1500 SERIES UNI-LOADERS

TABLE OF CONTENTS

SECTION	SECTION NO.	FORM NO.
GENERAL		
Maintenance and Lubrication	13	9-71535
ENGINE		
Air Cleaner	24	9-71535
NOTE: Manuals for the Wisconsin engines are supplied by the Wisconsin Motor Division of the Continental Motors Corporation.		
FUEL SYSTEMS		
Electric Fuel Pump	34	9-71535
NOTE: For carburetor information, refer to the service manual for the Wisconsin engine.		
LP Gas Fuel System	37	9-71535
HYDRAULICS		
Hydraulic System	41	9-71535
Hydraulic System	41, Supp. 1	9-71536
NOTE: Supplement 1 for Section 41 incorporates changes and improvements made to the machine after printing of Section 41. Following are the major areas of change: a. Updated pressure checks and troubleshooting procedures. b. Updated specifications and hydraulic diagrams. c. 3-spool control valve with new plunger-type relief valve. d. Variable speed control valve with new thermal relief alve. e. New TRW hydraulic pump.		
POWER TRAIN		
Power Train	61	9-71536
BRAKES		
Brakes	72	9-72095
ELECTRICAL		
Electrical System	82	9-71535
MOUNTED EQUIPMENT		
Loader	92	9-71535
Loader	92, Supp. 1	9-71536
NOTE: Supplement 1 for Section 92 incorporates changes and improvements made to the machine after printing of Section 92.		
Rollover Protection Structure	9019	9-71535

CASE CORPORATION

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MAINTENANCE CHART

Model 1526

INTERVAL	SERVICE	FLUID/LUBRICANT	INSTRUCTIONS
Run-In After First 20 Hours	Change engine oil and clean engine oil filter. Check valve clearance.	See chart, page 4.	See engine manual. See engine manual.
Run-In After First 60 Hours	Change engine oil and clean engine oil filter.	See chart, page 4.	See engine manual.
Every 10 Hours Or Daily	Check engine oil level.		See engine manual.
Every 120 Hours	Change engine oil and clean engine oil filter. Check valve clearance.	See chart, page 4.	See engine manual.
Every 240 Hours	Check generator drive belt tension. Clean fuel filter.		See engine manual. See engine manual.
Every 600 Hours	Clean and test fuel injection. Lubricate starter motor. Check generator operation.	Engine oil.	See engine manual. See engine manual.
Every 1000 Hours	Clean starter motor. Lubricate flywheel ring gear.		See engine manual. See engine manual.
As Required	Clean engine cooling fins.		See engine manual.

Model 1530 & 1537

Every 10 Hours Or Daily	Check engine oil level.		See engine manual.
Every 50 Hours	Change engine oil. Lubricate distributor.	See chart, page 4. 3 to 5 drops engine oil.	See engine manual.
Every 100 Hours	Change engine oil filter.		See engine manual.
As Required	Clean fuel sediment bowl. Clean engine cooling fins.		See engine manual.
At Engine Or Starter Overhaul	Lubricate starter.	#2 lithium-soap base grease.	See engine manual.

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Inspect filter after it is clean and dry. Place a light inside filter and inspect for holes, tears, and dented or bent metal covering. If metal covering is dented or bent, inspect filter paper for holes or rub spots in that area. If holes or rub spots are noted, discard filter and install new filter element.

NOTE: Inspect new filter element for defects in the same manner. Do not accept a defective filter.

The filter must be replaced after it has been cleaned six times or once a year, which ever occurs first.

OPTIONAL AIR CLEANER

Filter service consists of replacing the filter element when the red band on the restriction indicator remains in view. In addition to replacing the filter element, wipe out the filter housing with a damp, lint free cloth and clean the pre-cleaner.

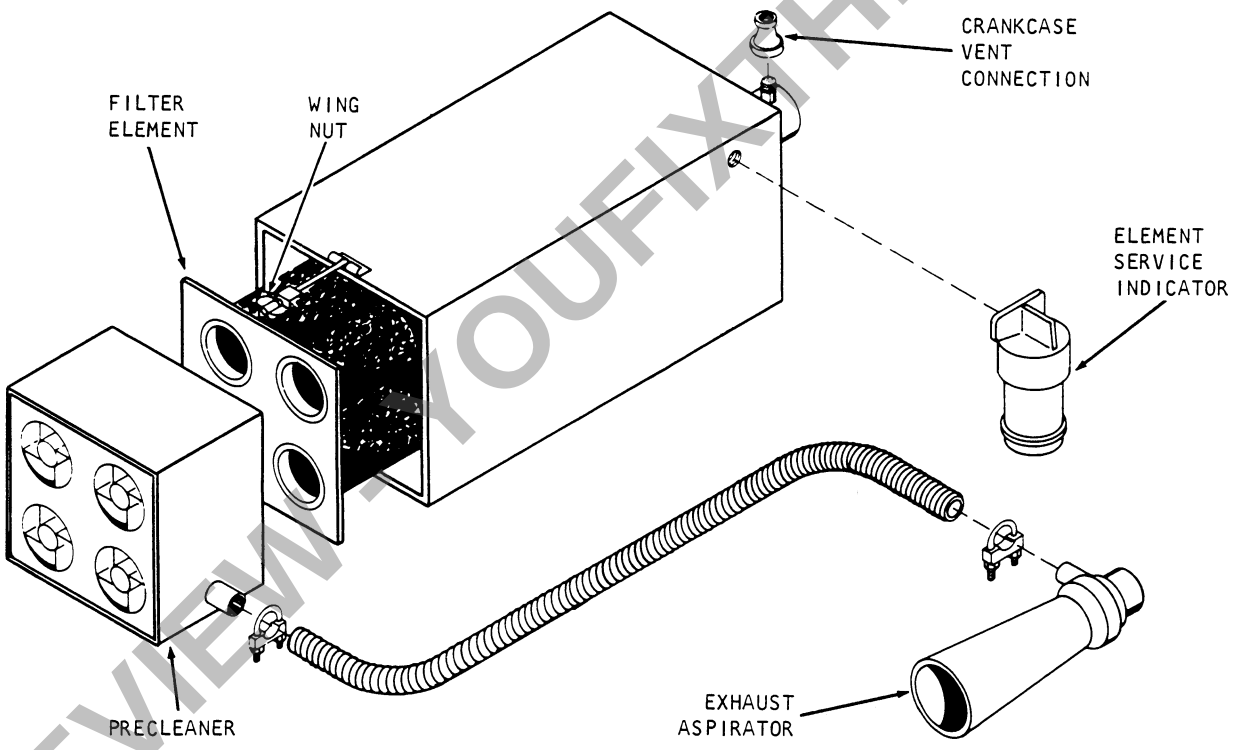


Figure 3 - Exploded View of Air Cleaner

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TROUBLE SHOOTING CHART

PROBLEM	POSSIBLE CAUSE	REMEDY
Engine Will Not Start	1. Defect in ignition system. 2. Fuel cylinder empty. 3. Fuel shut-off valve closed. 4. Excess flow valve closed. 5. Restricted fuel filter. 6. Defective lock-off switch. 7. Defective lock-off switch diaphragm. 8. Defective lock-off solenoid. 9. Broken wire in lock-off circuit.	1. Check out ignition system. 2. Refill cylinder. 3. Open valve. 4. Close fuel shut-off valve and listen for click. Then open valve slowly. 5. Service filter. 6. Replace switch. 7. Replace diaphragm. 8. Replace solenoid. 9. Repair as required.
Frost on Fuel Filter	1. Fuel shut-off valve opened too fast. 2. Restricted fuel filter.	1. Open valve slowly. See NOTE. 2. Service filter.
Frost on Line Between Carburetor And Converter	1. Fuel not vaporizing.	1. Allow engine to warm up thoroughly.
Frost at Connections	1. Leak or restriction at frosted area.	1. Check for leaks or restriction. USE A SOAP SOLUTION TO CHECK FOR LEAKS.
Frost at Converter, Engine Running	1. Engine and converter not warmed up.	1. Allow engine to warm up thoroughly.
Frost at Converter, Engine Stopped	1. Fuel not shut off at filter.	1. Check lock-off circuit.
Frost on Fuel Cylinder	1. Broken dip tube in cylinder.	1. Replace cylinder.

NOTE: If carburetor, fuel line and converter are frosted, close fuel shut-off valve and allow excess fuel to dissipate. Then slowly open fuel shut-off valve 1/4 of fully open. Start engine and run at idle speed until the engine has warmed up. Open valve completely before putting machine to work.

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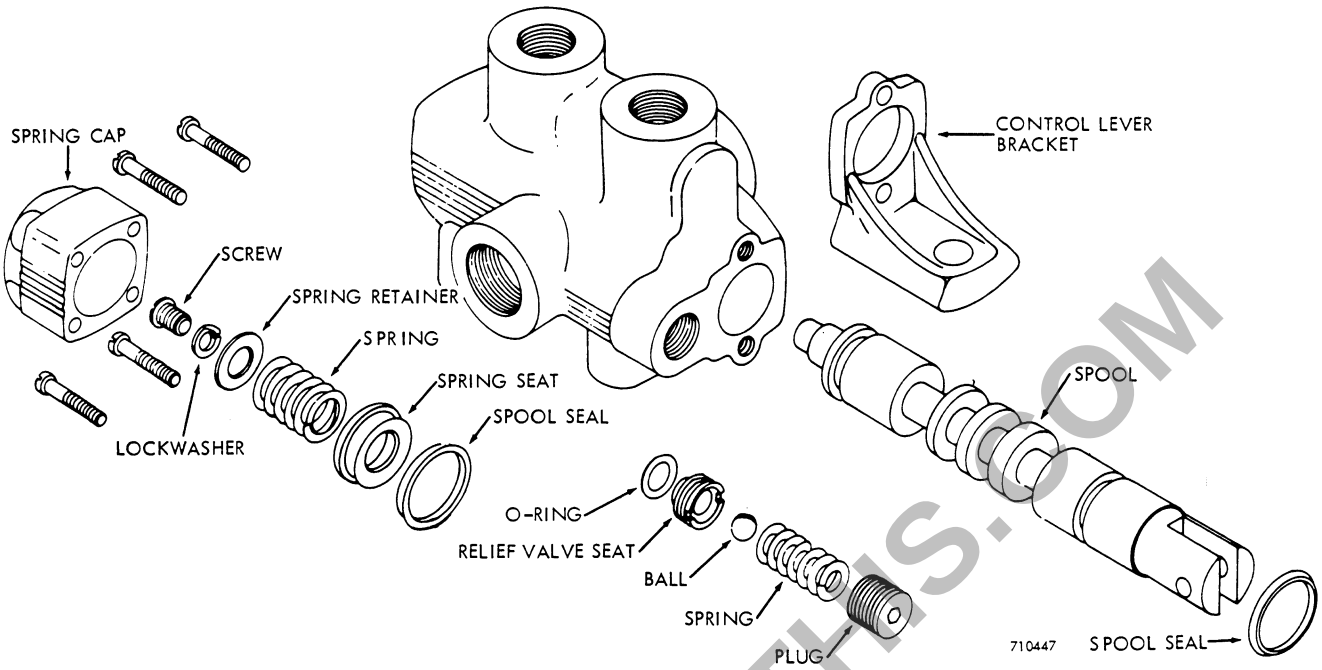


Figure 18 - Exploded View of Variable Speed Control

4. Grasp spool at eye end and pull spool out of valve until the front seal groove is exposed.

5. Install spool seal in groove with lip facing the center of the spool. Lubricate the spool seal and work the spool into the valve as instructed in step 3.

6. Secure control lever bracket to front of valve with screws and lockwashers.

7. Install spring seat, centering spring and spring retainer. Secure parts in place with screw and lockwasher. Torque the screw to 10 foot pounds.

8. Position spring cap against valve body and secure in place with screws.

9. Install relief valve seat with new o-ring using Gresen tool T-117 or a wide blade screwdriver.

10. Place ball and spring in relief valve bore and secure in place with plug.

CAUTION: Relief valve plug is a pipe plug. Do not over tighten as a cracked housing may result.

11. Install inlet tube and elbow.

Installation

1. Work the control valve into position and install the mounting capscrews and lockwashers. Do not tighten capscrews at this time.

2. Tighten the tube nut at the lift valve outlet and torque the variable speed control valve mounting capscrews to 15-20 foot pounds.

3. Connect hose to clutch shaft and oil manifold.

4. Connect hoses from lock check valve to control valve.

5. Connect the outlet tube to the control valve and oil manifold.

6. Tighten the tube mounting clamps on the left hand side panel and install seat.

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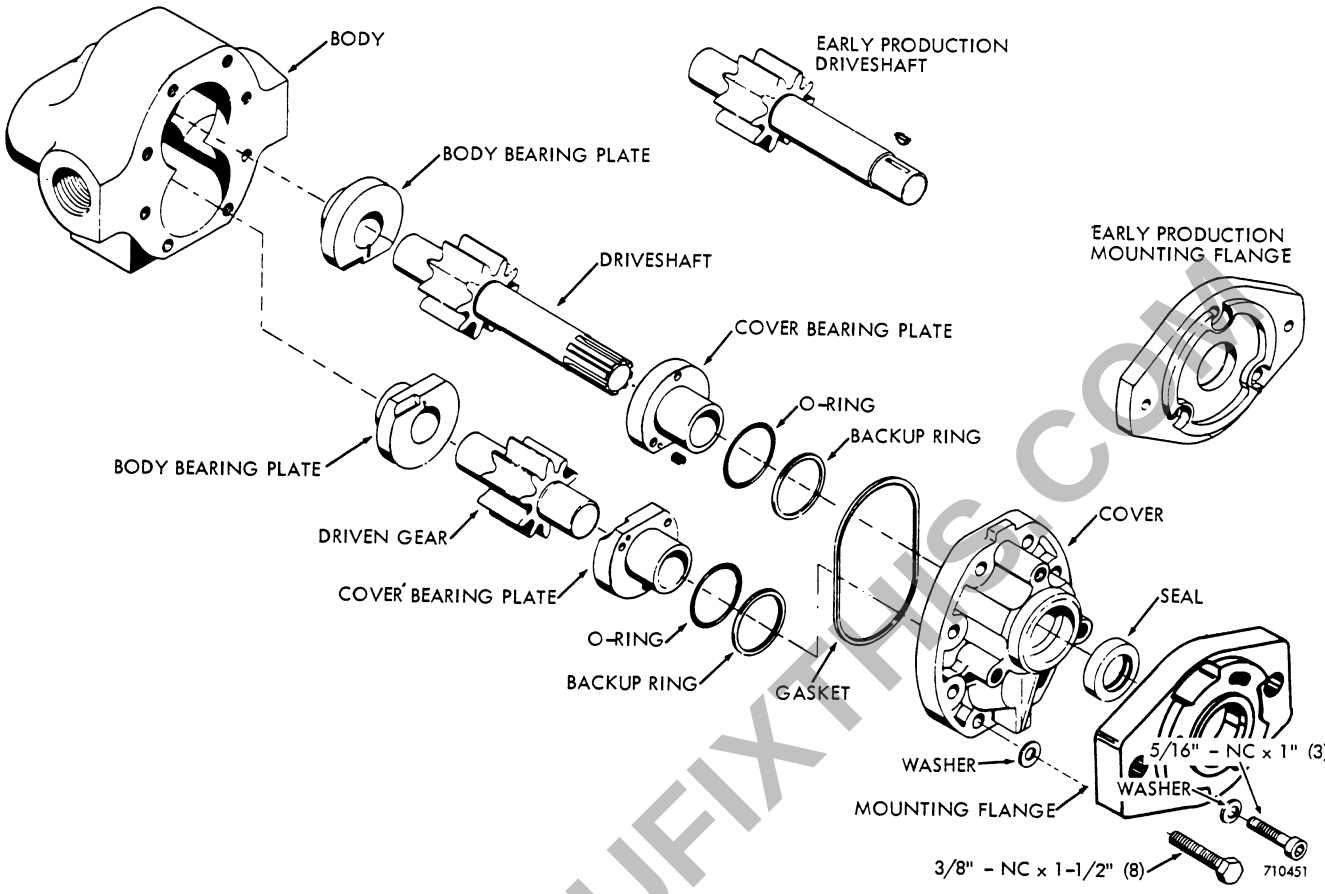


Figure 23 - Exploded View of Hydraulic Pump

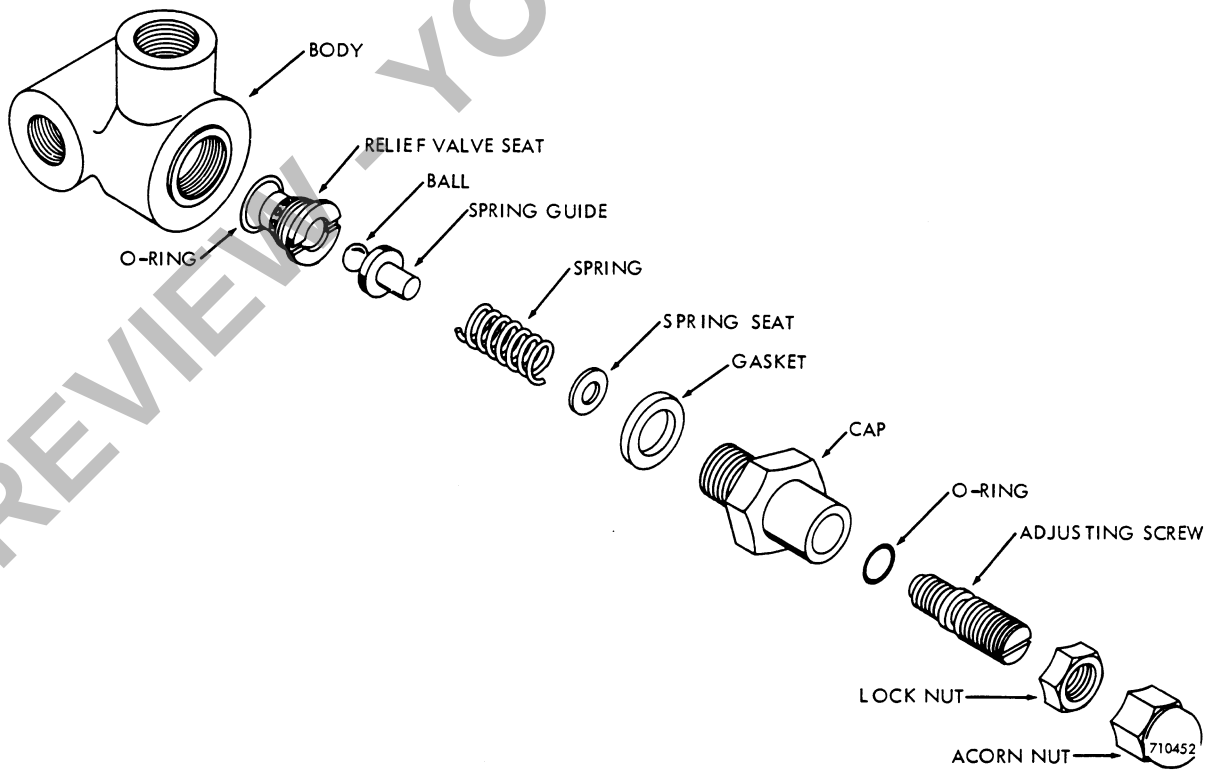


Figure 24 - Exploded View of System Relief Valve

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FLOWMETER CHECK SHEET

MODEL _____ SERIAL NUMBER _____ HOURS ____

DEALER _____ OWNER _____

SPECIFICATIONS

Pump output

Model 1530
and 1537. . . . . .18 gpm @1975 psi @full throttle (2400 rpm)

Model 1526 . . . . . .17 gpm @1975 psi @full throttle (2300 rpm)

System relief valve. . . . . 1975 ± 25 psi @full throttle

3 Spool valve relief valve . . . . . 1950 ± 25 psi @full throttle

TEST NO. 1 Crack point _____ psi @full throttle

Pressure setting _____ psi @full throttle

TEST NO. 2 _____ gpm @0 psi

_____ gpm @1600 psi

TEST NO. 3 Crack point _____ psi @full throttle

Pressure setting _____ psi @full throttle

TEST NO. 4	Test psi	gpm extended	gpm extended
Tilt Circuit	1600	_____	_____
Lift Circuit	1600	_____	_____

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Problem: Poor Or No Operation Of One Circuit Only

If only a single circuit is performing poorly, the problem is in that circuit--worn cylinder packing, faulty relief valves (roll-back and dump circuits only) or worn valve spool.

1. Check cylinder packing:

   a. Run the cylinder to the end of its stroke. Shut off the engine. Provide support for the equipment if raised.

   b. Disconnect the hose or tube on the RETURN side at the cylinder.

   c. Start the engine and run at half speed. Continue control lever movement in same direction to force oil over the main relief valve and build system pressure to maximum.

   d. Increase engine speed gradually while holding control lever in power position. Check for leakage through the open line; there should be no leakage. Any leakage indicates worn cylinder packing. Slight leakage is permissible.

   e. If the circuit contains two cylinders, repeat the test for the other cylinder.

   CAUTION: Perform this check carefully. Move control lever so that the open line is always on the RETURN side. Build engine speed gradually; a badly worn cylinder will allow a considerable amount of oil to leak past at maximum system pressure.

2. If cylinder leakage was found, remove and rebuild the cylinder. Then, if possible, operate the circuit under working conditions to see if the problem has been solved. If the circuit still is not satisfactory, there is additional leakage in the control valve or the dump or roll-back circuit relief valve.

3. Check and adjust the setting of the affected circuit (bucket only) relief valve. Refer to page 10. Proceed to step 5 if checking lift cylinders.

4. If the specified setting cannot be obtained, remove and repair or replace the relief valve as required. Reinstall relief valve and adjust pressure setting. Operate the circuit to see if the problem has been solved.



WARNING: Rest bucket flat on floor when removing relief valves.

5. If the circuit does not have relief valves, or relief valve adjustment did not solve the problem, excessive spool leakage is almost certain. Remove the control valve and inspect the affected spool and spool bore. If the spool or spool bore is defective, the complete valve must be replaced.

Problem: Poor Or No Operation Of All Circuits

If all the circuits are performing unsatisfactorily, a worn pump is the most probable cause. However, the pump should never be removed for repairs or replacement until obvious system faults have been corrected and a flowmeter test has been run. Make the following checks:

1. Determine, if possible, the number of operating hours since the last hydraulic oil change. Also determine, if possible, whether the proper oil was installed (non-foaming type of correct viscosity such as Case TCH Fluid or approved substitute, Section 13). If the oil has not been changed within 500 hours or if an incorrect oil was installed, drain and refill the reservoir with Case TCH Fluid.

2. Make a field check for oil contamination. Drain a sample of oil from the reservoir. Compare the drained oil with new oil and look for the following signs:

   a. Feel the oil with your fingers. If the oil feels gritty or contains particles large enough to be felt, the oil must

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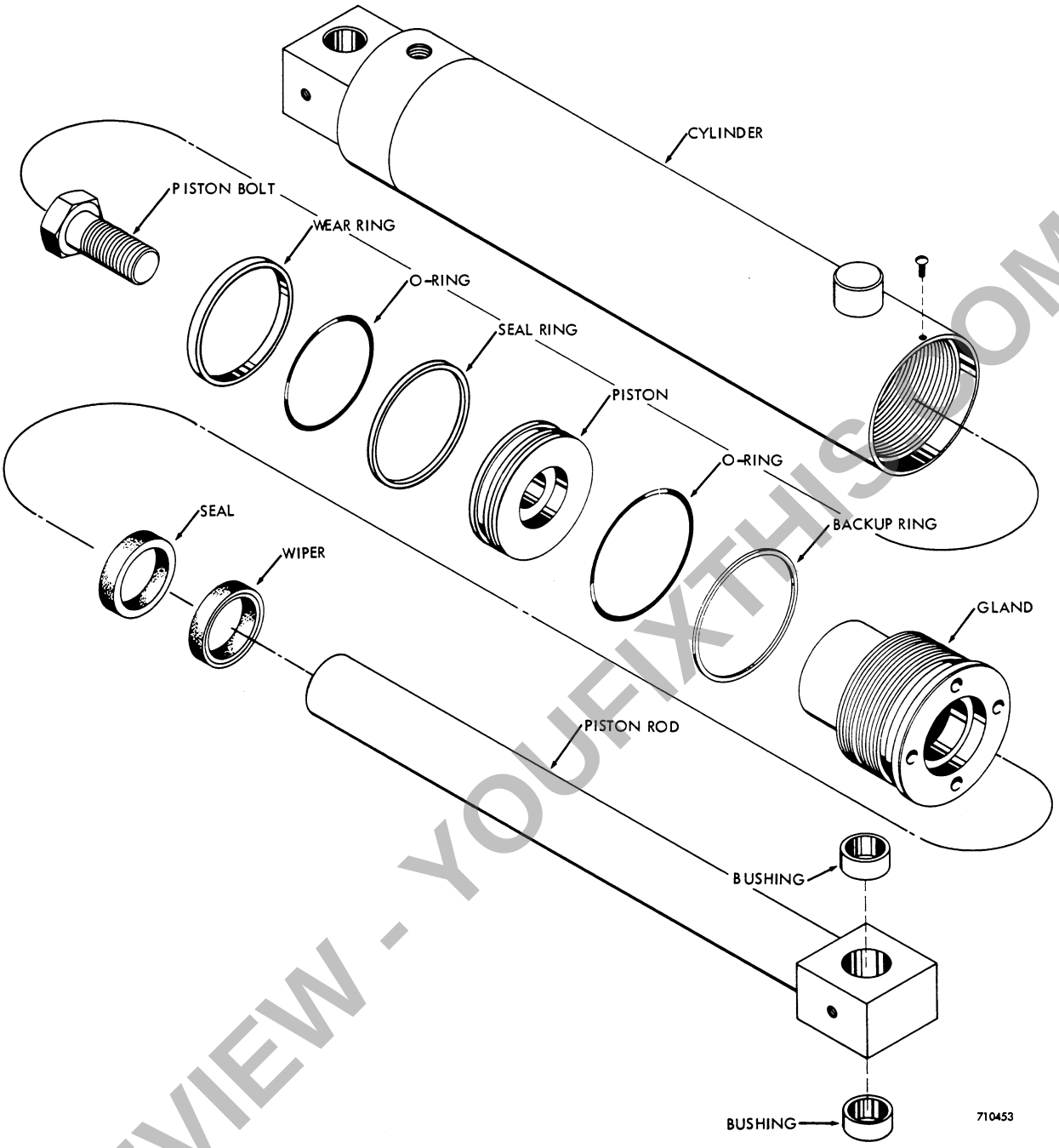


Figure 27 - Exploded View of Tilt Cylinder

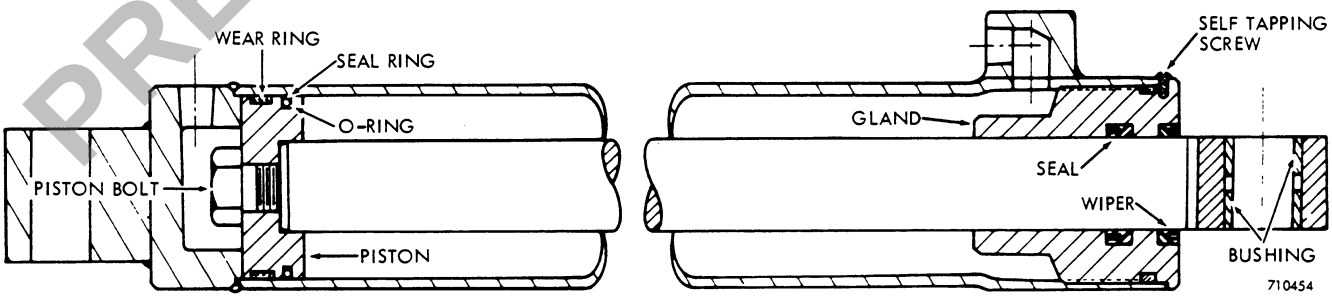


Figure 28 - Cross Section View of Tilt Cylinder

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teeth should touch or be within 1/32" of the straightedge.

d. If the tightener sprocket is not within 1/32" of the straightedge, the inner drive sprocket must be removed for machining, see NOTE.

NOTE: Remove no more than 1/16" of material from the mounting surface of the bracket. The sprocket shaft must not be shortened. Press or drive shaft out before machining. When the shaft is installed it must be flush with the back side of the bracket. Reinstall bracket and position drive sprocket as instructed in step 5.

e. When sprockets are in alignment, proceed to step 8.

8. Chain tension is checked in two places, (1) where chain tension is the least, and (2) where chain tension is the greatest. When the axle is rotated thru one complete revolution the chain will vary from loose to tight because of eccentricity between the axle and drive sprockets.

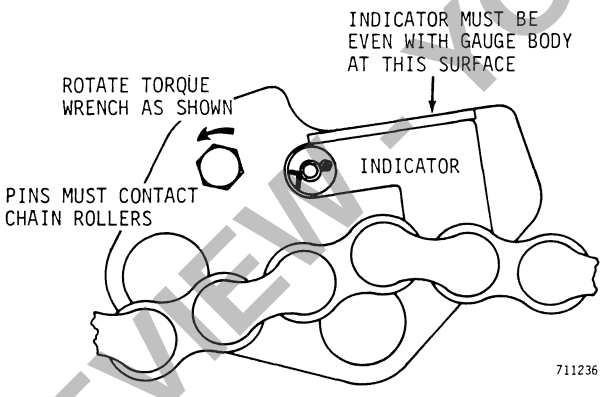


Figure 12 - Tension Gauge Installation

NOTE: Steps 9 thru 13 apply to one side only, repeat for the other side.

9. Rotate the axle 60° at a time through one complete revolution to find the loosest point in the chain. Push and pull against the chain to determine looseness. When the loosest chain condition is located, install the chain tension gauge as illustrated in Figure 12 and attach a foot-pound torque wrench to the gauge.

10. Rotate the gauge until the indicator is even with the gauge body and note and record torque reading.

    a. If the gauge pins are facing the inside, rotate the gauge counterclockwise.

    b. If the gauge pins are facing the outside, rotate the gauge clockwise.

11. Repeat step 9 but locate the tightest chain condition. Then repeat step 10.

12. The torque readings should not be less than 30 foot-pounds or more than 60 foot-pounds. Readjust tension as required.

13. Repeat steps 9, 10 and 11 for remaining chain.

NOTE: Improperly adjusted chains can result in early drive train failure and costly repairs.

14. Reinstall No. 50 chain and adjust as instructed.

15. Reinstall drive compartment cover(s), wheels and floorboard. Torque cover nuts to 10-12 foot-pounds, clutch shaft nuts to 35-40 foot-pounds and wheel nuts to 85-100 foot-pounds.

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PROBLEM	POSSIBLE CAUSE	REMEDY
Alternator Fails to Charge	1. Open or high resistance in charging or ground return. 2. Open, ground or short in stator winding. 3. Faulty regulator. 4. Shorted or open rectifier. 5. Wires improperly connected after repairs.	1. Refer to Component Tests in this section. 2. Refer to Component Tests, page 22. Replace stator. 3. Refer to test on page 23. Replace regulator. 4. Refer to Test on page 23. 5. Refer to wiring diagram in this section.
Low Or Unsteady Charging Rate	1. All of reasons under Alternator Fails to Charge.	
Excessive Charging Rate. Lights Burning Out	1. Improper or loose connections on regulator. 2. Faulty regulator.	1. Check for proper connections. 2. Replace regulator. Refer to regulator tests, page 23.
Batteries Requiring Too Frequent Refilling	1. Faulty regulator permitting excessive charging rate.	1. Refer to page 23. Replace if necessary. Regulator cannot be repaired or adjusted.
Noisy Generator	1. Defective or badly worn belt. 2. Misaligned or defective pulley. 3. Loose pulley. 4. Worn bearings.	1. Replace belt. 2. Align fan and generator pulleys. 3. Check for sheared key or worn keyway. Tighten pulley nut. 4. Replace bearings.
Continuity Test Shows No Voltage Through Harness	1. Harness plugs not fully engaged. 2. One or more studs on plug broken. 3. Incorrect wiring. 4. Open or shorted wire in harness.	1. Make sure plugs are fully engaged. 2. Replace harness. 3. Check wiring diagram, Figure 1 or 2. 4. Replace harness.

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