

1001

SAFETY RULES SERVICE MANUAL INTRODUCTION AND TORQUE SPECIFICATIONS

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8-41700

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37. Install the wire for the harness, battery cable, and nut to the battery terminal on the starter and tighten the nut.



328944

38. Install the cap screw, lock washer, clamp, and mounting plate that hold the circuit breaker and wiring harness, and tighten the cap screw.



328943

39. Connect the plug for the wiring harness to the alternator.



328942

40. Install the wire, lock washer, and nut to the battery terminal on the alternator and tighten the nut.



328941

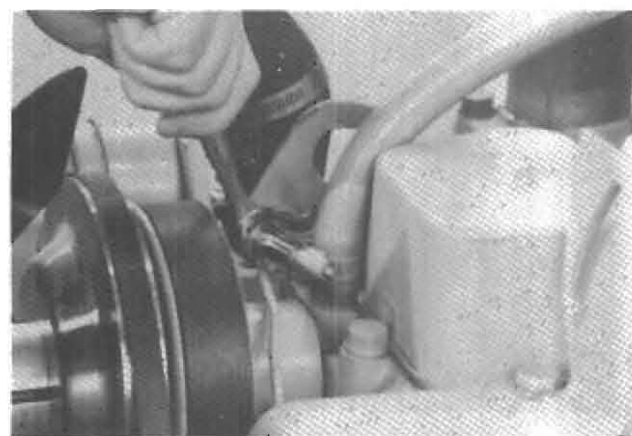
41. Install the rubber boot on the battery terminal of the alternator.

42. Install the wire, lock washer, and nut on the temperature sending unit, and tighten the nut.



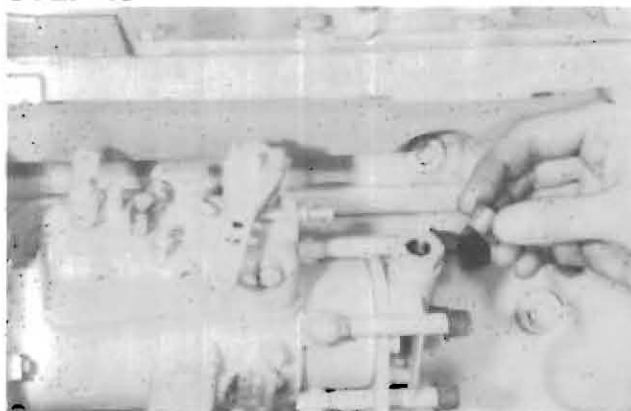
328940

43. Install the top heater hose and tighten the clamp.



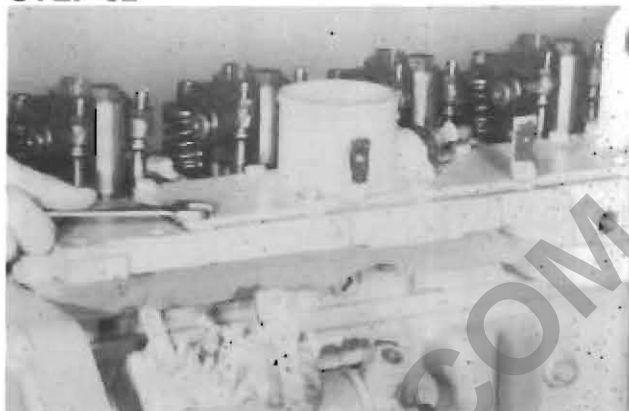
328938

STEP 49



Install a protective cover in the injection pump.

STEP 52



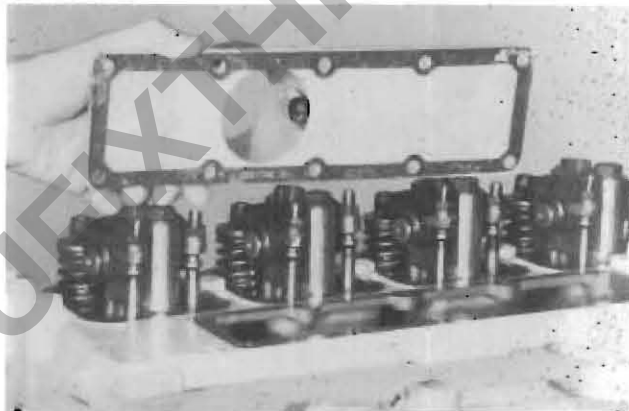
Remove intake manifold cover bolts.

STEP 50



Remove the valve cover bolts.

STEP 53



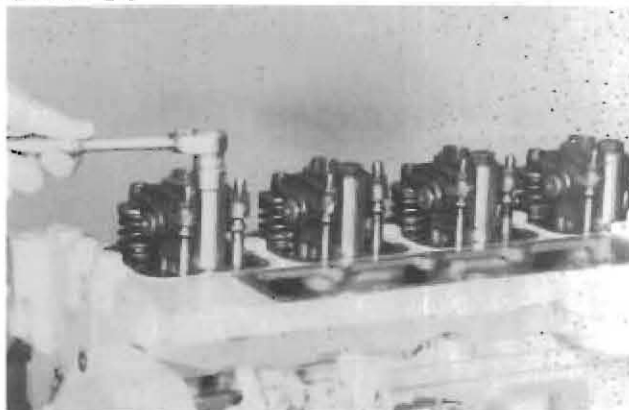
Remove the intake manifold cover.

STEP 51

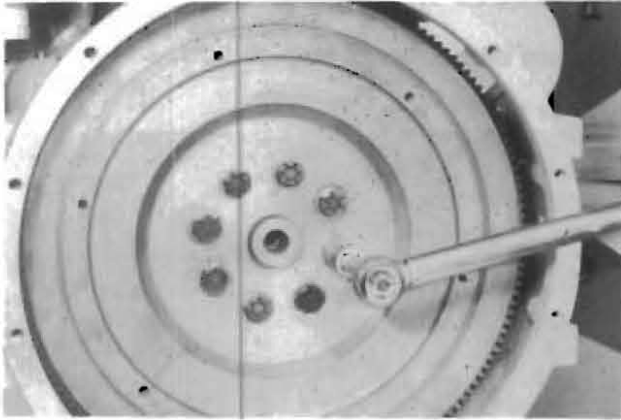


Remove the valve covers.

STEP 54



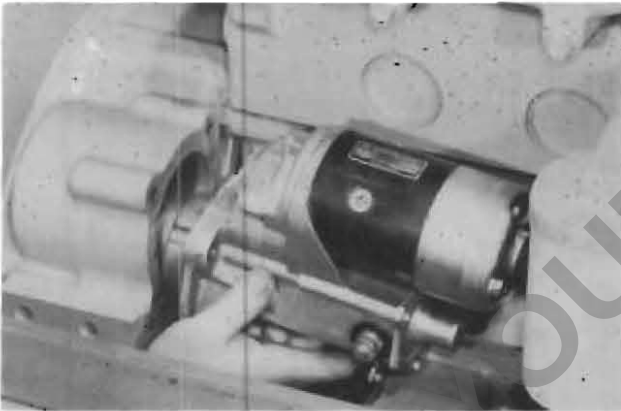
Remove the rocker arm bolts.

STEP 55

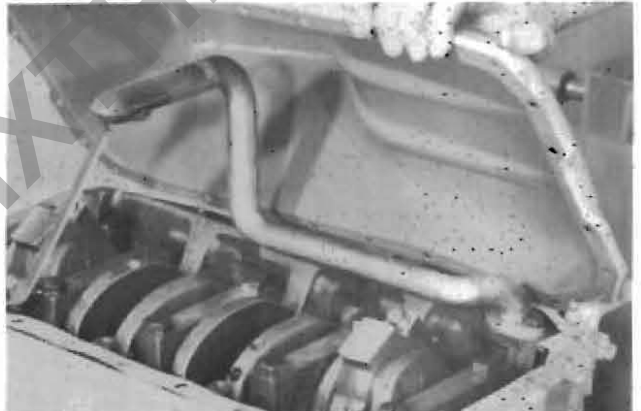
Install the flywheel retaining bolts and tighten the bolts to a torque of 101 lb ft (137 Nm)(13.7 kgm).

STEP 57

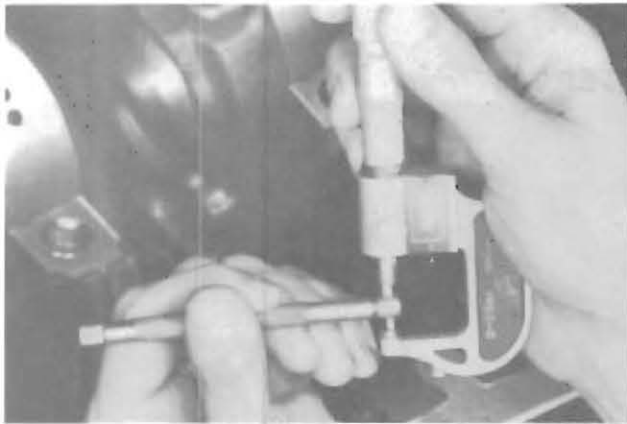
Install the starter retaining bolts and tighten the bolts to a torque of 32 lb ft (43 Nm)(4.3 kgm).

STEP 56

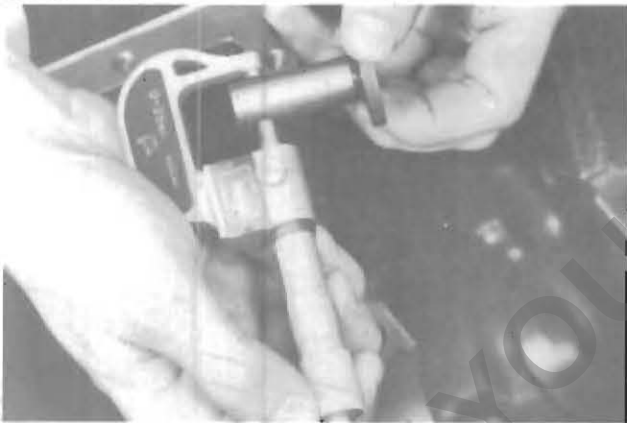
Install the starter into the flywheel housing.

STEP 58

Install the engine oil pan. See Section 2445 for oil pan installation.

STEP 320

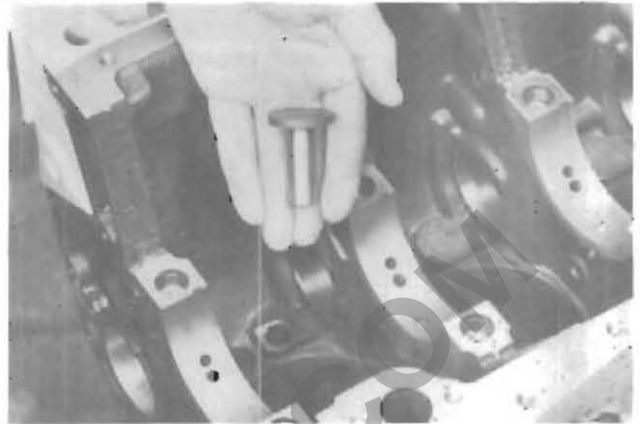
If the diameter of the lifter bore is more than 16.055 mm the engine block must be replaced.

STEP 321

Measure the outside diameter of the valve lifter stem. Replace the valve lifters if the outside diameter of the lifter stem is less than 15.936 mm.

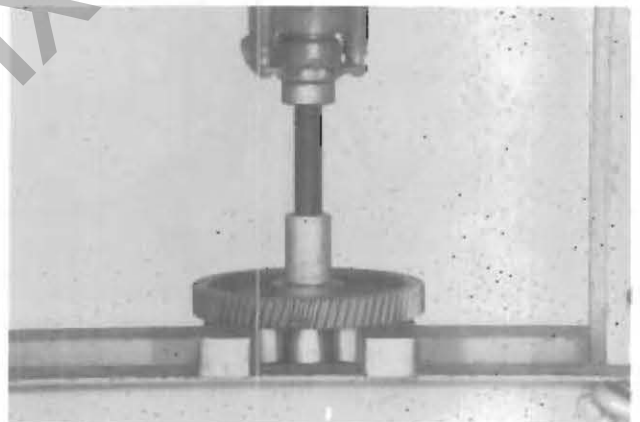
STEP 322

Put clean engine oil on the lifters before installation.

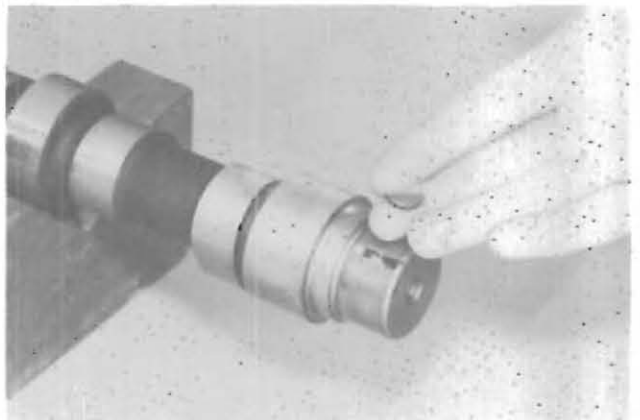
STEP 323

Install the lifters in the block and fasten in position with retaining pins.

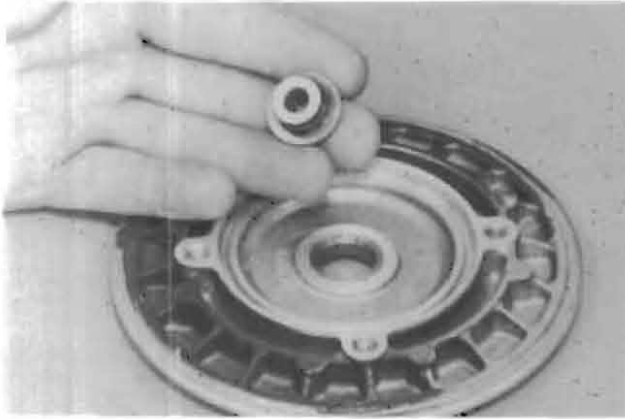
Camshaft Disassembly and Inspection

STEP 324

Press the gear off the camshaft.

STEP 325

Remove the shaft key.

STEP 37

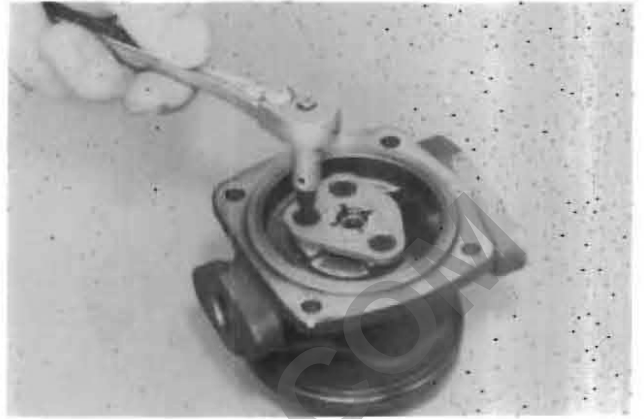
Remove the oil slinger from the back plate.

STEP 38

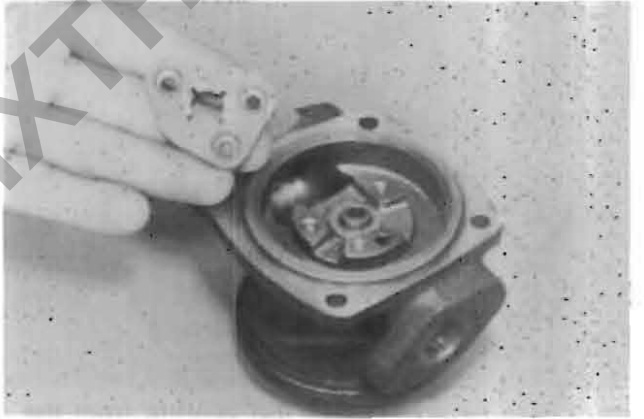
Remove the seal ring from the oil slinger.

STEP 39

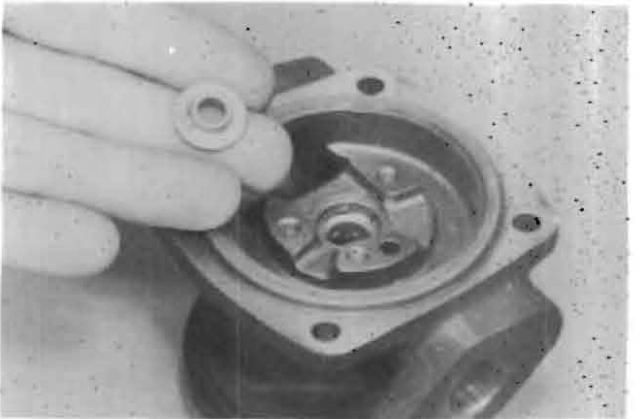
Turbocharger center housing.

STEP 40

Remove the torx head screws from the center housing.

STEP 41

Remove the thrust bearing.

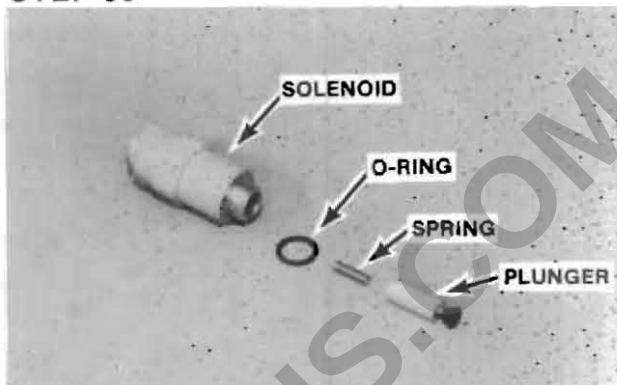
STEP 42

Remove the thrust collar.

4-390 Engine Removal and Disassembly

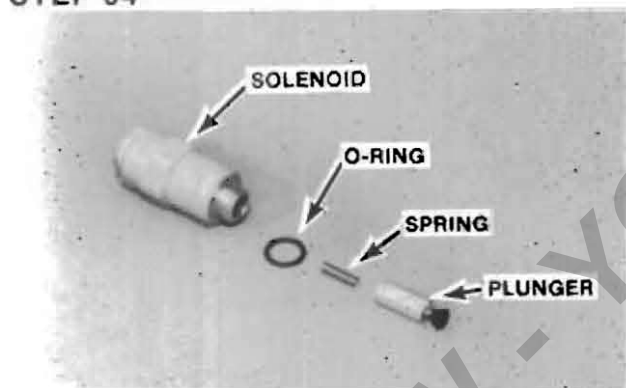
STEP 92

Remove the fuel shutoff solenoid from the injection pump.

STEP 93

Disassemble the fuel shutoff solenoid. Check the plunger and solenoid for scoring.

Assembly and Installation

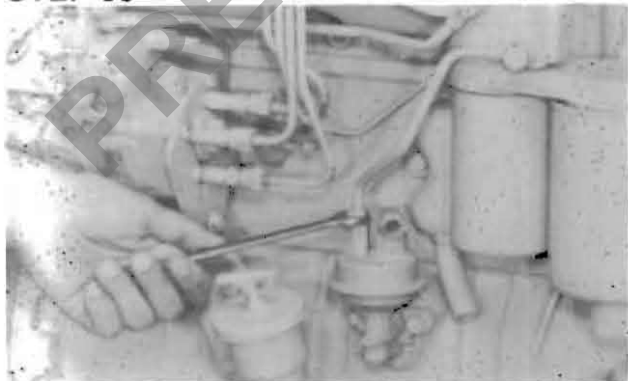
STEP 94

Assemble the fuel shutoff solenoid.

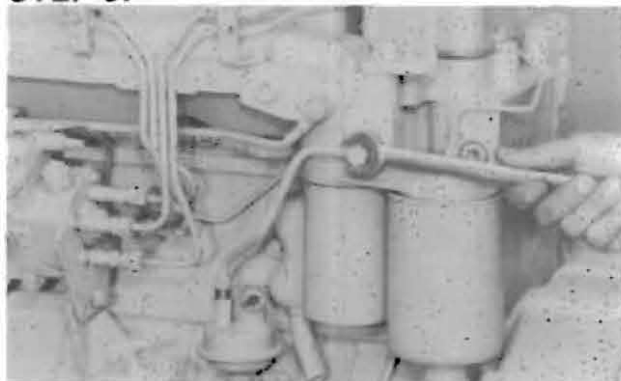
STEP 95

Install the fuel shutoff solenoid and tighten to a torque of 10 lb ft (14 Nm) (1.4 kgm).

PRIMER PUMP Removal

STEP 96

Disconnect the fuel inlet line from the primer pump.

STEP 97

Remove the fitting and gaskets from the fuel inlet line.

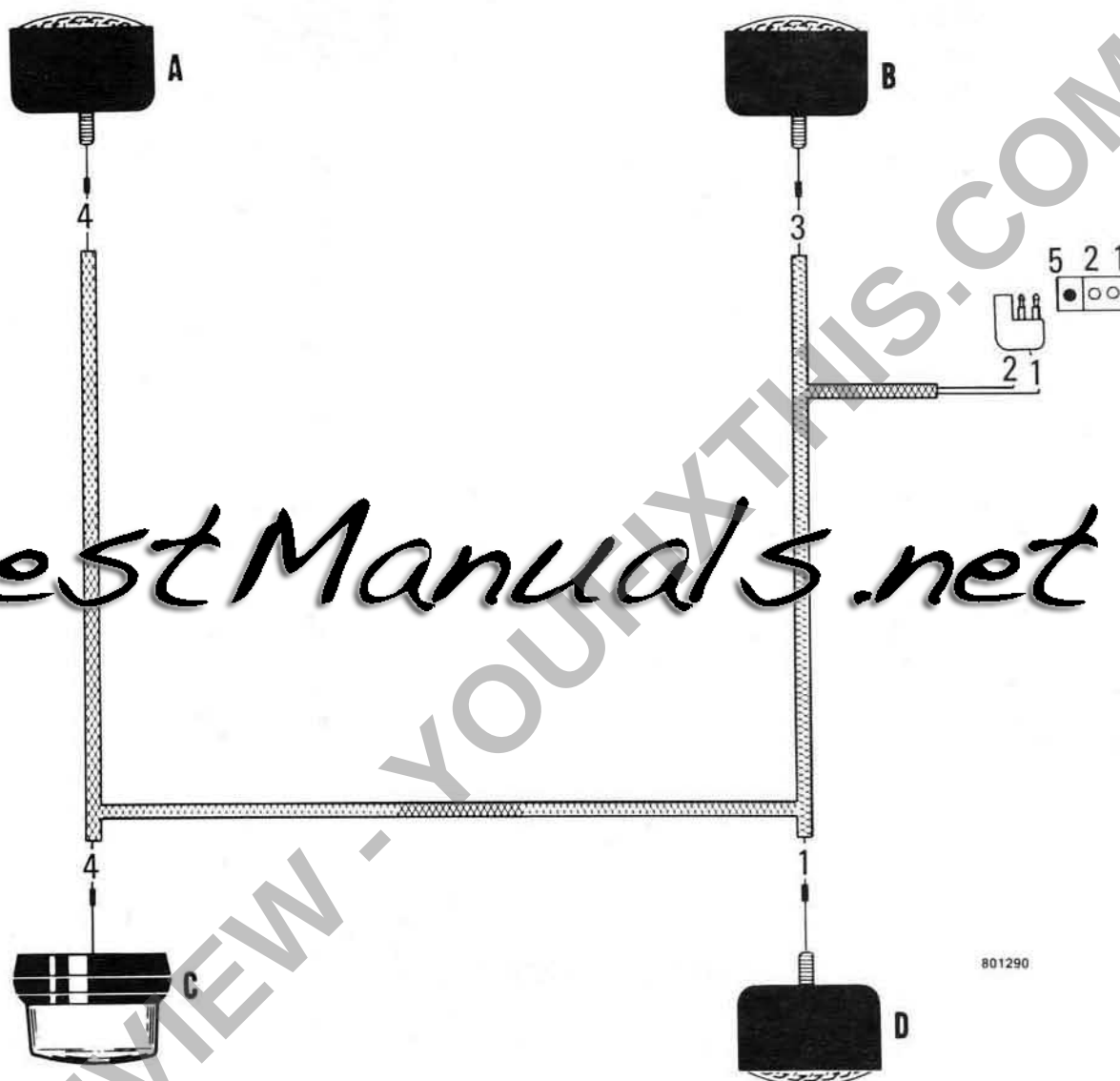


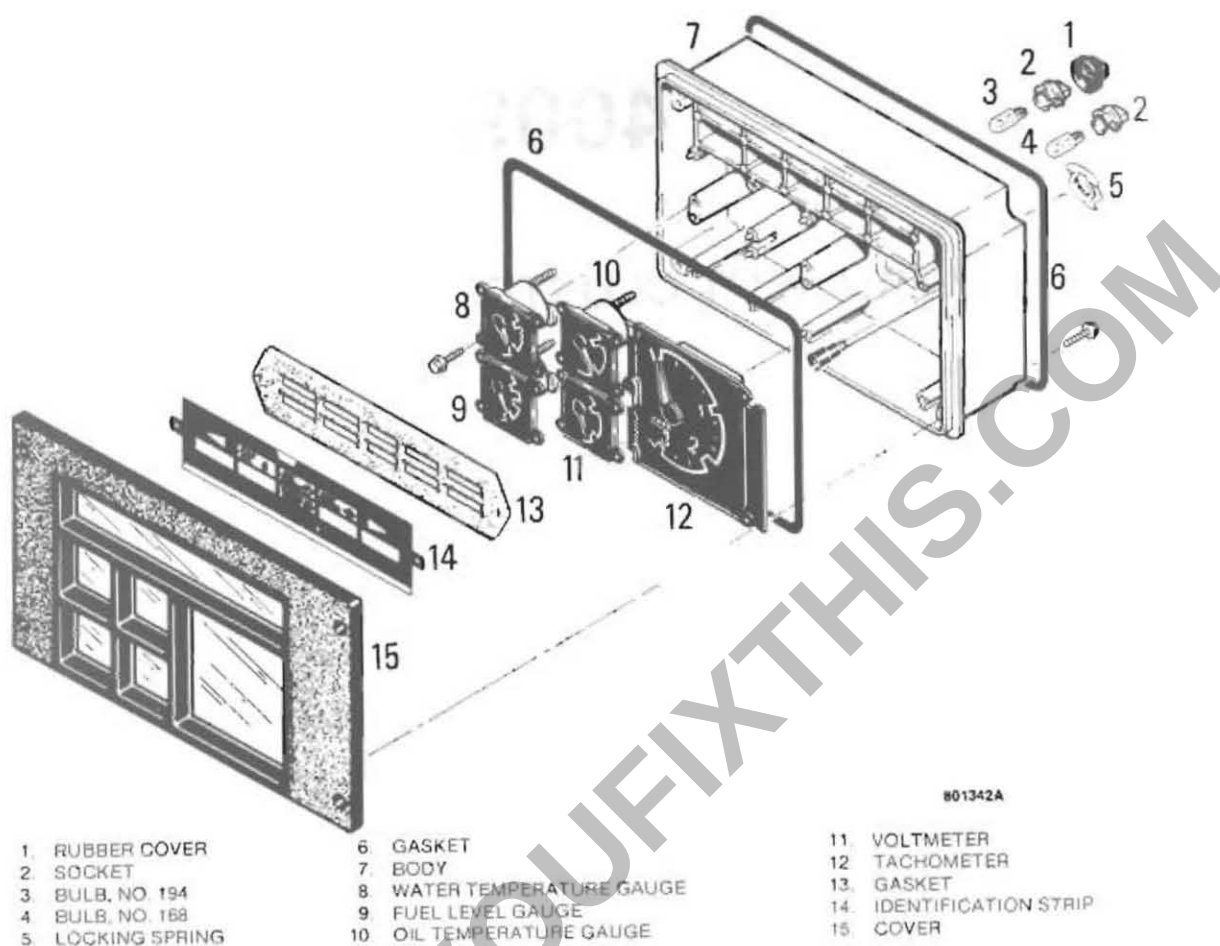
Diagram for ROPS Canopy with Standard Lamps

COMPONENTS

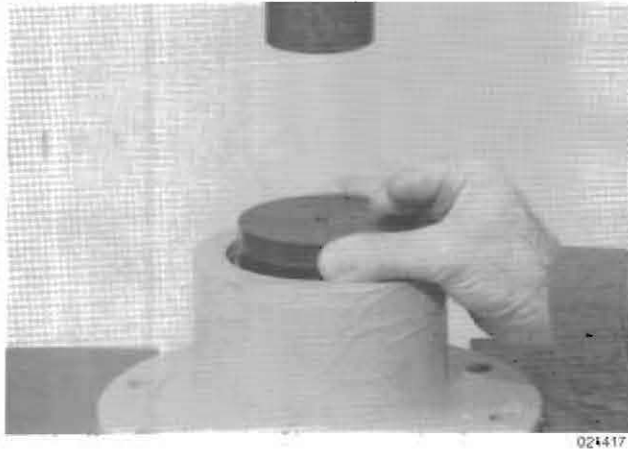
A. Left front lamp B. Right front lamp C. Tail lamp D. Rear lamp

ELECTRICAL CIRCUITS

WIRE NO.	COLOR	FROM	TO
1.	Dark blue	Main wiring harness	Rear lamp
2.	Pink	Main wiring harness	Spliced to wire 3 in harness
3.	Pink	Right front lamp	Spliced to wire 4 in harness
4.	Pink	Tail lamp	Left front lamp
5.	Not used on this wiring harness		



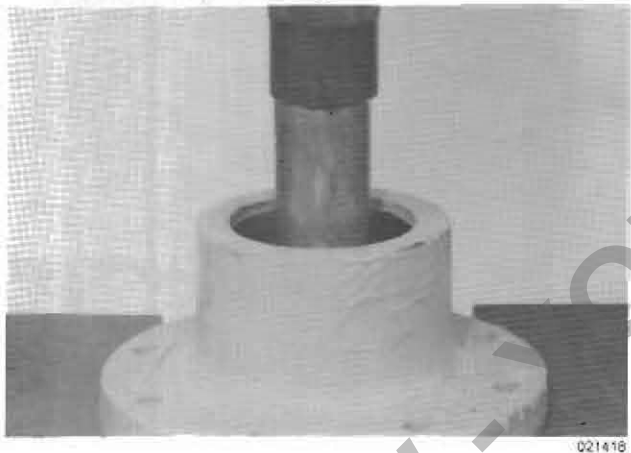
27. Put an acceptable driver on top of the bearing cup.



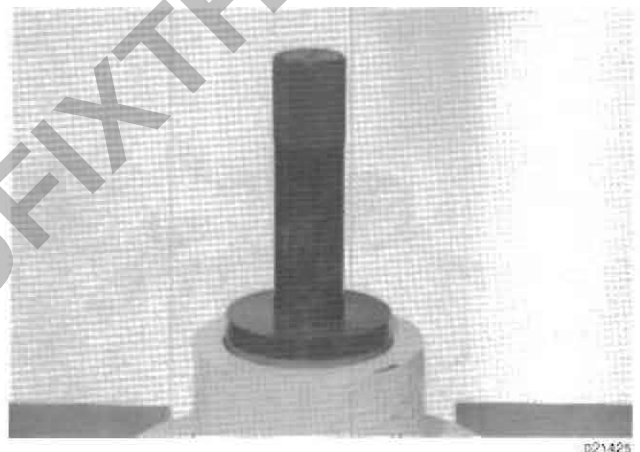
30. Put the hub seal on an acceptable driver. The lip of the hub seal must be toward the driver.



28. Press the bearing cup into the hub until the bearing cup stops moving.



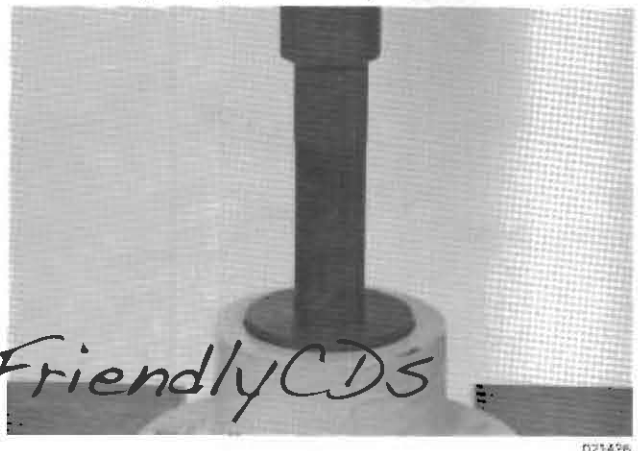
31. Start the hub seal into the hub.



29. Put the inner wheel bearing in the hub.

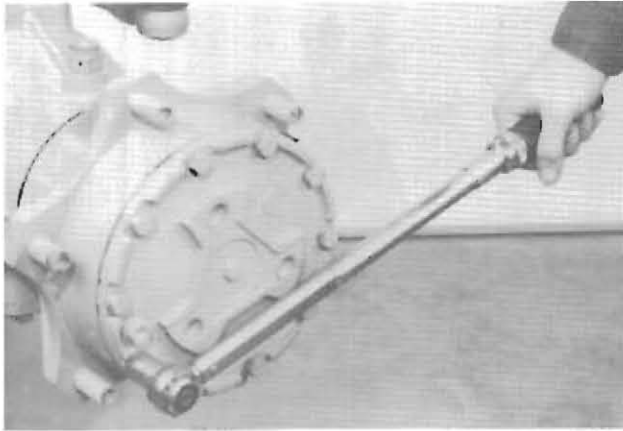


32. Press the hub seal into the hub until the hub seal stops moving. Be careful not to damage the hub seal by using too much pressure.



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51. Tighten the cap screws to 35 pound-feet (47 N m, 5 kg/m).



210703

2. Use a punch and hammer to remove the roll pins that fasten the pins to the planetary housing.



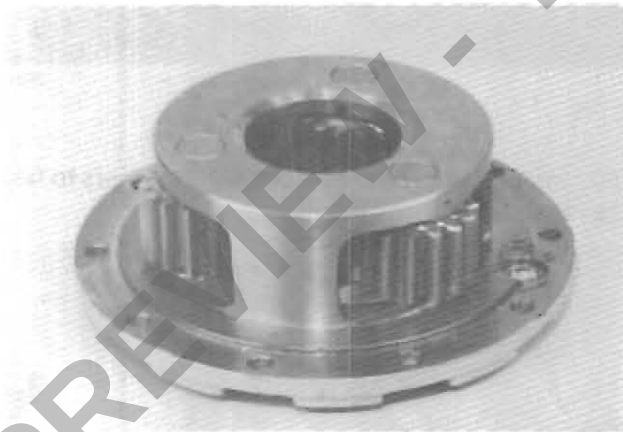
209705

52. See page 5022-3 for the correct lubricant. Make sure that the drain plugs are installed in the differential and each planetary. Install 7 U.S. quarts (6.5 litres) of lubricant in the differential and 1.5 U.S. quart (1.4 litres) of lubricant in each planetary end.

Planetary

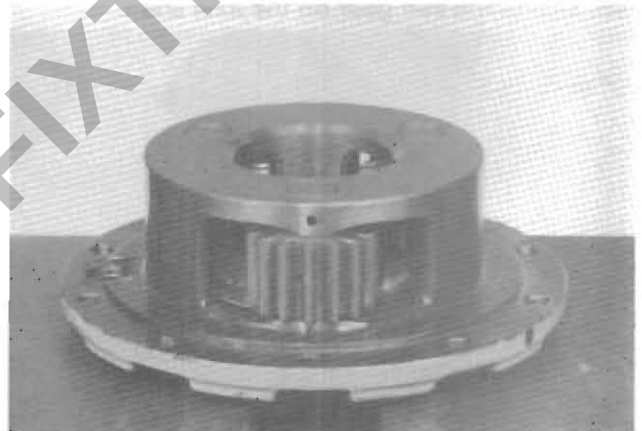
Disassembly

1. Clean the planetary. Put the planetary on the bench.



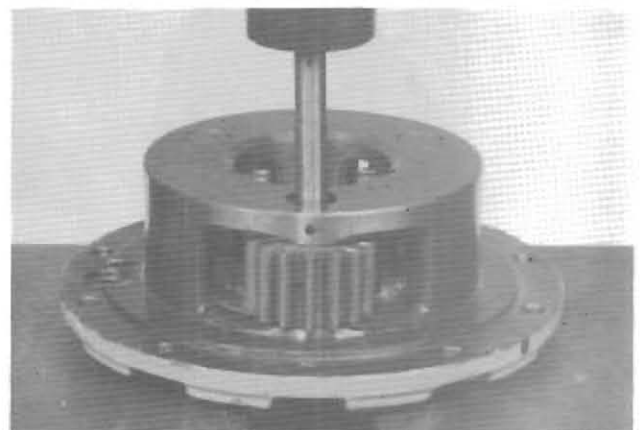
209707

3. Put the planetary in the press.



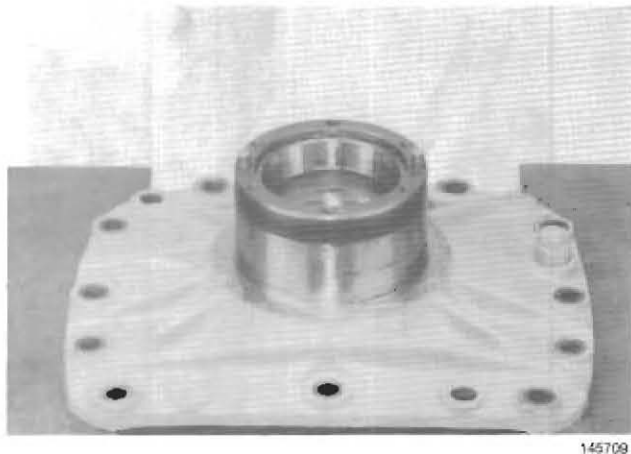
209611

4. Press the pin and expansion plug from the planetary housing.



209612

69. Put the differential housing in the press.



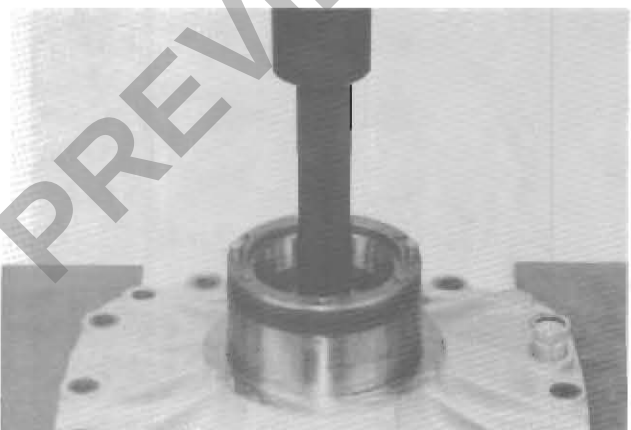
145709

70. Put an acceptable driver in position on the lower bearing cup.



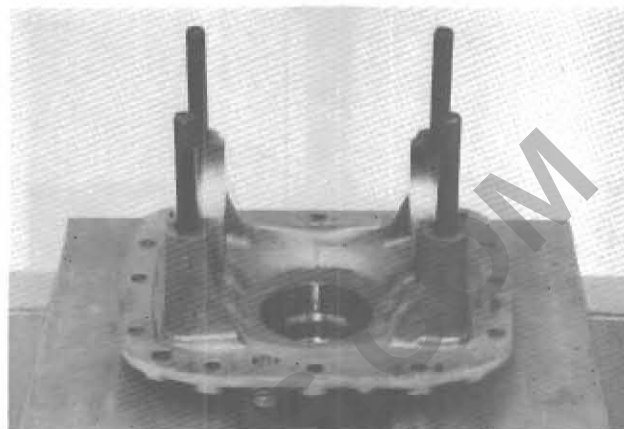
145711

71. Press the bearing cup from the differential housing.



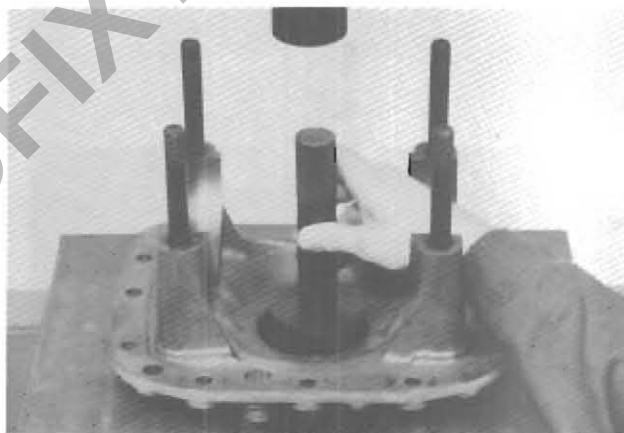
145713

72. Put the differential housing in the press as shown.



145715

73. Put an acceptable driver in position to remove the bearing cup.

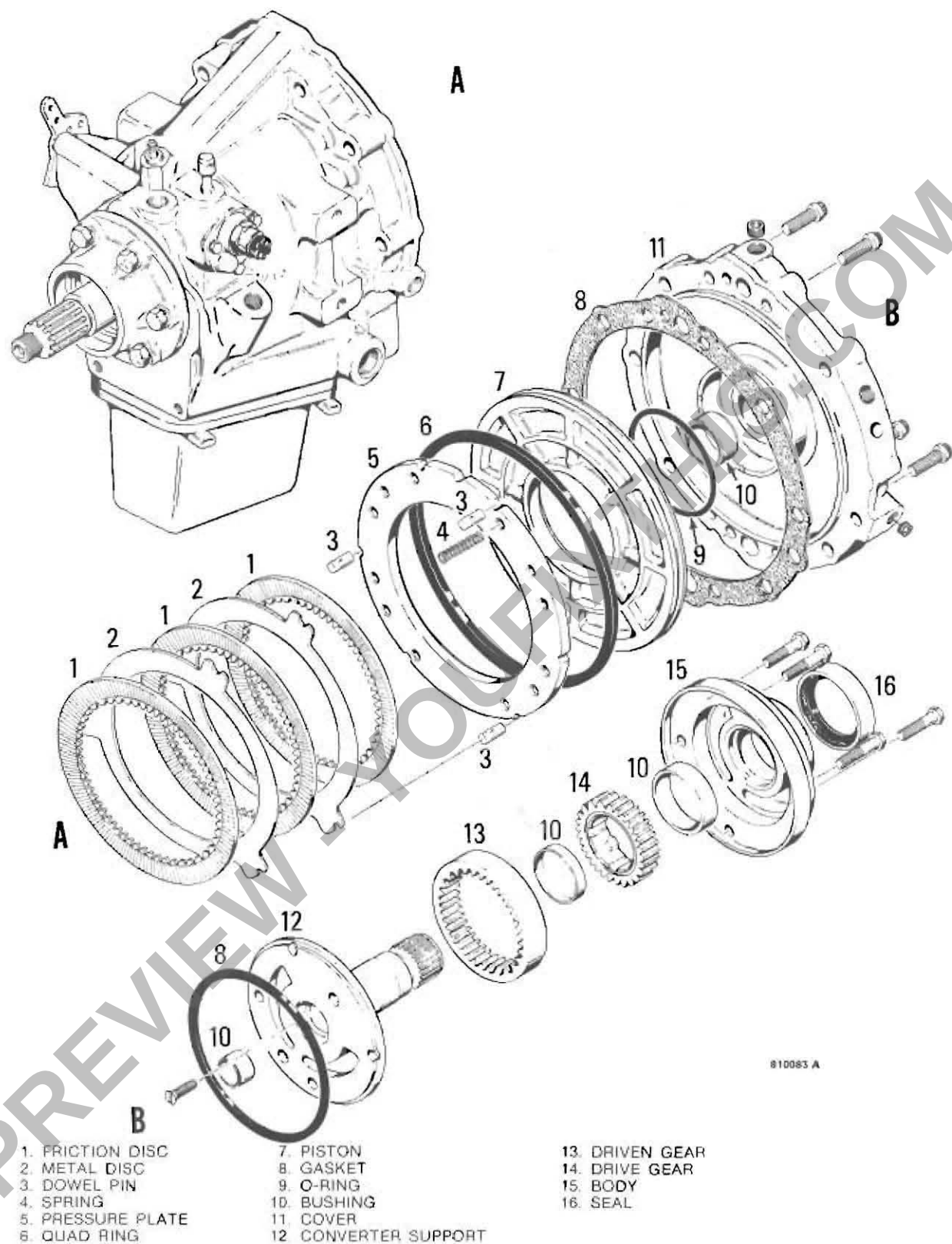


145816

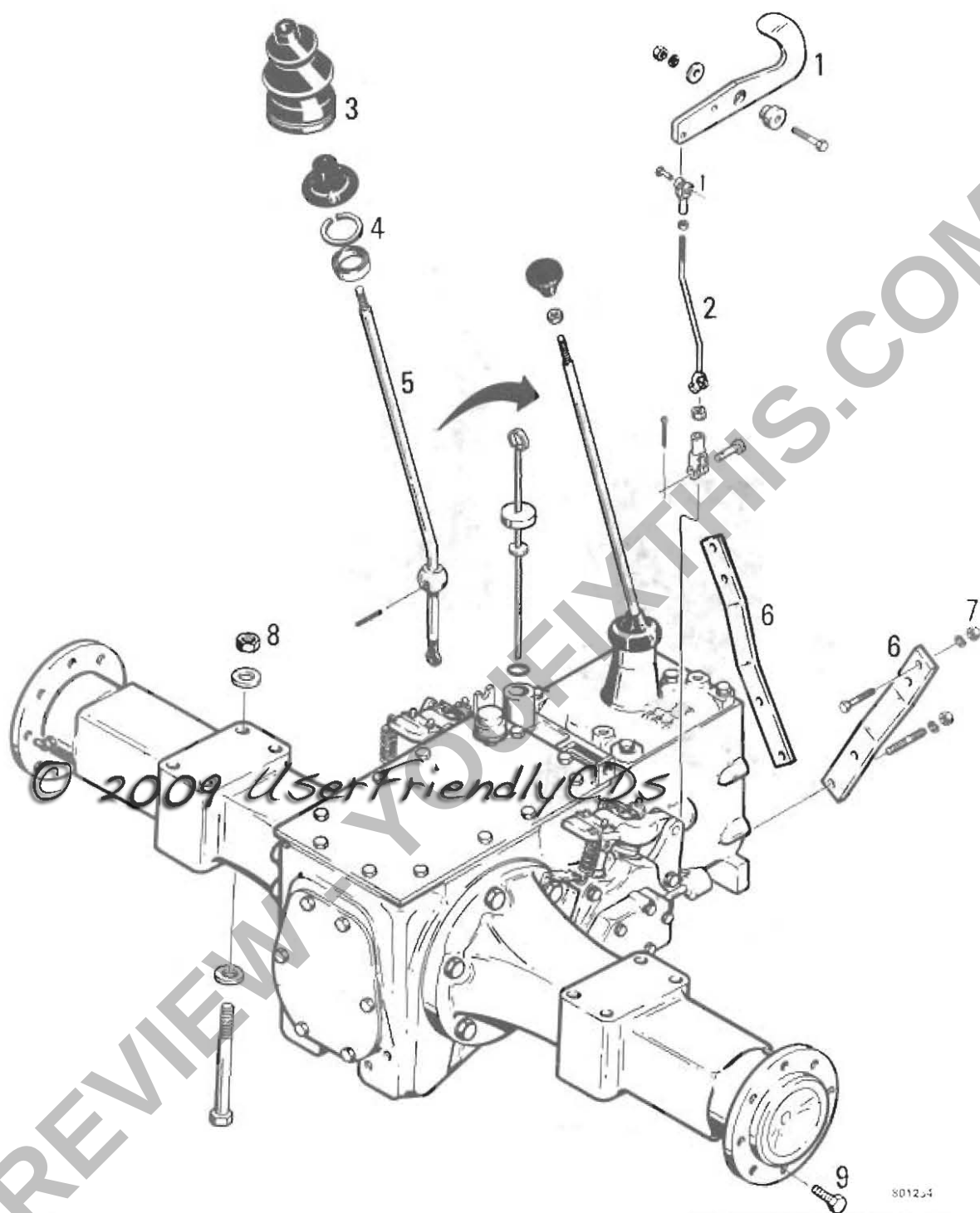
74. Press the bearing cup from the differential housing.



145818



Charging Pump and Reverse Clutch



1. DIFFERENTIAL LOCK PEDAL
2. DIFFERENTIAL LOCK LINKAGE
3. BOOTS
4. SNAP RING

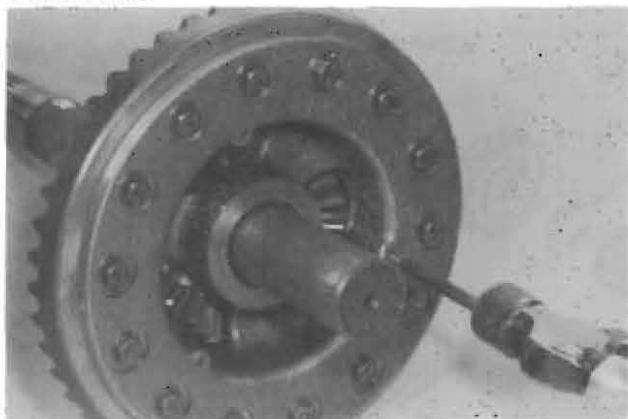
5. SHIFT LEVER
6. FRONT SUPPORT
7. TIGHTEN TO 65 - 85 POUND-FeET (88 - 115 N m)

8. TIGHTEN TO 250 - 300 POUND-FeET (339 - 407 N m)
9. TIGHTEN TO 115 - 130 POUND-FeET (156 - 176 N m)

8012-4

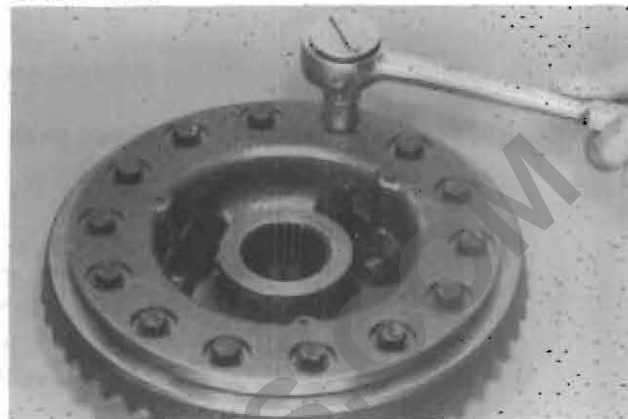
Disassembly of Centerwheel

STEP 170



Remove the pinion gear groove pins.

STEP 173



Remove the bolts from the ring gear.

STEP 171



Remove the pinion pins and the gears. Replace the gears if worn or damaged.

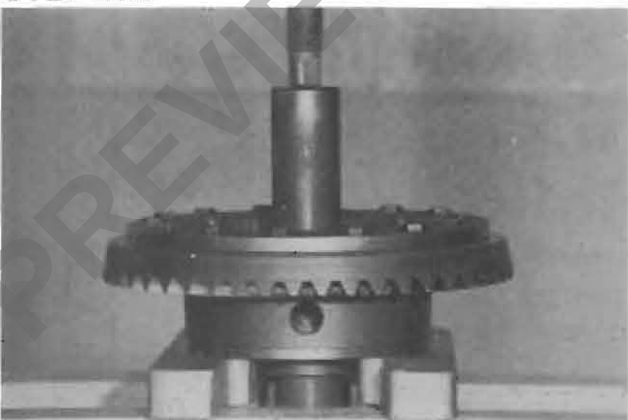
STEP 174



Lift the ring gear off the centerwheel.

NOTE: When replacing the ring gear you must replace the pinion shaft, these parts are a matched set.

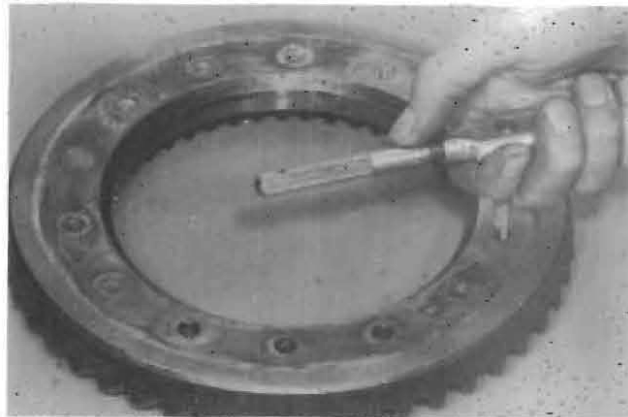
STEP 172



Press the cross shaft out of the centerwheel.

IMPORTANT: Pinion pins and gears must be removed from centerwheel before you press cross shaft from the centerwheel.

STEP 175

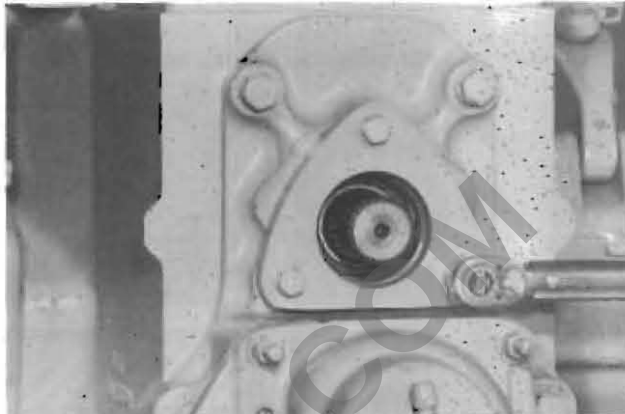


Clean the threaded holes of the ring gear (3/8" NF).

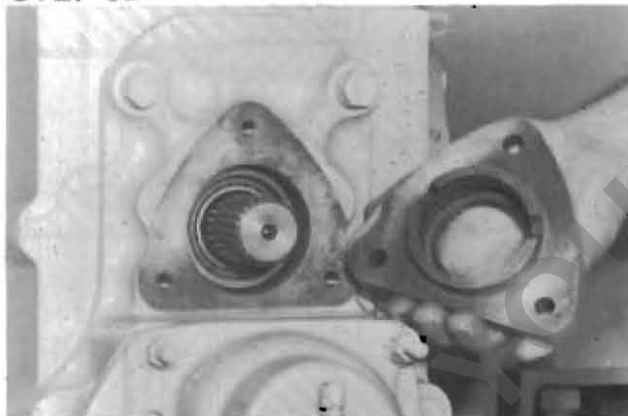
NOTE: You must replace all the ring gear bolts with new bolts if the old bolts were removed.

STEP 94

Apply RTV 108 (Case No. 345-61) adhesive to the adjustable cover.

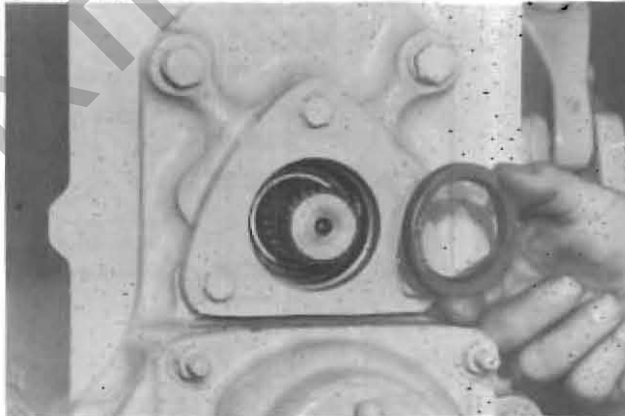
STEP 96

Install the cover bolts and tighten to a torque of 35 to 42 lb ft (48 to 57 Nm) (4.8 to 5.7 kgm).

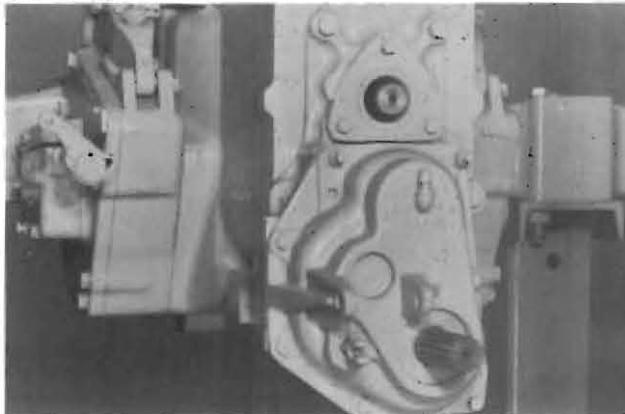
STEP 95

Install the adjustable cover.

NOTE: For mainshaft adjustment see Section 6214 for naturally aspirated engines, See Section 6215 for turbocharged engines in this service manual.

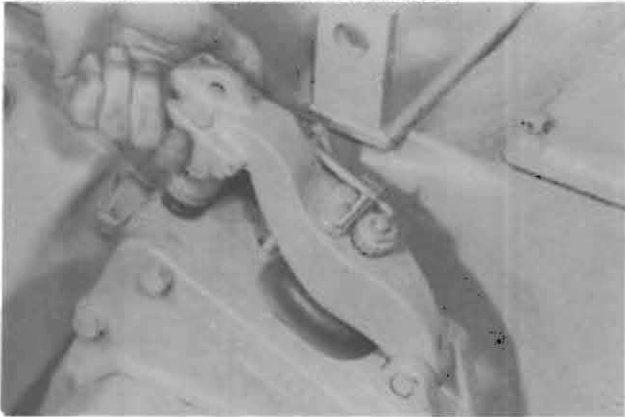
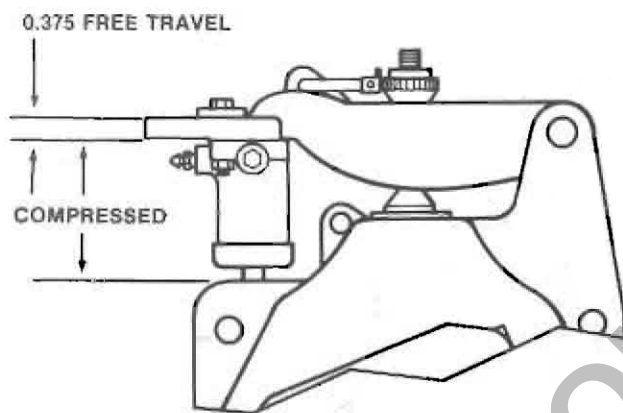
STEP 97

Install a new mainshaft seal.

STEP 98

Fill the transfer gear box with 1 pt of new Case FDL fluid.

NOTE: For Hand Brake Installation see Section 7123 in the service manual.

STEP 88 Prior to Serial No. 16270319

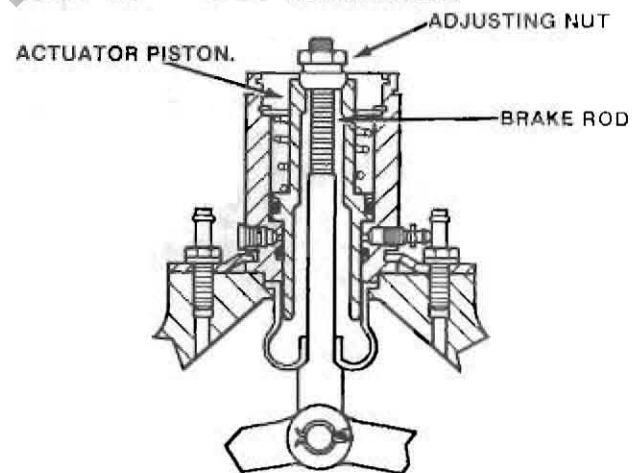
Adjust the brake by manually operating the brake lever until 0.375" (9.525 mm) free travel is reached at hydraulic brake cylinder.

STEP 89 Prior to Serial No. 16270319

Install the brake lever return spring.

Brake lever return spring specifications:

Free length	4" (101.6 mm)
O.D.	0.875" (22.2 mm)
Wire Diameter	0.105" (2.68 mm)
No. of Coils	21-1/2
Extend to 6" (152.4 mm)	34 to 37.5 lbs. (151 to 165 N)

STEP 90 After Serial No. 16270319

Install the adjusting nut on the brake rod until it makes contact with the actuator piston.

20. Repeat steps 18 and 19 for the other studs.

21. Remove the wear plate from the port end cover.



Figure 20

22. Remove the backup seal.



Figure 21

23. Remove the seal.



Figure 22

24. Remove the quad ring.

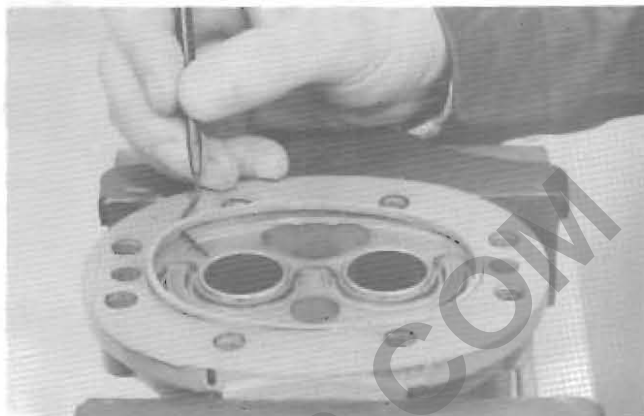


Figure 23

25. Put the drive end cover in the vise.

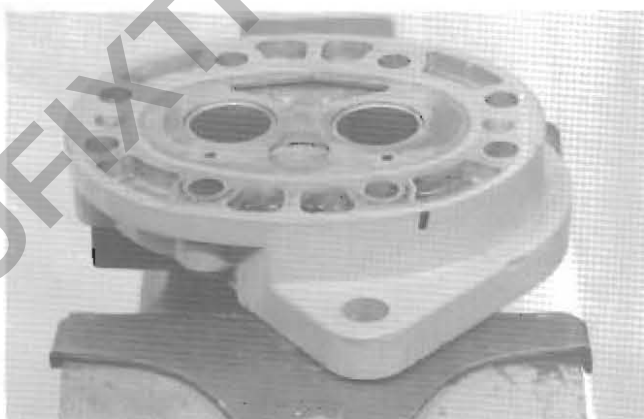


Figure 24

26. Remove the wear plate.

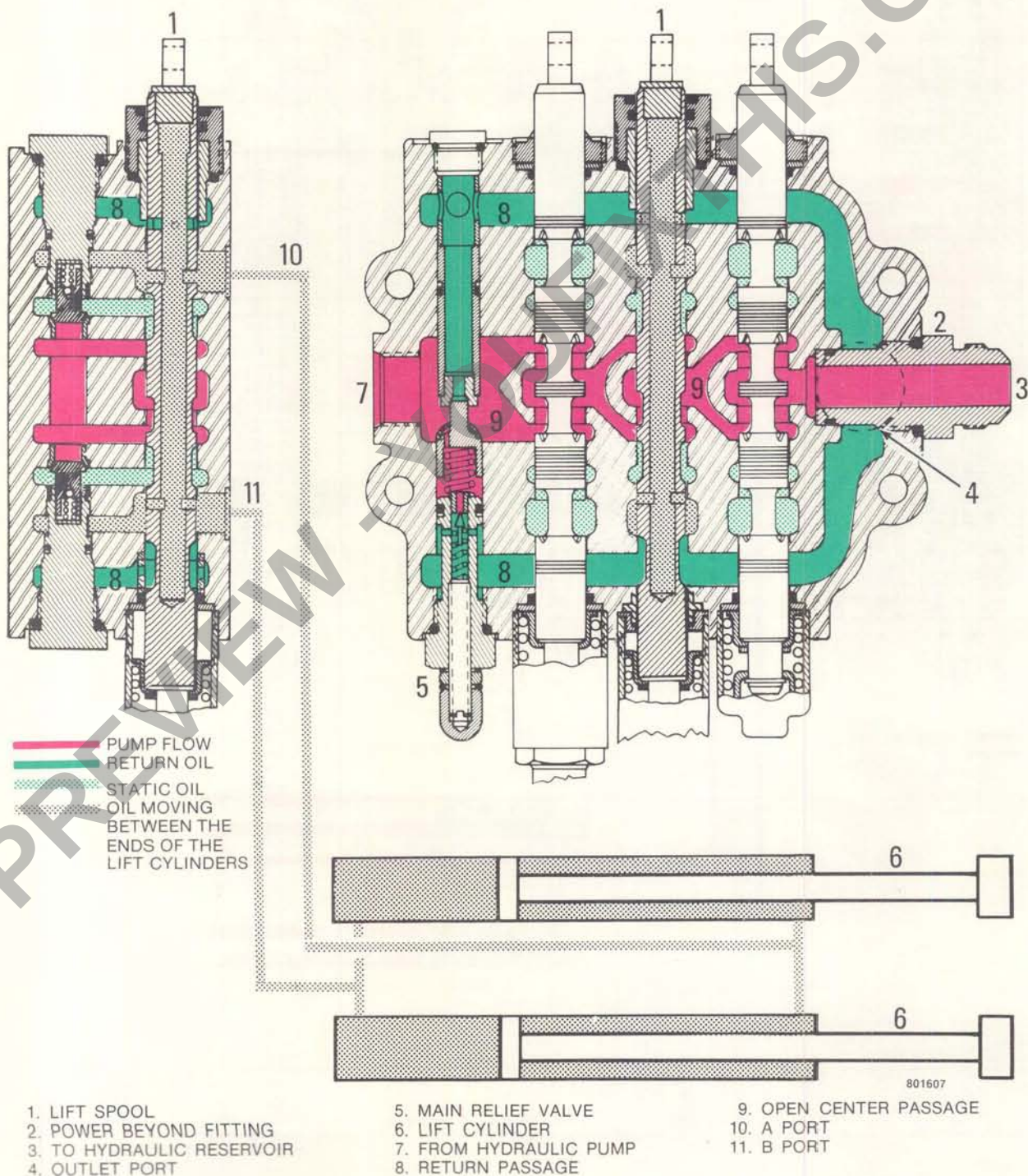


Figure 25

Oil Flow With the Lift Spool in Float

In this example the lift spool is moved all the way into the loader control valve. The lift spool connects the A port and B port through the hollow area in the

center of the lift spool. If the loader bucket is put on the ground, the loader bucket will follow the shape of the ground as the tractor moves, and oil will move from one end of the lift cylinders to the other as needed.



8008

STEERING RELIEF VALVE AND QUICK DISCONNECT COUPLINGS

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Installation	8008-2	Quick Disconnect Couplings for Three Point Hitch	8008-18
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Poppet Seat Replacement	8008-7	Disassembly of Female Quick Disconnect Coupling	8008-20
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Disassembly of Male Quick Disconnect Coupling	8008-11		
Inspection	8008-12		
Assembly of Male Quick Disconnect Coupling	8008-12		

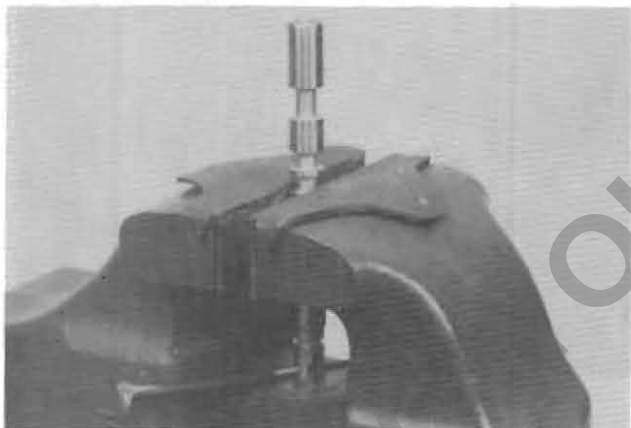


5. Install the spring seats and centering spring in the spring compressor and compress the centering spring.



333101

6. Fasten the spool in the vise as shown.



332902

7. Install the centering spring assembly.



332944

8. Install the retainer, lock washer, and screw.



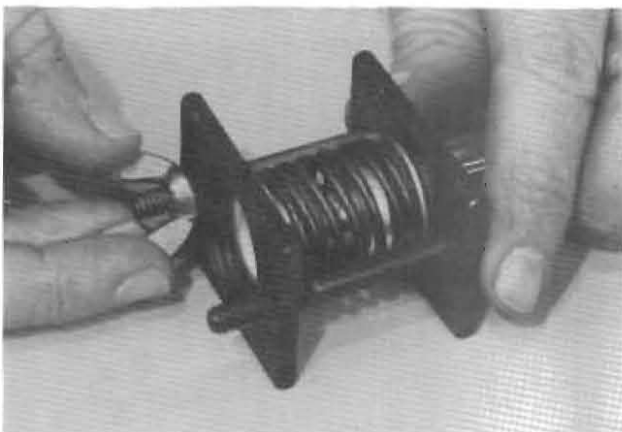
332901

9. Tighten the screw.



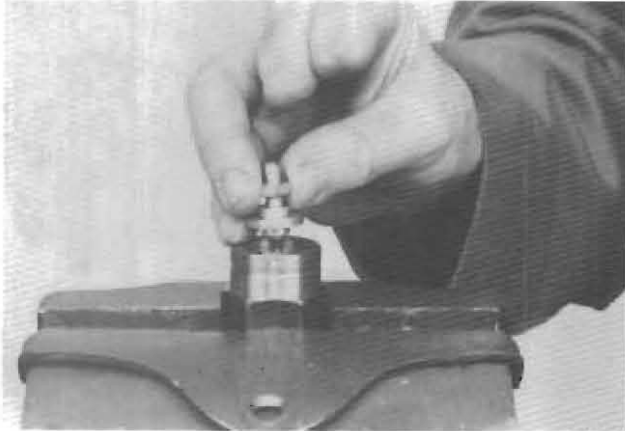
332940

10. Remove the spring compressor.



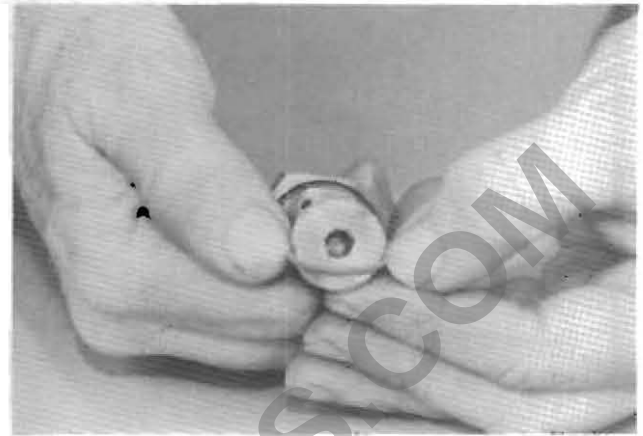
332934

9. Install the retainer.



412732

12. Install a new backup ring in the groove in the body.



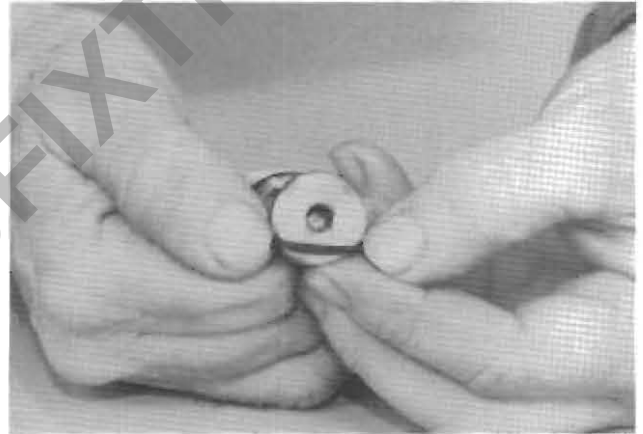
412908

10. Install the snap ring.



412730

13. Install a new O-ring in the groove.



412910

11. Install a new O-ring on the body.



412906

14. Install the circuit relief valve in test block CAS-1205 and use the hand pump to check the pressure setting of the circuit relief valve. See Section 8002 for pressure specifications and instructions.

15. When the pressure setting is correct, prevent the adjusting screw from turning and tighten the lock nut.



412820

6. See Figure 9. Close the manifold gauge valves.



Figure 9

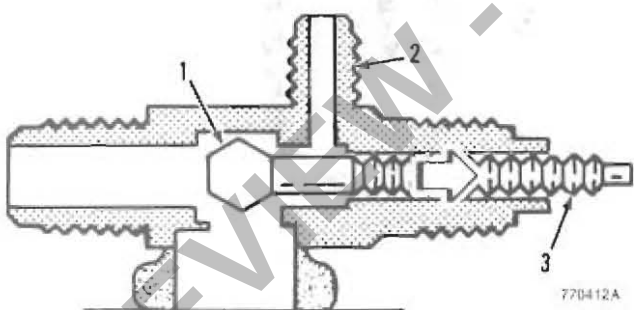
7. See Figure 10. Turn both valve stems two turns into the service valves to put the valve stems into the intermediate position.



WARNING: Never discharge the air conditioning system in a closed building. Proper ventilation is required under all circumstances, since refrigerant lacks the oxygen you need to breathe. 46-89



DANGER: When refrigerant comes in contact with an open flame, it forms phosgene gas, never breathe these fumes. 46-90



- 1 INTERMEDIATE POSITION
2 TEST PORT
3 VALVE STEM. TURN TWO TURNS INTO THE SERVICE VALVE AFTER THE VALVE STEM IS SEATED AT THE REAR OF THE SERVICE VALVE

Figure 10

8. Hold the charge/discharge hose of the manifold gauge set away from your body. Slowly open first the low pressure gauge valve, then the high pressure gauge valve. Release the refrigerant from the compressor GRADUALLY. Releasing the refrigerant too rapidly will remove too much refrigeration oil from the compressor.

9. When the low pressure gauge and the high pressure gauge both indicate 0, the refrigerant is discharged from the air conditioning system.

Removing Air and Moisture from the Air Conditioning System

When the air conditioning system has been discharged and opened for service, air enters the openings before the openings can be closed. This air carries moisture which can cause severe damage to the air conditioning system. It is necessary to remove this air and moisture before the air conditioning system is put into operation again.

Before you remove air and moisture from the air conditioning system, replace the receiver-drier if any of the following conditions apply:

- The air conditioning system was opened for service before.
- The receiver-drier has operated for more than two seasons.
- The reason for service is too much air and moisture in the air conditioning system.
- Disassembly of compressor shows small particles of drying material (yellow or brown particles).

A vacuum pump is necessary to remove air and moisture from the air conditioning system. Use the following procedure:

- Connect the charge/discharge hose of the manifold gauge set to the vacuum pump. Make sure that the manifold gauge valves are open.

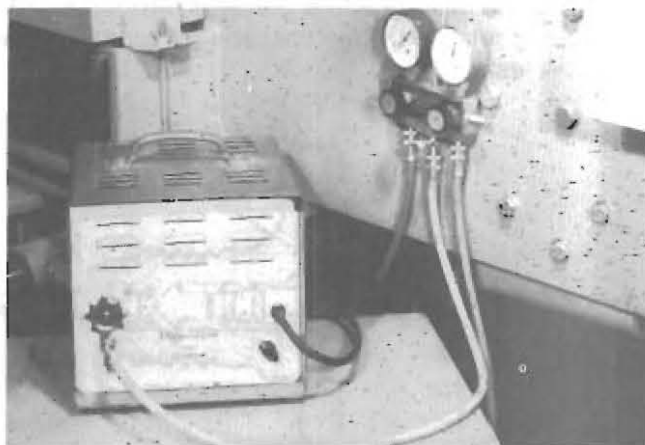
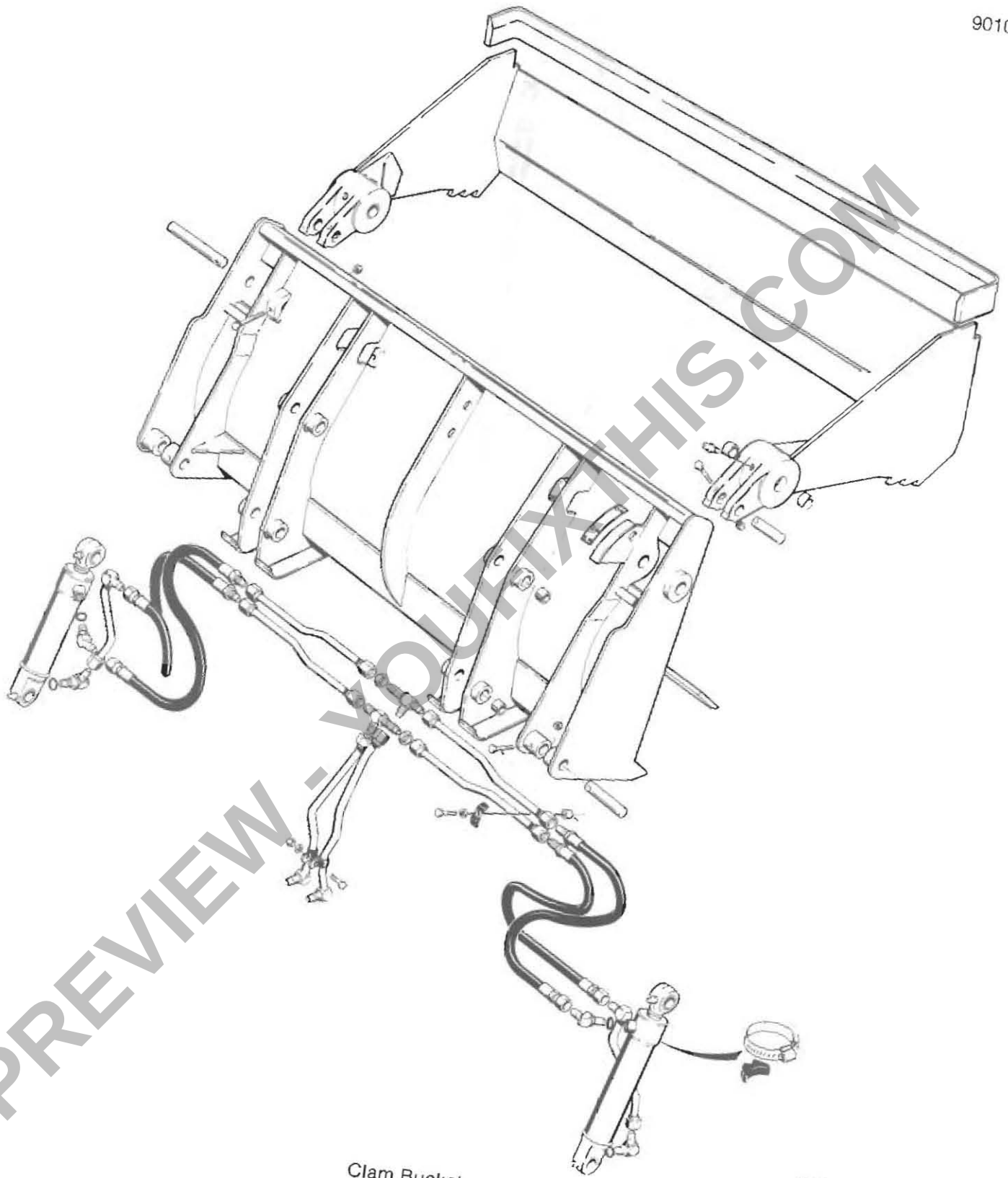


Figure 11



Clam Bucket

751665

54. Loosen and remove the nut from the bottom pivot pin for the swing tower. Use a torque multiplier to easily loosen the nut.



Figure 69

55. Remove the hardened washer (if used) from the pivot pin.



Figure 70

56. Loosen and remove the self-locking nut from the bolt that holds the top pivot pin in place.



Figure 71

57. Remove the bolt.



Figure 72

58. Fasten a lifting sling and hoist to the swing tower. When the lifting hook is in the position shown, the swing tower will be balanced.



Figure 73

59. Use a prybar to remove the top pivot pin. It will be necessary to lift the transport lock lever also.



Figure 74

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