John Deere Agriculture

6100D, 6110D, 6115D, 6125D, 6130D & 6140D
Tractor Repair Technical Service Manual
(November 2011)

REPAIR MANUAL

6100D, 6110D, 6115D, 6125D, 6130D & 6140D

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TM605019, December 2011

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Group 05 - Safety

Recognize Safety Information



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







A signal word—DANGER, WARNING, or CAUTION—is used with the safety-alert symbol. DANGER identifies the most serious hazards.

DANGER or WARNING safety signs are located near specific hazards. General precautions are listed on CAUTION safety signs. CAUTION also calls attention to safety messages in this

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Group 10 - Specifications

General Specifications

→NOTE:

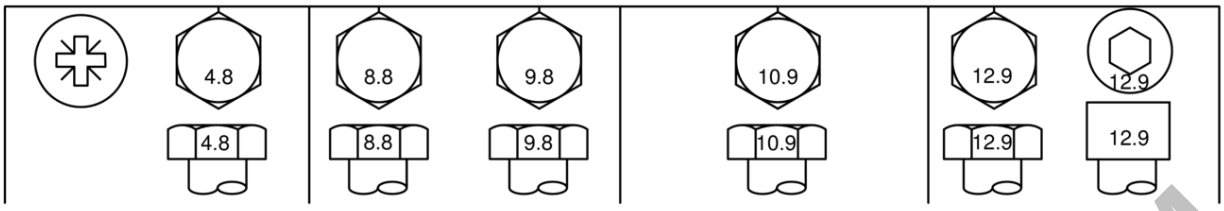
Specifications and design subject to change without notice.

Tractor Model	6100D	6110D	6115D	6125D	6130D	6140D
ENGINE						
Engine Model	4045T [Tier 1] 4045H [Tier 3/Stage IIIa]	4045T	4045H	4045H	4045H	4045H
Engine Type	PowerTech ™ [Tier 1] PowerTech ™ E [Tier 3/Stage IIIa]	PowerTech ™	PowerTech ™ E	PowerTech ™	PowerTech ™ E	PowerTech ™ E
Engine Emission Information	Tier 0 Non-certified (PowerTech) engines can be identified by letter ”B” within the engine serial number. Example is PE4045BXXXXXX Tier 1 Emission certified (PowerTech) engines can be identified by letter ”C, E or F” within the engine serial number. Example is PE4045CXXXXXX Tier 3 Emission certified (PowerTech E) engines can be identified by letter ”L, M, N or P” within the engine serial number. Example is PE4045LXXXXXX **→NOTE:** **For additional engine information see relevant engine CTM.**					
Engine Horsepower 97/68/EC ps [Unit of German origin for horse strength similar to English ”horse power”] @ Rated Speed	72.7 kW (98.9 hp)	79 kW (106 hp)	87 kW (118.4 hp)	91.8 kW (123 hp)	95.4 kW (129.8 hp)	101.3 kW (137.8 hp)
Aspiration	Turbocharged [Tier 1] Turbocharged, intercooled [Tier 3/Stage IIIa]	Turbocharged	Turbocharged, intercooled	Turbocharged, intercooled	Turbocharged, intercooled	Turbocharged, intercooled
PTO Horsepower (Factory Observed)	61.1 kW (82 hp)	67.1 kW (90 hp)	70.8 kW (95 hp)	78.3 kW (105 hp)	78.3 kW (105 hp)	85.8 kW (115 hp)
Rated Engine Speed	2100 rpm					
Cylinders	4					
Bore	106 mm (4.19 in.)					
Stroke	127 mm (5.0 in.)					
Displacement	4.5 L (276 cu in.)					
Compression	17.0:1	17.0:1	17.0:1	17.0:1	19.0:1	19.0:1
Firing Order	1-3-4-2					

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Metric Bolt and Screw Torque Values



Bolt or Screw Size	Class 4.8				Class 8.8 or 9.8				Class 10.9				Class 12.9			
	Lubricated ["Lubricated" means coated with a lubricant such as engine oil, fasteners with phosphate and oil coatings, or M20 and larger fasteners with JDM F13C, F13F or F13J zinc flake coating.]		**Dry** ["Dry" means plain or zinc plated without any lubrication, or M6 to M18 fasteners with JDM F13B, F13E or F13H zinc flake coating.]		**Lubricated** ["Lubricated" means coated with a lubricant such as engine oil, fasteners with phosphate and oil coatings, or M20 and larger fasteners with JDM F13C, F13F or F13J zinc flake coating.]		**Dry** ["Dry" means plain or zinc plated without any lubrication, or M6 to M18 fasteners with JDM F13B, F13E or F13H zinc flake coating.]		**Lubricated** ["Lubricated" means coated with a lubricant such as engine oil, fasteners with phosphate and oil coatings, or M20 and larger fasteners with JDM F13C, F13F or F13J zinc flake coating.]		**Dry** ["Dry" means plain or zinc plated without any lubrication, or M6 to M18 fasteners with JDM F13B, F13E or F13H zinc flake coating.]		**Lubricated** ["Lubricated" means coated with a lubricant such as engine oil, fasteners with phosphate and oil coatings, or M20 and larger fasteners with JDM F13C, F13F or F13J zinc flake coating.]		**Dry** ["Dry" means plain or zinc plated without any lubrication, or M6 to M18 fasteners with JDM F13B, F13E or F13H zinc flake coating.]	
	N˙m	**lb.-in.**	**N˙m**	**lb.-in.**	**N˙m**	**lb.-in.**	**N˙m**	**lb.-in.**	**N˙m**	**lb.-in.**	**N˙m**	**lb.-in.**	**N˙m**	**lb.-in.**	**N˙m**	**lb.-in.**
M6	4.7	42	6	53	8.9	79	11.3	100	13	115	16.5	146	15.5	137	19.5	172
									N˙m	**lb.-ft.**	**N˙m**	**lb.-ft.**	**N˙m**	**lb.-ft.**	**N˙m**	**lb.-ft.**
M8	11.5	102	14.5	128	22	194	27.5	243	32	23.5	40	29.5	37	27.5	47	35
			N˙m	**lb.-ft.**	**N˙m**	**lb.-ft.**	**N˙m**	**lb.-ft.**								
M10	23	204	29	21	43	32	55	40	63	46	80	59	75	55	95	70
	N˙m	**lb.-ft.**														
M12	40	29.5	50	37	75	55	95	70	110	80	140	105	130	95	165	120
M14	63	46	80	59	120	88	150	110	175	130	220	165	205	150	260	190
M16	100	74	125	92	190	140	240	175	275	200	350	255	320	235	400	300
M18	135	100	170	125	265	195	330	245	375	275	475	350	440	325	560	410
M20	190	140	245	180	375	275	475	350	530	390	675	500	625	460	790	580
M22	265	195	330	245	510	375	650	480	725	535	920	680	850	625	1080	800
M24	330	245	425	315	650	480	820	600	920	680	1150	850	1080	800	1350	1000
M27	490	360	625	460	950	700	1200	885	1350	1000	1700	1250	1580	1160	2000	1475
M30	660	490	850	625	1290	950	1630	1200	1850	1350	2300	1700	2140	1580	2700	2000
M33	900	665	1150	850	1750	1300	2200	1625	2500	1850	3150	2325	2900	2150	3700	2730
M36	1150	850	1450	1075	2250	1650	2850	2100	3200	2350	4050	3000	3750	2770	4750	3500

Torque values listed are for general use only, based on the strength of the bolt or screw. DO NOT use these values if a different torque value or tightening procedure is given for a specific application. For stainless steel fasteners or for nuts on U-bolts, see the tightening instructions for the specific application. Tighten plastic insert or crimped steel type lock nuts by turning the nut to the dry torque shown in the chart, unless different instructions are given for the specific application.

Shear bolts are designed to fail under predetermined loads. Always replace shear bolts with identical property class. Replace fasteners with the same or higher property class. If higher property class fasteners are used, tighten these to the strength of the original. Make sure fastener threads are clean and that you properly start thread engagement. When possible, lubricate plain or zinc plated fasteners other than lock nuts, wheel bolts or wheel nuts, unless different instructions are given for the specific application.

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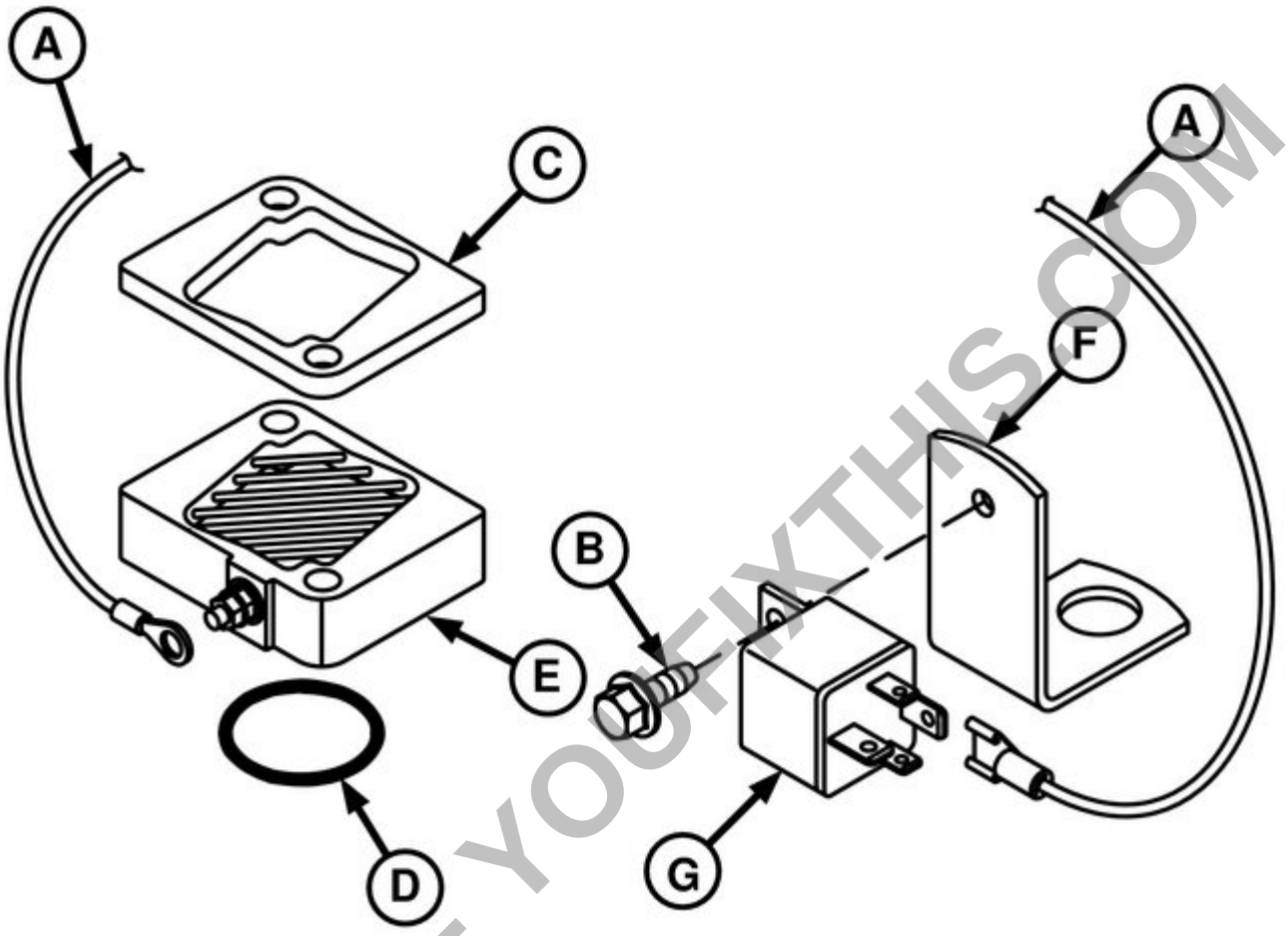
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Tractor Model	**6100D**	**6110D**	**6115D**	**6125D**	**6130D**	**6140D**
Transmission Pump Capacity (2100 rpm)	26.3 L/min (6.9 gpm)					
Hitch Lift Capacity at Hitch Point	3469 kg (7649 lb)					
Hitch Lift Capacity at 610 mm (24 in.)	3150 kg (6946 lb)					
SELECTIVE CONTROL VALVE (SCV)						
One Standard SCV	N/A	In Base	N/A	In Base	N/A	N/A
Two Standard SCV	In Base	N/A	In Base	N/A	In Base	In Base
Three Deluxe SCV	Optional	Optional	Optional	Optional	Optional	Optional
THREE-POINT HITCH						
Type	Category II					
Fixed Draft Links	In Base					
Telescopic Draft Links	Optional	N/A	Optional	N/A	Optional	Optional
DRAIN AND REFILL CAPACITIES						
Fuel Tank	158 L (41.7 gal)					
Cooling System	16.5 L (17.4 qt)					
Crankcase, including filter	15 L (16 qt)					
Transmission Case	58 L (15.3 gal)					
MFWD Axle Housing	6.5 L (6.9 qt)					
MFWD Wheel Hub (Each Side)	2 L (2.1 qt)					
OPERATOR SEAT						
OOS						
Mexico Standard	N/A	In Base	N/A	In Base	N/A	N/A
Mexico Upgrade	N/A	Optional	N/A	Optional	N/A	N/A
Vinyl Seat, Mechanical Suspension with Operator Presence Switch	In Base	N/A	In Base	N/A	In Base	In Base
Cab						
Fabric Seat, Mechanical Suspension, Adjustable with Operator Presence Switch	In Base	In Base	In Base	In Base	In Base	In Base
Fabric Seat, Air Suspension, Adjustable with Operator Presence Switch	Optional	N/A	Optional	N/A	Optional	Optional

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Manifold Heater and Relay—Exploded View (If Equipped)



LEGEND:

A	Wire Lead
B	Cap Screw
C	Gasket
D	O-Ring
E	Heater
F	Bracket
G	Relay

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Remove and Install Engine

[1] -

CAUTION:



Escaping fluid under pressure can penetrate the skin causing serious injury. Avoid the hazard by relieving pressure before disconnecting hydraulic or other lines. Tighten all connections before applying pressure. Search for leaks with a piece of cardboard. Protect hands and body from high pressure fluids.

If an accident occurs, see a doctor immediately. Any fluid injected into the skin must be surgically removed within a few hours or gangrene may result. Doctors unfamiliar with this type of injury may call the Deere & Company Medical Department in Moline, Illinois, or other knowledgeable medical source.

Park machine on level surface.

[2] - Shut off engine and remove key.

[3] - Block rear tires to prevent tractor movement.

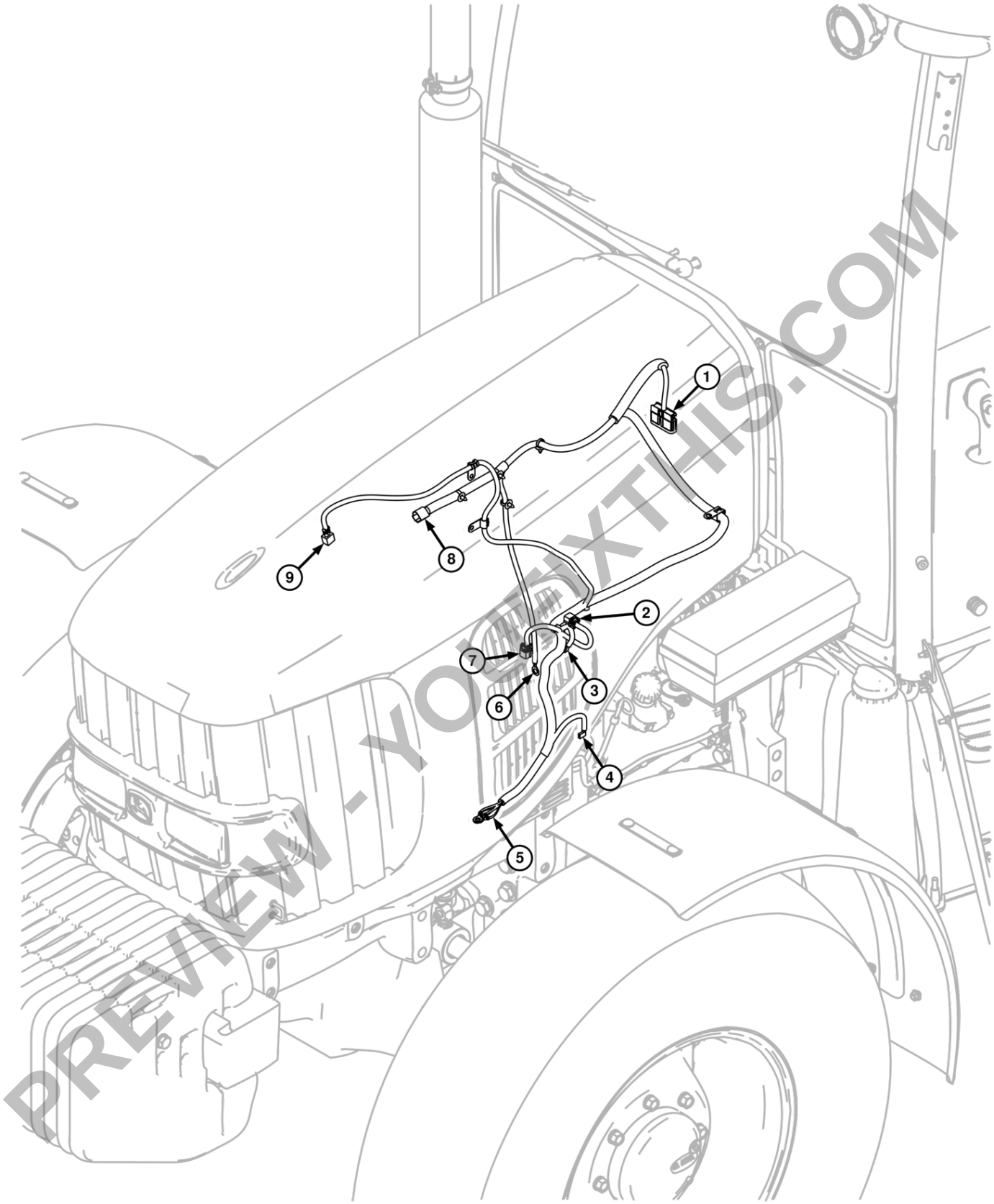
[4] - Relieve hydraulic pressure by operating SCV and hitch control levers.

[5] - Disconnect and remove battery. (See REMOVE AND INSTALL BATTERY in Section 40, Group 05.)

[6] - Remove hood. (See REMOVE AND INSTALL HOOD in Section 80, Group 05.)

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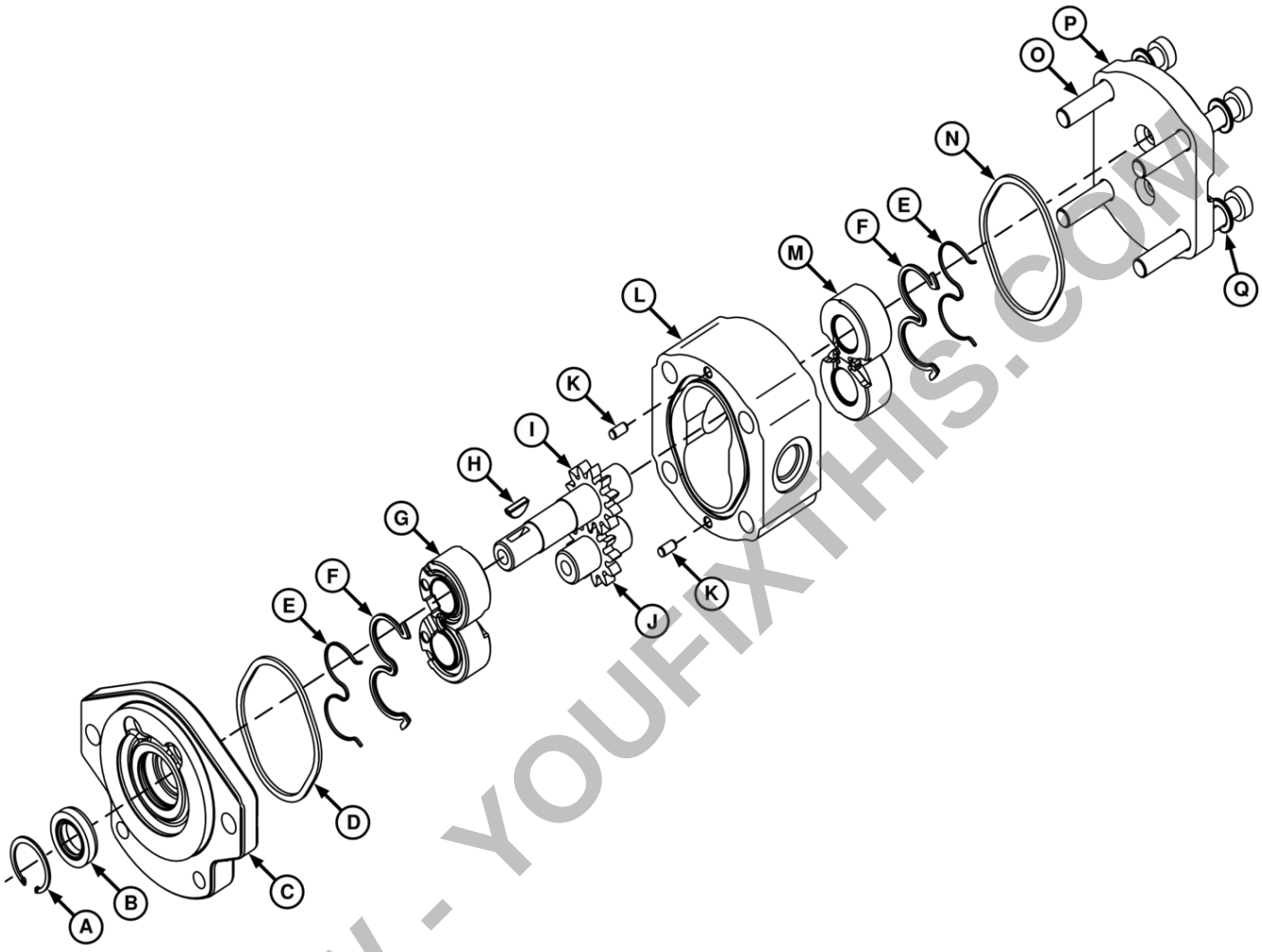
LEGEND:

1	X701 Chassis Connector
2	X709 Coolant Temperature
3	X717 Fuel Flow Solenoid
4	X712 Engine Oil Pressure
5	X720-X722 Ground
6	X704 Starter Solenoid

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Disassemble and Assemble Hydraulic Pump

[1] -



Hydraulic Pump - View

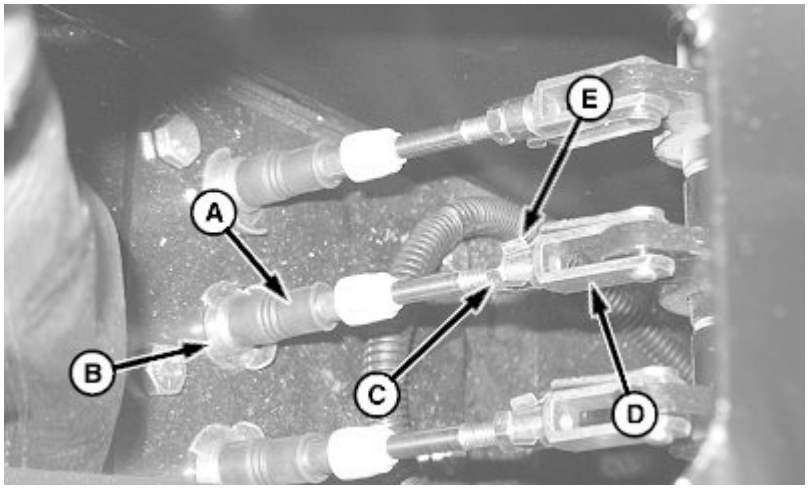
LEGEND:

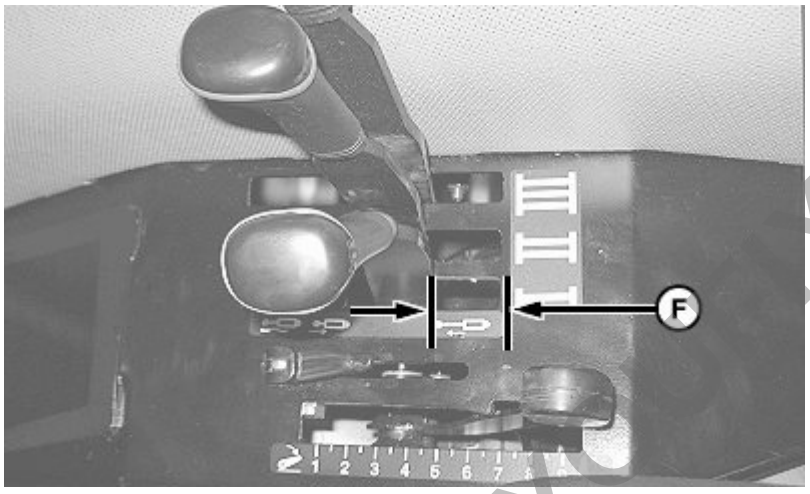
A	Snap Ring
B	Shaft Seal
C	Front Cover
D	Static Seal
E	Anti-Extrusion Seal (2 used)
F	Load Seal (2 used)
G	Bearing Block
H	Key (if equipped)
I	Drive Gear
J	Driven Gear
K	Dowel (2 used)
L	Body
M	Bearing Block
N	Static Seal
O	Cap Screw (4 used)
P	Rear Cover
Q	Washer (4 used)

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[13] -





LEGEND:

A	Cable (1—3 used)
B	Locking Clip
C	Jam Nut
D	Clevis
E	Locking Pin
F	Neutral-to-Stop Distance

Secure cable (A) with locking clip (B).

[14] - Install cable jam nut (C), clevis (D) and locking pin (E).

[15] - Adjust cable using following procedure:

a. Position control lever to Neutral Setting position at console.

b. Measure distance (F) from rear stop. Compare to specification.

Item	Measurement	Specification
Control Neutral-to-Rear Stop	Distance	21—27 mm (0.8—1.1 in.)

c. Adjust clevis (D) if necessary. Secure with jam nut (C) and locking pin (E).

d. Verify adjustment (F) with specification.

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Pressure Test Cooling System and Radiator Cap

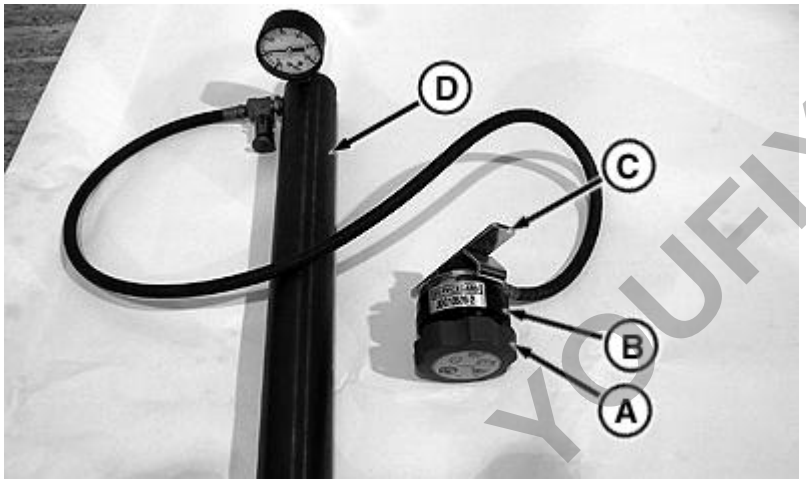
Test Radiator Cap:

[1] -

CAUTION:

Explosive released fluids from pressurized cooling system can cause serious burns.

Shut off engine. Only remove filler cap when cool enough to touch with bare hands. Slowly loosen cap to first stop to relieve pressure before removing completely.



LEGEND:

A	Radiator Cap
B	JDG10539-2 Threaded Adapter
C	JDG839-2 Adapter
D	D05104ST Pressure Tester

Install radiator cap (A) on JDG10539-2 Threaded Adapter (B).

[2] - Install JDG839-2 Adapter (C) on JDG10539-2 Threaded Adapter (B).

[3] - Install D05104ST Pressure Tester (D) on JDG839-2 Adapter (C).

[4] - Pressurize cap and relief should occur close to specification.

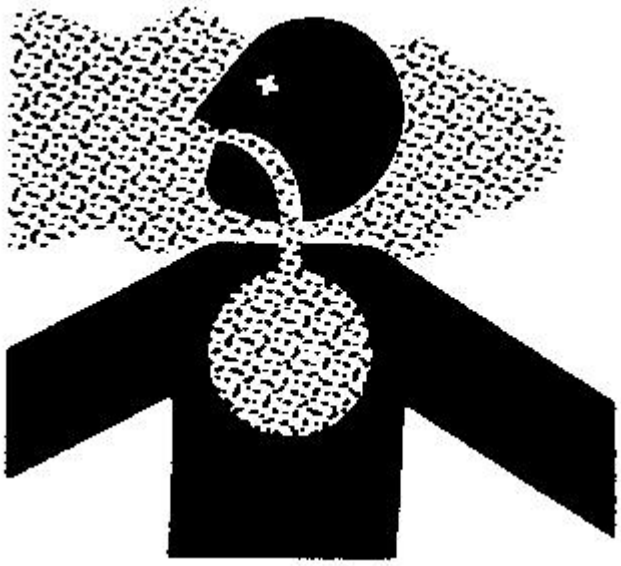
Item	Measurement	Specification
Radiator Cap	Pressure	103 kPa (1 bar) (15 psi)

Test Cooling System:

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Avoid Harmful Asbestos Dust



Avoid breathing dust that may be generated when handling components containing asbestos fibers. Inhaled asbestos fibers may cause lung cancer.

Components in products that may contain asbestos fibers are brake pads, brake band and lining assemblies, clutch plates, and some gaskets. The asbestos used in these components is usually found in a resin or sealed in some way. Normal handling is not hazardous as long as airborne dust containing asbestos is not generated.

Avoid creating dust. Never use compressed air for cleaning. Avoid brushing or grinding material containing asbestos. When servicing, wear an approved respirator. A special vacuum cleaner is recommended to clean asbestos. If not available, apply a mist of oil or water on the material containing asbestos.

Keep bystanders away from the area.

Practice Safe Maintenance

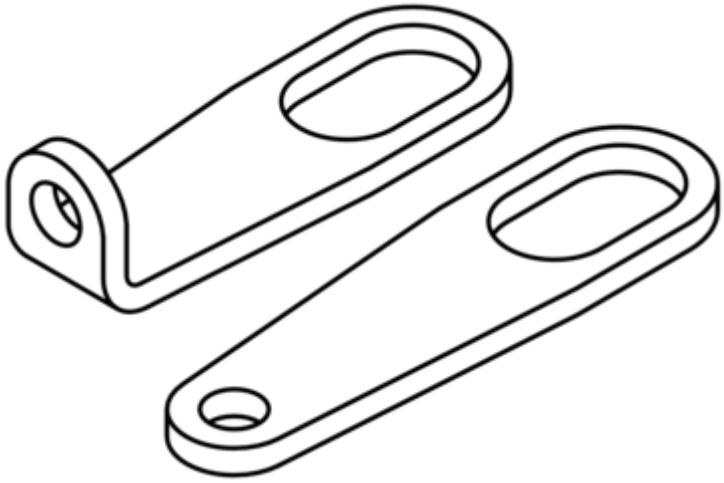
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[Recommended Tool]

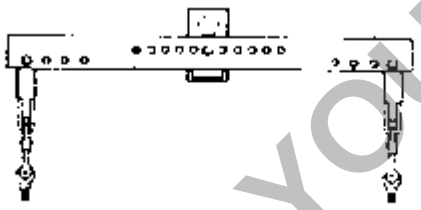


Used for lifting engine.

Engine Lifting Sling

JDG23

[Recommended Tool]



Used for lifting engine.

Other Material

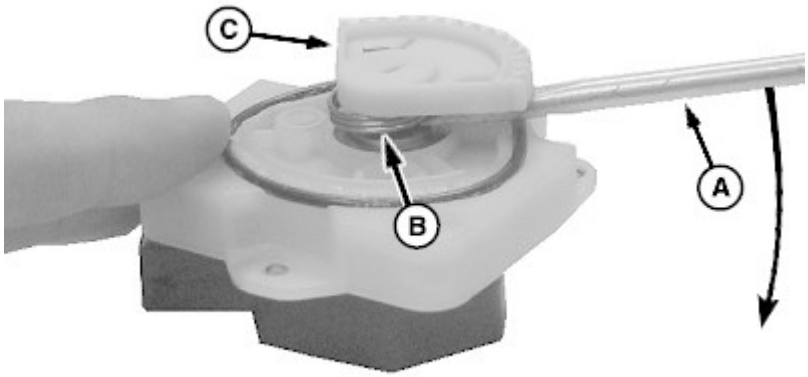
Number	Name	Use
• TY6333 (us)	Special Purpose HD Moly Grease	Lubricate splines on the end of the PTO shaft.
• TY6304 (us) • 515 LOCTITE ™ (loctite)	Flexible Form-In-Place Gasket	To seal oil pan to block.

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[2] - Remove socket head cap screws (A) and potentiometer with gear.

[3] -

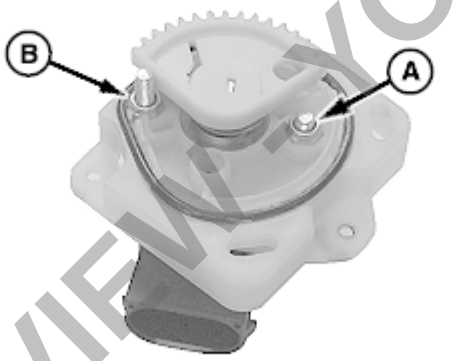


LEGEND:

A	Screwdriver
B	Spring
C	Gear

Using a screwdriver (A), lightly pry under spring (B) in direction shown and remove gear (C).

[4] -



LEGEND:

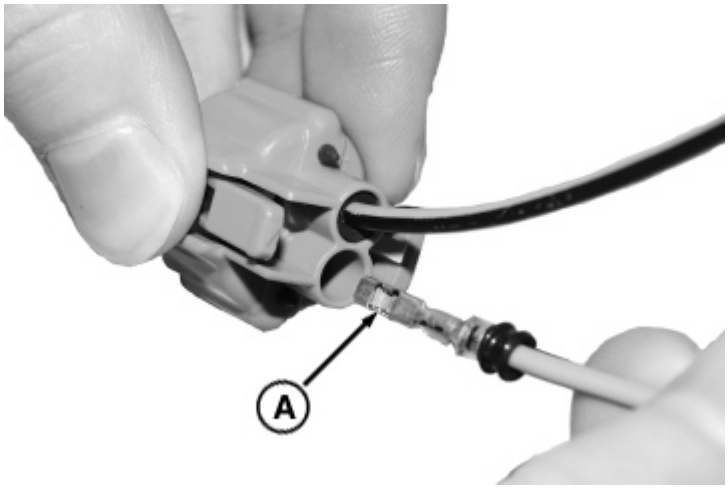
A	Short Screw
B	Long Screw

Remove screws (A and B) and nuts. Separate potentiometer from housing.

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[9] -



LEGEND:

A	Terminal

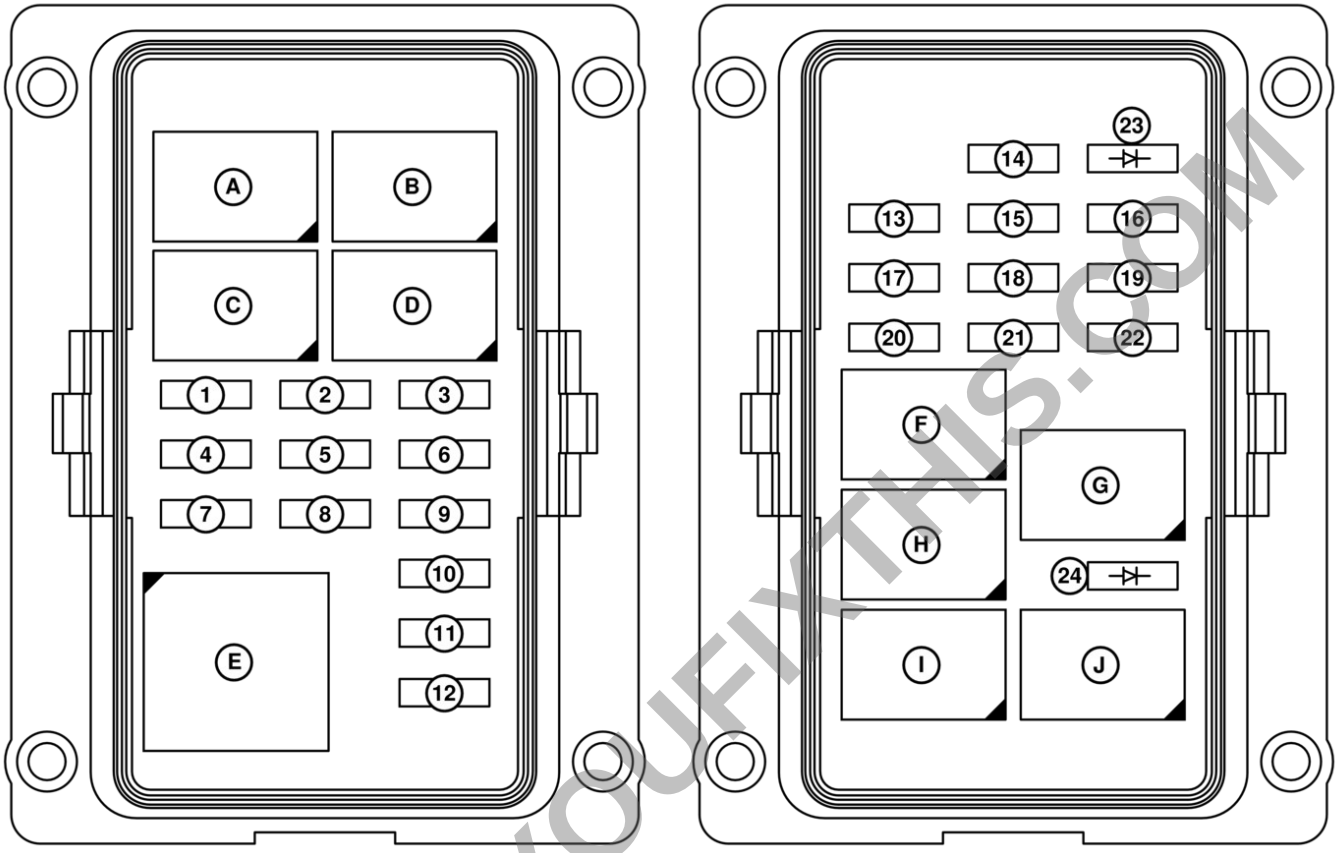
Make sure terminal (A) is positioned correctly for locking tab inside connector.

[10] - Push terminal into connector body socket until terminal locks.

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Load Center Fuses and Relays-OOS (6110D/6125D with Wet Clutch and without Handbrake)



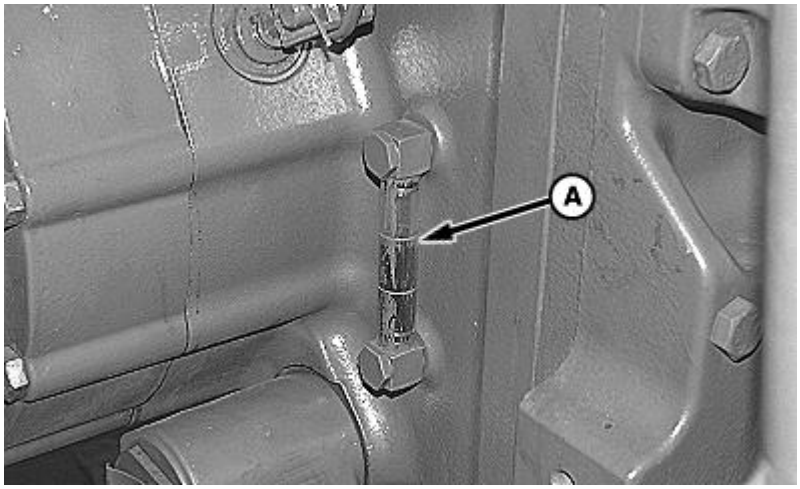
LEGEND:

A	Left Turn Relay (K02)
B	Right Turn Relay (K03)
C	Left Flash Relay (K07)
D	Right Flash Relay (K27)
E	Turn/Hazard Relay (K05)
F	Not Neutral Relay (K16)
G	Transmission Enable Relay (K17)
H	Transmission Controller Switched Power Relay (K24)
I	Fuel Flow Relay (K10)
J	Neutral Latch Relay (K12)
1	Key Switch Fuse (F01) — 30 A
2	ELX Fuse (F02) — 10 A
3	Headlight Fuse (F03) — 15 A
4	Light Switch Fuse (F04) — 20 A
5	Tail, Brake, and Turn Light Fuse (F05) — 15 A
6	Turn Signal Fuse (F06) — 10 A
7	Unswitched Auxiliary Power Fuse (F10) — 30 A
8	Switched Auxiliary Power Fuse (F11) — 30 A
9	7-Pin Outlet Auxiliary Power Fuse (F12) — 30 A
10	Instrument Panel Fuse (F18) — 10 A
11	Rear Work Light Fuse (F07) — 30 A
12	Hazard Light Fuse (F24) — 30 A
13	Seat Switch and Horn Fuse (F28) — 10 A

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[13] -



LEGEND:

A	Sight Glass

Fill transaxle housing until fluid level is visible between two marks on sight glass (A). (See Section 10 for recommended oil.)

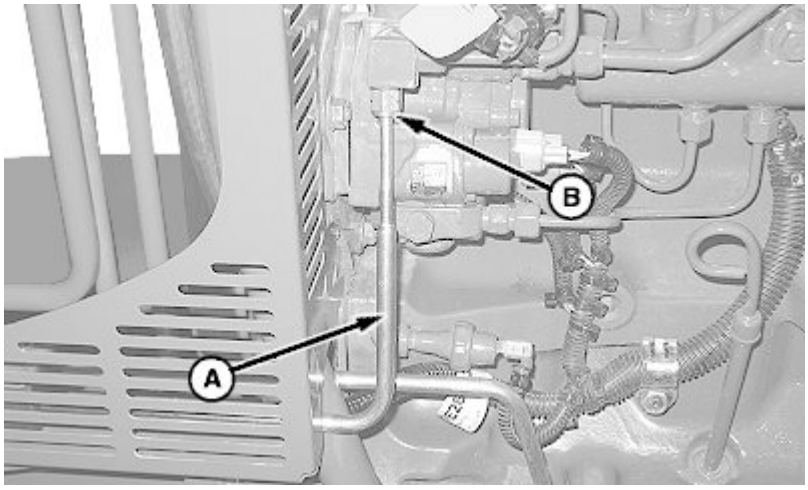
[14] - Start engine and run for five minutes.

[15] - Shut off engine and wait five minutes before rechecking oil level in sight glass.

[16] - Add additional oil as necessary.

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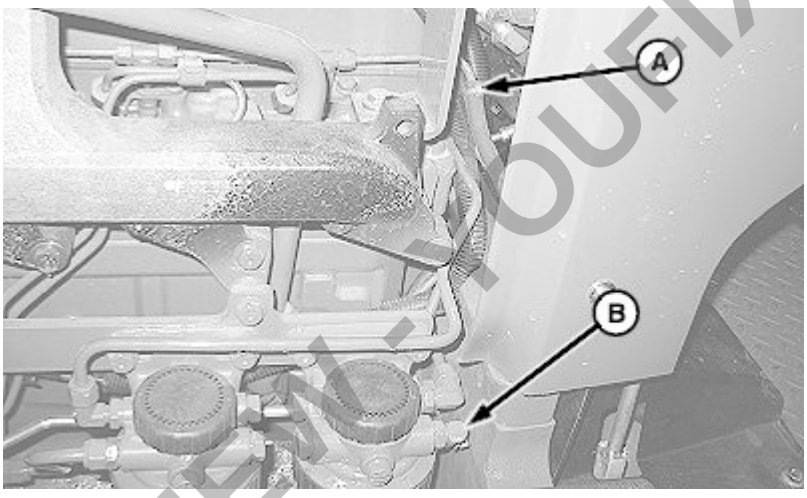
Fuel Cooler Line (6115D, 6130D, 6140D)

LEGEND:

A	Fuel Line
B	Nut

Perform the following steps on left-hand side of tractor:

a.



Fuel Lines (6100D, 6110D, 6125D)

LEGEND:

A	Return Line
B	Fuel Line

Disconnect fuel supply line (B) and return line (A) to engine (if equipped).

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Remove and Install Hydraulic Oil Cooler

[1] - Shut off engine and remove key.

[2] - Allow parts and components to cool to the touch before servicing.

[3] - Disconnect battery and remove from machine.

[4] -

CAUTION:



Escaping fluid under pressure can penetrate the skin causing serious injury. Avoid the hazard by relieving pressure before disconnecting hydraulic or other lines. Tighten all connections before applying pressure. Search for leaks with a piece of cardboard. Protect hands and body from high pressure fluids.

If an accident occurs, see a doctor immediately. Any fluid injected into the skin must be surgically removed within a few hours or gangrene may result. Doctors unfamiliar with this type of injury may call the Deere & Company Medical Department in Moline, Illinois, or other knowledgeable medical source.

Relieve hydraulic pressure by operating SCV and hitch control levers.

[5] -

→NOTE:

Cap and plug all lines and fittings to prevent system contamination and fluid loss.

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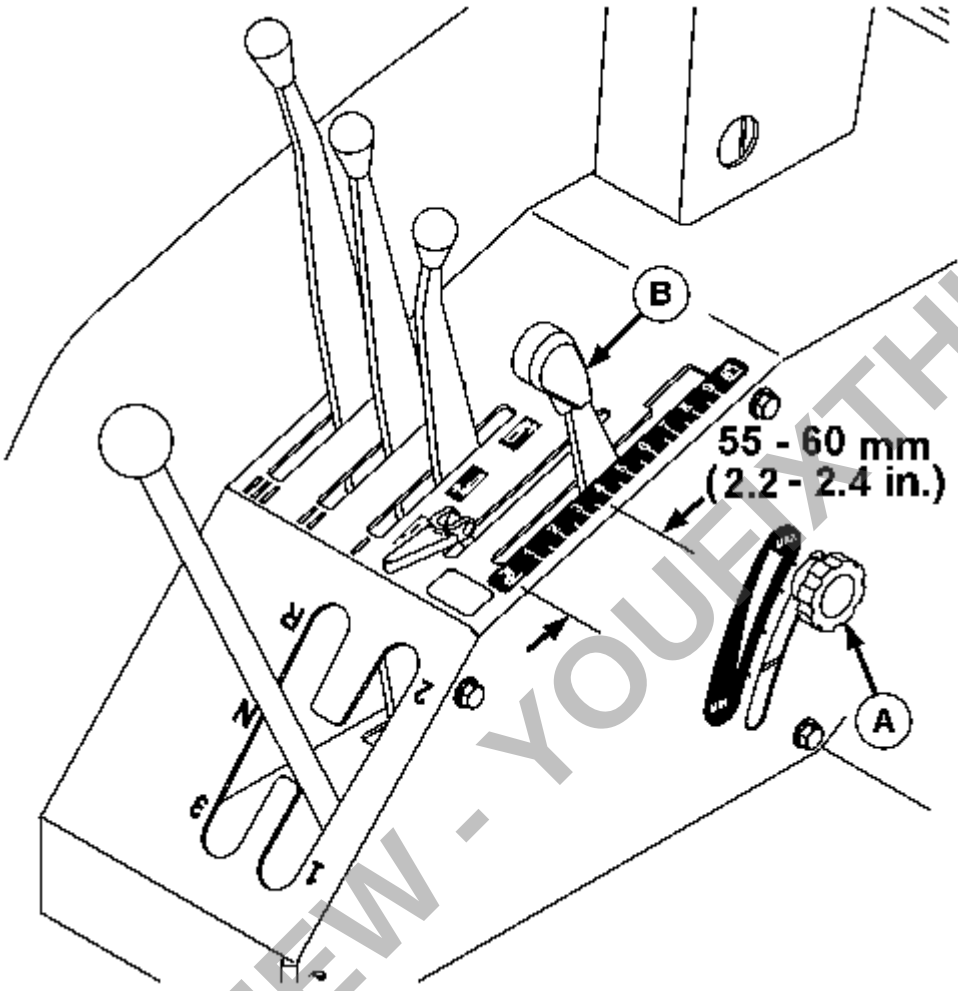
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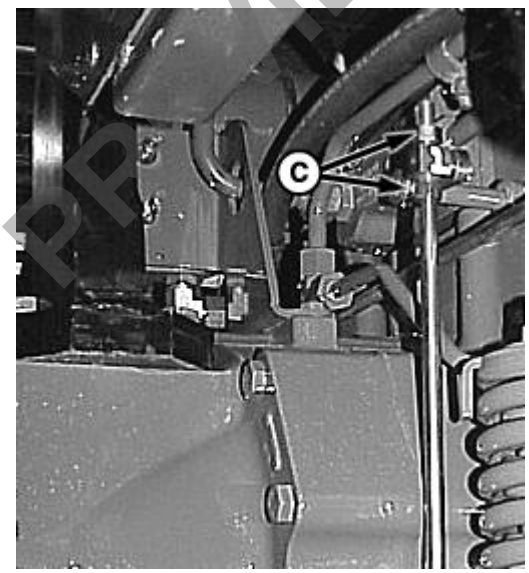
Adjust Load Sense Linkage (Cab Tractors)

[1] -

→NOTE:

The following procedure is done with an empty hitch.



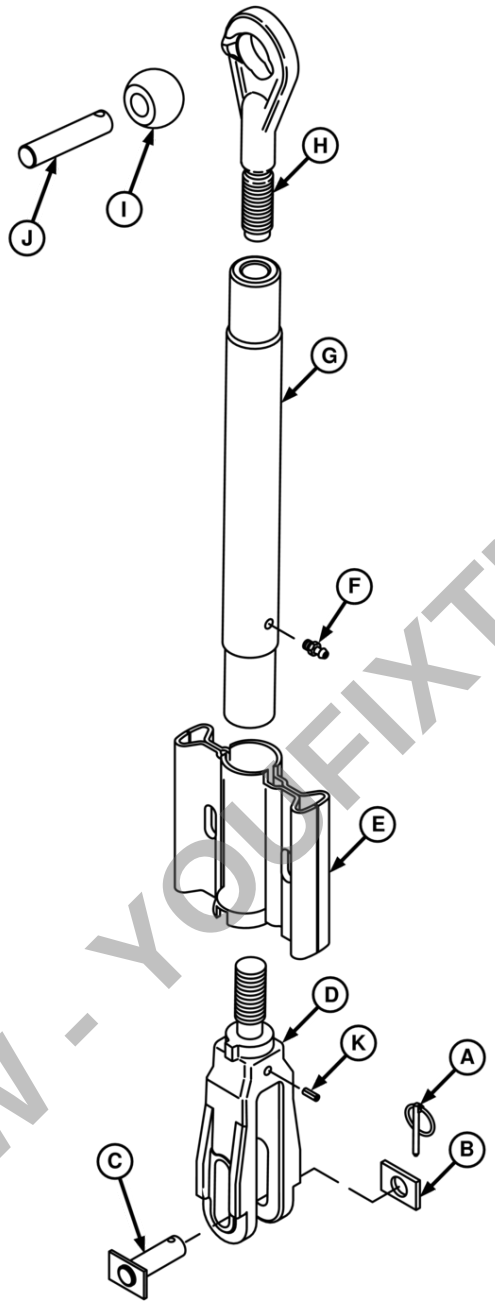


LEGEND:

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Inspect and Repair Adjustable Lift Link



LEGEND:

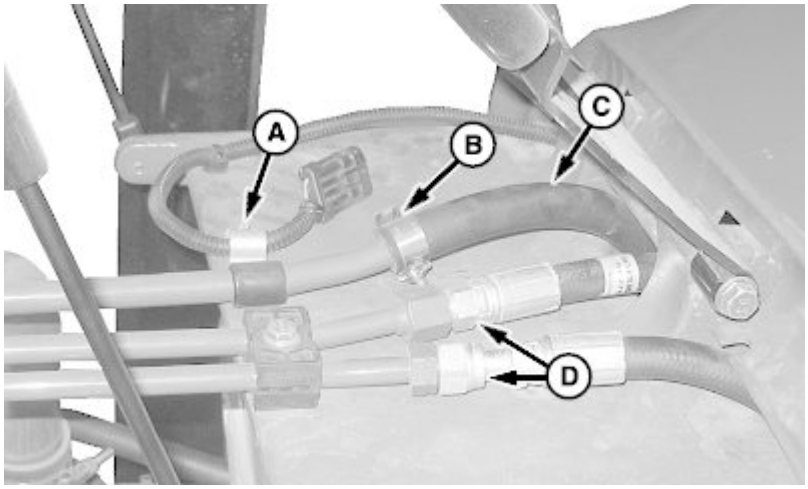
A	Quick-Lock Pin
B	Strap
C	Pin
D	Yoke
E	Handle
F	Lubrication Fitting
G	Link Body
H	Lifting Link
I	Ball
J	Pin
K	Spring Pin

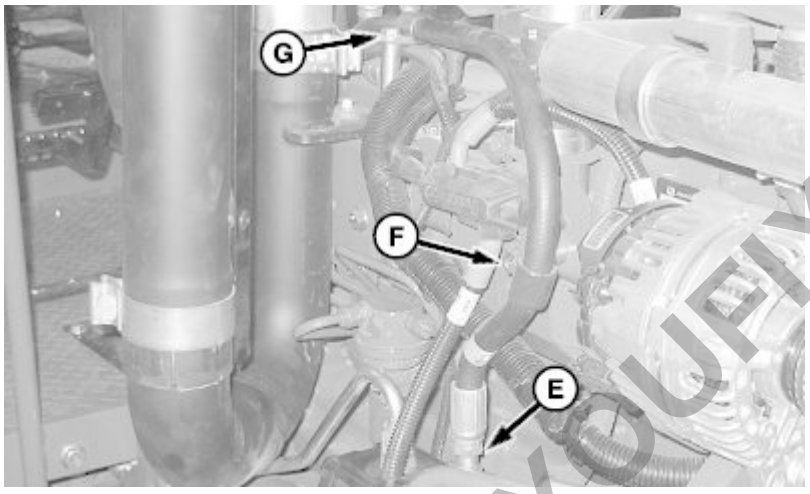
[1] - Remove spring pin (K) using a punch and hammer.

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[11] -





LEGEND:

A	Cap Screw
B	Clamp
C	Steering Hose
D	Steering Hose (2 used)
E	Steering Hose
F	Cap Screw
G	Cap Screw

Connect steering lines (C—E).

[12] - Tighten clamp (B).

[13] - Install cap screw (A, F, and G).

[14] - Install hood. (See REMOVE AND INSTALL HOOD in Section 80, Group 05.)

[15] - Remove lifting device.

[16] - Connect negative (-) battery cable.

[17] - Adjust rockshaft control lever and linkage. (See ADJUST ROCKSHAFT CONTROL LEVER in Section 70, Group 10.)

[18] - Adjust load sense linkage. (See ADJUST LOAD SENSE LINKAGE in Section 70, Group 10.)

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Cap

JT03194

Closes suction port adapter during compressor volumetric efficiency test.

Adapter

JT03197

Attaches return hose and aerator nozzle to receiver-dryer inlet line connection for flushing condenser.

Hose

JT02109

Connects gauge set to discharge port of compressor.

Other Material

Number	Name	Use
• TY22025 (us)	R134a Refrigerant Oil	Used to lubricate O-rings, gaskets, and lip seal during assembly of compressor.
• TY15949 (12 oz) (us) • TY15950 (15 lb) (us) • TY15951 (30 lb) (us)	Refrigerant R134a	Charges the air conditioning system.
• JT02077 (us)	ART338 A/C Flushing Solvent	Used to flush air conditioning system.
• TY22101 (us)	PAG Refrigeration Oil	O-Ring of A/C Lines
	GENESOLV 2004 Solvent ™	Used to flush air conditioning system.
	Naphtha 673 Parts Solvent	Used to flush air conditioning system.

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