

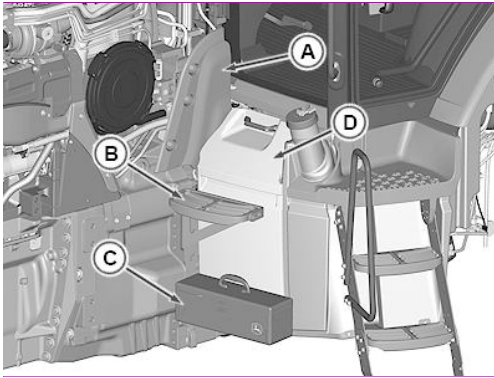
TM110319 - 8235R, 8260R, 8285R, 8310R, 8335R, and 8360R Tractors Repair (S. N. —090000) (Russia S. N. 052201—055000) Specifications

Specifications

Item	Measurement	Specification
Transmission-to-Mid-Frame Cap Screws	Torque	430 N·m (317 lb.-ft.)
Transmission-to-Engine Cap Screws	Torque	500 N·m (369 lb.-ft.)
Auxiliary Drive Support-to-Transmission Cap Screws	Torque	126 N·m (92 lb.-ft.)
Engine-to-Transmission Drive Shaft Cap Screws	Torque	126 N·m (92 lb.-ft.)
Universal Joint Cap Screws-to-Differential Yoke	Torque	150 N·m (110 lb.-ft.)
Scavenge Pump-to-Manifold Cap Screws	Torque	125 N·m (92 lb.-ft.)
Scavenge Pump Seal	Depth	0.5 mm (0.020 in.)
Auxiliary Drive Shaft Cap Screws	Torque	80 N·m (59 lb.-ft.)

TM110319 - 8235R, 8260R, 8285R, 8310R, 8335R, and 8360R Tractors Repair (S. N. —090000) (Russia S. N. 052201—055000)
Remove Transmission

Remove Transmission

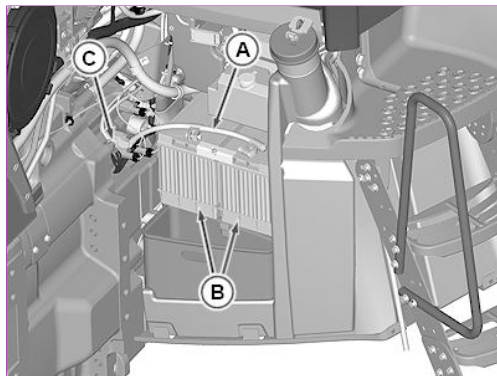


RXA0119494-UN: Shield and Tool Box

LEGEND:

- A - Shield
- B - Step
- C - Tool Box
- D - Battery Cover

1. Position hood forward. (See [Optional Forward Hood Position](#) in Section 80, Group 05.)
2. Discharge air conditioning system. (See [Discharge Air Conditioning System](#) in Section 90, Group 10.)
3. Drain coolant from engine block and radiator.
4. Remove shield (A) and step (B).
5. Remove tool box (C) and battery cover (D).

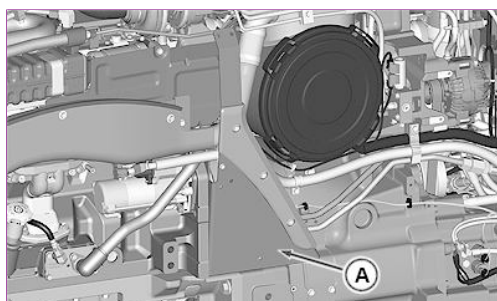


6. RXA0119496-UN: Battery Ground Cable

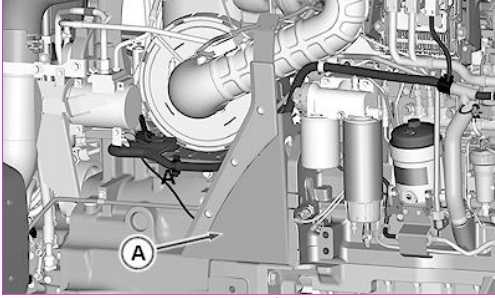
LEGEND:

- A - Battery Ground Cable
- B - Batteries (2 used)
- C - Single Point Ground

Disconnect battery ground cable (A) from batteries (B) and from single point ground (C).



7. RXA0119500-UN: Left-Hand Hood Spreader

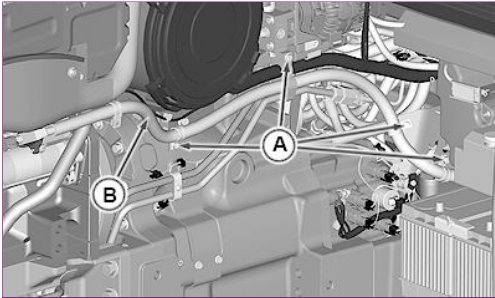


RXA0119501-UN: Right-Hand Hood Spreader

LEGEND:

A - Hood Spreaders (2 used)

Remove hood spreaders (A).



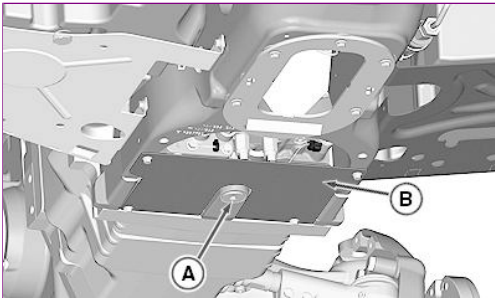
8. RXA0119553-UN: Positive Battery Cable

LEGEND:

A - Clamps (4 used)
B - Positive Battery Cable

Remove clamps (A) and positive battery cable (B).

9. Remove front weights, if equipped.
10. **For tractors with Front Hitch:** Remove front hitch. (See [Remove and Install Front 3-Point Hitch](#) in Section 70, Group 35.)
11. **For tractors with Front PTO:** Remove front PTO. (See [Remove Front PTO](#) in Section 56, Group 40.)



12. RXA0109012-UN: Transmission Drain Plug

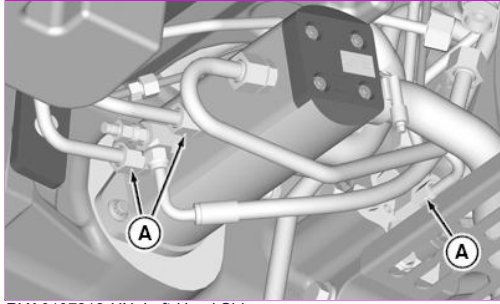
LEGEND:

A - Plug
B - Front Plate

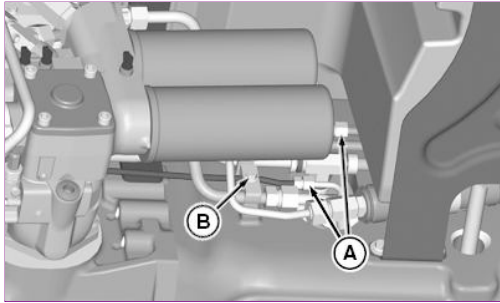
Drain transmission by removing plug (A). (See [Drain Hydraulic System](#) in Section 70, Group 05.)

13. Remove access plate (B).
14. If equipped, remove radar sensor. (See [Replace Radar Sensor](#) in Section 40, Group 30.)

15. **NOTE:**



RXA0107812-UN: Left-Hand Side



RXA0107814-UN: Right-Hand Side

LEGEND:

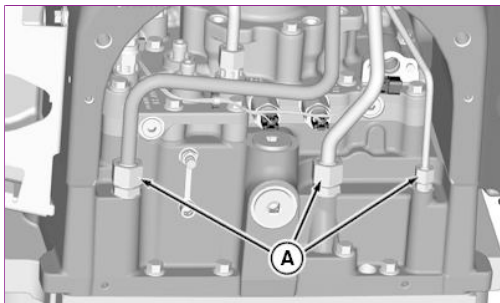
- A - Lines (5 used)
- B - Clamp

Some lines use Snap-To-Connect fittings. (See [Servicing and Connecting Snap-To-Connect STC™ Fittings](#) in Section 10, Group 10.)

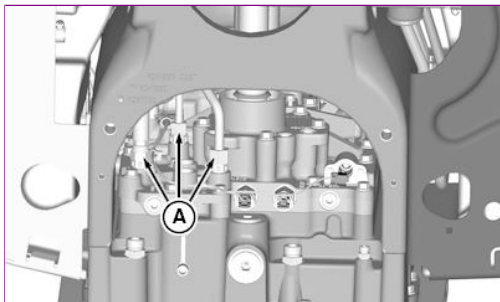
Line and hose configurations vary depending on tractor options.

Disconnect lines (A).

16. Cap and plug lines and ports to prevent contamination.
17. Remove clamp (B).



18. RXA0107813-UN: Bottom of Transmission



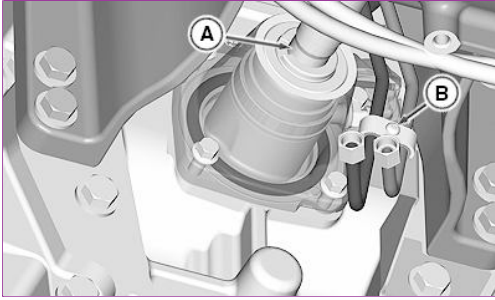
RXA0107811-UN: Bottom of Transmission

LEGEND:

- A - Transmission Lines (6 used)

Disconnect transmission lines (A).

19. Cap and plug lines and ports to prevent contamination.



20. RXA0125922-UN: Snap Ring and Line Clamp

LEGEND:

- A - Snap Ring
- B - Clamp

For tractors equipped with MFWD, perform the following:

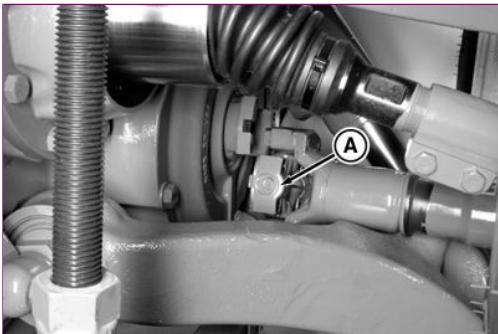
- a. Loosen MFWD drive shaft shield and remove steering line clamp (B).
- b. _____



Tractor ignition must be in the "OFF" position when checking position of MFWD drive shaft snap ring (A).

Position tractor with MFWD drive shaft snap ring (A) in downward position.

- c. Disengage MFWD shaft snap ring and slide shaft forward to disengage from MFWD clutch.

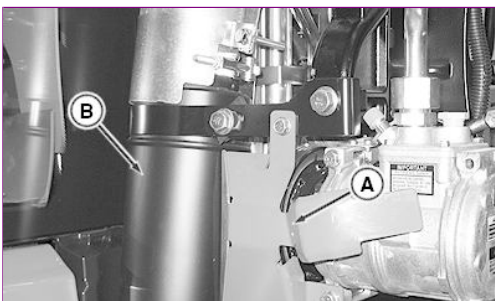


21. RXA0056006-UN: Drive Shaft

LEGEND:

- A - Drive Shaft Universal Joint

For tractors with ILS™: Disconnect one drive shaft universal joint (A) from differential yoke and support drive shaft on lower control arm.



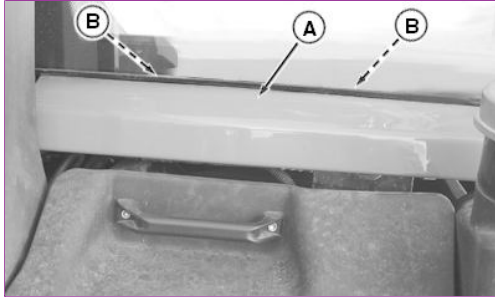
22. RXA0111687-UN: Shield and Exhaust

LEGEND:

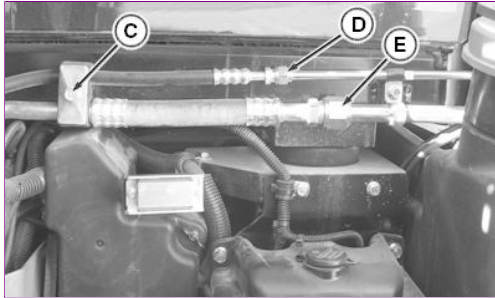
- A - Shield
- B - Exhaust Pipe

Remove shield (A).

23. Remove exhaust pipe (B). (See [Service Exhaust System](#) in Section 30, Group 25.)



24. RXA0111469-UN: Cab Riser Panel



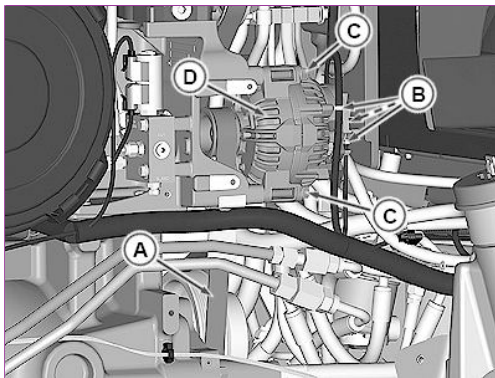
RXA0111467-UN: Air Conditioner Lines

LEGEND:

- A - Cab Riser Panel
- B - Cap Screws (2 used)
- C - Line Clamp
- D - Air Conditioning Line (High Pressure)
- E - Air Conditioning Line (Low Pressure)

Remove cab riser panel (A) by removing cap screws (B) under floor mat.

25. Remove line clamp (C).
26. Disconnect and plug air conditioner lines (D and E).



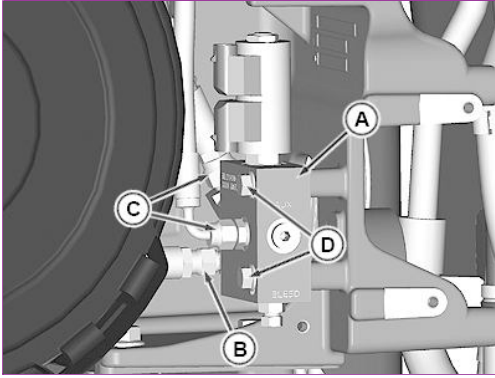
27. RXA0119554-UN: Alternator

LEGEND:

- A - Auxiliary Drive Belt
- B - Alternator Wires (3 used)
- C - Mounting Cap Screws (2 used)
- D - Alternator

Remove auxiliary drive belt (A).

28. Identify, label, and disconnect alternator wires (B).
29. Remove mounting cap screws (C) and alternator (D).



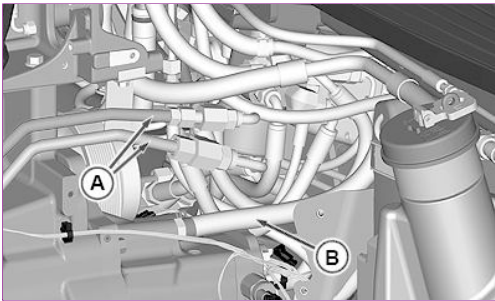
30. RXA0119555-UN: Fan Drive Control Valve

LEGEND:

- A - Fan Drive Control Valve
- B - Line
- C - Lines (2 used)
- D - Cap Screws (2 used)

Identify, label, and disconnect harness from fan drive control valve (A).

31. Remove line (B).
32. Disconnect lines (C).
33. Cap and plug lines and ports to prevent contamination.
34. Remove cap screws (D) and fan drive control valve.



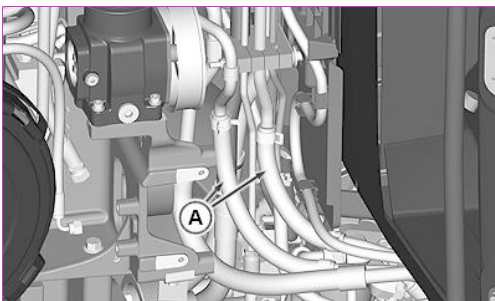
35. RXA0119556-UN: Steering Lines and Vent Hose

LEGEND:

- A - Steering Lines (2 used)
- B - Vent Hose

Disconnect steering lines (A).

36. Disconnect vent hose (B).

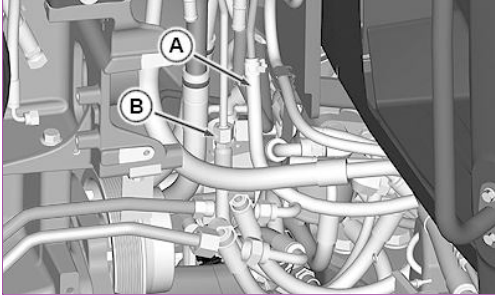


37. RXA0119557-UN: Heater Hoses

LEGEND:

- A - Heater Hoses (2 used)

Remove heater hoses (A).



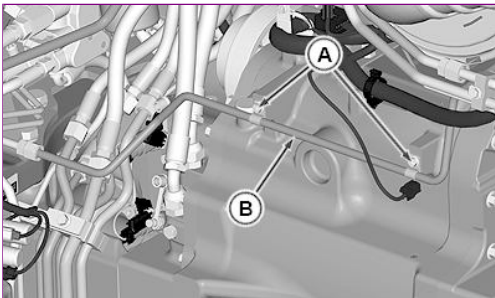
38. RXA0119558-UN: Fuel Return and Fan Drive Supply

LEGEND:

- A - Fuel Return Line
- B - Fan Drive Supply Line

Disconnect fuel return hose (A).

39. Disconnect fan drive supply line (B).
40. Cap and plug lines to prevent contamination.



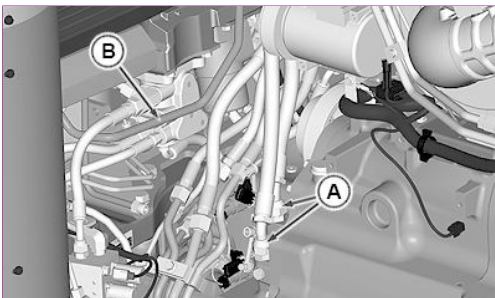
41. RXA0119560-UN: Fuel Supply Line

LEGEND:

- A - Cap Screws (2 used)
- B - Fuel Supply Line

Remove cap screws (A).

42. Remove fuel supply line (B).



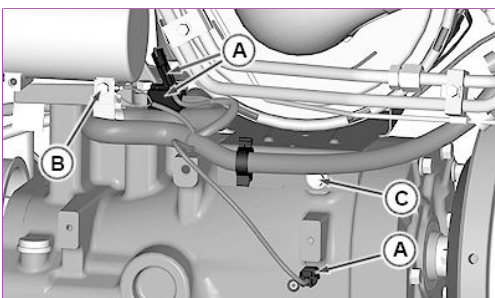
43. RXA0119561-UN: Oil Cooler Lines

LEGEND:

- A - Oil Cooler Lines (2 used)
- B - Air Line

Disconnect oil cooler lines (A).

44. **For tractors equipped with Air Trailer Brakes:** Remove air line (B).



- 45.

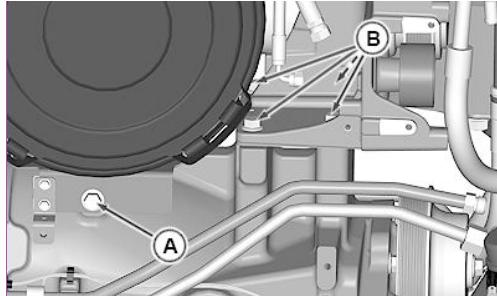
RXA0119562-UN: Harness

LEGEND:

- A - Connectors (3 used)
- B - Cap Screw, Clamp, and Ground Wires
- C - Cap Screw

Disconnect harness connectors (A).

46. Remove cap screw, clamp, and ground wires (B).
47. Remove filter housing bracket cap screw (C).



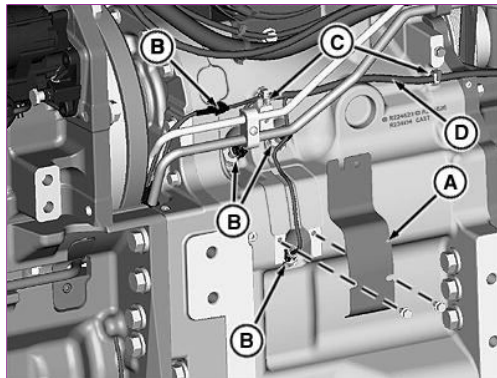
48. RXA0119559-UN: Auxiliary Drive Bracket

LEGEND:

- A - Cap Screw
- B - Cap Screws (4 used)

Remove filter housing bracket cap screw (A).

49. Remove auxiliary drive bracket cap screws (B).



50. RXA0077936-UN: Wiring Connector

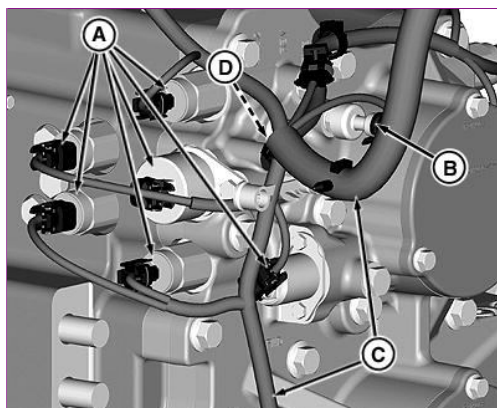
LEGEND:

- A - Shield
- B - Wiring Connector (4 used)
- C - Harness Clamps (2 used)
- D - Harness

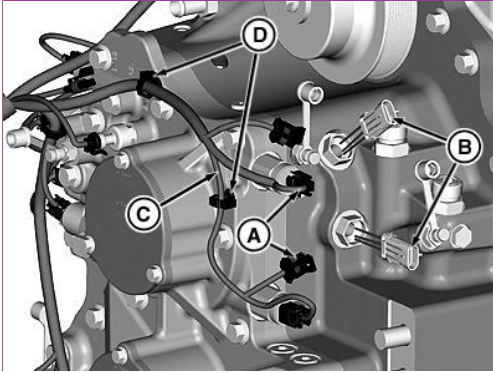
Remove shield (A).

51. Disconnect wiring connectors (B) and remove harness (D) from harness clamps (C).

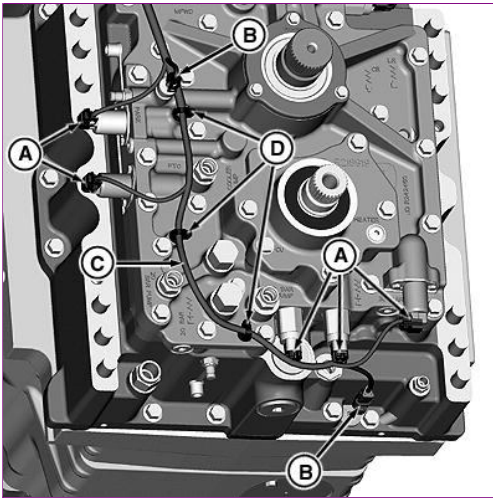
52. **IMPORTANT:**



RXA0080844-UN: Left-Hand Transmission Connectors



RXA0080846-UN: Right-Hand Transmission Connectors



RXA0080849-UN: Lower Half Transmission Connectors

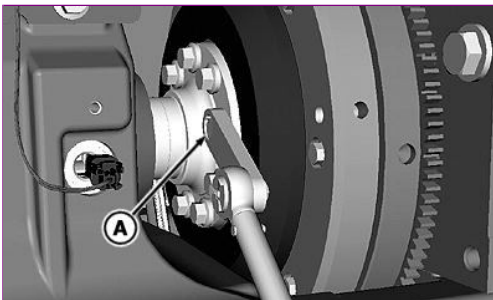
LEGEND:

- A - Solenoids (13 used)
- B - Sensors (5 used)
- C - Harness
- D - Clamps (6 used)

Note harness routing and retention. Identify and label connectors for reassembly.

Identify, label, and disconnect solenoid (A) and sensor (B) connectors from transmission.

53. Note harness routing and remove harness (C) from clamps (D).
54. Move harness from mid frame to avoid damage to harness.



55. RXA0078566-UN: Drive Shaft

LEGEND:

- A - JDG861 Torque Wrench Adapter

Disconnect drive shaft using [JDG820 Flywheel Rotation Tool](#) and [JDG861 Torque Wrench Adapter](#) (A).

56.

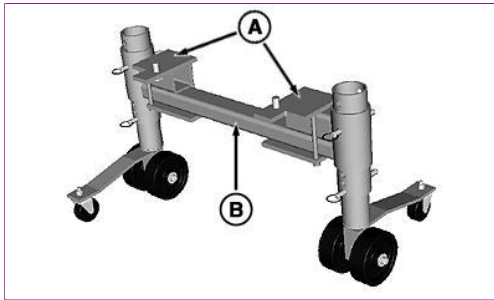


CAUTION:

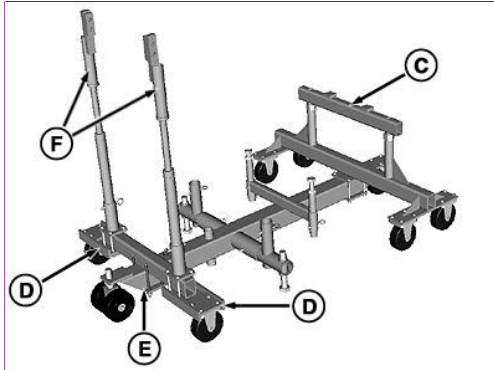
Stand may collapse and cause injury or death if pins are not installed correctly on stand. Each tube on the stand must be pinned together with another tube. One pin may pass through all three tubes, or each pin may pass through two tubes depending on the tire size.

IMPORTANT:

Use only stands specified for stability when splitting the tractor.



RXA0079554-UN: Splitting Stand



RXA0079555-UN: Splitting Stand for ILS™

LEGEND:

- A - JT07122-6 Rear Adapter Plates
- B - JT07122-1 Splitting Stand
- C - JDG2061 Front Adapter
- D - JT07321 Rear Support Wheels
- E - JT07122-7-1 Cross Member
- F - JT07122-7-2 Upright Supports

For ALL tractors, perform the following steps: Install [JT07122-6 Rear Adapter Plates](#) (A) on [JT07122 Splitting Stand](#) (B). DO NOT tighten cap screws.

57. Install [JDG2061 Front Adapter](#) (C) on JT07122 Splitting Stand. Tighten cap screws.

58. **IMPORTANT:**

Front adapter (C) must be installed tight against plate on top of splitting stand to fit correctly on tractor.

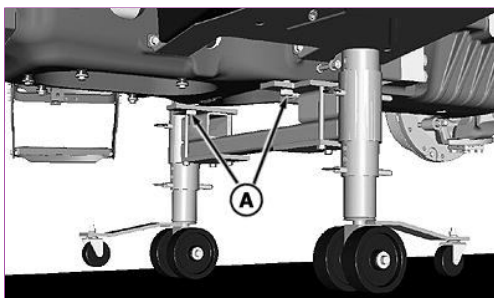
NOTE:

JT07122-7-1 Cross Member and JT07122-7-2 Upright Supports are part of [JT07122-7 Upright Supports](#).

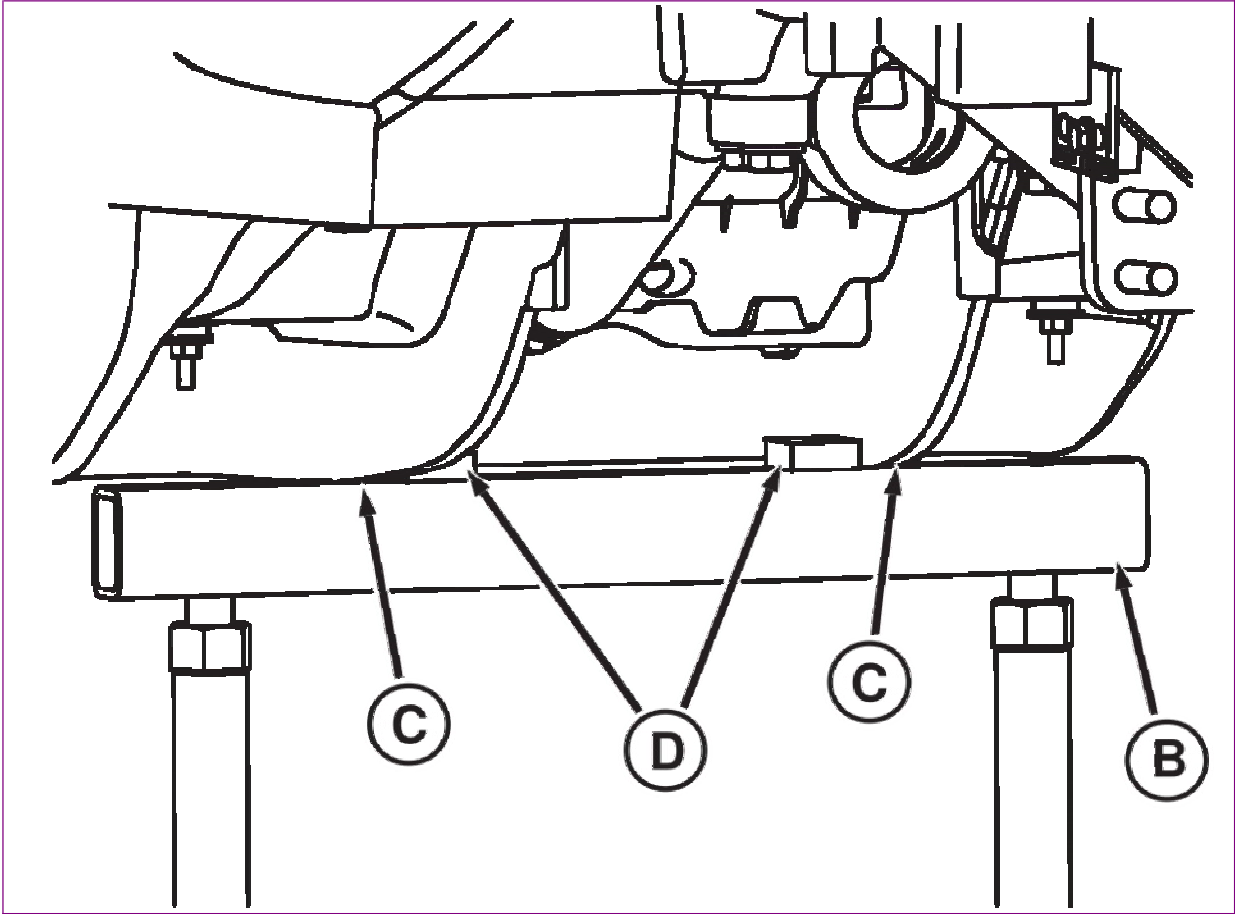
Install JT07122-7-1 Cross Member (E). DO NOT tighten cap screws.

59. Install [JT07321 Rear Support Wheels](#) (D). DO NOT tighten cap screws.

60. DO NOT install JT07122-7-2 Upright Supports (F) at this time.



61. RXA0079556-UN: Rear Splitting Stand



RXA0077253-UN: Front Support

LEGEND:

- A - Cap Screws
- B - Front Support
- C - Front Frame Member
- D - Locating Block

Install rear splitting stand on front of mid-frame using cap screws (A). Tighten all cap screws.

62. Adjust splitting stand wheels to properly support tractor.

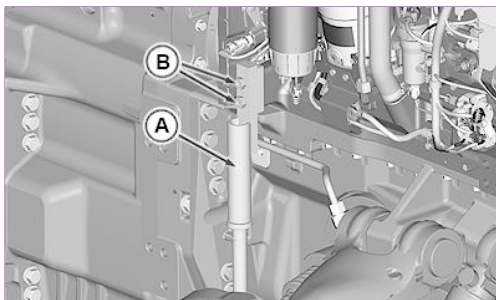
63. **NOTE:**

Depending on tractor configuration, front tires will need removed, JDG2061 Front Adapter installed, and front tires installed. (For further information on removing and installing front tires, see Operator's Manual.)

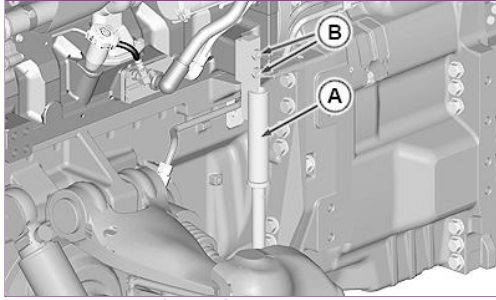
Install JDG2061 Front Adapter so front support (B) is tight under front frame member (C) and locating blocks (D) are between front frame member.

64. **For tractors with ILS™:** Bleed off suspension system. (See [Relieve System Pressure—ILS™](#) in Section 58, Group 05.)

65. **NOTE:**



RXA0119743-UN: Right-Hand Side



RXA0119744-UN: Left-Hand Side

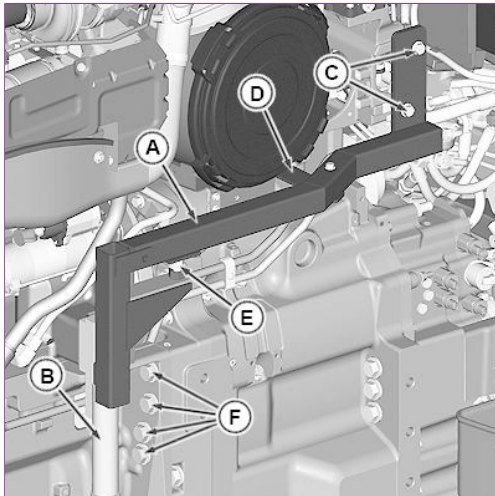
LEGEND:

- A - JT07122-7-2 Upright Supports (2 used)
- B - Cap Screws (4 used)

JT07122-7-2 Upright Supports are part of [JT07122-7 Upright Supports](#).

Install JT07122-7-2 Upright Supports (A) on front splitting stand.

66. Attach upright supports to engine block with cap screws (B).
67. Tighten cross-member cap screws.



68. RXA0119757-UN: JDG1935 Auxiliary Drive Support

LEGEND:

- A - JDG1935 Auxiliary Drive Support
- B - Upright Support
- C - Cap Screws (2 used)
- D - Bracket
- E - Lifting Screw
- F - Cap Screws (10 used MFWD and 2WD) (16 used ILS)

Install [JDG1935 Auxiliary Drive Support](#) (A) to left-hand upright support (B).

69. Attach support (A) to auxiliary drive with cap screws (C).
70. Position bracket (D) under air cleaner and attach to support (A).

71. **NOTE:**

Use a prybar to assist lifting of auxiliary drive housing off dowel pins

Turn lifting screw (E) to lift auxiliary drive and air cleaner off transmission dowel pins.

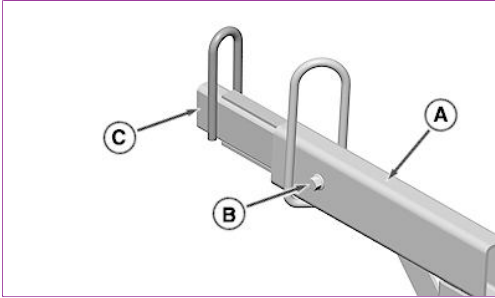
72. Lower rear wheel of splitting stand so rear of engine is correctly supported.
73. Remove front frame-to-transmission cap screws (F) from both sides.
- 74.



CAUTION:

Avoid possible personal injury. DO NOT remove transmission-to-mid-frame cap screws. Doing so will collapse the splitting stand. Remove ONLY the front frame-to-transmission cap screws.

Carefully roll front of tractor forward approximately 250—300 mm (10—12 in.).



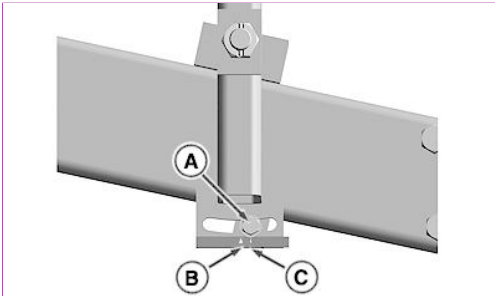
75. RXA0104303-UN: JT07201A Transmission Lifting Fixture and Adapter

LEGEND:

- A - JT07201A Transmission Lifting Fixture
- B - Cap Screw
- C - JDG1883 Adapter

Drill hole in [JT07201A Transmission Lifting Fixture](#) (A). (See [DFRW210—Hole Drilled in JT07201](#) in Section 99, Group 05.)

76. Insert [JDG1883 Transmission Lifting Fixture Adapter](#) (C) and attach with cap screw (B).



77. RXA0104302-UN: Transmission Lifting Fixture

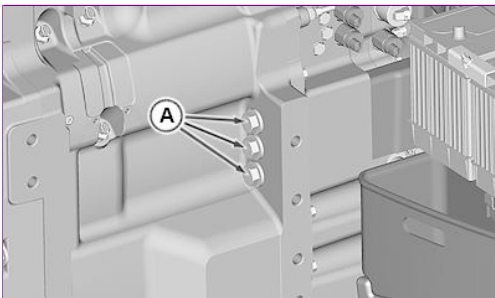
LEGEND:

- A - Cap Screw
- B - MFWD and ILS Line
- C - 2WD Line

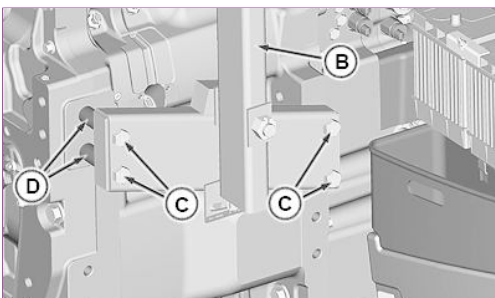
Loosen cap screw (A) on [JT07201A Transmission Lifting Fixture](#) .

78. Align center of cap screw with line (B) for MFWD and ILS™, or line (C) for tractors with 2WD.

79. Tighten cap screw (A).



80. RXA0119758-UN: Three Cap Screws



RXA0119759-UN: JT07201 Transmission Lifting Fixture

LEGEND:

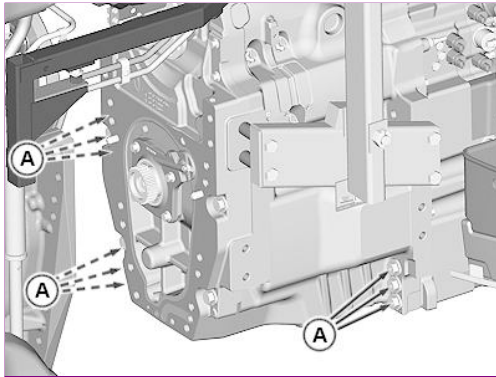
- A - Cap Screws (3 used)
- B - JT07201A Transmission Lifting Fixture
- C - Cap Screws (4 used)
- D - JDG1760 Bushing (2 used)

Remove three transmission-to-mid-frame cap screws (A).

81. Attach hoist to [JT07201A Transmission Lifting Fixture \(B\)](#).
82. Install fixture on transmission using cap screws (C) and two spacers from [JDG1760 Spacer Kit \(D\)](#) on front cap screws.

83.

 **CAUTION:**



RXA0119760-UN: Transmission-to-Mid Frame Cap Screws

LEGEND:

A - Cap Screws (9 used)

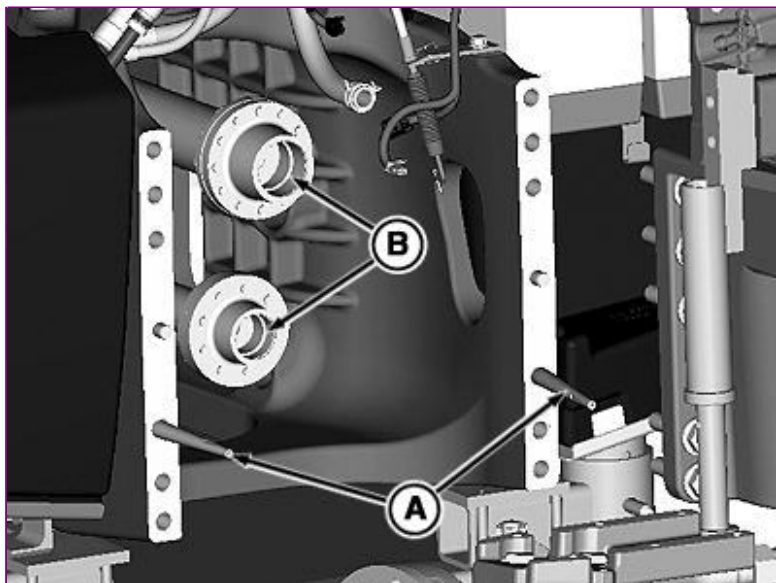
Ensure that transmission is supported and does not drop off dowel pins or solenoid on left-hand side of transmission will be damaged.

Remove remaining transmission-to-mid-frame cap screws (A).

84. Move transmission forward and slide off drive shafts and mid-frame.
85. Lower transmission, rotate 90°, and remove from left-hand side.

TM110319 - 8235R, 8260R, 8285R, 8310R, 8335R, and 8360R Tractors Repair (S. N. —090000) (Russia S. N. 052201—055000) Install Transmission

Install Transmission



1. RXA0079536-UN: Mid-Frame Pilot Pins

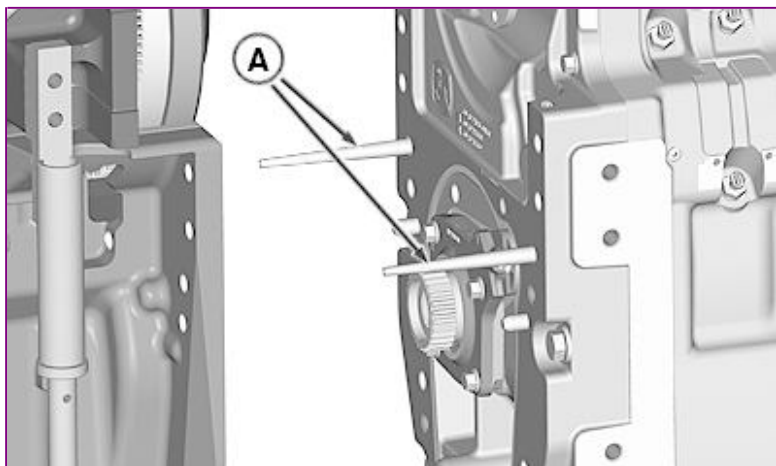
LEGEND:

- A - DFRW231 Guide Pins (2 used)
- B - O-rings

Install two [DFRW231—Guide Pins](#) (A) in mid-frame.

2. Replace O-rings (B) in drive shafts.
3. Install transmission and tighten transmission-to-mid-frame cap screws to specification [Zinc-Plate Coated] .

Item	Measurement	Specification
Transmission-to-Mid-Frame Cap Screws	Torque	430 N·m (317 lb.-ft.)



- 4.

RXA0108031-UN: Alignment Pins

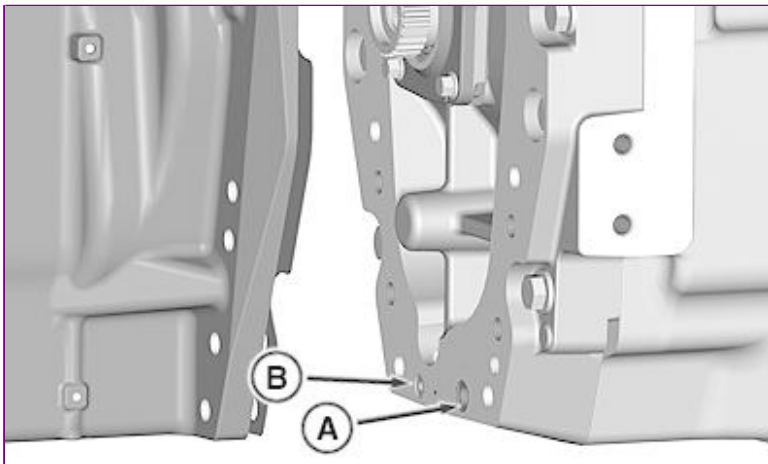
LEGEND:

A - JDG768 Pilot Pins (2 used)

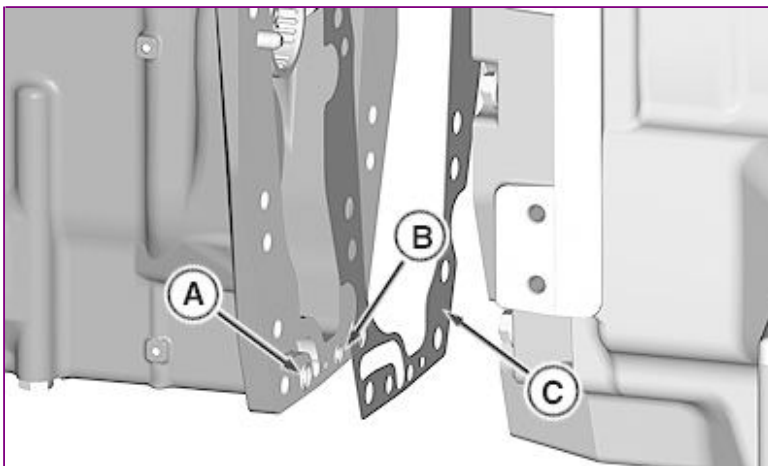
Install two JDG768 Pilot Pins (A) in transmission.

5. **IMPORTANT:**

Ensure that gasket between differential case and transmission is oriented correctly.



RXA0107117-UN: ILS O-rings



RXA0107118-UN: ILS Gasket and O-rings

LEGEND:

A - O-rings (2 used)

B - O-rings (2 used)

C - Gasket

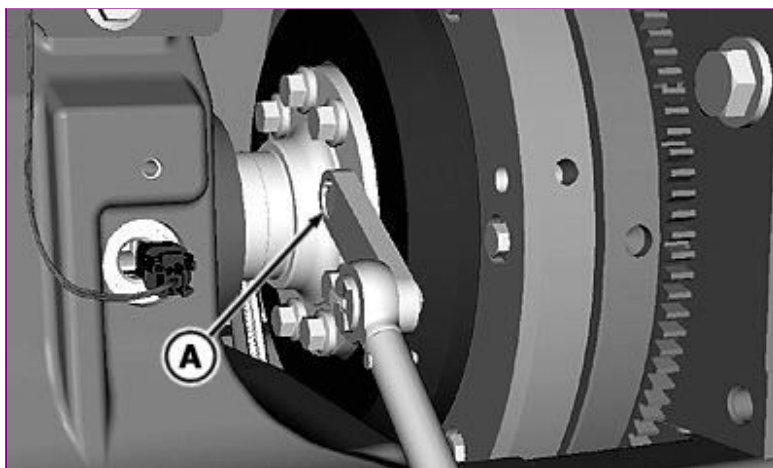
For ILS™ Tractors: Install **new** O-rings (A and B) and **new** gasket (C).

6. Roll front of tractor to transmission.
7. Install transmission-to-engine cap screws [Zinc-Flake Coated] and tighten to specification.

Item	Measurement	Specification
Transmission-to-Engine Cap Screws	Torque	500 N·m (369 lb.-ft.)

8. Remove [JDG1935 Auxiliary Drive Support](#) .
9. Tighten auxiliary drive support-to-transmission cap screws to specification.

Item	Measurement	Specification
Auxiliary Drive Support-to-Transmission Cap Screws	Torque	126 N·m (92 lb.-ft.)



10. RXA0078566-UN: JDG861 Torque Wrench Adapter

Push engine-to-transmission drive shaft V-ring seal rearward against transmission oil seal.

11. **NOTE:**

Torque wrench setting will be 103 N·m (76 lb.-ft.) when used with JDG861 Torque Wrench Adapter and kept straight with torque wrench.

Torque value must be calculated for all other torque wrench adapters. (See [Use Torque Wrench Adapter](#) in Section 10, Group 10).

Use [JDG861 Torque Wrench Adapter](#) (A) to tighten engine-to-transmission drive shaft cap screws.

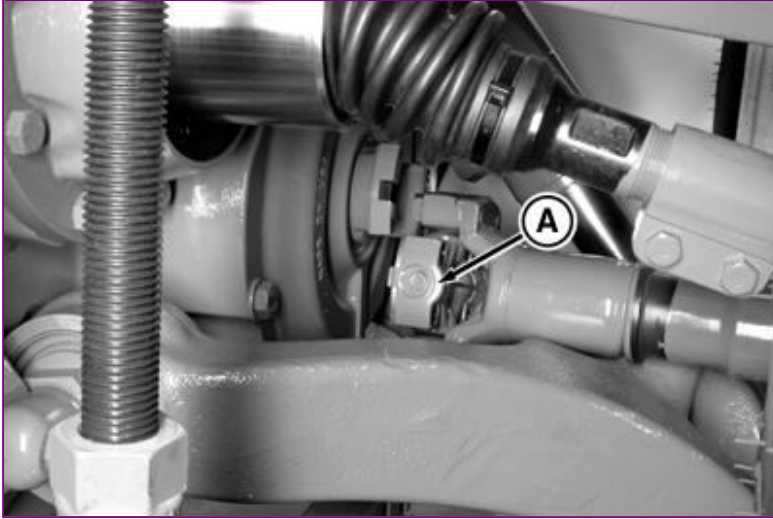
Item	Measurement	Specification
Engine-to-Transmission Drive Shaft Cap Screws	Torque	126 N·m (92 lb.-ft.)

12. **IMPORTANT:**

If a failure occurred causing contamination of transmission and hydraulic system, cleanup procedures must be performed. Clean and flush differential housing and clean oil reservoir.

Fill hydraulic system. (See [Fill Hydraulic System](#) in Section 70, Group 05.)

13. **For tractors with Front PTO:** Install front PTO. (See [Install Front PTO](#) in Section 56, Group 40.)
14. **For tractors with Front Hitch:** Install front hitch. (See [Remove and Install Front 3-Point Hitch](#) in Section 70, Group 35.)
15. Purge, evacuate, and charge air conditioning system. (See [Purge Air Conditioning System](#) , [Evacuate Air Conditioning System](#) , and [Charge Air Conditioning System](#) in Section 90, Group 10.)



16. RXA0056006-UN: Drive Shaft

LEGEND:

A - Drive Shaft

For tractors with ILS™: Connect drive shaft (A) and tighten universal joint-to-differential yoke cap screws to specification.

Item	Measurement	Specification
Universal Joint Cap Screws-to-Differential Yoke	Torque	150 N·m (110 lb.-ft.)

17. *NOTE:*
Tractor may require jacking to remove splitting stands.

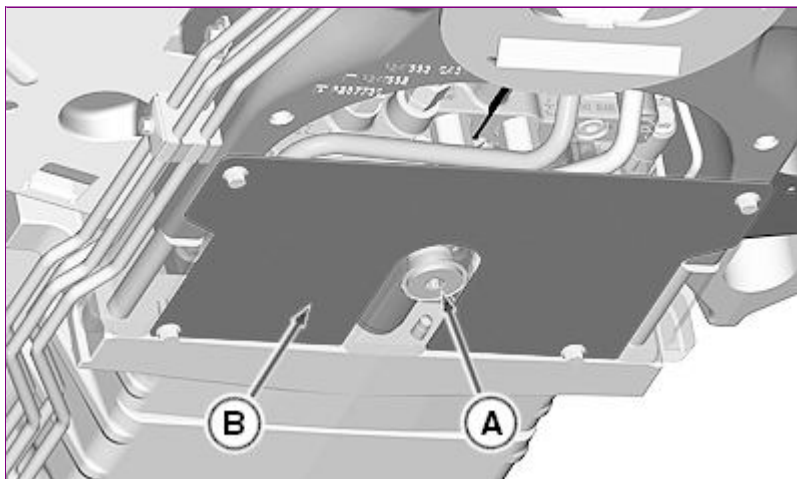
Raise tractor and remove splitting stands.

18. *NOTE:*
Do not overtighten manual drain valve.

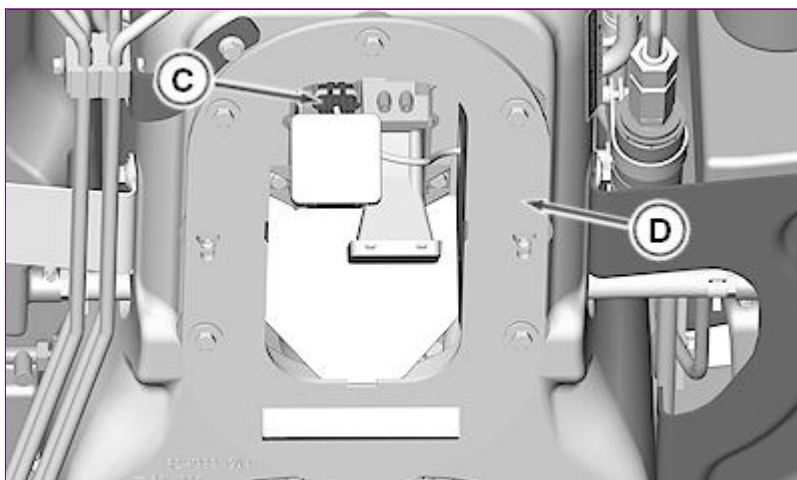
Close ILS™ manual drain valve and tighten nut.

**TM110319 - 8235R, 8260R, 8285R, 8310R, 8335R, and 8360R Tractors
Repair (S. N. —090000) (Russia S. N. 052201—055000)
Remove Scavenge Pump**

Remove Scavenge Pump



RXA0125769-UN: Transmission Drain Plug

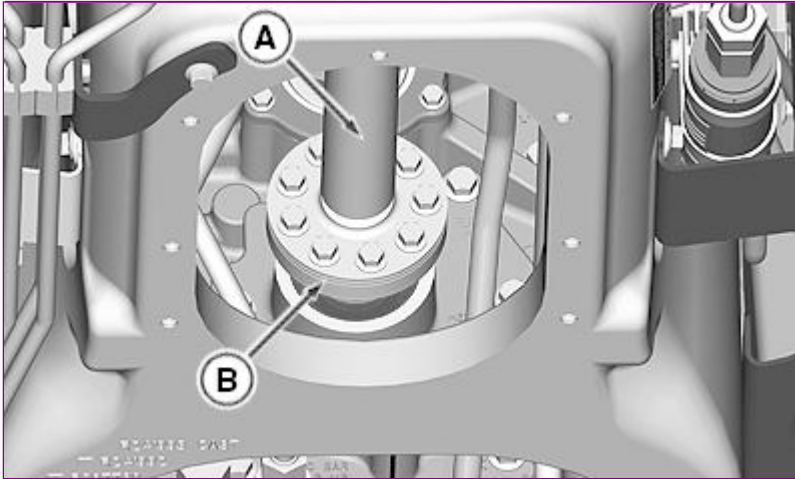


RXA0125770-UN: Mid-Frame Bottom Plate

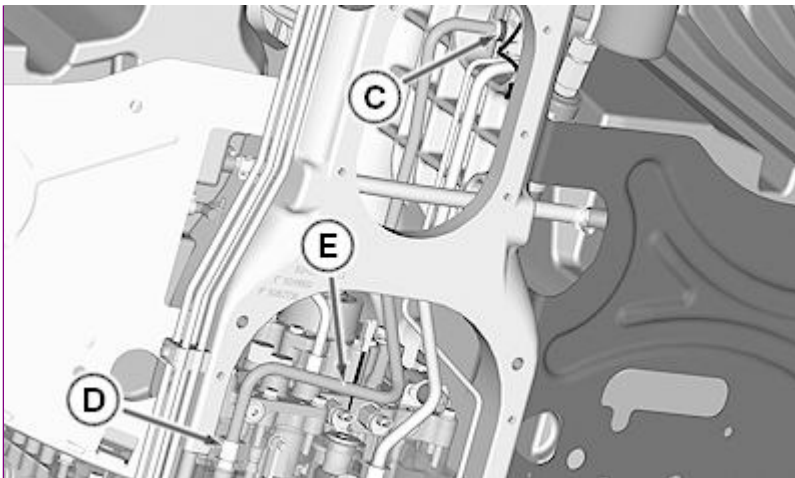
LEGEND:

- A - Plug
- B - Front Shield
- C - Radar Sensor Connector
- D - Plate

1. Drain transmission by removing plug (A). (See [Drain Hydraulic System](#) in Section 70, Group 05.)
 2. Remove front shield (B).
 3. Disconnect radar sensor connector (C), if equipped.
 4. Remove bottom plate (D) from mid-frame.
-



5. RXA0125771-UN: Lower Drive Shaft



RXA0125772-UN: Oil Line, and Fittings

LEGEND:

- A - Lower Drive Shaft
- B - Front Yoke
- C - Rear Fitting
- D - Front Fitting
- E - Line

Remove shaft (A).

6. Mark position of lower drive shaft front yoke (B) in relationship to transmission case.

7. **NOTE:**

Some line or hose connections may be Snap-To-Connect fittings. (See [Servicing and Connecting Snap-To-Connect STC™ Fittings](#) in Section 10, Group 10.)

Disconnect rear fitting (C).

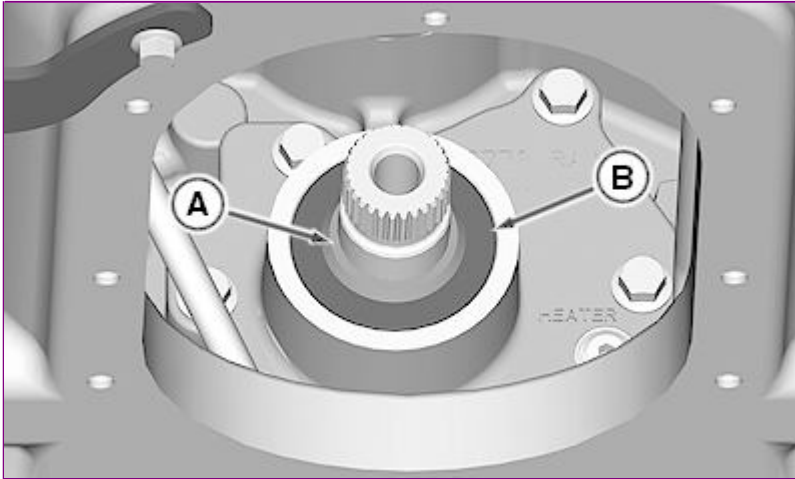
8. Disconnect front fitting (D) and remove line (E).
-

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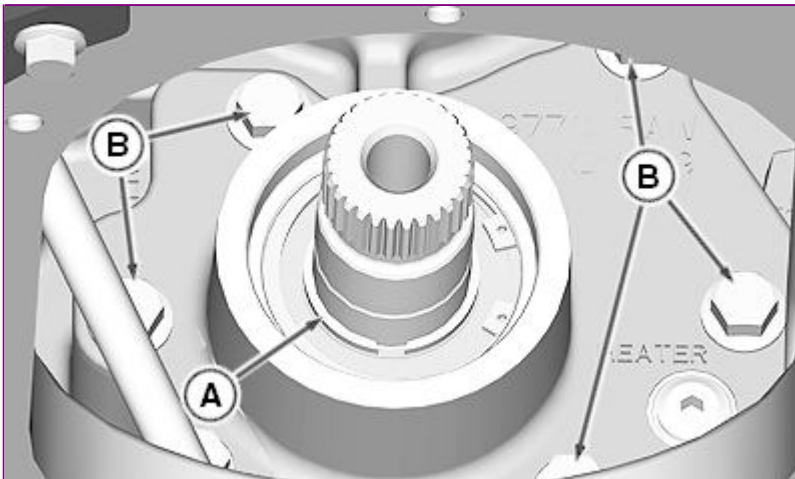


9. RXA0125660-UN: Scavenge Pump Oil Seal

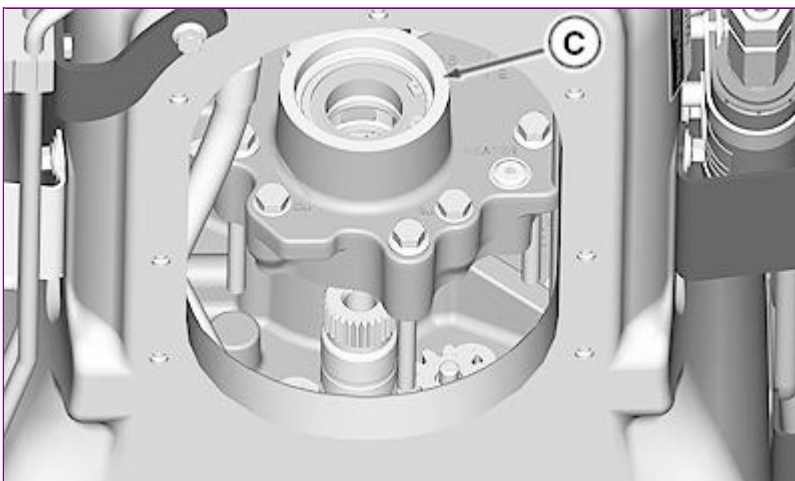
LEGEND:

- A - V-ring Seal
- B - Oil Seal

Remove V-ring seal (A) and oil seal (B).



10. RXA0125773-UN: Scavenge Pump Cover



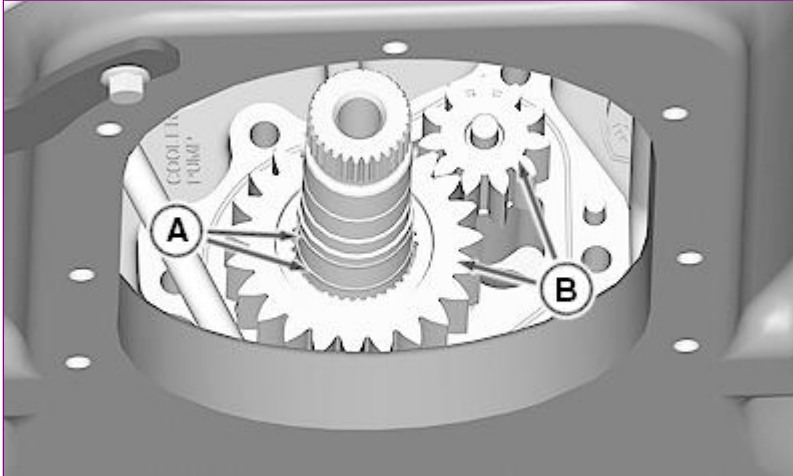
RXA0125774-UN: Scavenge Pump

LEGEND:

- A - Snap Ring
- B - Cap Screws (5 Used)
- C - Scavenge Pump Cover

Remove snap ring (A).

11. Remove cap screws (B) and scavenge pump cover (C).
-



12. RXA0125775-UN: Shaft Seal Rings and Gears

LEGEND:

- A - Seal Rings (2 Used)
- B - Gears

Remove seal rings (A) from shaft.

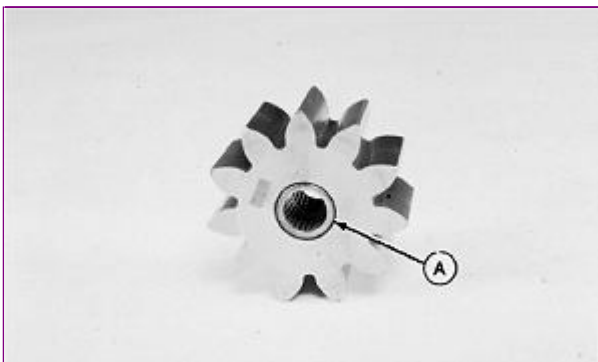
13. **NOTE:**

Some pitting of gears and housing is normal.

Remove and inspect gears (B).

14. **NOTE:**

Driver disks are part of [D01044AA Bushing, Bearing and Seal Driver Set](#) .



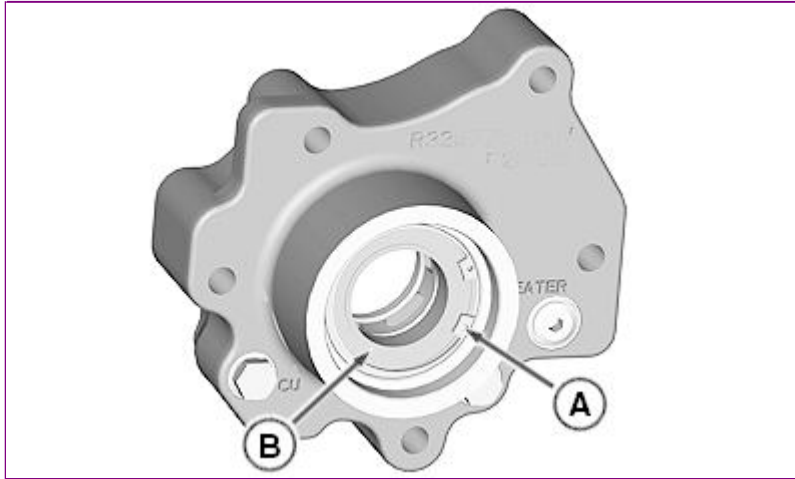
RW35222-UN: Idler Gear

LEGEND:

- A - Bearings (2 Used)

Inspect needle roller bearings (A) and remove, if necessary, using a 16 mm (5/8 in.) driver and 13 mm (1/2 in.) pilot disks.

15. Install new bearings using a 22 mm (7/8 in.) driver and 13 mm (1/2 in.) pilot disks.
16. Install bearings flush with outer surface of pump gear.



17. RXA0125776-UN: Shaft Bearing

LEGEND:

A - Snap Ring
B - Bearing

Remove snap ring (A) and bearing (B)

18. Inspect bearing (B), replace as necessary and install in reverse order.