

PREVIEW - YOUFIXTHIS.COM

12. Install drive sheave (A) by holding drive shaft (B) and tighten sheave to specification.

Specification

Drive Sheave-to-Drive
Shaft—Torque.....100 N·m
(74 lb-ft)

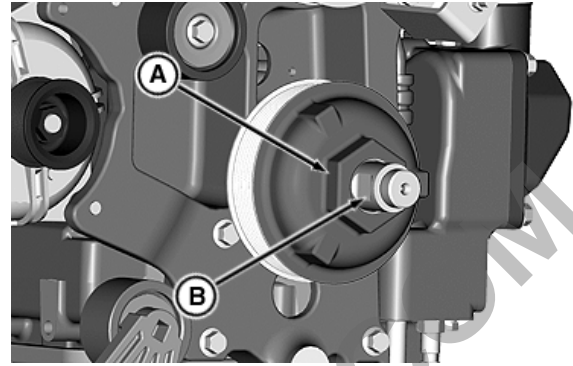
13. Install electronic fan drive to shaft to specification.

Specification

Electronic Fan
Drive-to-Drive
Shaft—Torque.....100 N·m
(74 lb-ft)

A—Fan Drive Sheave

B—Drive Shaft



RXA0087718 —UN—17MAR06

OURX956,000029C -19-23MAR06-5/5

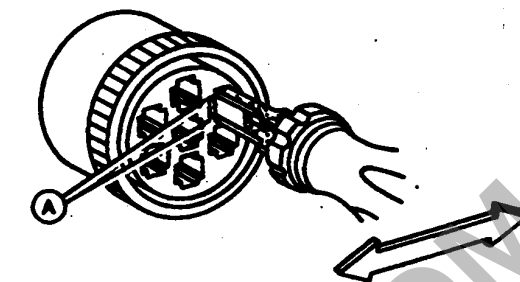
Repair CPC™ Blade Type Connectors

IMPORTANT: Move extraction tool back and forth **ONLY** in direction illustrated to fully seat tool in connector.

NOTE: JDG141 Extraction Tool is included in JDG155 Electrical Repair Tool Kit and JT07195B Technician's Electrical Repair Kit.

NOTE: JDG145 Universal Electrical Pliers and JDG144 Crimping Pliers are included in JDG155 Electrical Repair Tool Kit.

1. Push tip (A) of JDG141 Extraction Tool¹ into terminal offsets until tips bottom in connector.
2. Pull wire to remove contact from connector.
3. Remove old contact and strip 6 mm (1/4 in.) of insulation from wire using JDG145 Universal Electrical Pliers².
4. Crimp new contact on wire using JDG144 Crimping Pliers².
5. Insert wire in correct terminal of new connector.
6. Transfer remaining wires to correct terminal on new connector.



A—Tip

CPC is a trademark of AMP Incorporated

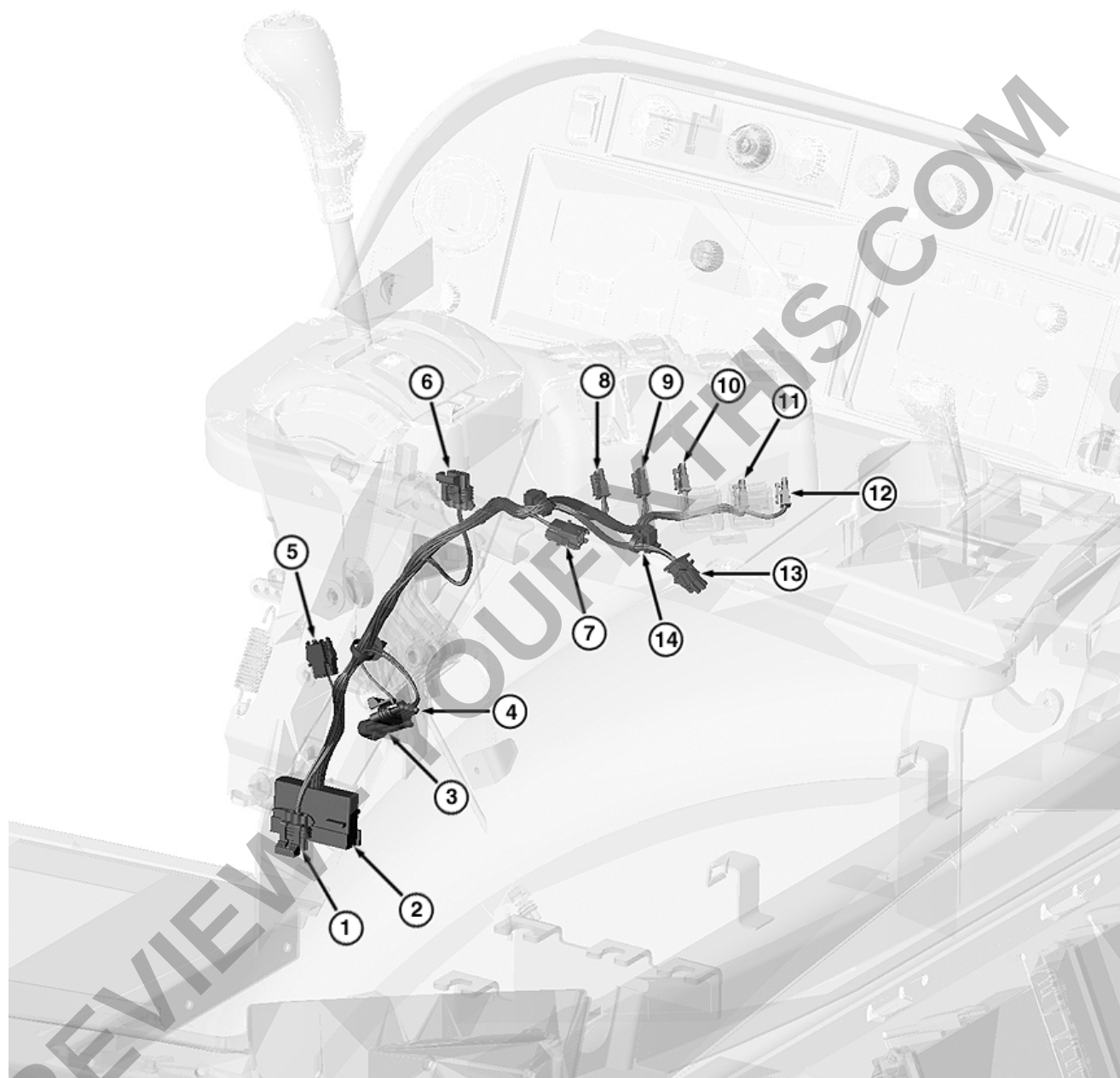
¹Included in JDG155 Electrical Repair Tool Kit and JT07195B Technician's Electrical Repair Kit

²Included in JDG155 Electrical Repair Tool Kit

TS114 —UN—23AUG88

OUOD008,000001E -19-04OCT05-1/1

Operator Control Harness with EH SCVs (PowrQuad PLUS™/AutoQuad PLUS™)



- 1— Cab Harness-to-Front PTO Switch Harness
- 2— Cab Harness-to-Operator Control Harness
- 3— Range Lever Park Switch
- 4— Up/Down Auto Resume Lever

- 5— Hand Throttle Position Sensor
- 6— Up/Down Shift Switch
- 7— IMS Sequence Switch
- 8— Rear Hitch Control Lever Sensor

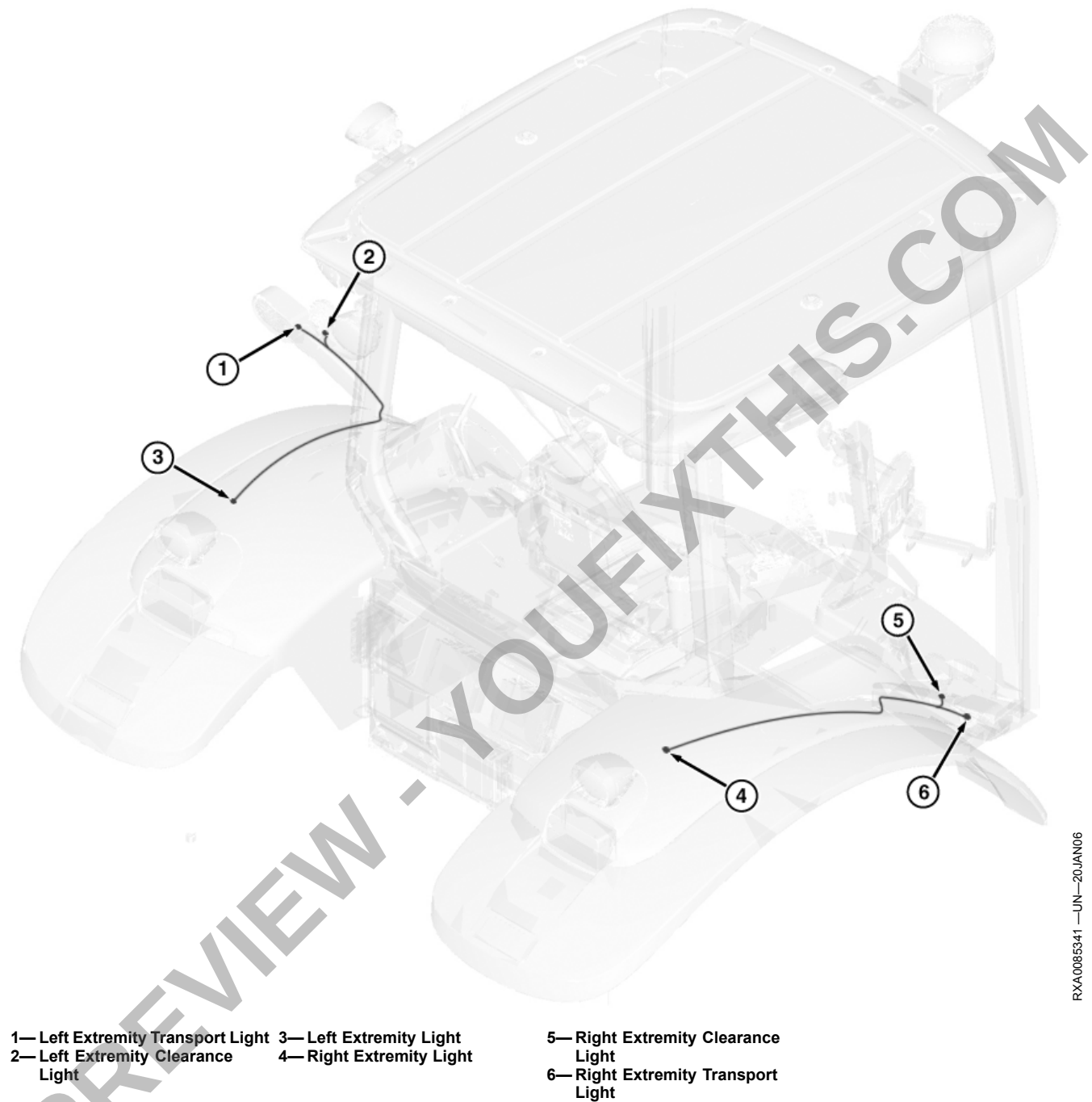
- 9— SCV I Control Lever Sensor
- 10— SCV II Control Lever Sensor
- 11— SCV III Control Lever Sensor
- 12— SCV IV Control Lever Sensor

- 13— Rear PTO Switch
- 14— Front PTO Switch

OURX984,0000243 -19-15MAR06-1/1

RXA0085386 —UN—20JAN06

Extremity Light Harness (European)



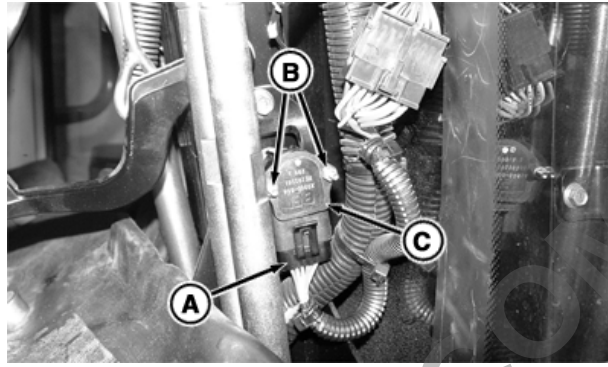
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OURX984,0000232 -19-15MAR06-1/1

Replace Clutch Pedal Position Sensor

NOTE: Clutch pedal position sensor is located on lower right-hand side of steering column.

1. Remove lower front console.
2. Test and replace if necessary. (See OPERATION AND TEST TM—Section 245, Group CAB.)
3. Disconnect connector (A).
4. Remove nuts (B).
5. Remove sensor (C).
6. Install in reverse order.



A—Connector
B—Nut (2 Used)

C—Sensor

OUO6045,000033C -19-18MAY06-1/1

RXA0070519 —JUN—10SEP03

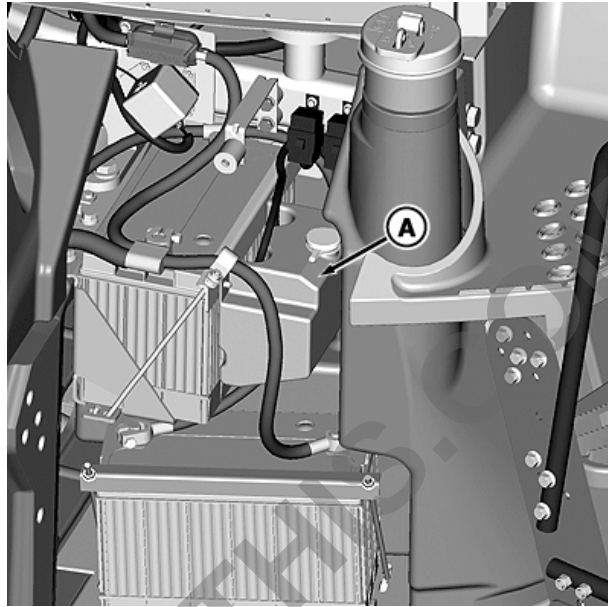
Replace Windshield Washer Pumps

NOTE: Washer pumps and reservoir (A) are located behind the battery cover in the front left-hand corner of cab.

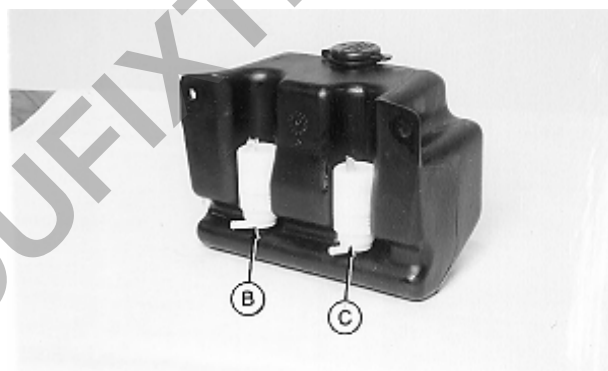
1. Remove battery cover.
2. Remove washer bottle reservoir (A).
3. Disconnect harness from pumps.
 - White Wire #239W Rear Washer
 - Gray Wire #238W Front Washer
4. Remove pumps (B or C).
5. Install in reverse order.

A—Reservoir Bottle
B—Front Washer Pump

C—Rear Washer Pump



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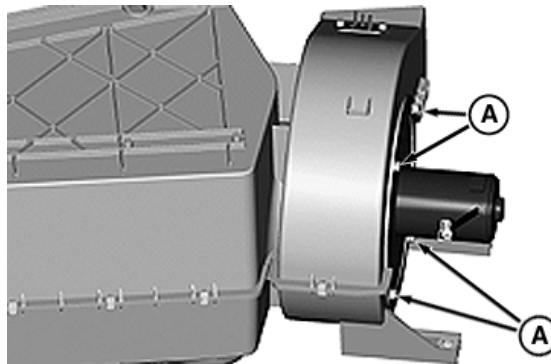
RW60100 —UN—06JUN94

OURX984,0000276 -19-18MAY06-1/1

Replace Circulation Blower Motor

1. Remove HVAC module (See Remove HVAC Module Section 90, group 05).
2. Remove caps screws (A).
3. Remove blower motor.
4. Install in reverse order.

A—Cap Screws



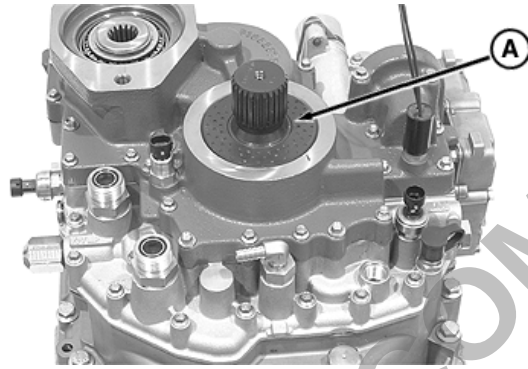
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OURX984,0000278 -19-07APR06-1/1

Remove Hydraulic Pump Drive

1. Remove front transmission cover. (See Remove And Install Front Transmission Cover in this group.)
2. Remove input shaft seal (A).

A—Input Shaft Seal



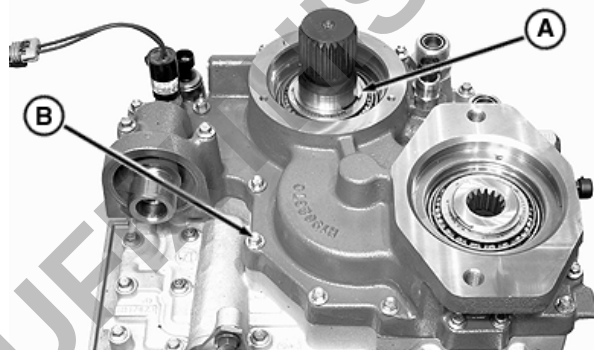
RXA0067068 —UN—19MAY03

OURX985,0000F8E -19-07APR06-1/3

3. Remove snap ring (A) and drive housing retaining screws (B).

A—Snap Ring

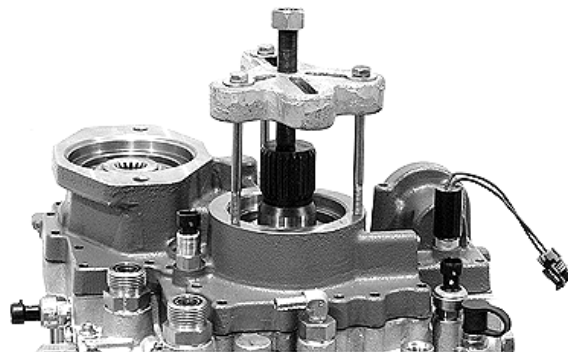
B—Cap Screws (24 used)



RXA0067069 —UN—19MAY03

OURX985,0000F8E -19-07APR06-2/3

4. Use puller to remove hydraulic pump drive.



RXA0067071 —UN—19MAY03

OURX985,0000F8E -19-07APR06-3/3

List of References

Below is a list of all items within this group.

Essential, Recommended and Fabricated Tools

Other Material

Specifications

General Information—Repair Range Box

Cross Sectional View—Range Box 30 km/h (18 mph)

Cross Sectional View—Range Box 40 km/h (28 mph) and 50 km/h (31 mph)

Exploded View—Differential Drive Shaft 30 km/h (18 mph)

Exploded View—Differential Drive Shaft 40 km/h (28 mph) and 50 km/h (31 mph)

Remove Differential Drive Shaft

Remove Input Shaft

Repair Input Shaft

Exploded view—Shifting Mechanism

Exploded View—Park Lock

Install Input Shaft

Adjust Input Shaft End Play

Install Differential Drive Shaft And Adjust Cone Point

Adjust Differential Drive Shaft End Play

Adjust Range Shift

Cross Sectional View—Shifter Assembly

Repair Shift Cover

Replace Speed Sensor

OURX985,0000FA8 -19-21NOV08-1/1

Essential, Recommended and Fabricated Tools

NOTE: Order tools according to information given in the U.S. SERVICEGARD™ Catalog or from the European Microfiche Tool Catalog (MTC).

Below are tools listed in this group.

SERVICEGARD is a trademark of Deere & Company

DFRW70—Holding Tool

D01045AA Disk Set

D01047AA 17-1/2 and 30 Ton Hydraulic Puller Set

JDT44 2-1/2 in. Heavy Duty Socket

OURX985,0000FA9 -19-25MAY07-1/1

Other Material

Number

L41475 (U.S.)
243 (LOCTITE®)

Name

Oil Resistant Threadlocker
(Medium Strength)

Use

Used to retain cap screws and seal surfaces.

LOCTITE is a trademark of Loctite Corporation.

OURX985,0001107 -19-02AUG06-1/1

Group 10 Front Pump/Control Valve Assembly

List of References

Below is a list of all items within this group.

Essential or Recommended Tools

Specifications

Remove, Repair, and Install Hydraulic Pump Drive

General Repair Procedures—Front Control Valve/Transmission Control Pump Assembly

Remove and Install Front Control Valve Assembly

Exploded View—Front Control Valve Assembly

Repair Front Control Valve Assembly

OURX985,0000EE9 -19-22FEB06-1/1

Essential, Recommended and Fabricated Tools

NOTE: Order tools according to information given in the U.S. SERVICEGARD™ Catalog or from the European Microfiche Tool Catalog (MTC).

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Below are tools listed in this group.

JDG851 Seal Installer

OURX985,0000F82 -19-05APR06-1/1

IMPORTANT: Make sure spring seats (C) are fully seated onto valve spool (D) after they are installed in hydrostatic module.

3. Remove plugs (A) to remove loop flushing valve springs (B), spring seats (C), and valve spool (D).

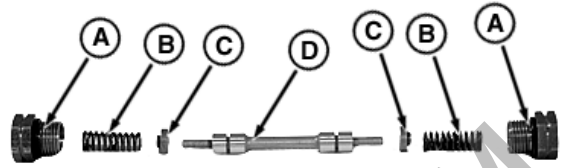
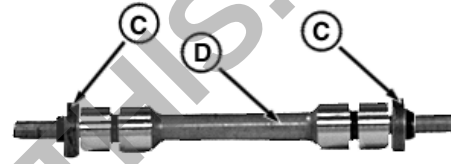
Specification

Loop Flushing Valve

Plugs—Torque.....35 N·m
(26 lb·ft)

A—Plugs
B—Springs

C—Spring Seats
D—Spool



RXA0056454 —UN—15AUG01

RXA0056485 —UN—15AUG01

OURX927,0000F6A -19-22AUG06-2/3

4. No further repair of hydrostatic module is allowed.

If hydrostatic module requires replacement, return core for remanufacture.



RXA0052349 —UN—16MAR01

OURX927,0000F6A -19-22AUG06-3/3

9. Grease piston seals with engine assembly grease and install with locator (B) as shown.

A—Piston

B—Locator



RXA0052860 —UN—11APR01

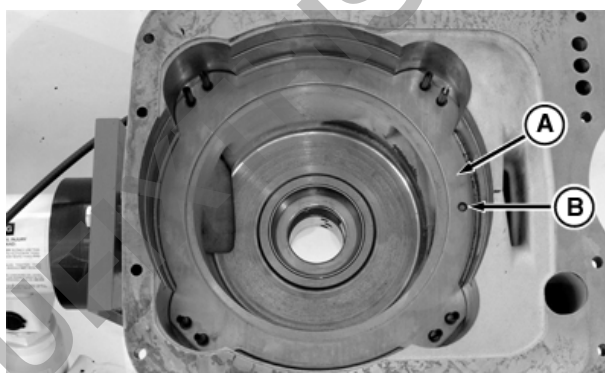
OURX927,0000F7F -19-06APR06-6/9

IMPORTANT: Hole in bottom plate (A) must fit over locator on piston (B).

10. Install lower plate (A).

A—Lower Plate

B—Locator



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OURX927,0000F7F -19-06APR06-7/9

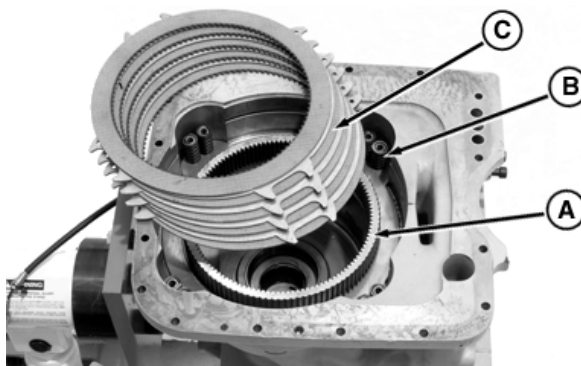
11. Position ring gear on bottom plate (A).

12. Install springs (B).

13. Install disks and separator plates (C).

A—Bottom Plate
B—Springs

C—Disks and Separator Plates



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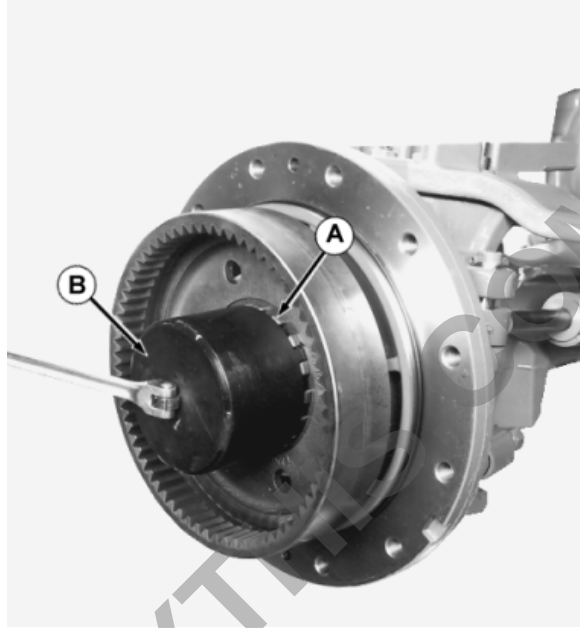
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OURX927,0000F7F -19-06APR06-8/9

13. Remove retainer (A), using JDG1253 Spanner Socket (B).

A—Retainer

B—Spanner Socket



RW78013 —UN—17FEB98

OURX985,000110C -19-04NOV08-5/21

14. Make alignment marks (A) on ring gear hub and knuckle spindle spline.

IMPORTANT: Be careful that ring gear hub outer bearing does not fall to the floor when hub is removed.

15. Remove ring gear hub.

A—Alignment Marks



RW78014 —UN—17FEB98

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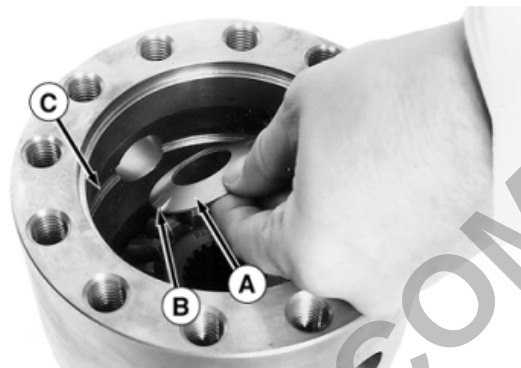
OURX985,000110C -19-04NOV08-6/21

NOTE: Tabs (B) on thrust washer must line up with groove (C) in housing.

4. Install conical thrust washers (A).

A—Thrust Washers
B—Tab

C—Groove



RW36621—UN—14NOV97

OURX985,0001116 -19-17DEC07-4/14

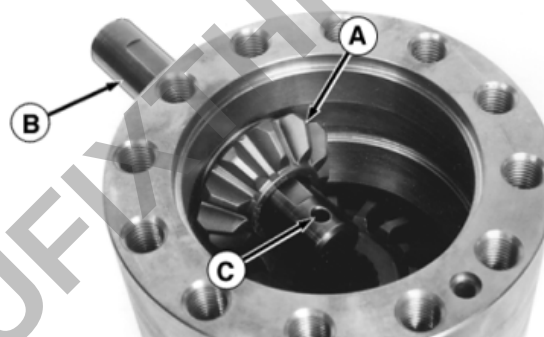
NOTE: Make sure pin bore (C) is in vertical position when installing shaft (B).

NOTE: Install four bevel pinions, thrust washers and two shafts in heavy duty axles.

5. Install bevel pinions (A) and pinion shaft (B).

A—Bevel Pinions
B—Pinion Shaft

C—Pin Bore

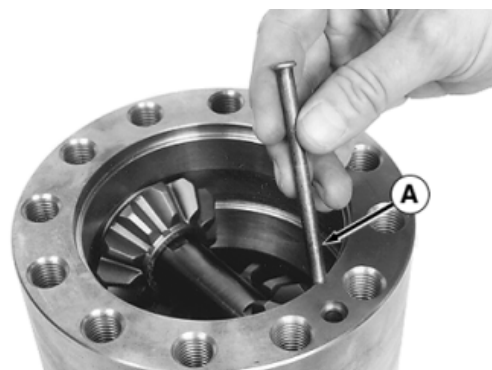


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OURX985,0001116 -19-17DEC07-5/14

6. Install pinion shaft locking pin (A).

A—Pinion Shaft Locking Pin



RW36623—UN—14NOV97

Continued on next page

OURX985,0001116 -19-17DEC07-6/14

17. Measure distance in four places from top of bridge (A) to axle housing flange (B).
18. Add four readings and divide by four to obtain average.
19. Subtract result of Step 11 from result of Step 9.
20. Subtract result of Step 6 from result of Step 12.
21. Result of Step 13 is shim pack needed for required bearing preload.
22. Remove tools.
23. Install calculated shim pack (C) and bearing cup (D). Install cup tight against shims in bottom of bore using a 111 mm or 4-3/8 in. driver disk.

A—JDG1217-1 Bridge
B—Axle Housing Flange

C—Calculated Shim Pack
D—Bearing Cup



RW36647—UN—15APR98

RW36789—UN—02APR98

OURX985,0001120 -19-07AUG06-5/5

Determine And Install Axle Housing Bearing Cup Shim Pack—Heavy Duty

1. Install axle housing bearing cup (A) on differential housing bearing cone.

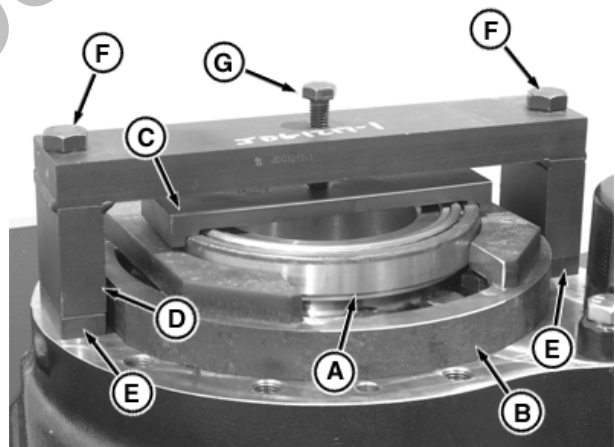
NOTE: Use tools from JDG1217 Differential Housing Tool Set and JDG1769 Differential Housing Tool Set.

2. Install JDG1769-1 Centering Ring (B).
3. Install JDG1769-3 Plate (C), JDG1217-1 Bridge (D), and JDG1769-2 Spacers (E).
4. Install and tighten cap screws (F).
5. Install JDG1217-3 Cap Screw (G) and tighten to specification.

Specification

JDG1217-3 Plate Cap Screw—Torque.....2.6 N·m
(24 lb-in)

6. Rotate housing six revolutions in each direction to roll-in housing bearings.
7. Tighten plate cap screw (G).



A—Bearing Cup
B—JDG1769-1 Centering Ring
C—JDG1769-3 Plate
D—JDG1217-1 Bridge

E—JDG1769-2 Spacers
F—Cap Screws
G—JDG1217-3 Plate Cap Screw

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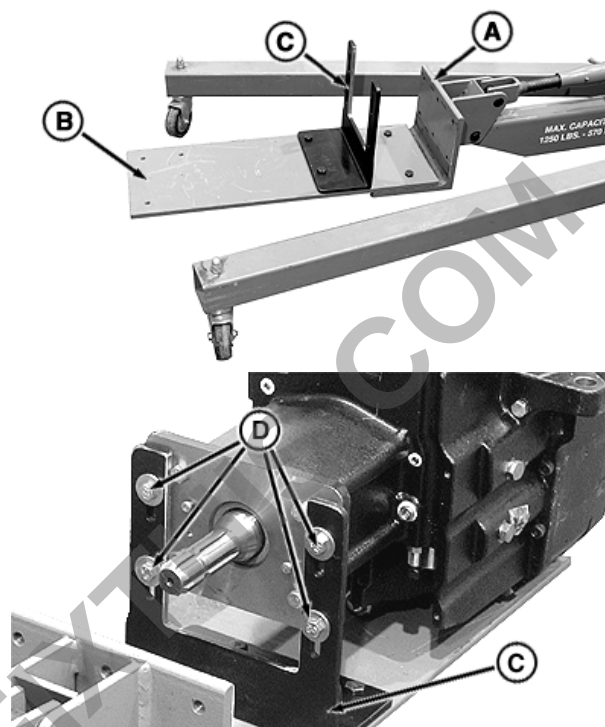
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OURX985,0001121 -19-07AUG06-1/5

12. Install DFRW179 Front PTO Support Bracket (C) to D05072ST Transmission Plate (B) and JT07056 Service Jack (A).
13. Attach jack and DFRW179 support bracket under PTO and attach to PTO shield mounting cap screws (D).

A—JT07056 Heavy-Duty Service Jack
B—D05072ST Transmission Plate

C—DFRW179 Front PTO Support Bracket
D—Cap Screws (4 used)



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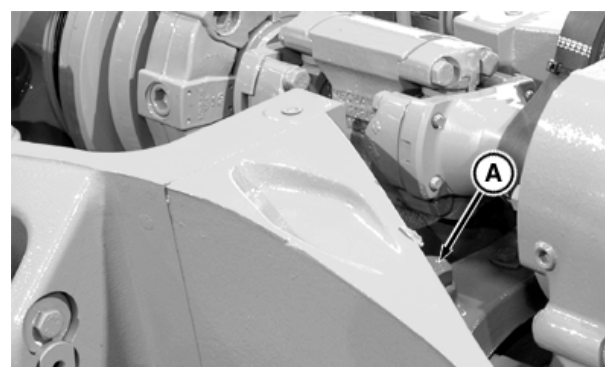
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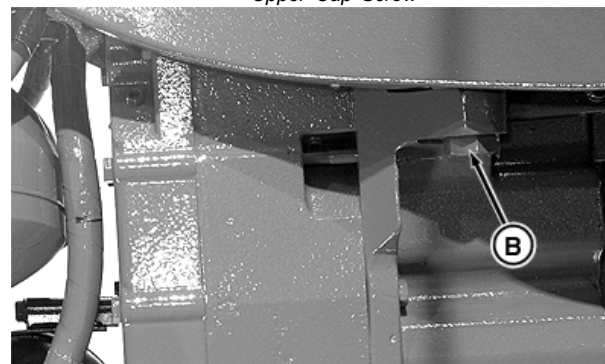
14. Remove mounting cap screws (A and B).
15. Remove PTO assembly by lowering and pulling forward allowing drive yoke to slide off input shaft of gear case.

A—Upper Cap Screw

B—Lower Mounting Cap Screws (2 used)



Upper Cap Screw



Lower Mounting Cap Screws (2 used)

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RXA0067552 —UN—17JUN03

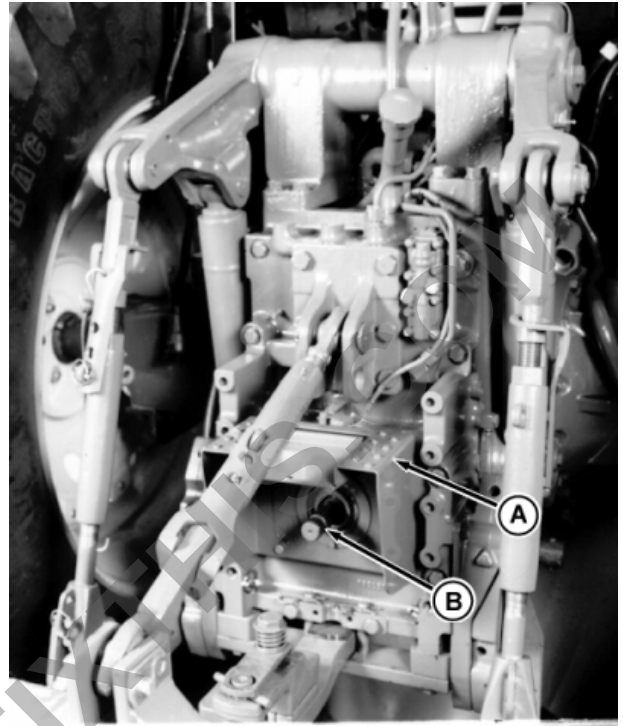
OURX985.0001127 -19-07SEP06-5/5

Remove And Disassemble PTO Clutch

1. Remove PTO shield (A).
2. Remove PTO output shaft snap ring and shaft (B).
3. Remove PTO. (See Remove Rear PTO Assembly in Group 00 of this section.)

A—PTO Shield

B—PTO Shaft



RW21673A —UN—10DEC98

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OURX985,000113C -19-09AUG06-1/12

General Repair Procedures—PTO

NOTE: Before beginning the repair, review the following guidelines. These are provided to emphasize the need for attention to detail and care when servicing the PTO.

Thoroughly clean the outside of PTO housing to reduce possible contamination.

Disassembly and Assembly:

- Fasteners must be tightened to the specified torque.
- Lubricate each component part with clean hydraulic oil.
- Needle bearings and thrust washers should be lightly coated with petroleum jelly during assembly.
- Use new O-rings and seals.

Inspection Before Disassembly:

- Inspect the clutch, countershaft, and output shaft before removal as follows:
 - a. Wipe lubricant from internal working parts and visually inspect parts for wear and damage.
 - b. Rotate gears to check for roughness.
 - c. Inspect gear teeth for signs of scoring, abnormal wear, or nicks.

Cleaning and Inspection:

Bearings

- Never dry bearings with compressed air. Spinning a bearing without lubrication can damage the bearing.
- Clean bearings with clean solvent, dry thoroughly, and oil before inspection. Inspect bearings for roughness of rotation and excessive wear of rollers.
- Inspect bearing cups for excessive wear.
- Both the bearing cone and roller assembly should be replaced if either the cup or cone has excessive wear.
- Inspect thrust washers and thrust surfaces for distortion, roughness, scoring, or wear.

- Make sure bearing cups and cones are fully seated during installation.

Springs

- Inspect all springs for wear, damage, or distortion.

Shafts

- Inspect the shaft bearing surfaces for wear or damage.
- Inspect shafts and replace if excessively worn or damaged.
- Inspect bushings for scoring, burrs, roughness, sharp edges and evidence of overheating. Remove scores with crocus cloth or knife. Replace bushings if out-of-round, deeply scored, or excessively worn.

Gears

- Examine the gear teeth for scoring, chipping, or excessive wear. Replace as necessary.

Clutch

IMPORTANT: DO NOT use solvent to clean the disks. Use a lint-free cloth. New disks should be soaked in hydraulic oil for 15 minutes before assembly.

- Inspect the separator plate ears for excessive wear or damage. Check the plates for flatness.
- Inspect the disk lugs and hub splines for excessive wear or damage. Inspect the disks for worn or scored surfaces.

NOTE: Replace disks if the disk facing material chips, flakes, or scratches easily.

- Clean all oil passages.

AG,OURX078,567 -19-02FEB00-1/1

NOTE: Do not install valve parts if the manual-stage dump piston is to be removed.

NOTE: Manual-stage dump piston can be accessed through inlet valve port (A) and return port (B).

6. Remove, inspect, and install parts (D—G).

Specification

Manual-Stage Dump Valve Spring —Free	
Length.....	30 mm (1.2 in.)
Test Length.....	11.8 mm at 19.4—20.7 N (0.46 in. at 4.1—4.7 lb force)

7. Replace backup ring (H) and O-ring (I).

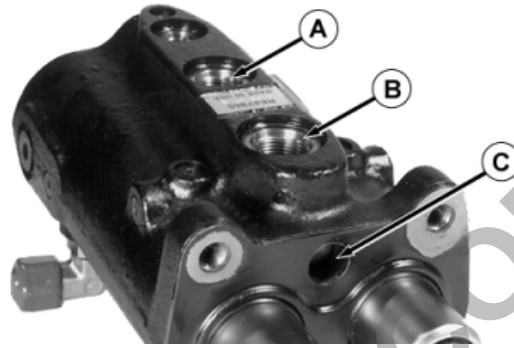
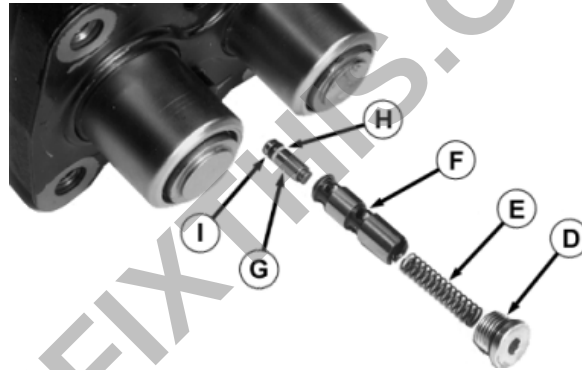
8. Install inlet valve parts in port (A).

9. Install inlet and return elbows.

Specification

Inlet and Return Elbows—Torque.....	52 N·m (38 lb-ft)
-------------------------------------	----------------------

A—Inlet Valve Port	F—Manual-Stage Dump Valve
B—Return Port	G—Manual-Stage Dump Piston
C—Manual-Stage Dump Valve	H—Backup Ring
D—Plug	I—O-Ring
E—Spring	



RW25862—UN—06DEC97

RW25863—UN—05DEC97

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OURX985,0000122 -19-16AUG06-4/11

Test Surge Relief Valve

NOTE: Make sure O-ring is correctly positioned in end of valve when installing test adapter.

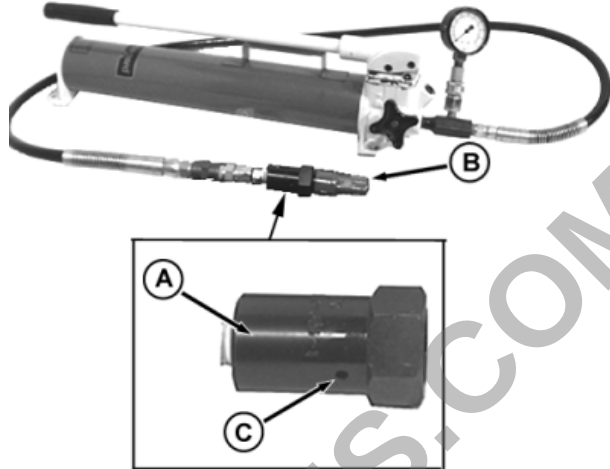
1. Connect surge relief valve (B) to hydraulic hand pump equipped with a 34 500 kPa (345 bar) (5000 psi) gauge using a JDG789 Hydraulic Test Adapter (A).
2. Operate hand pump and record pressure when oil starts coming out of test adapter drain port (C).

Specification

Surge Relief
Valve—Breaking
Pressure..... 24 000—26 000 kPa
(240—260 bar)
(3500—3750 psi)

3. Replace surge relief valve if necessary.

A—JDG789 Hydraulic Test Adapter
B—Surge Relief Valve
C—Drain Port



RW76153—UN—14DEC98

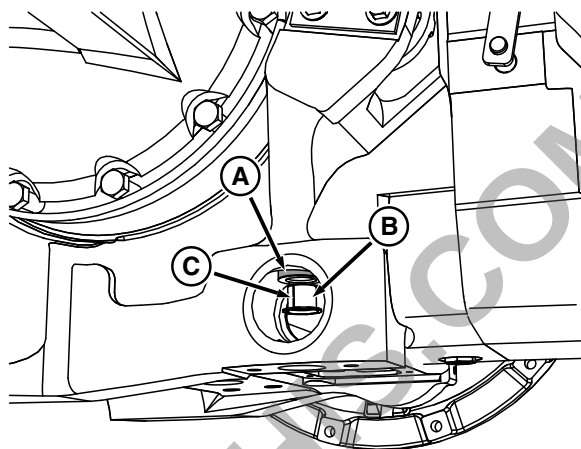
OURX985,000115D -19-17AUG06-1/1

IMPORTANT: UPPER sleeve (A) must be installed in bore before install bushing (B). Failure to install sleeve in bore before bushing can cause damage to bushing.

14. Install new sleeve in upper bore.
15. Install new bushing in upper sleeve with split (C) positioned as illustrated.

A—Upper Sleeve
B—Bushing

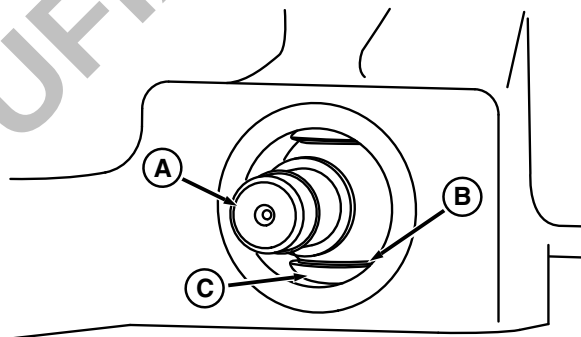
C—Split



RXA0077814 —UN—19OCT04

OURX985,0000012 -19-13JAN10-10/16

16. Install draft sensing shaft (A).
17. Assemble lower bushing (B) in lower sleeve (C).
18. Install assembled bushing and sleeve in lower bore from bottom side of hitch frame..
19. Drive lower sleeve-bushing assembly until shaft has minimum end play between upper and lower bushings.



RXA0097743 —UN—25APR08

OURX985,0000012 -19-13JAN10-11/16

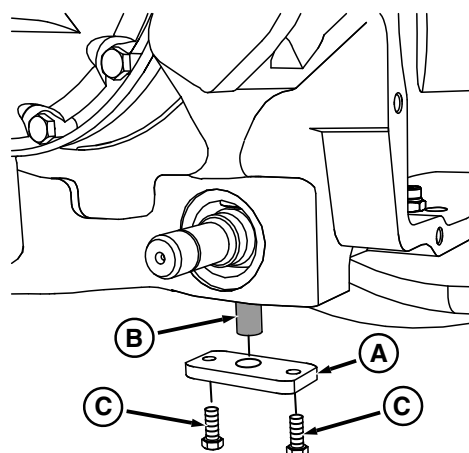
20. Align hole in draft sensing shaft with bore in hitch frame and install pin (C).
21. Apply PM38655 Flexible Form-in-Place Gasket to plate (B).
22. Install plate and cap screws (C).

Specification

Draft Shaft Plate Cap
Screws—Torque.....75 N·m
(55 lb-ft)

A—Pin
B—Plate

C—Cap Screws (2 used)



RXA0077816 —UN—19OCT04

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OURX985,0000012 -19-13JAN10-12/16

Adjust Pick-Up Hitch

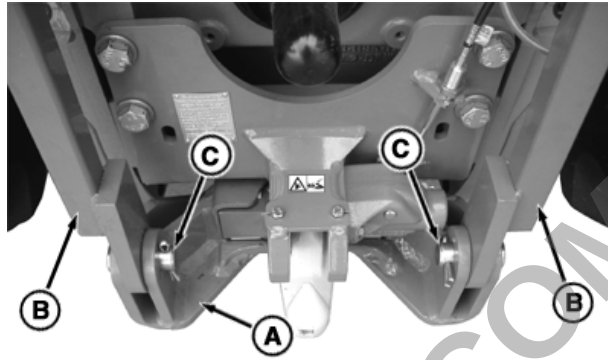
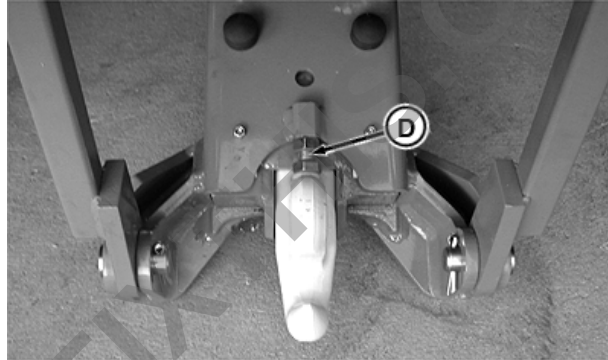
1. Raise hitch. Do not use external raise/lower switch.
2. Press lower frame (A) using a jack until frame is against stop. Rubber damper must be pressed together.
3. Turn lift link tubes (B) until pins (C) will freely move into position. Install washer and cotter pin.

⚠ CAUTION: Avoid the possibility of personal injury. Check hitch function by opening and closing hitch several times. Locking pin must be completely through bore when hitch is closed.

4. Adjust cable by closing hitch and moving cab control lever to the detent position.
5. Adjust cable until locking pin can easily extend and retract with control lever.
6. Adjust cylinder stop (D) until locking pin can easily extend and retract with control lever.

A—Lower Frame
B—Lift Link Tubes

C—Pins
D—Cylinder Stop



RXA0070438 —UN—06SEP03

RXA0069427 —UN—24JUL03

OURX927,000115F -19-06FEB04-1/1

7. **Assemble:** Wash all parts in clean solvent and dry using moisture-free compressed air before assembly.

IMPORTANT: Lubricate O-rings, gaskets, and lip seal using only TY22101 (R134a) Refrigerant Oil during assembly. Other oils could damage the compressor.

8. Apply R134a oil to bore of front housing and install new lip seal (O) to bottom of bore using a socket (R). Install new snap ring (N), flat side down.
9. Install pins (A) and new O-ring (G) in rear cylinder.

NOTE: The rear valve plate is marked with an "R" and is installed face up.

10. Install parts (F—D) over the pins on rear cylinder.
11. Install a new gasket (C) flat side down and rear housing (B) on rear cylinder. Mount compressor onto holding fixture.
12. Install pins (A) and new O-ring (G) in front cylinder.

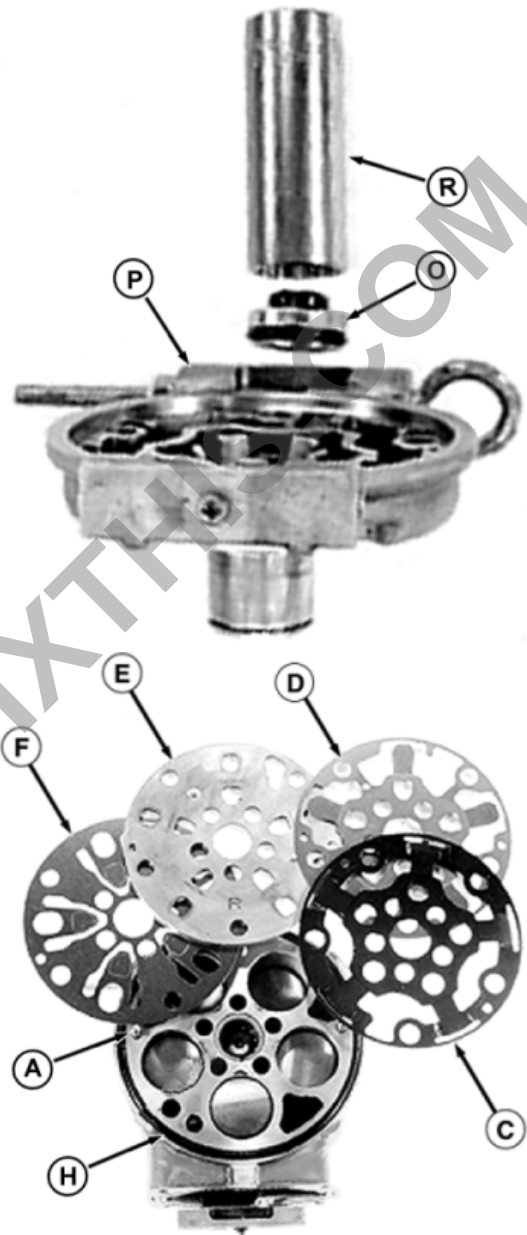
NOTE: The front valve plate is marked with an "F" and is installed face up.

13. Install parts (H—J) over pins on front cylinder.
14. Install a new gasket (K) flat side down. Put JDG746 Compressor Seal Protector on shaft and lubricate with R134a oil.
15. Install front housing (P) on front cylinder and remove lip seal protector. Install through bolts (M) and new washers (L).
16. Tighten through bolts evenly and incrementally to specification.

Specification

Compressor Through
Bolts—Torque.....26 N·m
(230 lb-in.)

17. Install felt washer (Q) using clutch hub.
18. Install pulley-clutch hub and check clearance. (See Disassemble, Inspect, and Assemble Compressor in this group.)



See previous page for component identification

OURX956,00003CF -19-02MAY06-2/2

RW78228 —UN—09MAR99

RW78230 —UN—09MAR99

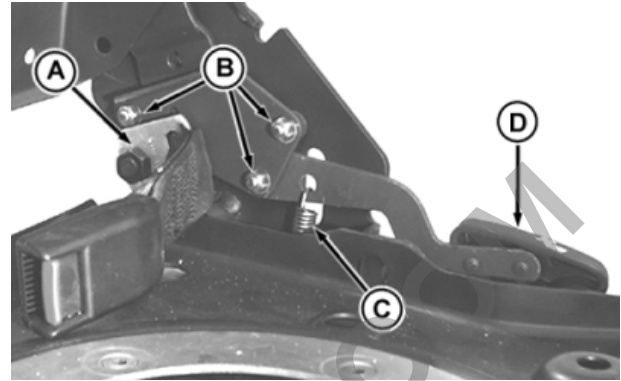
3. Repair Seat Back Adjuster:

⚠ CAUTION: Seat back is under spring tension and should be moved all the way forward before repairing.

- Remove three lock nuts (B) and latch assembly being careful not to lose washers and bushings behind plate.
- Replace spring (C) and knob (D) as necessary.
- Install in reverse order.

A—Seat Belt
B—Lock Nuts

C—Spring
D—Knob



RW78309 —UN—28JUL99

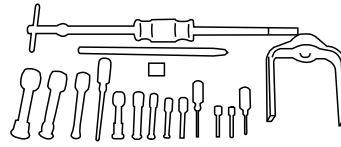
OURX956,00003AB -19-28OCT05-3/3

Essential And Recommended Tools

Blind-Hole Puller Set D01061AA ¹

RXA0084385 —UN—05OCT05

Used to remove bearings and bushings from blind holes.



¹Recommended Tool

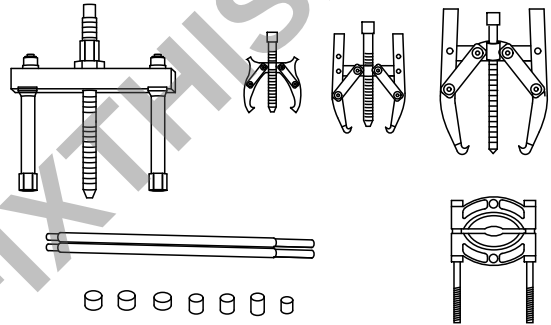
OURX985,000096B -19-03OCT05-2/2

D01173AA 17-1/2 Ton Mechanical Puller Set

OURX985,0000A85 -19-25MAY07-1/2

Mechanical Puller Set..... D01173AA

Used to remove bearings.



RXA0094309 —UN—29MAY07

OURX985,0000A85 -19-25MAY07-2/2

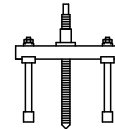
D01290AA Push-Puller

OURX985,0000A25 -19-20SEP05-1/2

Push-Puller..... D01290AA ¹

RW77410 —UN—28JUN00

Used to remove bearings and bearing cups.



¹RECOMMENDED TOOL

OURX985,0000A25 -19-20SEP05-2/2

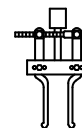
D01301AA Internal Puller

OURX985,0000A26 -19-20SEP05-1/2

Internal Puller D01301AA

RW77411 —UN—28JUN00

Used to remove bearings and bearing cups.



OURX985,0000A26 -19-20SEP05-2/2

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