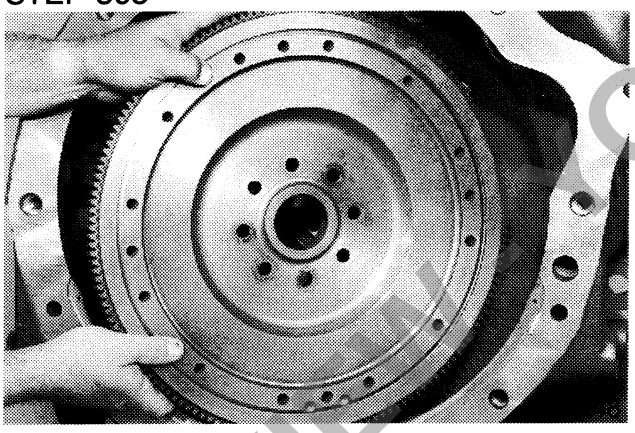


Tighten the fan pulley bolts as follows:

Grade 8.8 Size M8	25 to 31 Nm
Grade 10.9 Size M8	37 to 43 Nm
Grade 8.8 Size M10	51 to 62 Nm
Grade 10.9 Size M10	51 to 62 Nm

FLYWHEEL
Removal

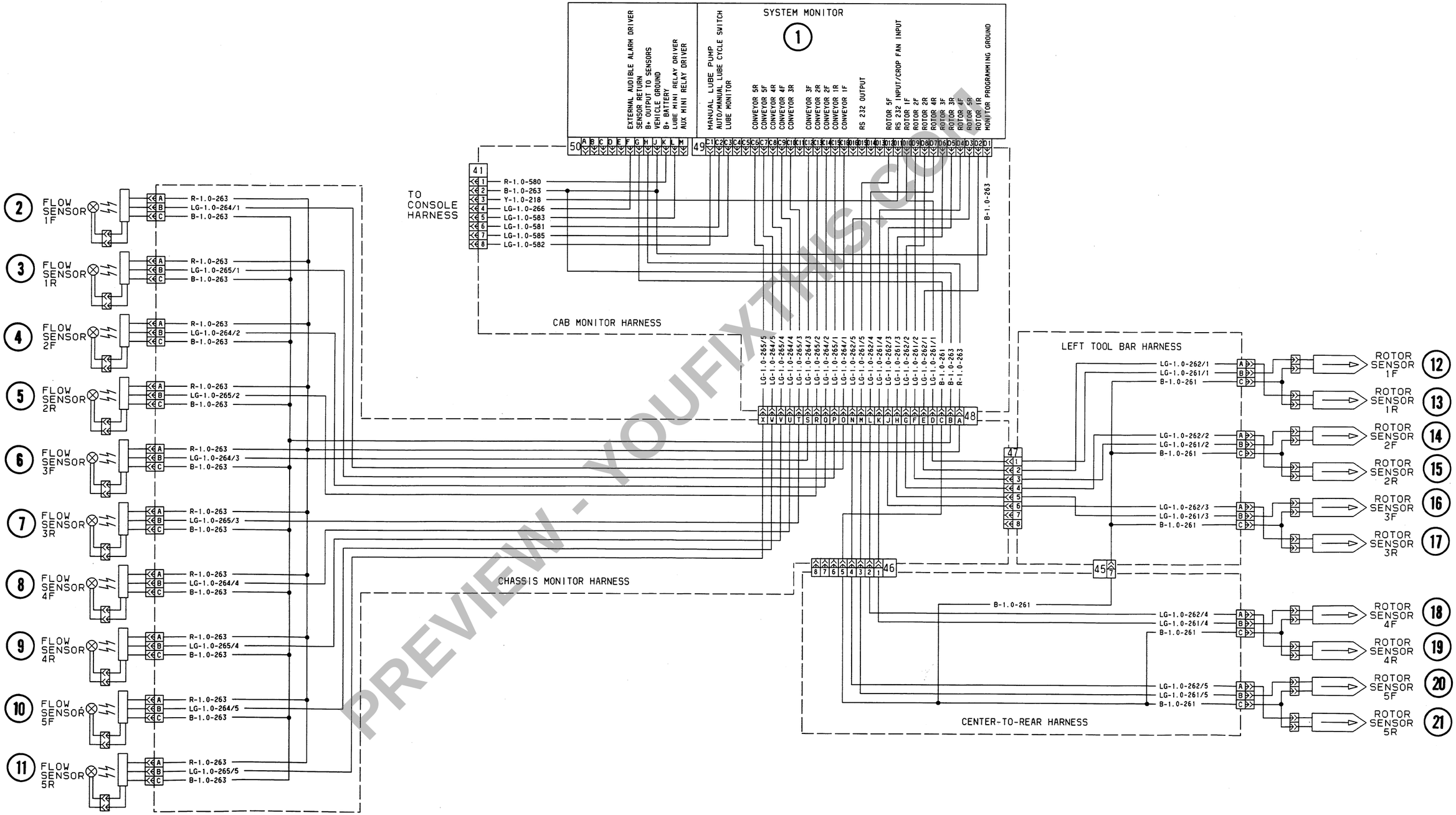
STEP 303



Remove the flywheel bolts and the flywheel from the flywheel housing.

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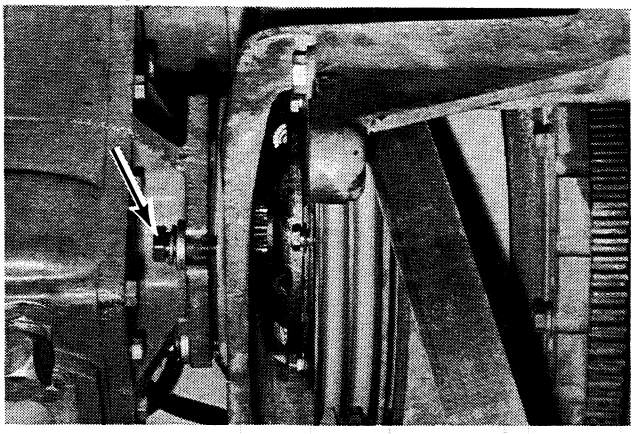
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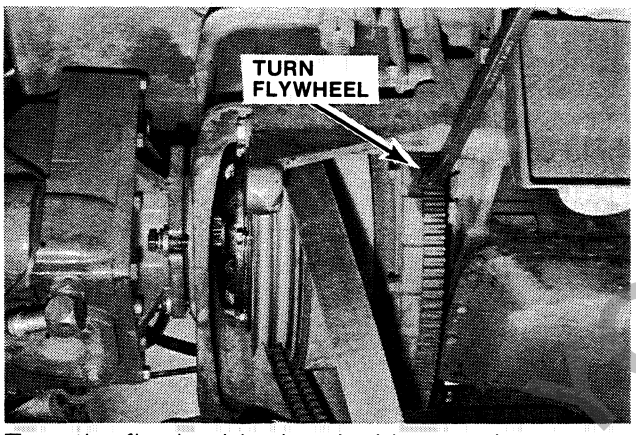
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STEP 17



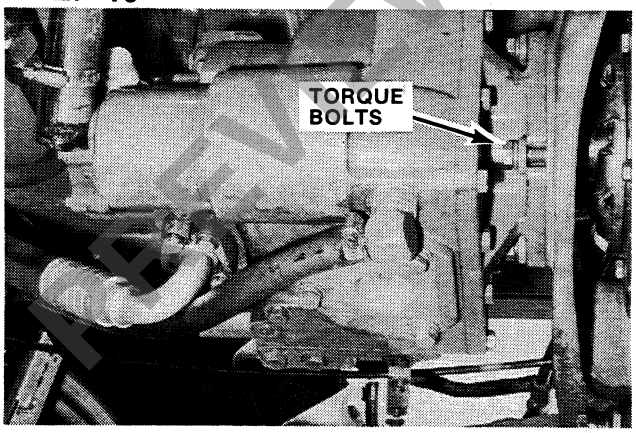
Install the two lower pump mounting bolts into the flywheel housing to use as guide bolts.

STEP 18



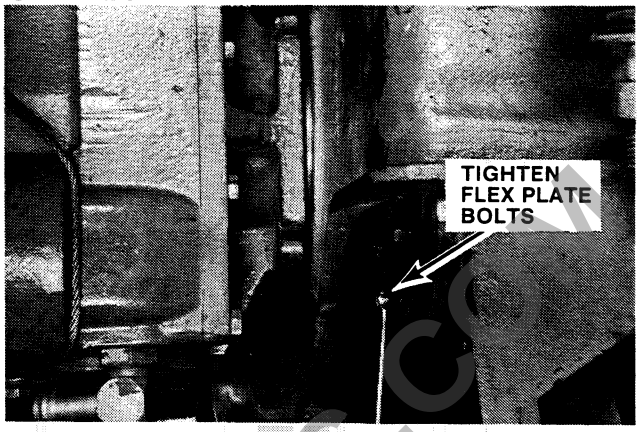
Turn the flywheel by hand with a pry bar as you install the pump shaft into the flex plate. This will help line up the splines.

STEP 19



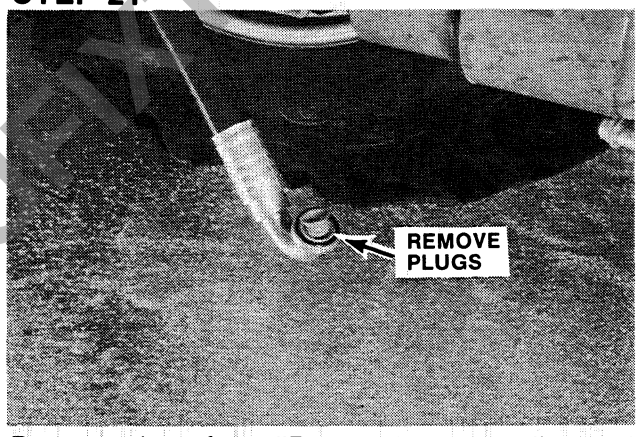
Once the pump shaft is engaged in the flex plate splines, install all bolts and washers mounting the pump to the flywheel housing. Torque the bolts to 80 to 90 lb ft (110 to 120 Nm) Remove hoist, eyebolt and lifting eye.

STEP 20



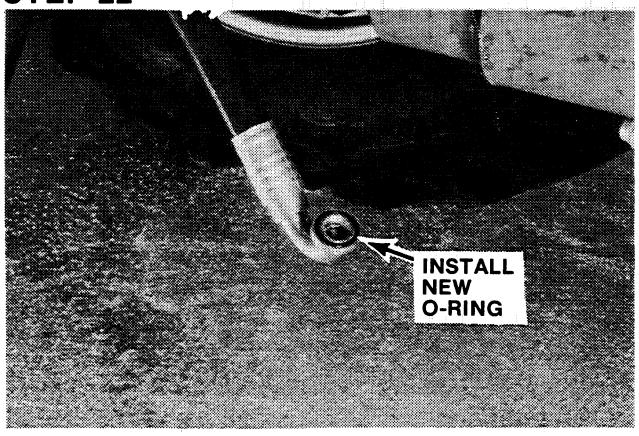
Rotate the flywheel by hand at least two full revolutions to seat the flex plate properly on the pump shaft splines. Tighten the flex plate mounting bolts.

STEP 21



Remove plugs from "Reverse" pressure line and opening at pump.

STEP 22



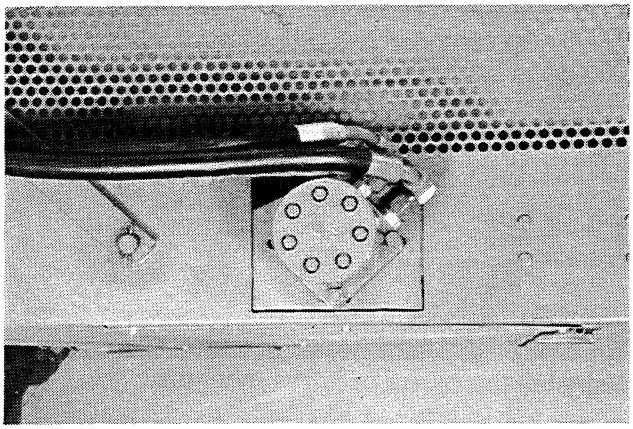
Install a new o-ring, lubricate with Hy-Tran oil.

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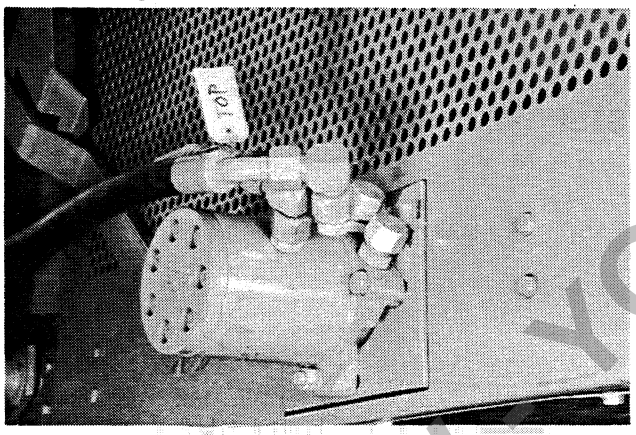
CONVEYOR MOTOR OVERHAUL

STEP 147



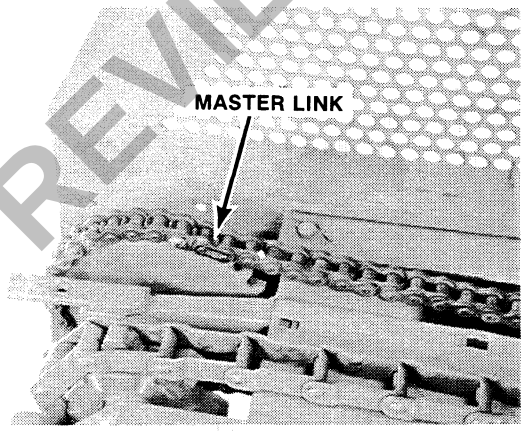
Clean the area around the conveyor motor.

STEP 148



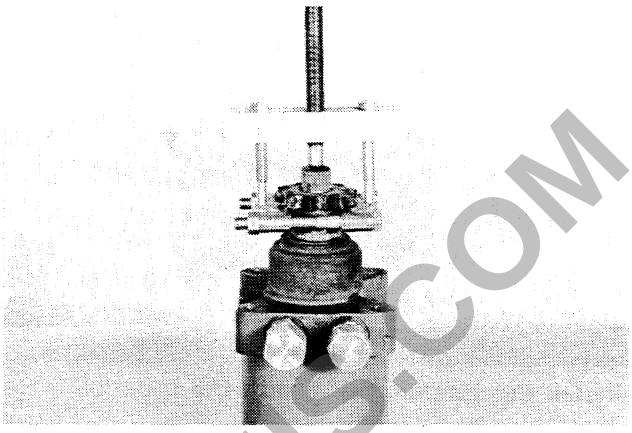
Disconnect the hydraulic hoses and cap or plug all openings. Mark the hoses for reassembly.

STEP 149



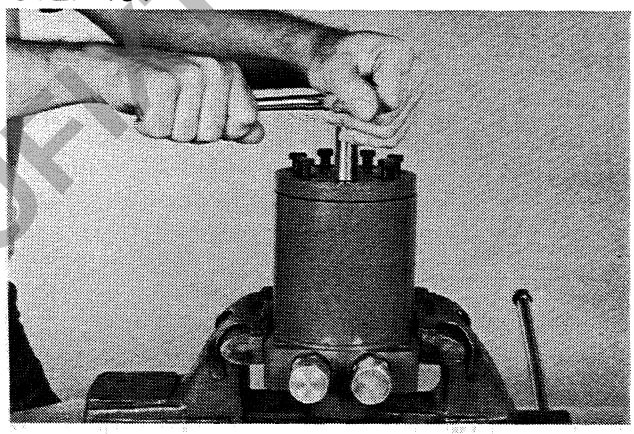
Remove the drive chain and mounting bolts, then remove the motor.

STEP 150



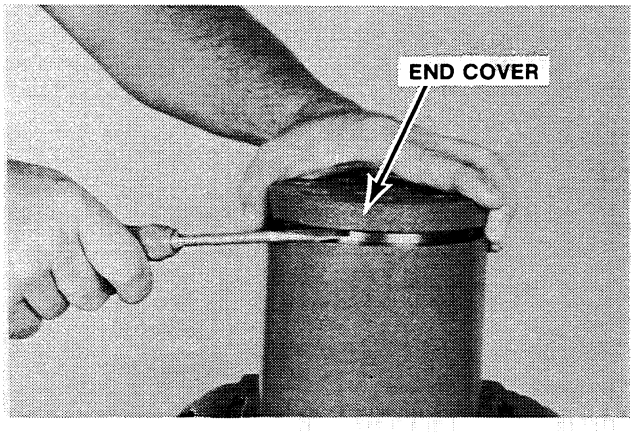
Remove the drive sprocket.

STEP 151



Place the motor in a vise with the shaft down. Remove the seven bolts from the back.

STEP 152



Using a screwdriver, remove the end cover.

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