

9. Using a 32 mm wrench, unscrew oil filter cover (A) and lift as shown. Allow filter (B) to drain into crankcase.
10. Remove filter cover with oil filter (B) attached.
11. While holding cover (A), strike filter (B) against solid surface to remove filter. Discard used filter in accordance with local laws and ordinances.
12. Remove old O-ring, and replace with new O-ring provided with new filter element.
13. Press new filter (B) into cover (A) until it snaps into place.
14. Insert filter (B) and cover (A) into oil filter housing (C). Tighten cover to specification.

Specification

Oil Filter Cover—Torque..... 40 N·m (30 lb.-ft.)

15. Install drain plug after oil has been drained from crankcase. Tighten to specification.

Specification

9.0 L Engine Oil Drain Plug—Torque..... 102 N·m (75 lb.-ft.)

16. Dispose of used oil and oil filter in accordance with local laws and ordinances.

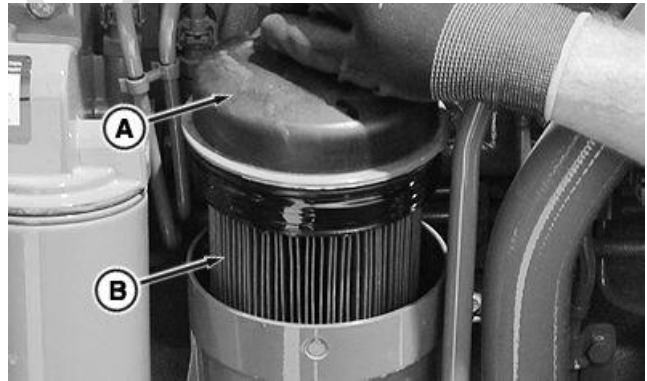
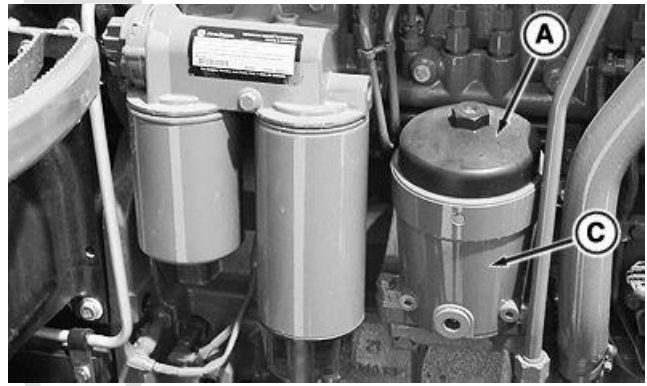
IMPORTANT: Do not overfill engine. Excess oil can cause loss of efficiency.

17. Refill crankcase with seasonal viscosity grade oil. See Engine Oil in Fuel, Lubricants and Coolant section of this Operator's Manual.

Specification

9.0 L Crankcase—Capacity..... 27 L (28.5 qt)

18. Check for correct oil level using dipstick.
19. Close and secure hood and reinstall right rear side shield.
20. Start engine and check for leaks.
21. Stop engine. Recheck oil level. Add oil if necessary.



Removing Engine Oil Filter From Housing



Removing Engine Oil Filter From Cover

A—Oil Filter Cover
B—Oil Filter

C—Oil Filter Housing

TO84419,0000083 -19-29AUG13-2/2

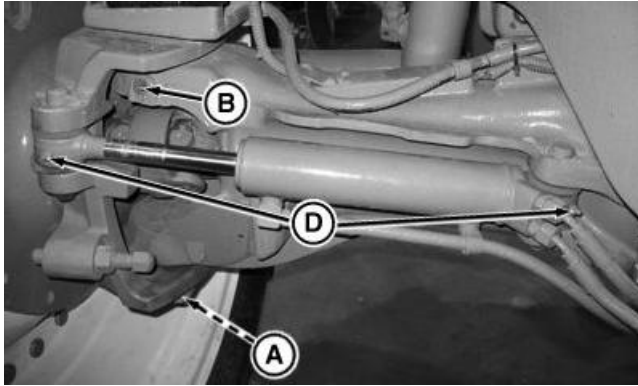
RXA0134210 —UN—25JUL13

RXA0134209 —UN—25JUL13

RG11628 —UN—01FEB01

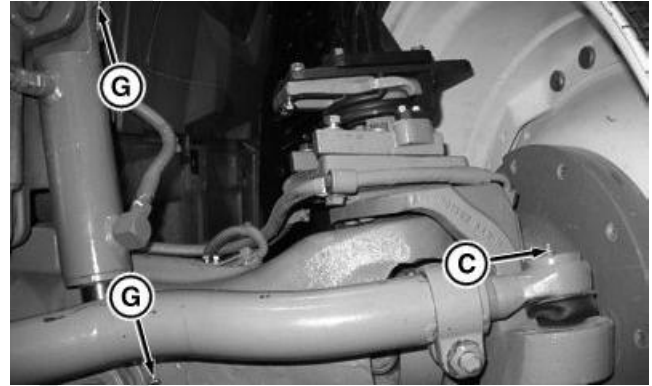
Lubricate MFWD or TLS™ (If Equipped) Plus Kingpins, Tie Rod Ends, Steering Cylinder, Axle Pivot and Panhard Rod

IMPORTANT: Normal service is every 250 hours. In wet conditions service daily or every 10 hours.



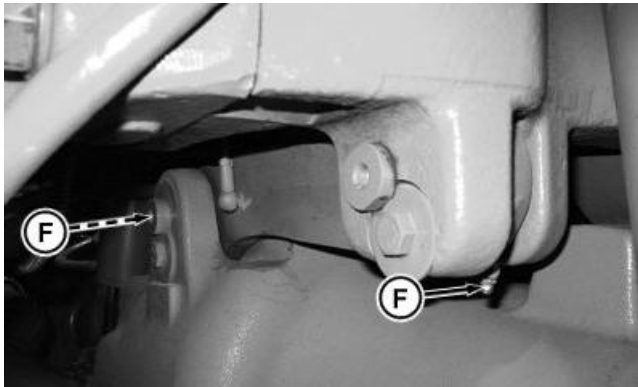
Kingpins and Steering Cylinder (Rear of MFWD)

RXA0109431 —JUN—16AUG10



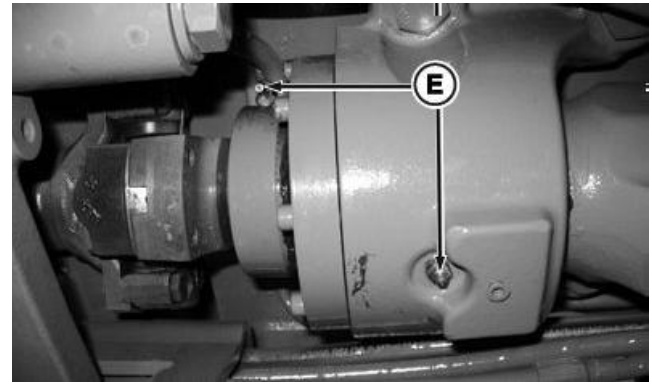
Tie Rods and Axle Cylinder (Front of MFWD)

RXA0109440 —JUN—16AUG10



Panhard Rod (TLS Plus Only)

RXA0109442 —JUN—16AUG10



Axle Pivot (TLS Plus Only)

RXA0116166 —JUN—06MAY11

- | | | |
|----------------------------|---------------------------------------|---|
| A—Kingpin Fittings, Bottom | D—Steering Cylinder Fittings | F—Panhard Rod Fittings (TLS Plus Only) |
| B—Kingpin Fittings, Top | E—Axle Pivot Fittings (TLS Plus Only) | G—MFWD Axle Cylinder Fittings (TLS Plus Only) |
| C—Tie Rod End Fittings | | |

Use John Deere SD Polyurea grease or other grease as specified in Fuel, Lubricants, and Coolant section of this Operator's Manual.

Kingpins—Lubricate fittings (A and B) until grease appears at orifice on bottom end of each kingpin bearing.

Tie Rods—Lubricate fittings (C).

Steering Cylinder—Lubricate fittings (D).

Axle Pivot—Lubricate front and rear fittings (E) (TLS Plus Only).

Panhard Rod —Lubricate left and right fittings (F) (TLS Plus Only).

Axle Cylinder—Lubricate top and bottom fittings (G) (TLS Plus Only).

NOTE: All fittings, except for axle pivot (E) and Panhard rod (F), are the same for the left and right sides.

RX32825,0000705 -19-02APR13-1/1

Lubricate MFWD or TLS™ Plus (If Equipped) U-Joints

IMPORTANT: Normal service is every 250 hours.
If used in extremely wet conditions service daily or every 10 hours.

Use John Deere™ SD Polyurea grease or other grease as specified in Fuel, Lubricants, and Coolant section of this Operator's Manual.

Drilled passages in the U-joint allow grease to reach all four bearings from a single grease fitting.

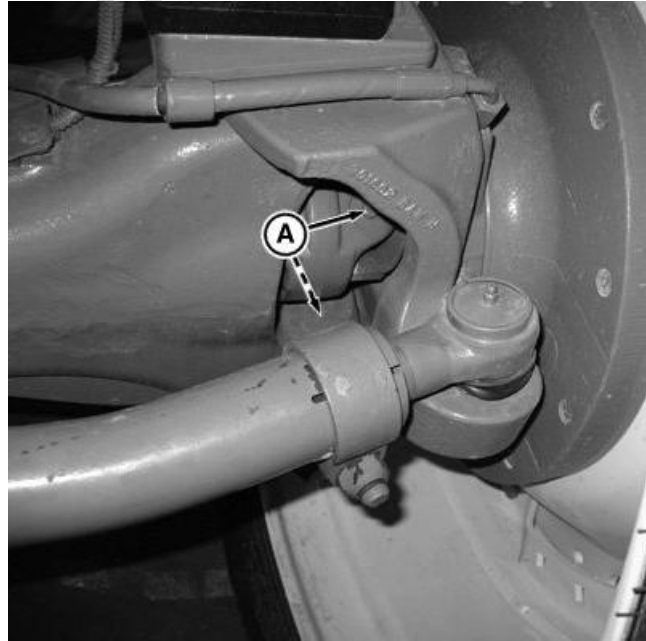
For normal operations, U-joints are sealed and not permanently equipped with grease fittings. To lubricate proceed as follows:

1. Replace plugs with M10 thread 90° grease fittings. See your John Deere™ dealer for correct part.
2. Apply grease to both U-joints at lubrication points (A).

Specification

Plug—Torque..... 0.904 N·m (8 lb.-ft.)

A—Lubrication Points



Hub U-joint Lubrication Points

John Deere is a trademark of Deere & Company

TO84419,0000094 -19-30AUG13-1/1

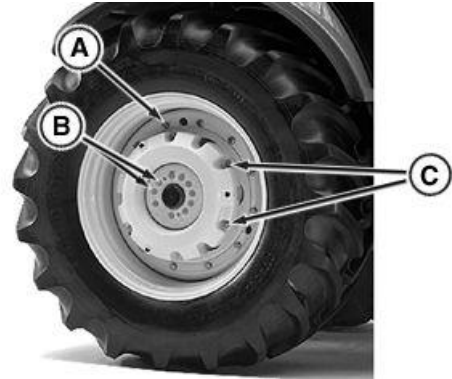
RXA0109446—UN—16AUG10

Tighten Wheel and Wheel Weight Bolts

CAUTION: Avoid the possibility of personal injury. Never operate tractor with loose wheel or wheel weight bolts. Failure to follow torquing procedure may result in personal injury. Wheel and wheel weight bolts are critical and require repeated torquing to assure secure tightness.

IMPORTANT: Failure to follow correct tightening procedure could result in equipment damage.

Tighten front and rear wheel bolts (A), hub bolts (B) and wheel weight bolts (C) using appropriate torquing procedures described below.



A—Rim to Wheel Bolts
B—Hub Bolts

C—Weight Bolts

RX32825,0000735 -19-09JAN13-1/1

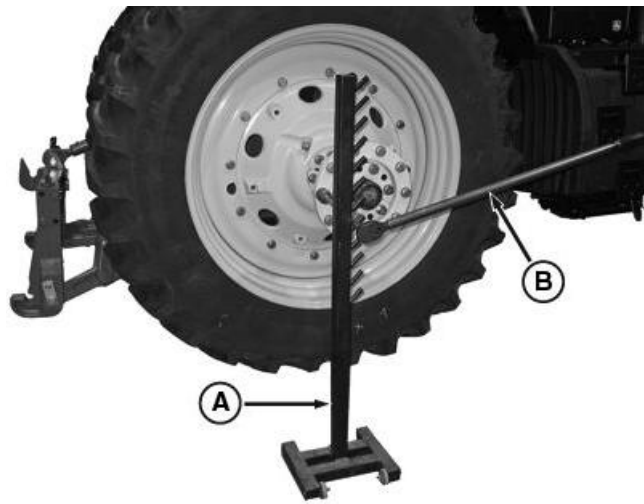
RXA0098559—UN—16JUN08

Use Wheel Tightening Stand

Wheel tightening stand (A) may be used to aid in tightening wheel and wheel weight hardware. See Rear Wheels, Tires, and Treads Sections in this Operator's Manual.

Stand will support torque wrench (B) and extension when tightening bolts at different heights.

See your John Deere™ dealer for information on purchasing or fabricating stand.



A—Wheel Tightening Stand (DFR219 or JDG10741) B—Torque Wrench

RXA0113539 —UN—11FEB11

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TO84419,0000084 -19-29AUG13-1/1

Tighten Rear Wheel Weight Bolts

CAUTION: Avoid the possibility of personal injury. Never operate tractor with loose wheel weight bolts. Failure to follow torquing procedure may result in personal injury. Wheel weight bolts are critical and require repeated torquing to assure secure tightness.

IMPORTANT: Failure to follow tightening procedure could result in equipment damage.

Tighten all wheel weight bolts (A) until bolts maintain torque according to specifications.

Wheel Weight Attaching Bolts—Specification

M16 Bolt—Torque.....	310 N·m (230 lb.-ft.)
M20 Bolt—Torque.....	610 N·m (450 lb.-ft.)

Drive tractor approximately 100 m (100 yd.). Then check bolt torque and retighten until bolts maintain torque specification.

IMPORTANT: Keep wheel weight bolts tightened to specification. If tractor is operated with loose bolts, damage to equipment may occur.



RXA0130316 —UN—15JAN13

Retighten bolts after working **3 HOURS**, again after **10 HOURS** and **DAILY** for first week of operation or until bolts **do not** move when retorqued.

TO84419,000004D -19-16AUG13-1/1

Tighten Front Wheel Bolts

CAUTION: Avoid the possibility of personal injury. Never operate tractor with loose wheel bolts. Failure to follow torquing procedure may result in personal injury. Wheel bolts are critical to operation and require repeated torquing to assure secure tightness.

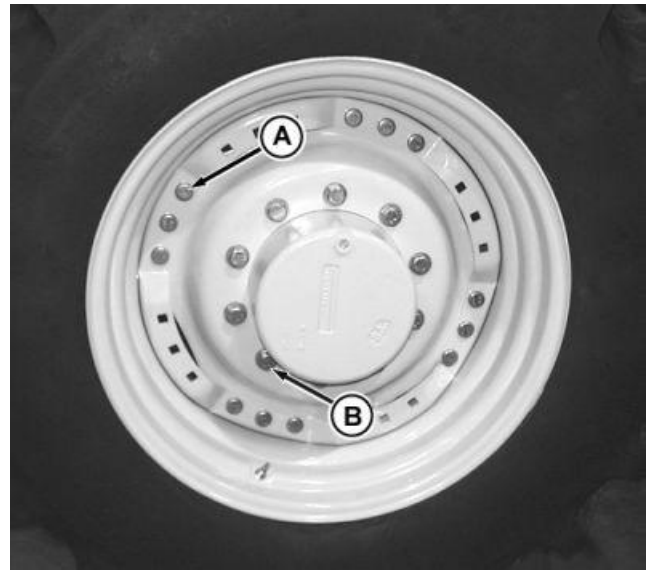
IMPORTANT: Failure to follow tightening procedure could result in equipment damage.

Tighten all wheel disk to rim (A) and wheel disk to hub (B) (eight-position and two-position wheels) bolts until bolts maintain torque according to specifications.

Front Wheel Bolts—Specification

Wheel Disk to Rim Bolts	
- 8-Position Wheel (M16 Hardware)—Torque.....	300 N·m (225 lb.-ft.)
Wheel Disk to Hub Bolts—Torque.....	600 N·m (445 lb.-ft.)

Drive tractor approximately 100 m (100 yd.). Then check bolt torque and retighten until bolts maintain torque specification.



RXA0130317 —UN—15JAN13

IMPORTANT: Keep wheel bolts tightened to specification. If tractor is operated with loose bolts, damage to equipment may occur.

Retighten bolts after working **3 HOURS**, again after **10 HOURS** and **DAILY** for first week of operation or until bolts **do not** move when retorqued.

TO84419,000004E -19-16AUG13-1/1

Tighten Rear Drive Wheel to Cast Hub Bolts

CAUTION: Avoid the possibility of personal injury. Never operate tractor with loose wheel bolts. Failure to follow torquing procedure may result in personal injury. Wheel bolts are critical to operation and require repeated torquing to assure secure tightness.

IMPORTANT: Failure to follow tightening procedure could result in equipment damage.

Tighten all wheel to hub bolts (A) until bolts maintain torque according to specifications.

Wheel to Hub Bolts—Specification

Wheel to Hub Bolts—Torque.....	600 N·m (445 lb.-ft.)
--------------------------------	--------------------------

Drive tractor approximately 100 m (100 yd.). Then check bolt torque and retighten until bolts maintain torque specification.

IMPORTANT: Keep wheel bolts tightened to specification. If tractor is operated with loose bolts, damage to equipment may occur.



Heavy Duty Cast 10-Bolt Hub Shown

RXA0130486 —UN—15JAN13

Retighten bolts after working **3 HOURS**, again after **10 HOURS** and **DAILY** for first week of operation or until bolts **do not** move when retorqued.

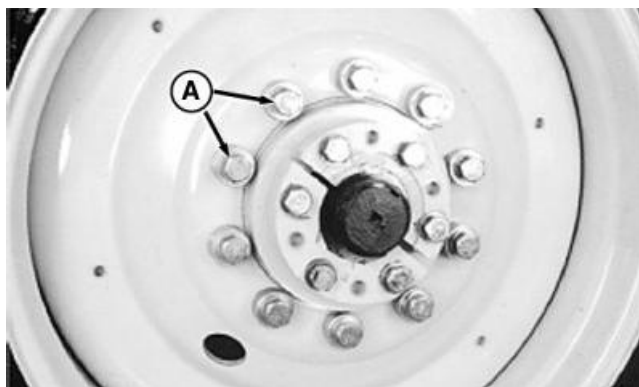
TO84419,000004F -19-16AUG13-1/1

Tighten Rear Steel Wheel to Hub Bolts

CAUTION: Avoid the possibility of personal injury. Never operate tractor with loose wheel bolts. Failure to follow torquing procedure may result in personal injury. Wheel bolts are critical to operation and require repeated torquing to assure secure tightness.

IMPORTANT: Failure to follow tightening procedure could result in equipment damage.

Tighten all wheel to hub bolts (A) until bolts maintain torque according to specifications.



Standard Hub Shown

RXA0084448 —UN—05OCT05

Wheel to Hub Bolts—Specification

Wheel to Hub Bolts—Torque.....	600 N·m (445 lb.-ft.)
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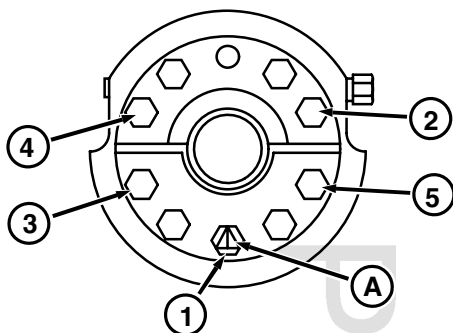
Drive tractor approximately 100 m (100 yd.). Then check bolt torque and retighten until bolts maintain final torque specification.

IMPORTANT: Keep wheel bolts tightened to specification. If tractor is operated with loose bolts, damage to equipment may occur.

Retighten bolts after working **3 HOURS**, again after **10 HOURS** and **DAILY** for first week of operation or until bolts **do not** move when retorqued.

TO84419,0000050 -19-16AUG13-1/1

Tighten Rear Steel Wheels—Cast Hub Bolts



CAUTION: Avoid the possibility of personal injury. Never operate tractor with loose wheel bolts. Failure to follow procedure may result in personal injury. Wheel bolts are critical to operation and require repeated torquing to assure secure tightness.

IMPORTANT: Some bolts may loosen as sleeve is tightened. Repeat torquing sequence until **ALL** sleeve bolts maintain proper torque. Failure to follow procedure could result in damage to equipment.

Tighten five hub sleeve bolts (1-5) to initial torque specifications in sequence shown beginning with center cap screw (A) in lower sleeve.

Tighten bolts to secondary torque specifications using same tightening sequence.

Drive tractor approximately 100 m (100 yd.). Then tighten bolts to final torque specification until bolts maintain torque specified.

Wheel Hub Sleeve Bolts—Specification

Initial—Torque.....	204 N·m (150 lb.-ft.)
Secondary—Torque.....	410 N·m (300 lb.-ft.)
Final—Torque.....	600 N·m (445 lb.-ft.)

IMPORTANT: Keep wheel bolts tightened to specification. If tractor is operated with loose bolts, damage to equipment may occur.

Retighten bolts after working **3 HOURS**, again after **10 HOURS** and **DAILY** for first week of operation or until bolts **do not** move when retorqued.

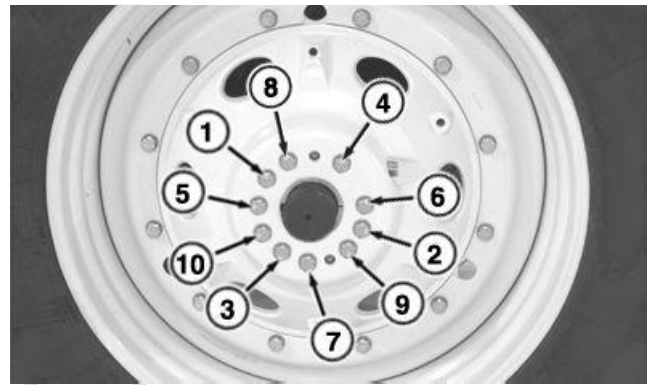
TO84419,0000051 -19-16AUG13-1/1

RXA0130319 —UN—15JAN13

Tighten Rear Wheel Bolts—Heavy-Duty Cast 10-Bolt Hubs

⚠ CAUTION: Avoid the possibility of personal injury. Never operate tractor with loose wheel bolts. Failure to follow procedure may result in personal injury. Wheel bolts are critical to operation and require repeated torquing to assure secure tightness.

IMPORTANT: Some bolts may loosen as sleeve is tightened. Repeat torquing sequence until ALL bolts maintain proper torque. Failure to follow procedure could result in damage to equipment.



Heavy Duty Cast Drive Hub Shown

RXA0130320 —UN—15JAN13

Tighten wheel to hub bolts (1-10) to initial torque specifications - in numerical sequence shown - until torque is maintained.

Tighten bolts to final torque specifications - in numerical sequence - until torque is maintained.

Wheel to Hub Bolts—Specification

Initial—Torque.....	400 N·m (300 lb.-ft.)
Final—Torque.....	610 N·m (450 lb.-ft.)

Drive tractor approximately 100 m (100 yd.). Using numerical sequence, check bolt torque and retighten until final torque specification is maintained.

IMPORTANT: Keep wheel bolts tightened to specification. If tractor is operated with loose bolts, damage to equipment may occur.

Retighten bolts after working **3 HOURS**, again after **10 HOURS** and **DAILY** for first week of operation or until bolts **do not** move when retorqued.

TO84419,000052 -19-16AUG13-1/1

P
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F

Tighten Rear Wheel Bolts—Heavy-Duty 12-Bolt Hubs

CAUTION: Avoid the possibility of personal injury. Never operate tractor with loose wheel bolts. Failure to follow procedure may result in personal injury. Wheel bolts are critical to operation and require repeated torquing to assure secure tightness.

IMPORTANT: Some bolts may loosen as sleeve is tightened. Repeat torquing sequence until ALL bolts maintain proper torque. Numbers indicating proper torquing sequences are cast into wheel hub. Failure to follow procedure could result in damage to equipment.

Tighten wheel to hub bolts (1-12) to initial torque specifications in numerical sequence shown until torque is maintained.

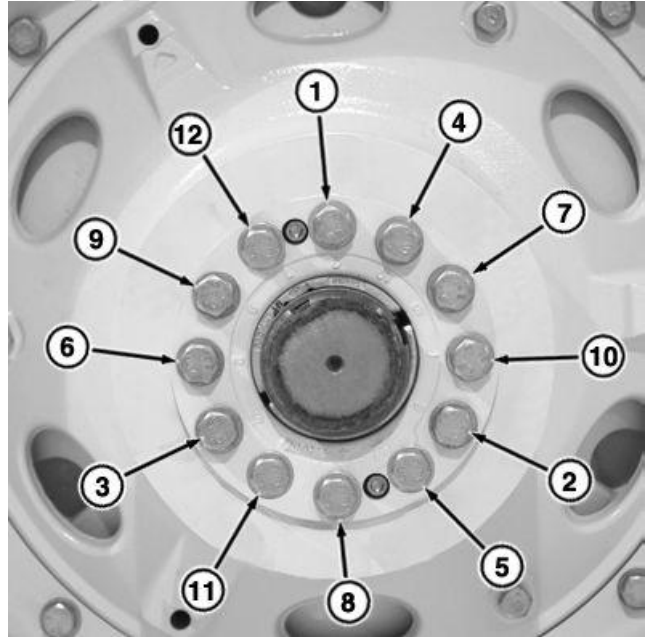
Tighten bolts to final torque specifications - in numerical sequence - until torque is maintained.

Wheel to Hub Bolts—Specification

Initial Torque—Torque.....	405 N·m (300 lb.-ft.)
Final Torque—Torque.....	(450 lb.-ft.)

Drive tractor unloaded in a large **figure-8** pattern a minimum of four times and retighten bolts - in numerical order - until bolts maintain final torque specification.

IMPORTANT: Keep wheel bolts tightened to specification. If tractor is operated with loose bolts, damage to equipment may occur.



12-Bolt Heavy-Duty Drive Wheel

RXA0090157 —UN—08AUG06

Retighten bolts after working **3 HOURS**, again after **10 HOURS** and **DAILY** for first week of operation or until bolts **do not** move when retorqued.

TO84419,0000053 -19-16AUG13-1/1

Clean Dual Beam Radar Sensor (If Equipped)

IMPORTANT: Inspect radar sensor horns for dirt or debris build up, which may affect accuracy performance. Service may be required more often in some operating conditions.

Avoid use of high pressure washer nozzle pointed directly at radar.

Avoid damage to radar and wiring harness when using sharp tools to remove dirt or packed mud around radar unit.

Dual beam radar sensor is located on bottom of transmission.

Check radar sensor (A) for damage.

Clean radar sensor with warm water and mild soap. Dry with clean soft cloth.



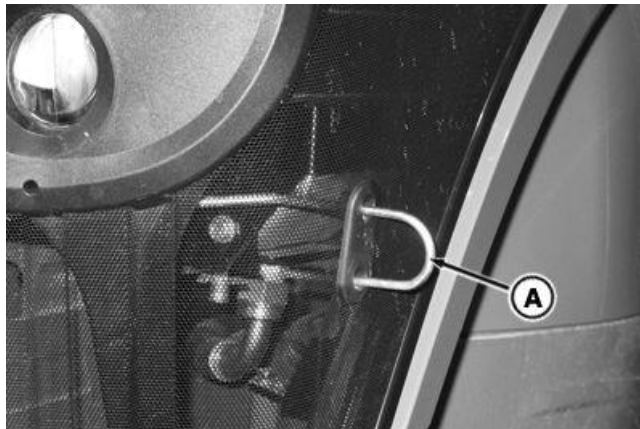
Dual Beam Radar, CommandQuad™ Transmission Shown

A—Radar Sensor

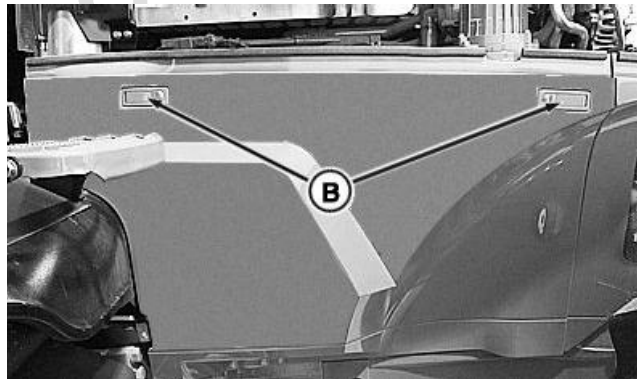
RXA0133518 —UN—09JUL13

RX32825,0000715 -19-30AUG13-1/1

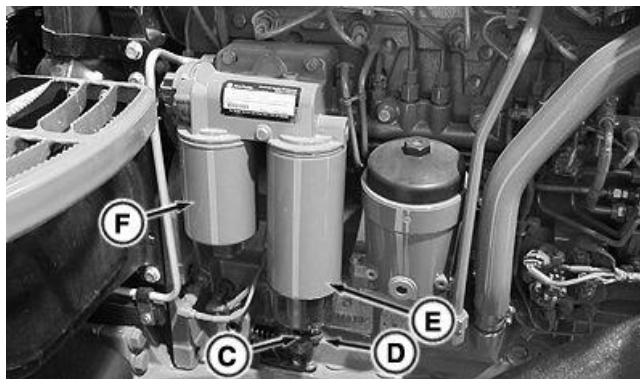
Replace Fuel Filters



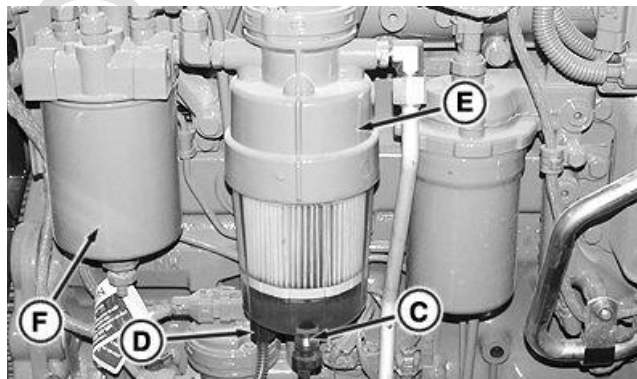
RXA0133488 —UN—02JUL13



RXA0134208 —UN—29JUL13



RXA0134211 —UN—25JUL13



RXA0134233 —UN—29JUL13

Remove Fuel Filter—9.0 L Engine

Remove Fuel Filter—6.8 L Engine

A—Hood Release
B—Latch Buttons

C—Drain Valve
D—Water In Fuel Sensor
Connector

E—Primary Filter
F—Secondary Filter

CAUTION: Always shut off engine and remove key before performing maintenance work on fuel filter.

IMPORTANT: To determine which engine your tractor is equipped with, see Record Engine Serial Number in Identification Numbers section of this Operator's Manual.

NOTE: Service may be required more often under some conditions.

1. Pull hood release (A) and raise hood.
2. Depress latch buttons (B) to remove right rear side shield.
3. Pull top of shield outward and lift shield from brackets on frame.
4. Clean exterior of filter and mounting area.
5. Remove Water In Fuel sensor connector (D).

NOTE: Use a catch pan when draining fuel and removing filter from tractor.

6. Open drain valve (C) and drain fuel.
7. Remove primary (E) and secondary (F) filters and discard.
8. Dispose of drained fuel used filters in accordance with local laws and ordinances.

IMPORTANT: Do NOT prefill either fuel filter with fuel.

9. Lubricate gasket for primary fuel filter with fuel, and install canister onto base. Tighten 3/4 turn after packing contacts base.
10. Lubricate primary fuel filter water separator gasket with fuel and install onto filter canister. Tighten 3/4 of a full turn after gasket contacts the base.
11. Lubricate gasket for secondary fuel filter with fuel, and install filter onto base. Tighten 3/4 of a turn after packing contacts base.
12. Connect Water In Fuel sensor connector.
13. Close and secure hood and reinstall side shield.

Continued on next page

TO84419,0000054 -19-16AUG13-1/2

IMPORTANT: Key must be turned to ON position for 3 minutes before starting engine to provide time to prefill fuel filters. Fuel system is self-bleeding.

Do not try to start engine until 3 minute time elapses or an air lock in fuel system may occur.

14. Turn key to ON position for 3 minutes to allow transfer pump to prefill fuel filters
15. Start and run engine at fast idle for at least 2 minutes.

T084419,0000054 -19-16AUG13-2/2

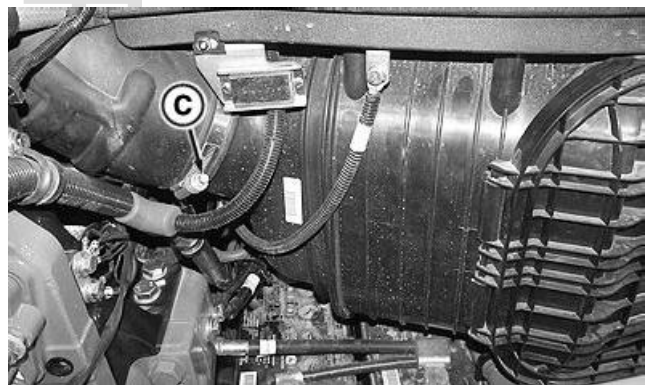
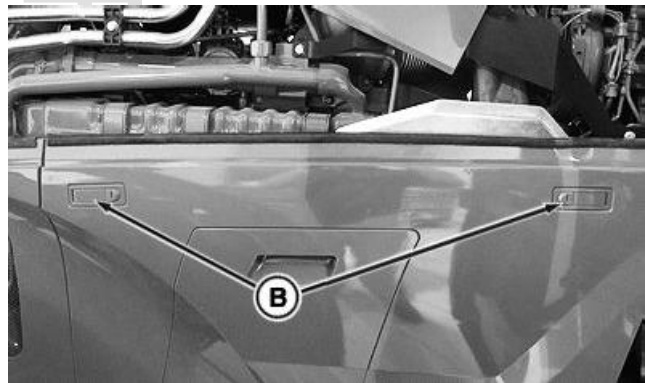
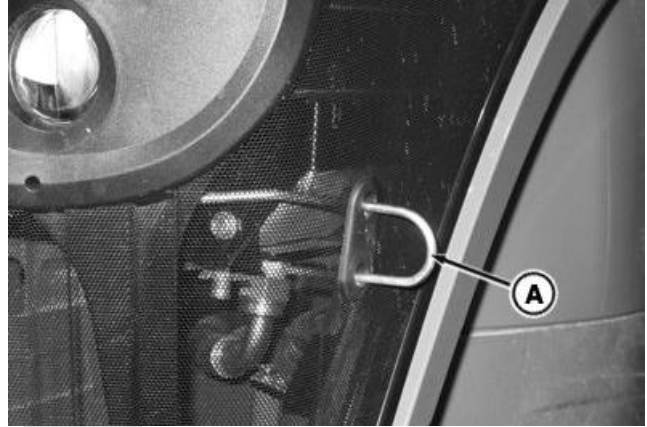
Inspect Engine Air Intake System - 6.8 L Engine

IMPORTANT: To determine which engine your tractor is equipped with, see Record Engine Serial Number in Identification Numbers section of this Operator's Manual.

1. Pull hood release (A) and raise hood.
2. Depress latch buttons (B) to remove left rear side shield.
3. Remove battery compartment cover.
4. Tighten hose clamp (C) after air filter.

A—Hood Release
B—Latch Buttons

C—Clamp After Air Filter



Hose Clamp After Air Filter (Left Side of Engine)

RXA0133488 —UN—02JUL13

RXA0134193 —UN—25JUL13

RXA0134212 —UN—25JUL13

Continued on next page

T084419,00001EB -19-23AUG13-1/2

5. Tighten hose clamps before (D) and after (E) first turbocharger.
6. Tighten hose clamps before (F) and after (G) second turbocharger.
7. Tighten hose clamps (H) before and after (I) intercooler.

Specification

Clamp After Second Turbocharger
 (G)—Torque..... 20 N·m (178 lb.-in.)

Specification

All Other Clamps (C, D, E, F, H, I)—Torque..... 10 N·m (88 lb.-in.)

8. Close and secure hood and reinstall side shields.

D—Clamps Before First Turbocharger

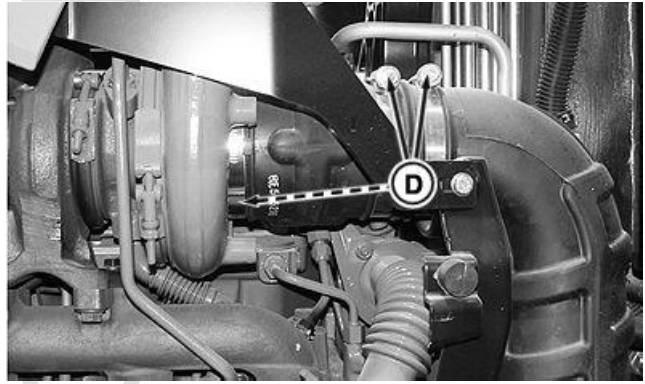
G—Clamp After Second Turbocharger

E—Clamps After First Turbocharger

H—Clamps Before Intercooler

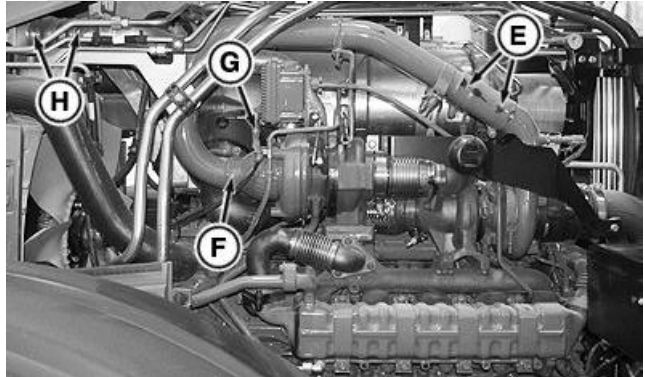
F—Clamp Before Second Turbocharger

I—Clamps After Intercooler



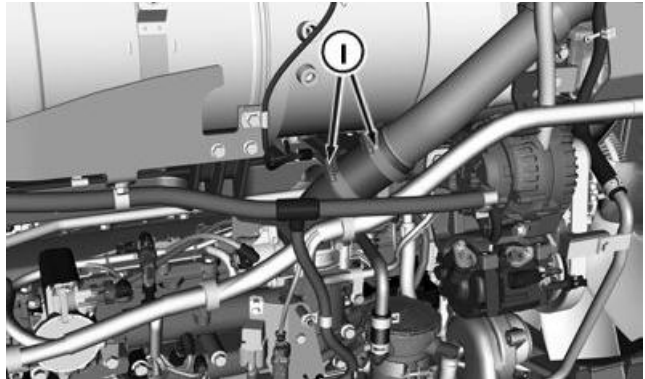
Hose Clamps Before Turbocharger (Left Side of Engine)

RXA0134237 —UN—30JUL13



Hose Clamps Before and After Turbochargers (Left Side of Engine)

RXA0134252 —UN—31JUL13



Hose Clamps After Intercooler (Right Side of Engine)

RXA0135223 —UN—29AUG13

TO84419,00001EB -19-23AUG13-2/2

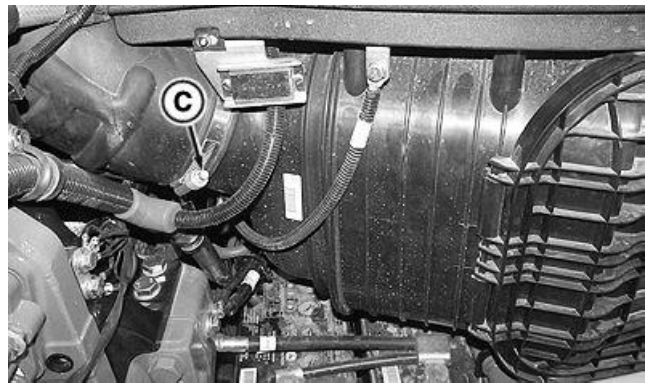
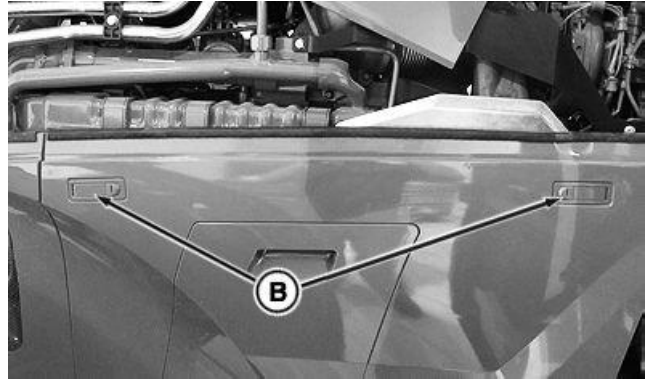
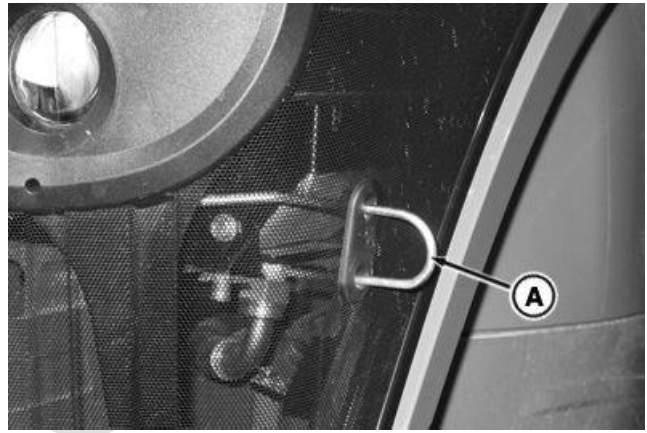
Inspect Engine Air Intake System - 9.0 L Engine

IMPORTANT: To determine which engine your tractor is equipped with, see Record Engine Serial Number in Identification Numbers section of this Operator's Manual.

1. Pull hood release (A) and raise hood.
2. Depress latch buttons (B) to remove left rear side shield.
3. Remove battery compartment cover.
4. Tighten hose clamp (C) after air filter.

A—Hood Release
B—Latch Buttons

C—Clamp After Air Filter



Hose Clamp After Air Filter (Left Side of Engine)

Continued on next page

T084419,0000055 -19-16AUG13-1/2

RXA0133488 —UN—02JUL13

RXA0134193 —UN—25JUL13

RXA0134212 —UN—25JUL13

ROOF

5. Tighten hose clamps before (D) and after (E) turbocharger.
6. Tighten hose clamps before (F) and after (G) intercooler (H).

Specification

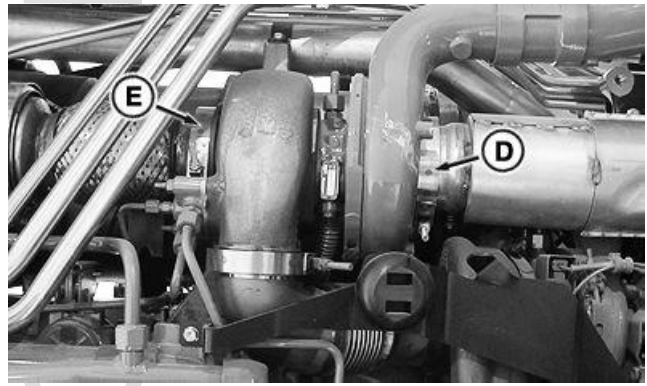
Clamp Before Turbocharger
 (D)—Torque..... 20 N·m (178 lb.-in.)

Specification

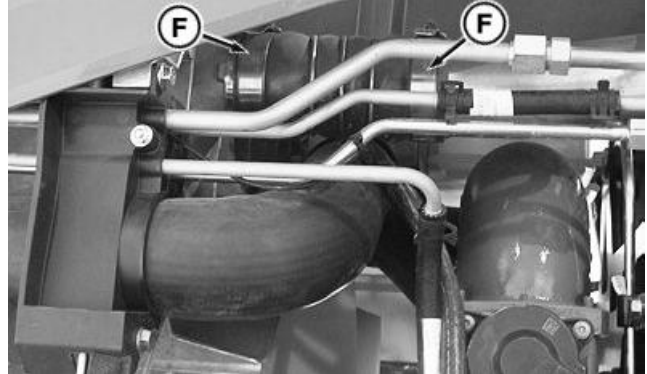
All Other Clamps (C, E, F, G)—Torque..... 10 N·m (88 lb.-in.)

7. Close and secure hood and reinstall side shields.

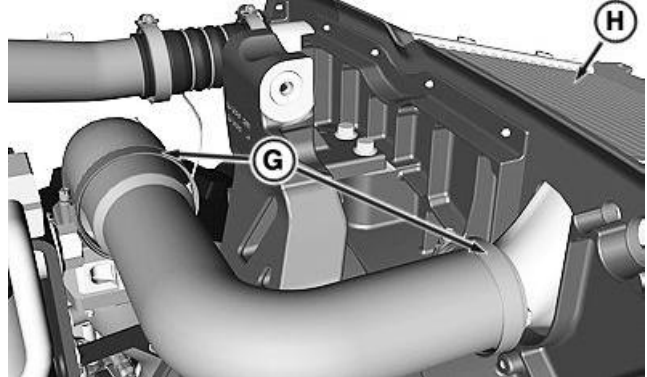
D—Clamp Before Turbocharger G—Clamps After Intercooler
E—Clamps After Turbocharger H—Intercooler
F—Clamps Before Intercooler



Hose Clamps Before and After Turbocharger (Left Side of Engine)



Hose Clamps Before Intercooler (Left Side of Engine)



Hose Clamps After Intercooler (Right Side of Engine)

RXA0134214 —UN—25JUL13

RXA0134213 —UN—25JUL13

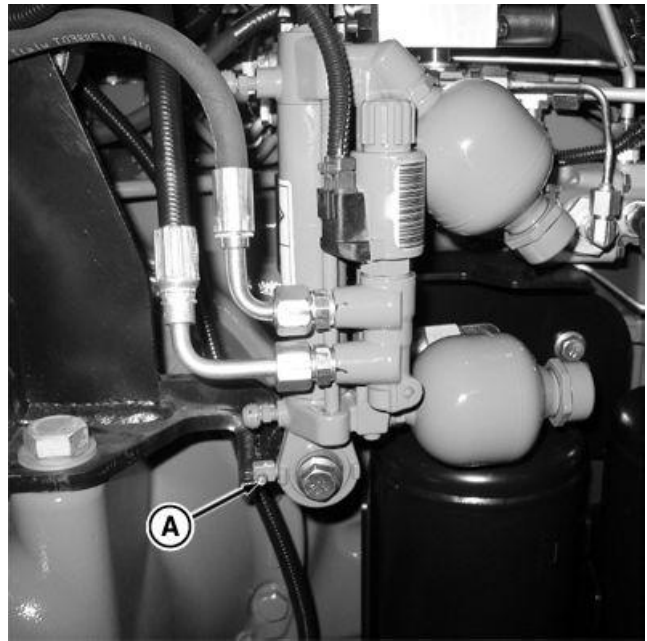
RXA0134227 —UN—29JUL13

T084419,0000055 -19-16AUG13-2/2

Lubricate Cab Suspension System (If Equipped)

Lubricate grease fittings (A) with several strokes of grease gun. Use John Deere multi-purpose grease as specified in Fuel, Lubricants, and Coolant section.

A—Grease Fitting



RXA012398 —UN—04JAN11

TO84419,00001EE -19-25JUL13-1/1

PROOF

Back Flush Optional Fuel Water Separator (If Equipped)

IMPORTANT: Optional fuel water separator should be back flushed whenever bowl is half full of water or when diagnostic trouble code appears. If, after flushing, trouble code is still displayed, wash filter element. See **Service Optional Fuel Water Separator Filter Element** in this section of this Operator's Manual. If code persists, change both fuel filters.

1. Shut off engine.
2. Close fuel shut-off valve (A).
3. Open bleed screw (B) on top of water separator lid. Allow water and dirt to be released from filter element and settle in bottom of bowl.

NOTE: Drain fuel into appropriate container and dispose of in accordance with local laws and ordinances.

As fuel, water, and dirt is drained from bowl in step 4, more water and dirt may be flushed from filter element and collect in bottom of bowl.

4. Push IN on drain valve (C) and turn COUNTERCLOCKWISE to drain water and dirt from bowl.
5. Close drain valve (C) and allow water and dirt to settle again.
6. Repeat steps 4 and 5 until all dirt and water is removed.
7. Close bleed screw (B) and open fuel shut-off valve (A).
8. Start and run engine at fast idle for at least 2 minutes. If engine won't start or starts and dies, see **Replace Fuel Filters** in this section of this Operator's Manual and follow instructions for priming engine.

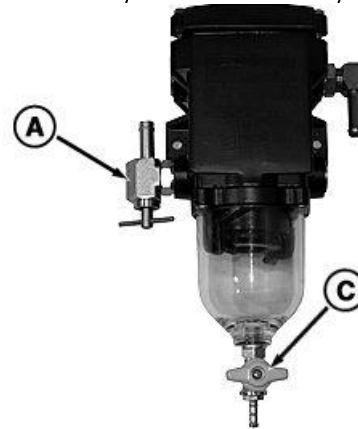
NOTE: Filter element in water separator can be back flushed up to five times before being cleaned.

A—Fuel Shut-Off Valve
B—Bleed Screw

C—Drain Valve



Optional Fuel Water Separator



TO84419,0000085 -19-03SEP13-1/1

RXA0133505—UN—03JUL13

RXA0084314—UN—26SEP05

RXA0084316—UN—26SEP05

Service Optional Fuel Water Separator Filter Element (If Equipped)

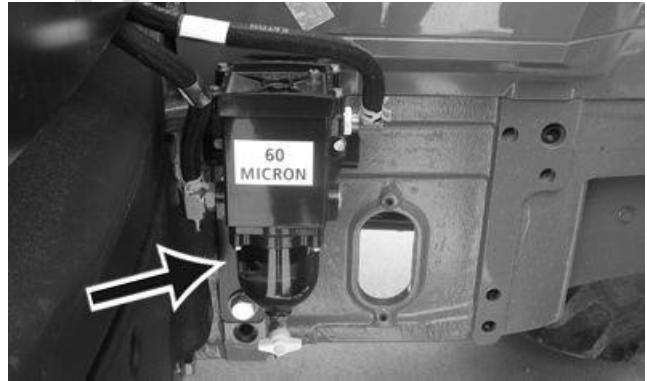
IMPORTANT: Clean filter element after each fifth back flushing of water separator assembly. Filter element can be cleaned as often as necessary for an indefinite number of times. Replace element if damaged or cleaning becomes impossible.

1. Shut off engine.
2. Close fuel shut-off valve (A).

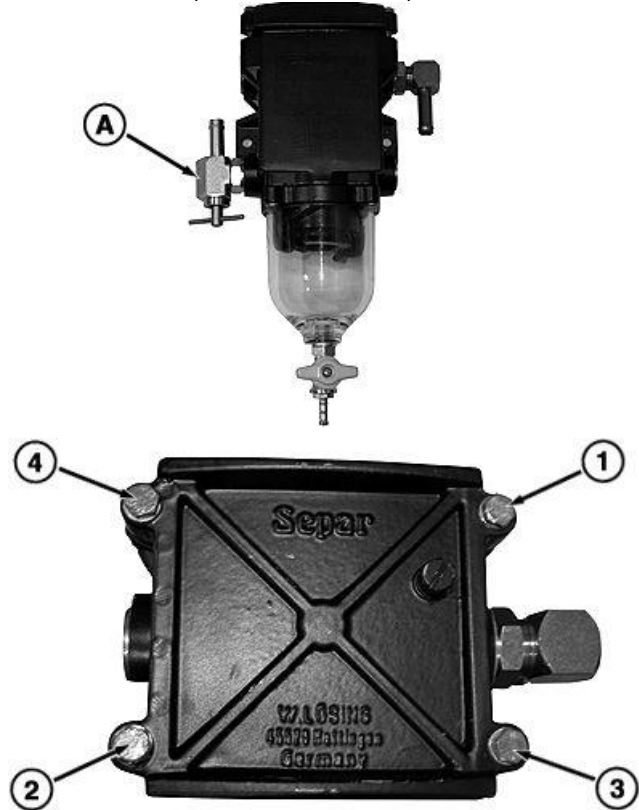
NOTE: Drain fuel into appropriate container and dispose of it in accordance with local laws and ordinances.

3. Open drain valve and drain fuel from bowl.
4. Loosen lid cap screws evenly in sequence shown.

A—Fuel Shut-Off Valve



Optional Fuel Water Separator



Water Separator Lid

Continued on next page

TO84419,0000086 -19-29AUG13-1/2

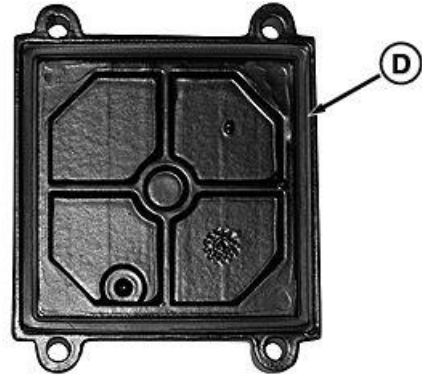
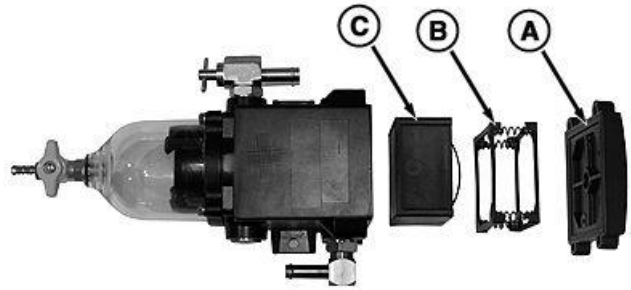
RXA0133505—UN—03JUL13

RXA0084318—UN—26SEP05

RXA0084320—UN—26SEP05

5. Remove lid (A), spring cassette (B). Lift filter element (C) from housing using attached handle.
6. Wash filter element in clean diesel fuel or mineral spirits.
7. Carefully inspect filter element for damage. If damaged, or if filter cannot be cleaned, replace filter element.
8. Install cleaned or new filter element and spring cassette.
9. Inspect lid gasket (D) condition and replace if necessary.
10. Install lid (A). Tighten cap screws in sequence shown.
11. Open fuel shut-off valve.
12. Start and run engine at fast idle for at least 2 minutes. If engine won't start or starts and dies, see Replace Fuel Filters in this section of the Operator's Manual and follow instructions for priming engine.
13. Shut off engine and check for fuel leaks.

A—Lid
 B—Spring Cassette
 C—Filter Element
 D—Lid Gasket



Lid Cap Screw Tightening Sequence

TO84419,0000086 -19-29AUG13-2/2

RXA0084322—UN—26SEP05

RXA0084324—UN—26SEP05

RXA0084320—UN—26SEP05

ROOF

1000 Hour Service

Perform This and Other Scheduled Services

When scheduled service at any hourly level is performed, also perform all subordinate hourly level services. See

Observe Service Intervals in Maintenance and Service Intervals Section of this Operator's Manual for table listing main and subordinate service intervals.

TO84419,0000211 -19-25JUL13-1/1

Replace Cab Recirculation Air Filter

CAUTION: Cab air filters are not designed to filter out harmful chemicals. Follow instructions in implement Operator's Manual and those given by chemical manufacturer when using agricultural chemicals.

IMPORTANT: Replacement interval can vary according to operating conditions. Normal service is 1000 hours or annually, whichever occurs first.

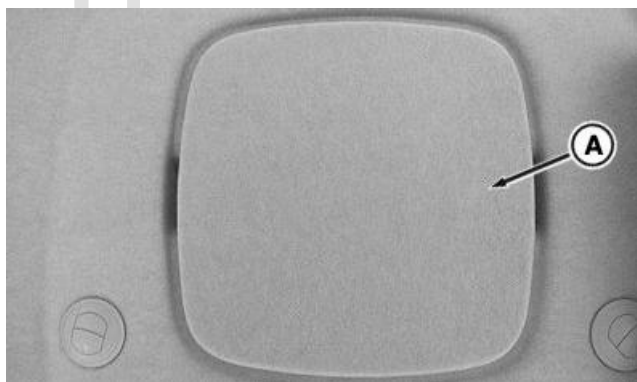
1. Remove upholstery cover (A) in headliner by grasping outer edges and pulling down.

NOTE: When removing fasteners (B), hold cover (C) in place with one hand.

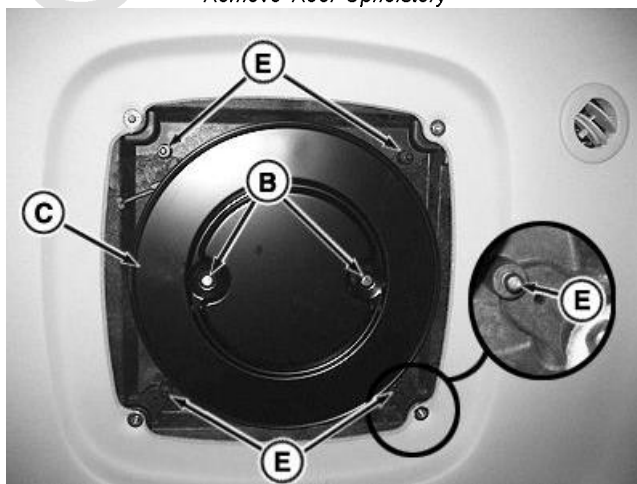
2. Remove fasteners allowing cover to be lowered.
3. Using a clean cloth, wipe down inside and outside of filter cover before installing new filter.
4. Remove filter (D) and inspect condition.
5. Replace filter when plugged or damaged.
6. Install cover (C) and tighten fasteners (B).
7. Install upholstery cover by lining up ball studs (E) with clip nuts (F) and firmly push up.

A—Upholstery Cover
B—Fasteners
C—Cover

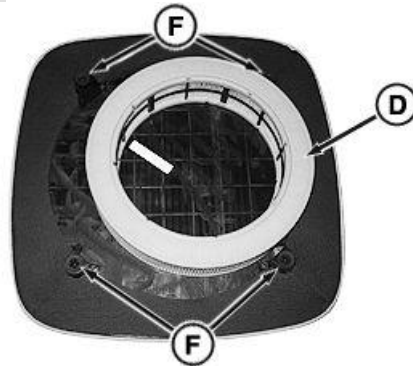
D—Filter
E—Ball Studs
F—Clip Nuts



Remove Roof Upholstery



Remove Cover



Remove Filter

RXA0134243 —UN—31JUL13

RXA0100957 —UN—17MAR09

RXA0100959 —UN—17MAR09

TO84419,0000087 -19-29AUG13-1/1

Replace Cab Fresh Air Filter

CAUTION: Cab air filters are not designed to filter out harmful chemicals. Follow instructions in implement Operator's Manual and those given by chemical manufacturer when using agricultural chemicals.

IMPORTANT: Replacement interval can vary according to operating conditions. Normal service is 1000 hours or annually, whichever occurs first.

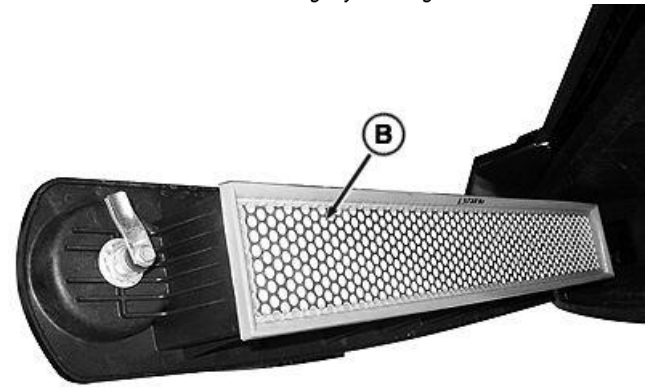
1. Support cover, then turn knob allowing cover (A) to swing down.
2. Using a clean cloth, wipe down inside and outside of filter cover before replacing old filter.
3. Remove old filter (B).
4. Inspect condition of filter.

A—Cover

B—Air Filter



Let Cover Swing By Turning Knob



Remove Filter



Continued on next page

TO84419,0000088 -19-29AUG13-1/2

RXA0099137 —UN—19SEP08

RXA0099139 —UN—19SEP08

RXA0099699 —UN—04NOV08

OFF

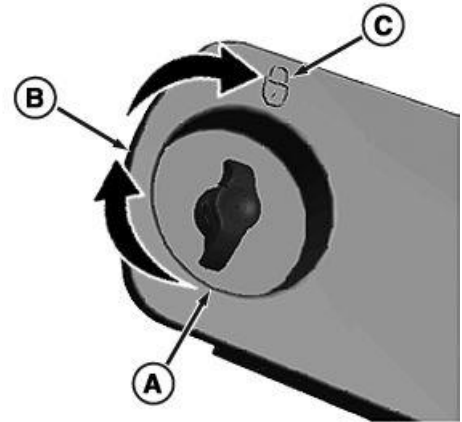
5. Replace filter if plugged or damaged.

NOTE: Filter cover latch has three positions; open (A), latched (B) and locked (C).

6. Close cover and turn knob 180° to securely lock latch.

A—Open Position
B—Latched Position

C—Locked Position



Air Filter Cover

TO84419,0000088 -19-29AUG13-2/2

RXA0099848 —UN—26NOV08

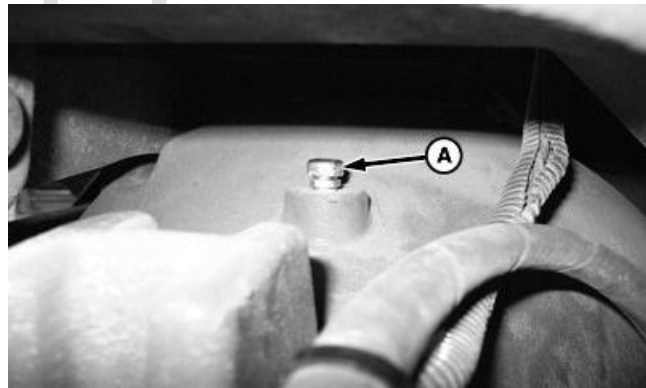
Clean MFWD or TLS™ Plus (If Equipped) Axle Vent Filter

IMPORTANT: Allowing excess dirt and foreign material to build up in vent filter may cause damage to axle seals.

NOTE: If vent filter is packed with dirt, soak in solvent before blowing air through breather vent.

Remove axle vent filter (A). Clean by blowing air through vent filter (bottom to top).

A—MFWD or TLS™ Plus (If Equipped) Axle Vent Filter



TLS is a trademark of Deere & Company

TO84419,00001F5 -19-02APR13-1/1

RXA0109503 —UN—19AUG10

Test Coolant and Add Coolant Conditioner

IMPORTANT: Perform coolant service every 1000 hours or annually, whichever comes

first. See Test Coolant and Add Coolant Conditioner in Annual Service section of this Operator's Manual.

RX32825,0000708 -19-10APR13-1/1

Check TLS™ Plus Accumulator Charge Pressure (If Equipped)

Have your John Deere™ dealer check TLS™ Plus accumulator charge pressure.

*John Deere is a trademark of Deere & Company
TLS is a trademark of Deere & Company*

RX32825,000071A -19-02APR13-1/1

Check Cab Suspension Accumulator Charge Pressure (If Equipped)

IMPORTANT: Check cab suspension accumulator charge pressure every 1000 hours or annually, whichever comes first.

John Deere is a trademark of Deere & Company

Have your John Deere™ dealer check cab suspension accumulator charge pressure.

RX32825,0000709 -19-18DEC12-1/1

PROOF
PROOF
PROOF

Annual Service

Handling Batteries Safely

Battery gas can explode. Keep sparks and flames away from batteries. Use a flashlight to check battery electrolyte level.

Never check battery charge by placing a metal object across the posts. Use a voltmeter or hydrometer.

Always remove grounded (-) battery clamp first and replace grounded clamp last.

Sulfuric acid in battery electrolyte is poisonous and strong enough to burn skin, eat holes in clothing, and cause blindness if splashed into eyes.

Avoid hazards by:

- Filling batteries in a well-ventilated area
- Wearing eye protection and rubber gloves
- Avoiding use of air pressure to clean batteries
- Avoiding breathing fumes when electrolyte is added
- Avoiding spilling or dripping electrolyte
- Using correct battery booster or charger procedure.

If acid is spilled on skin or in eyes:

1. Flush skin with water.
2. Apply baking soda or lime to help neutralize the acid.
3. Flush eyes with water for 15—30 minutes. Get medical attention immediately.

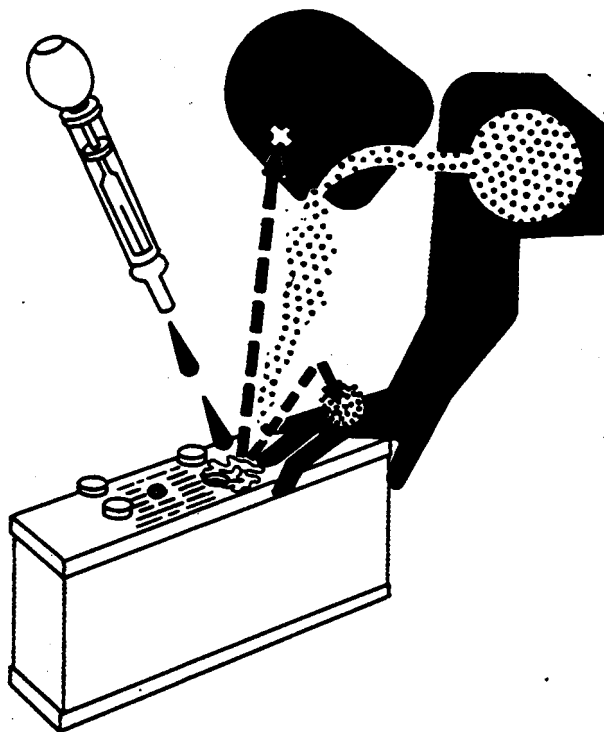
If acid is swallowed:

1. Do not induce vomiting.
2. Drink large amounts of water or milk, but do not exceed 2 L (2 qt.).
3. Get medical attention immediately.

WARNING: Battery posts, terminals, and related accessories contain lead and lead compounds, chemicals known to the State of California to cause cancer and reproductive harm. **Wash hands after handling.**



TS204—UN—15APR13

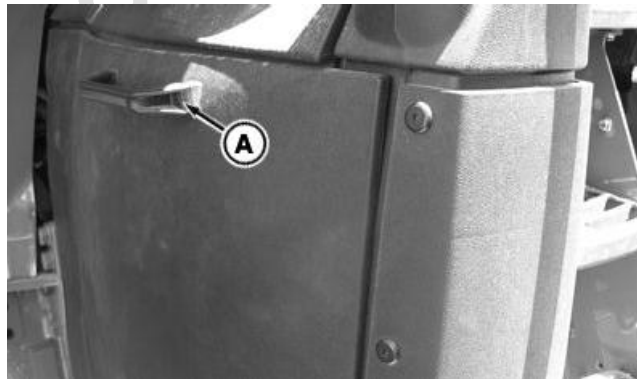
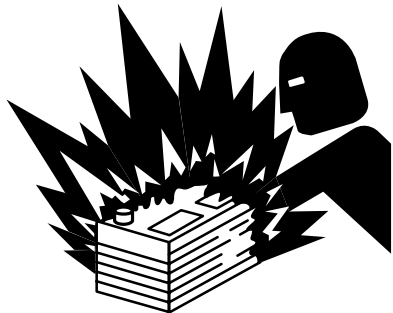


TS203—UN—23AUG88

DX,VW,BATTERIES -19-02DEC10-1/1

ROOF

Service Batteries and Connections



RXA0086786 —UN—14FEB06

RXA0133316 —UN—25JUN13

A—Battery Compartment Cover Handle

NOTE: Although this battery is a maintenance free battery, conditions such as long periods of operation at high ambient temperatures and excessive engine cranking may require adding water. See label on battery.

CAUTION: Never use compressed air to clean batteries. It can cause a buildup of static charge leading to potential injury.

Battery gas can explode. Keep sparks and flames away from batteries. Use flashlight to check battery electrolyte level.

Never check battery charge by placing metal object across posts. Use a voltmeter or hydrometer.

Always remove battery ground cables before positive battery cables and connect them last. Do not let disconnected ground terminal touch metal surface.

WARNING: Battery posts, terminals, and related accessories contain lead and lead compounds, chemicals known to the State of California to cause cancer and reproductive harm. **Wash hands after handling.**

CAUTION: Avoid contact with poisonous sulfuric acid in battery electrolyte. Battery acid can burn skin, damage clothing, and cause blindness if splashed into eyes.

NOTE: For optimum battery performance, keep battery terminals clean and tight.

For replacement batteries, follow manufacturer's recommendations.

1. Grasp handle (A) and pull forward and upward to remove battery compartment cover. Strong magnets hold cover in place.

IMPORTANT: (Final Tier 4 and Stage IV Engines only. To determine which engine your tractor is equipped with, see Record Engine Serial Number in Identification Numbers section of this Operator's Manual.) Do not disconnect battery until Selective Catalyst Reduction (SCR) system has had enough time to automatically purge system of Diesel Exhaust Fluid (DEF). If adequate time is not allowed for system to be purged, any DEF remaining can crystallize and plug system. At temperatures below -15°C (5°F), unpurged DEF will freeze and damage system components. If equipped with battery disconnect system, a light next to disconnect system is illuminated, while auto-purge is in progress. It shuts off when complete and safe to disconnect battery. If tractor is not equipped with battery disconnect, wait at least 4 minutes after tractor stops before disconnecting battery.

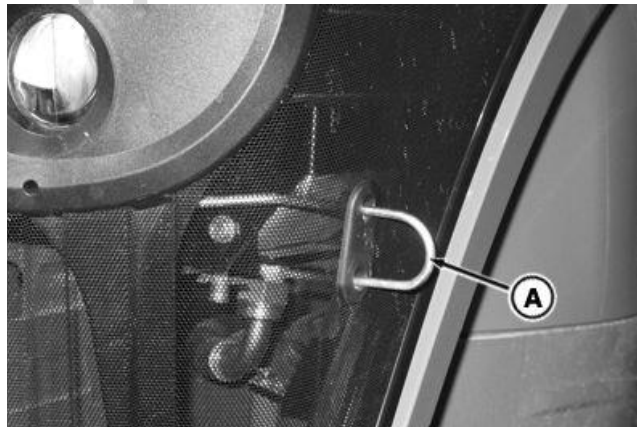
2. Disconnect **Negative** battery cables, then **Positive** battery cables.
3. Remove any corrosion with terminal brush, then clean terminals and battery posts using baking soda and water solution.
4. Rinse with clean water and air dry.
5. Connect positive battery terminals, then connect negative battery terminal.
6. Apply thin coat of grease to cable ends.
7. If batteries have been removed for service, slide batteries back into compartment. Install battery retaining clamp.
8. Replace battery compartment cover. Line up cover supports at bottom of cover and pivot cover into place. Magnets secure cover.

T084419,0000057 -19-23AUG13-1/1

Test Coolant and Add Coolant Conditioner



TS281 —UN—15APR13



RXA0133488 —UN—02JUL13

IMPORTANT: Perform coolant service every 1000 hours or annually, whichever comes first.

CAUTION: Explosive release of fluids from pressurized cooling system can cause serious burns.

Shut off engine. Only remove cap when cool enough to touch with bare hands. Slowly loosen cap to release pressure before fully removing.

1. Pull hood release (A) and raise hood.

IMPORTANT: Do not open deaeration tank cap when engine is warm. Doing so will add air to coolant system.

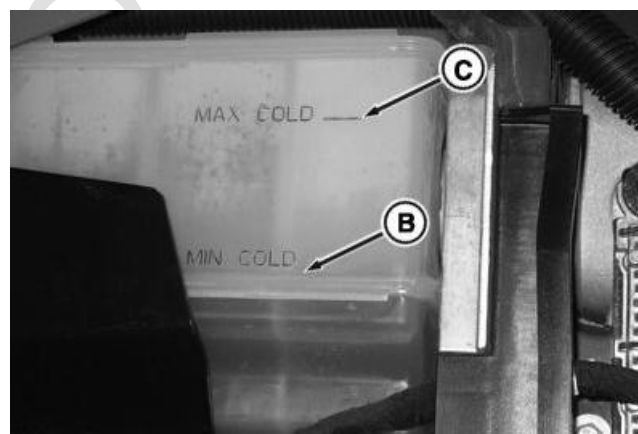
2. Slowly turn deaeration tank cap (D) to relieve pressure. Remove cap.
3. Test coolant using TY26605 COOL-GARD™ II Test Strips available from your John Deere™ dealer.

NOTE: Follow instructions on back of reader card in test strip pack when testing coolant.

4. Add TY26603 COOL-GARD™ II Extender (available from your John Deere™ dealer) as indicated by the color matrix on reader card in test strip pack. Coolant level should be between Min Cold Line (B) and Max Cold Line (C) on deaeration tank. If tank is too full, drain a small amount of coolant from system before extender is added.

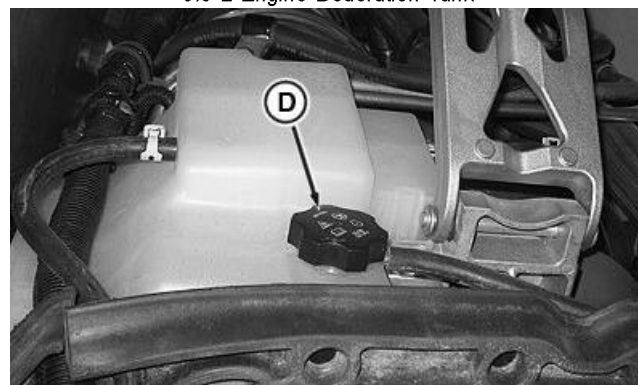
NOTE: Visually check cap o-ring for sealing effectiveness. A correctly sealing o-ring will have imprint of tank neck mating surface with no apparent scratches or leak paths. If o-ring is not sealing correctly, replace cap.

COOL-GARD is a trademark of Deere & Company
John Deere is a trademark of Deere & Company



9.0 L Engine Deaeration Tank

RXA0133489 —UN—02JUL13



9.0 L Engine Deaeration Tank

RXA0133490 —UN—02JUL13

A—Hood Release
B—Min Cold Line

C—Max Cold Line
D—Deaeration Tank Cap

5. Install deaeration tank cap.
6. Close and secure hood.

TO84419.000008A -19-29AUG13-1/1

Replace Cab Recirculation and Fresh Air Filters

CAUTION: Cab air filters are not designed to filter out harmful chemicals. Follow instructions in implement Operator's Manual and those given by chemical manufacturer when using agricultural chemicals.

IMPORTANT: Replacement interval can vary according to operating conditions. Normal service is 1000 hours or annually, whichever occurs first. See Replace Cab Recirculation Air Filter and Replace Cab Fresh Air Filter in Annual Service section of this Operator's Manual.

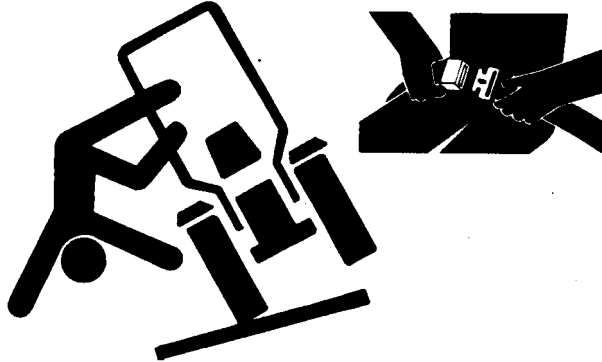
TO84419,000089 -19-29AUG13-1/1

Inspect Seat Belts

CAUTION: If seat belt system, including mounting hardware, buckle, belt, or retractor shows any sign of damage such as cuts, fraying, extreme or unusual wear, discoloration or abrasion, the entire seat belt system should be replaced immediately. Replace belt system only with replacement parts approved for your machine.

Inspect seat belts (A) and mounting hardware. If seat belts need to be replaced, see your John Deere™ dealer.

A—Seat Belts



TS205 —JUN—23AUG88

RXA0129149 —JUN—30OCT12

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TO84419,00001FB -19-26JUL13-1/1

Inspect Primary and Secondary Engine Air Filters

IMPORTANT: Inspect filters annually or when related diagnostic trouble code appears. Replacement interval may vary due to operating conditions. If primary filter appears good upon inspection, but diagnostic trouble code remains ON, replace primary engine air filter. Replace secondary engine air filter at every second primary filter change.

Carefully remove and examine primary and secondary filters for breaks, tears or excessive dirt accumulation. To inspect filters:

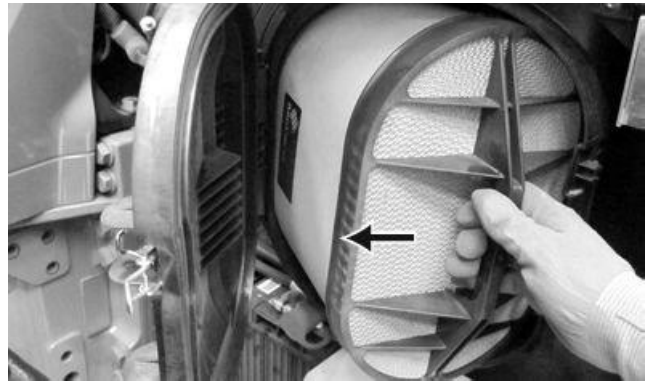
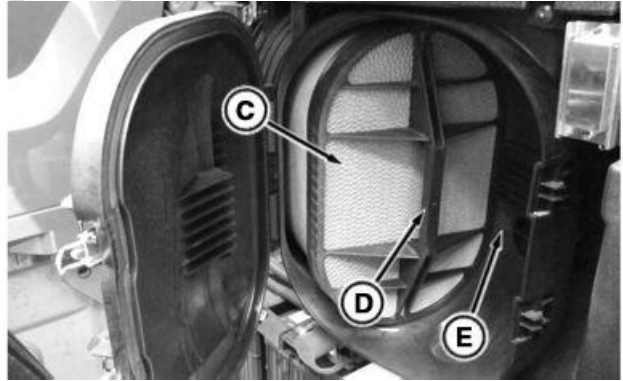
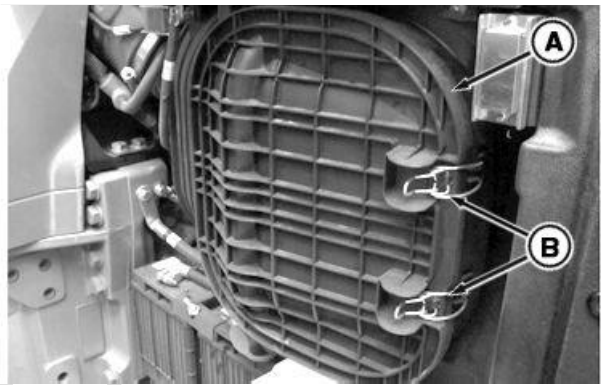
1. Remove battery compartment cover.
2. Unfasten two clamps (B) and open filter cover (A).
3. Pull handle (D) towards front of tractor to release primary air filter from raised retainer (E).
4. Remove primary filter (C).
5. Clean dirt from inside of canister and cover.

IMPORTANT: If a filter is dirty, replace it. Do not attempt to clean filters.

6. Carefully inspect primary filter, looking for excessive dirt and debris accumulation or rips in filter element. Replace if excessively dirty or if damaged.

A—Cover
B—Clamps
C—Primary Air Filter

D—Handle
E—Retainer



Pull Handle to Remove Primary Air Filter

RXA0134187 —UN—25JUL13

RXA0134188 —UN—25JUL13

RXA0134189 —UN—25JUL13

Continued on next page

TO84419,000008B -19-29AUG13-1/2

ROOF

- To protect air intake system, only remove secondary filter far enough from canister to allow inspection. Pull on handle (B) to slide top part of secondary filter (A) out first. Inspect secondary filter.

IMPORTANT: Failure to properly install primary and secondary filters will cause damage to engine. When installing primary air filter, make sure filter is properly seated behind raised retainer.

Replace secondary filter every second primary air filter change or if secondary filter is found to be damaged or excessively dirty.

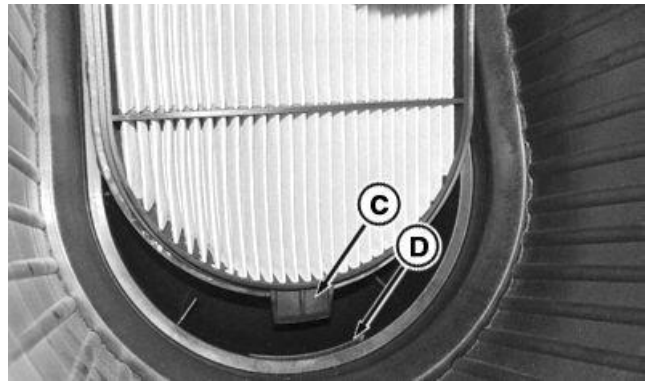
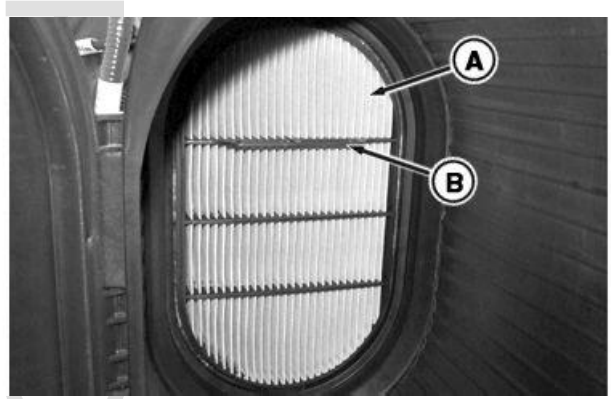
- If secondary filter is found to be in good condition and has been replaced at last primary filter change, reinsert it into filter canister. Then reinstall original - or install new - primary filter. Replace filter and battery covers.

IMPORTANT: Install new secondary filter immediately to prevent dust from entering air intake system.

- If secondary filter is damaged or excessively dirty, or if primary filter has been replaced once before without replacing secondary filter, remove and discard secondary filter.
- To install secondary filter (A), place tab (C) in slot (D).
- Firmly press around edge of secondary filter to properly seat filter against filter housing.
- Install new or reinstall original primary filter.
- Close cover and fasten cover clamps.
- Reinstall battery compartment cover.

A—Secondary Filter
B—Handle

C—Tab
D—Slot



RXA0134190—UN—25JUL13

RXA0134191—UN—25JUL13

RXA0134192—UN—25JUL13

TO84419,000008B -19-29AUG13-2/2

Check TLS™ Plus Accumulator Charge Pressure (If Equipped)

Have your John Deere™ dealer check TLS™ Plus accumulator charge pressure.

*John Deere is a trademark of Deere & Company
TLS is a trademark of Deere & Company*

RX32825,000071A -19-02APR13-1/1

Check Cab Suspension Accumulator Charge Pressure (If Equipped)

IMPORTANT: Check cab suspension accumulator charge pressure every 1000 hours or annually, whichever comes first.

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Have your John Deere™ dealer check cab suspension accumulator charge pressure.

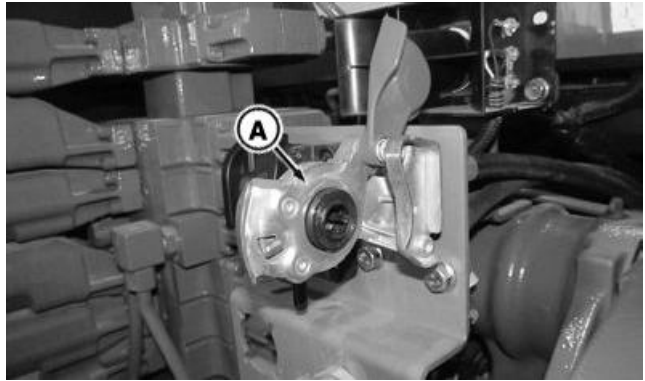
RX32825,000071B -19-19DEC12-1/1

Replace Trailer Air Brake Air Dryer Filter (If Equipped)

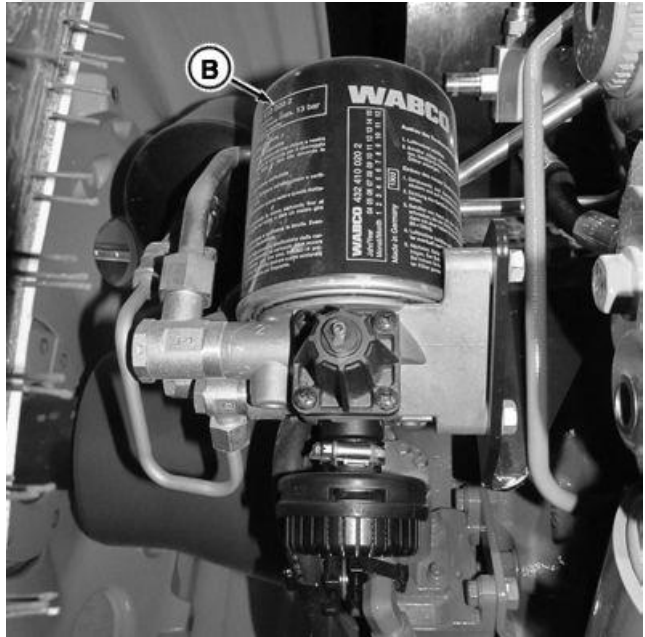
1. With engine in OFF position, manually depress release valve inside red air trailer brake coupler (A).
2. After all air pressure is released, remove trailer air brake dryer filter (B) and discard.
3. Lubricate new filter seal with clean oil.
4. Install new trailer air brake dryer filter (B) until gasket contacts air dryer surface. Hand tighten additional 1/2 turn.

A—Red Air Trailer Brake Coupler

B—Trailer Air Brake Dryer Filter



RXA0135319—UN—29AUG13



RXA0135320—UN—29AUG13

TO84419,0000200 -19-29AUG13-1/1

1500 Hour Service

Perform This and Other Scheduled Services

When scheduled service at any hourly level is performed, also perform all subordinate hourly level services. See

Observe Service Intervals in Maintenance and Service Intervals Section of this Operator's Manual for table listing main and subordinate service intervals.

TO84419,0000211 -19-25JUL13-1/1

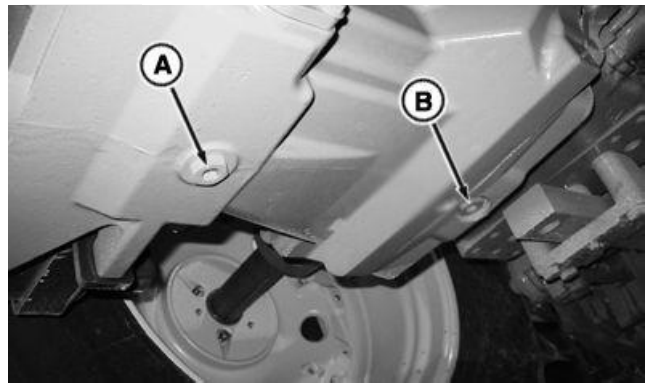
PROOF
PROOF
PROOF

Change Transmission/Hydraulic Oil and Filter and Clean Sump Screen

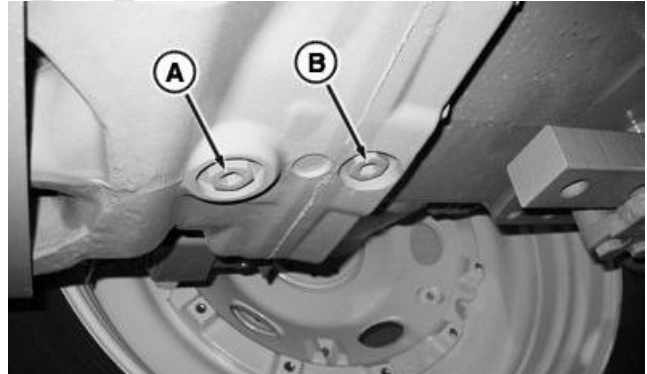
1. Drive tractor to warm transmission/hydraulic oil to 38°C (100°F).
2. Park tractor on level surface.
3. Lower hitch.
4. Let engine run at idle for 1—2 minutes, then stop engine.
5. Move drawbar to side so oil can drain unobstructed.
6. Remove transmission drain plug (A), reservoir drain plug (B), PTO drain plug (C), and each axle final drive drain plug (D) (one per side).

A—Transmission Drain Plug
B—Reservoir Drain Plug

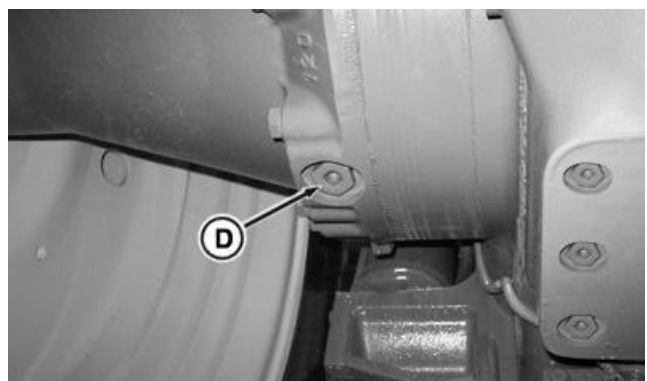
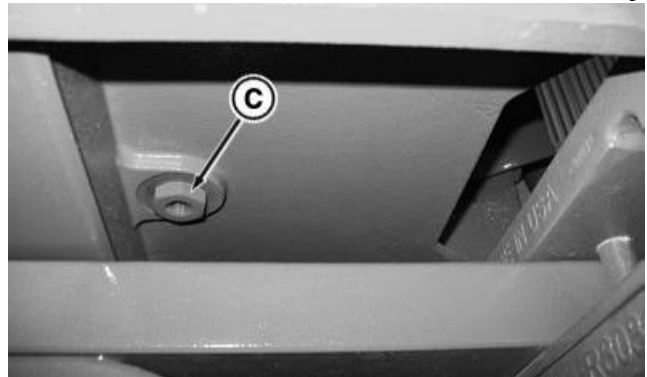
C—PTO Drain Plug
D—Axle Final Drive Drain Plug
(One Per Side)



CommandQuad™ Reservoir and Transmission Drain Plugs



e23™ or IVT™/AutoPowr™ Reservoir and Transmission Drain Plugs



RXA0133514 —UN—08JUL13

RXA0133515 —UN—08JUL13

RXA0133516 —UN—08JUL13

RXA0133517 —UN—08JUL13

Continued on next page

T084419,000008C -19-29AUG13-1/4

7. Remove suction screen cover (A). Remove cap screw (B) to remove suction screen cover.
8. Remove suction screen and wash carefully in cleaning solvent. Blow dry with compressed air.

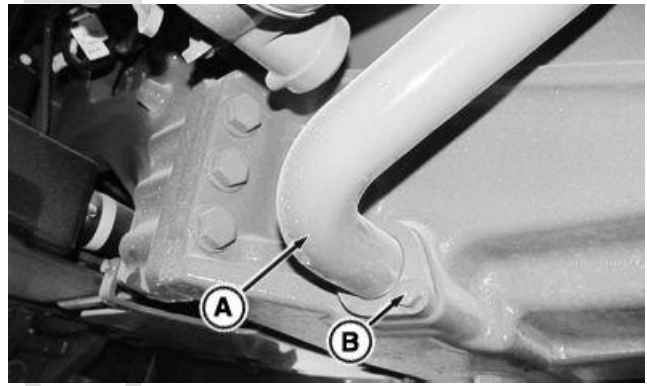
IMPORTANT: When installing scavenge and lube lines on suction screen cover, do not forget to install O-rings. Failure to do so will cause leakage.

9. Install screen and oil lines (if removed) making sure gaskets and O-rings are correctly positioned.
10. Remove transmission/hydraulic oil filter (C).
11. Lubricate new filter seal with clean hydraulic oil.
12. Install filter until gasket contacts surface. Hand tighten additional 1/2 turn.
13. Install drain plugs after oil has drained. Tighten to specification.

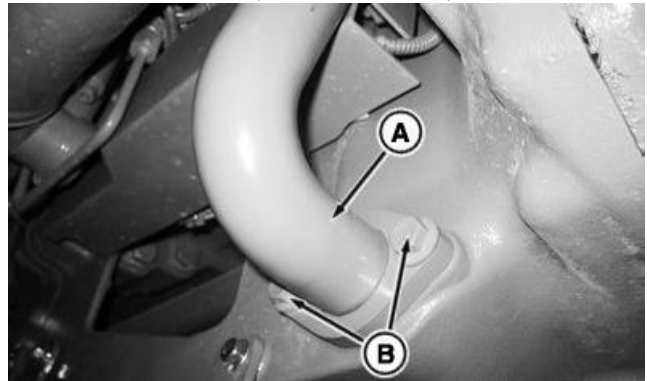
Specification

Drain Plug—Torque..... 102 N·m
(75 lb.-ft.)

- | | |
|-----------------------------------|-------------------------------------|
| A—Suction Screen Cover | C—Transmission/Hydraulic Oil Filter |
| B—Suction Screen Cover Cap Screws | |



Suction Screen Location CommandQuad™ Transmissions (Left Side of Tractor)



Suction Screen Location IVT™/AutoPowr™ Transmission (Left Side of Transmission)



Transmission/Hydraulic Filter (Left Side of Tractor)

Continued on next page

TO84419,000008C -19-29AUG13-2/4

RXA0134253—UN—31JUL13

RXA0135224—UN—23AUG13

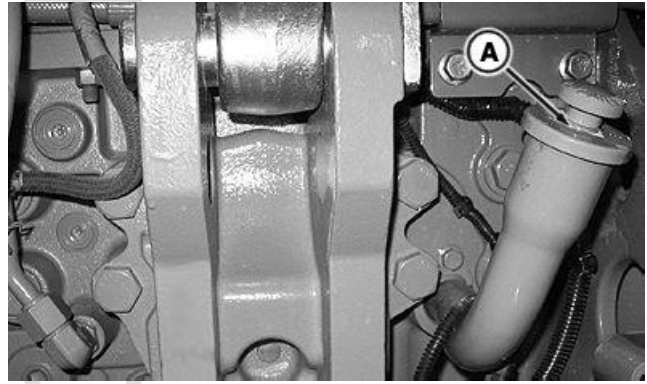
RXA0134216—UN—31JUL13

14. Remove fill tube cap (A) and add 160 L (42.3 gal.) of hydraulic oil. See Fuel, Lubricants, and Coolant section of this Operator's Manual for fill volume.

IMPORTANT: Fully insert and firmly tighten fill cap to assure proper hydraulic system operation.

15. Install and firmly tighten fill cap.
16. Start and leave engine at slow idle for 5 minutes. Oil level should rise in sight glass as tractor operates.
17. Shut off engine and wait at least one hour to allow oil to stabilize before checking oil level.

A—Fill Tube



Rear of Tractor

RXA0130643—UN—23JAN13

Continued on next page

T084419,000008C -19-29AUG13-3/4

PROOF

18. Check oil level in sight glass (A) at rear of tractor.

IMPORTANT: Wait at least one hour after engine was shut off to check transmission-hydraulic oil level.

Overfilling transmission-hydraulic oil can result in decreased operating efficiency. Except when operating in side-hill or high volume applications, keep oil level at or slightly below top of normal operating range. Never fill system above maximum operating level.

NOTE: Oil level may need to be adjusted based on expected operating conditions. See special operating condition instructions below.

19. If transmission-hydraulic oil level is at or below add oil indication (B), slowly add oil to reach top of normal operating range indicator (C). Use oil as specified in Transmission-Hydraulic Oil in Fuel, Lubricants and Coolant section of this Operator's Manual. From add oil level, adding approximately these amounts of oil will bring oil level to top of normal operating range.

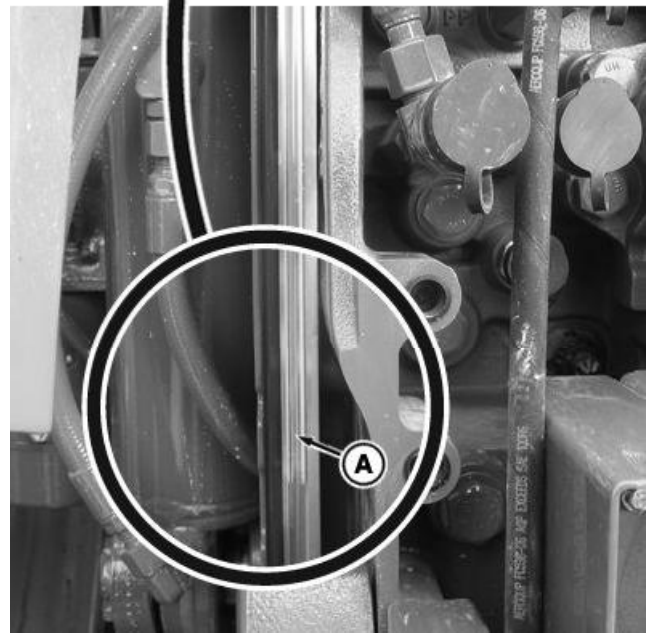
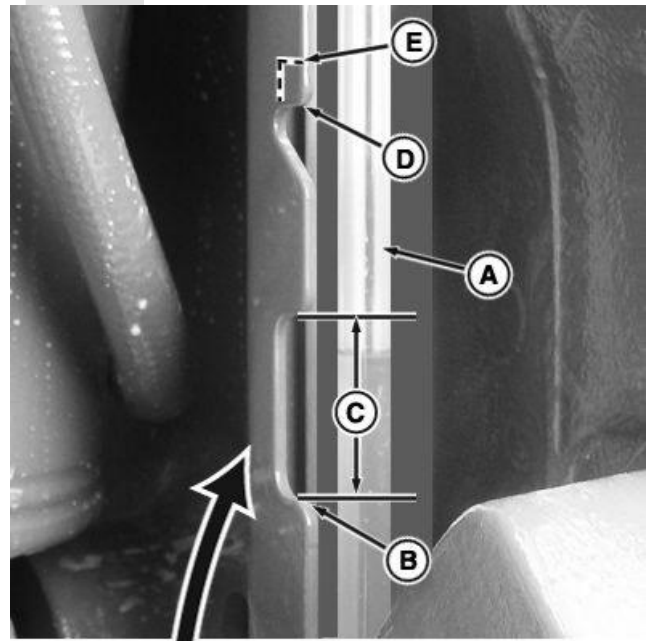
Transmission	Without Optional Auxiliary Oil Reservoir-CommandQuad™ ^a	Add With Optional Auxiliary Oil Reservoir
CommandQuad™	20 L (21 qt.)	22 L (23 qt.)
IVT™/AutoPowr™	16 L (17 qt.)	18 L (19 qt.)
e23™	16 L (17 qt.)	18 L (19 qt.)

^aActual volume may vary depending on additional SCV's and tractor options.

Road Transportation: In applications where tractor is mainly used for road transport and light hydraulic work, adjust oil level to lower end of normal operating range. A lower oil level allows tractor to operate more efficiently at transport speeds with less power loss and heat generation.

IMPORTANT: Examine oil level indicator. If tractor is not equipped with optional auxiliary oil reservoir, maximum operating level indication will be as shown (D). If tractor has optional oil reservoir installed, maximum operating level indicator will be higher (E).

For Side-Hill Applications or High Oil Volume Requirements: To prevent low oil levels, additional oil may be required when operating on side hills or when using implements which require large volumes of oil to function. Oil level should be at or slightly below maximum operating level (D or E).



- A—Transmission-Hydraulic Oil Sight Glass
- B—Add Oil
- C—Normal Operating Range
- D—Maximum Operating Level (Without Optional Auxiliary Oil Reservoir)
- E—Maximum Operating Level (With Optional Auxiliary Oil Reservoir)

T084419,000008C -19-29AUG13-4/4

RXA0133301—UN—19JUN13

Change MFWD or TLS™ Plus Wheel Hub Oil

1. Park tractor on level ground.
2. Maneuver tractor forward or backward until drain/fill plug (A) is at bottom of hub.
3. Open drain/fill plug and drain oil.
4. When oil has completely drained, maneuver tractor so that words OIL LEVEL - HY-GARD (B) or OIL LEVEL (C) cast into wheel hub are horizontal.

IMPORTANT: Use correct lubricant. Wheel hubs with brakes must be filled with John Deere™ Hy-Gard™ oil.

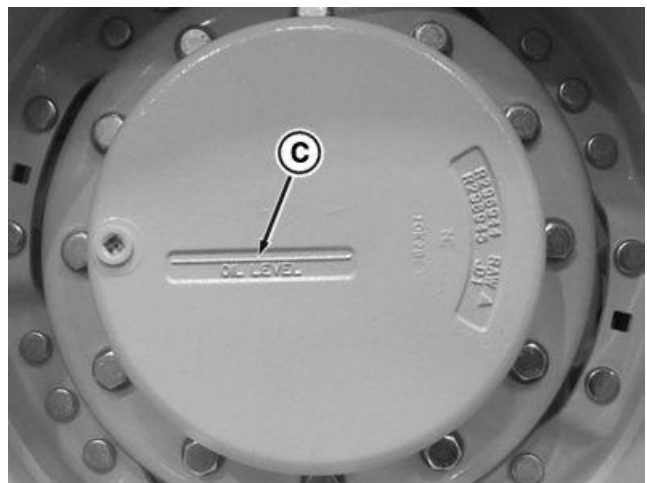
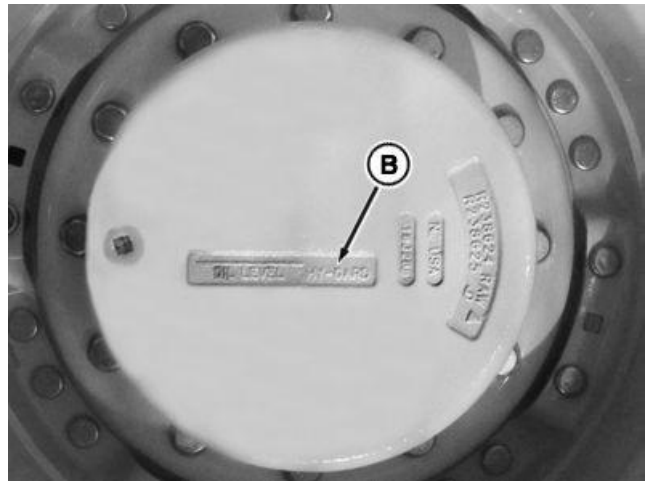
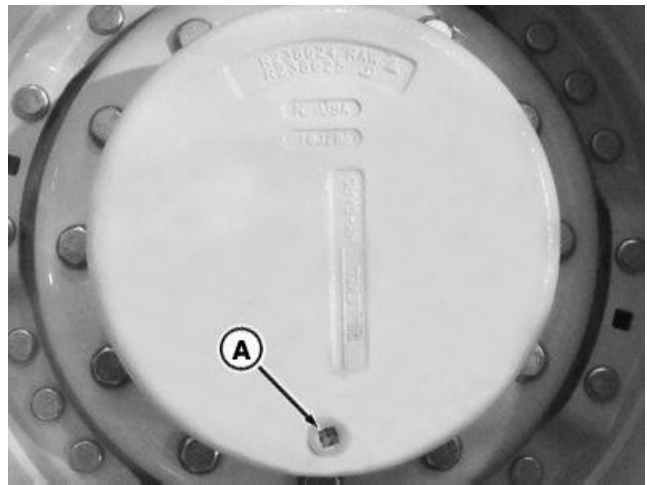
Wheel hubs without brakes are filled with John Deere™ GL-5 Gear Lubricant.

5. Refill wheel hubs with oil. Add correct oil depending upon whether tractor is equipped with front brakes. If tractor is equipped with front brakes, words cast into front hubs will read OIL LEVEL - HY-GARD. Fill front brake hub with John Deere™ Hy-Gard™ oil.
 - If only words OIL LEVEL are cast into front hubs, tractor is not equipped with front brakes. Use John Deere™ GL-5 Gear Lubricant. See Gear Oil or Transmission and Hydraulic Oil in Fuel, Lubricants and Coolant section of this Operator's Manual.
6. Apply pipe sealant with TEFLON® , or equivalent, to threads of drain/fill plug.
7. Install drain/fill plug and O-ring. Tighten to specifications.

Specification

Hub Without Brakes—Capacity.....	3.8 L (4.0 qt.)
Hub With Brakes—Capacity.....	3.9 L (4.1 qt.)
Plug-to-Hub—Torque.....	70 N·m (52 lb.-ft.)

8. Repeat procedure with other wheel hub.



RXA0129809 —UN—26NOV12

RXA0129806 —UN—26NOV12

RXA0129807 —UN—26NOV12

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Hy-Gard is a trademark of Deere & Company
TEFLON is a registered trademark of DuPont Co.*

TO84419,000005D -19-19AUG13-1/1

Change MFWD or TLS™ Plus Axle Housing Oil

1. Remove drain plugs (D) from axle housing and differential housing.
2. Install drain plugs after oil has drained. Tighten to specifications.

Specification

Plugs-to-Axle
 Housing—Torque.....70 N·m
 (52 lb.-ft.)

3. Remove fill/check plug (A).
4. Fill axle housing with John Deere™ Hy-Gard™ oil as specified in Transmission and Hydraulic Oil in Fuel, Lubricants and Coolant section of this Operator's Manual. Add oil until level is even with bottom of fill/check hole.

Specification

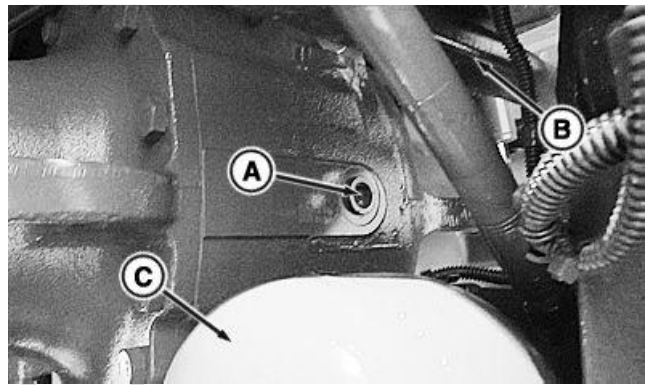
Axle Housing—Capacity..... 14.4 L
 (15.2 qt.)

5. Install fill/check plug.
6. Start and run tractor for several minutes, then remove fill/check plug and recheck oil level. Add additional oil as necessary. Operate tractor and recheck oil level until level is correct.
7. When oil level is correct, apply pipe sealant with TEFLON®, or equivalent, to threads of fill/check plug (A).
8. Install fill/check plug. Tighten to specifications.

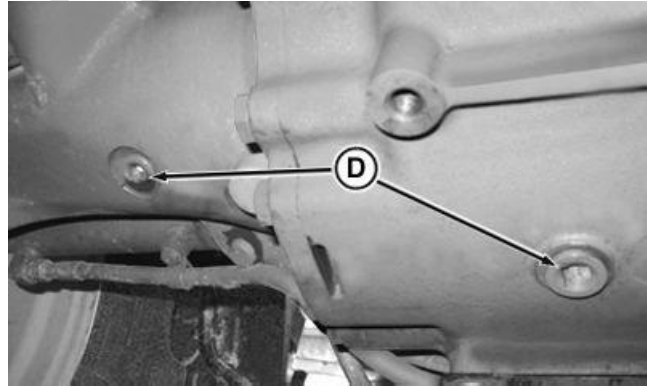
Specification

Plugs-to-Axle
 Housing—Torque.....70 N·m
 (52 lb.-ft.)

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 TEFLON is a registered trademark of DuPont Co.*



Fill/Check Hole



Drain Plugs

A—Fill/Check Plug
 B—Tie Rod

C—TLS™ Plus Accumulator (If Equipped)
 D—Axle and Differential Housing Drain Plugs

RXA0134206 —UN—29JUL13

RXA0109739 —UN—22SEP10

PROOF

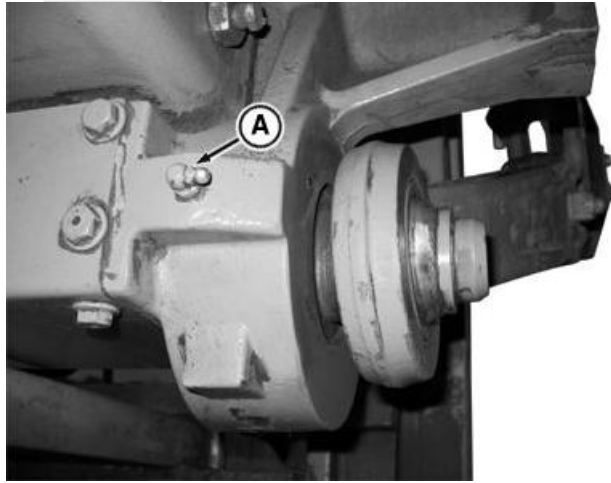
TO84419,000008D -19-29AUG13-1/1

Lubricate Draft Link Support Shaft Bushing

Use John Deere™ SD Polyurea grease or other grease as specified. See Fuel, Lubricants and Coolant section in this Operator's Manual.

Apply one or two shots of grease to support shaft grease fitting (A).

A—Support Shaft Grease Fitting



Left Side Under Rear of Tractor

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TO84419,000008E -19-29AUG13-1/1

RXA0110394 —UN—13SEP10

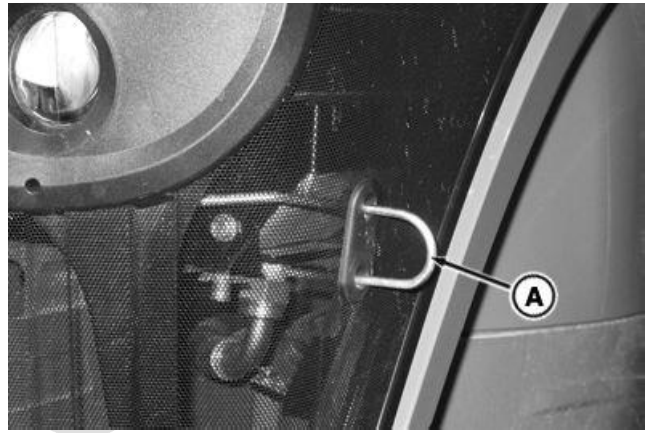
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Inspect Fan Belt and Fan Belt Tensioner

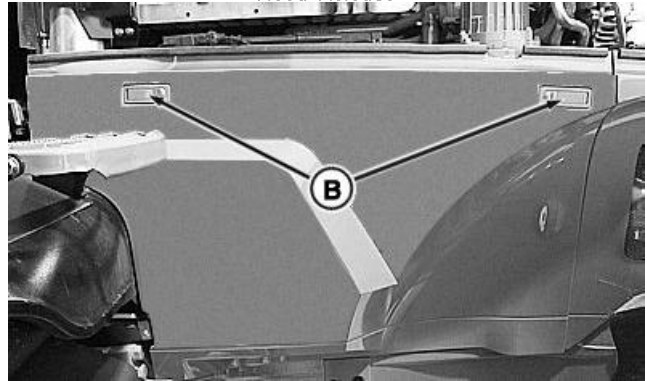
NOTE: Fan drive belt is equipped with automatic tensioner which does not require adjustment.

1. Pull hood release (A) and raise hood.
2. Depress latch buttons (B) to remove right rear side shield.
3. Disconnect vistronic fan drive harness connector.
4. Release tension on belt using 1/2 in. drive ratchet or breaker bar (C) on belt tensioner (D).
5. Remove belt from alternator pulley.
6. Release tension on belt tensioner (D) and remove breaker bar.

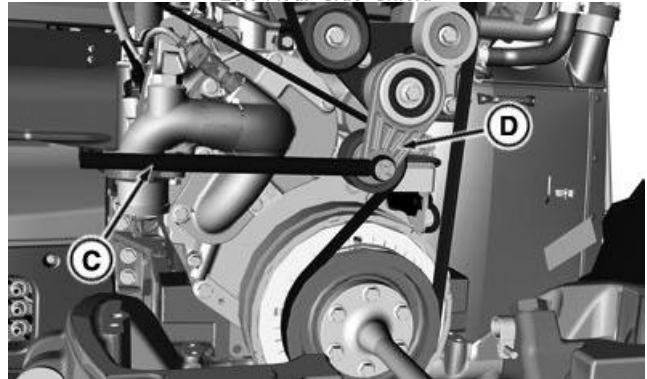
A—Hood Release	C—1/2 in. Drive Breaker Bar
B—Left Rear Side Shield	D—Belt Tensioner



Hood Release



Left Rear Side Shield



Release Tension with Breaker Bar

RXA0133488 —UN—02JUL13

RXA0134208 —UN—29JUL13

RXA0135222 —UN—23AUG13

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TO84419,000005F -19-23AUG13-1/3

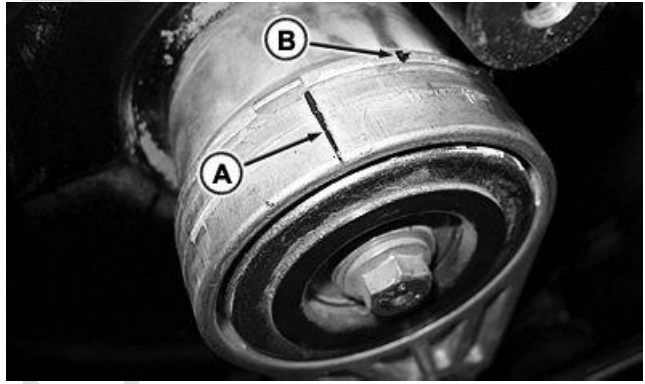
OFF

7. Measure 21 mm (13/16 in.) from (A) and put mark (B) on mounting bracket.
8. Rotate tension arm with torque wrench until marks (A and B) align together. If torque wrench measurement is not within specification, replace tensioner mechanism.

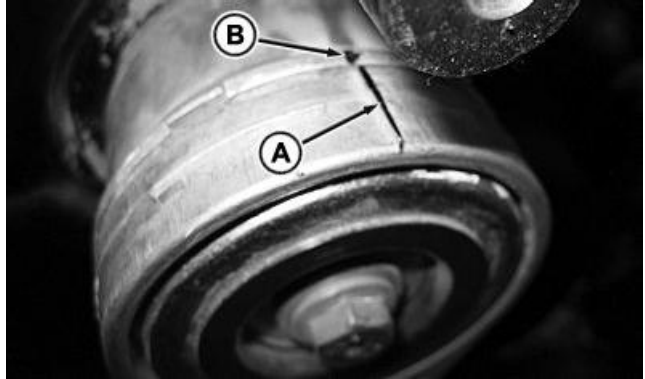
Specification

Tension Arm—Torque..... 18—23 N·m
(159—204 lb.-in.)

A—Mark on Tensioner Arm B—Mark on Mounting Bracket



Reference Marks



Check Tension Specification

RXA0134875—UN—05AUG13

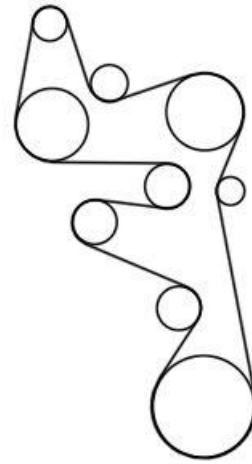
RXA0134876—UN—05AUG13

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TO84419,000005F -19-23AUG13-2/3

PROOF

9. Inspect fan belt for cracks, damage, or excessive wear. Replace if necessary.
10. Install belt according to fan belt layout diagram.
11. Reinstall vistronic fan drive harness connector.
12. Install right rear side shield.
13. Close and secure hood.



6.8 L Fan Belt Layout



9.0 L Fan Belt Layout

TO84419,000005F -19-23AUG13-3/3

RXA0194221 —UN—28JUL13

RXA0194220 —UN—28JUL13

PROOF

Change Front PTO Housing Oil and Filter (If Equipped)

IMPORTANT: Normal front PTO service interval is every 1500 hours. However, change oil and replace filter after first 250 hours of tractor use.

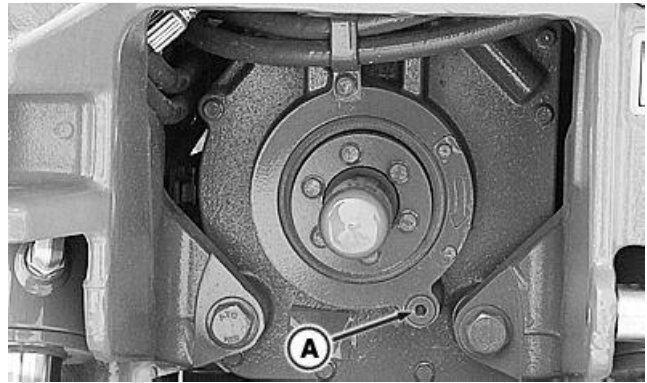
1. Remove fill (A) and drain (B) plugs.
2. Install drain plug after oil has drained.
3. Remove filter (C).
4. Lubricate new filter seal with clean hydraulic oil.
5. Install filter until seal contacts surface. Hand tighten additional 1/2 turn.

NOTE: When temperatures can be expected to drop below -5°C (23°F), use John Deere™ Low Viscosity Hy-Gard™ oil as specified in Use Correct Viscosity Front PTO Oil In Cold Weather in Fuel, Lubricants and Coolant section of this Operator's Manual.

6. Fill with appropriate John Deere™ Hy-Gard™ as specified in Transmission and Hydraulic Oil or Use Correct Viscosity Front PTO Oil In Cold Weather in Fuel, Lubricants and Coolant section of this Operator's Manual. Fill through fill hole (A) until oil is even with bottom of hole.
7. Install fill plug.
8. Start tractor and operate front PTO. After a few minutes of operation, stop tractor and recheck oil level at fill plug. Add more oil if necessary.

A—Check/Fill Plug
B—Drain Plug

C—Filter



RXA0134207 —UN—25JUL13



RXA0110843 —UN—29SEP10



RXA0134225 —UN—26JUL13

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Hy-Gard is a trademark of Deere & Company

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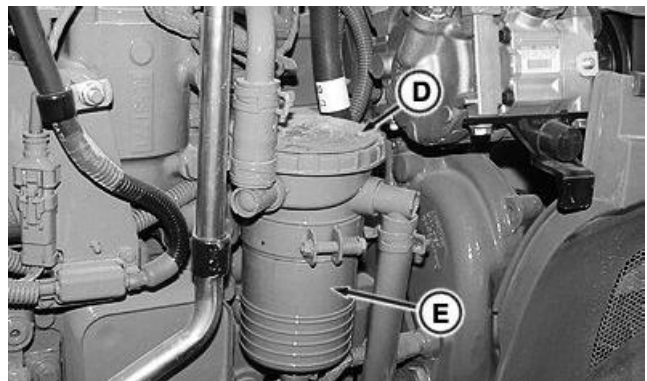
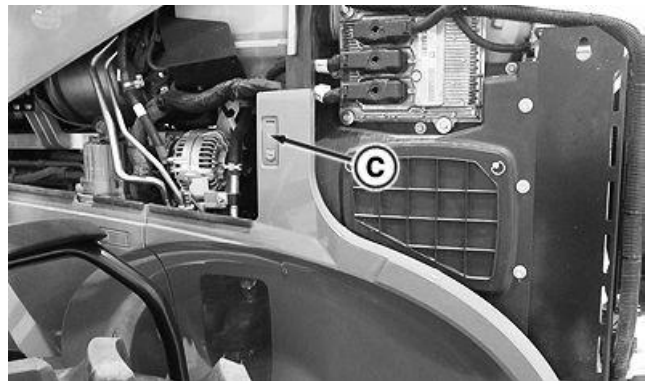
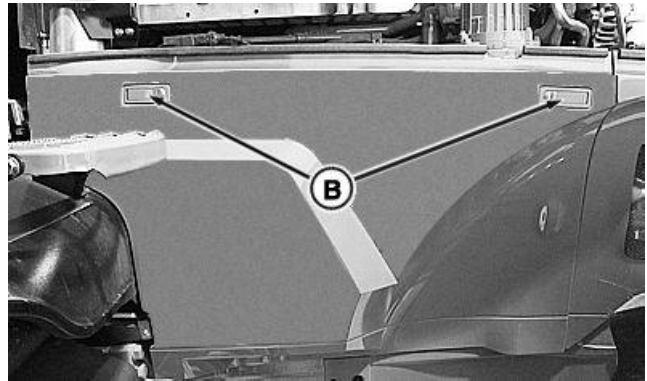
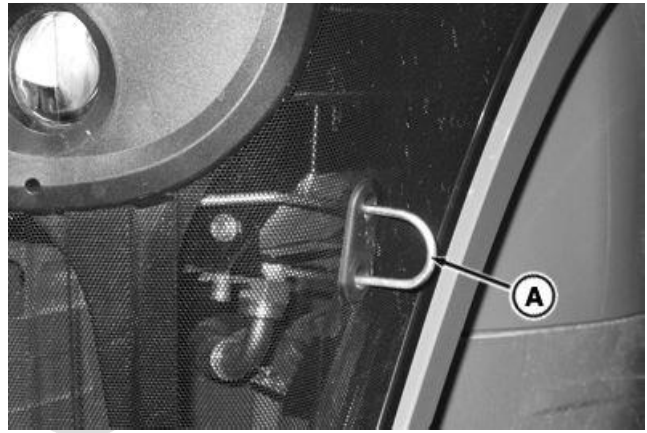
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Replace Open Crankcase Ventilation Filter (6.8 L Engine Only)

NOTE: To determine which engine your tractor is equipped with, see *Record Engine Serial Number in Identification Numbers section of this Operator's Manual.*

1. Pull hood release (A) and raise hood.
2. Depress latch buttons (B) and remove right rear side shield.
3. Depress latch button (C) and remove right front side shield.
4. Remove filter lid (D).
5. Remove open crankcase ventilation filter from inside of filter housing (E).
6. To install new filter, align tabs on new filter with tabs on inside of filter housing.
7. Replace lid and hand tighten.
8. Reinstall front and rear side shields and close and secure hood.

A—Hood Release	D—Filter Lid
B—Right Rear Latch Buttons	E—Filter Housing
C—Right Front Latch Button	



Open Crankcase Ventilation Filter

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RXA0134208—UN—29JUL13

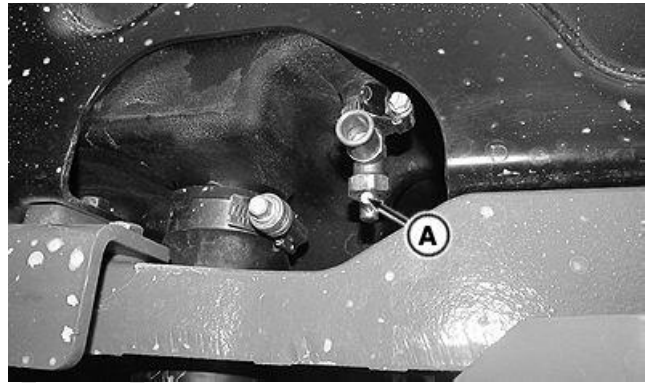
RXA0134226—UN—26JUL13

RXA0134239—UN—31JUL13

Drain Fuel Tank Sump

Drain fitting is recessed into inboard edge of right fuel tank.
 Open drain tee (A).
 Drain fuel from tanks until clean fuel appears from tank.

A—Drain Tee



RXA0134215 —UN—25JUL13

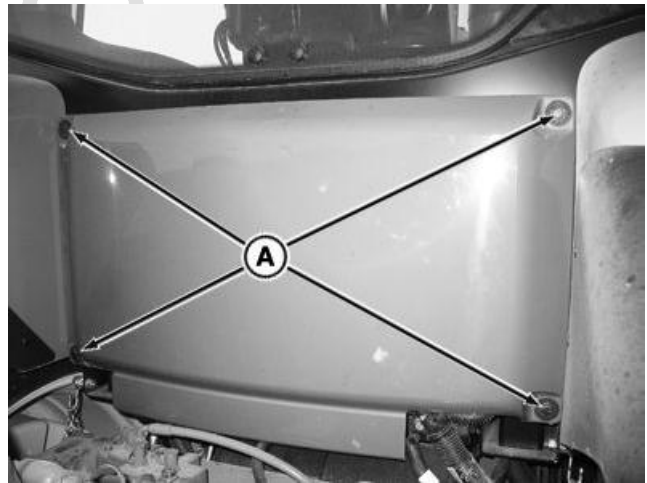
T084419,0000095 -19-30AUG13-1/1

Replace Fuel Tank Vent Filter

Remove four cap screws (A) and lift off cab back panel.
 Fuel tank vent filter (B) is located under back panel on tractor left-side side.
 Remove fuel tank vent filter and install new filter.

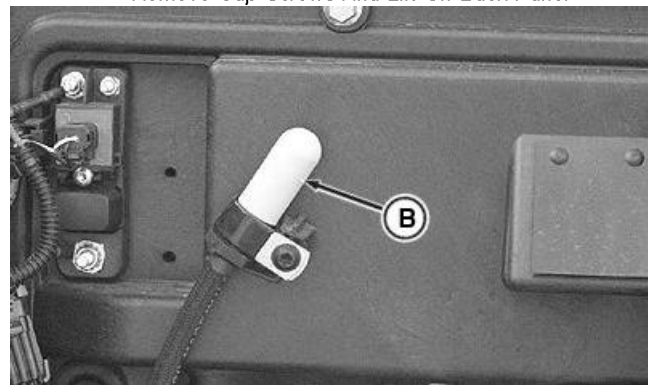
A—Cap Screws

B—Fuel Tank Vent Filter



RXA0110047 —UN—26AUG10

Remove Cap Screws And Lift Off Back Panel



RXA0109380 —UN—16AUG10

Remove Fuel Tank Vent Filter

T084419,0000096 -19-30AUG13-1/1

Replace Diesel Exhaust Fluid (DEF) Tank Vent- FT4/Stage IV Engines

CAUTION: DEF contains urea. Do not get the substance in eyes. In case of contact, immediately flush eyes with large amounts of water for a minimum of 15 minutes. Do not take internally. In event DEF is ingested, contact a physician immediately. Reference Material Safety Data Sheet (MSDS) for additional information.

IMPORTANT: To determine with which engine type tractor is equipped, see Record Engine Serial Number in Identification Numbers Section of this Operator's Manual.

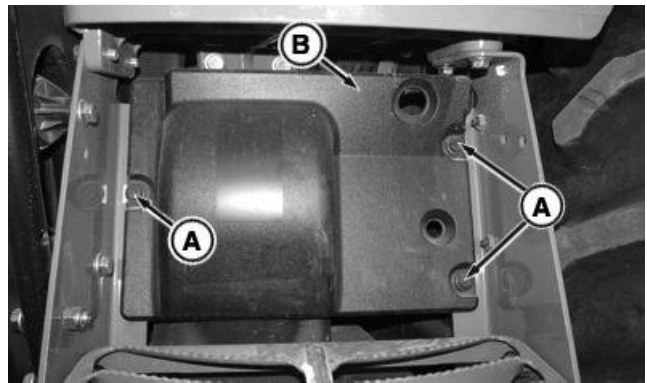
Replace filter after first year of operation and every THREE years thereafter.

Using incorrect or unapproved aftertreatment components can cause damage to vehicle's aftertreatment system and reduce ability of aftertreatment system to function correctly. Never interchange aftertreatment components between Interim Tier 4/Stage III B and Final Tier 4/Stage IV equipped vehicles.

If DEF is spilled or contacts any surface other than the storage tank, immediately clean the surface with clear water. DEF is corrosive to painted and unpainted metallic surfaces and may distort some plastic and rubber components.

NOTE: Procedure is similar for tractors with battery disconnect.

1. Remove cap screws (A) and shield (B).



DEF Tank Shield without Battery Disconnect



2. Remove DEF tank vent (C) located above DEF dosing unit.
3. Install NEW DEF tank vent.
4. Reinstall DEF tank shield (B) and DEF tank shield cap screws (A). Tighten to specification.

Specification

DEF Tank Shield Cap	
Screws—Torque.....	37 N·m (27 lb.-ft.)

T084419,0000097 -19-30AUG13-1/1

RXA0135357 —UN—30AUG13

RXA0135335 —UN—29AUG13

ROOF

2000 Hour Service

Perform This and Other Scheduled Services

When scheduled service at any hourly level is performed, also perform all subordinate hourly level services. See

Observe Service Intervals in Maintenance and Service Intervals Section of this Operator's Manual for table listing main and subordinate service intervals.

TO84419,0000211 -19-25JUL13-1/1

Adjust Engine Valve Clearance - Tier 2/Stage II Engines

NOTE: To confirm which engine your tractor is equipped with, see Record Engine Serial

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Number in Identification Numbers section of this Operator's Manual.

See your John Deere™ dealer for correct engine valve clearance.

RX32825,000071E -19-02JAN13-1/1

PROOF

3000 Hour Service

Perform This and Other Scheduled Services

When scheduled service at any hourly level is performed, also perform all subordinate hourly level services. See

Observe Service Intervals in Maintenance and Service Intervals Section of this Operator's Manual for table listing main and subordinate service intervals.

TO84419,0000211 -19-25JUL13-1/1

Adjust Engine Valve Clearance—FT4/Stage IV Engines

NOTE: To confirm which engine your tractor is equipped with, see Record Engine Serial

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Number in Identification Numbers section of this Operator's Manual.

See your John Deere™ dealer for correct engine valve clearance.

RX32825,0000729 -19-05SEP13-1/1

PROOF

4500 Hour Service

Perform This and Other Scheduled Services

When scheduled service at any hourly level is performed, also perform all subordinate hourly level services. See

Observe Service Intervals in Maintenance and Service Intervals Section of this Operator's Manual for table listing main and subordinate service intervals.

TO84419,0000211 -19-25JUL13-1/1

Replace Transmission Drive Shaft Damper

See your John Deere™ dealer to replace transmission drive shaft damper.

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RX32825,0000728 -19-02JAN13-1/1

PROOF
PROOF
PROOF

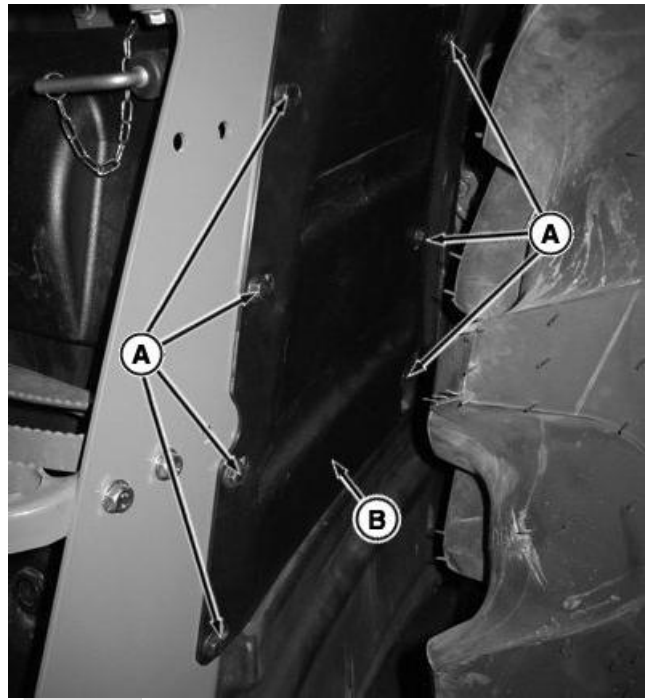
Access Diesel Exhaust Fluid (DEF) Dosing Unit and Tank Vent Filters - FT4/Stage IV Engines

1. Remove cap screws (A) and shield (B).
2. Diesel exhaust fluid (DEF) dosing unit filter (C) is located on bottom of dosing unit
3. DEF tank vent filter (D) is located just above dosing unit.
4. Install in reverse order. Tighten to specification.

Specification

Shield Cap
 Screws—Torque.....37 N·m
 (27 lb.-ft.)

A—Shield Cap Screws (7 used) C—DEF Dosing Unit Filter
 B—Shield D—DEF Tank Vent Filter



RXA0135317 —UN—28AUG13

RXA0135318 —UN—29AUG13

TO84419,00006F -19-29AUG13-1/1

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Changing Diesel Exhaust Fluid (DEF) Dosing Unit Filter

CAUTION: Avoid contact with eyes. In case of contact, immediately flush eyes with large amounts of water for a minimum of 15 minutes. Reference the Materials Safety Data Sheet (MSDS) for additional information.

IMPORTANT: If DEF is spilled or contacts any surface other than the storage tank, immediately clean the surface with clear water. DEF is corrosive to painted and unpainted metallic surfaces and can distort some plastic and rubber components.

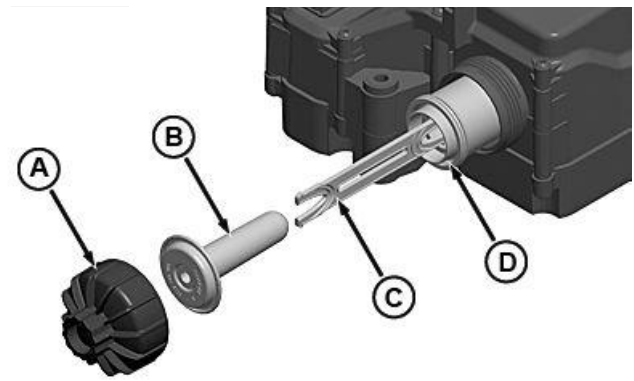
Spilled DEF, if left to dry or if only wiped away with a cloth, leaves a white residue. Improperly cleaned DEF spill can interfere with diagnosis of Selective Catalytic Reduction (SCR) system leakage problems.

NOTE: Servicing DEF dosing unit filter may require removing additional covers or components. See Access DEF Dosing Unit for location information.

1. Remove DEF dosing unit filter cover (A).
2. Remove and discard DEF dosing unit filter equalizing element (B).
3. Insert “Black” end of DEF dosing unit filter tool (C) into DEF dosing unit filter (D) until CLICK is felt or heard indicating DEF dosing unit filter tool is fully engaged.

NOTE: A tool such as a screwdriver can be inserted into DEF dosing unit filter tool slot to assist removal.

4. Pull DEF dosing unit filter tool and DEF dosing unit filter from DEF dosing unit. Discard DEF dosing unit filter and DEF dosing unit filter tool.



DEF Dosing Unit Filter

- A—DEF Dosing Unit Filter Cover
- B—DEF Dosing Unit Filter Equalizing Element
- C—DEF Dosing Unit Filter Tool
- D—DEF Dosing Unit Filter

5. Clean DEF dosing unit threads and mating surfaces with distilled water.
6. Lubricate new DEF filter O-rings with clean engine oil. Carefully insert DEF dosing unit filter into DEF dosing unit.
7. Install new DEF dosing unit filter equalizing element into DEF dosing unit filter.
8. Install DEF dosing unit filter cover and tighten to specifications.

Specification

DEF Dosing Unit Filter	
Cover—Torque.....	23 N·m (204 lb.-in.)

DX,DEF,CHANGE,FILT -19-12JUL13-1/1

RG22534—UN—21MAR13

PROOF

5000 Hour Service

Perform Service And All Subordinate Services

When scheduled service at any hourly level is performed, also perform all subordinate hourly level services. See

Observe Service Intervals in Maintenance and Service Intervals Section of this Operator's Manual for table listing main and subordinate service tasks.

RW29387,0000051 -19-05SEP13-1/1

Replace Engine Crankshaft Damper

See your John Deere™ dealer to replace engine torsional crankshaft damper.

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RW29387,0000052 -19-05SEP13-1/1

PROOF

6000 Hour Service

Perform This and Other Scheduled Services

When scheduled service at any hourly level is performed, also perform all subordinate hourly level services. See

Observe Service Intervals in Maintenance and Service Intervals Section of this Operator's Manual for table listing main and subordinate service intervals.

TO84419,0000211 -19-25JUL13-1/1

Drain, Flush, and Refill Cooling System - 6.8 L Engine

See your John Deere™ dealer to drain, flush and refill cooling system.

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TO84419,0000063 -19-04SEP13-1/1

Drain, Flush, and Refill Cooling System - 9.0 L Engine

See your John Deere™ dealer to drain, flush and refill cooling system.

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TO84419,0000062 -19-04SEP13-1/1