

Group 00

SPECIFICATIONS AND SPECIAL TOOLS**Specifications****Serial Numbers**

The engine serial number is stamped into the plate located on the lower front right-hand side of the cylinder block.

NOTE: When ordering engine parts, quote all digits of serial number stamped on the plate.

The plate showing the tractor serial number is located on the right-hand side of the front axle carrier.

NOTE: When ordering tractor spare parts (excluding engine parts), quote all digits and letters of serial number stamped on the plate.

A plate showing the tractor type, transmission serial number, cone point measurement etched into pinion face of differential drive shaft as well as reduction of differential is located on the right-hand side of the transmission case.

Model Numbers

The fuel injection pump, fuel injection nozzles, alternator, starting motor, hydrostatic steering valve, compressor of air conditioning system (when equipped) and hydraulic pump have model numbers to facilitate identification of different makes of a given unit.

Engine

Number of cylinders	4	
Cylinder liner bore	106.5 mm	4.19 in.
Stroke	110 mm	4.33 in.
Displacement	3920 cm ³	239 cu.in.
Compression ratio	16.8 : 1	
Maximum torque at 1600 rpm	285 N·m	210 lb-ft
Firing order	1 - 3 - 4 - 2	
Valve clearance (engine hot or cold)		
Intake valve	0.35 mm	0.014 in.
Exhaust valve	0.45 mm	0.018 in.

STANDARD TORQUES

RECOMMENDED TORQUES IN N:m, AND FT-LBS FOR UNC AND UNF CAP SCREWS				
Head Marking (Identifying strength)	  or 10.9*		  or 12.9**	
Thread-O.D. (in.)	N:m	ft-lbs	N:m	ft-lbs
1/4	15	10	20	15
5/16	30	20	40	30
3/8	50	35	70	50
7/16	80	55	110	80
1/2	120	85	170	120
9/16	180	130	240	175
5/8	230	170	320	240
3/4	400	300	580	425
7/8	600	445	930	685
1	910	670	1400	1030
1-1/8	1240	910	1980	1460
1-1/4	1700	1250	2800	2060

NOTE: A variation of $\pm 10\%$ is permissible for all torques indicated in this chart.

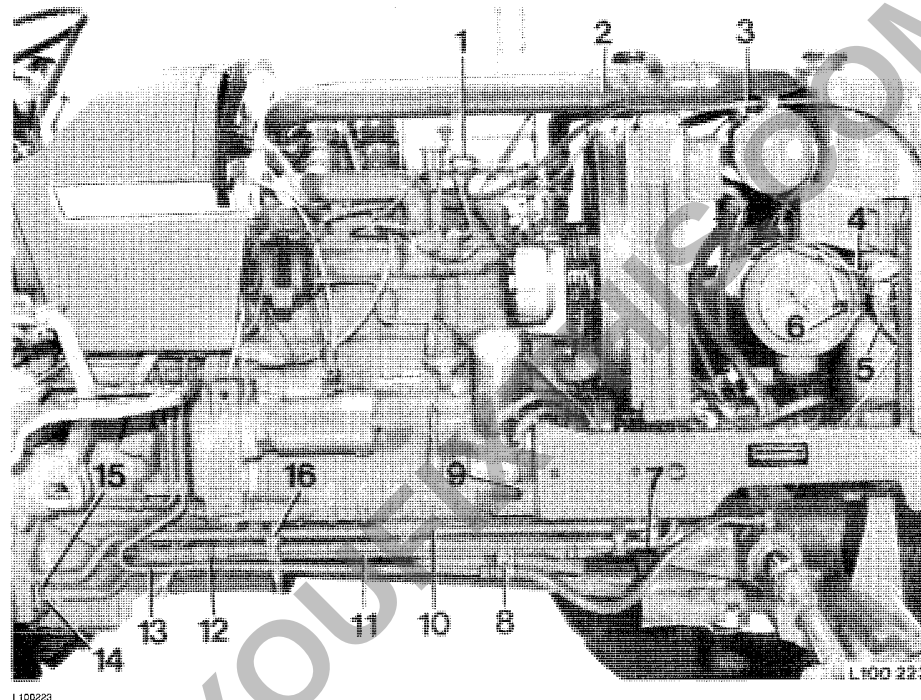
Torque figures indicated above and in the Specification sections of this manual are valid for non-greased or non-oiled threads and heads unless otherwise specified. Therefore, do not grease or oil bolts or cap screws unless otherwise specified in this manual.

* Tempered steel high-strength bolts and cap screws

**Tempered steel extra high-strength bolts and cap screws

Group 20 TRACTOR SEPARATION

SEPARATING BETWEEN ENGINE AND TRACTOR FRONT END



- | | | |
|------------------------------------|--------------------------------|--|
| 1—Fuel Return Line | 6—Cable Distributor | 12—Connector |
| 2—Air Intake Line | 7—Hydraulic Pump Pressure Line | 13—Hydrostatic Steering Pressure Lines |
| 3—Leak-Off and Vent Line | 8—Bracket | 14—Cap Screw |
| 4—Cable of Fuel Gauge Sending Unit | 9—Cap Screw | 15—Bracket |
| 5—Fuel Inlet Line | 10—Hydraulic Pump Inlet Line | 16—Spacer Clamp |
| | 11—Oil Cooler Return Line | |

Fig. 1 - Separating Between Engine and Tractor Front End - Right-Hand Side



CAUTION: Do not lubricate or adjust tractor while engine is running unless recommended.

When servicing mechanical front wheel drive equipped tractor with rear wheels supported off ground and engine running, always support front wheels in a similar manner. Loss of electrical power or transmission-hydraulic system pressure will engage front driving wheels, pulling rear wheels off support if front wheels are not raised.

Under these conditions, note that the front drive wheels can engage even with switch in disengaged position.

IMPORTANT: After having serviced, cleaned or repaired your tractor, always reinstall any safety guards or shields removed before operating.

ELECTRICAL COMPONENT TESTS

ALTERNATOR

Tests and Diagnosis on Tractor

1. To check battery voltage, stop engine and connect voltmeter to "B+" terminal and to ground. Voltage should read approx. 12 volt.

2. Start engine. With increasing engine rpm, voltage must rise to approx. 14 volt. This voltage is determined by the electronic regulator inside the alternator.



L104371

Fig. 1—Alternator Test

3. Disconnect red wire from "B+" terminal. Make sure that wire does not contact alternator housing or ground.

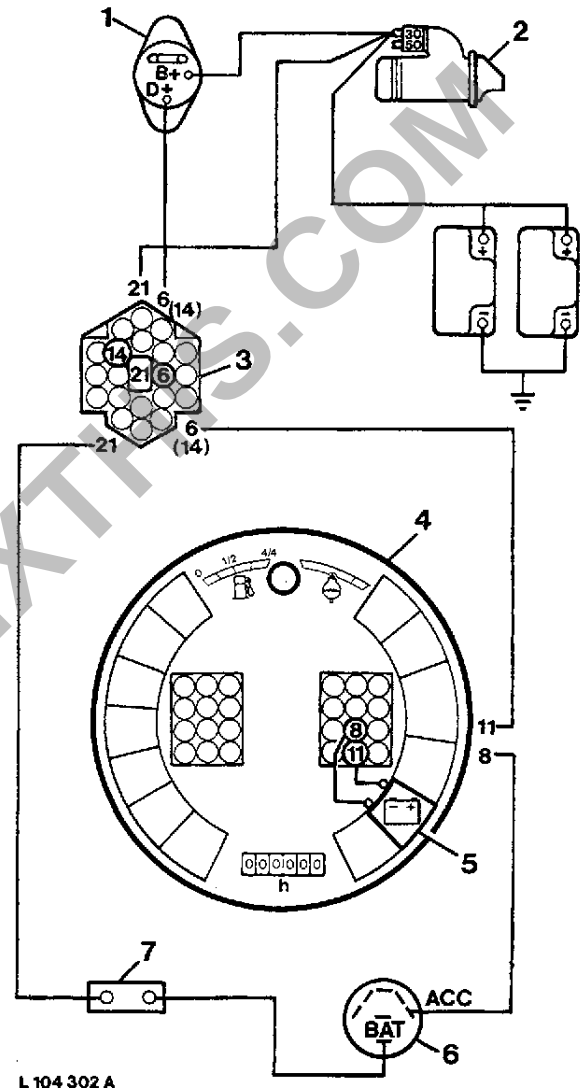
4. Connect amp meter between wire and "B+" terminal.



L104372

Fig. 2—Amperage Output Test

5. Turn on all electrical users. If batteries are fully charged, hold fuel shut-off knob out and crank engine about 15 seconds.



L 104 302 A

L10430 2A

1—Alternator

2—Starter

3—Plug

4—Instrument Cluster

5—Alternator Indicator

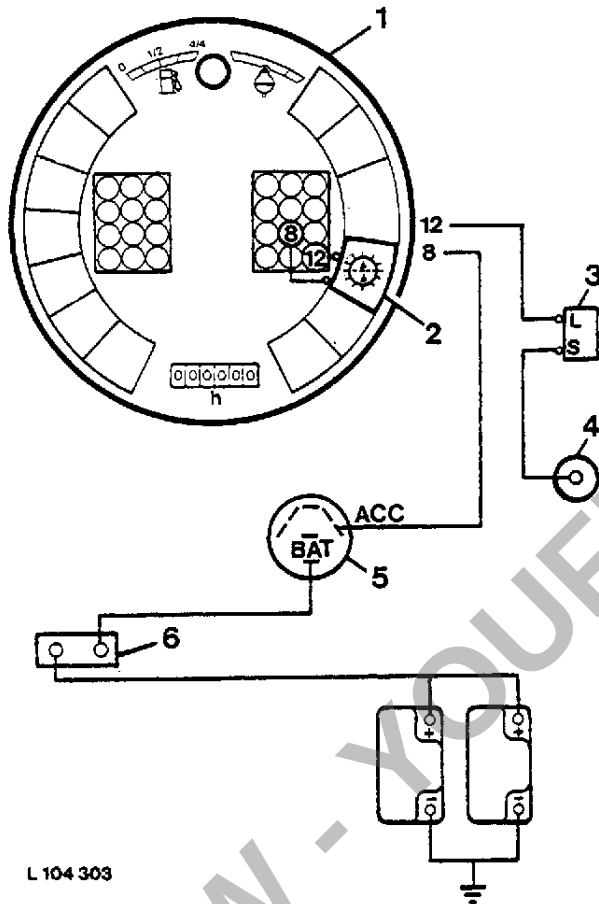
6—Key Switch

7—20 Amp. Circuit Breaker

Fig. 3—Alternator Charging Circuit - Without SOUND-GARD Body

NOTE: Terminal number shown in brackets is for tractors from Serial No. 526828L.

Transmission Oil Pressure Indicator Switch and Time Delay



L 104 303

L104303

- 1—Instrument Cluster
- 2—Transmission Oil Pressure Indicator
- 3—Time Delay
- 4—Transmission Oil Pressure Switch
- 5—Key Switch
- 6—20 Amp Circuit Breaker

Fig. 20—Transmission Oil Pressure Switch and Time Delay
Circuit—without SOUND-GARD Body

Indicator lamp should glow with key switch "on", engine stopped. Be sure to wait at least two seconds because of the time delay. Lamp should not glow any time engine is running unless transmission oil pressure falls below 900 kPa (9 bar; 130 psi) or there is a malfunction in the circuit.

1. To check wiring circuit, disconnect wire from transmission oil pressure plug.

2. Touch wire to ground. With key switch "on", engine stopped, indicator lamp should glow. Lamp should go out when wire is disconnected from ground. If not, check for poor connections or a defective time delay.

3. With wire reattached to transmission oil pressure plug, if indicator lamp does not come on with key "on" and engine stopped, use ohmmeter to test for continuity between switch terminal and ground. Switch should have continuity.

4. If indicator lamp stays on with engine running, replace hydraulic filter.

5. If lamp still stays on engine running, see Section 70, Group 05, Hydraulic System Tests.

IMPORTANT: 1. With the engine running, do not short or ground (even momentarily) alternator and regulator terminals.

On tractors with SOUND-GARD Body do not connect ground strap of slave battery to cab.

2. If the tractor is to be operated for a short time without battery (using a slave battery for starting), do not, under any circumstances, interrupt the circuit by turning off the key switch before stopping the engine by means of the fuel pump shut-off cable. Further, it is recommended to use additional current (lights) while engine is running. Do not run engine at a speed above 1000 rpm. Insulate battery end of disconnected starter cable properly to avoid damage to alternator and regulator.

3. Connect batteries or battery charger in the proper polarity if they are improperly connected, the rectifier diodes will be immediately destroyed.

4. Before carrying out electric welding repairs on the tractor, disconnect cables from terminals 'B' and 'D' of alternator. Connect ground terminal of welding apparatus directly to the part being welded.

5. Before carrying out repairs on electrical system, disconnect battery ground strap. This will avoid the danger of a short circuit.

DIAGNOSING MALFUNCTIONS

Batteries

Low Output

Terminals loose or corroded; cables defective

Low electrolyte level

Low gravity of electrolyte

Defective regulator

Defective alternator

Batteries Use Too Much Water

Defective regulator

Battery case cracked

Batteries Are Not Charged

Terminals loose or corroded

Fan belt slack or damaged

Sulfated or worn batteries

2750 TRACTOR TECHNICAL MANUAL TM-4405 (Apr-86)

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TESTING COMPRESSION PRESSURE

NOTE: For testing compression pressure, see CTM-4, Engines.

ENGINE TUNE-UP

Air Intake System

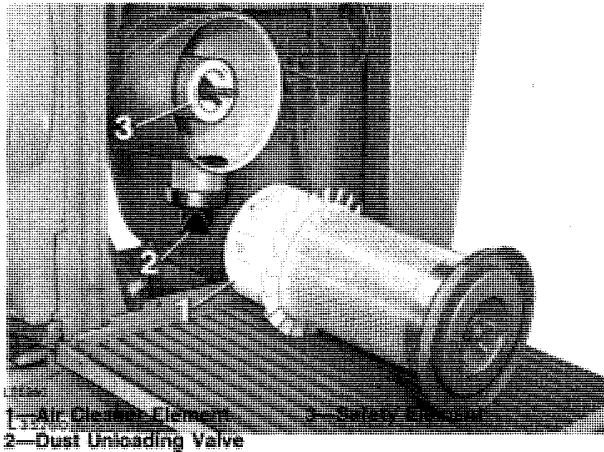
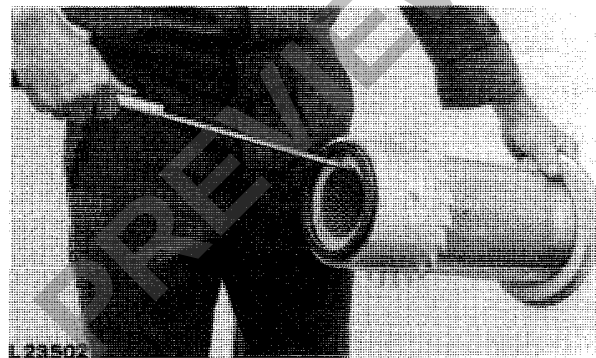


Fig. 1—Air Cleaner and Safety Element

Dusty Element

1. Check air cleaner element (1, Fig. 1). If dirty, tap it on the palm of your hand.
2. If tapping element does not remove dust, blow out dust with compressed air. Pressure not to exceed 600 kPa (6 bar; 85 psi) by inserting nozzle inside of element and blowing from the inside of the filter to the outside.



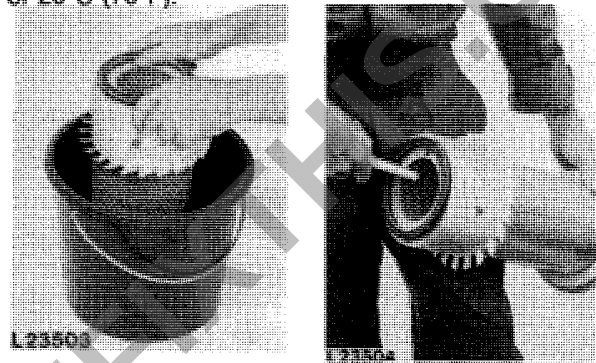
L23502

Fig. 2—Cleaning Air Cleaner Element by Means of Compressed Air

Oily or Sooty Element

IMPORTANT: Never wash element in fuel oil gasoline or strong cleaning agent. Never use compressed air to dry element.

1. Wash element in a solution of lukewarm water and non-foaming cleaning agent. Rinse element thoroughly from the inside with clean water (water pressure not above 300 kPa, 3 bar; 43 psi). Shake water from element and dry for approx. 24 hours at a temperature of 20°C (70°F).



L23503, L23504

Fig. 3—Wet Cleaning

2. After cleaning the element, inspect it by placing a bright light inside the filter. Discard any filter that shows the slightest rupture, indicated by light through the hole. Make sure gasket is in a serviceable condition

IMPORTANT: Replace filter element after six cleanings or one year of service, whichever occurs first.

3. When servicing the air cleaner always remove and clean the rubber dust unloading valve.

4. The valve must always be installed with slot facing direction of travel.

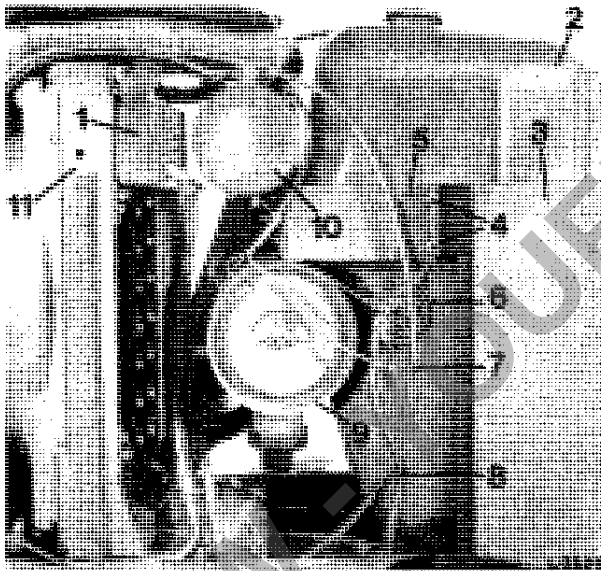
IMPORTANT: Do not operate engine without air cleaner element or rubber dust unloading valve installed.

Group 10 FUEL TANK AND WATER TRAP

Fuel Tank

General Information

The fuel tank is located in front of the radiator, between the front plate and the two side grille screens. The fuel gauge sending unit is attached to the right-hand side of the tank. The drain tap is located at the bottom of the tank. The fuel filler cap is vented for safety.



L36257

- | | |
|---------------------------|----------------------------|
| 1—Oil Cooler | 7—Connector |
| 2—Fuel Tank | 8—Fuel Inlet Line |
| 3—Front Plate | 9—Air Cleaner |
| 4—Cap Screws | 10—Hydraulic Oil Reservoir |
| 5—Bracket | 11—Radiator |
| 6—Fuel Gauge Sending Unit | |

Fig. 1 - Fuel Tank, Installed

Removal

1. Remove both radiator grilles.
2. Before removing hood, disconnect light bar cables at connector (7, Fig. 1). Remove hood.
3. Open drain tap at bottom of fuel tank and drain fuel from tank.
4. Disconnect cable and fuel inlet line (8) from fuel gauge sending unit (6).
5. Remove air cleaner (9), hydraulic oil reservoir (10) and bracket (5).
6. Disconnect fuel return line at fuel tank (2) and lift fuel tank upward and remove.

Repair

Inspect seal rings and other tank parts for serviceability. When removing fuel gauge sending unit, take care of the float.

If filler cap is unserviceable, replace only with a genuine JOHN DEERE filler cap.



CAUTION: Cleaning and repairing a fuel tank is very dangerous. Do not smoke or permit live sparks or fire of any nature in the vicinity while cleaning or repairing a tank.

When installing the sending unit, make sure float can freely move up and down.

Hand Brake Switch

If indicator lamp malfunctions, check hand brake switch circuit as follows.

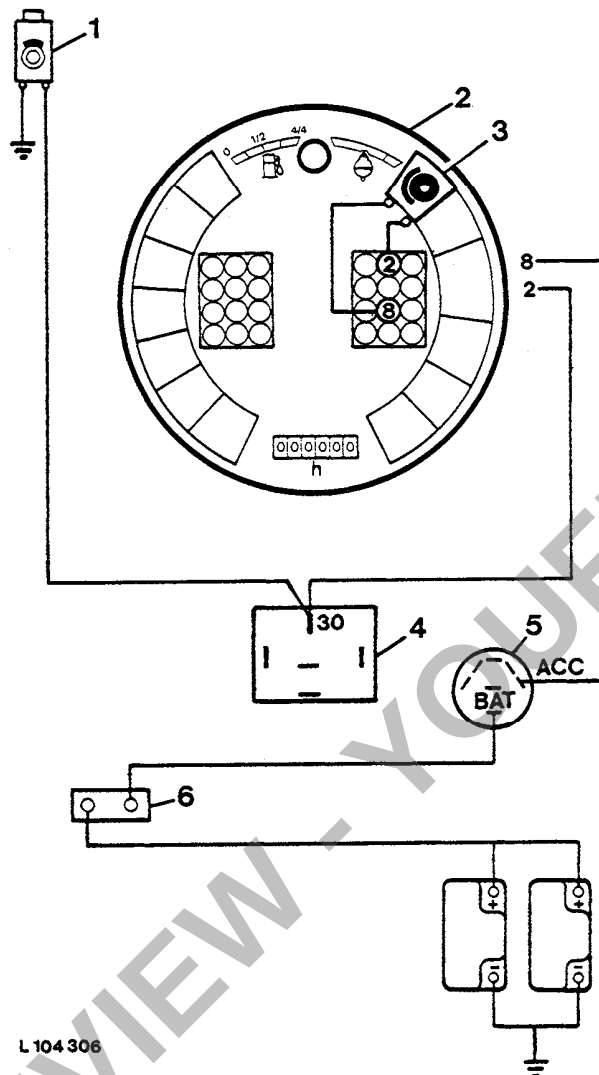
1. Disconnect harness terminals from hand brake switch.

2. Touch two wiring harness terminals together. With key switch "on", hand brake indicator lamp should glow. Indicator lamp should go out when terminals are separated. If so, hand brake switch wiring circuit is operating properly and switch is probably defective. If not, check for faulty wiring circuit or poor connections.

3. To check hand brake switch, remove switch from tractor.

4. Use an ohmmeter to test for continuity between switch terminals. Hand brake switch should be open when switch button is pushed in and closed when button is released.

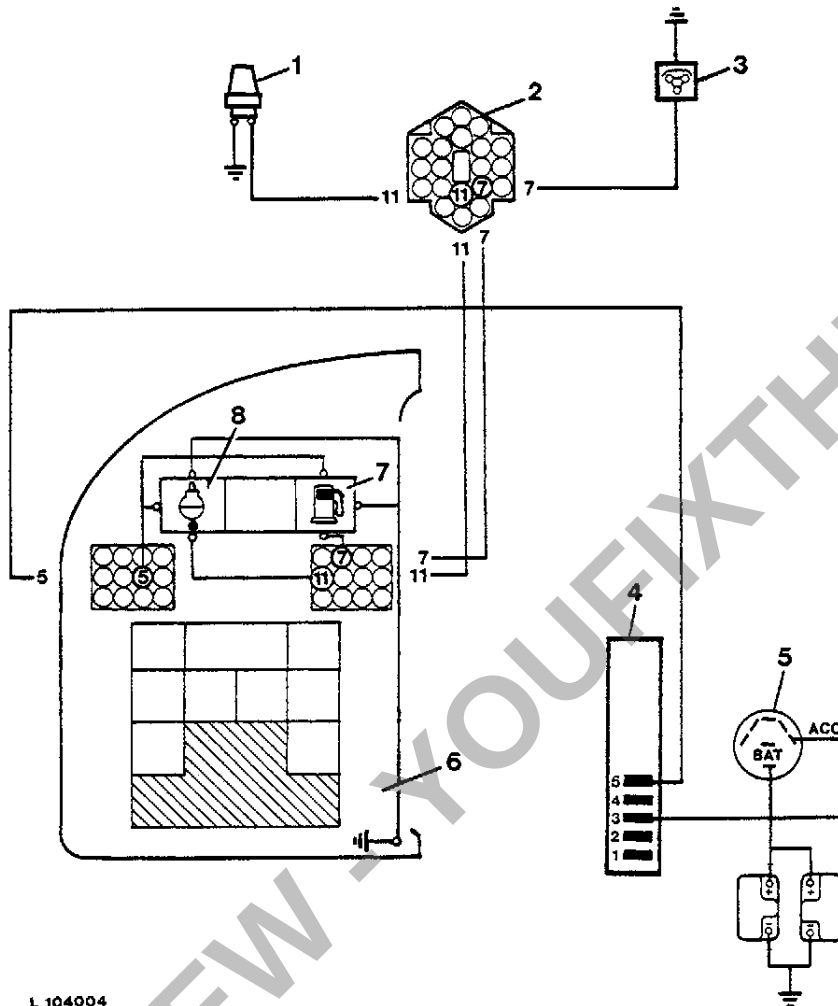
NOTE: Hand brake switch also controls the attention lamp and attention horn which will be covered later in this group.



- 1—Hand Brake Switch
- 2—Instrument Cluster
- 3—Hand Brake Indicator
- 4—Hand Brake Indicator Relay
- 5—Key Switch
- 6—20 Amp Circuit Breaker

Fig. 26—Hand Brake Switch Circuit -
without SOUND-GARD Body

Fuel and Coolant Temperature Gauge



L 104004

L104004

1—Coolant Temperature Gauge Sender
2—Plug
3—Fuel Gauge Sender

4—Circuit Board
5—Key Switch
6—Left-Hand Control Light Panel

7—Fuel Gauge
8—Coolant Temperature Gauge

Fig. 33—Fuel and Coolant Temperature Gauge Circuits

Each gauge has three terminals; a 12 volt power source which is energized when the key switch is in either the "ON" or "ACC" positions, a ground terminal, and a sending unit which provides a variable resistance to ground.

The fuel gauge (7, Fig. 33) has maximum resistance at FULL and the coolant temperature gauge (8) has maximum resistance at COLD.

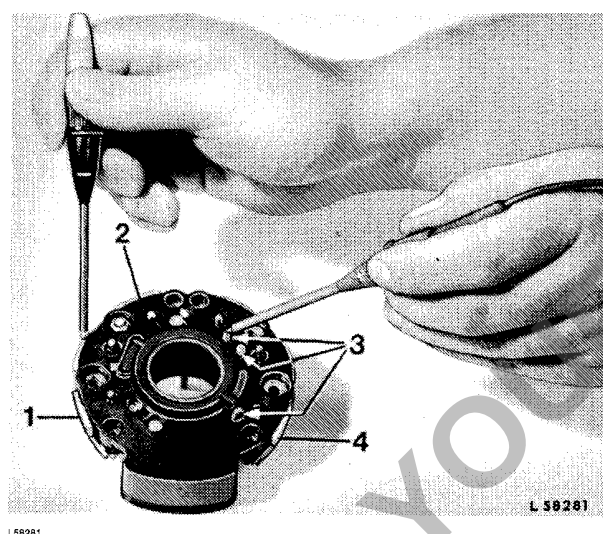
No.	CABLES AND WIRES			Component	FROM No.	Terminal No.	Component	TO No.	Terminal No.
	mm ²	Gauge	Color						
96	2.5	14	blue	Circuit breaker (20 amps)	107		Connector	106	
97	2.5	14	red	Circuit breaker (20 amps)	107		Connector	106	
98	2.5	14	blue	Connector	106		7-terminal socket	102	7
99	2.5	14	red	Connector	106		7-terminal socket	102	4
100	2.5	14	black	Plug	54	1	Start safety switch	57	
101	2.5	14	black	Plug	54	2	Start safety switch	57	
102	1	16	green/yellow	Plug	54	4	Solenoid for front wheel drive	55	
103	1	16	green/white	Plug	54	5	Transmission oil pressure warning switch	58	
104	4	11	brown	Plug	54	7			Ground
105	1	16	brown/white	Plug	54	3	Sending unit for Hi-Lo shift unit indicator light	56	
106	1	16	orange/black	Plug	53	4	Plug	67	
107	1	16	orange	Plug	53	9	Plug	67	
108	1	16	brown/white	Plug	53	5	Plug	66	
109	1.5	15	black	Plug	53	2	Plug	66	
110	1	16	black	Plug	53	2	Plug	75	
111	1	16	grey	Plug	53	6	Plug	75	

After this, place negative test point on each of the three diode leads (3, Fig. 13).

NOTE: Diode leads are those points where the stator phase outlets have been soldered (3, Figs. 13 and 14).

When making this test, the test lamp should not light up. If it does, the tested diode is shorted.

If no defect is detected during initial testing, repeat test procedure with reversed polarity.



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1—Positive Heat Sink
2—Diode Plate

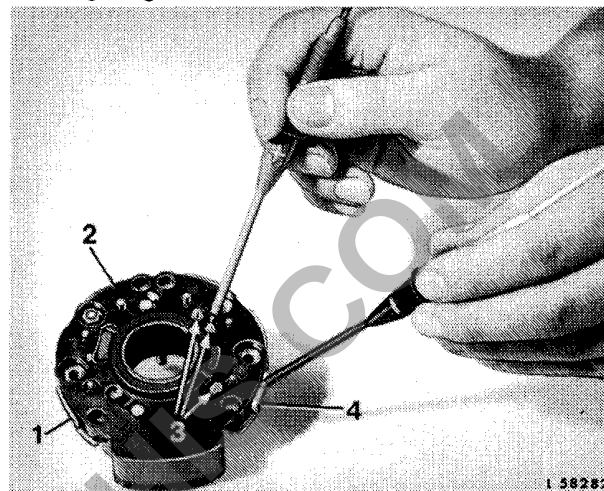
3—Diode Leads
4—Negative Heat Sink

Fig. 14—Testing Positive Diodes (Negative Test Point on Positive Heat Sink, Positive Test Point on Diode Lead)

This time, place negative test point on “B+” or on the positive heat sink (1, Fig. 14) and place positive test point successively on each of the three diode leads (Fig. 14).

Test lamp should light up brightly. No light or a dim light indicates a defect on the tested positive diode.

Testing Negative Diodes



L58282

1—Positive Heat Sink
2—Diode Plate

3—Diode Leads
4—Negative Heat Sink

Fig. 15—Testing Negative Diodes (Negative Test Point on Negative Heat Sink, Positive Test Point on Diode Lead)

For testing the negative diodes, place negative test point on negative heat sink (4, Fig. 15) of diode plate (2).

Then place positive test point successively on each of the three diode leads (3, Fig. 15).

During this test the test lamp should not light. If it does, the tested diode is shorted.

If no defect is determined, repeat test with reversed polarity.

OPERATION

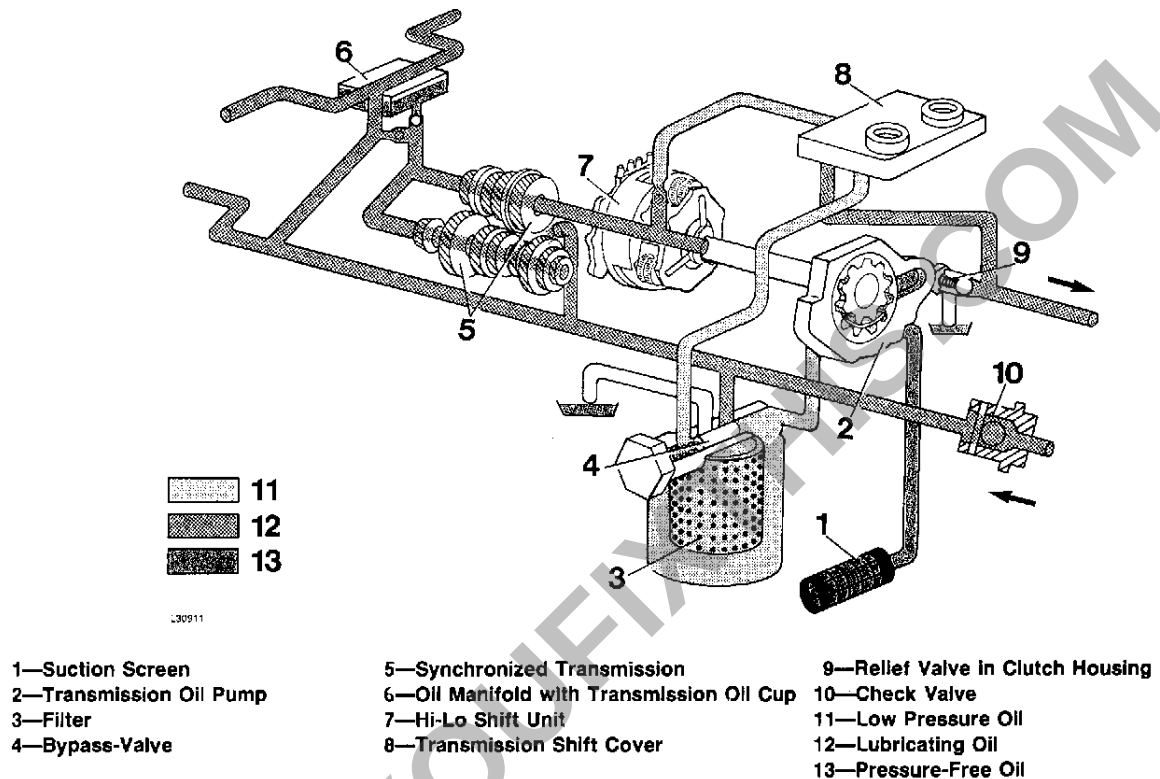


Fig. 9 - Normal Lubricating Oil Circuit

The tractor has a pressurized, priority lubricating system. As soon as engine is started, lube oil is supplied by the shortest way to the Hi-Lo shift unit and synchronized transmission, before the full lube oil pressure has been reached.

NORMAL OIL CIRCUIT

Under normal operating conditions oil flows from transmission pump (2, Fig 9) through suction screen (1) and filter (3) to the transmission shift cover (8). Bypass valve (4) is closed with normal oil flow.

Pressure regulating valve is open (1st stage) in transmission shift cover (8), allowing priority lube oil to flow to oil manifold of Hi-Lo shift unit (7), where an orifice allows approx. 5 L (1.5 U.S. gal.) per minute to lubricate Hi-Lo shift unit and synchronized transmission.

From there an oil passage leads to longitudinal bore in transmission input shaft, which is connected to longitudinal bores in transmission drive shaft and drive shaft. From longitudinal bore in drive shaft, diagonal bores lubricate Hi-Lo shift unit, whereas diagonal bores in transmission drive shaft lubricates synchronizer blocks (also see Group 35).

An oil line from end of transmission drive shaft leads to longitudinal bore of differential drive shaft and lubricates the bearing.

This lube oil circuit is maintained not only when tractor engine is started, and thereby when lube oil pressure is building up, but also when there is insufficient lube oil pressure caused by internal leakage or other defects. Should such a defect occur, the transmission oil pressure indicator light will glow.

21. Slacken adjusting screws (26) of shifter forks (29 and 39), as well as guide block (38) and shifter arm of start safety switch (32).

22. Pull shifter rods (30 and 35), one after the other out of transmission case and remove shifter fork (29), shifter arm (32) and guide block (38).

IMPORTANT: Do not turn shifter rods when removing them, otherwise detent balls (43, Fig. 3) and springs (42) will drop out. Make sure that all detent balls and springs are available for assembly.

23. Slacken adjusting screws (26 and 34) of shifter forks (27 and 33).

24. Pull shifter shafts (28 and 25), one after the other out of transmission case and remove shifter forks (33 and 27).

25. Slacken set screws (22) of lower shift levers (23 and 24). Pull shifter shafts (13 and 14) out of shifter shaft housing (18) and remove shift levers.

NOTE: To remove shifter fork (39, Fig. 3), it is necessary to remove transmission bearing quill. (See Group 35.)

CENTER SHIFT (Open Station Tractors)

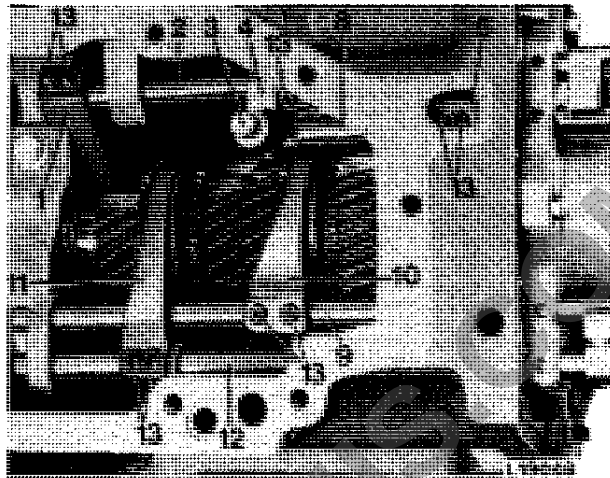
1. Separate tractor between clutch housing and transmission case. (See Section 10, Group 20.)

2. Remove rockshaft. (See Section 10, Group 20.)

3. Remove pin (4, Fig. 4) or start safety switch from arm (5).

4. Set shifter shafts in neutral position.

5. Remove positioning screws (15) of shifter forks and arm.



L19046

- 1—Shifter Fork, Range II
- 2—Shifter Shaft, Range II
- 3—Guide
- 4—Pin for Start Safety Switch
- 5—Arm (for Pin)
- 6—Shifter Fork, Range I and Reverse
- 8—Shifter Shaft, Range I and Reverse
- 10—Shifter Shaft, 3rd and 4th Gear
- 11—Shifter Fork, 3rd and 4th Gear
- 12—Shifter Fork, 1st and 2nd Gear
- 13—Shifter Shaft, 1st and 2nd Gear
- 14—Self Locking Adjusting Screw
- 15—Adjusting Screws

Fig. 4 - Shifter Shafts and Forks, Installed (Center Shift)

6. Pull shifter shafts one after the other forward and remove.

NOTE: When removing shifter shaft (9, Fig. 4) make sure that guide (3) does not drop into transmission case.

IMPORTANT: Do not turn shifter shafts when pulling them forward, otherwise detent balls (7, Fig. 5) and springs will drop out. Make sure that all detent balls and springs are available for assembly.

7. Remove shifter forks and arm.

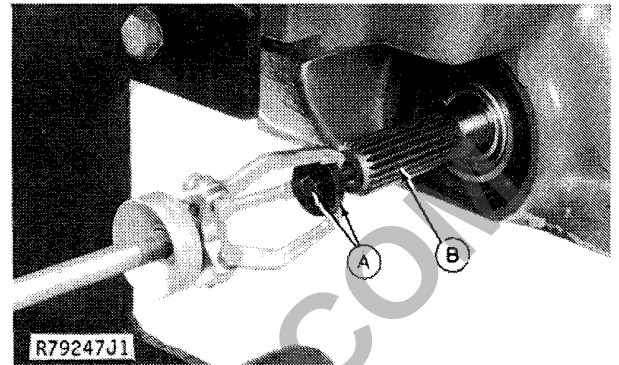
NOTE: In order to remove Range I and reverse shifter fork, (6, Fig. 4), it is necessary to remove transmission bearing quill (see Group 35).

PREVIEW - YOUFIXTHIS.COM

Removal

NOTE: The MFWD disk clutch can be removed without separating the tractor.

1. Remove drain plug and drain transmission oil.
2. Disconnect both cables at solenoid.
3. Remove oil pan under clutch housing together with solenoid.
4. When equipped, remove the three cap screws securing front universal jointed drive shaft anti-wrapping guard. Slide guard to the rear.
5. When equipped, remove both wing bolts, twist rear universal jointed drive shaft anti-wrapping guard and slide to the front.
6. Remove hex. nuts securing universal jointed drive shaft flange to front axle drive hub.
7. Pull complete universal jointed drive shaft assembly together with front and rear anti-wrapping guards from clutch shaft and remove.
8. When equipped, remove the three hex. nuts of rear anti-wrapping guard bracket.
9. Remove washer (33, Fig. 15) and plastic sleeve (34) from clutch shaft.
10. Remove the three hex. nuts of bearing quill.
11. Remove bearing quill together with seal ring, seal washer, and O-ring.
12. Remove shims.



R79247 J1

A—JDG-70-2 Puller Screw with Washer (M8)

B—Clutch Shaft

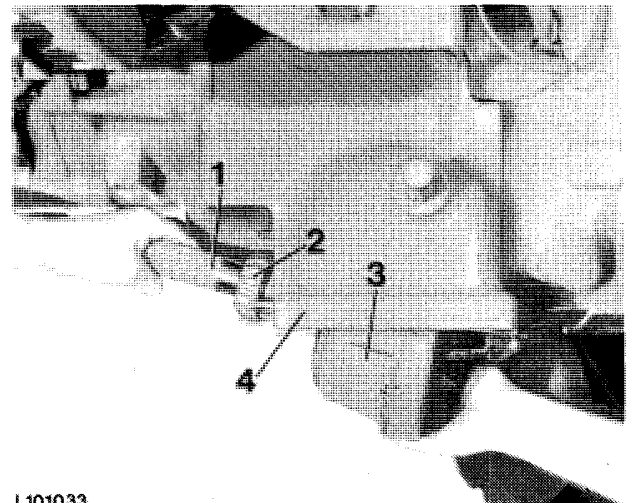
Fig. 12 - Pulling Clutch Shaft

13. Up to serial no. 457577L, install JDG-70-2 puller screw with washer (A, Fig. 12) and from serial no. 457578L install a M10 puller screw with washer in end of shaft (B).

14. Attach a slide hammer puller as shown in Fig. 12.

NOTE: When clutch shaft is removed, spacer (2, Fig. 15) and bearing cone (2) are free to drop out of clutch housing.

15. Pull shaft until bearing cup just comes from housing. Support clutch assembly to avoid damage to seal ring (23, Fig. 15).



L101033

L10103 3

**1—Clutch Shaft
2—Tapered Roller Bearing Cone**

**3—Disk Clutch
4—Clutch Housing**

Fig. 13 - Removal of Disk Clutch

16. As shown in (Fig. 13), lower clutch disk assembly (3) and holding in this position, pull out clutch shaft (1) together with taper roller bearing cone (2) and spacer. Lower and remove the clutch assembly, and catch spacer and bearing cone.

Section 60

STEERING SYSTEM AND BRAKES

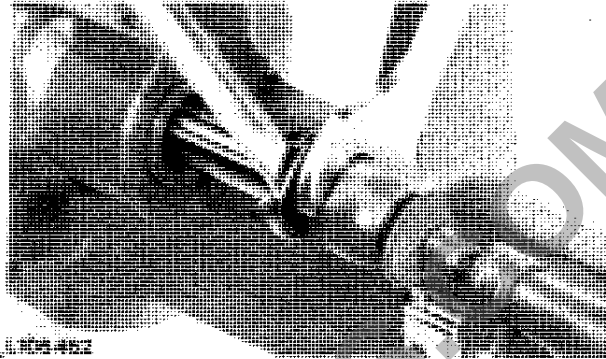
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STEERING CYLINDERS ON TRACTORS WITH MFWD**INSTALL TIE RODS**

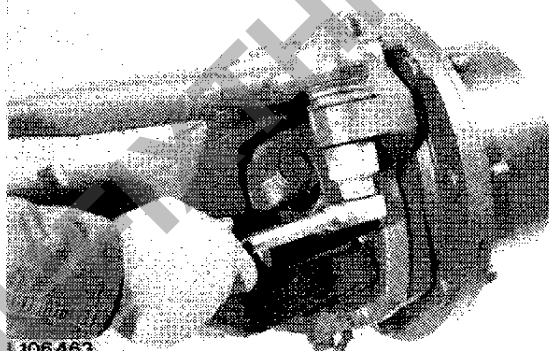
Apply Loctite 242 (TY43513) to threaded ends of tie rods, screw into piston rod end bores.

NOTE: When installing tie rods, use two open-end wrenches (27 and 51 mm).



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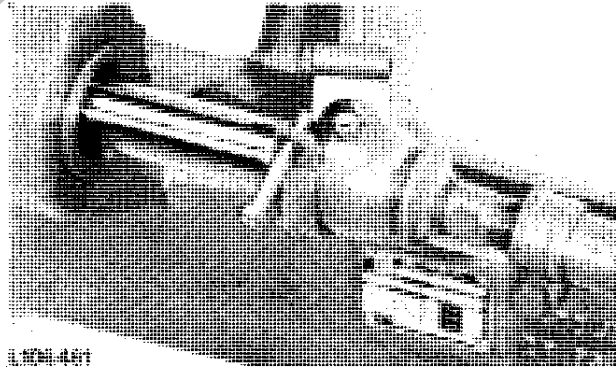
Install ball joints of tie rods in knuckle housing bore. Torque slotted nut to 220 N·m (165 lb-ft) and secure with cotter pin.



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Move piston rod to center position and check toe-in; if necessary, adjust toe-in to 0 to 3 mm (0 to 0.12 in.) by screwing threaded rod in or out. Tighten clamp screw to 55 N·m (40 lb-ft) torque.



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Install steering stop clamps on piston rod ends.

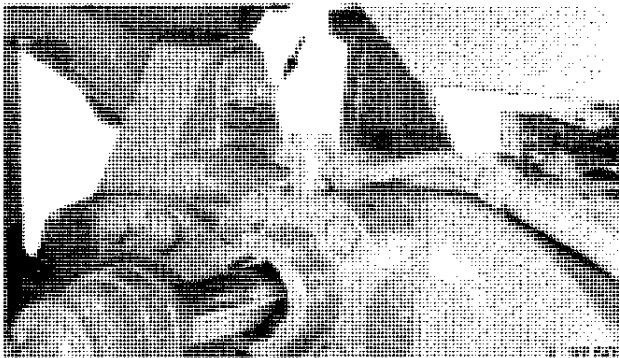
NOTE: Take care that correct contact side of steering stop clamp faces steering housing.

CONNECT HYDRAULIC LINES

Remove plastic plugs from steering cylinders.

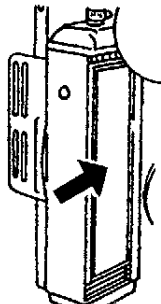
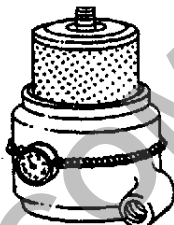
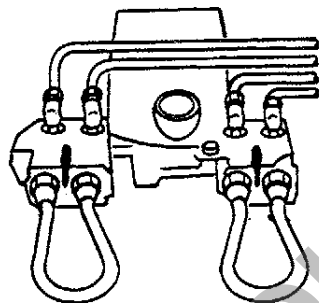
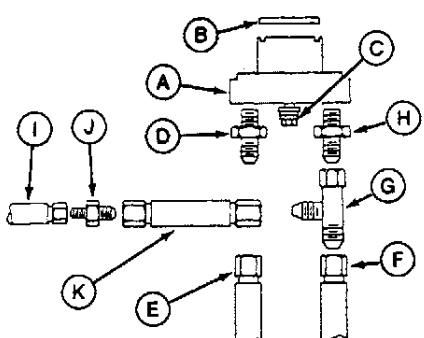
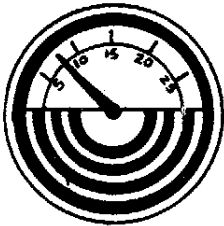
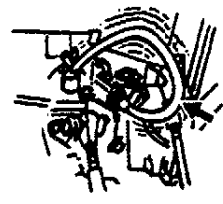
Connect hydraulic lines to steering cylinder.

After having assembled cylinder, operate piston several times to bleed system. Check transmission oil level and top up, if necessary.



L37503

Hydraulic Diagnosis

<p>HEATING THE HYDRAULIC OIL</p> <p>Before using this procedure, perform preliminary checks (step 1) and install test equipment (step 2).</p>	<p>Covering the oil cooler will help heat the oil.</p> <p>IMPORTANT: Do NOT cover radiator.</p> 	<p>Install a jumper hose across L.H. SCV and set metering lever in middle position.</p> 	<p>Install JDG-282 temperature gauge on filter cover.</p> 	
<p>Run engine at 1700 rpm. Move L.H. SCV lever to circulate oil.</p> 	<p>If equipped with two SCV's: Install jumper hose across R.H. SCV. Move R.H. SCV lever to flow oil to sump.</p> 	<p>Adjust R.H. metering lever to obtain 30-70 kPa (0.3-0.7 bar) (5-10 psi) inlet pressure.</p> 	<p>Observe temperature gauge and return SCV levers to neutral when desired temperature is reached.</p>	
<p>AN9/RW10200L, RW11045L, RW10482, RW10664, RW10450, RW11045L L70;070005 AX 060586</p>				
<p>OPTIONAL OIL HEATING METHOD WITH JDG387 TEST PLATE INSTALLED</p> <p>NOTE: Make connections as shown.</p>	<p>A—JDG387 Test Plate B—R64374 Packing C—19H2120 with 2-1/2 in. ID x 3/32 in. thick washers D—JTO3067 (7020) Fitting E—3/4 in. ID Hose, Meter Inlet (CP add JTO3012) F—3/4 in. ID. Hose, Meter Outlet (CP add JTO3012) G—JTO3058 (0766) Tee H—JTO3067 (7020) Fitting I—SCV Return Pipe or Hose J—JTO3054 (6724) Union Connector K—JTO3020 (6733) 3/4 in. ID Hose with JTO3012 (1747) Adapter at each end</p>  <p>Proceed with normal oil heating procedures.</p> <p>AN9/RW11040L L70;070005 AX1 150886</p>			
<p>DRAINING AUXILIARY OIL RESERVOIR OR OIL COOLER.</p> <p>Using this procedure before removing or installing test equipment at the main pump will help prevent oil spillage or burns from hot oil.</p>	<p>Connect jumper hose from SCV to sump and set metering lever at "MAX".</p>	<p>Run engine at 800 rpm, move R.H. SCV lever to flow oil to sump.</p> 	<p>When hose starts jumping (pump cavitation), shut off engine, then return lever to neutral.</p> 	
<p>AN9/RW10455, RW10255 L70;070005 BX 310784</p>				

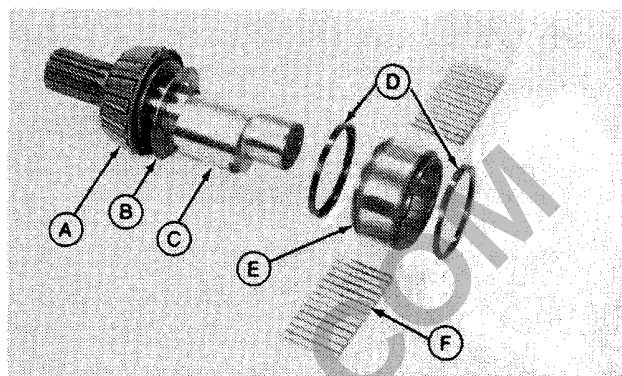
IMPORTANT: If spacer I.D. has a flat area, this must align with flat area on pump shaft journal.

11. Place spacer (B) on splined end of pump shaft (C). Check for proper alignment if spacer and pump shaft journal have a flat area.

12. Place bearing (A) on splined end of shaft (C). Press bearing against shoulder of pump shaft journal using a JD-318 Driver.

13. Place race (E) with thrust washers (D) on pump shaft (C).

14. Insert 25 needle rollers (F) between race (E) and pump shaft journal.



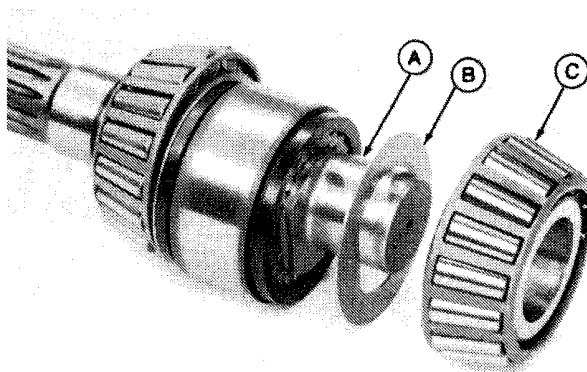
A—Bearing
B—Spacer
C—Pump Shaft

D—Thrust Washers
E—Race
F—Needle Rollers

AW1;R38498 R70;070300 370 270983

15. Place spacer (B) on end of pump shaft (A). Check for proper alignment if spacer and pump shaft journal have a flat area.

16. Install bearing (C) on end of pump shaft (A). Press bearing against shoulder of pump shaft journal using a JD-318 driver.



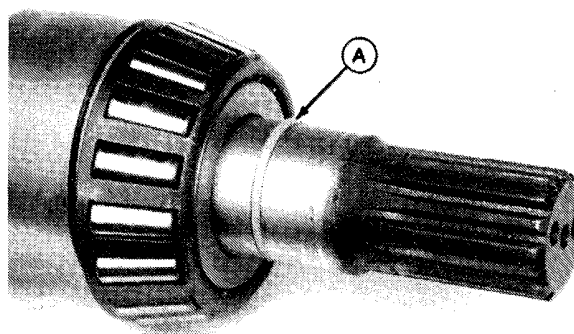
AW1;R38497 R70;070300 371 091183

17. Clean sealing ring groove thoroughly.

IMPORTANT: The sealing ring may lay down when installing. Be sure it is on edge when pushing into the groove.

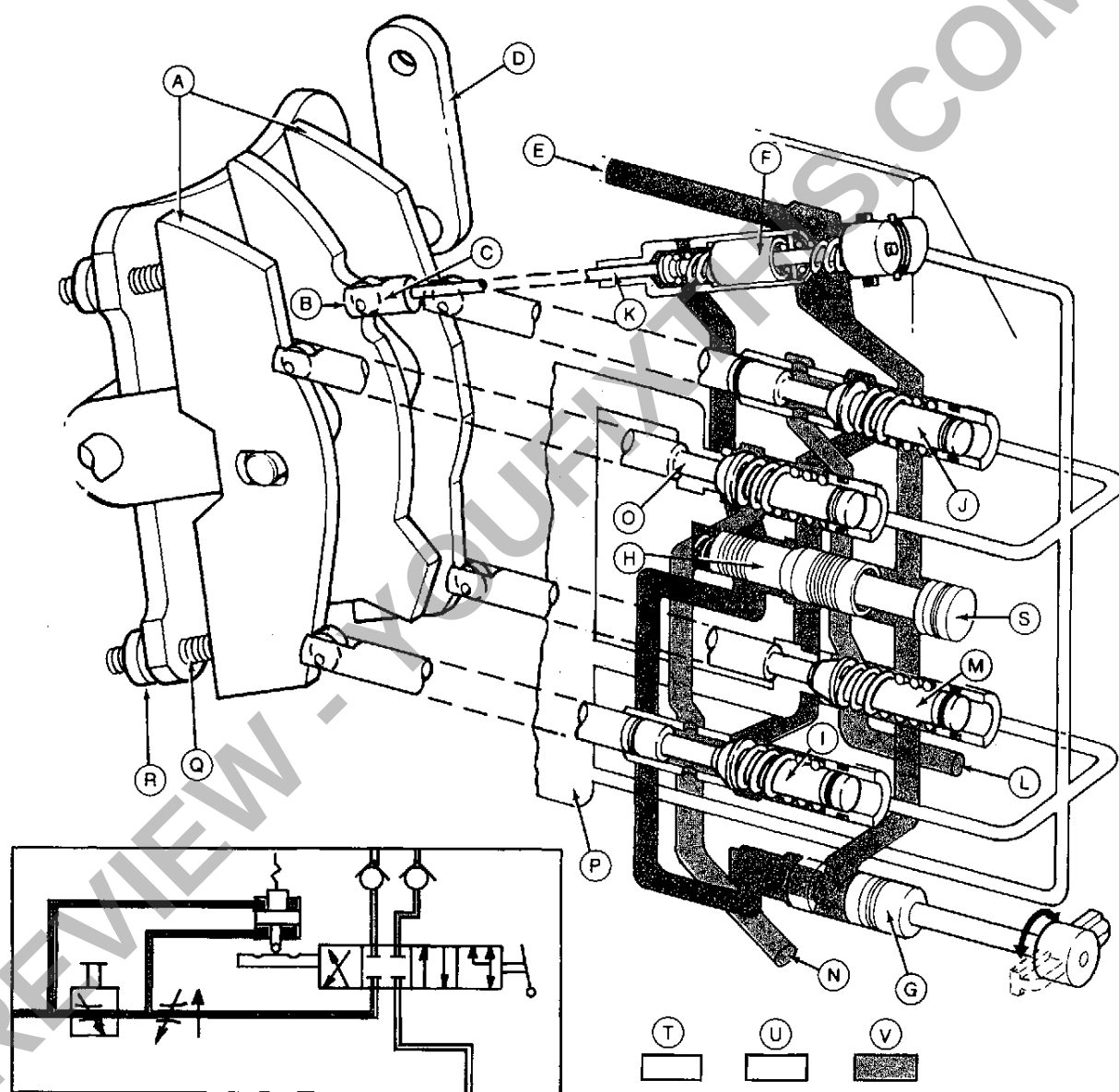
18. Carefully push sealing ring over spline end of shaft to the groove.

19. Use a heavy feeler gauge to push the sealing ring into the groove.



AW1;RW3539 R70;070300 372 270983

SCV and ISO Coupler



SCV—Neutral Position

AZ2;R36319 C 70U;270050 DX2 270782

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70-25-03

TM-4405 (Feb-85)
1L7;702503 160185

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4. Install D-05275 ST test plate (3, Fig. 15) over suction and discharge ports.

5. Connect manifold low pressure gauge hose (blue hose) to discharge adapter fitting (one closest to super heat shut-off-switch) and connect high pressure gauge hose (red hose) to other adapter fitting.

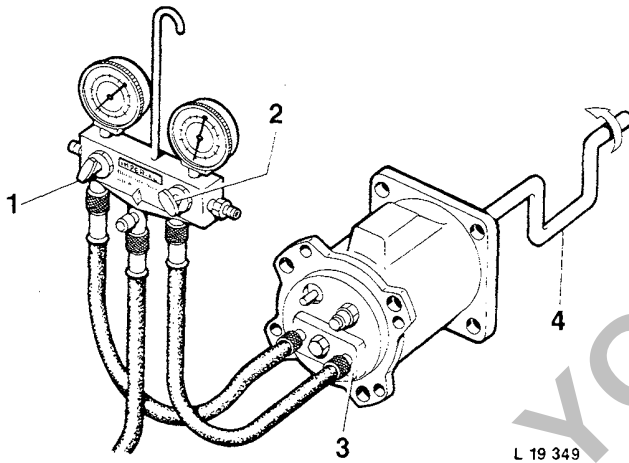
NOTE: Low pressure gauge hose is connected to discharge adapter so that pressure reading taken during test can be more easily read.

6. Rotate compressor approximately 25 times with refrigerant valves open.

9. Pressure gauge should read 400 kPa (4 bar; 60 psi) or above. A pressure reading of less than 400 kPa (4 bar; 60 psi) indicates one or more suction and/or discharge valves leaking, an internal leak, or an inoperative valve. The compressor should be replaced under these conditions.

10. If compressor is serviceable, perform shaft seal leak test.

SHAFT SEAL LEAK TEST



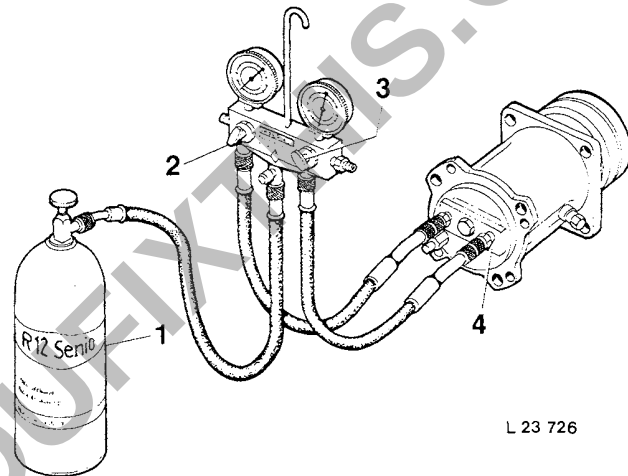
1—Low Pressure Gauge
Valve Closed
2—High Pressure Gauge
Valve Open

3—Test Plate
D-05275 ST
4—Handle with
9/16 in. Socket

Fig. 15 - Checking Compressor for Internal Leaks

7. Close low pressure gauge valve (1) and open high pressure gauge valve (2).

8. With a 9/16 in. socket and a speed handle (4), rotate the compressor clutch hub ten revolutions at a rate of one revolution per second.



1—Refrigerant Container
2—Low Pressure Gauge
Valve Open

3—High Pressure
Gauge Valve Open
4—Test Plate
D-05275 ST

Fig. 15 - Checking Compressor for Internal Leaks

1. With adapter test plate and manifold pressure gauge hoses attached to the compressor connect a can of R-12 (1, Fig. 16) to charging hose of manifold.

2. Open both manifold pressure gauge valves (2) and (3).

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