580C LOADER BACKHOE TABLE OF CONTENTS AND SERVICE MANUAL INTRODUCTION

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C.E. Div. 9-66017
580C Loader Backhoe
April 1978

PRINTED IN U.S.A.

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Service Manual Introduction

Safety Rules

WARNING: Operate controls from the operator's seat only. 35-7

WARNING: Read operator's manual to familiarize yourself with control lever functions. 35-1

WARNING: Whenever the loader bucket must be raised to aid in servicing, block the bucket in place with lift cylinder stops or a suitable safety stand. 40-11

WARNING: When working in the area of the fan belt with the engine running, avoid loose clothing if possible, and use extreme caution. 35-4

WARNING: Whenever cycling the loader or backhoe to bleed air from circuits or to check operation, be sure area is clear of fellow workers. 40-12

WARNING: When performing checks and tests on the equipment hydraulic system or steering system, DO NOT deviate from the written procedure. 40-13

WARNING: This is a one man machine, no riders allowed. 35-8

WARNING: After installing tire on rim (wheel), place wheel in a safety cage before inflating tires. If proper equipment is not available, have a tire repair shop do the work. 40-5

CAUTION: Some components of this machine are very heavy. Use suitable lifting equipment or additional help as instructed in this service manual. 40-10

CAUTION: Pin sized and smaller streams of hydraulic oil under pressure can penetrate the skin and result in serious infection. Maintain all hoses and tubes in good condition. Make sure all connections are tight. Replace any hose or tube that is faulty or thought to be faulty. DO NOT use your hand to check for leaks; use a piece of cardboard or wood. 40-6

CAUTION: Use suitable floor (service) jacks or chain hoists to raise wheels off the floor. Always block machine in place with suitable safety stands. 40-7

CAUTION: When servicing or repairing the machine, keep the shop floor and operator's compartment and steps free of oil, water, grease, tools, etc. Use an oil absorbing material and/or shop cloths as required. Use safe practices at all times. 40-8

General

This service manual has been prepared with the latest service information available. Trouble shooting, removal, disassembly, inspection and installation procedures coupled with complete specifications and tightening references can be found in most sections. Some sections will have exploded views without accompanying text due to the simplicity of the procedure. This service manual is one of the most important tools available to the service technician. It is an invaluable aid in properly performing any phase of service.

The terms right-hand and left-hand as used in this manual indicate the right and left sides of the machine as viewed from the operator's seat for proper operation of the machine or attachment.

The information contained in this manual is current at the time of printing.

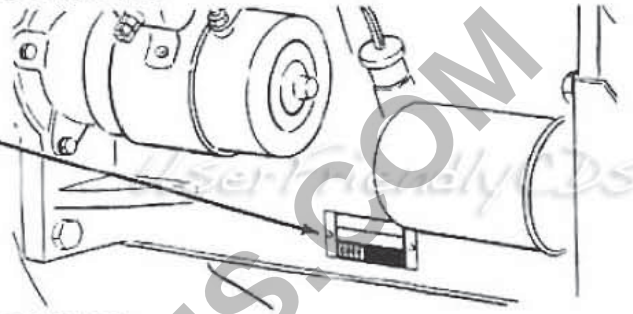
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Section 1010

GENERAL ENGINE SPECIFICATIONS 580C TRACTORS

THE MODEL AND ENGINE SERIAL NUMBER IS STAMPED ON A PLATE LOCATED ON THE RIGHT SIDE OF THE ENGINE BELOW THE CRANKING MOTOR.



DIESEL ENGINES

General

Type	Case Open Chamber, 4 Cylinder, 4 Stroke Cycle, Valve-in-Head
Firing Order	1-3-4-2
Bore	4 Inches
Stroke	4-1/8 Inches
Piston Displacement	207 Cubic Inches
Compression Ratio	16.5 to 1
No Load Governed Speed	2230 to 2270 RPM
Rated Engine Speed	2100 RPM
Engine Idling Speed	700 to 750 RPM
*Valve Tappet Clearance (Exhaust)	(Hot and Cold) .014 Inch
(Intake)	(Hot and Cold) .012 Inch

*Hot Settings Are Made After the Engine Has Operated At Thermostat Controlled Temperature For At Least Fifteen Minutes.

Piston and Connecting Rods

Rings per Piston	3
Number of Compression Rings	2
Number of Oil Rings	1
Type Pins	Full Floating Type
Type Bearing	Replaceable Precision, Steel Back, Copper-Lead or Aluminum Alloy Liners

Main Bearings

Number of Bearings	5
Type Bearings	Replaceable Precision Steel Back, Copper-Lead or Aluminum Alloy Liners

Engine Lubricating System

Crankcase Capacity (Without Filter)	6 Quarts
(With Filter Change)	7 Quarts
Oil Pressure	50 to 70 Pounds with Engine Warm and Operating at Rated Engine Speed
Type System	Pressure and Spray Circulation
Oil Pump	Gear Type
Oil Filter	Full Flow Spin on Type

Fuel System

Fuel Injection Pump	Roosa-Master
Pump Timing	8 Degrees Before Top Dead Center
Fuel Injectors	Pencil Type (Opening Pressure 2800 PSI)
Fuel Transfer Pump	Vane Type, Integral Part of Injection Pump
Governor	Variable Speed, Fly-Weight Centrifugal Type, Integral Part of Injection Pump
Fuel Filters	Full Flow Spin on Type

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Rocker Arm Assembly

	U.S. Value	Metric Value
O.D. of shaft	.622 to .623"	15.799 to 15.824mm
I.D. of arm bore	.624 to .626"	15.850 to 15.900mm
Shaft spring:		
Free length	2.5"	63.500mm
Compressed to 1.75" (44.450mm)	7.5 to 8.5 lbs.	3.40 to 3.86 kg.
Lubrication	Engine oil, camshaft metering	
Shaft oil holes	Toward valve side of engine. Shaft cannot be rotated.	

SPECIAL TORQUES

Engine

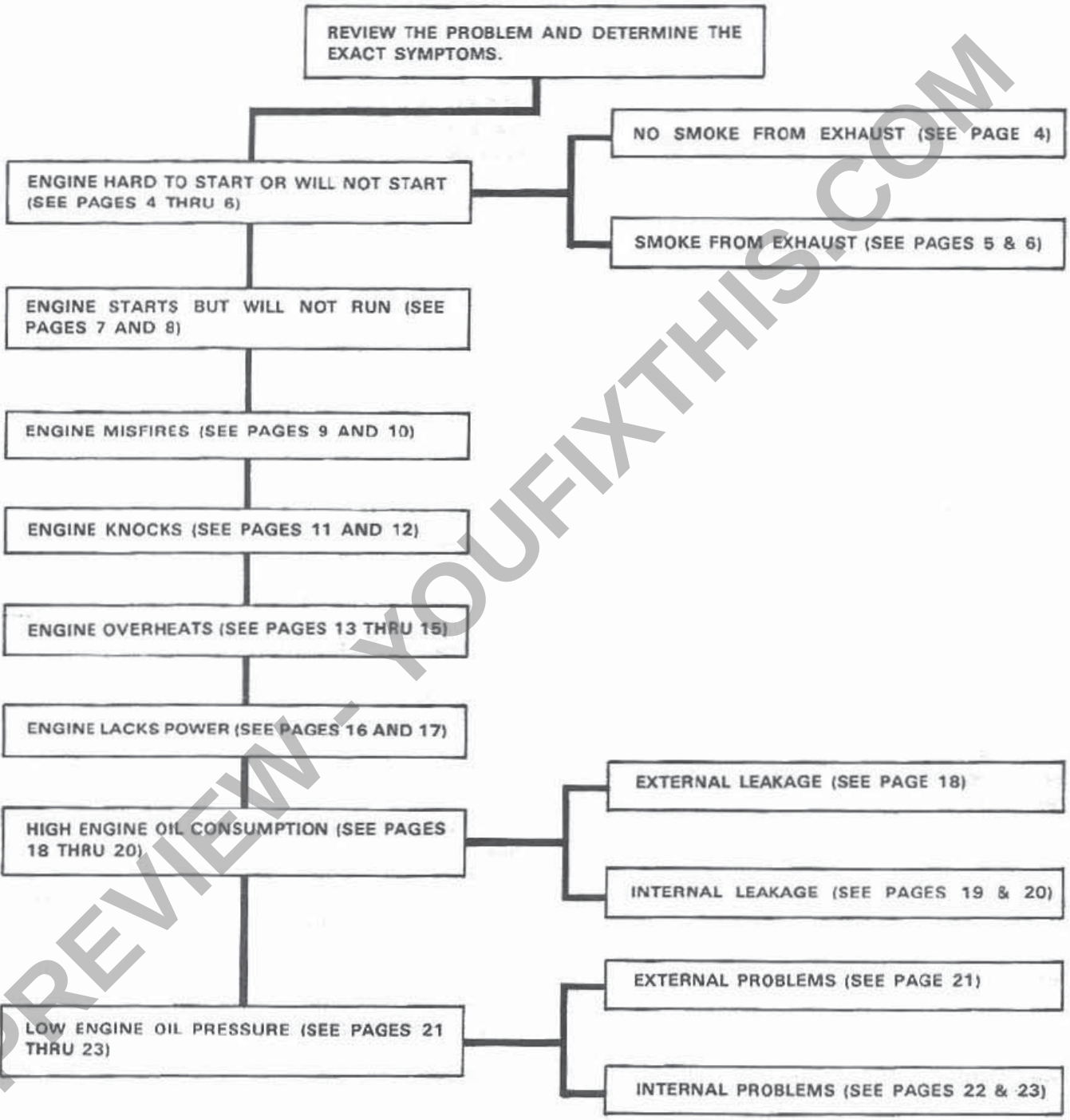
Camshaft nut	80 to 90 ft. lbs.	109 to 122 Nm
Camshaft thrust plate mtg. bolts	17 to 20 ft. lbs.	23 to 27 Nm
Connecting rod nuts	45 to 50 ft. lbs.	61 to 68 Nm
Crankshaft main bearing bolts	90 to 100 ft. lbs.	122 to 136 Nm
Crankshaft pulley nut	125 to 135 ft. lbs.	169 to 183 Nm
Cylinder head bolts (Gr. 8,12 pt. hd.)	105 to 115 ft. lbs.	122 to 137 Nm
Cylinder head stud nuts (1/2")	95 to 105 ft. lbs.	129 to 142 Nm
Cylinder head valve cover stud (3/8")	35 to 42 ft. lbs.	48 to 57 Nm
Cylinder head valve cover stud (1/2")	80 to 96 ft. lbs.	108 to 130 Nm
Cylinder head valve cover stud nuts (3/8")	4 to 6 ft. lbs.	5 to 8 Nm
Engine oil filter	Install until gasket contacts filter head, then hand tighten 1/2 turn. Loosen filter approximately one full turn and retighten until gasket contact is made, then hand tighten an additional 1/2 to 3/4 turn.	
Exhaust manifold stud nut	25 to 30 ft. lbs.	34 to 41 Nm
Fan mounting bolts	17 to 20 ft. lbs.	23 to 27 Nm
Flywheel to crankshaft bolts	65 to 70 ft. lbs.	88 to 95 Nm
Fuel pump drive gear nut	40 to 50 ft. lbs.	54 to 68 Nm
Idler gear journal mounting bolts	35 to 42 ft. lbs.	47 to 57 Nm
Intake manifold stud nut	30 to 35 ft. lbs.	41 to 48 Nm
Oil pan capscrews (stamped steel)	10 to 12 ft. lbs.	14 to 16 Nm
Oil pan drain plug	29 to 31 ft. lbs.	39 to 42 Nm
Oil pan to seal retainer	15 to 20 ft. lbs.	20 to 27 Nm
Oil pump cover capscrews	9 to 11 ft. lbs.	12 to 15 Nm
Oil pump suction tube nut	95 to 105 ft. lbs.	129 to 142 Nm
Oil seal retainer bolts	12 to 15 ft. lbs.	16 to 20 Nm
Rocker arm bracket bolts	25 to 30 ft. lbs.	34 to 41 Nm
Timing gear cover mounting bolts	25 to 30 ft. lbs.	34 to 41 Nm
Water pump body bolts	35 to 42 ft. lbs.	48 to 57 Nm

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ENGINE DIAGNOSIS CHART



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RUN-IN-INSTRUCTIONS

Engine Lubrication

When the engine rebuild is complete, fill the engine crankcase with Case HDM oil and install new engine oil filter. **NOTE:** If Case HDM oil is not used, use only a Series 3 DS or CD Service Classification oil that has the proper viscosity rating for prevailing air temperature. Refer to vehicle Operator's Manual.

After the first 20 hours of operation, change the engine oil while the engine is hot and replace the engine oil filter. DO NOT DRAIN OIL UNTIL THE ENGINE HAS BEEN OPERATED 20 HOURS.

Change the engine oil and filter at the recommended intervals thereafter as outlined in the Operator's Manual.

Break-In Procedure for Rebuilt Engines (With a Dynamometer)

The following procedure must be implemented when using a PTO dynamometer to break-in the engine. The dynamometer will insure control of the engine load at each speed and will eliminate over stressing new parts during break-in.

During the break-in, continually check the oil pressure, coolant level, and coolant temperature.

STEP	TIME	ENGINE SPEED	DYNAMOMETER SCALE LOAD*
1	**10 Minutes	1000 RPM	None
2	**10 Minutes	1800 RPM	None
3	20 Minutes	1800 RPM	1/3
4	20 Minutes	1800 RPM	1/2
5	***30 Minutes	100 RPM below rated speed	3/4
6	Retorque the cylinder head bolts using the procedure described in Section 2015 of this service manual.		

*Based upon normal dynamometer scale load at rated speed for the particular vehicle model. Reduce this scale load as indicated.

**The most ideal break-in procedure would be to constantly vary the throttle between 750 to 1000 RPM for the first 10 minutes and from 1000 RPM to 1800 RPM for the next 10 minutes. The purpose of this changing RPM is to vary the lubrication and coolant flow.

***30 minutes at 3/4 load is a minimum amount of time the engine should be run. It is recommended that whenever possible the engine (especially turbocharged diesels) should be run for four (4) hours or more at the above speed and load before checking the full engine horsepower or before using the engine for heavy field work.

Break-In Procedure for Rebuilt Engines (Without a Dynamometer)

STEP	TIME	ENGINE SPEED	LOAD
1	*10 Minutes	1000 RPM	None
2	*10 Minutes	1800 RPM	None
3	30 Minutes	2/3 Rated RPM	Light Load
4	1 Hour	Full RPM (not over 2000 RPM)	80 to 90%
5	Retorque the cylinder head bolts using the procedure described in Section 2015 of this service manual.		

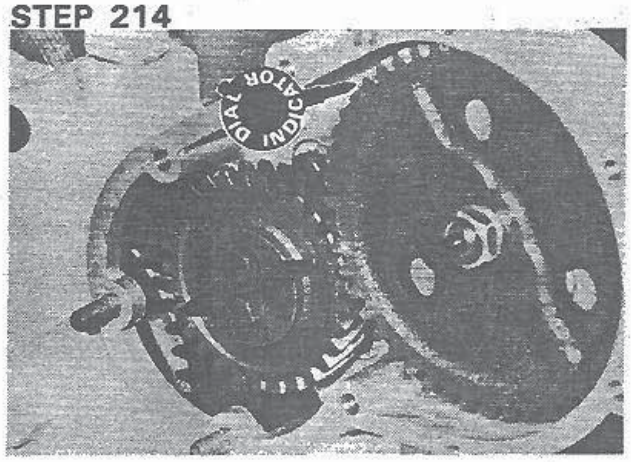
*If engine must then run at or near full load to operate the machine - for first hour remove load and run at high idle for a few minutes at 15 minute intervals.

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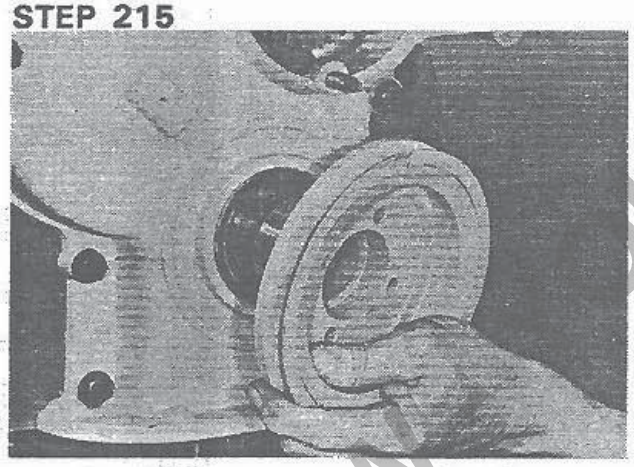
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STEP 214



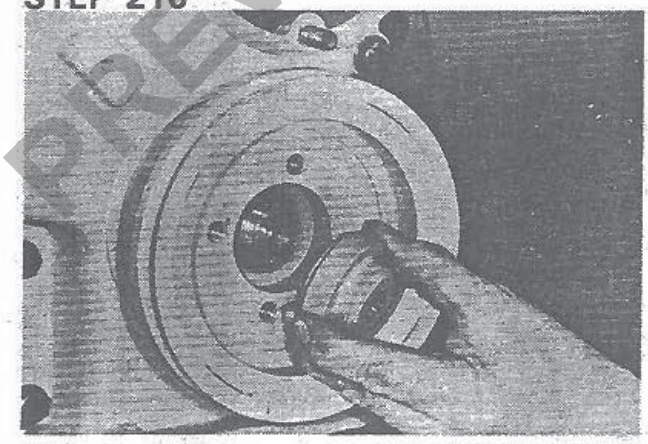
Holding idler gear with a screw driver, check injection pump drive gear back lash. Backlash must not exceed .007". If backlash exceeds .007", replace the gears.

STEP 215



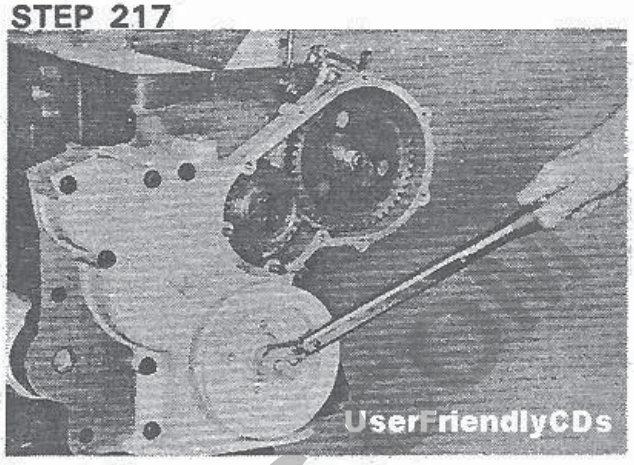
Coat seal area of front pulley with HDM#30 oil, align crankshaft key way and start pulley on crankshaft.

STEP 216



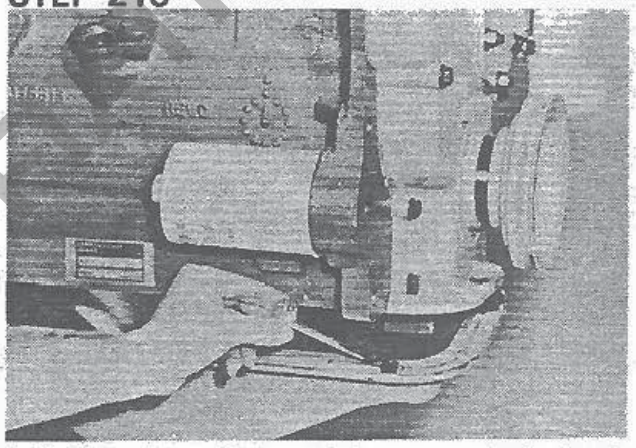
Install pulley retaining nut.

STEP 217



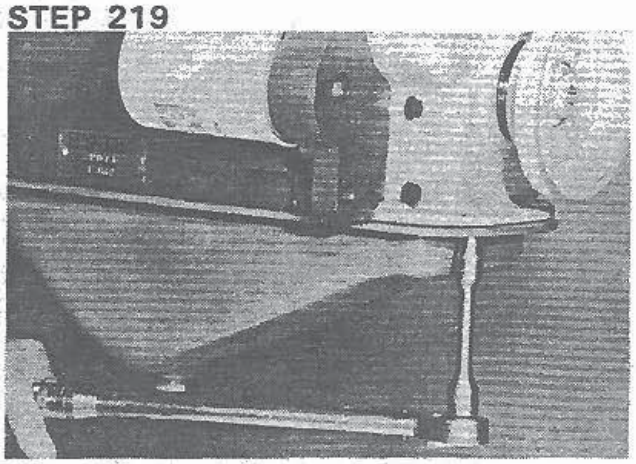
Draw pulley on crankshaft with pulley nut and final torque nut 125 to 135 ft. lbs.

STEP 218



Install engine oil pan and new gasket. Apply #2 Permatex on both sides of gasket at the front and rear portions only.

STEP 219



Torque retaining bolts 10 to 12 ft. lbs. on the stamped steel oil pan. On the cast iron oil pan, torque the long rear bolts 15 to 20 ft. lbs. and the remaining bolts, 24 to 28 ft. lbs.

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LOW ENGINE OIL PRESSURE

External Problems

1. External Oil Leakage

Check for oil leakage at the oil filter, external oil lines and oil cooler.

2. Oil Pressure Gauge Malfunction

Pressure gauges can malfunction and provide false readings. Tests with more than one gauge to be certain the readings are correct.

3. Oil Pressure Sending Unit Malfunction

Disconnect wire from sending unit to dash gauge. Ground this wire and turn on key switch. If gauge comes up, problem is in the sending unit.

4. Oil Pressure Gauge Wiring Damaged

If the gauge wiring is grounded at the sending unit with the key on and no gauge reading, the problem lies in the gauge or wiring. Hook a jumper wire from gauge terminal to ground and turn on the key. If a reading is obtained, the problem lines in the wiring. Replace the wiring harness or run a separate wire for oil pressure gauge.

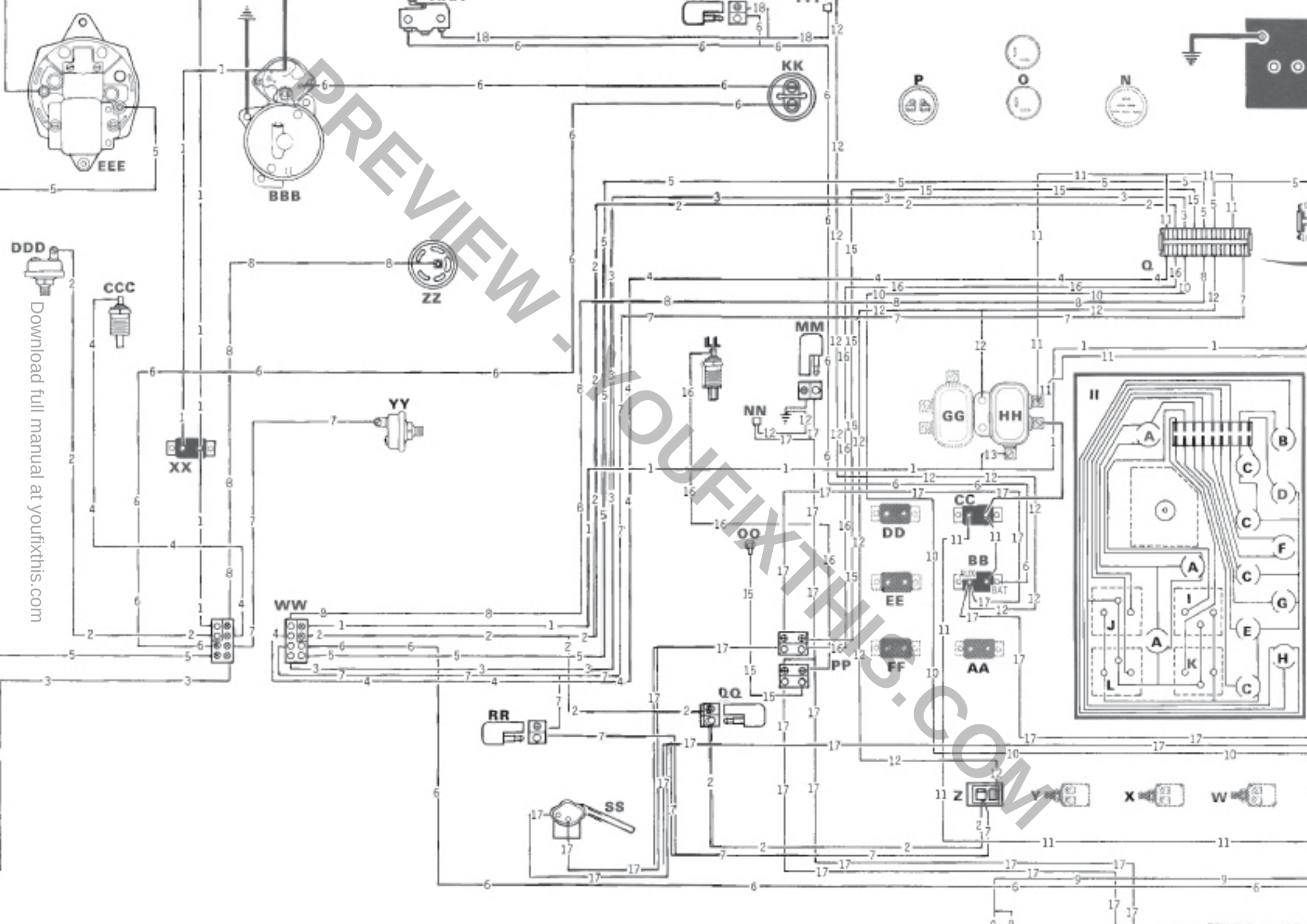
5. Bad Ground On Gauge or Sending Unit.

A bad ground on gauges or sending units can many times be the only problem with a malfunctioning gauge. Take a jump wire and ground gauge or sending unit to machine, then recheck gauge. Pipe tape is often used to seal threads on oil sending units which destroys the biggest share of its' grounding ability.

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FLUIDS AND LUBRICANTS

COMPONENTS	CAPACITY U.S.	CAPACITY Metric	SPECIFICATIONS
Fuel tank	22 gallons	83 liters	Refer to Operator's Manual.
Engine crankcase Without filter change With filter change	 6 quarts 7 quarts	 5.7 liters 6.6 liters	Case HDM oil Engine oil, class CD, Above 32° F (0° C) . . . . . SAE 30 10°-50° F (-12°-10° C) . . . SAE 20W Below 32° F (0° C) . . . . . SAE 10W
Hydraulic system (approx.) Loader/backhoe Loader only Loader/three point hitch Reservoir refill	 30 gallons 21 gallons 25 gallons 17 gallons	 113 liters 79 liters 94 liters 64 liters	Case TCH Fluid Alternate oil Engine oil, SD or CA Above 32° F (0° C) . . . . SAE 10W Below 32° F (0° C) . . . . . SAE 5W Type C-2 transmission/hydraulic fluid such as Tenneco Hytrans Fluid.
Power shuttle and converter	8 quarts	7.6 liters	Case TCH Fluid.
Power steering system Reservoir refill	3 quarts 1 quart	2.8 liters 0.9 liter	Case TCH Fluid.
Mechanical shuttle	2 quarts	1.9 liters	Case TCH Fluid.
Transaxle	20 quarts	19 liters	Case FDL gear lubricant or lubricant meeting API-GL-4, specification Above 0° F (-18° C) . . . . . SAE 90 Below 0° F (-18° C) . . . . . SAE 80
Grease fittings	As required		No. 2 moly disulfide grease.
Front wheel bearings	As required		No. 2 moly disulfide grease.
Cooling system	21 quarts	19.8 liters	Mix ethylene glycol type antifreeze and water for lowest anticipated temperature.
Battery	As required		Add colorless, odorless drinking water.
Brake master cylinders	As required		DOT 3 brake fluid.

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SPECIFICATIONS

Wear Specifications

Commutator and commutator ring thickness difference	.0015" (0.038 mm) max.
Rotor and stator thickness difference	.002" (0.051 mm) max.
Rotor and stator clearance	.006" (0.152 mm) max.

Special Torques

Cover cap screws	18-22 foot-pounds (24-30 N m)
End plate cap screws	15-19 foot-pounds (20-26 N m)
Steering wheel nut	32-37 foot-pounds (43-50 N m)

OPERATION

General

Refer to Figure 5. The steering control valve consists of three major assemblies; the control section, control valve section and the metering section.

Control Valve Section

The control valve section contains a mechanically actuated linear, open center type spool. The spool is centered in the housing by the torsion bar.

The functions of the control valve section are:

1. Direct oil from the steering pump to the metering section (steering wheel turning) or to the outlet port (steering wheel at rest).
2. Receive oil from the metering section and direct it to the steering cylinders.
3. Direct return oil from the cylinders to the outlet.

Metering Section

The metering section consists of the gerotor (rotor and stator), commutator, commutator ring and manifold.

Due to design, it is impractical to present an illustration that would clearly show the flow of oil through the metering section.

The function of the commutator, commutator ring and manifold is to direct the flow of oil between the gerotor and control valve section. The commutator turns in unison with the steering wheel and rotor.

Controlling oil flow to the cylinders is the primary function of the gerotor. The gerotor consists of the stator (gear ring) and rotor (gear). The rotor has six lobes and the stator seven lobes. The rotor has one less lobe to form the pockets required to permit oil flow through the complete valve assembly. When the steering wheel is being turned, the rotor and commutator also turn, admitting oil to three expanding pockets, and discharging oil from three contracting (shrinking) pockets. The seventh pocket is inactive as it changes from discharging oil to admitting oil.

If the engine stops, and the steering wheel is turned, the gerotor then functions as a pump to permit continued steering of the machine. However, with a dead engine, steering effort is greatly increased. In case of a power failure the machine should be brought to a stop as quickly as possible.

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Table of Contents

The preceeding pages contain a Table of Contents which list the Series number and title, and the sections contained in each series. The individual sections, where required, will have a Table of Contents on the second page of that section.

Page Numbers

All page numbers consist of two sets of digits separated by a dash, such as 4002-9. The digits preceeding the dash identify the section. The digits following the dash represent the consecutive page number within that section. Page numbers will be found at the upper right or left of each page.

Text

If this manual covers more than one machine, or different models of component parts (planetary axles, gear boxes, control valves, etc.) the procedures will apply to all unless otherwise noted.

Illustrations

Where possible, illustrations are placed as close as possible to the accompanying text and should be used as part of the text.

Serial and Model Numbers

When requisitioning repair or replacement parts as it may be necessary to furnish the parts department with one or both numbers. Serial and model numbers will be found in the following locations.

Machine - Plate fastened to left front cab or canopy mounting bracket. Also stamped on top of chassis behind left-hand hydraulic reservoir.

Engine - Right-hand side of block below starter.

Component parts - plate attached to part or number stamped in part.

Torque References

Essentially two grades of fasteners (bolts, nuts and screws) are used on Case machinery. They are grade 5 and grade 8. Refer to Section 1051 for torque specifications and means of identification.

The specifications in Section 1051 are standard torque values and should be used on all fasteners during assembly and installation unless special torque values are noted in a particular section.

Classification of Lubricants

Oils, lubricants, and grease are classified and graded according to standards recommended by the Society of Automotive Engineers (SAE), the American Petroleum Institute (API), and the National Lubricating Grease Institute (NLGI).

Engine Oil

The SAE number indicates the viscosity of engine oils, for example, SAE 30, a single grade oil. Engine oils are also identified by dual numbers, SAE 10W30, a multigrade oil.

The API classification (MS DS SD CA) defines oil performance in terms of engine usage. Only oils specified in Section 1050 should be used. These oils contain sufficient chemical additives to provide maximum engine protection. Both the SAE grade and API designation must be found on the container.

Gear Lubricant

The SAE grade number also indicates the viscosity of gear lubricants defined by MIL-L -2105B. An example is SAE 90, a medium viscosity lubricant.

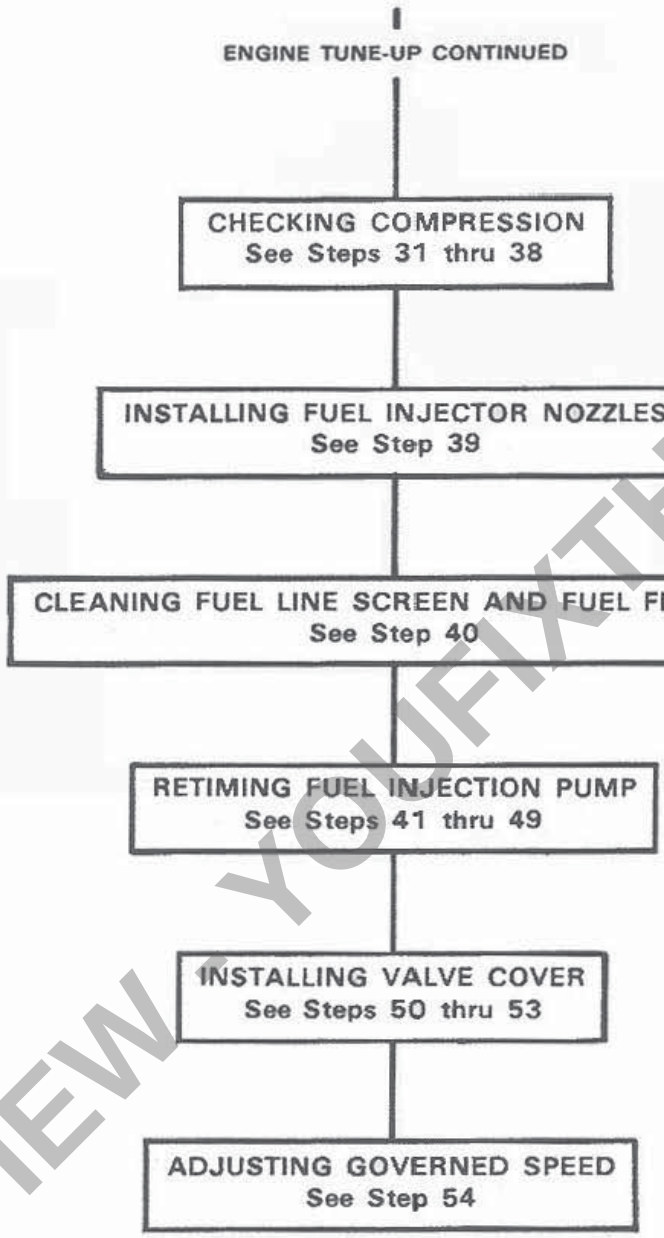
Grease

Semi-solid lubricants specified for pivot points must be that specified in Section 1050.

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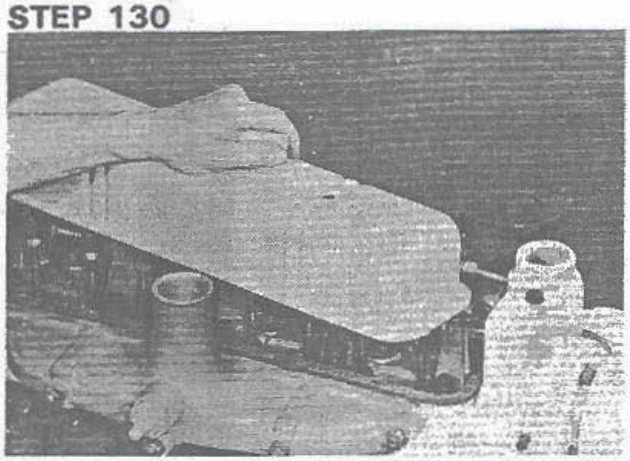


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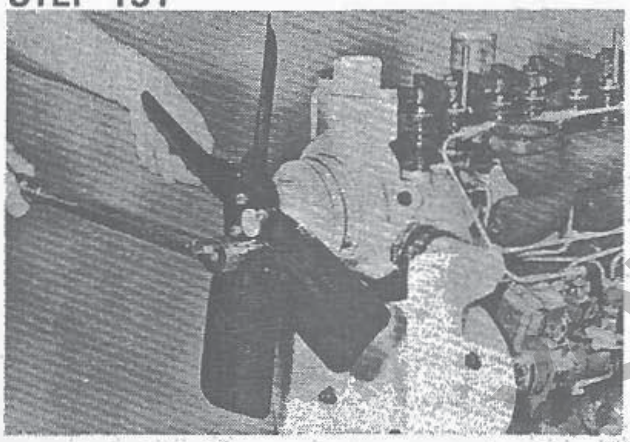
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STEP 130



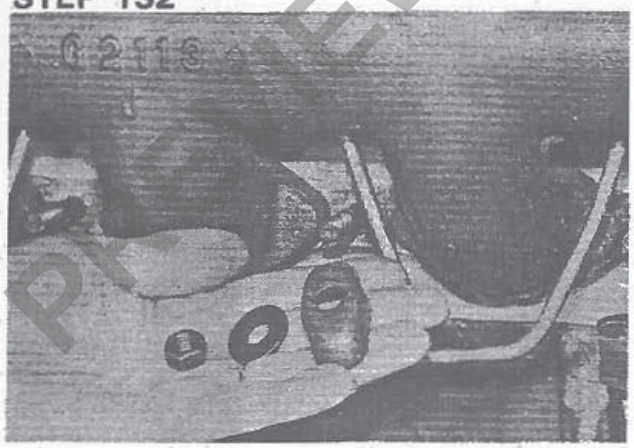
Remove valve cover.

STEP 131



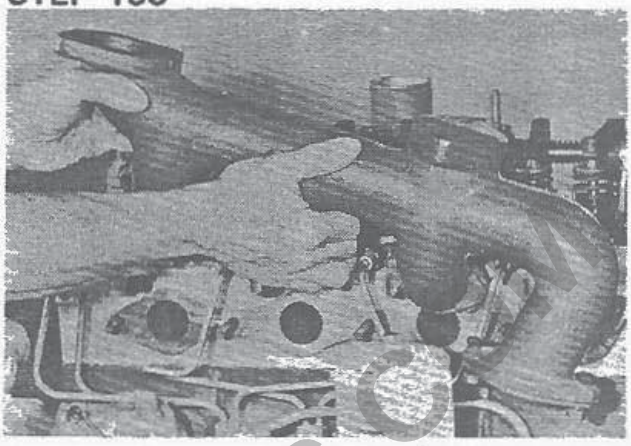
Remove water pump & water pump housing. Refer to Section 2055.

STEP 132



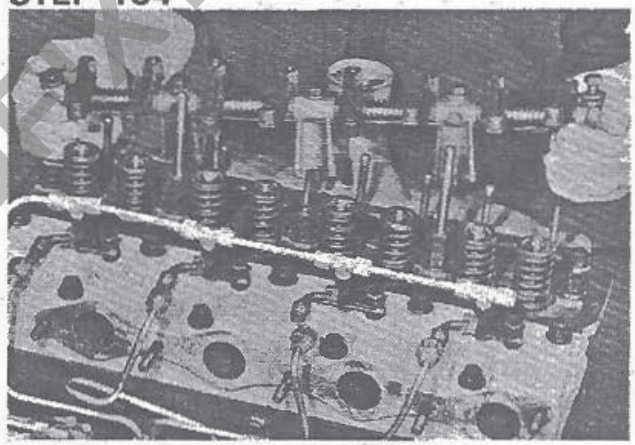
Remove exhaust manifold retaining clamps, washers and nuts.

STEP 133



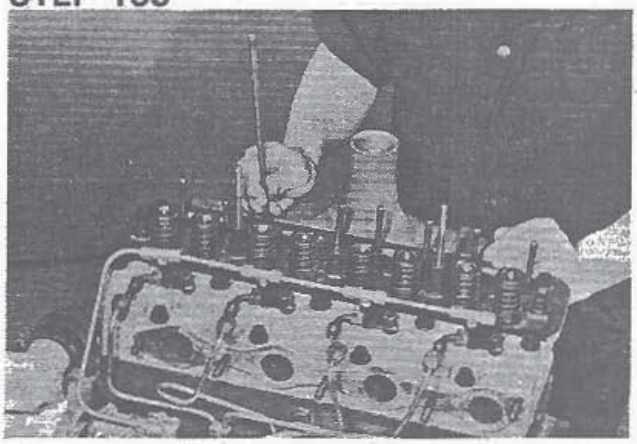
Remove exhaust manifold by removing front of manifold from front stud, swing manifold upward and remove manifold from rear stud and away from engine.

STEP 134



Remove rocker arm assembly.

STEP 135



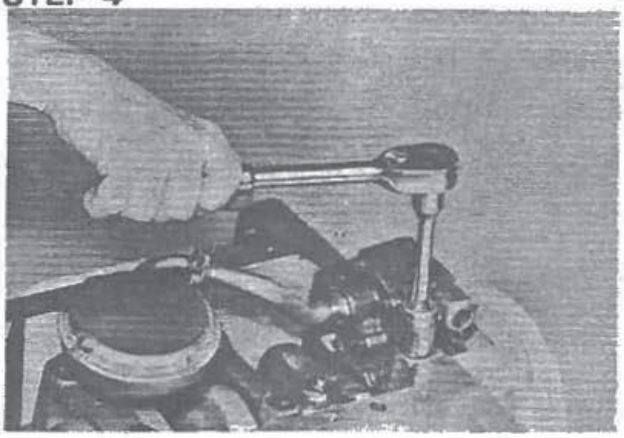
Remove push rods.

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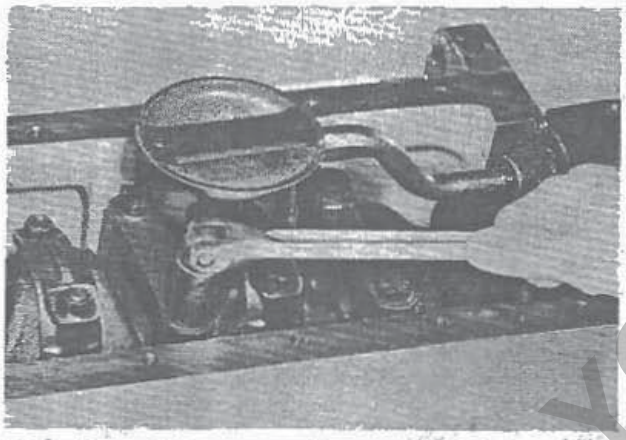
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STEP 4

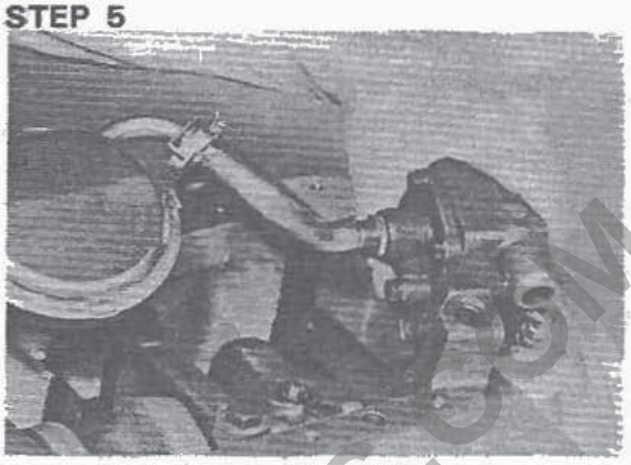


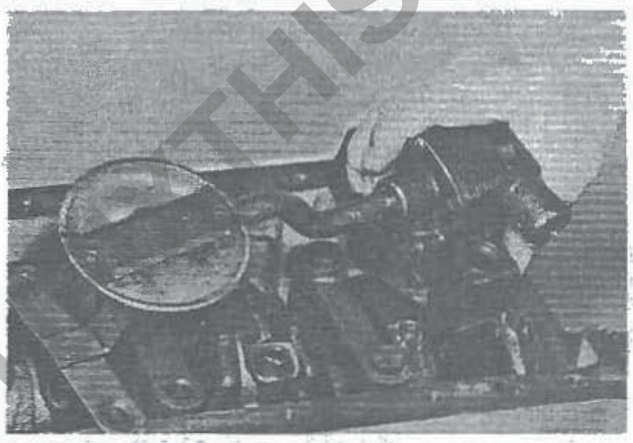
Remove oil pump mounting bolts.



If equipped, loosen oil pump suction tube bracket bolts from main bearing cap and then remove oil pump mounting bolts.

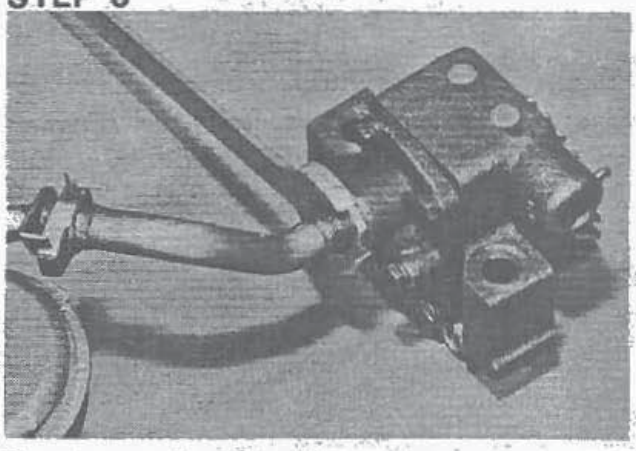
STEP 5





Remove oil pump from engine.

STEP 6



Remove suction tube from oil pump.

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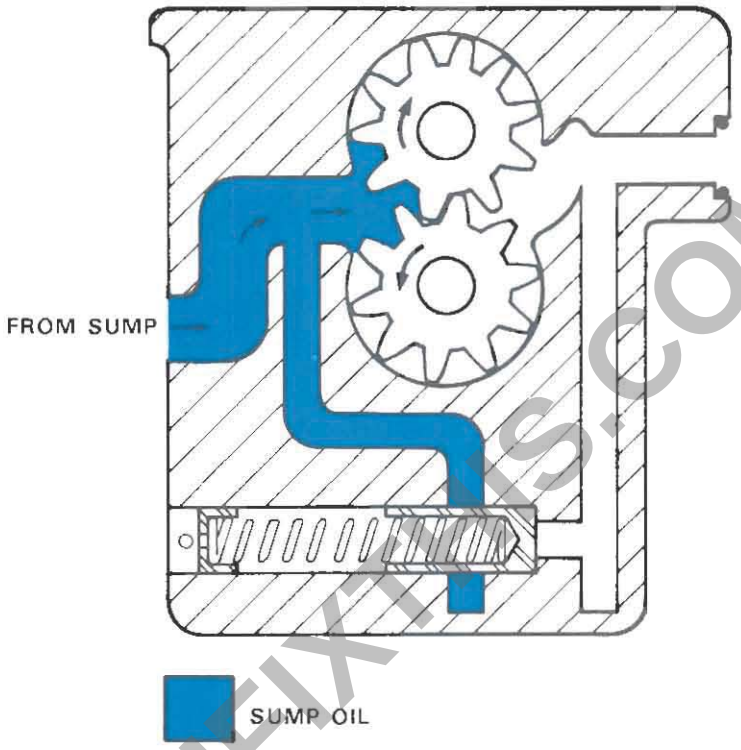
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ENGINE OIL PUMP FLOW

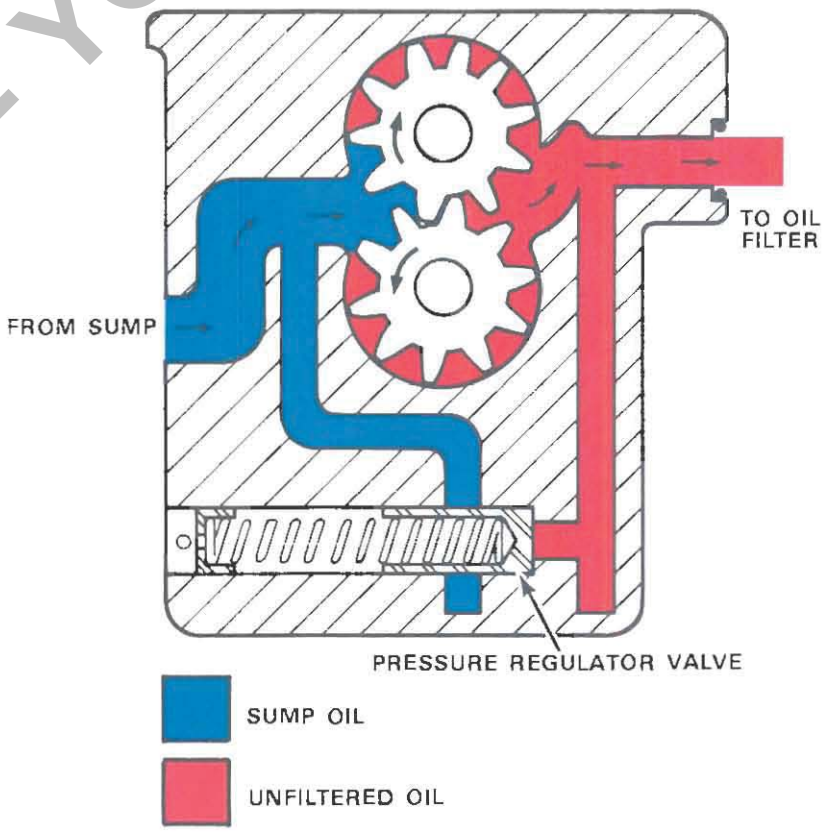
STEP 1

Oil is drawn from the engine oil sump by the pump gears through the suction pickup tube and enters the pump cavity.



STEP 2

The oil is forced by the pump gears through internal passages to the pressure relief valve where it dead heads. The oil then flows to the engine oil filter.



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THROTTLE ADJUSTMENTS

Engine Speeds

Low idle . . . . . 725 ± 25 rpm (r/min)
High idle . . . . . 2250 ± 20 rpm (r/min)

Hand Throttle Adjustment

1. Engage parking brake and place four speed transmission in Neutral.

2. Check low and high idle speeds using a suitable tachometer.

   a. Start engine and run at low idle. Disconnect throttle rod at throttle lever on injection pump.

   b. Hold throttle lever against low idle and high idle stops on injection pump and note engine speed.

   c. If necessary, adjust engine speeds as instructed in Section 3012.

3. Adjust length of throttle rod so throttle lever on injection pump moves an additional 1/16"-1/8" (1.6-3.2 mm) after contacting the low idle stop on the injection pump.

4. Check to see that the throttle lever on the injection pump moves an additional 1/16"-1/8" (1.6-3.2 mm) after contacting the high idle stop on the injection pump. Adjust the hand throttle stop bolt, Figure 1, as required.

Accelerator Pedal Height

1. Check to see that hand throttle linkage is properly adjusted.

2. Place hand throttle in full throttle position. Adjust length on pedal clevis rod as required to obtain 1/16"-1/8" (1.6-3.2 mm) clearance between the pedal and pedal stop.

FUEL TANK REMOVAL AND INSTALLATION

1. Remove engine as instructed in Section 2050.

2. Drain the right and left-hand hydraulic reservoirs.

3. Remove tube between hydraulic oil filter and reservoir manifold tube.

4. Remove tube connected to hydraulic filter inlet and filter assembly from the machine.

5. Remove manifold between reservoirs.

6. Drain fuel from tank.

7. Remove fuel filler cap, filler neck grommet and wire from fuel level sending unit.

8. Remove nuts and washers from bottom of fuel tank straps.

9. Lower fuel tank and swing bottom of tank toward the front at the same time to remove the tank.

10. Reverse steps 1 through 9 to install the fuel tank. It is recommended that fuel drained from tank be filtered before it is returned to the tank.

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OPERATION

Main Relief Valve

The main relief valve is located at the inlet of the control valve. The valve poppet protrudes into the open center passage as illustrated in Figure 2.

The main relief valve is pilot operated. This means a spear shaped pilot plunger controls the pressure at which the valve opens and permits a gradual opening of the relief valve. Note that a small hole is drilled through the poppet. This permits the same pressure to be maintained on both sides of the poppet during normal operation and helps control the gradual opening of the relief valve when pressure reaches the specified setting.

When a cylinder reaches the end of its travel or is held for any reason with the control valve spool in a power position, the main relief valve opens to protect the hydraulic system from damage. When the relief valve is open, oil is diverted to the reservoir.

1. When pressure in the open center passage reaches the pressure setting of the relief valve, the pilot plunger is forced off its seat.

2. Oil flows through the plunger seat faster than it can be supplied, creating a pressure differential (lower pressure) between the poppet and plunger.

3. The pressure in the open center passage then unseats the poppet and oil is diverted through the seat sleeve to the reservoir.

4. The relief valve will remain open until the cylinder moves or the control valve spool is returned to neutral.

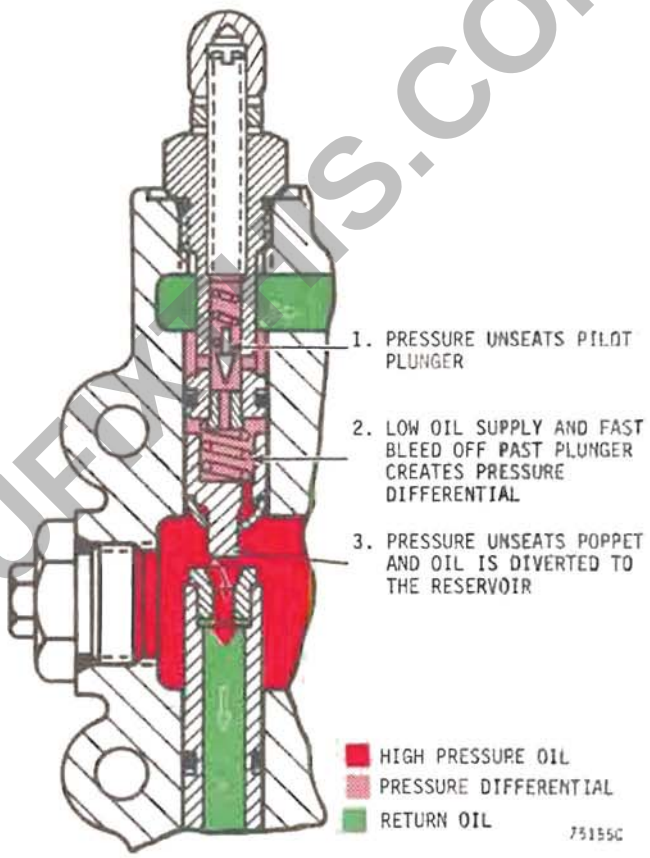
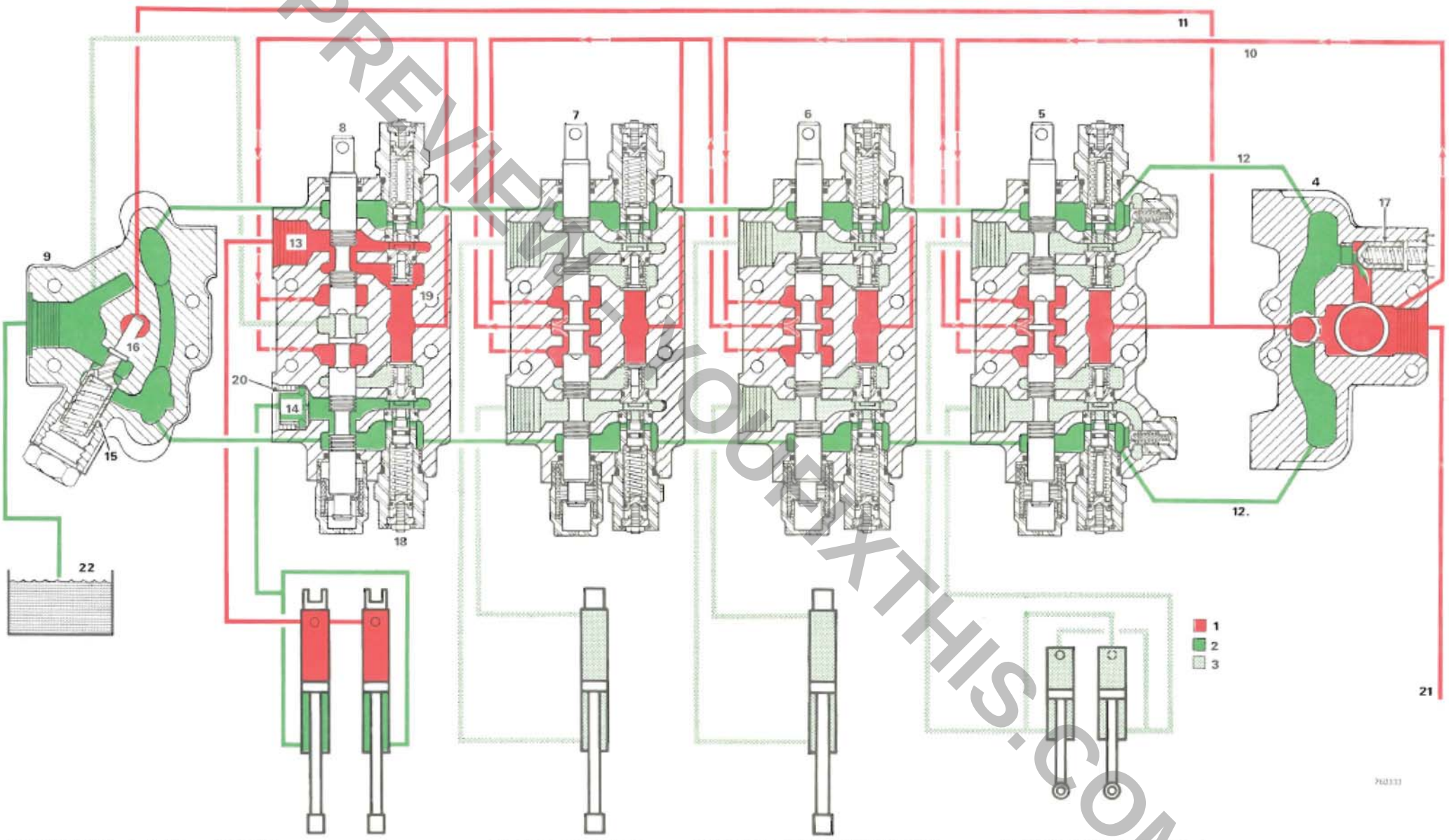


Figure 3 - Main Relief Valve Operation

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1. PUMP FLOW
2. RETURN OIL
3. STATIC OIL
4. INLET
5. SWING
6. BUCKET
7. DIPPER
8. BOOM
9. OUTLET
10. OPEN CENTER PASSAGE (INTERNAL)
11. PARALLEL PASSAGE (INTERNAL)
12. RETURN PASSAGE
13. A PORT
14. B PORT
15. REGENERATION SPOOL
16. REGENERATION SENSING PISTON
17. REGENERATION CHECK VALVE OPEN
18. SECONDARY RELIEF VALVE
19. LOAD CHECK VALVE OPEN
20. BOOM DOWN RESTRICTOR
21. FROM PUMP VIA LOADER CONTROL VALVE AND STABILIZER CONTROL VALVE
22. RESERVOIR

Figure 6 – Oil Flow, Lowering Boom and Regeneration

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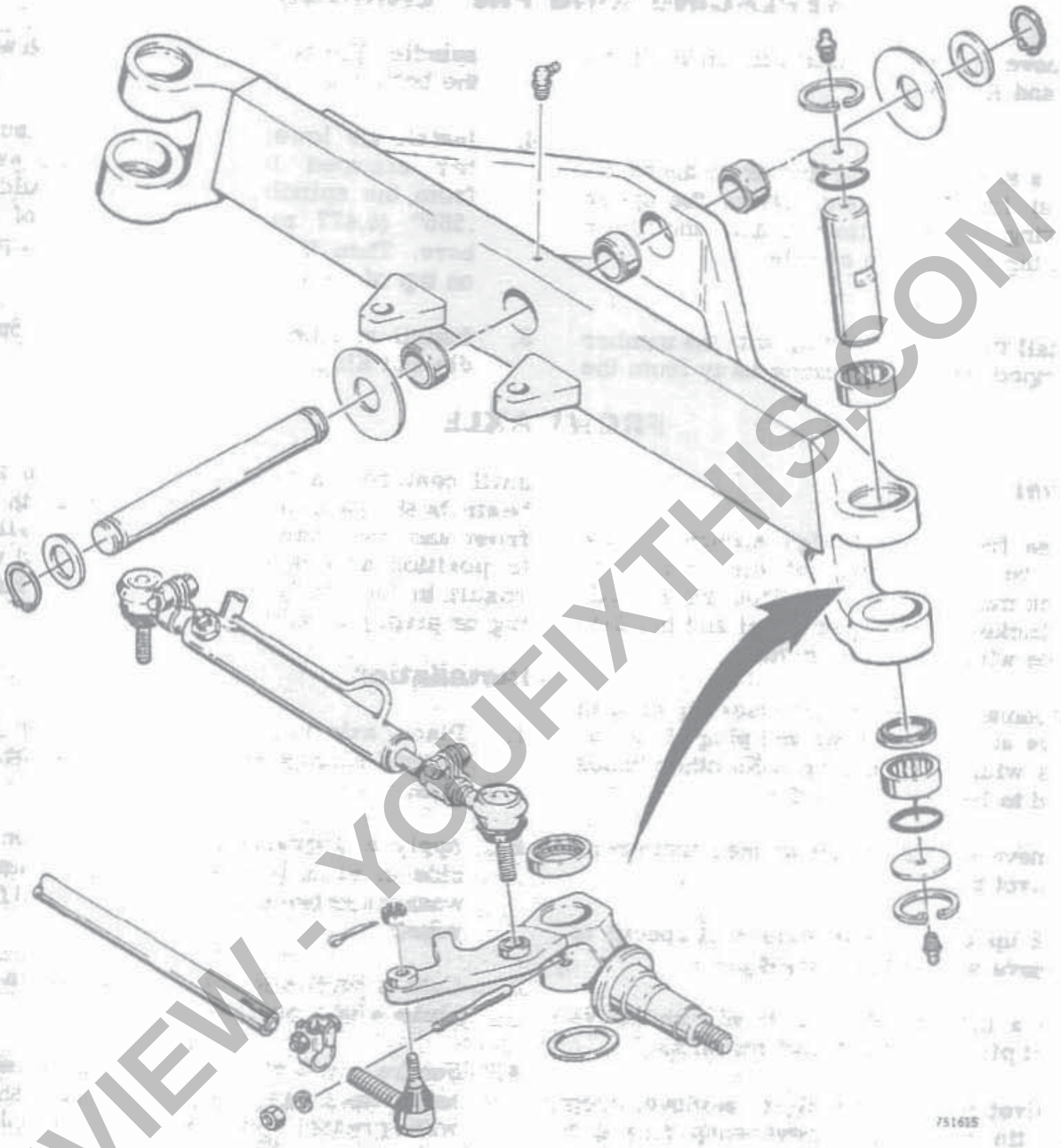


Figure 2 - Spindle Installation

5. Attach steering cylinder rod to the spindle. Torque the nut to 100 foot-pounds (135 N m). Then tighten nut to align cotter pin hole with next slot and install cotter pin.

6. Attach tie rod end to spindle. Torque nut to 100-120 foot-pounds (135-162 N m) and install new cotter pin.

7. If a new spindle has been installed, install a new spindle seal with seal lip toward flange on spindle. Use a driver that contacts the I.D. of the seal only and seat seal against flange Also remove hub seal and replace with a new seal. Fill cavities made by seal bodies with grease.

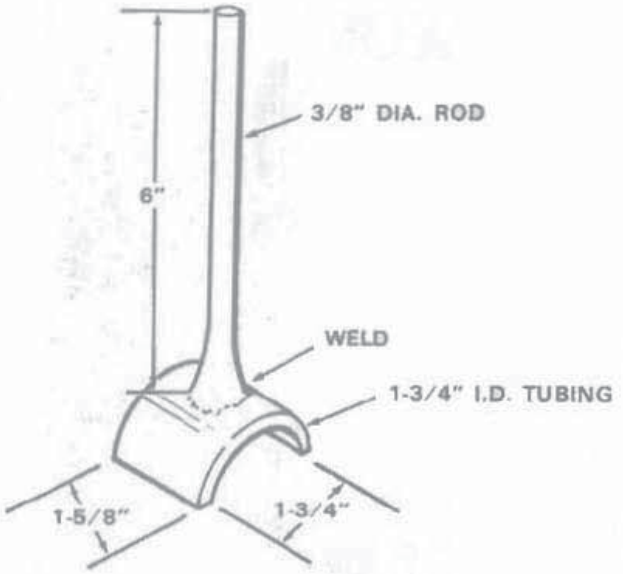
8. Install wheel, outer bearing, washer and nut. Adjust wheel bearings as instructed under Wheel Bearing Adjustment.

9. Lubricate king pin bearings with grease specified in Section 1050.

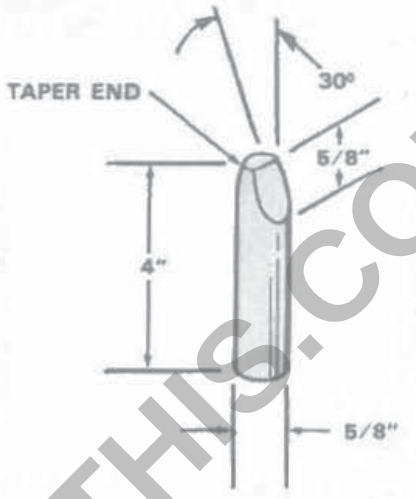
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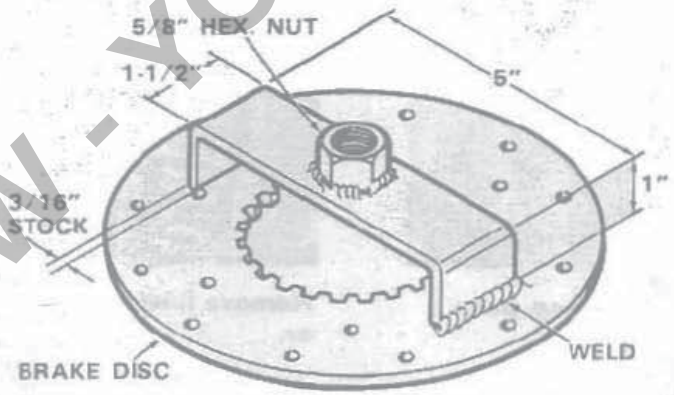
SPECIFICATIONS FOR TOOLS WHICH MUST BE MADE



MAINSHAFT SPACER TOOL



SHIFT RAIL PILOT SLEEVE

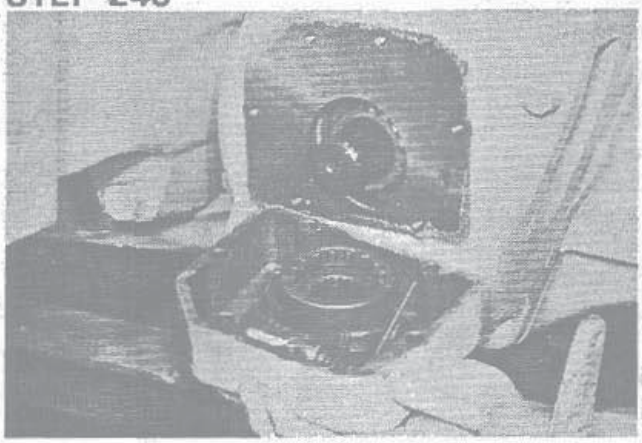


MODIFIED BRAKE DISC

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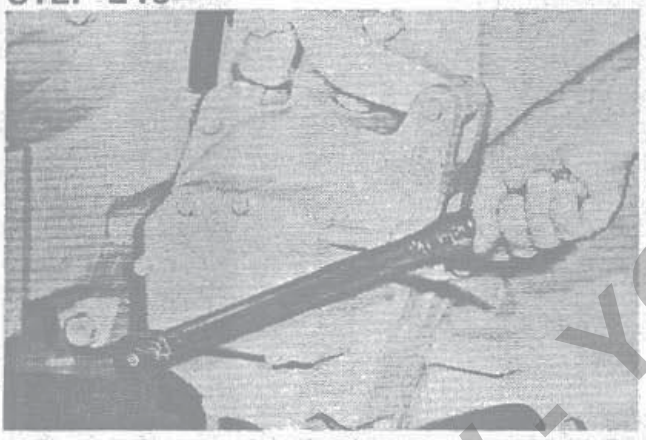
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STEP 245



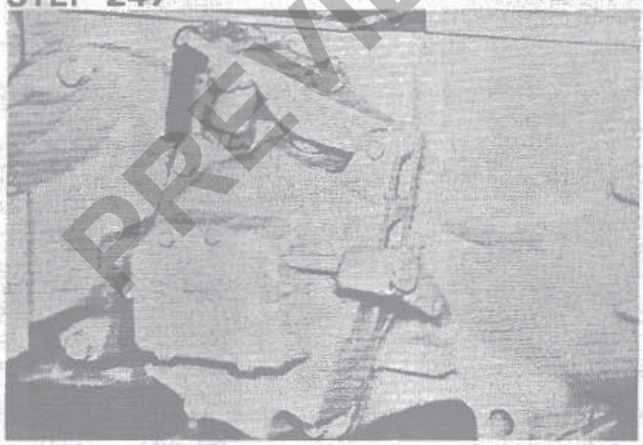
Install differential lock on R.H. brake housing, engaging actuating collar splines with differential cross shaft splines.

STEP 246



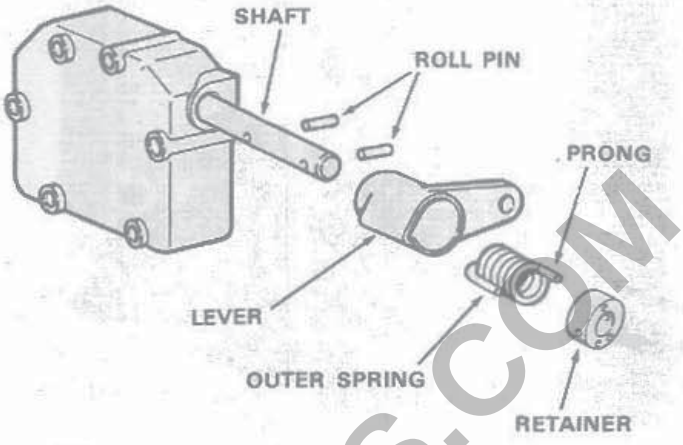
Install cover retaining bolts and torque bolts 17 to 21 ft. lbs.

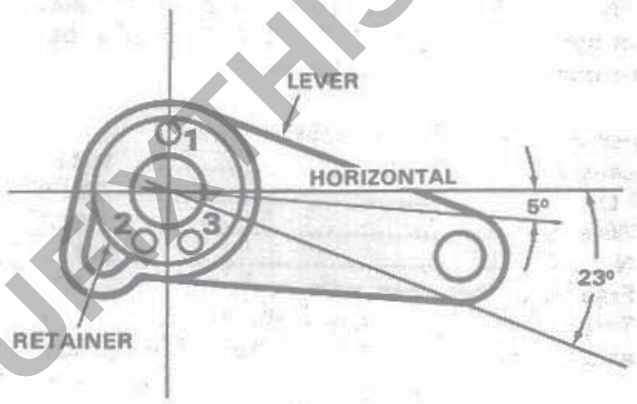
STEP 247



Differential lock assembly installed on R.H. brake housing.

STEP 248





With the outer spring prong in No. 1 hole of spring retainer, move lever upwards to remove all slack from lever. The lever should fall into the below horizontal 5° to 23° tolerance that the diff. lock requires. If not, the retainer is to be removed and turned 180° so holes 2 and 3 are at the top. The spring is then to be used with holes 2 or 3 to achieve the 5° to 23° below horizontal tolerance.

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PARKING BRAKE CONTROL

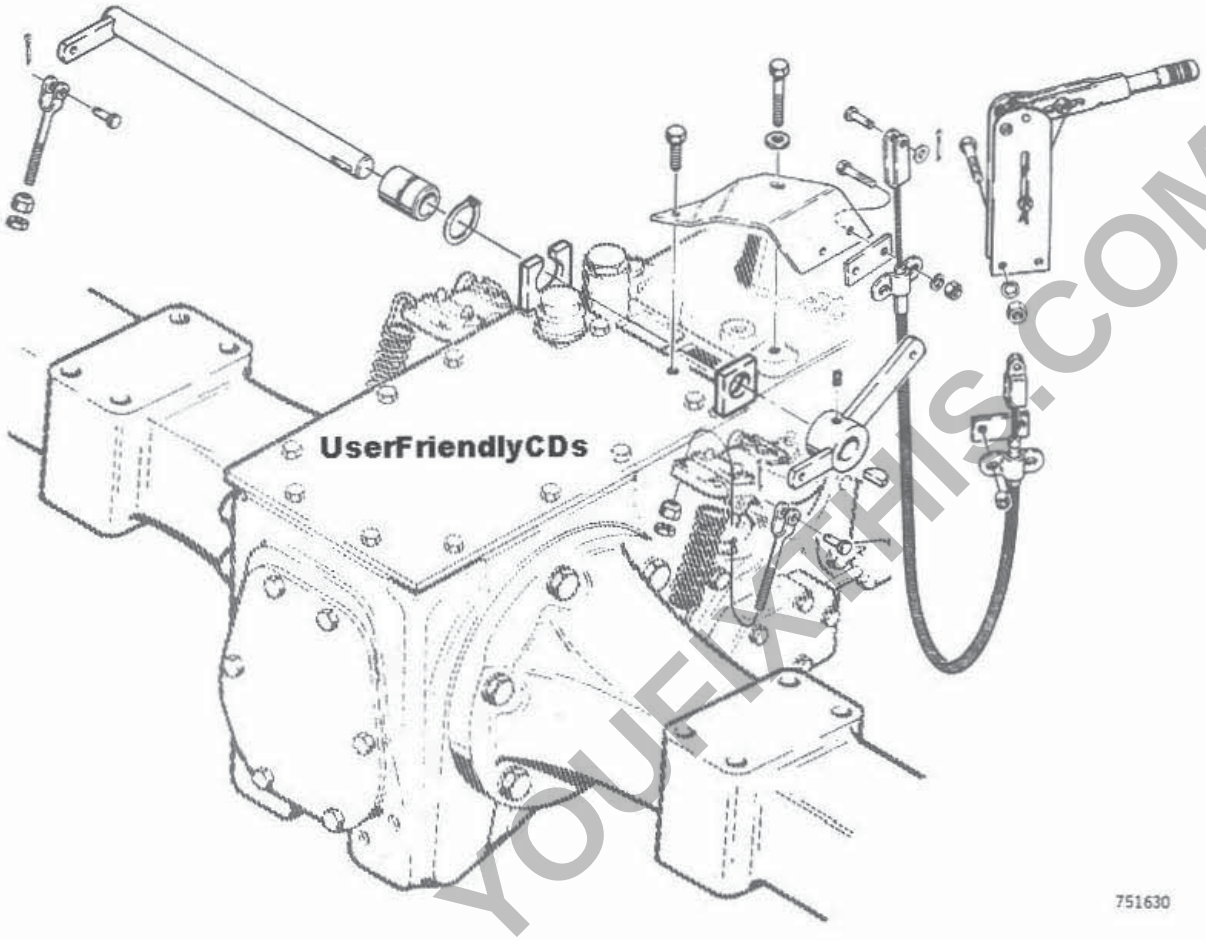


Figure 4 - Parking Brake Control Installation

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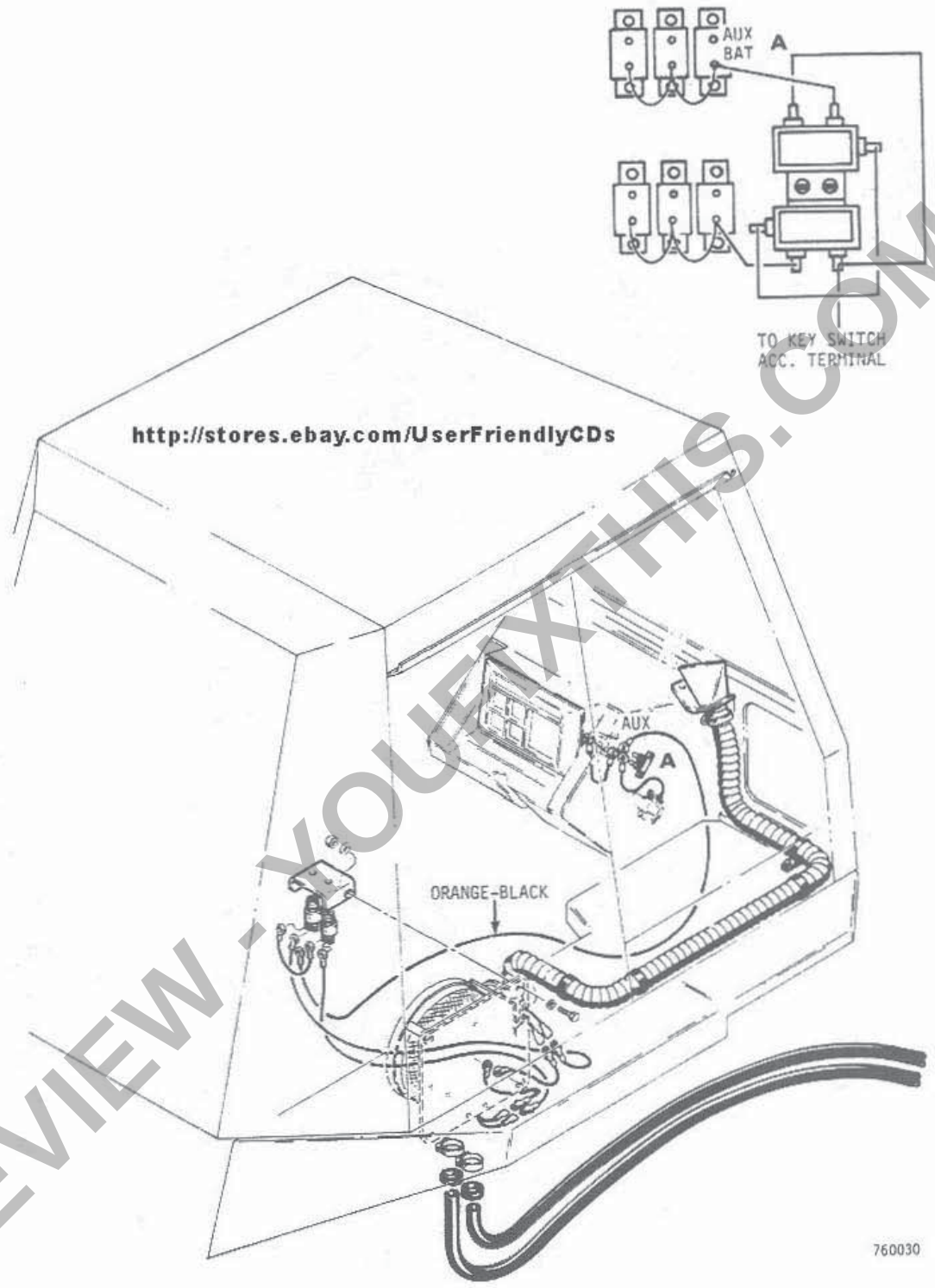


Figure 3 - Cab Heater and Defroster Installation

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