LOCTITE PRODUCT CHART

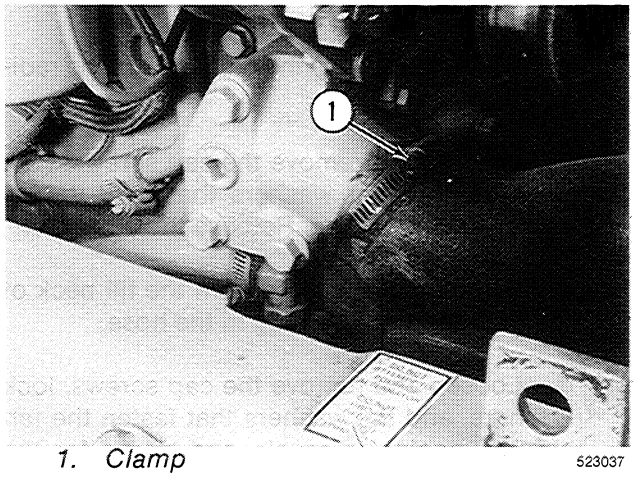
Product	Color	Similar Products	Gap (In Inches)	Strength (Steel/Steel)	Working Temperature Range-Farenheit	Fixture/Full Cure (Steel/Steel) Time	Primer	Description
518	Red	515	0.030	500psi	-65 to +300	1hr/24 hrs	764	Gasket Eliminator 518 for Aluminum
542	Brown	569	N/A	132/92 in lbs	-65 to +300	2 hr/24 hrs	747	Hydraulic Sealant
545	Purple		N/A	25/20 in lbs	-65 to +300	4 hr/24 hrs	747	Low Strength Pneumatic/Hydraulic Sealant
549	Orange	504	0.020	2500 psi	-65 to +300	2 hr/24 hrs	747	Instant Seal Plastic Gasket
554	Red	277	0.015	240/240 in lbs	-65 to +300	2 to 4 hrs/24 hrs	764	Refrigerant Sealant
567	White	592	N/A	500 psi	-65 to +400	4 hrs/24 hrs	764	Pipe Sealant for Stainless Steel
568	Orange	277	0.015	2500 psi	-65 to +300	12 hrs/24 hrs	764	Plastic Gasket
569	Brown	545	0.010	40/25 in lbs	-65 to +300	1 hr/24 hrs	764	Hydraulic Sealant
570	Brown	592	N/A	25/40 in lbs	-65 to +300	6 hrs/72 hrs	764	Steam Sealant
571	Brown	592	0.015	40/20 in lbs	-65 to +300	2 to 4 hrs/24 hrs	764	Pipe Sealant
572	White	578.575	N/A	80/27 in lbs	-65 to +300	24 hrs/72 hrs	None	Gasketing
592	White		0.020	500 psi	-65 to +400	4 hrs/72 hrs	736	Pipe Sealant with Teflon
593	Black		0.250	400 psi	-95 to +400	30 min/24 hrs	N/A	RTV Silicone
601	Green	609	0.005	3000 psi	-65 to +300	10 min/24 hrs	764	Current PIN #609
609	Green		0.005	3000 psi	-65 to +300	10 min/24 hrs	764	General Purpose Retaining Compound
620	Green	640	0.015	3000 psi	-65 to +450	30 min/24 hrs	747	High Temperature Retaining Compound
635	Green	680	0.010	4000 psi	-65 to +300	1 hr/24 hrs	747	High Strength Retaining Compound
638	Green	680	0.015	4100 psi	-65 to +300	10 min/24 hrs	747	High Strength Retaining Compound
640	Green	620	0.007	3000 psi	-65 to +400	1 hr/24 hrs	747	High Temperature Retaining Compound
660	Silver		0.020	3000 psi	-65 to +300	20 min/24 hrs	764	Quick Metal
675	Green	609	0.005	3000 psi	-65 to +300	20 min/24 hrs	747	General Purpose Retaining Compound
680	Green	635	0.015	4000 psi	-65 to +300	10 min/24 hrs	747	High Strength Retaining Compound
706	Clear	755	N/A	N/A	N/A	N/A	N/A	Cleaning Solvent
707	Amber		N/A	N/A	N/A	N/A	N/A	Activaltor for Structural Adhesives
736	Amber		N/A	N/A	N/A	N/A	N/A	Primer NF
738	Amber		N/A	N/A	N/A	N/A	N/A	Depend Activator
747	Yellow	N/A	N/A	N/A	N/A	N/A	N/A	Primer T
751	Clear		N/A	N/A	N/A	N/A	N/A	Activator for Structural Adhesives
755	Clear		N/A	N/A	N/A	N/A	N/A	Cleaning Solvent
764	Green		N/A	N/A	N/A	N/A	N/A	Primer N
767	Silver		N/A	N/A	-65 to +1600	N/A	N/A	Anti-Seize Lubricant

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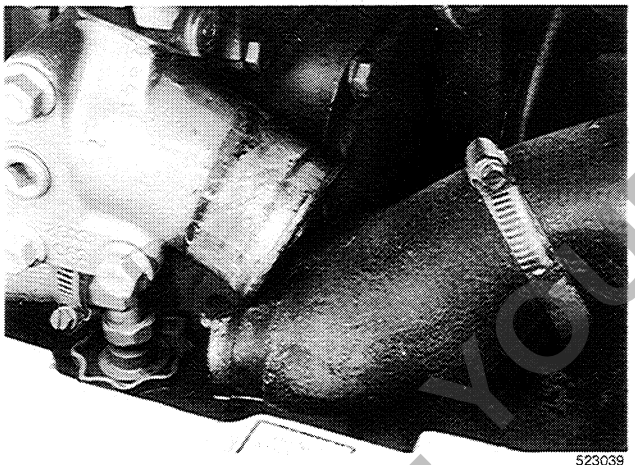
Printed in U.S.A.

23. Loosen the clamp on the bottom radiator hose.



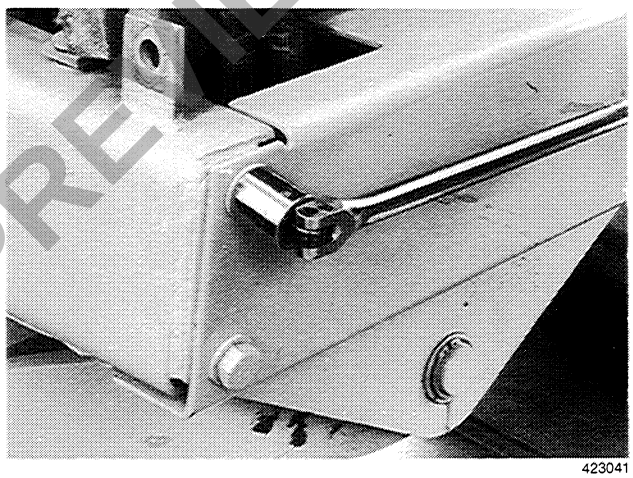
1. Clamp 523037

24. Remove the hose from the engine.



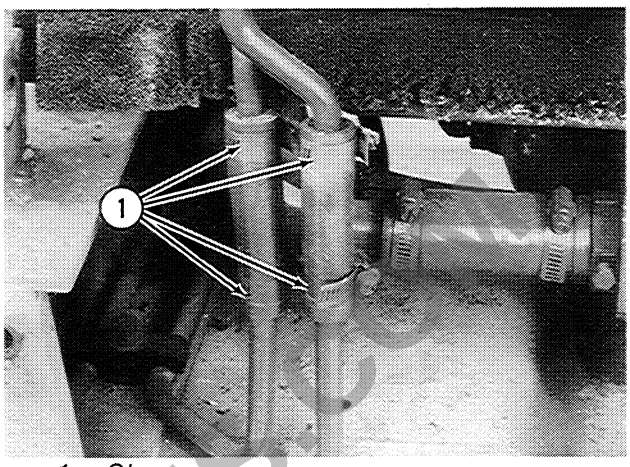
523039

25. Loosen and remove the cap screws and flat washers that hold the pump cover to the frame. Remove the pump cover.



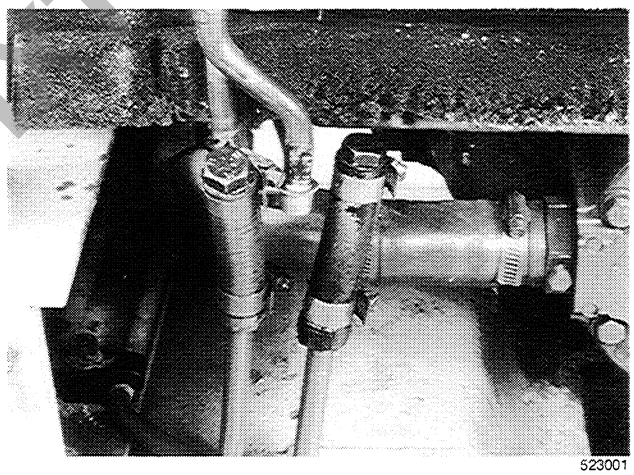
423041

26. Loosen the clamps on the hoses for the oil cooler.



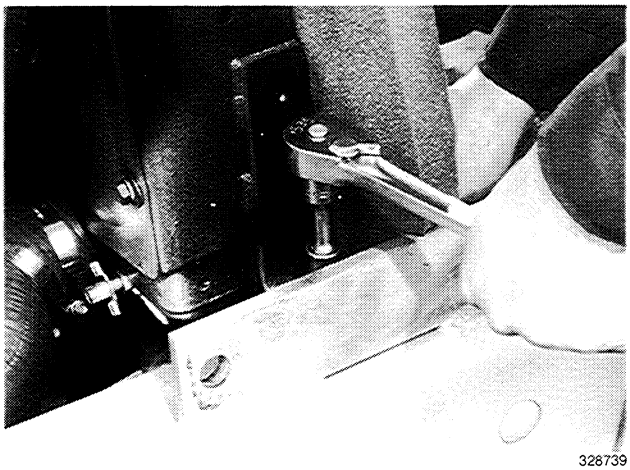
1. Clamps 523043

27. Disconnect the hoses from the oil cooler. Install plugs in the hoses and caps on the tubes.



523001

28. Loosen and remove the self-locking nuts, flat washers, and bolts that hold the radiator to the frame.

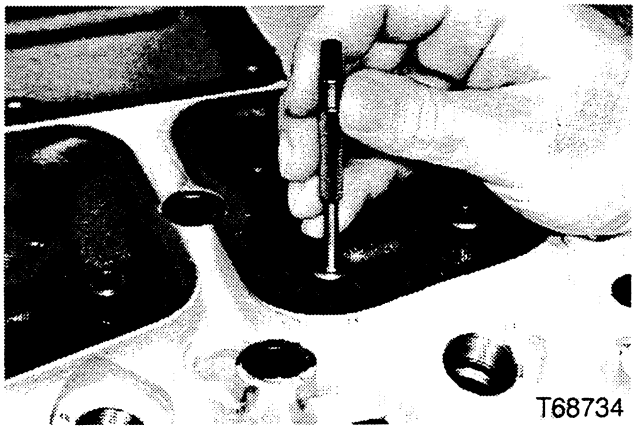


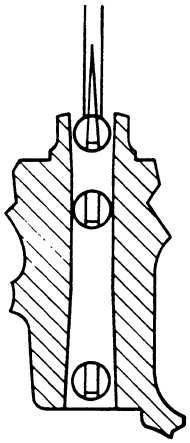
328739

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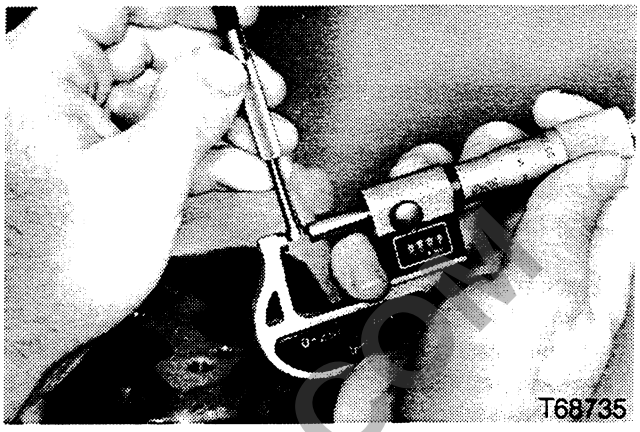
STEP 39





Measure the valve guide diameter at three depths with a bore gauge.

STEP 40



Measure the bore gauge with a micrometer. If the diameter of the valve guide at any depth is more than 8.089 mm, install a new valve guide. See Page 14 for 14 mm valve guides and Page 15 for 11 mm valve guides.

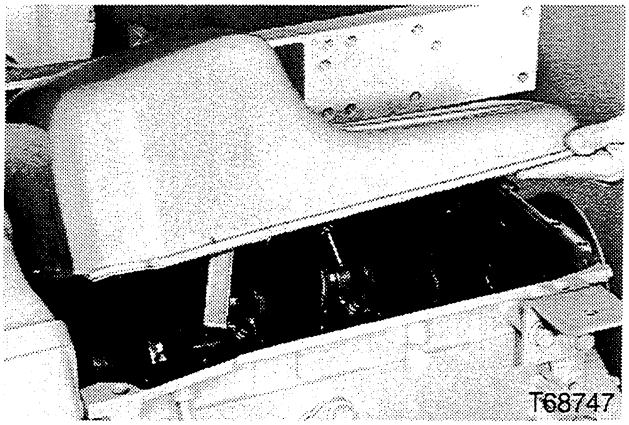
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REAR OIL SEAL AND WEAR SLEEVE INSTALLATION

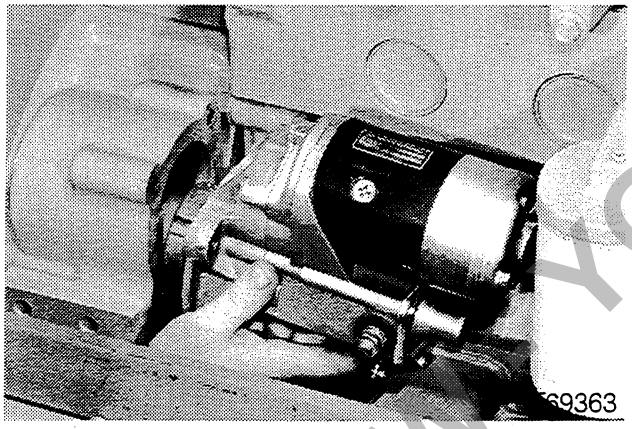
Used when the crankshaft flange is worn and standard seal does not stop oil flow.

STEP 56



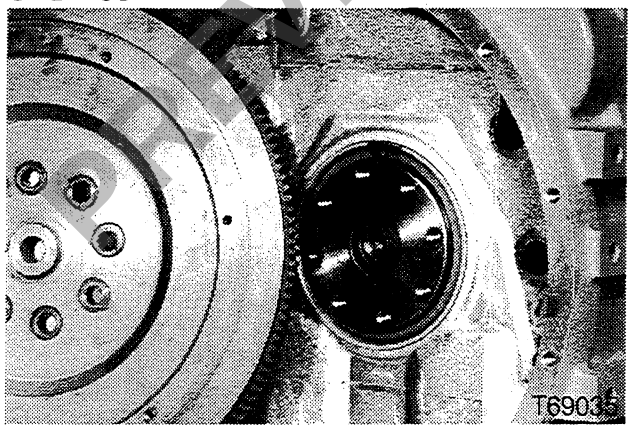
Remove the engine oil pan. See Section 2445 in the service manual for oil pan removal.

STEP 57



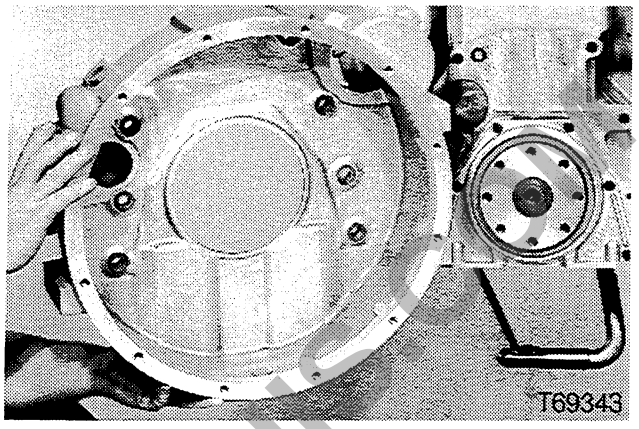
Remove the bolts and the starter from the flywheel housing.

STEP 58



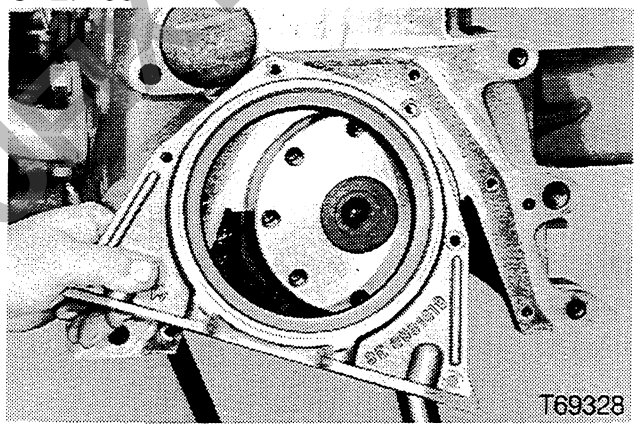
Remove bolts and the flywheel.

STEP 59



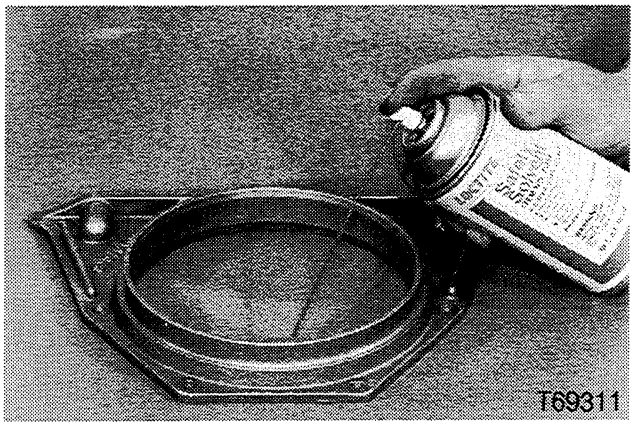
Remove the the bolts and flywheel housing.

STEP 60



Remove the bolts and the seal carrier from the crankshaft.

STEP 61

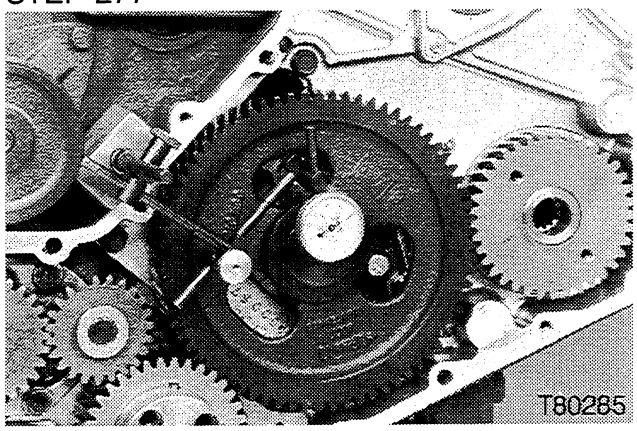


Remove the seal and clean the seal surface with Loctite safety solvent.

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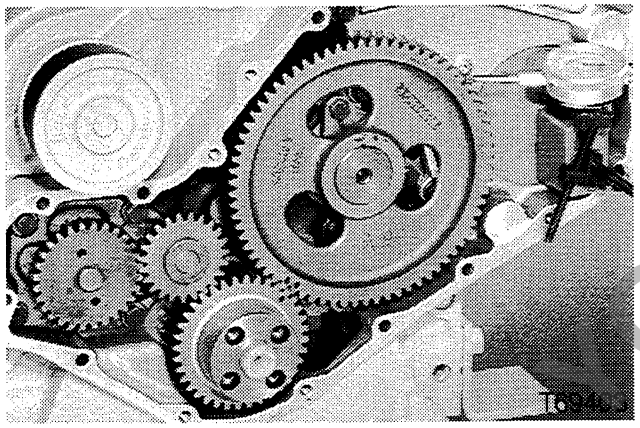
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STEP 277



Check the camshaft end clearance with a dial indicator. The end clearance must not be more than 0.130 to 0.470 mm. If the clearance is more than 0.470 mm, the camshaft thrust plate must be replaced.

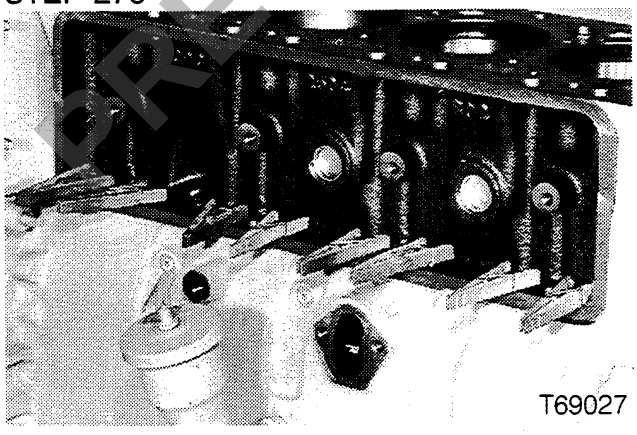
STEP 278



Put a dial indicator on the camshaft gear and check the gear backlash between the camshaft gear and the crankshaft gear. Gear backlash must be 0.08 to 0.330 mm. The gears must be replaced if the clearance is more than 0.45 mm.

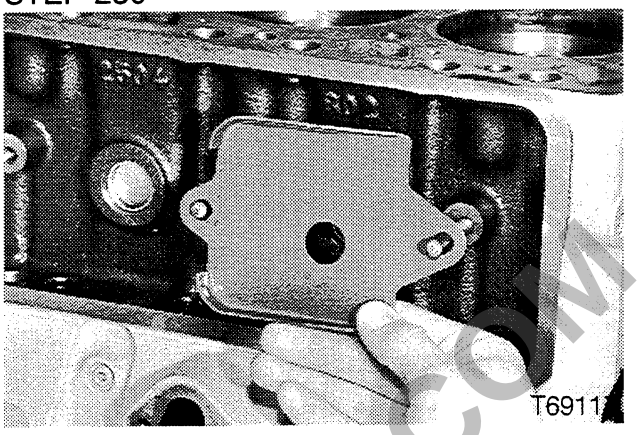
NOTE: *Too much gear clearance can also be caused by worn camshaft bushings.*

STEP 279



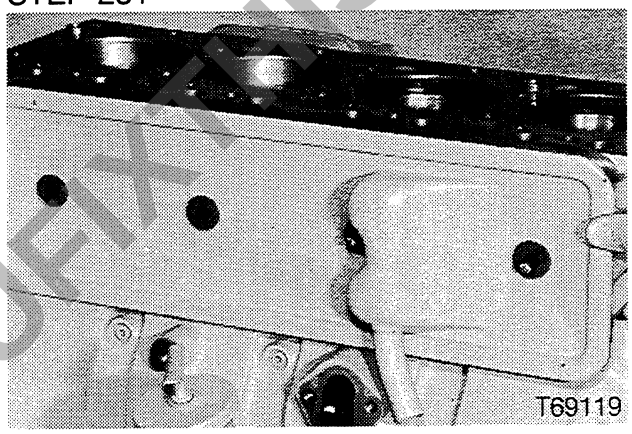
Remove the pins from the lifters.

STEP 280



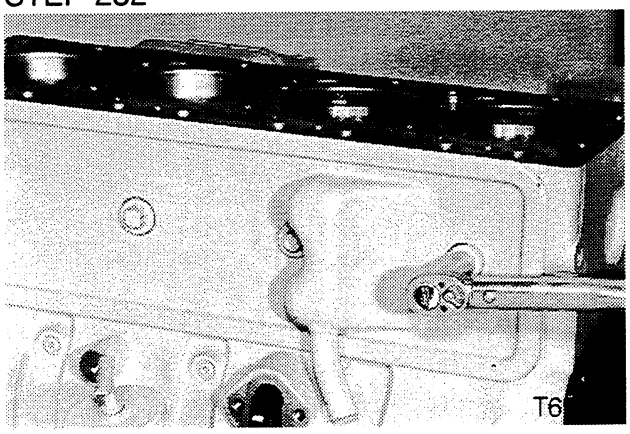
Install the oil breather cover, if equipped.

STEP 281



Install a new gasket on the lifter cover and install the lifter cover.

STEP 282



Install new seals on the lifter cover bolts and tighten the bolts to a torque of 21 to 27 Nm.

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Section

3413

FUEL INJECTORS

4-390 Diesel Engine

3413

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IMPORTANT: *This engine was made using the metric measurement system. All measurements and checks must be made with metric tools to make sure of an accurate reading when inspecting parts.*

CASE CORPORATION

Rac 8-24233

Printed in U.S.A.
June, 1983 (Revised February 1992)

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(4) Neutral Start Switch

Check Points	Reading	Possible Cause of a Bad Reading
NOTE: *Make sure the transmission control levers are in NEUTRAL.*		
Terminal for wire 18C to ground	Continuity	Bad ground circuit.
NOTE: *Disconnect wire 7D from the neutral start switch. Have another person hold the key switch in the START position.*		
Terminal in connector for wire 7D to ground	12 volts	Bad circuit between the neutral start switch and the starter relay. Also check the starter relay (5).
NOTE: *If the readings are good, replace the neutral start switch. Connect the wires to the neutral start switch.*		

(5) Starter Relay

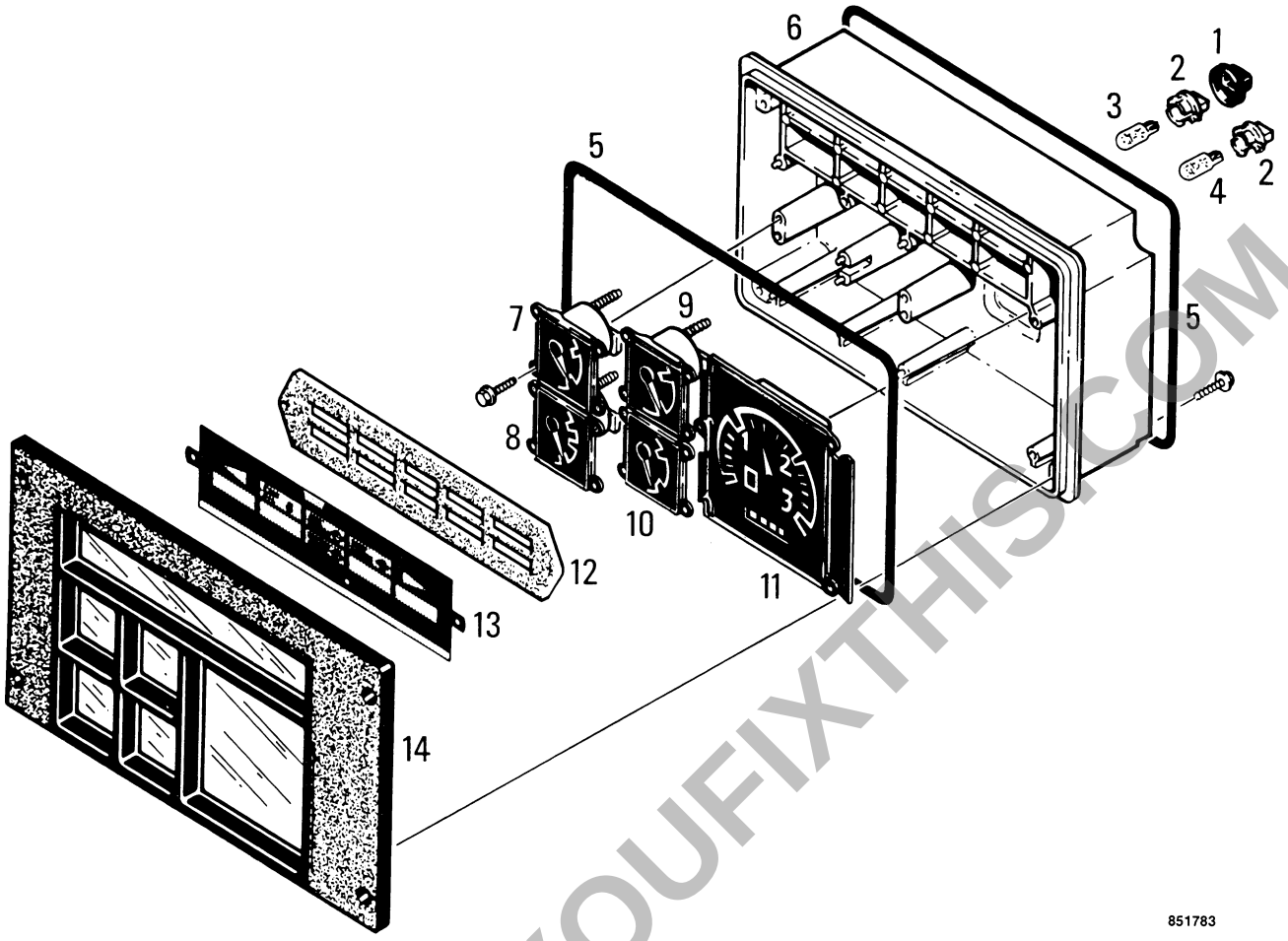
Check Points	Reading	Possible Cause of a Bad Reading
NOTE: *Make sure the transmission control levers are in NEUTRAL.*		
Terminal for wire 7D to ground	Continuity	Bad circuit between the starter relay and the neutral start switch. Also check the neutral start switch (4).
Terminal for wire 5C to ground	12 volts	Bad circuit between the starter relay and the battery terminal of the starter solenoid.
NOTE: *Have another person hold the key switch in the START position.*		
Terminal for wire 7 to ground	12 volts	Bad circuit between the starter relay and the key switch. Also check the key switch (6).
Terminal for wire 7B to ground	12 volts	Bad starter relay.

(6) Key Switch

Check Points	Reading	Possible Cause of a Bad Reading
Terminal for wire 5C to ground	12 volts	Bad circuit between key switch and the battery terminal of the starter solenoid.
NOTE: *Disconnect the harness connector from the key switch. Put the key switch in the ON position.*		
Between battery and ignition terminals of key switch	Continuity	Bad key switch.
Between battery and ACC terminals of key switch	Continuity	Bad key switch.
NOTE: *Have another person hold the key switch in the START position.*		
Between the battery and start terminals of the key switch	Continuity	Bad key switch.

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1. *Rubber Cover*
2. *Socket*
3. *Bulb, No. 194*
4. *Bulb, No. 168*
5. *Gasket*
6. *Body*
7. *Water Temperature Gauge*
8. *Fuel Level Gauge*
9. *Oil Temperature Gauge*
10. *Voltmeter*
11. *Tachometer*
12. *Gasket*
13. *Identification Strip*
14. *Cover*

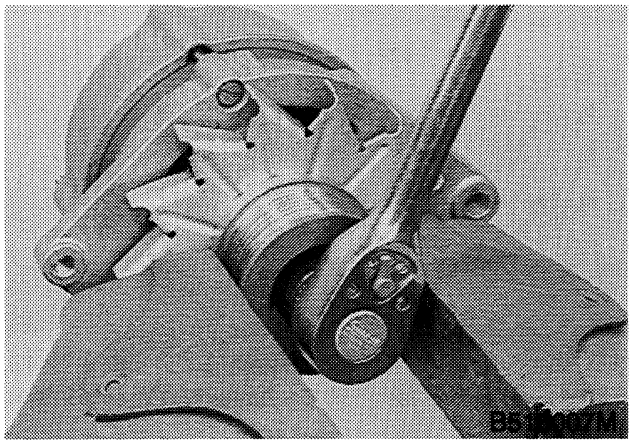
Instrument Cluster

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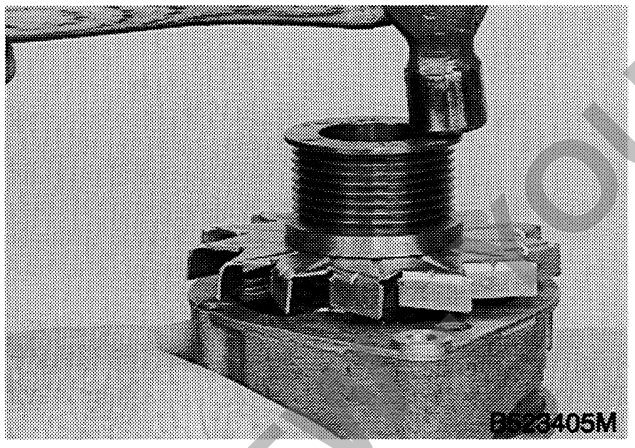
DISASSEMBLY

STEP 1



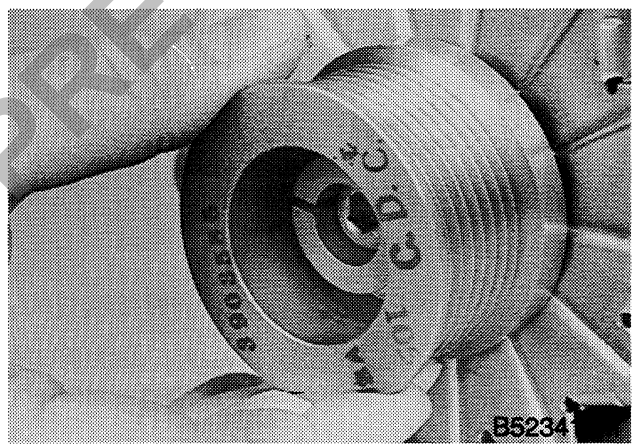
Fasten the pulley in a vise with soft jaws and remove the nut and lock washer.

STEP 2



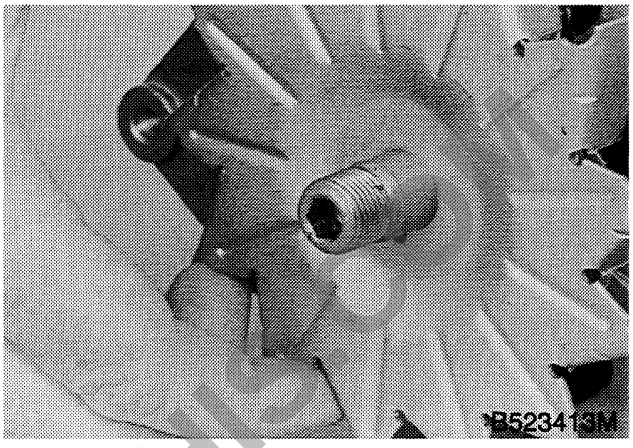
Hit the pulley with a hammer to loosen the tapered bushing in the pulley.

STEP 3



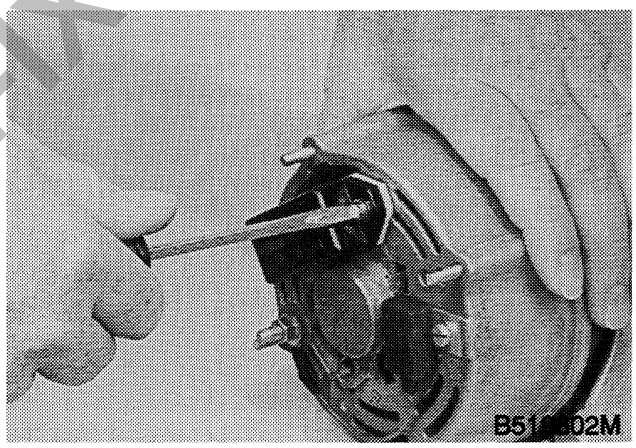
Remove the pulley and the tapered bushing.

STEP 4



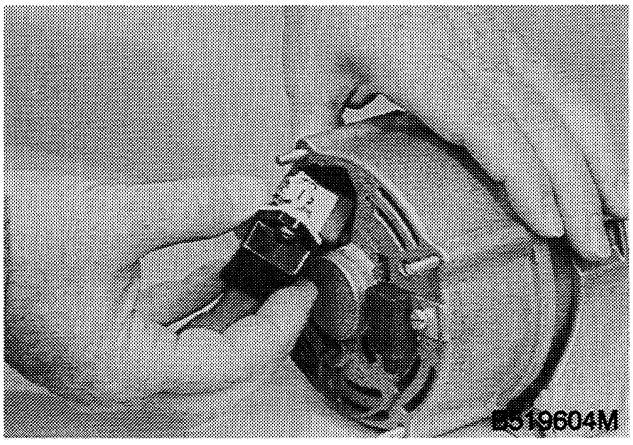
Remove the fan.

STEP 5



Remove the screws and flat washers that fasten the voltage regulator and brush holder to the housing.

STEP 6



Remove the voltage regulator and brush holder.

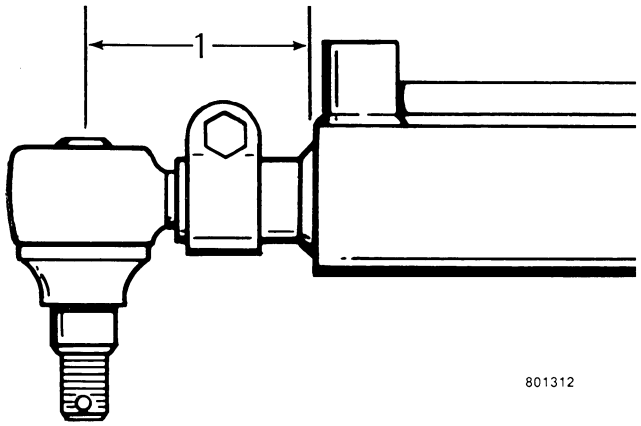
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INSTALLATION OF BALL JOINTS

IMPORTANT: The ball joints must be installed according to this procedure to prevent damage to the steering cylinder caused by the piston hitting the closed end of the steering cylinder or the gland at the rod end of the steering cylinder.

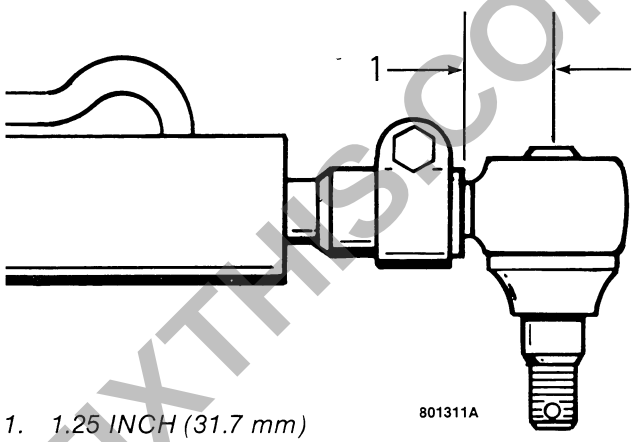
1. Turn the ball joint into the closed end of the steering cylinder until the center of the ball joint is 2.7 inches (68.5 mm) from the end of the steering cylinder.



1. 2.7 INCHES (68.5 mm)

2. Turn the clamp on the steering cylinder so that the bolt in the clamp is over the slot in the steering cylinder. Then tighten the nut on the bolt.

3. Turn the ball joint into the piston rod until the center of the ball joint is 1.25 inch (31.7 mm) from the end of the piston rod.



1. 1.25 INCH (31.7 mm)

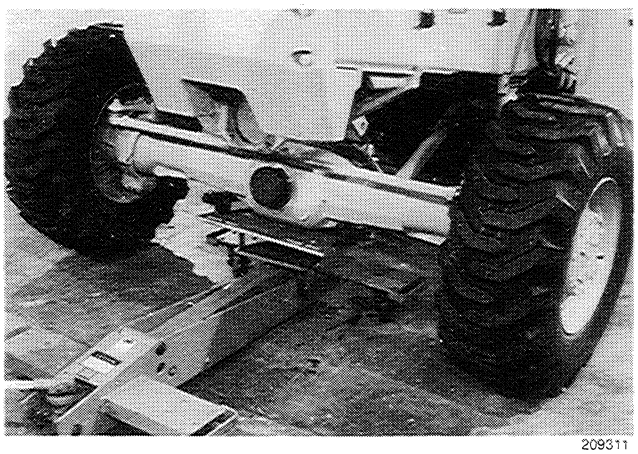
4. Turn the clamp on the piston rod so that the bolt in the clamp is over the slot in the piston rod. Then tighten the nut on the bolt.

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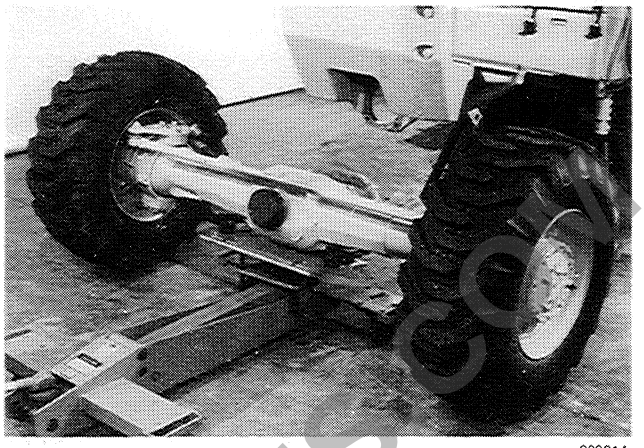
24. Lower the front axle a small amount. Move the steering cylinder hoses over the mounting arms for the drive shaft guard.

25. Lower the front axle until the front axle can be removed.



209311

26. Remove the front axle from under the machine.



209314

27. If necessary, loosen and remove the wheel nuts. Remove the wheels and tires.

28. If necessary, remove the steering cylinders from the front axle.

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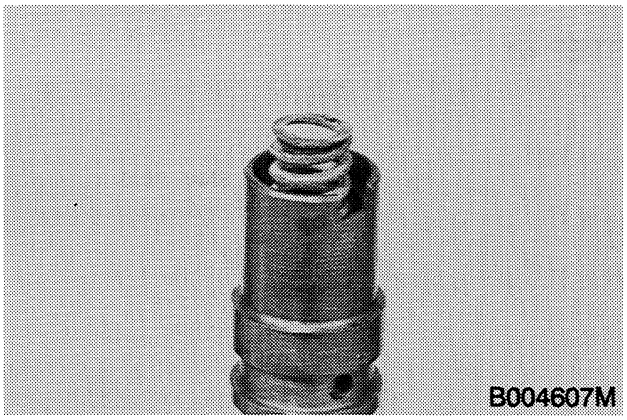
SECTION INDEX - POWER TRAIN

Section Title	Section Number
Maintenance and Troubleshootting	6202
Removal and Installation of Power Train Components	6209
Power Shuttle	6210
Controls	6211
Transaxle and Differential Lock	6215
Transfer Gearbox - Four Wheel Drive	6216
Wheels and Tires	6229

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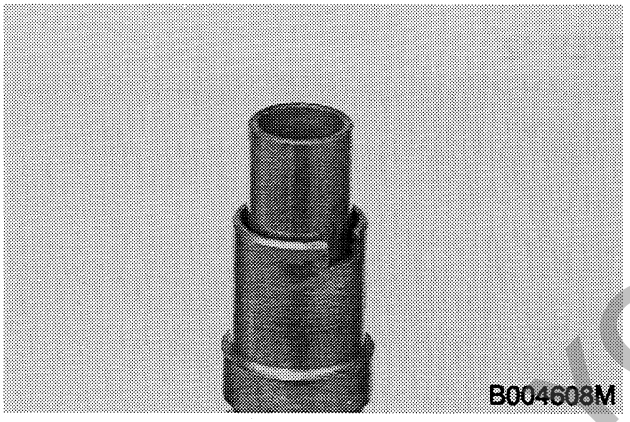
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STEP 44



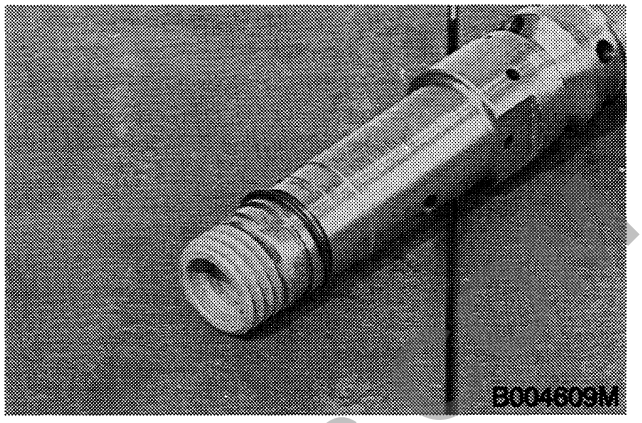
Remove the spring.

STEP 45



Remove the piston.

STEP 46



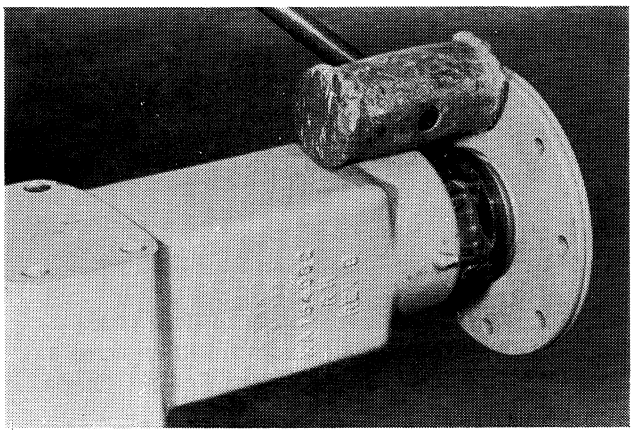
Remove the O-rings from the control valve.

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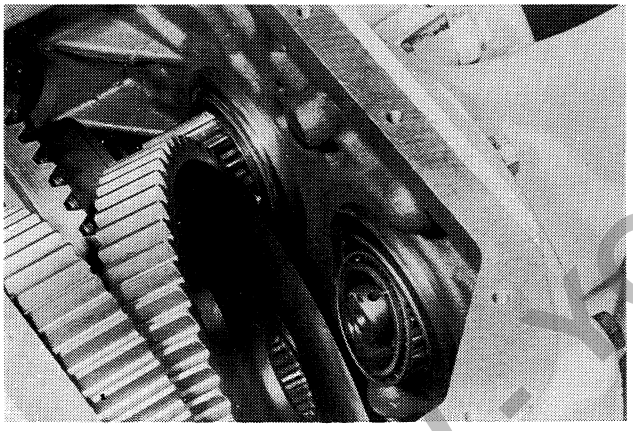
Axle Shaft Removal

STEP 17



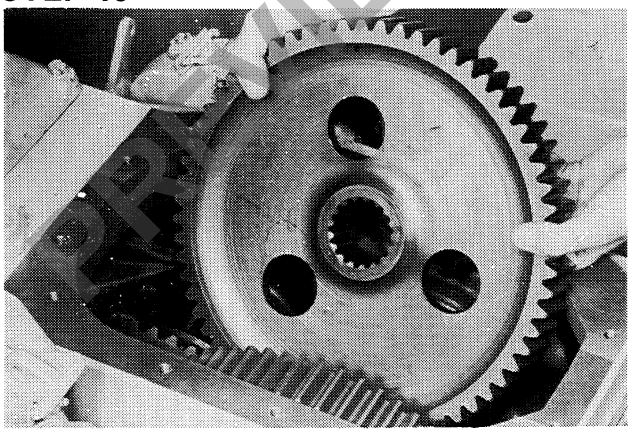
Push the axle shaft out of the housing.

STEP 18



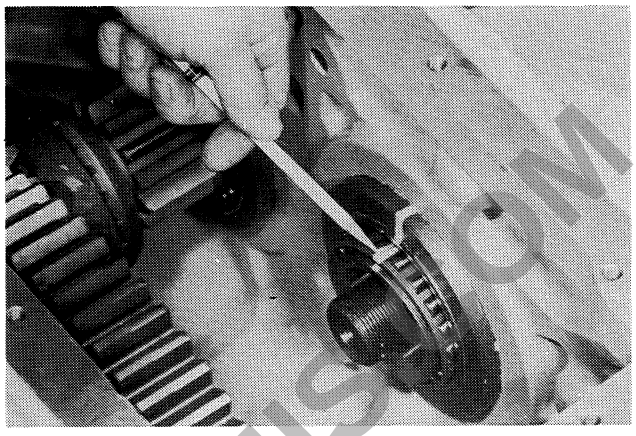
Push the axle out of the housing until the inner bearing cone is loose.

STEP 19



Remove the final drive gear.

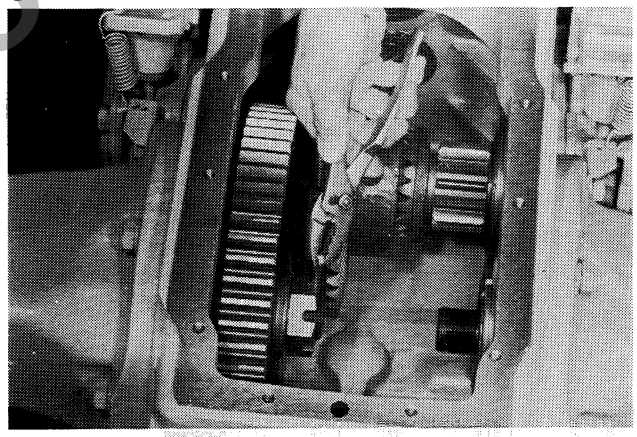
STEP 20



Mark the axle housing, bearing cup and the bearing cone before removal, for correct side identification of parts for assembly.

NOTE: *If either the bearing cup or the bearing cone is replaced, you must replace both the bearing cup and bearing cone.*

STEP 21

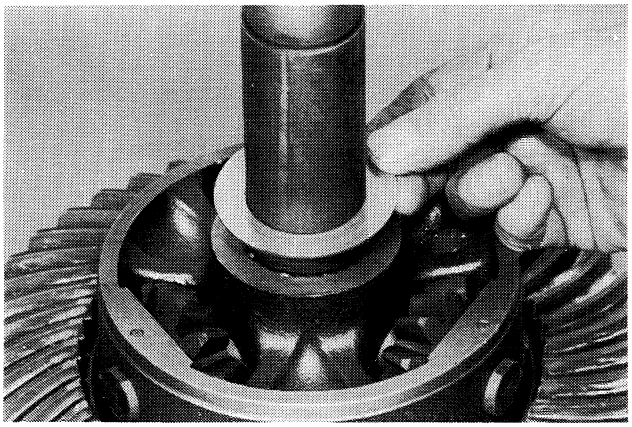


Remove the other final drive gear and axle by following Steps 6 through 19.

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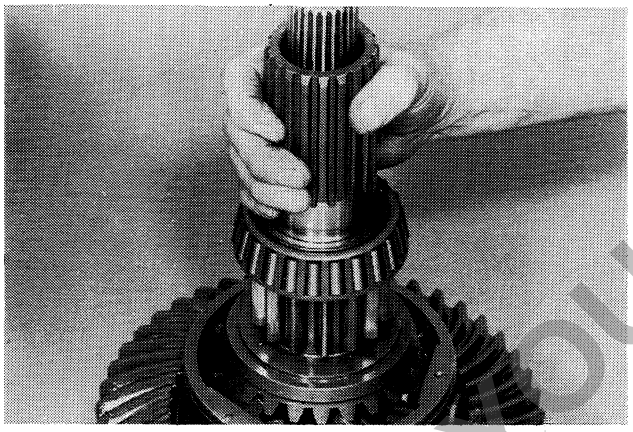
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STEP 200



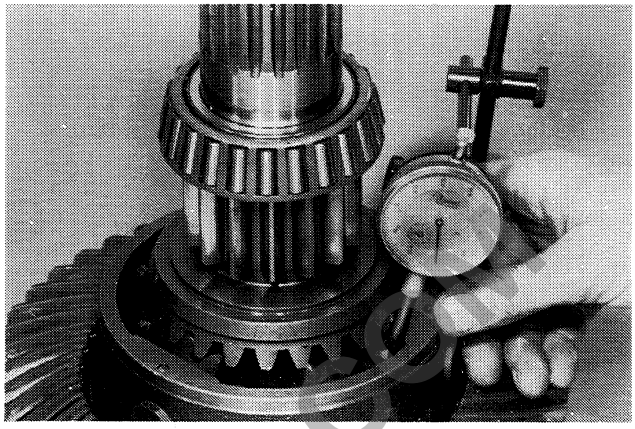
Place a thrust washer on cross shaft.

STEP 201



Install the RH side gear and check the pinion gear to make sure there is backlash present.

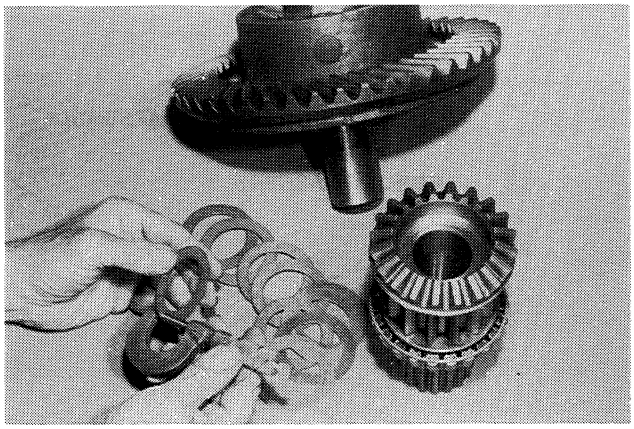
STEP 202



Put a dial indicator on one of the pinion gear teeth. Hold the side gear in place and rotate the pinion gear in both directions checking backlash. Check the backlash in several sections of the side gear.

IMPORTANT: *Backlash must be 0.005 inch (0.127 mm) minimum at the tightest pinion gear and no more than 0.015 inch (0.381 mm) at the loosest pinion gear.*

STEP 203



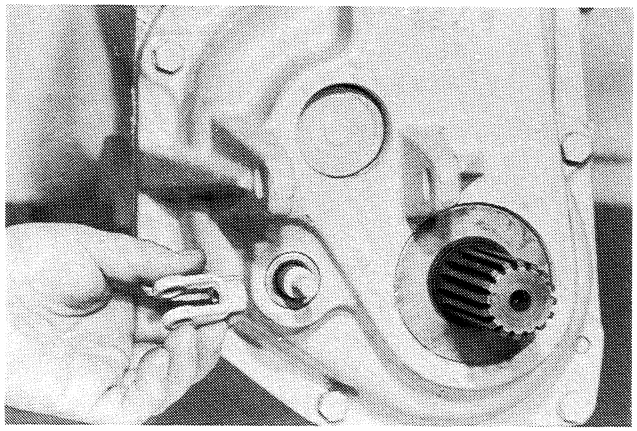
A 0.005 inch (0.127 mm) change in thrust washer thickness will change backlash approximately 0.0035 inch (0.089 mm).

NOTE: *The thrust washers must be kept with the RH side gear for installation.*

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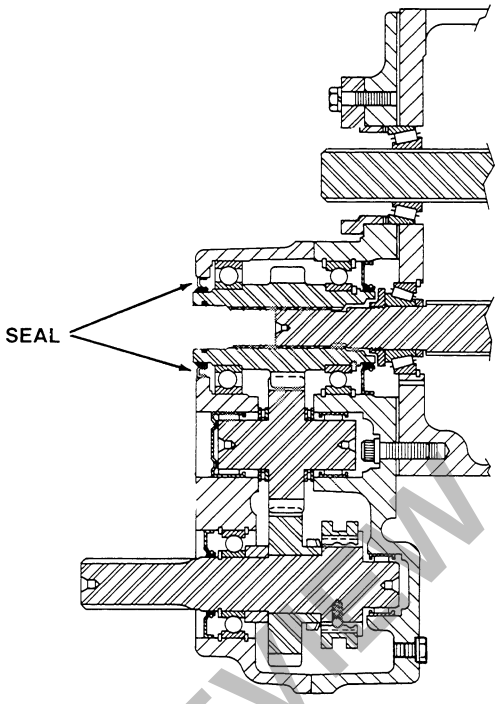
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STEP 90



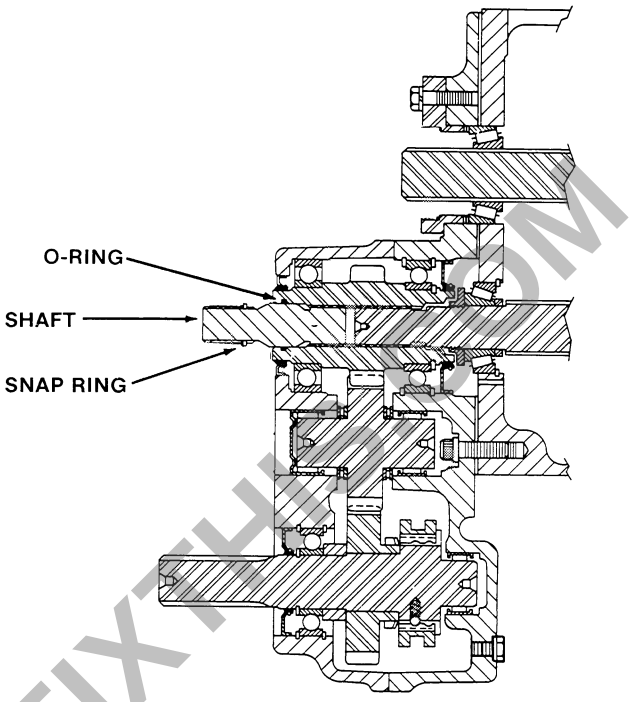
Install the yoke on the shift rail.

STEP 91



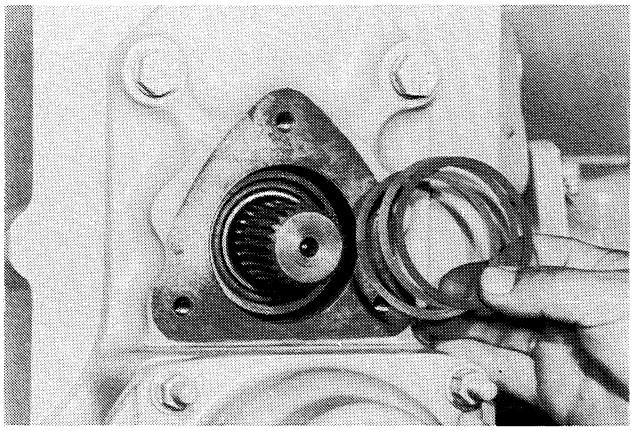
Install the input gear seal into the front housing.

STEP 92 SERIAL NO. 16270319 AND AFTER



Install the o-ring and shaft in the input gear. Install the snap ring on the shaft.

STEP 93 SERIAL NO. 16270319 AND AFTER

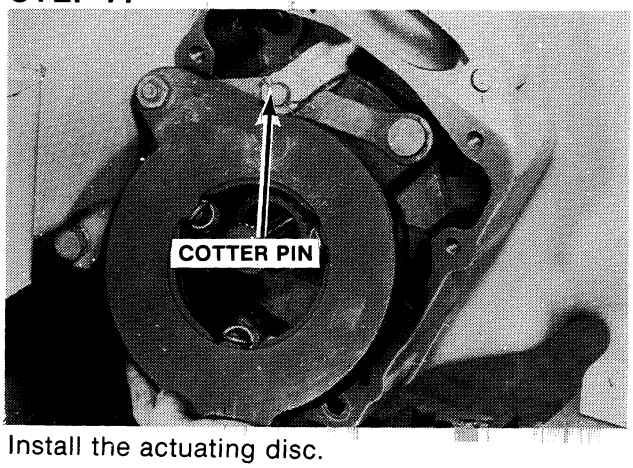


Install the mainshaft shims.

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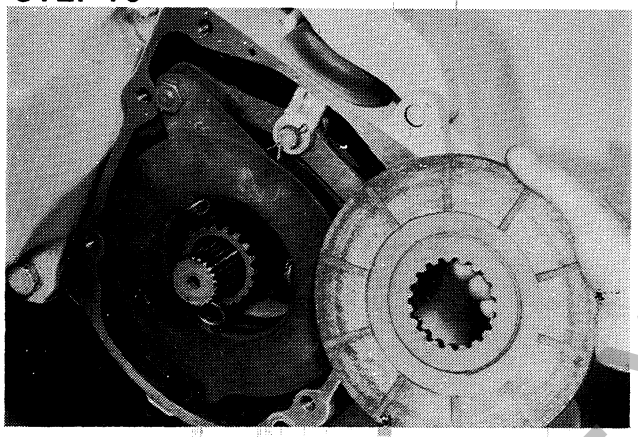
STEP 77



Install the actuating disc.

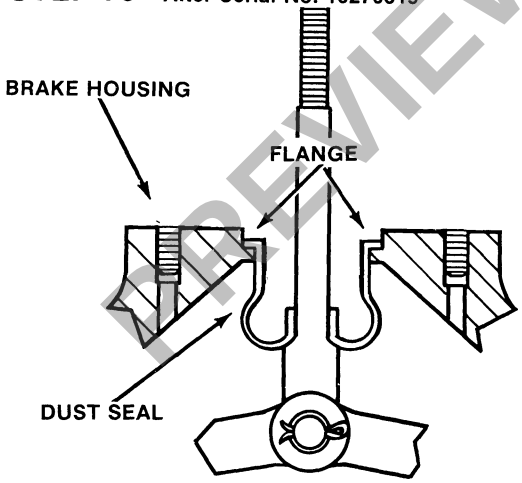
NOTE: *The cotter pin must be to the outside.*

STEP 78



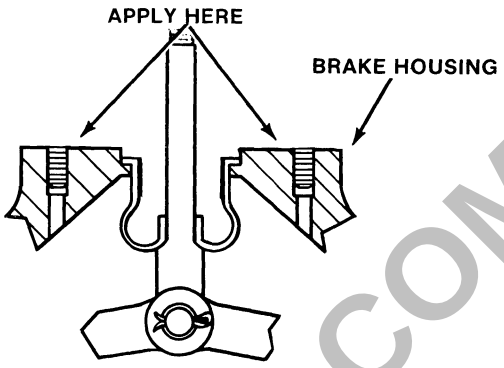
Install the outer brake disc.

STEP 79 After Serial No. 16270319



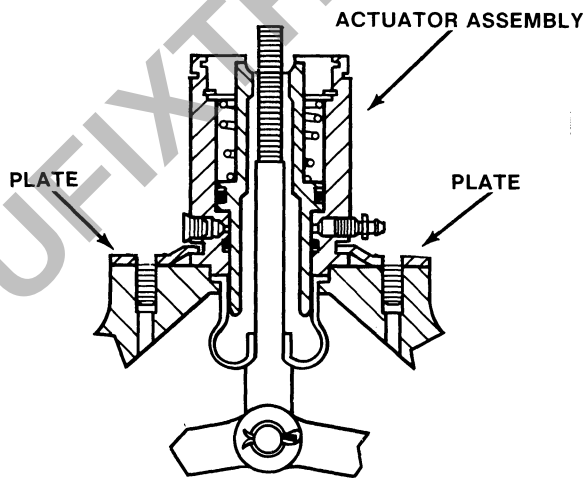
Install the dust seal in the brake housing. The lip of the seal must be on the flange of the brake housing.

STEP 80 After Serial No. 16270319



Apply RTV 108 to the mounting surface of the brake housing and around the bolt holes.

STEP 81 After Serial No. 16270319



Install the actuator assembly and the plates that hold the actuator assembly to the brake housing.

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DIRECTION OF FLOW
Shows direction of oil flow.

PILOT PRESSURE
Pressure used to control another component.

CROSSOVER LINES

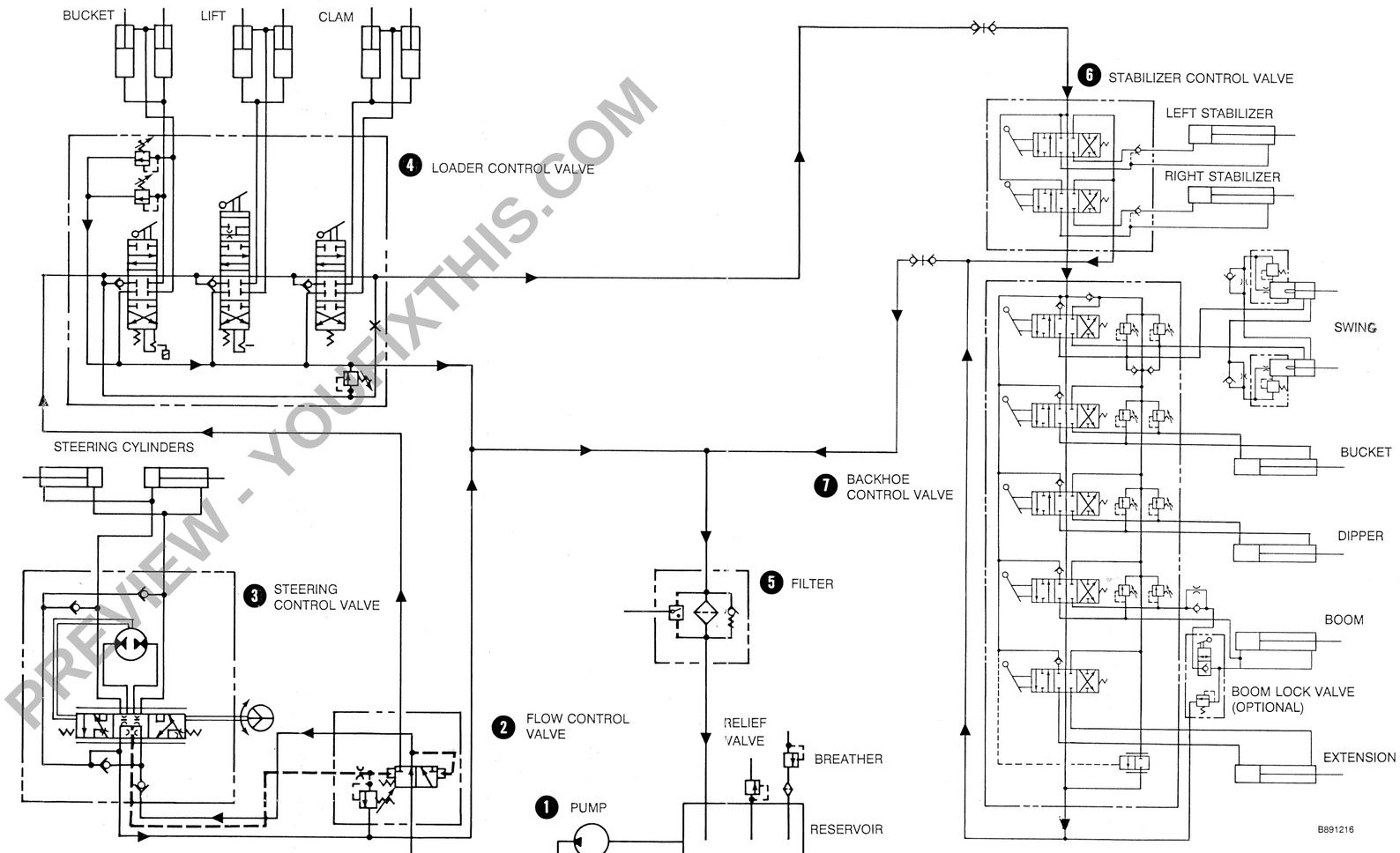
CONNECTING LINES

FILTER OR SCREEN

CHECK VALVE

DOUBLE ACTING CYLINDER

QUICK DISCONNECT COUPLING



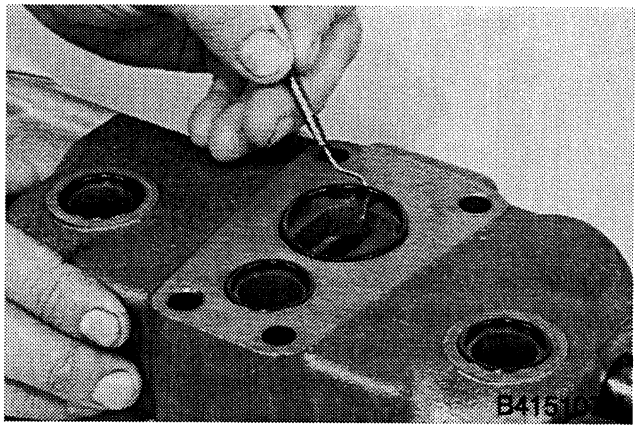
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LIFT SECTION

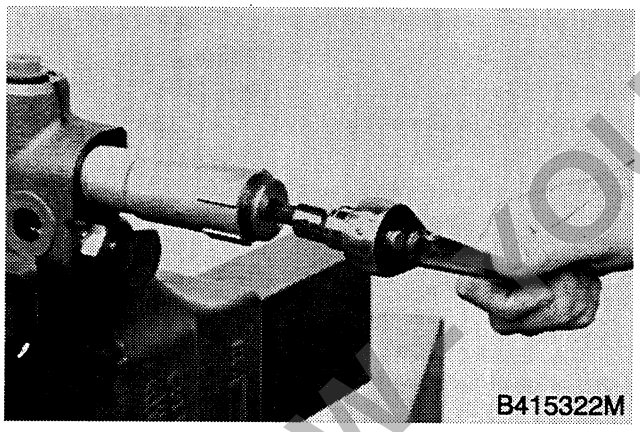
Disassembly

STEP 92



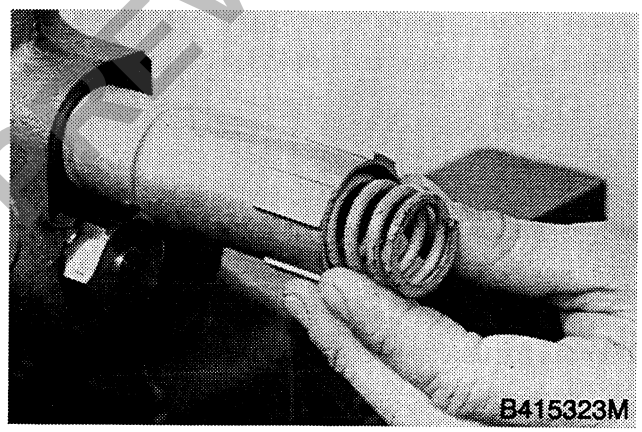
Remove and discard the O-rings from the body.

STEP 93



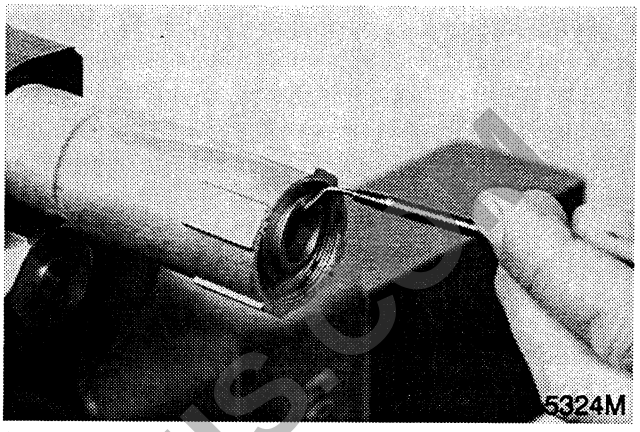
Fasten the lift section in the vise with soft jaws. Loosen and remove the adjusting plug.

STEP 94



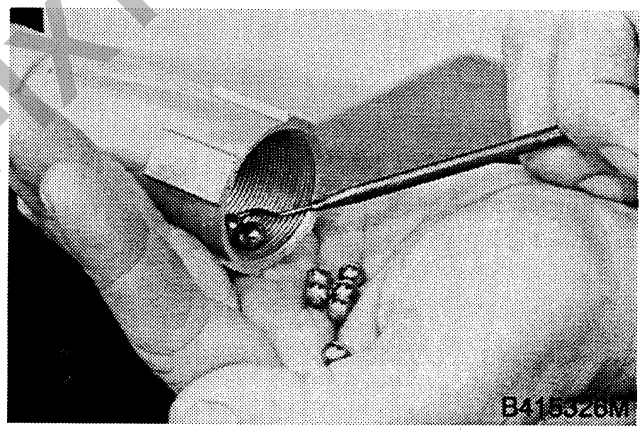
Remove the detent spring.

STEP 95



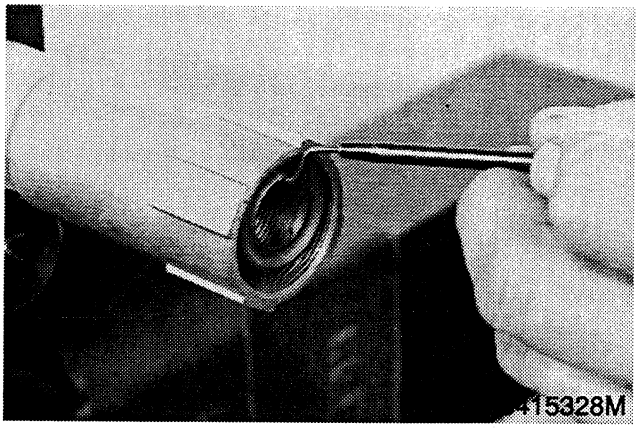
Remove the ball retainer.

STEP 96



Remove the eight steel balls.

STEP 97



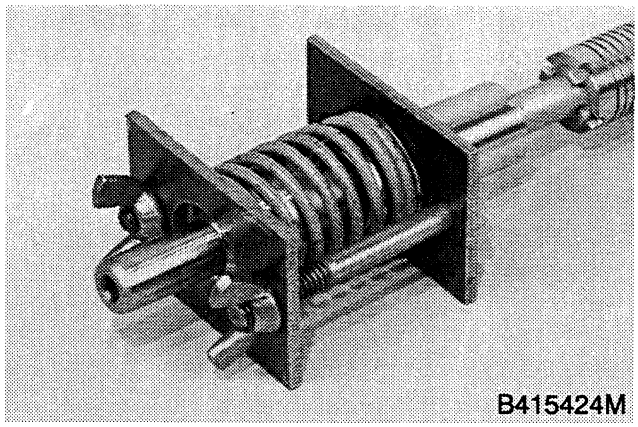
Remove the spacer.

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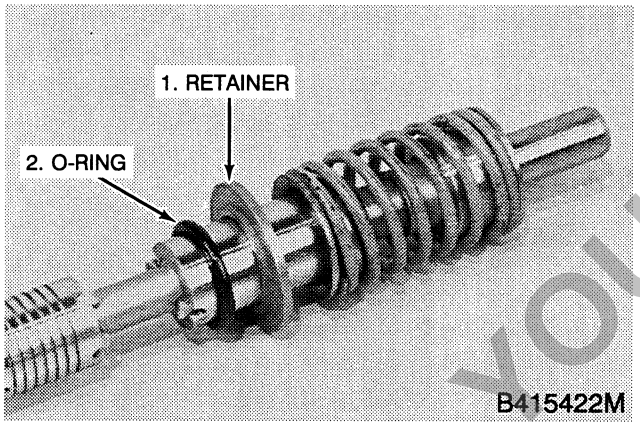
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STEP 120



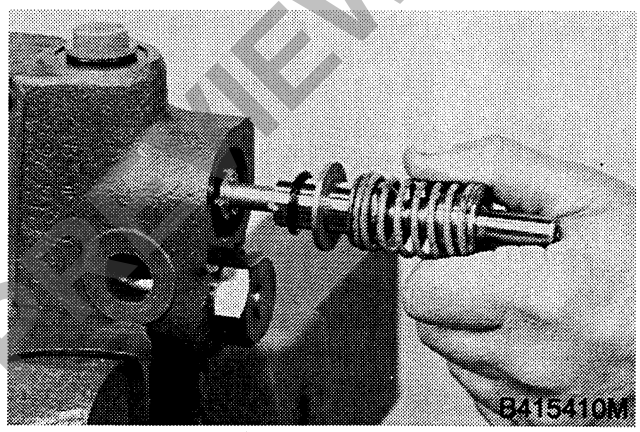
Remove the spring compressing plates.

STEP 121



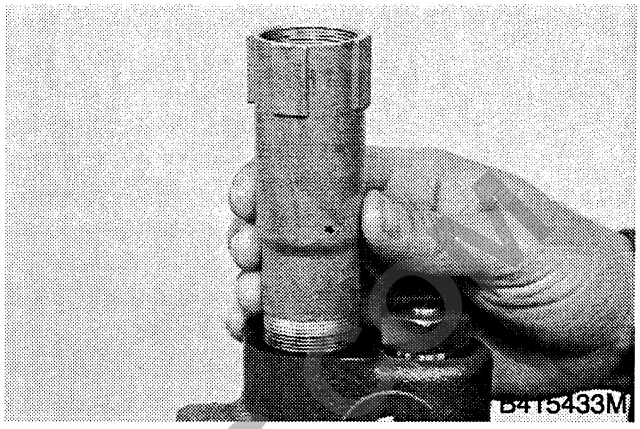
Install the retainer and a new O-ring on the spool.

STEP 122



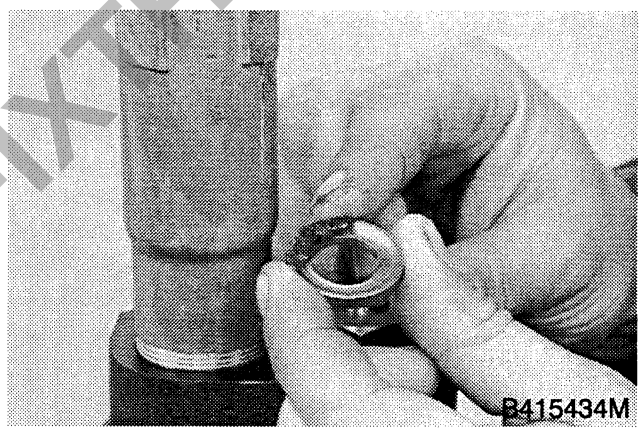
Lubricate the spool, spool bore, and the O-rings with clean hydraulic oil. Install the spool into the spool bore.

STEP 123



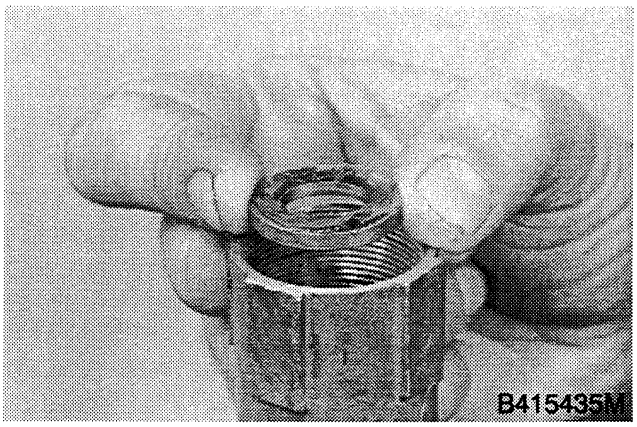
Install the detent housing.

STEP 124



Apply No. 2 molydisulfide grease to the groove in the spacer.

STEP 125



Install the spacer so that the groove in the spacer is up.

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INSPECTION 7

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DISASSEMBLY OF OUTLET SECTION 11

ASSEMBLY OF OUTLET SECTION 13

DISASSEMBLY OF ALL WORKING SECTIONS 14

ASSEMBLY OF ALL WORKING SECTIONS 20

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13. Install the poppet and spring seat into the body.

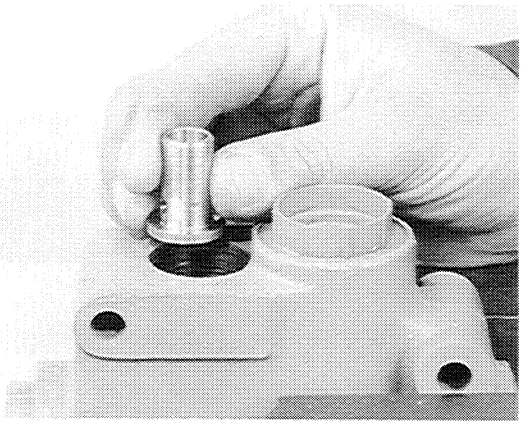


Figure 26

14. Install the spring.

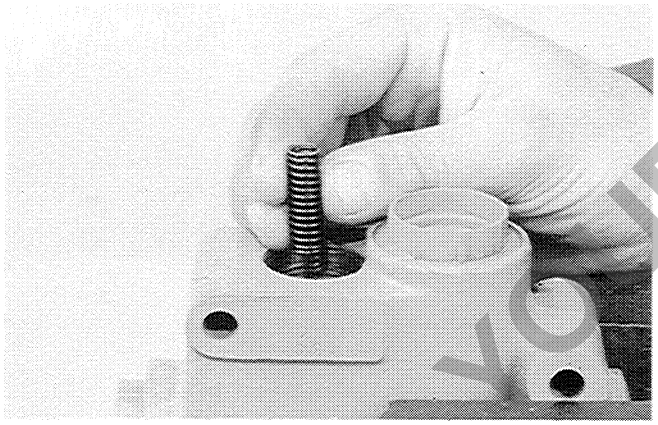
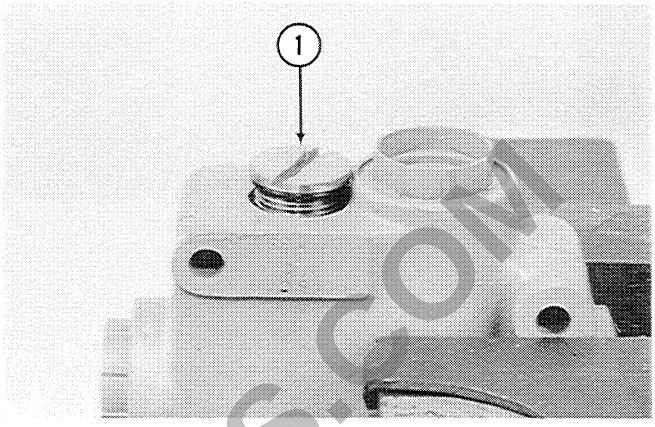


Figure 27

15. Put a new O-ring on the plug. Put clean oil on the O-ring. Install the plug.



1. Plug

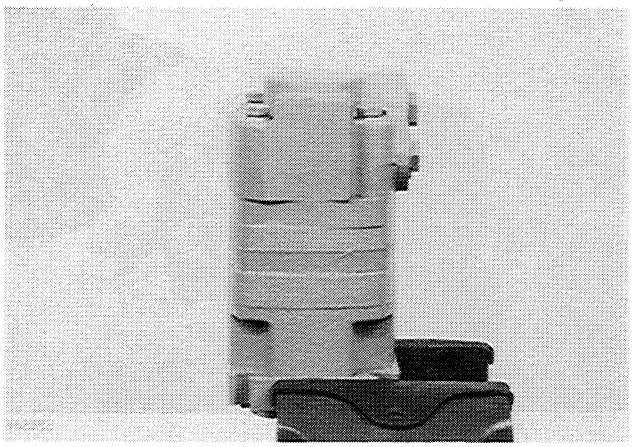
Figure 28

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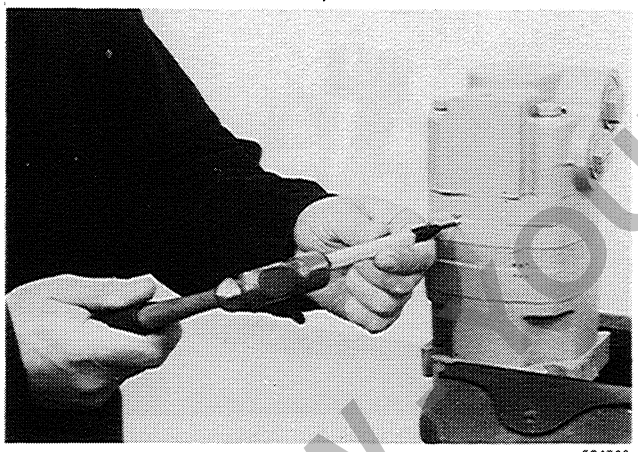
DISASSEMBLY

1. Fasten the PTO motor in a vise with soft jaws.



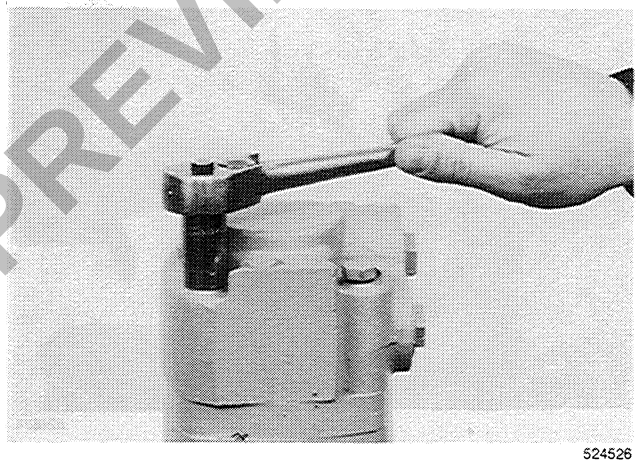
524518

2. Make marks on each part of the PTO motor.



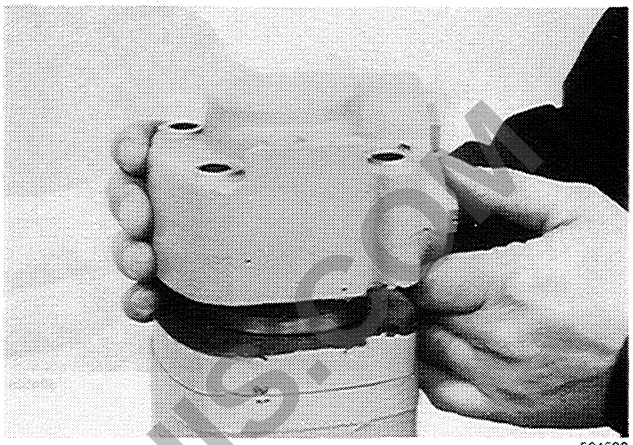
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3. Loosen and remove the cap screws from the port end cover.



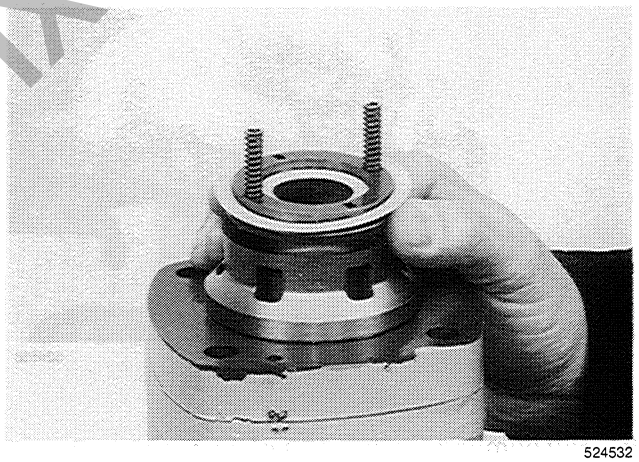
524526

4. Remove the port end cover.



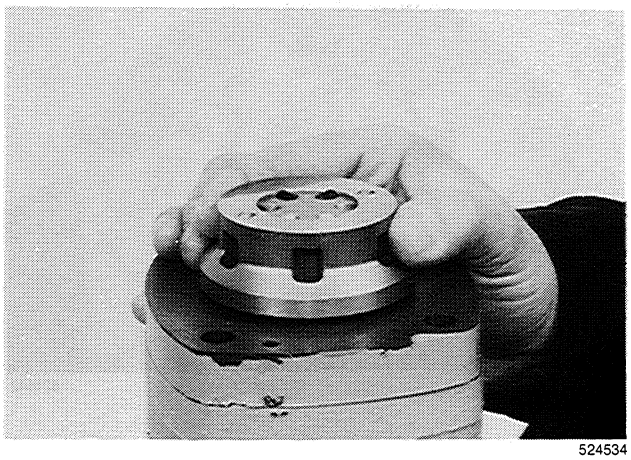
524530

5. Remove the balance plate, seals, and springs from the valve.



524532

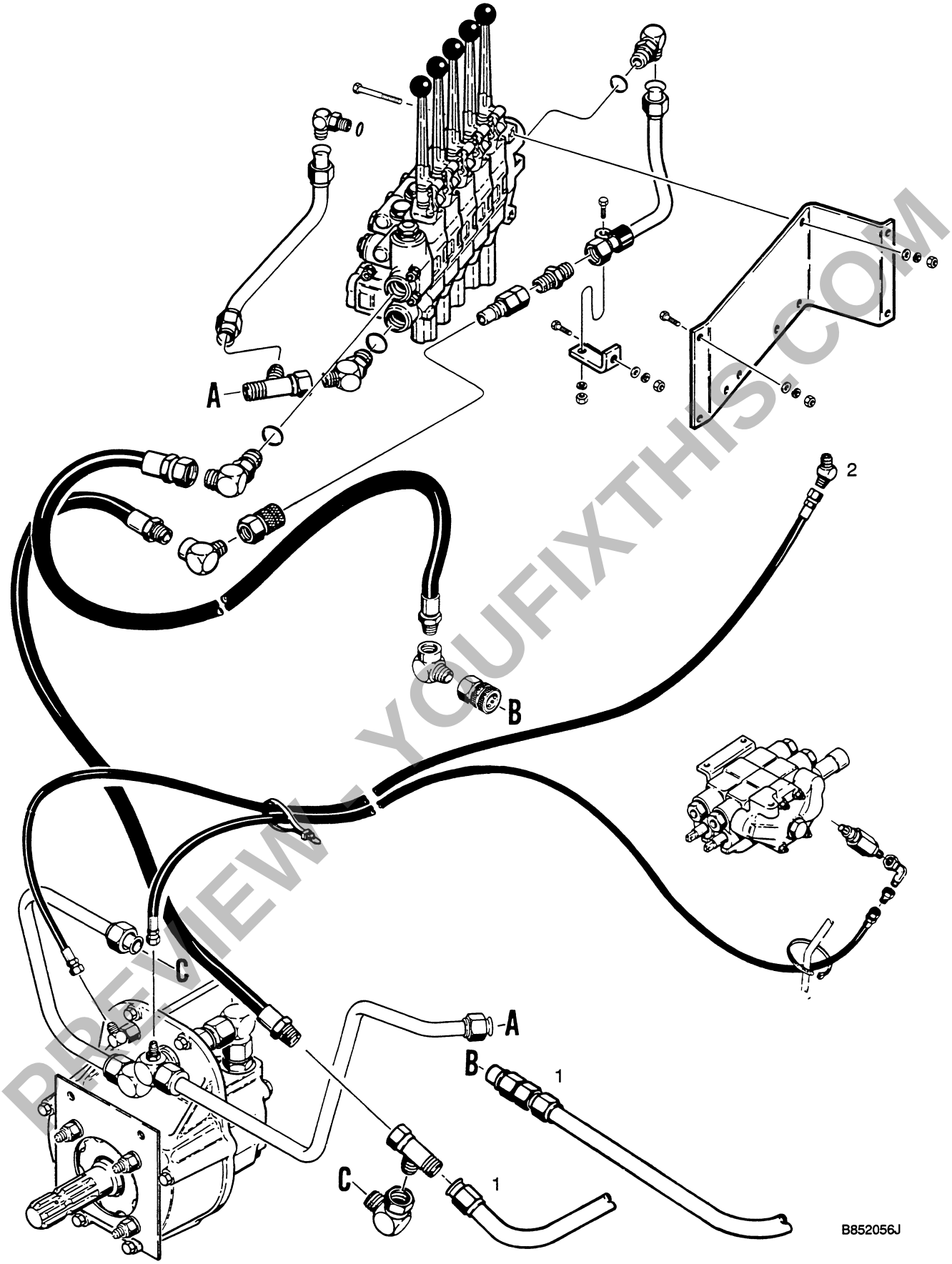
6. Remove the valve.



524534

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1. Tube at Rear of Machine *2. Connected to Inlet of Filter*

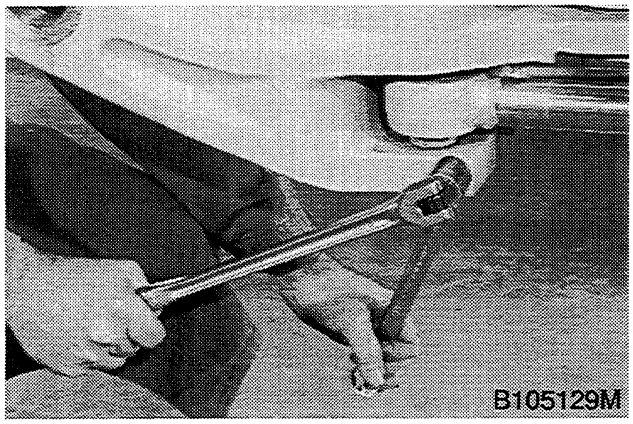
Inlet and Return Lines for PTO and Three Point Hitch Control Valve, Pressure Line for Main Relief Valve and Case Drain Line for PTO

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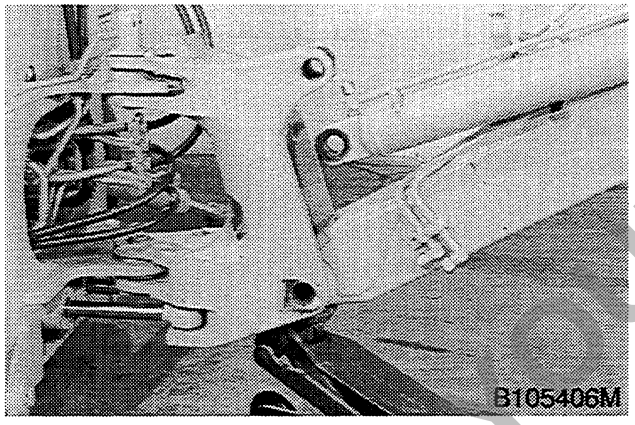
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STEP 93



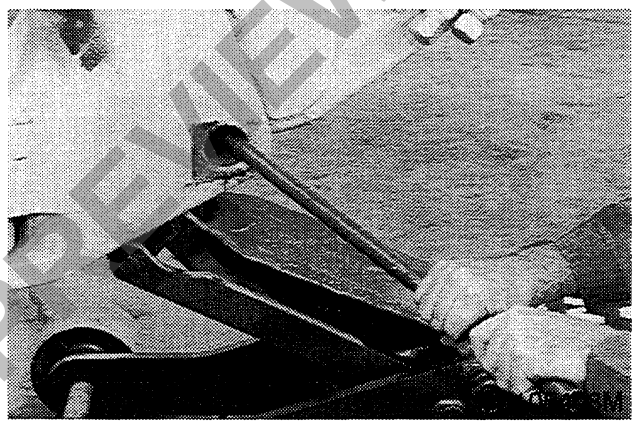
Tighten the nut.

STEP 94



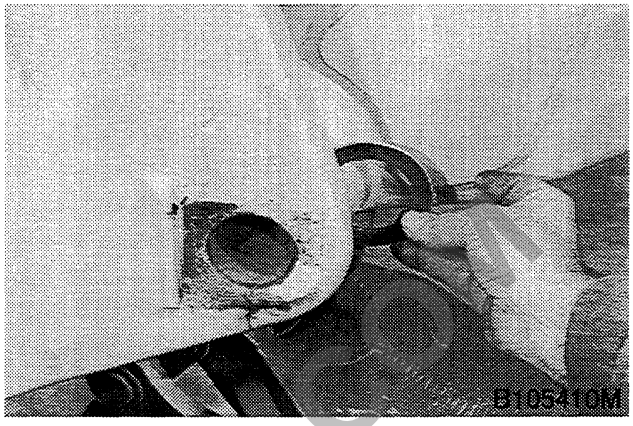
Carefully move the machine into alignment with the boom.

STEP 95



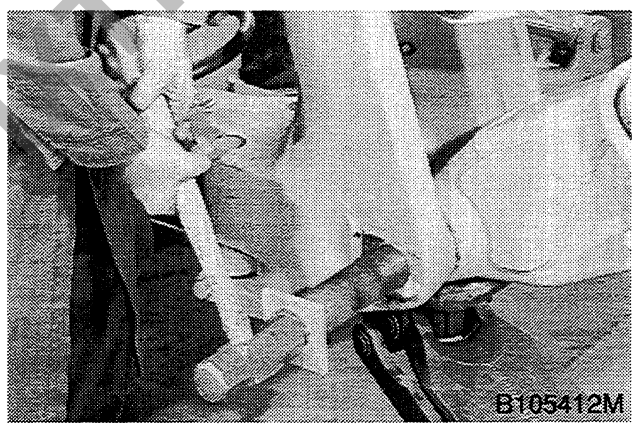
Use a prybar and the jack as required and align the boom with the swing tower.

STEP 96



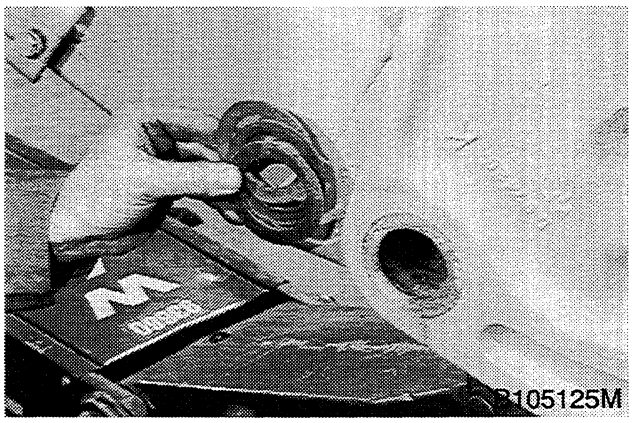
Install the flat washer(s) between the swing tower and the right side of the boom. Use grease to hold the flat washer(s) in place.

STEP 97



Install the pivot pin for the boom but not through the other side of the swing tower.

STEP 98



Install the flat washer(s) between the left side of the boom and the swing tower. If the old boom and swing tower are being used, install the same number of washers that you removed. If a new boom or swing tower is being used, install flat washers as required to get the least amount of clearance possible between the boom and swing tower.

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