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- Possible reduction in water separator efficiency
- Possible damage to paint if exposed to biodiesel
- Possible corrosion of fuel injection equipment
- Possible elastomeric seal and gasket material degradation (primarily an issue with older engines)
- Possible high acid levels within fuel system
- Because biodiesel blends above B20 contain more ash, using blends above B20 can result in more rapid ash loading and require more frequent cleaning of the Exhaust Filter (if present)

IMPORTANT:

Raw pressed vegetable oils are NOT acceptable for use as fuel in any concentration in John Deere engines. Their use could cause engine failure.

Do Not Use Galvanized Containers

IMPORTANT:

Diesel fuel stored in galvanized containers reacts with zinc coating on the container to form zinc flakes. If fuel contains water, a zinc gel will also form. The gel and flakes will quickly plug fuel filters and damage fuel injectors and fuel pumps.

DO NOT use a galvanized container to store diesel fuel.

Store fuel in:

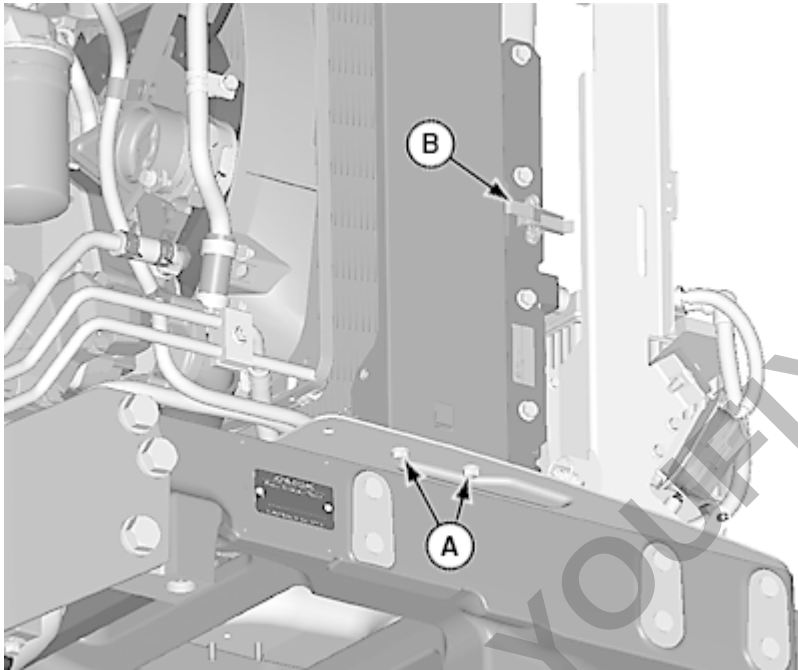
- plastic containers.
- aluminum containers.
- specially coated steel containers made for diesel fuel.

DO NOT use brass-coated containers: brass is an alloy of copper and zinc.

Install Radiator

[1] - Inspect all parts associated with the radiator assembly and replace as necessary prior to installation.

[2] -



Install Bottom Radiator Cap Screws

LEGEND:

- A Cap Screw (4 used)
- B Clasp (if equipped)

Position radiator onto frame and install cap screws (A).

[3] - Attach CAC cooler clasp (if equipped) (B) to radiator and tighten.

[4] -

Group 10 - Electrical System Components

Essential or Recommended Tools

→NOTE:

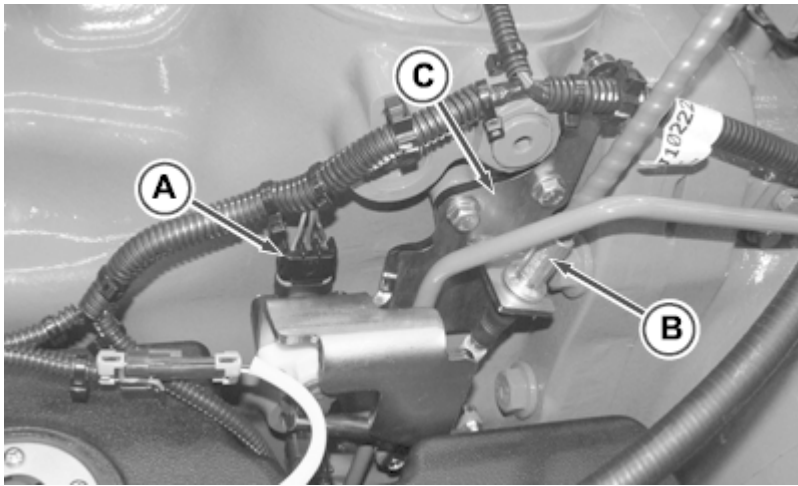
Order tools from the SERVICEGARD™ Catalog.

ESSENTIAL TOOLS listed are required to perform the job correctly and are obtainable only from the SERVICEGARD™ Catalog.

RECOMMENDED TOOLS, as noted, are suggested to perform the job correctly. Some tools may be available from local suppliers or may be fabricated.

Other Material

Number	Name	Use
• R68349 (us)	Sealant	Apply around antenna lead opening.
• PM37477 (us) • 242 Loctite™ (loctite)	Thread Lock and Sealer (Medium Strength)	Apply to oil pressure switch threads and mounting screws.



Creeper Lever Position Sensor

LEGEND:

- A Wire Connector
- B Creeper Control Cable
- C Sensor Mounting Bracket

Install bracket (C) along with creeper lever position sensor assembly.

[9] - Connect creeper control cable (B).

[10] - Connect wire connector (A).

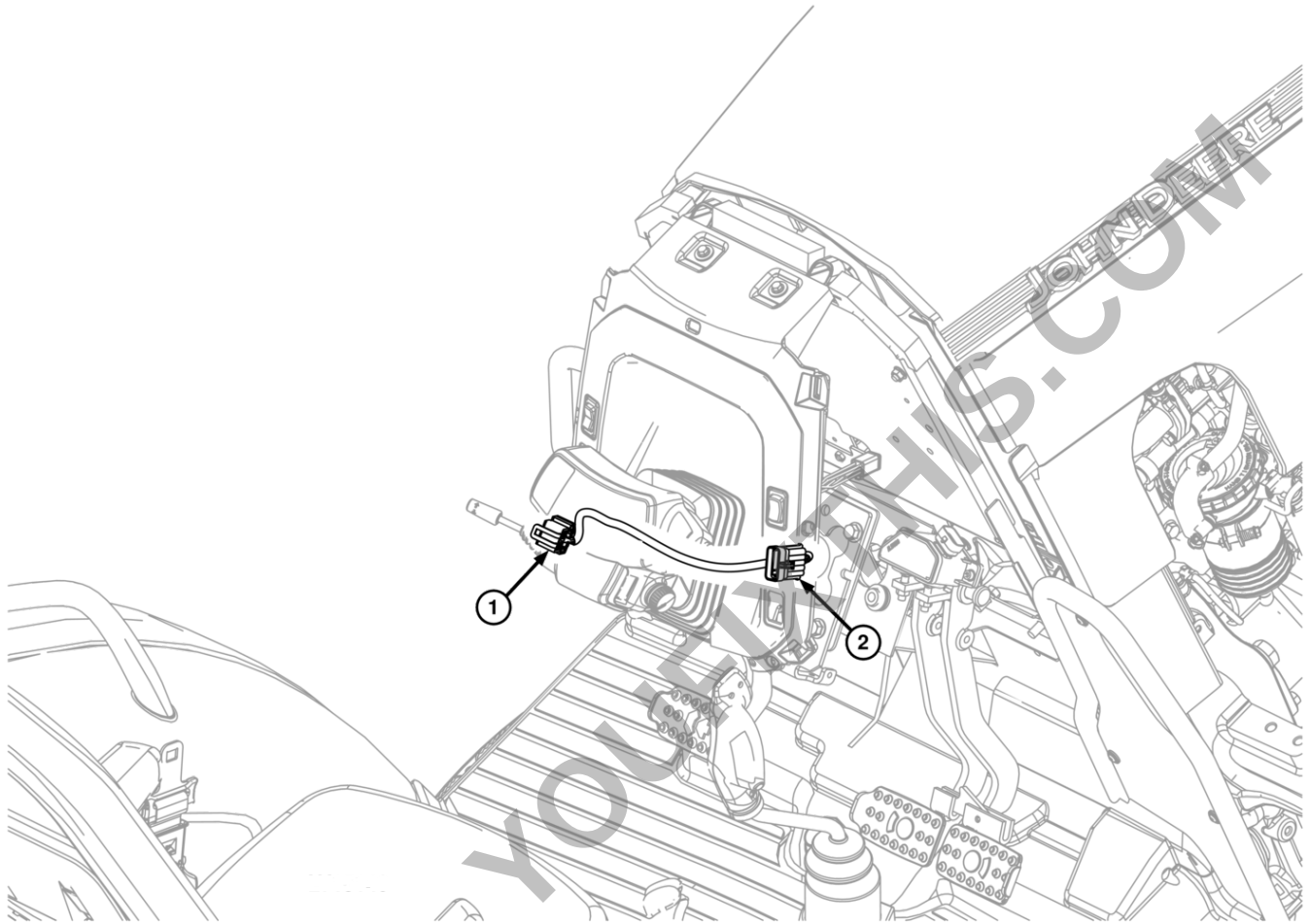
[11] - Install fuel tank. (See Remove, Inspect and Install Main Fuel Tank, in Section 30, Group 05.)

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

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

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Replace W014 Multifunction Switch Jumper Harness



W014 Multifunction Switch Jumper Harness

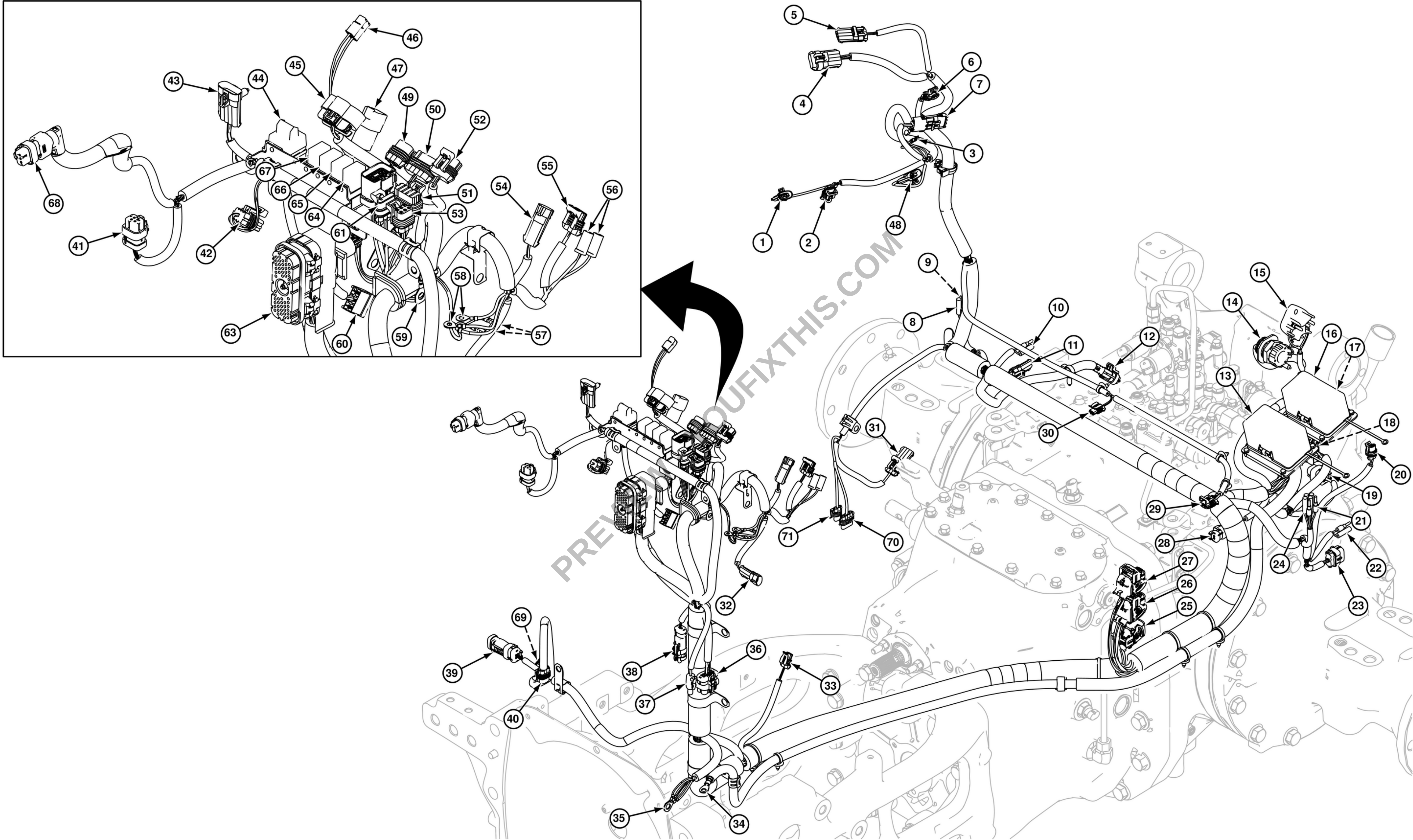
LEGEND:

- 1 S05 Horn Switch, S07 Turn Signal Switch or S07 Turn Signal Switch (with License and Clearance Lights), S12 High/Low Beam Flash to Pass Switch or S12 High/Low Beam Flash to Pass Switch (with License and Clearance Lights)
- 2 X211 Chassis/Front Console to Multifunction Switch Connector

[1] - Disconnect battery negative (—) cable.

[2] - Remove electrical shifter pod. (See Remove and Install Electrical Shifter Pod, in Section 40, Group 10.)

[3] - Cut all tie straps and remove all hold-down clamps. Note locations of tie straps and



[9] - Connect wire connectors and leads (1—32).

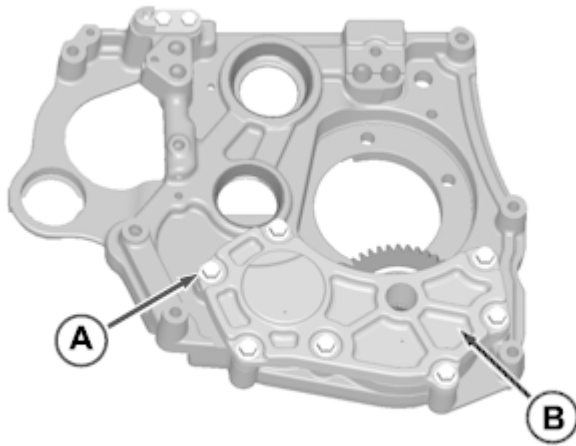
[10] - Install hold-down clamps and tie straps at previous locations.

[11] - Install left-side control console. (See Remove and Install Left-Side Control Console—Cab, in Section 90, Group 10.)

[12] - Install HVAC housing cover plate.

[13] - Install cab headliner. (See Remove and Install Headliner in Section 90, Group 20.)

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



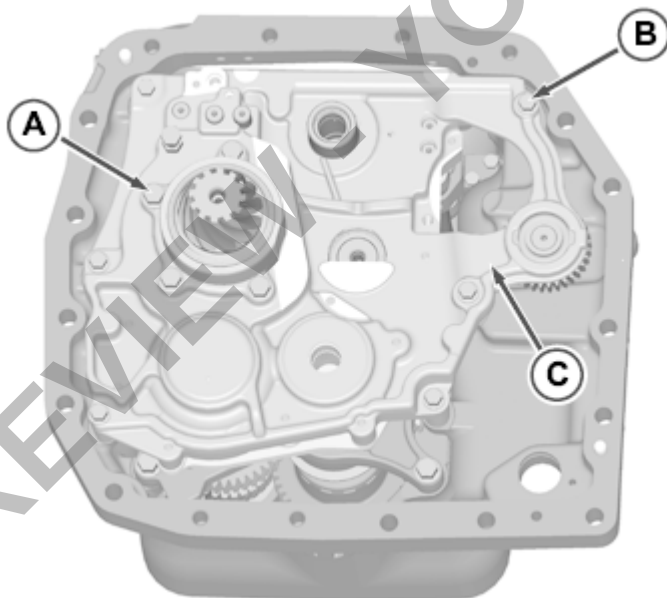
GD PTO Gear Support

LEGEND:

- A Cap Screws
- B Ground Drive PTO Gear Support
- C Input Idler Gear
- D Input Gear

Install ground drive PTO idler gear (C) and input gear (D).

d. Install ground drive PTO gear support (B) and cap screws (A).



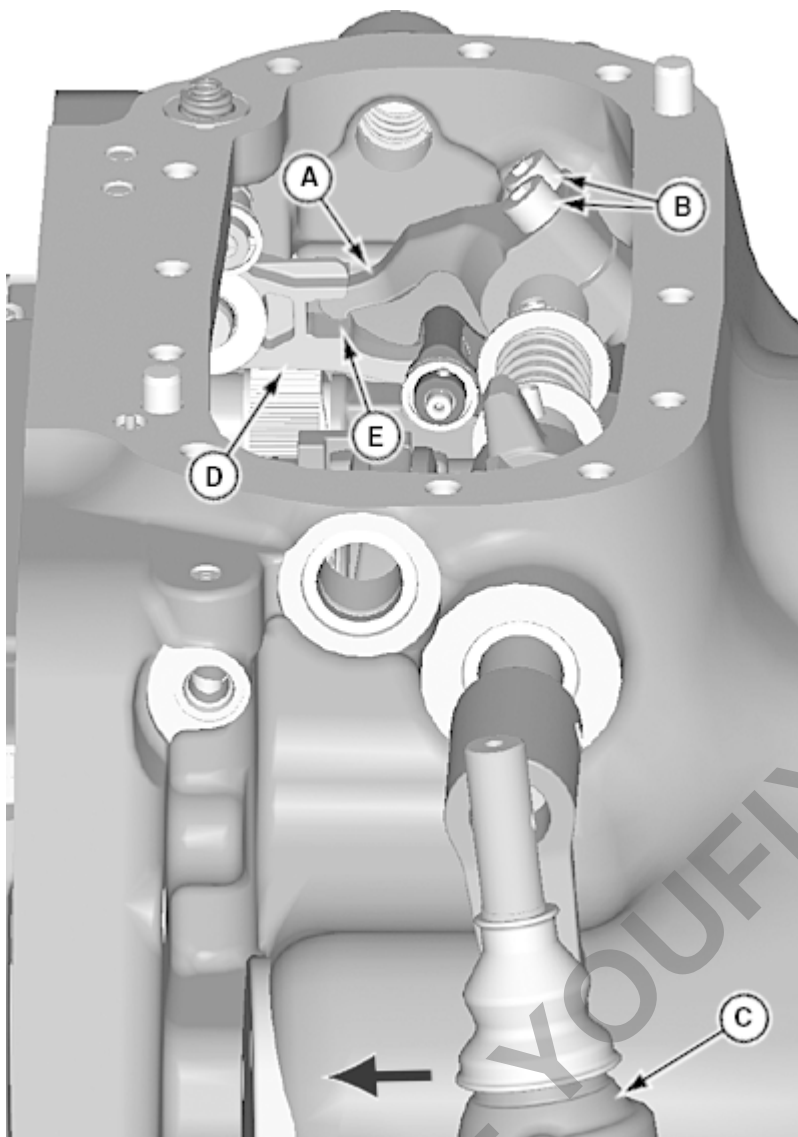
e.

Mid-Wall Assembly

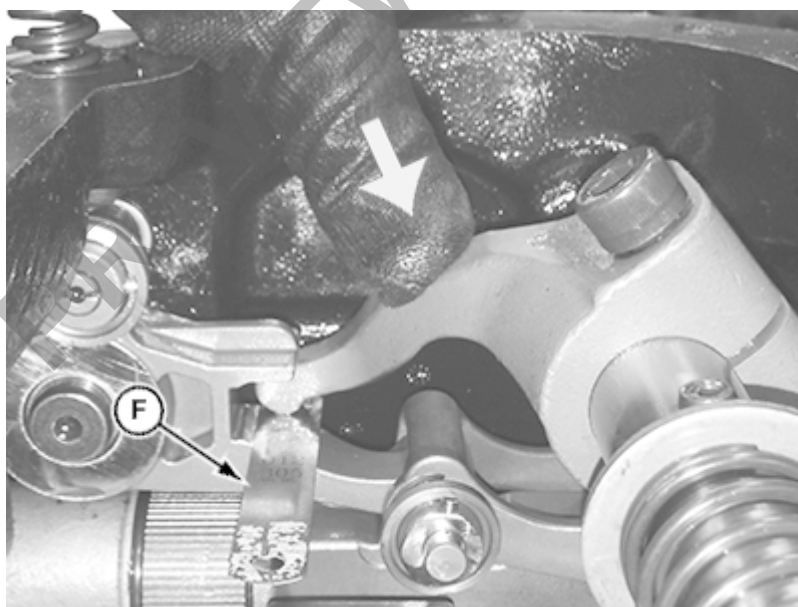
LEGEND:

- A Cap Screw (4 used)
- B Cap Screw (7 used)
- C Mid-Wall Assembly

Install mid-wall assembly (C), and cap screws (B). Tighten screws to specification.



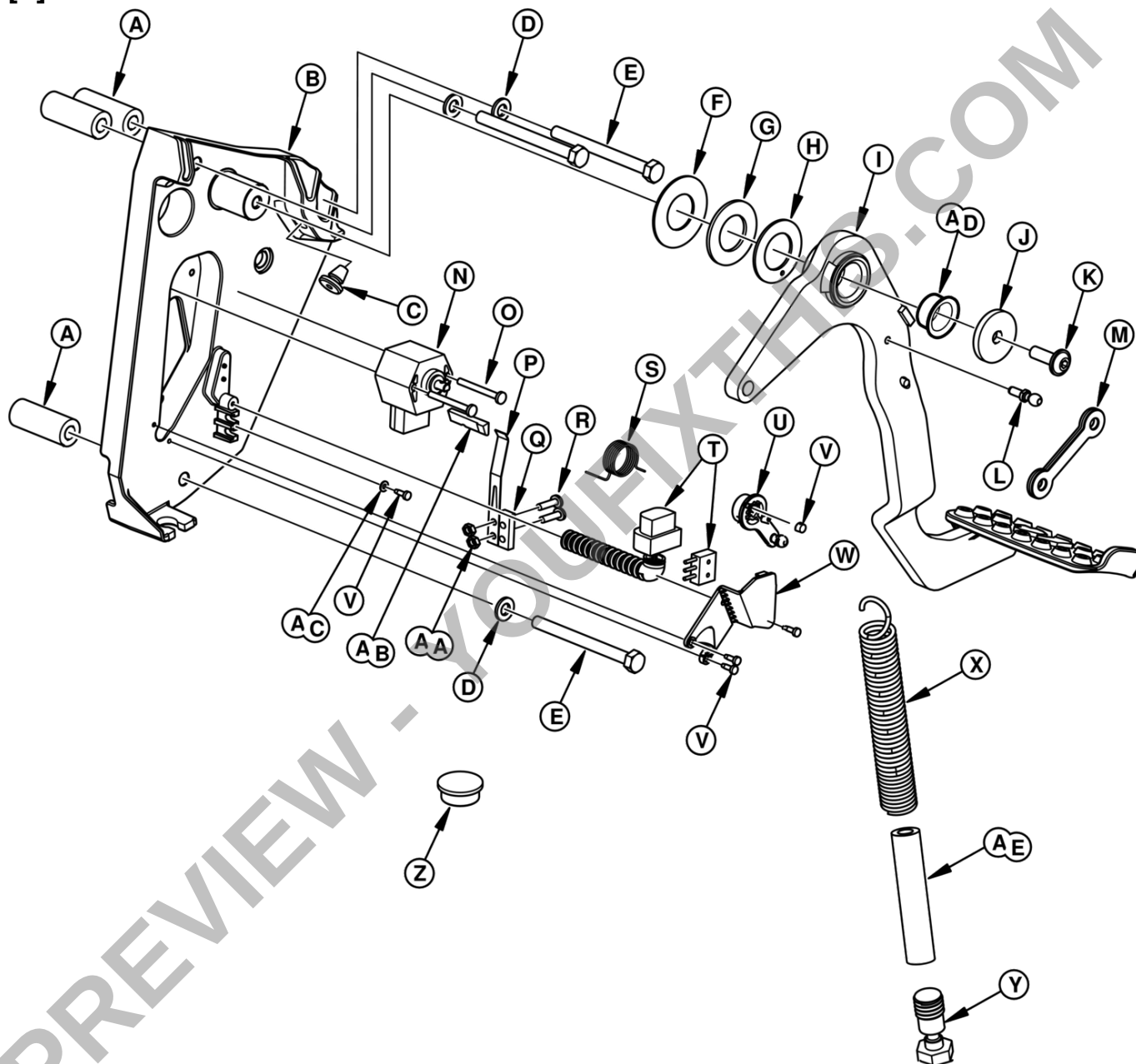
Speed Shift Arm Adjustment



Feeler Gauge

Remove, Inspect, and Repair Clutch Pedal and Linkage—PR/SR Transmission

[1] -



Clutch Pedal and Linkage

LEGEND:

- A Spacer
- B Bracket
- C Stop
- D Washers
- E Screws
- F Belleville Spring
- G Washer

LEGEND:

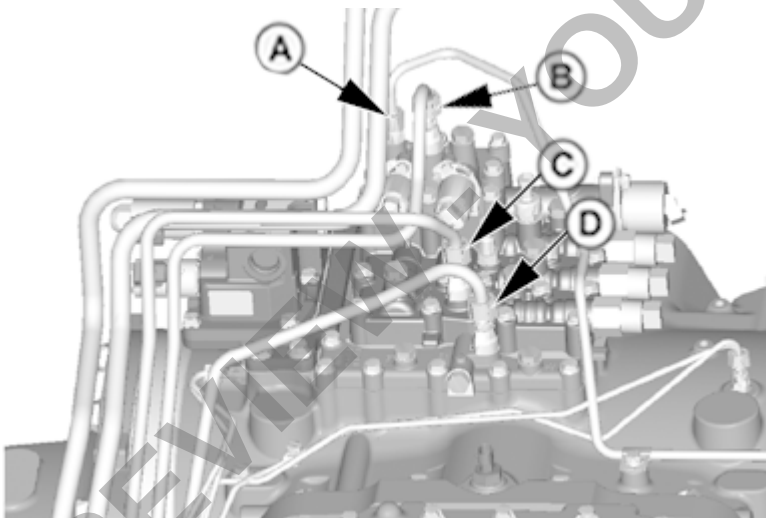
- A Clutch Enable Solenoid Connector
- B Reverse Clutch Solenoid Connector
- C High Clutch Solenoid Connector (if equipped)
- D Low Clutch Solenoid Connector
- E Enable Pressure Sensor Connector
- F Transmission Oil Temperature Sensor Connector
- G MFWD Solenoid Connector (if equipped)
- H Differential Lock Solenoid Connector
- I PTO Solenoid Connector

Disconnect harness connectors (A—I) from respective solenoids and set harness aside.

[5] -

IMPORTANT:

When removing/installing hydraulic lines, always support line adapter and fittings with a backup wrench to keep fittings stationary and prevent damage to lines.



Control Valve—PR/SR and PR Plus

LEGEND:

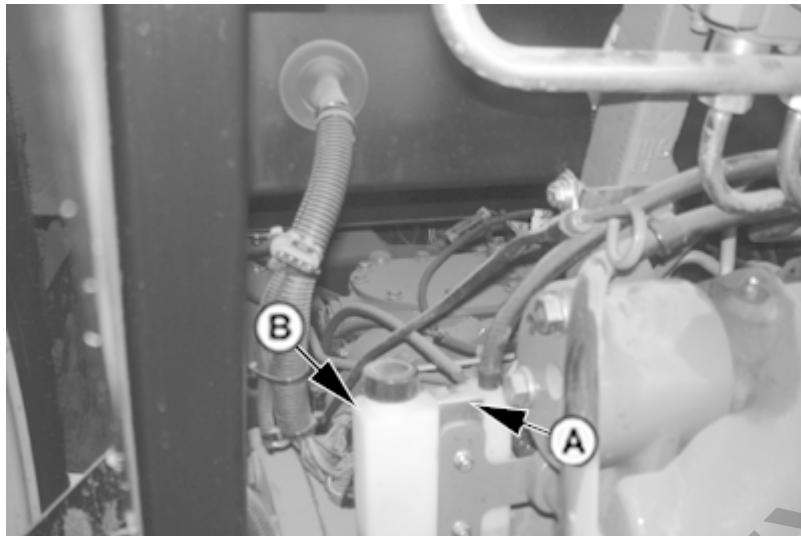
- A MFWD Oil Line (if equipped)
- B Oil Cooler Supply Line
- C Transmission Supply Line
- D Oil Cooler Return Line

Disconnect hydraulic lines (A—D). Close all openings using caps and plugs.

[6] -

Item	Measurement	Specification
Rear SCV Support Bracket to rear PTO Cover	Torque	70 N·m (52 lb-ft)

[61] -



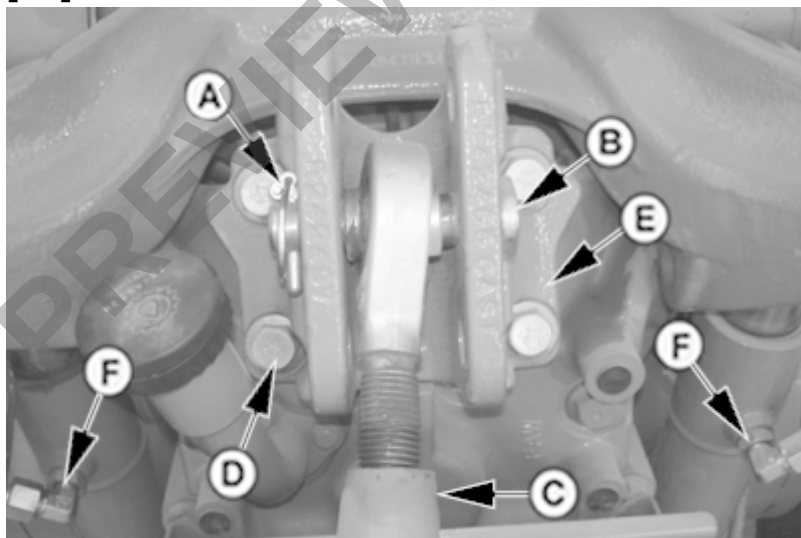
Reservoir

LEGEND:

- A Clamp
- B SCV Leak-Off Reservoir

If removed, install SCV leak-off reservoir (B) in retaining clamp (A).

[62] -

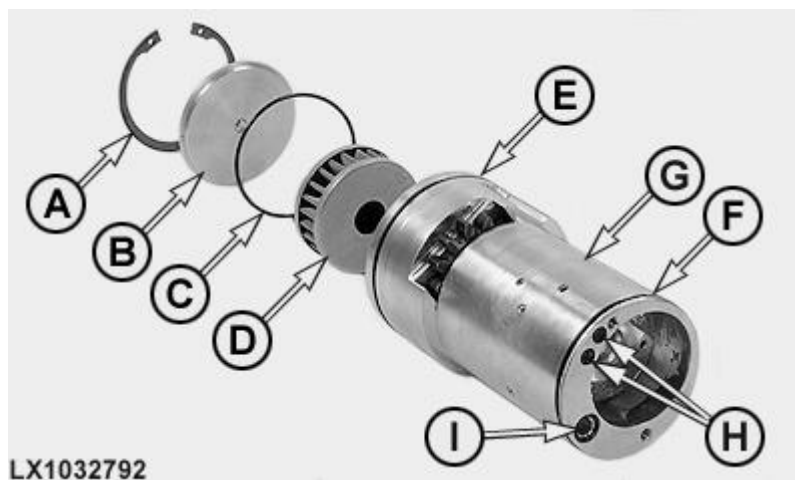


Center Link Bracket

LEGEND:

- A Locking Pin

Exploded View of Front PTO Oil Pump



Oil Pump Exploded View

LEGEND:

- A Snap Ring
- B Cover
- C O-Ring
- D Oil Screen
- E O-Ring
- F O-Ring
- G Oil Pump
- H O-Ring (2 used)
- I O-Ring

Remove lock nut (E). Remove tie rod from spindle arm.

[2] - Inspect all parts for wear or damage.

[3] -

→**NOTE:**

To remove ball joint (C), place wrench on flats of both ball joints. Turn one side while holding the other.

Remove parts (A—C) replace as necessary.

[4] - Install parts (A—C). Tighten ball joints (C) to specification.

Item	Measurement	Specification
Ball Joint to Piston Rod—MFWD Axle	Torque	300 N·m (221lb-ft)

[5] - Adjust length of tie rod assembly by turning right or left tie rod end so wheel is almost straight forward when steering cylinder (D) is centered and tie rod end fits into spindle arm. Tighten nut (E) to specification.

Item	Measurement	Specification
Ball Joint Nut—MFWD Axle	Torque	120 N·m (89 lb-ft)

[6] - Install and tighten lock nut (E) to specification.

Item	Measurement	Specification
Tie Rod End Lock Nut—MFWD Axle	Torque	165 N·m (122 lb-ft)

[7] -

Section 70 - HYDRAULIC

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Hitch Valve Repair—Mechanical Hitch (July 2013-)

⚠ CAUTION:



Escaping Fluid

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 should reference a knowledgeable medical source. Such information is available in English from Deere & Company Medical Department in Moline, Illinois, U.S.A., by calling 1-800-822-8262 or +1 309-748-5636.

1. Open rate-of-drop valve and lower lift arms completely.
2. Relieve hydraulic system pressure.
3. Remove hitch valve from tractor. (See Remove and Install Hitch Valve—Mechanical Hitch (July 2013-) in this group.)

Mechanical Hitch Valve Components (July 2013-)

- O Lock Nut (3 used)
- P Clip (3 used)
- Q Cable (3 used)
- R Cap Screw (2 used)
- S Bracket

Inspect parts (A—S) for wear or damage. Replace as necessary.

[3] -

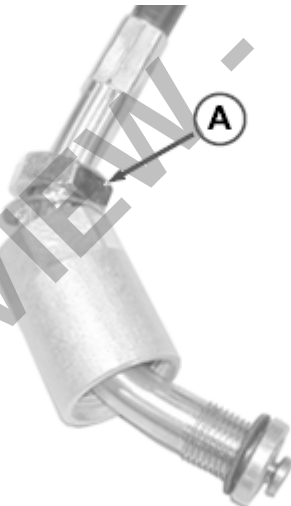
→NOTE:

Make sure all levers are aligned when in neutral position. If levers are not aligned, make necessary yoke adjustment.

Turn lock nut (M) all the way toward yoke (L). Turn adjusting nut (N) toward lock nut (M) and lock nut (O) toward adjusting nut (N).

[4] - Tighten both lock nuts.

[5] -



SCV Cable Retaining Nut

LEGEND:

- A Retaining Nut

Before installing SCV cables, inspect retaining nut (A). If loose, apply high strength Loctite 271 and tighten securely without damaging outer edge of retaining nut.

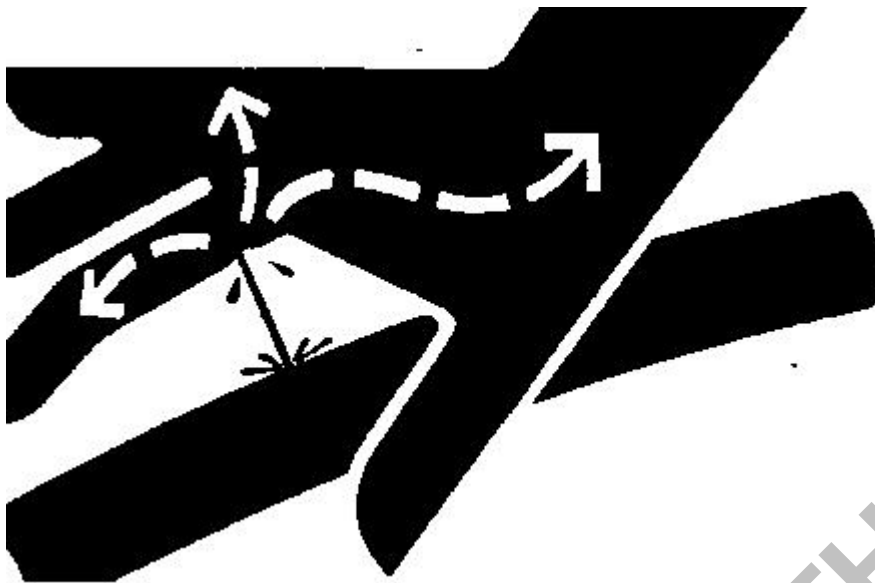
[21] - Adjust control cables. (See Mid-Mount SCV Control Cable Adjustment, in this group.)

[22] - Connect multi-function control lever harnesses.

[23] - Cab tractors: Install right-side upholstery. (See Remove and Install Right-Side Upholstery, in Section 90, Group 20.)

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IMPORTANT:

When removing and installing hydraulic lines, always support line adapter and fittings with a back-up wrench to keep fittings stationary and prevent damage to line, valve, and pump housings.

→NOTE:

Close all openings using caps and plugs. Tag or label hydraulic lines before disconnecting to aid during installation.

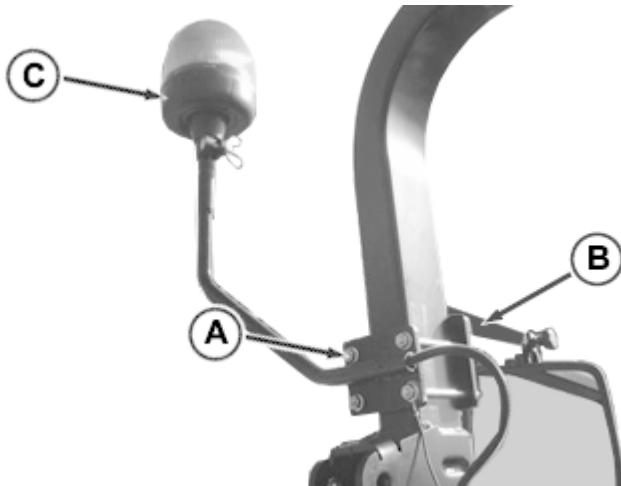
The hydraulic lines may leak when being disconnected. Catch leaking oil and dispose of properly.

6. Install trailer hitch (B) into hitch guide rail at suitable height.

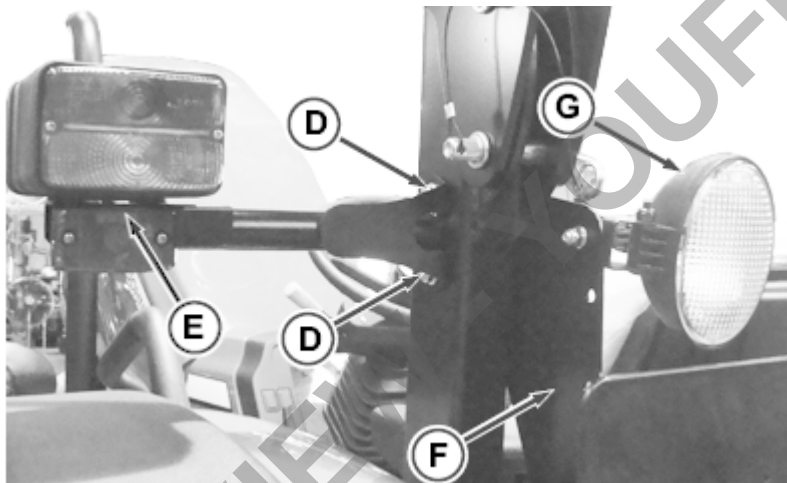
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[21] - Install snap ring (C), locking pin (B) and secure with spring locking pin (A) on both sides.

[22] -



Beacon Light



Lights

LEGEND:

- A Screws and Nuts
- B Mirror Assembly
- C Beacon Light
- D Screws and Nuts
- E Tail Light/Warning Light Assembly
- F License Plate Bracket
- G Rear Field/Work Light

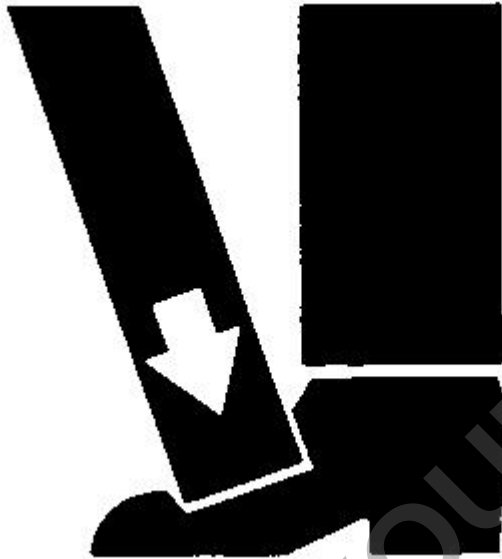
Install brackets (F) with lights (E and G). Tighten screws and nuts (D).

[23] - Install mirror assembly (B) with beacon light (C). Tighten screws and nuts (A).

IMPORTANT:

When raising the operator's cab, watch out for lines and hoses, plus all the cables. There is a risk of them getting caught on other components. The same applies to wiring harnesses.

Pay attention to cable binders and other items that may have been retrofitted to harnesses or components of the cab.



Personal Injury



Number	Name	Use
• TY22025 (us)	R134a Refrigerant Oil	Used to lubricate O-rings, gaskets, and lip seal during assembly of compressor.

[4] - Secure compressor in a vise with ports upward.

[5] - Install JT02099 Adapter in suction port with JT03194 Cap.

[6] - Connect suction hose coupler of gauge set to suction test port (A) on manifold.

[7] - Close discharge side valve of gauge set and open valve on suction side of gauge set.

[8] - Rotate compressor drive shaft with speed wrench to obtain peak vacuum on low-side gauge. Check for even suction (no pulsing) while turning wrench at a slow rate to maintain peak vacuum at 63.5 cm Hg (25 in. Hg) minimum.

[9] - Stop rotating shaft and check leak-down time. Compressor should hold peak vacuum for three seconds minimum.

If compressor does not hold peak vacuum for three seconds, inspect compressor valve plates and cylinder walls for damage. Repair compressor.

[10] - Open suction port of compressor to atmosphere.

[11] -

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