

Group 05 - Safety

Recognize Safety Information



Safety-Alert Symbol

This is a safety-alert symbol. When you see this symbol on your machine or in this manual, be alert to the potential for personal injury.

Follow recommended precautions and safe operating practices.

Understand Signal Words



⚠ WARNING

⚠ CAUTION

Signal Words

Group 05 - Engine

Service Equipment and Tools

→NOTE:

Order tools according to information given in the U.S. SERVICEGARD[™] Catalog or from the European Microfiche Tool Catalog (MTC). Some tools may be available from a local supplier.

Lifting Bracket

JDG19

Required for removal of engine.

Lifting Bracket

JT01748

Required for removal of engine.

Specifications

Item	Measurement	Specification
Engine-to-Clutch Housing Cap Screws (Tractors without Cab)	Torque	305 N•m (225 lb-ft)
Front Support-to-Engine Mounting Cap Screws (Early Model Tractors without Cab)	Torque	305 N•m (225 lb-ft)
Front Support-to-Engine Mounting Cap Screws (Early Model Tractors without Cab)	Torque	176 N•m (130 lb-ft)
Front Support-to-Engine Mounting Cap Screws and Nuts (Later Model Tractors without Cab)	Torque	305 N•m (225 lb-ft)
Front Support-to-Engine Mounting Cap Screws (Later Model Tractors without Cab)	Torque	176 N•m (130 lb-ft)
Engine-to-Clutch Housing Cap Screws (Tractors with Cab)	Torque	305 N•m (225 lb-ft)
Front Support-to-Engine Cap Screws and Nuts (Tractors with Cab)	Torque	305 N•m (225 lb-ft)
Front Support-to-Engine Cap Screws (Tractors with Cab)	Torque	176 N•m (130 lb-ft)

Deere Repair-Use CTM8

Group 05 - Fuel System

Specifications

Item	Measurement	Specification
Fuel Tank (5200-5400 Models without Cab)	Capacity	68 L (18 U.S. gal)
Fuel Tank (5500 Models without Cab)	Capacity	83 L (22 U.S. gal)
Fuel Tank Retaining Strap Nuts	Torque	35 N•m (26 lb-ft)
Fuel Tank (5200-5500 Models with Cab)	Capacity	83 L (22 U.S. gal)

Injection Pump, Nozzle and Governor Repair-Use CTM8



Component Technical Manual

For complete repair information the component technical manual (CTM) is also required. Use the component manual in conjunction with this machine manual.

Group 05 - Battery, Starter and Alternator

Starter Repair-Use CTM77



Component Technical Manual

For complete repair information the component technical manual (CTM) is also required. Use the component technical manual in conjunction with this machine manual.

Group 05 - Clutch Housing-Collar Shift/TSS Transmission

Service Parts Kits

The following kits are available through your parts catalog:

Clutch Housing Seal Kit

Specifications

Item	Measurement	Specification
Engine-to-Clutch Housing Cap Screw	Torque	318 N•m (235 lb-ft)

Group 05 - Steering Repair

Service Equipment and Tools

→NOTE:

Order tools according to information given in the U.S. SERVICEGARD™ Catalog or from the European Microfiche Tool Catalog (MTC). Some tools may be available from a local supplier.

Wrench

46 mm

Use on flats on both ball joints when replacing ball joints.

Other Material

Number	Name	Use
<ul style="list-style-type: none"> • T43512 (us) • TY9473 (canadian) • 242 LOCTITE™ (loctite) 	Thread Lock and Sealer (Medium Strength)	Apply to steering cylinder-to-axle cap screws (2WD axle).
<ul style="list-style-type: none"> • TY6333 or TY6347 (us) 	Moly High Temperature EP Grease	Apply to mating surfaces of steering cylinder and differential case (MFWD axle) and to tie rod sleeves (2WD axle).

Group 05 - Hydraulic Pump and Filter

Specifications

Item	Measurement	Specification
Hydraulic Reverser Transmission	Capacity	43.5 L (11.5 gal.) (Approximate)
CS and TSS Transmissions	Capacity	38 L (10 gal) (Approximate)
Pick-Up Screen Cover Cap Screws	Torque	23 N•m (17 lb-ft)
Hydraulic Pump Bracket Cap Screws	Torque	50 N•m (37 lb-ft)
Hydraulic Pump Cap Screws	Torque	50 N•m (37 lb-ft)
Hydraulic Pump Bolts	Torque	50 N•m (37 lb-ft)
Hydraulic Pump Rear Fitting	Torque	28 N•m (21 lb-ft)
Hydraulic Pump Front Fitting	Torque	46 N•m (34 lb-ft)
Hydraulic Pump Drive Gear Nut	Torque	55 N•m (41 lb-ft)
Hydraulic Pump-to-Mounting Nuts	Torque	50 N•m (37 lb-ft)
Hydraulic Pump-Weight	Weight	12.7 kg (28 lb)
5500 Hydraulic Pump Mounting Cap Screws	Torque	50 N•m (37 lb-ft)
Hydraulic Pump End Plate Cap Screws	Torque	50 N•m (37 lb-ft)
Hydraulic Pump End Plate Bolts	Torque	50 N•m (37 lb-ft)
5500 Hydraulic Pump Rear External Fitting	Torque	28 N•m (21 lb-ft)
5500 Hydraulic Pump Front External Fitting	Torque	46 N•m (34 lb-ft)
Hydraulic Pump Drive Gear Nut	Torque	55 N•m (41 lb-ft)
Hydraulic Pump-to-Mounting Bracket Nuts	Torque	50 N•m (37 lb-ft)
Filter Assembly Cap Screws	Torque	70 N•m (52 lb-ft)
Wheel Cap Screws	Torque	175 N•m (130 lb-ft)

Group 05 - Front Axle-2WD

Specifications

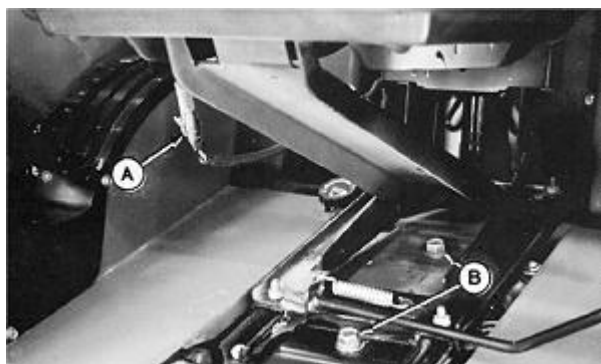
Item	Measurement	Specification
2WD Front Axle	End Play	8 mm (0.030 in.)
2WD Front Axle Pivot Pin Retainer Cap Screws	Torque	135 N•m (100 lb-ft)
2WD Front Axle Spindle Nut	Torque	320 N•m (236 lb-ft)
Tie Rod Front Axle Spindle Nut	Torque	165 N•m (122 lb-ft)
Wheel Cap Screws	Torque	175 N•m (130 lb-ft)

Group 05 - Seat and Support

Specifications

Item	Measurement	Specification
Seat Assembly Cap Screw	Torque	125 N•m (92 lb-ft)
Cab Seat-to-Base Plate Socket Head Cap Screw	Torque	17 N•m (150 lb-in.)

Remove and Install Seat and Support-Tractors Without Cab



Seat and Support (Tractors without Cab)

LEGEND:

- A Wiring Connector
- B Cap Screw

- [1] - Disconnect wiring connector (A).
- [2] - Remove cap screws (B).
- [3] - Remove seat assembly.
- [4] - Install seat assembly. Tighten cap screws to specification.

Item	Measurement	Specification
Seat Assembly Cap Screw	Torque	125 N•m (92 lb-ft)

- [5] - Connect wiring connector.

Group 10 - Operational Checkout Procedures

Specifications

Item	Measurement	Specification
Engine Slow Idle Speed	rpm	825 $\pm$ 25
Engine Fast Idle Speed	rpm	2625 $\pm$ 25

Operational Checkout Procedure Information

The procedures covered in this group are used to give a quick checkout of all the systems and components on the unit. These checkouts should be run to insure proper operation after any extended storage, when the unit comes in for service, and after repairs have been made on the unit. They can also be helpful in determining the value of the unit at trade-in time. The unit should be placed on a level surface to run the checkouts. All the checkouts should be done and all of the steps of each checkout should be followed.

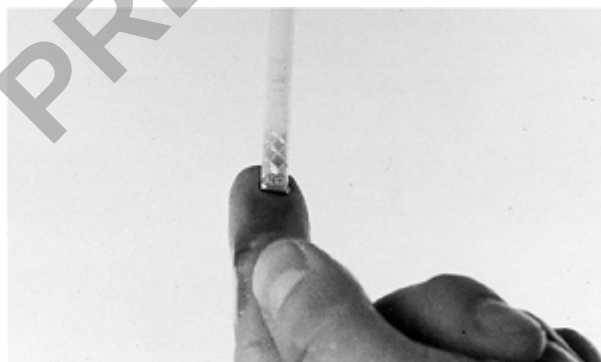
Each checkout lists:

- Conditions-How the unit should be set up for the checkout.
- Procedure-The specific action to be done.
- Normal-What should happen or be heard or be seen.
- If Not Normal-Where to go if other tests or adjustments are needed.

When performing the checkout, be sure to set your machine up to the test conditions listed and follow the sequence carefully. The "Normal" paragraph gives the result that should happen when performing the checkout. If the results are not normal, go to the Section and Group listed in the "If Not Normal" paragraph to determine the cause and repair the malfunction.

The photograph that accompanies each checkout procedure is included to help conduct the checkout.

Engine Oil Level and Condition Check



Engine Oil Level and Condition Check

Group 05 - Component Location

Component Location Information

This group contains component location drawings for the following engine system components:

Engine External Components

- Left-Hand Side
- Right-Hand Side

Use the drawings when diagnosing an engine problem to help locate the components to be tested.

Engine External Components-Left-Hand Side

Group 05 - Component Location

Component Location Information

This group contains component location drawings for the following fuel/air system components:

- Fuel System
- Air Intake System 5200 and 5300 5400 and 5500

Use the drawings when diagnosing a fuel/air problem and to help locate the components to be tested.

Fuel System Components

Group 05 - Component Location

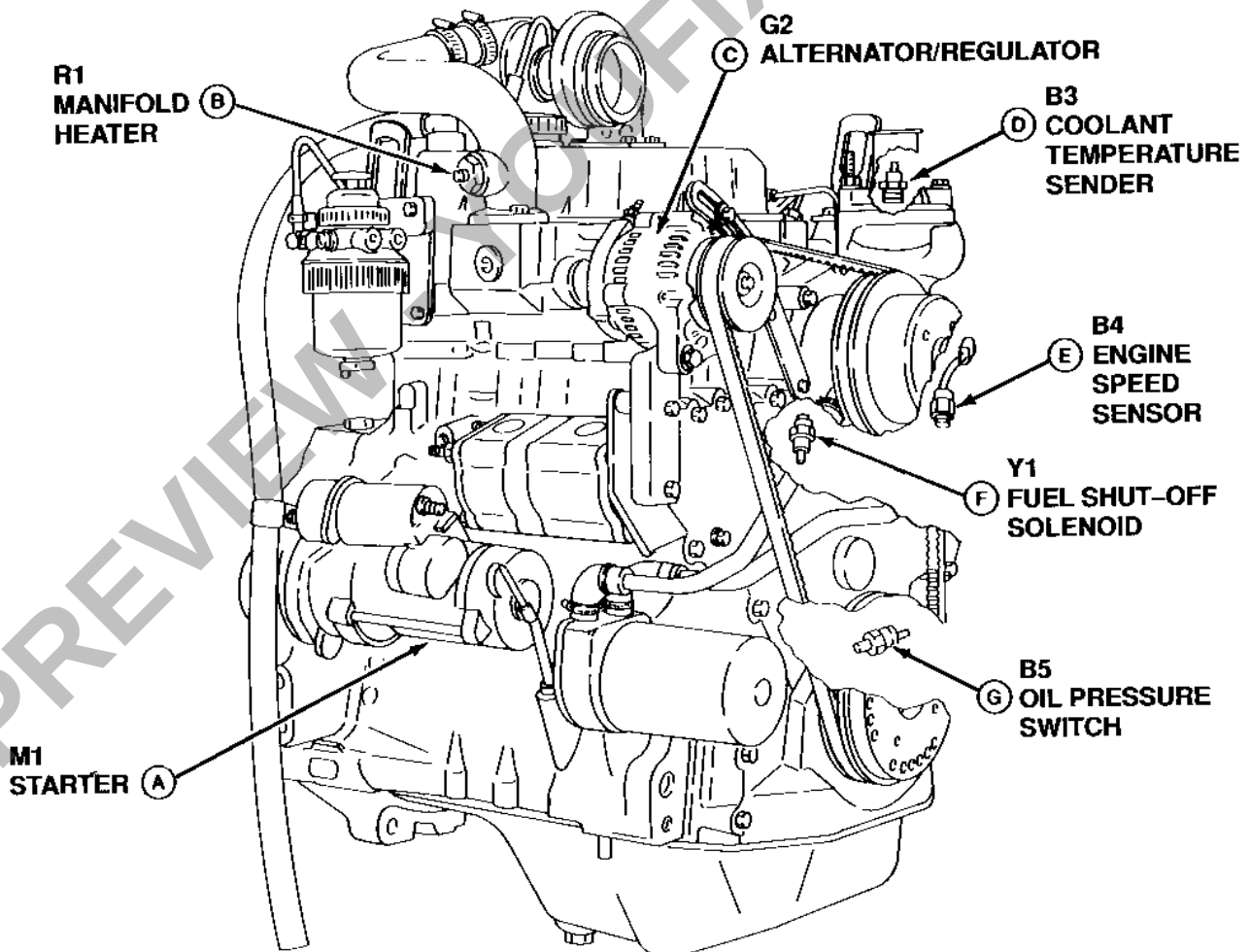
Component Location Information

This group contains component location drawings for the following electrical components:

- Engine Components
- Dash Components
- Machine Components
- Cab Components

Use the drawings when troubleshooting an electrical problem to help locate the components to be tested.

Engine Electrical Components



LV086A

ENGINE ELECTRICAL COMPONENTS

Group 05 - Component Location-Collar Shift/TSS Transmission

Component Location Information

This group contains component location drawings for the following power train components:

- Power Train Components
- Clutch
- Transmission-Collar Shift
- Transmission-TSS
- Final Drive
- Rear PTO

Use the drawings when diagnosing a power train problem and to help locate the components to be tested.

Power Train Components

Group 05 - Component Location

Component Location Information

This group contains component location drawings for the following steering and brake system components:

- Steering System-5200, 5300 and 5400 Tractors Without Cab
- Steering System-5500 Tractors and All Units With Cab
- Brake System

Use the drawings when troubleshooting steering and brake problems to help locate the components to be tested.

Steering System Components-5200, 5300 and 5400 Without Cab

Group 05 - Component Location

Component Location Information

This group contains component location drawings for the following hydraulic components:

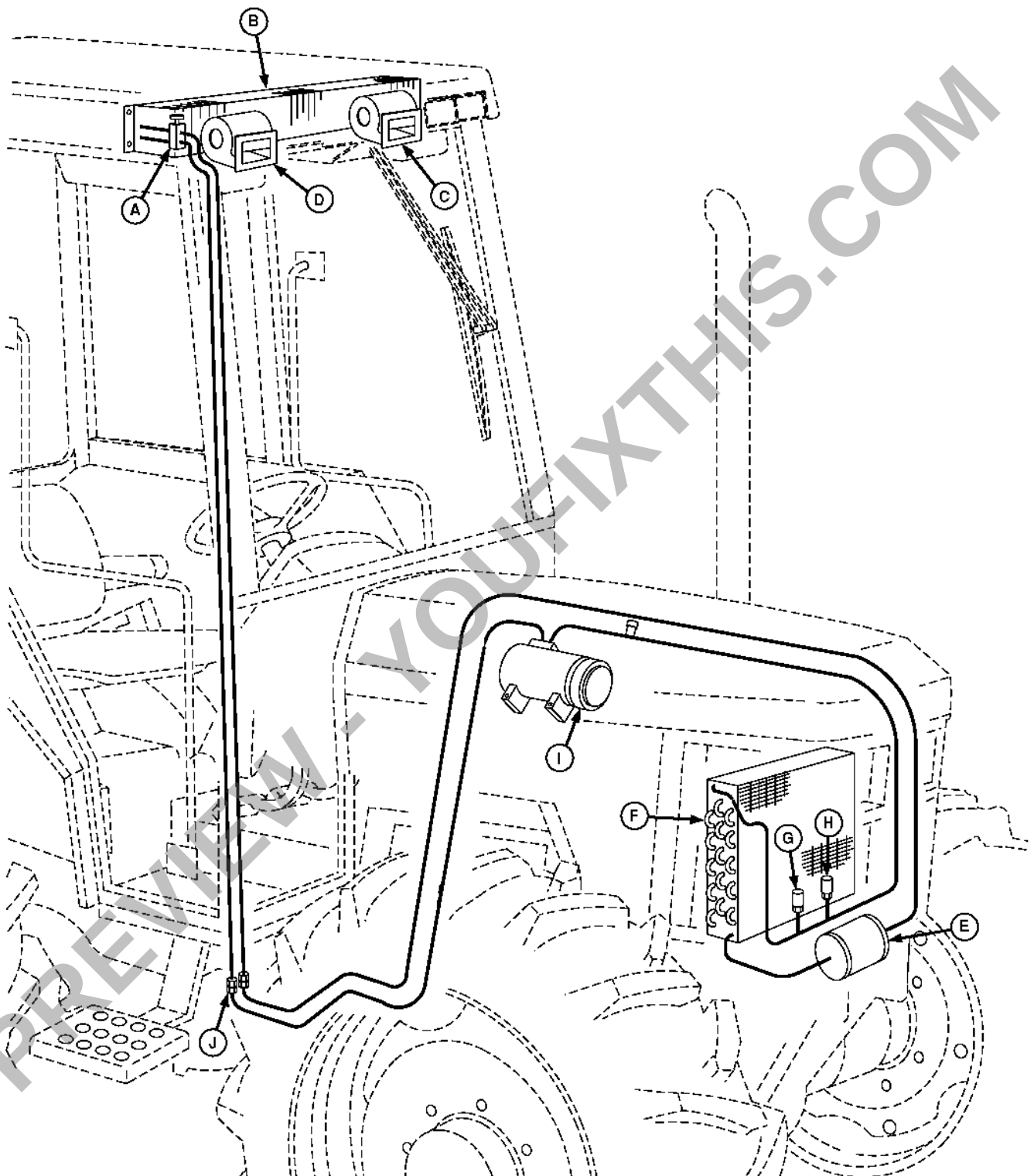
- Hydraulic System
- Selective Control Valve Components

Use the drawings when diagnosing a hydraulic problem and to help locate the components to be tested.

Hydraulic System Components

Group 05 - Component Location

Air Conditioning System Components



AIR CONDITIONING SYSTEM COMPONENTS

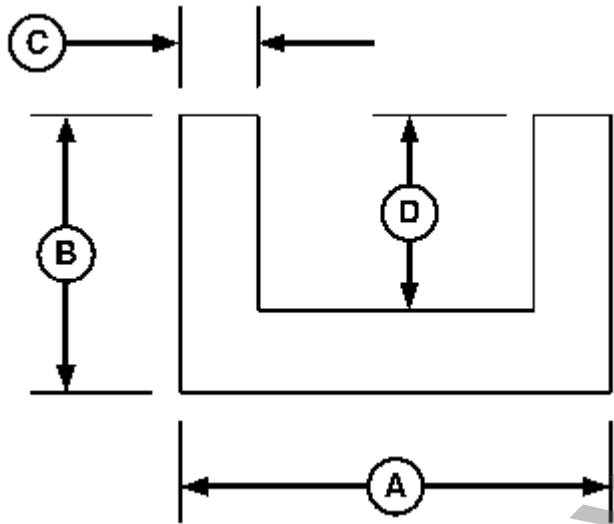
AC System

LEGEND:

Group 00 - Dealer Fabricated Tools

JDG826-PTO Clutch Finger Height Gauge

PTO Clutch Finger Height Gauge JDG826



JDG826-PTO Clutch Finger Height Gauge

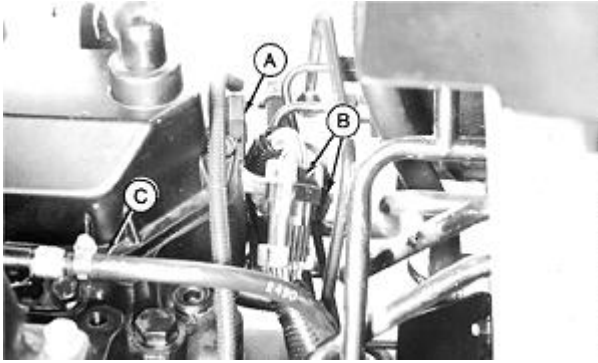
Measures PTO clutch finger height.

Item	Measurement	Specification
Plate Minimum	Thickness	1.587 mm (0.0625 in.)
Dimension (A)	Thickness	124.617 mm (4.906 in.)
Dimension (B)	Thickness	65.087 mm (2.562 in.)
Dimension (C)	Thickness	19.842 mm (0.781 in.)
Dimension (D)	Thickness	41.275 mm (1.625 in.)

JDG827-Traction Clutch Finger Height Gauge

JDG827-Traction Clutch Finger Height Gauge

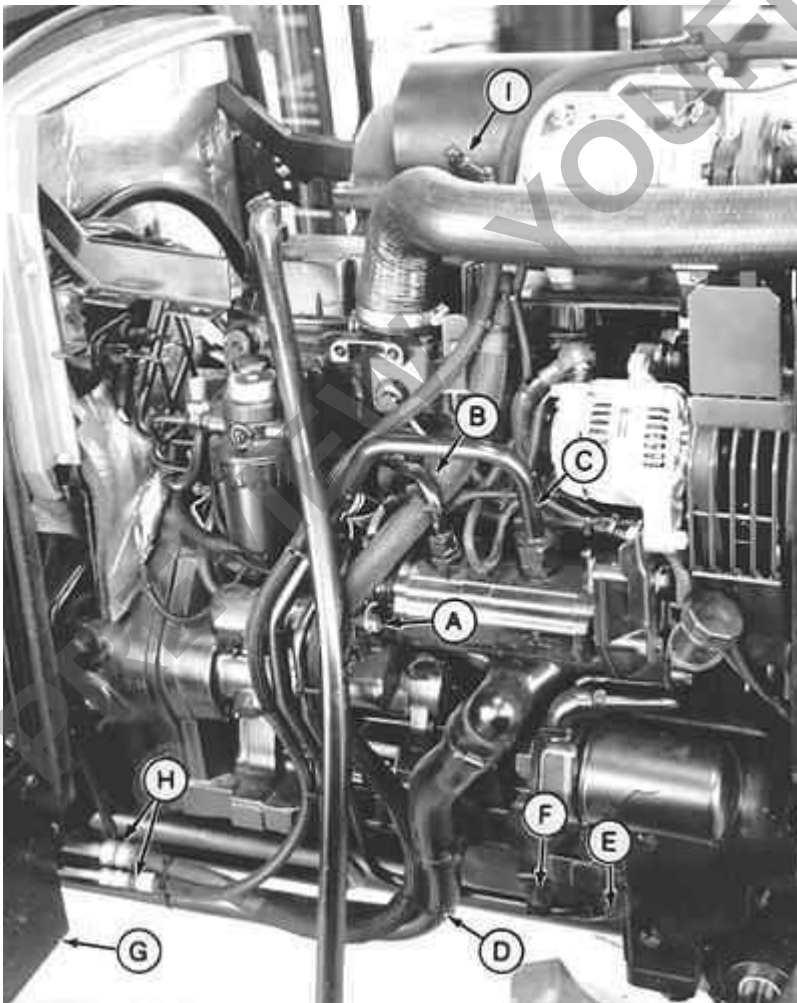
PREVIEW - YOUFIXTHIS.COM

[12] -*Left-Hand Side***LEGEND:**

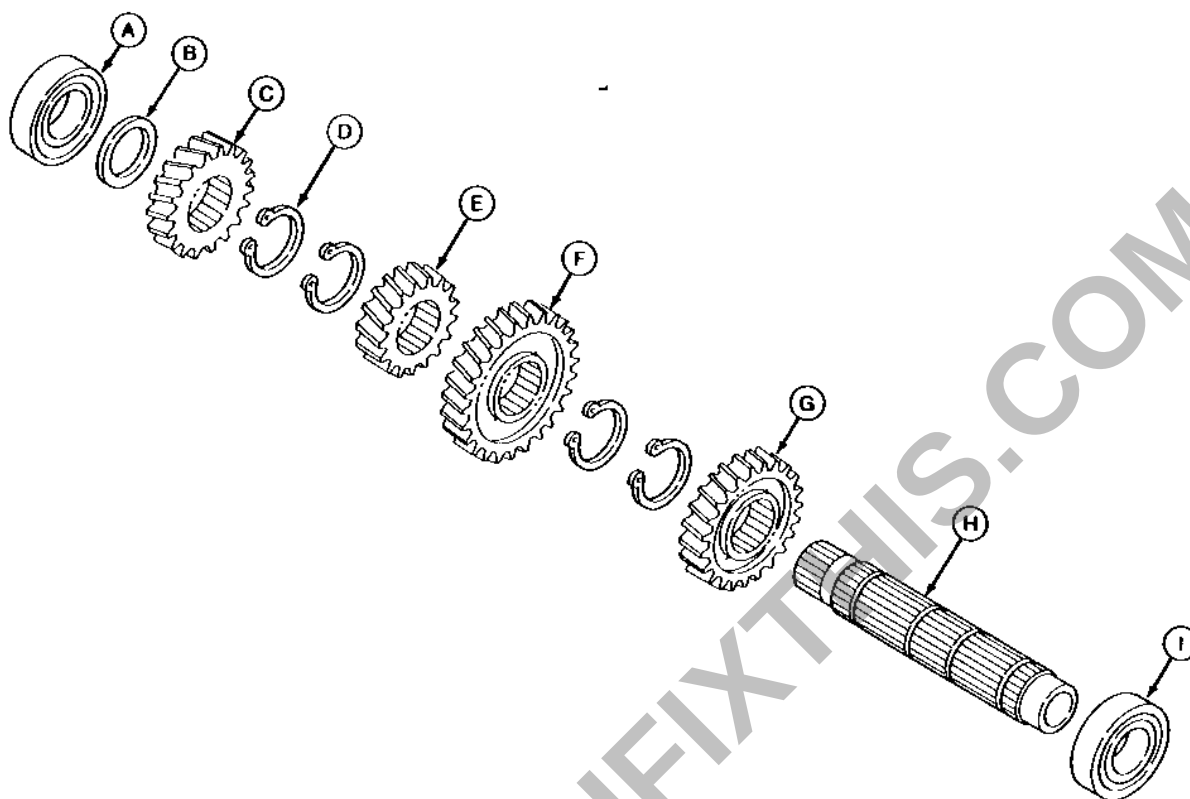
- A Wiring Connector
- B Wiring Connector
- C Fuel Hose

Connect fuel hose (C).

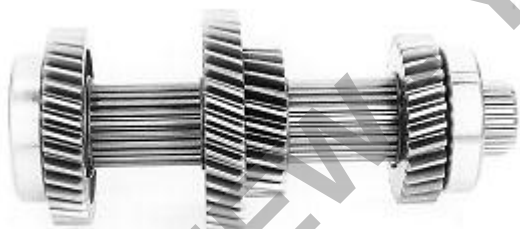
[13] - Connect wiring connectors (A and B).

[14] -*Right-Hand Side*

Disassemble, Inspect and Assemble Top Shaft



Top Shaft-Exploded View



Top Shaft

LEGEND:

- A Bearing
- B Washer
- C 2nd Speed Drive Gear
- D Snap Ring (4 used)
- E 1st Speed Drive Gear
- F 4th Speed Drive Gear
- G 3rd Speed Drive Gear
- H Shaft
- I Bearing

[15] - Install new O-rings on fittings and connect hoses as follows:

- Hose D-SCV-to-left-hand (extend) coupler of pair marked I.
- Hose C-SCV-to-right-hand (retract) coupler of pair marked I.
- Hose E-SCV-to-left-hand (extend) coupler of pair marked II.
- Hose B-SCV-to-right-hand (retract) coupler of pair marked II.

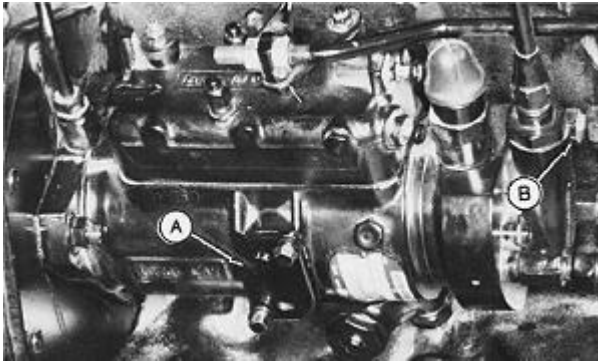
[16] - Install control console panel.

[17] - Install fender and wheel. Tighten wheel cap screws to specification.

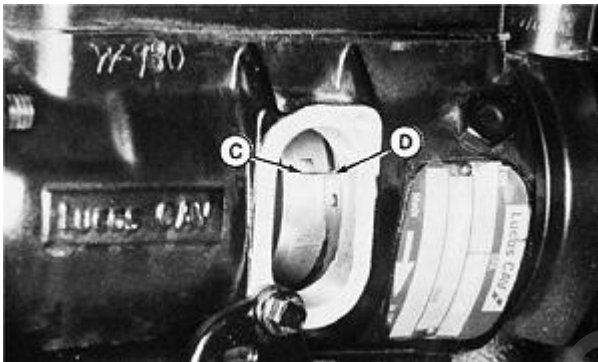
Item	Measurement	Specification
Wheel Cap Screws	Torque	175 N•m (130 lb-ft)

[18] - Start engine and operate SCV lever. Check all connections for leaks.

Injection Pump Timing Adjustment-New Front Plate Installed



Injection Pump Timing



Timing Marks

LEGEND:

- A Inspection Cover Plate
- B Outlet to No. 1 Cylinder
- C Timing Mark
- D Snap Ring

→NOTE:

A new front plate (obtained through service parts) does not have a timing mark.

Lucas CAV injection pump timing is established for beginning of injection-not TDC.

REASON:

To correctly set injection pump timing for proper engine operation.

EQUIPMENT:

→NOTE:

Steps 3 and 4 apply to cab tractors only. For tractors without cab, proceed to step 5.

Access. Relay & Trailer Connect. Test Points

3. Cab Tractors Only:		
Left (large) post of fuse link junction block.	Battery voltage.	Check for corroded terminal or break in wire between battery and fuse link.
4. Cab Tractors Only:		
Right (small) post of fuse link junction block.	Battery voltage.	Check for loose or corroded terminal or replace fuse link.
5. 5200-5400 early models. Left terminal of 30-amp fuse block.	Battery voltage.	Check for corroded connections or break in wire or splice between starter and 30-amp fuse block.
5200-5500 later models. Top terminal of fuse, F6.	Battery voltage.	Check for corroded connections or break in wire or splice between starter and 30-amp fuse F6.
6. 5200-5400 early models. Right terminal of top 30-amp fuse, F1.	Battery voltage.	Check for failed fuse, F1. If fuse is good, check for corroded or loose terminals.
5200-5500 later models. Bottom terminal of fuse, F6.	Battery voltage.	Check for failed fuse, F6. If fuse is good, check for corroded or loose terminals.
7. BAT terminal of key switch.	Battery voltage.	Check for corroded connections or break in wire between fuse block and key switch.

If pressures are within specifications, proceed to Test #2.

If pressures are low, minimum specification 2254 kPa (340 psi):

Filter in Port P may be restricted.

Main relief valve or engagement override valve may be leaking.

Gaskets in hydraulic control valve may be leaking.

Test #2 F-N-R Lever in Neutral, Clutch Pedal Down

With F-N-R lever in neutral, hold clutch pedal down. Record pressures on all four gauges at 2400 rpm engine speed. Compare readings to specifications.

Hydraulic Control Valve Test Specifications

HYDRAULIC CONTROL VALVE TEST SPECIFICATIONS F-N-R LEVER IN NEUTRAL, CLUTCH PEDAL DOWN					
@ 140±23°F (60±10°C) OIL TEMPERATURE					
Pressure at test ports:					
Engine RPM	P [Note "P" is pump pressure.]	FOW	REV	LUB	
2400	510±200	0	0	0	kPa
	(5.10±2)	0	0	0	(bar)
	(74±30)	0	0	0	(psi)

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