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







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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.

Specifications

Item	Measurement	Specification
Engine/Flywheel Housing-to-Clutch Housing Cap Screw	Torque	260 N˙m (192 lb-ft)
Clutch Housing-to-Engine M20 Cap Screw	Torque	430 N˙m (317 lb-ft)
Engine-to-Front Support Top Cap Screw	Torque	318 N˙m (235 lb-ft)
Engine-to-Front Support Lower Cap Screw	Torque	162 N˙m (119 lb-ft)
Engine-to-Front Support Nut	Torque	318 N˙m (235 lb-ft)

John Deere Engine Repair—Use CTM



Component Technical Manual

For complete repair information the component technical manual (CTM) is also required. Use the ‘PowerTech™ 4.5L and 6.8L Diesel Engines Base Engine’ component technical manual in conjunction with this machine manual.

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Group 05 - Fuel System

Injection Pump, Nozzle and Governor Repair—Use CTM



Component Technical Manual

For complete repair information the component technical manual (CTM) is also required. Use PowerTech ™ 4.5L and 6.8L Diesel Engines Base Engine component manual in conjunction with this machine manual.

Remove, Inspect and Install Fuel Tank—Reference Listing

- Remove, Inspect and Install Fuel Tank—OOS
- Remove, Inspect and Install Fuel Tank — Cab

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Group 05 - Battery, starter and alternator

Starter Repair—Use CTM



Component Technical Manual

For complete repair information the component technical manual (CTM) is also required. Use ‘Alternators and Starting Motors’ component technical manual in conjunction with this machine manual.

Prevent Battery Explosions



Battery Explosions

Keep sparks, lighted matches, and open flame away from the top of battery. Battery gas can explode.

Never check battery charge by placing a metal object across the posts. Use a volt meter or

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Group 05 - Clutch Housing

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.

Other Material

Number	Name	Use
• TY6333 (us) • CXTY6333 (canadian)	Moly High Temperature EP Grease	Apply to splined ends of traction and PTO clutch shafts. Apply to ID of clucth pedal bushings.

Specifications

Item	Measurement	Specification
Clutch Housing-to-Engine M20 Cap Screw	Torque	430 N˙m (317 lb-ft)
Engine/Flywheel Housing-to-Clutch Housing Cap Screw	Torque	260 N˙m (192 lb-ft)

Separate Engine from Clutch Housing—Reference Listing

- Separate Engine from Clutch Housing—OOS
- Separate Engine from Clutch Housing—Cab

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Group 05 - Steering Repair

Other Material

Number	Name	Use
• PM37477 (us) • 242 LOCTITE ™ (loctite)	Thread Lock and Sealer (Medium Strength)	Apply to steering cylinder-to-axle cap screws (2WD axle).
• TY6333 (us) • CXTY6333 (canadian)	Moly High Temperature EP Grease	Apply to mating surfaces of steering cylinder and differential case (MFWD axle) and to tie rod sleeves (2WD axle).

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Group 05 - Hydraulic pump and filter

Service Parts Kit

The following kits are available through your parts catalog.

Hydraulic Pump Seal Kit

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.

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Group 05 - Front Axle—2WD

Remove and Install Front Axle—2WD—Reference Listing

- Remove and Install Front Axle—2WD
- Remove and Install Front Axle—2WD (High Clearance Tractors)

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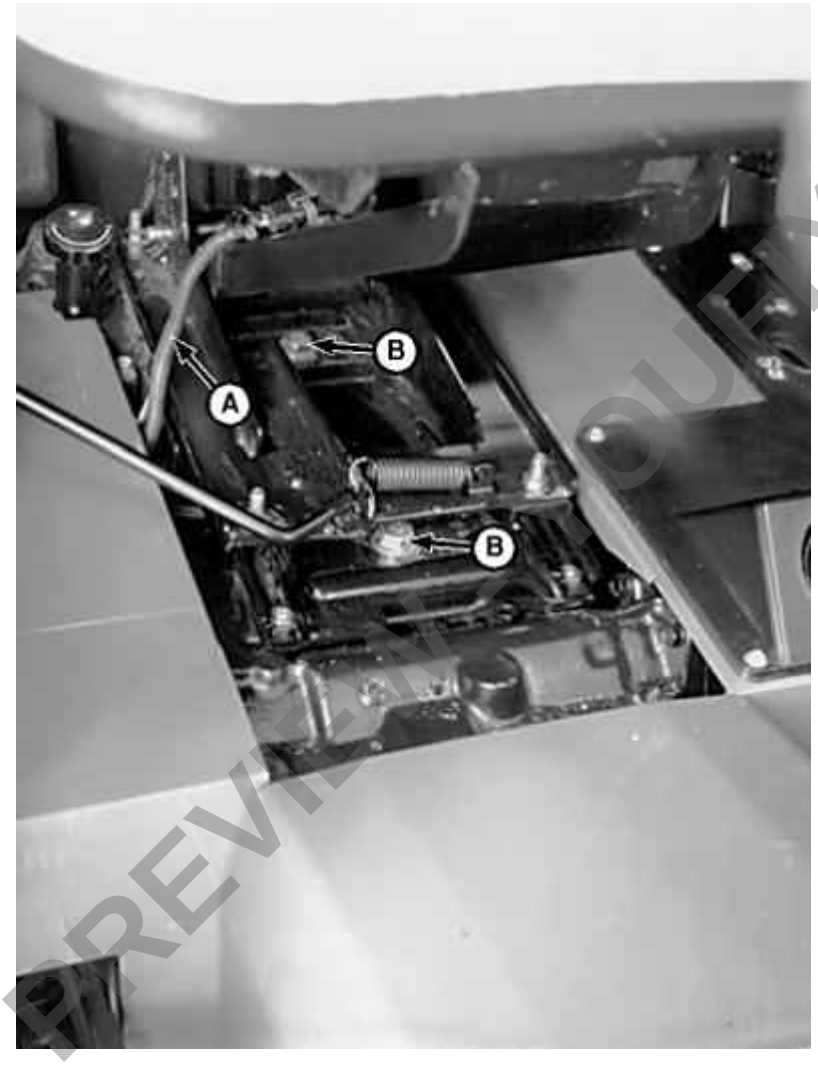
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Group 05 - Seat and Support

Remove and Install Seat and Support—Reference Listing

- Remove and Install Seat and Support—OOS
- Remove and Install Seat and Support—Cab

Remove and Install Seat and Support—OOS



Seat and Support

[1] - Disconnect wiring connector (A).

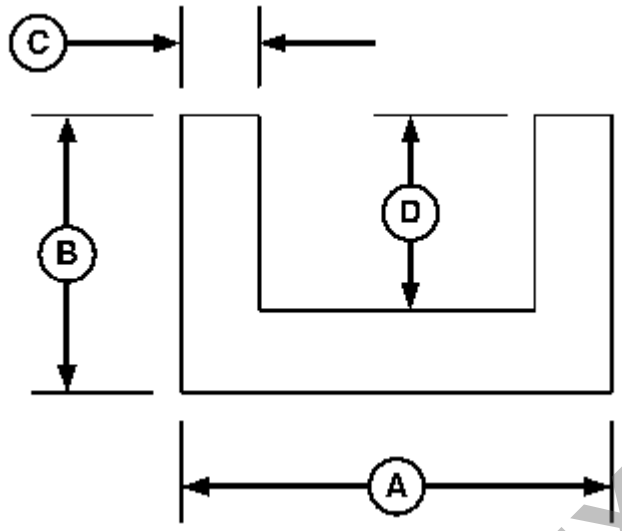
[2] - Remove cap screws (B).

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Group 00 - Dealer Fabricated Tools

PTO Clutch Finger Height Gauge



PTO Clutch Finger Height Gauge

Table

PTO Clutch Finger Height Gauge	JDG826

Measures PTO clutch finger height.

Fabrication Specifications

FABRICATION SPECIFICATIONS

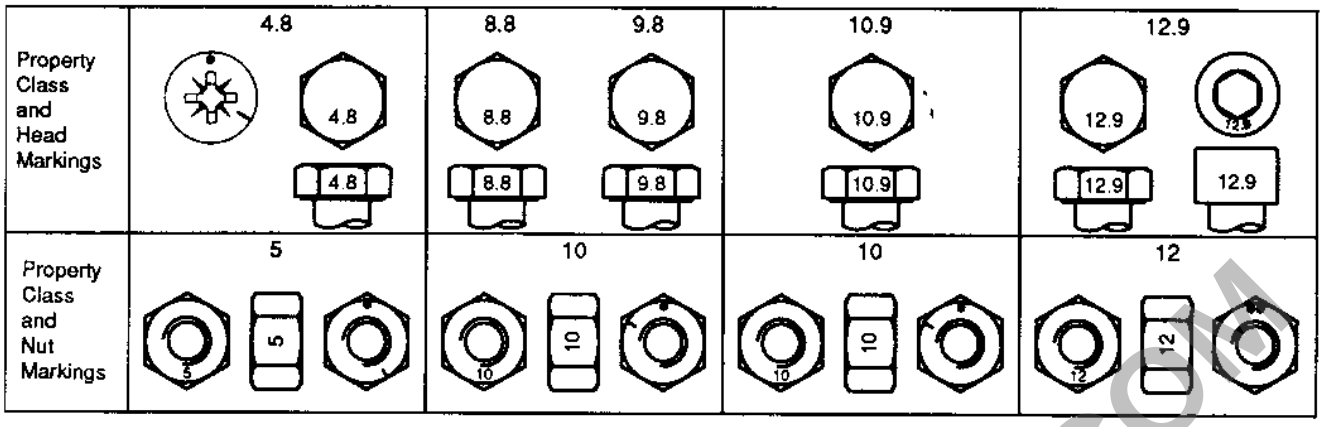
Plate Minimum Thickness	1.587 mm (0.0625 in.)
- Dimension (A)	124.617 mm (4.906 in.)
- Dimension (B)	65.087 mm (2.562 in.)
- Dimension (C)	19.842 mm (0.781 in.)
- Dimension (D)	41.275 mm (1.625 in.)

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Size	Class 4.8				Class 8.8 or 9.8				Class 10.9				Class 12.9			
	Lubricated[a]		Dry[a]		Lubricated[a]		Dry[a]		Lubricated[a]		Dry[a]		Lubricated[a]		Dry[a]	
	N·m	lb-ft	N·m	lb-ft	N·m	lb-ft	N·m	lb-ft	N·m	lb-ft	N·m	lb-ft	N·m	lb-ft	N·m	lb-ft
M6	4.8	3.5	6	4.5	9	6.5	11	8.5	13	9.5	17	12	15	11.5	19	14.5
M8	12	8.5	15	11	22	16	28	20	32	24	40	30	37	28	47	35
M10	23	17	29	21	43	32	55	40	63	47	80	60	75	55	95	70
M12	40	29	50	37	75	55	95	70	110	80	140	105	130	95	165	120
M14	63	47	80	60	120	88	150	110	175	130	225	165	205	150	260	190
M16	100	73	125	92	190	140	240	175	275	200	350	255	320	240	400	300
M18	135	100	175	125	260	195	330	250	375	275	475	350	440	325	560	410
M20	190	140	240	180	375	275	475	350	530	400	675	500	625	460	800	580
M22	260	190	330	250	510	375	650	475	725	540	925	675	850	625	1075	800
M24	330	250	425	310	650	475	825	600	925	675	1150	850	1075	800	1350	1000
M27	490	360	625	450	950	700	1200	875	1350	1000	1700	1250	1600	1150	2000	1500
M30	675	490	850	625	1300	950	1650	1200	1850	1350	2300	1700	2150	1600	2700	2000
M33	900	675	1150	850	1750	1300	2200	1650	2500	1850	3150	2350	2900	2150	3700	2750
M36	1150	850	1450	1075	2250	1650	2850	2100	3200	2350	4050	3000	3750	2750	4750	3500

DO NOT use these values if a different torque value or tightening procedure is given for a specific application. Torque values listed are for general use only. Check tightness of fasteners periodically.

Shear bolts are designed to fail under predetermined loads. Always replace shear bolts with identical property class.

Fasteners should be replaced with the same or higher property class. If higher property class fasteners are used, these should only be tightened to the strength of the original.

[a] "Lubricated" means coated with a lubricant such as engine oil, or fasteners with phosphate and oil coatings. "Dry" means plain or zinc plated without any lubrication.

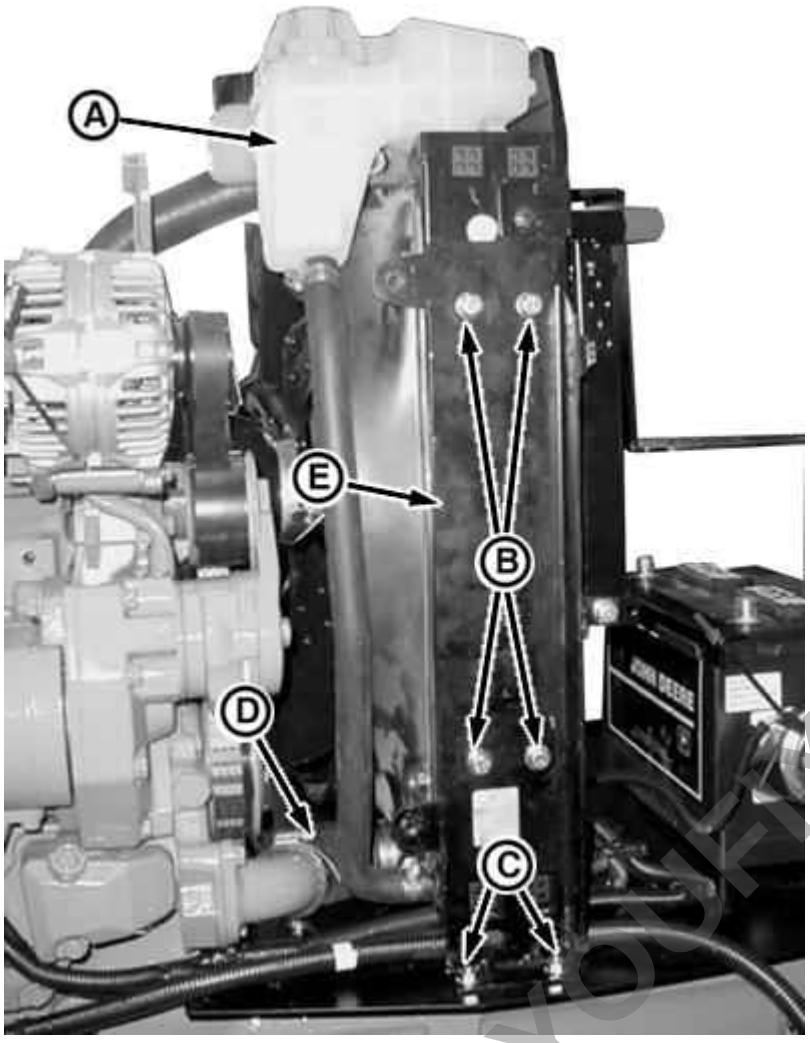
Make sure fasteners threads are clean and that you properly start thread engagement. This will prevent them from failing when tightening.

Tighten plastic insert or crimped steel-type lock nuts to approximately 50 percent of the dry torque shown in the chart, applied to the nut, not to the bolt head. Tighten toothed or serrated-type lock nuts to the full torque value.

Metric Torque Values

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Remove Radiator

LEGEND:

A	Recovery Tank
B	Cap Screws (8 used)
C	Cap Screws (4 used)
D	Lower Radiator Hose
E	Radiator Support

Remove recovery tank (A). (See " Remove and Install Coolant Recovery Tank " in Section 20, Group 10.)

[9] - Loosen lower radiator hose (D) at coolant pump.

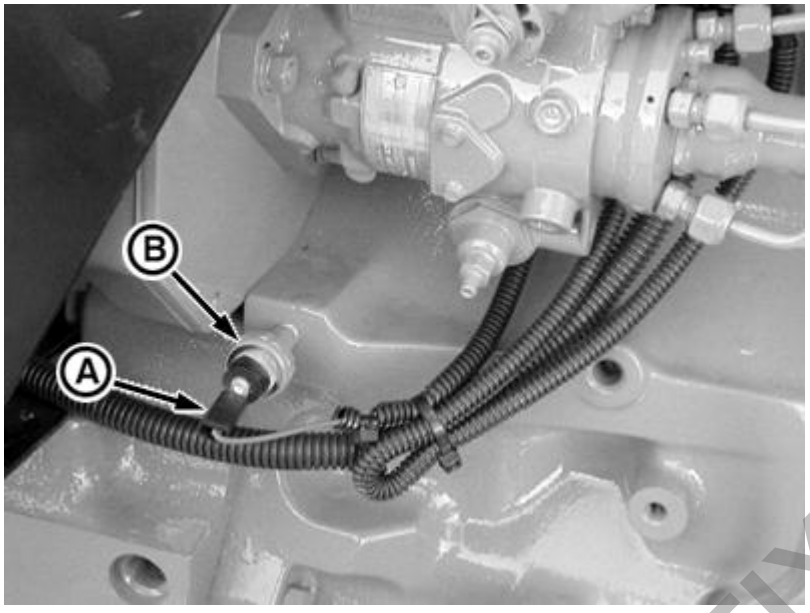
[10] - Remove four cap screws (B), two cap screws (C), and radiator support (E) from both sides.

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Replace Engine Oil Pressure Switch

[1] -



Engine Oil Pressure Switch

LEGEND:

A Wire Connector
B Engine Oil Pressure Switch

Disconnect wire connector (A).

[2] -

→NOTE:

JDG465 Special Socket may be used to replace switch.

Remove engine oil pressure switch (B).

[3] - Apply thread lock and sealer (medium strength) to threads of new oil pressure switch.

Number	Name	Use
• PM37447 (us) • 242 LOCTITE ™ (loctite)	Thread Lock and Sealer (Medium Strength)	Apply to oil pressure switch threads.

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Replace Trans Forward Solenoid

LEGEND:

- A Cap Screw (2 used)
- B Shield
- C Wire Connector
- D Solenoid

Disconnect battery negative (—) cable.

[2] - Remove cap screws (A) and shield (B).

[3] - Disconnect wire connector (C).

[4] - Remove solenoid (D), valve spool and spring.

[5] - Install solenoid (D), valve spool and spring.

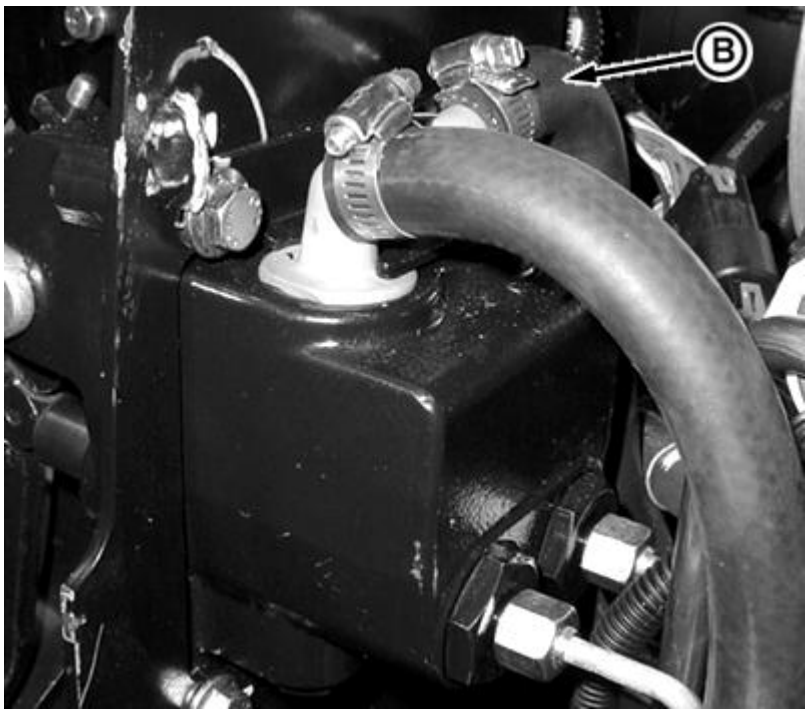
[6] - Connect wire connector (C).

[7] - Install shield (B) and cap screws (A).

[8] - Connect battery negative (—) cable.

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Brake Hose

LEGEND:

A Steering Hose
B Hydraulic Hose

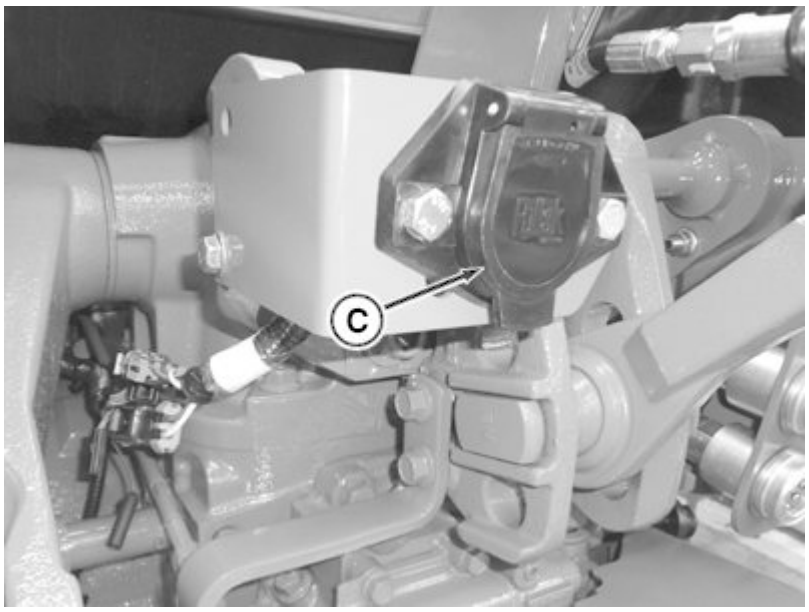
Connect hydraulic hose (B) to brake valve.

[13] - Connect steering hose (A) to steering valve.

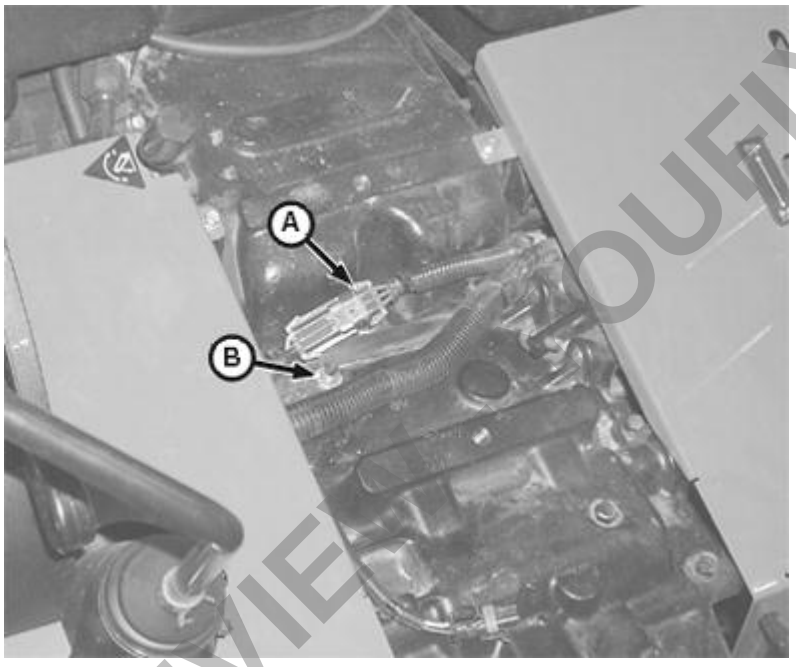
[14] -

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7-Pin Electrical Outlet Connectors



PTO Connector and Ground Lead

LEGEND:

A PTO Switch Connector
B Ground Wire Lead
C 7-Pin Electrical Outlet Connectors

Route rear wire harness to back of tractor.

[13] - Connect 7-pin electrical outlet connectors (C).

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Number	Name	Use
• PM37509 (us) • PM38611 (canadian) • 7649 LOCTITE ™ (loctite)	Cure Primer	Cleans parts and speeds cure of sealant used between mating surfaces of final drive and differential casings.

Number	Name	Use
• PM38657 (us) • PM38628 (canadian) • 515 LOCTITE ™ (loctite)	Flexible Form-In-Place Gasket	Apply between mating surfaces of final drive and differential casings.

[13] - Install final drive assembly. Tighten cap screws to specification.

Item	Measurement	Specification
Final Drive Assembly Cap Screw	Torque	128 N˙m (94 lb-ft)

IMPORTANT:

Always use new O-rings. Damaged or used O-rings will leak.

[14] - Install new O-rings and connect hydraulic lines (A—C), if equipped, and brake supply line (E).

[15] - Connect draft link sway bar.

[16] - Fill transmission with specified transmission/hydraulic oil. (See " Transmission and Hydraulic Oil " in Section 10, Group 20.)

[17] - Bleed brakes. (See 5076E, 5076EL, 5082E, 5090E, 5090EL,and 5090EH Tractors DiagnosticTechnical Manual)

[18] - Tractors without cab: Install ROLL-GARD. (See " Remove and Install Roll-Gard™—Reference Listing " in Section 90, Group 10.)

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⚠ CAUTION:

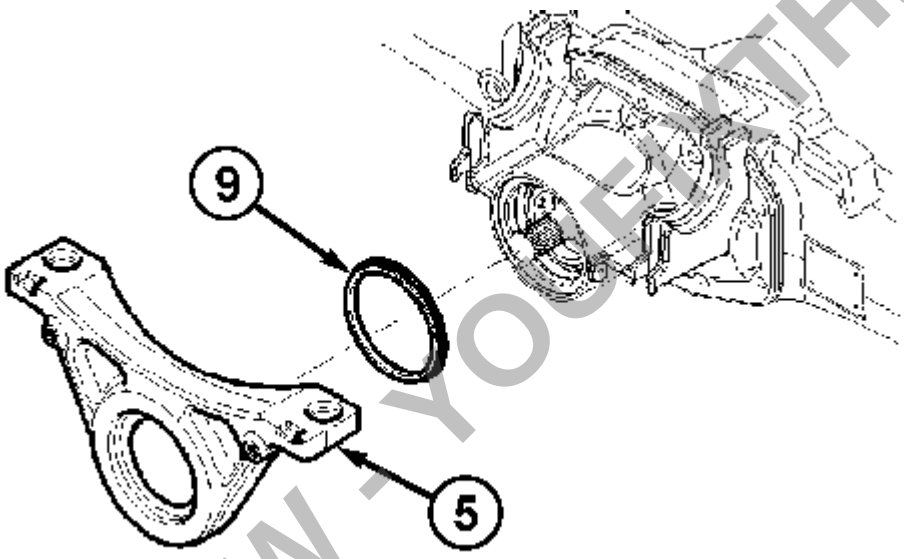
Wear heat-resistant gloves.

IMPORTANT:

Overheating will damage the bearing bushing.

Coat bushings (6) with LOCTITE ™ 510 (liquid sealant) and press them into rear bearing support (5) using an aluminium- or copper-headed hammer.

[9] -



LX1032473

Installing a seal ring

Apply oil to seal ring (9) and press it into the differential carrier with its sealing lip facing outward. Use special tool KJD10411.

Then install bearing support (5) in the axle housing.

[10] -

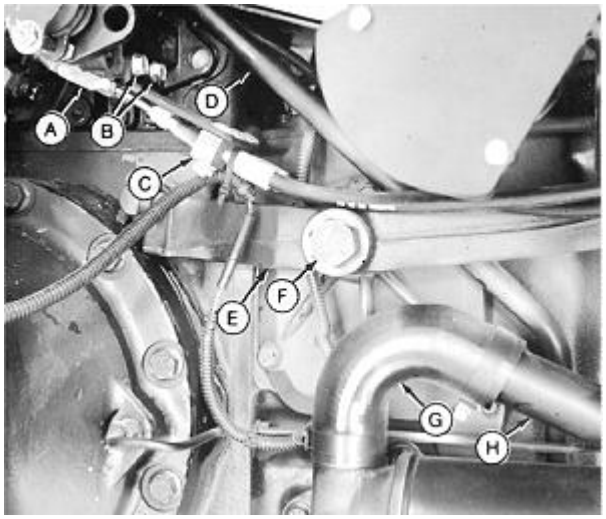
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[11] - Clean mating surface of creeper assembly and transmission case using Clean and Cure Primer. Apply a coat of Flexible Sealant to mating surfaces.

[12] - Install creeper assembly and cap screws. Tighten cap screws to 50 N·m (37 lb-ft).

[13] -



Creeper Assembly

LEGEND:

A	Clevis Lock Pins
B	Cap Screws
C	Cable Assembly
D	Inlet Housing Hydraulic Line
E	Differential Lock Pedal
F	Shoulder Bolt
G	Hose Elbow
H	Suction Line

Connect hydraulic line (D).

[14] - Install hose elbow (G).

[15] - Install suction line (H) hold-down bracket.

[16] - Install pedal (E) and shoulder bolt (F).

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[2] - Inspect hydraulic lines and hoses for wear or damage. Replace as necessary.

IMPORTANT:

Replace all O-rings. Damaged or used O-rings will leak.

[3] - Install dash panels.

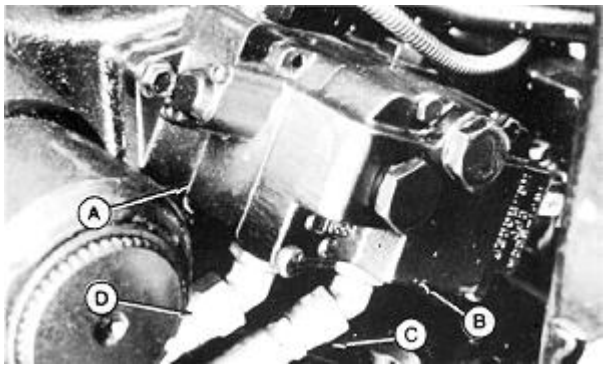
[4] - Bleed brakes.

[5] - Check transmission/hydraulic oil level, add fluid if necessary.

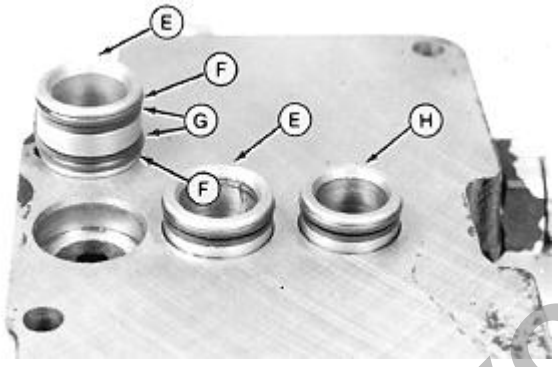
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Remove and Install Single Selective Control Valve (SCV)



Single Selective Control Valve (SCV)



Single Selective Control Valve (SCV)

LEGEND:

- A Selective Control Valve
- B End Plate
- C SCV-to-Top Rear Outlet Hose
- D SCV-to-Bottom Rear Outlet Hose
- E Large Tubes
- F O-Rings (6 used)
- G Square Cut Seals (6 used)
- H Small Tube

[1] - Open rate-of-drop valve and lower rockshaft arms.

[2] - Move SCV lever back and forth.

[3] - Remove right-hand rear wheel and fender.

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Y Stabilizer Bracket Cap Screw (2 used)

[1] - Inspect draft link assembly for wear or damage. Replace as necessary.

[2] - Tighten draft link support cap screws (F) to specification.

Item	Measurement	Specification
Draft Link Support Cap Screw	Torque	200 N˙m (148 lb-ft)

[3] - Tighten stabilizer bracket cap screws (Y) to specification.

Item	Measurement	Specification
Stabilizer Bracket Cap Screw (Telescoping Draft Links)	Torque	300 N˙m (221 lb-ft)

Inspect and Repair Lift Link—Reference Listing

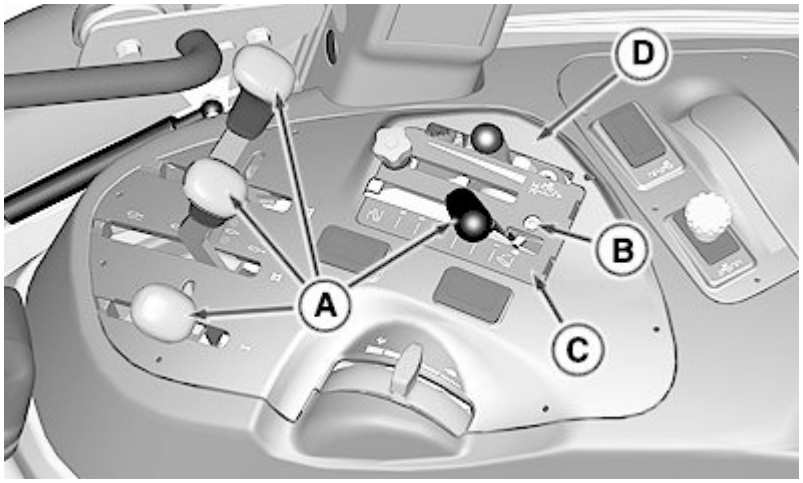
- Inspect and Repair Standard Lift Link
- Inspect and Repair Adjustable Lift Link

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Remove and Install Right-Side Control Console

[1] -



Right-Hand Console

LEGEND:

A	Knobs (4 used)
B	Cap Screw
C	Cover
D	Panel

Remove knobs (A).

[2] - Remove cap screw (B) and cover (C).

[3] - Remove panel (D).

[4] -

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A Hose Clamp (2 used)
B Heater Hoses

Connect heater hoses (B) using hose clamps (A).

[37] - Fill radiator with coolant.

[38] - Fill fuel tank.

[39] - Connect battery, negative (—) cable last.

[40] - Charge air conditioning system. (See “ Charge Air Conditioning System ” in Section 90, Group 20.)

[41] -

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