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mineral oils because this reduces the biodegradability and makes proper oil recycling impossible.]

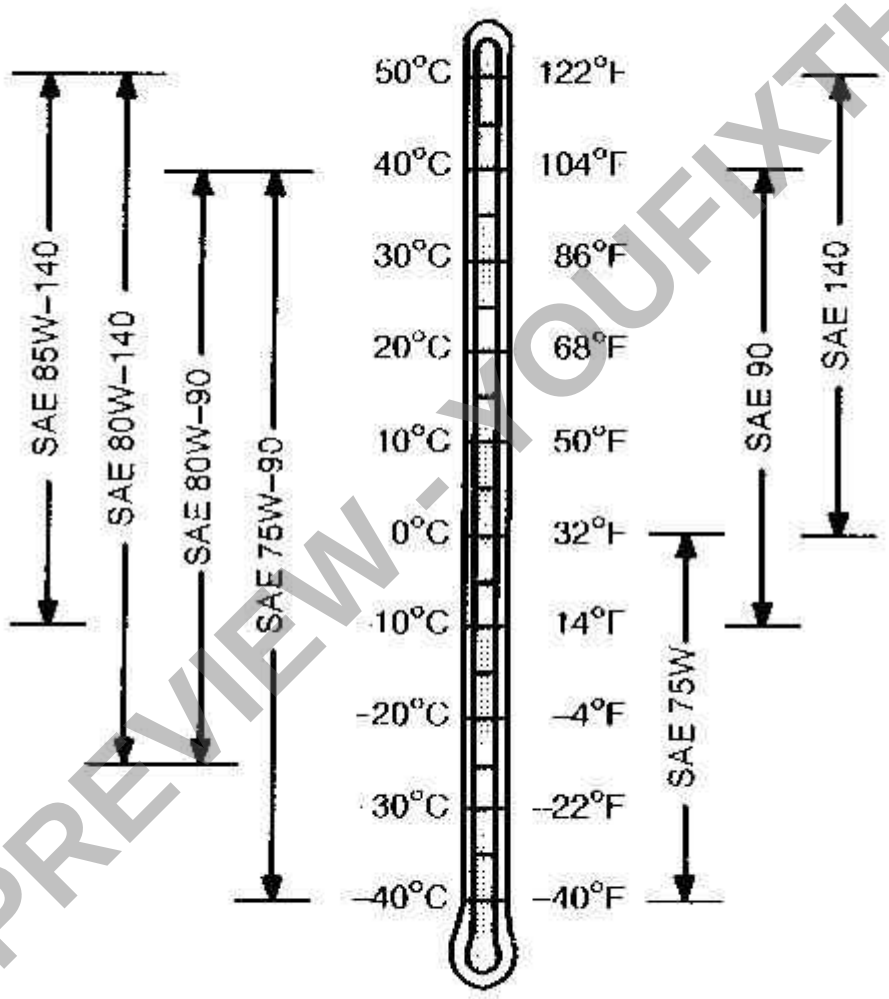
or BIO-HY-GARD ™

[BIO-HY-GARD II meets or exceeds the minimum biodegradability of 80 % within 21 days according to CEC L-33-A-93 test method. BIO-HY-GARD meets or exceeds the minimum biodegradability of 80 % within 21 days according to CEC L-33-T-82 test method. These oils should not be mixed with mineral oils because this reduces the biodegradability and makes proper oil recycling impossible.]

→NOTE:

Do NOT use BIO-HY-GARD on braked axles.

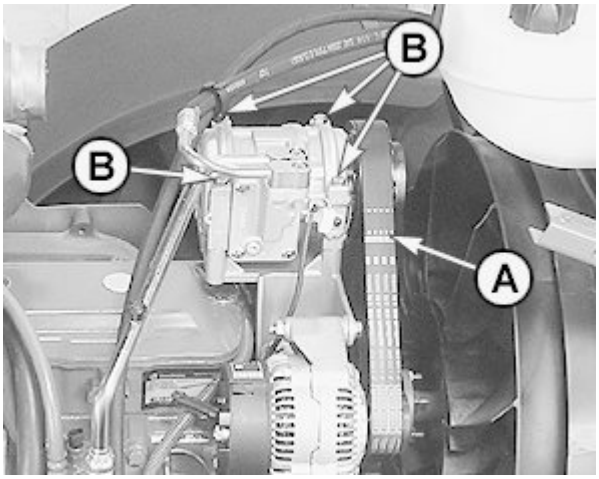
MFWD Axle Housing Oil —Hi-Crop Rear Axle



Use oil viscosity based on the expected air temperature range during the period between oil changes.

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d. 

LEGEND:

A	Drive belt
B	Compressor attaching screws

Remove the air-conditioning compressor. Relieve tension on drive belt (A) and take it off the compressor's V-belt pulley. Take out screws (B).

The compressor remains in position until the front frame is removed.

e. 

Remove the condenser and place it temporarily on top of the engine. Once the front frame has been removed, move the condenser together with the compressor to the right-hand side of the engine.

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→NOTE:

Make sure valve seat is clean.

Install in reverse order.

Installing the Radiator

Install the radiator in reverse order (with regard to the procedure described under "Removing the Radiator"). See reference“Removing the Radiator”.

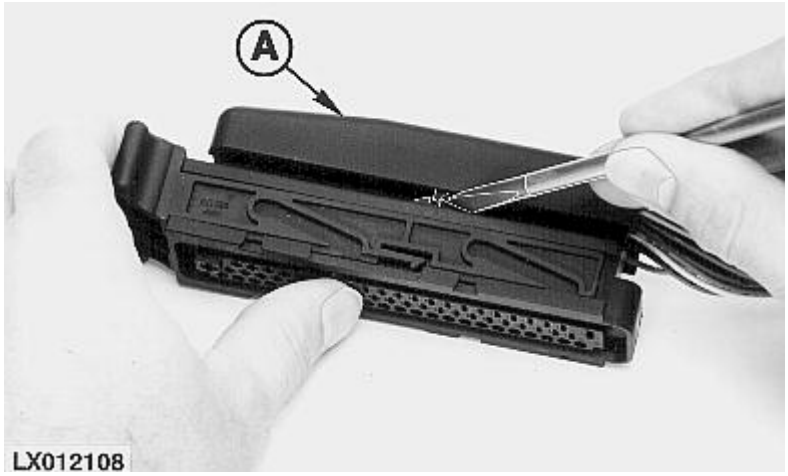
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Electronic Control Unit Connectors

45- or 68-pin connectors

[1] - Removing cover



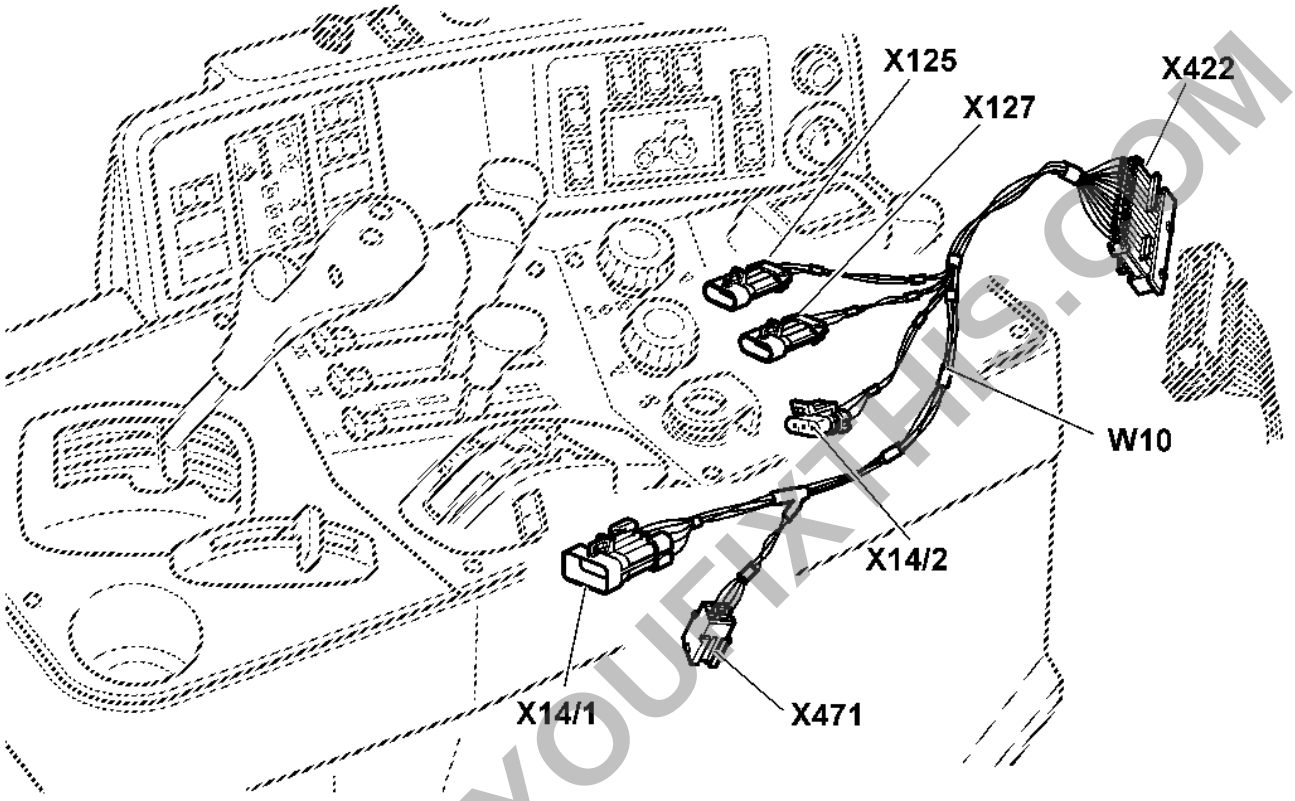
Remove cable junction.

Press locking pawl and slide cover (A) to the left.

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Console



LX1026261

LEGEND:

X14/1	Rockshaft Positioning Unit Connector
X14/2	Height Sensing Potentiometer Connector
X125	Rear PTO Switch Connector
X127	Front PTO Switch Connector (not used)
X422	Connection Point — Shift Console Wiring Harness (W08)
X471	Program Selector Connector (not used)

Remove and Install Wiring Harness W11 — Gear Shift and Accelerator Lever

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Remove screws (C), remove the turn signal switch (D) by pushing it forward and replace it.

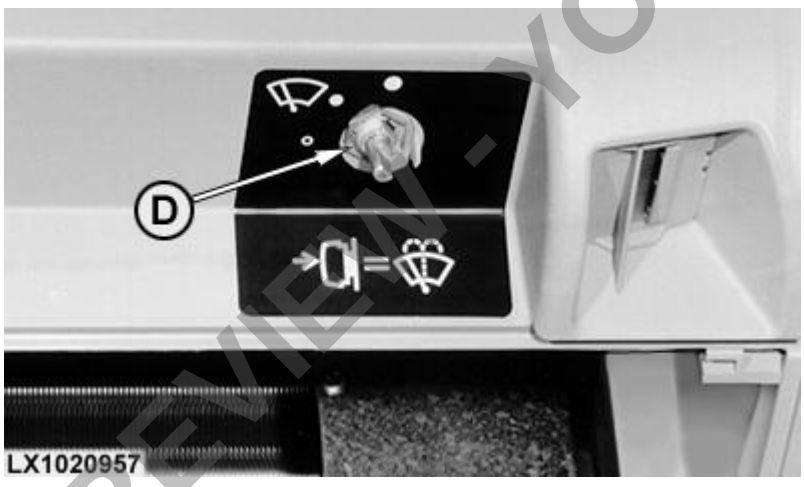
Remove the turn signal lever by pulling it out after removing the screw.

Reverse the disassembly sequence to assemble.

Replacing Windshield Wiper and Windshield Washer Switch

Cab Tractors





LEGEND:

A	Bolts
B	Cab air filter unit
C	Switch
D	Flat nut

Remove bolts (A) and pull down air filter unit (B).

Remove switch knob (C).

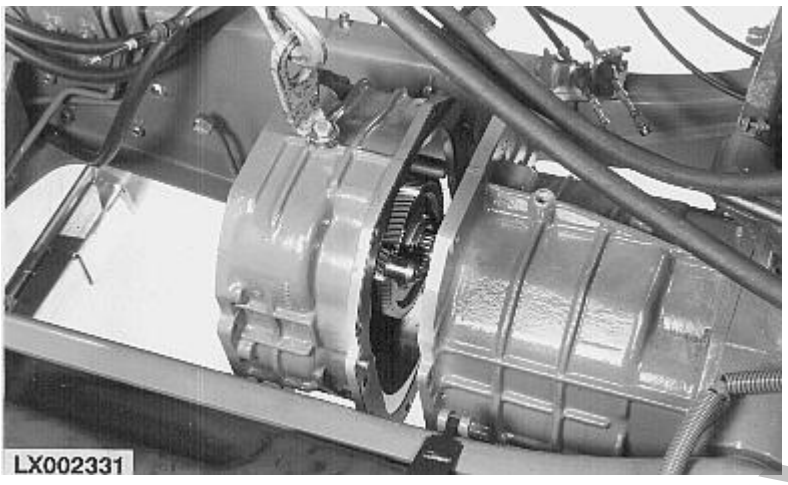
Remove nut (D).

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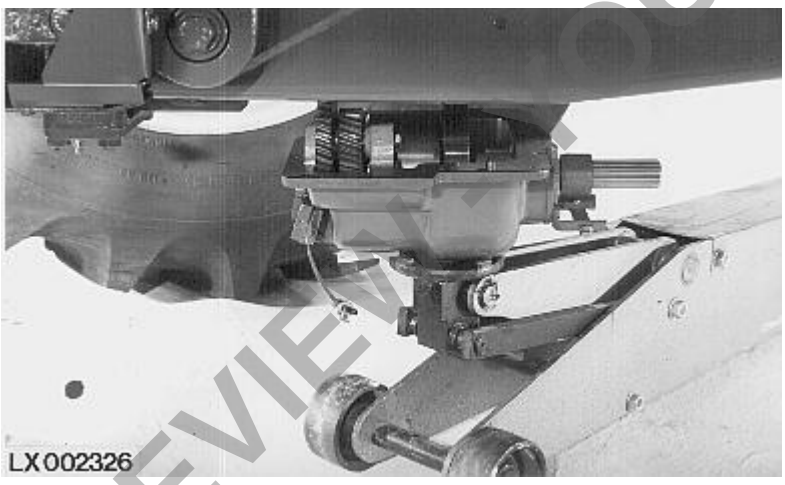
→NOTE:

Look through the open front wheel drive flange to verify that the shift rod journals engage in the shift fork slots.



Depending on the type of transmission, install the PowrQuad module or creeper transmission.

- Install PowrQuad Transmission



Install MFWD clutch (if installed). SeeInstall MFWD Clutch, Section 56, Group 00.

Continue the installation by reversing the disassembly sequence.

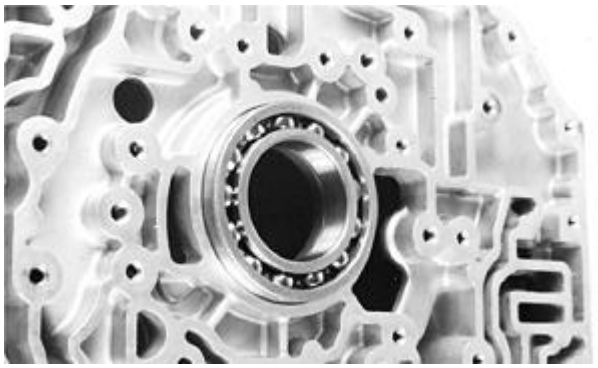
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[12] -

IMPORTANT:

Support the rear surface of the bearing bore to prevent damage to the cover.



Replace the transmission front cover ball bearing, if necessary. Press the bearing until it bottoms in the bore. To do this, use a mandril and washers with a diameter of 44.5 mm (1-3/4") and 73 mm (2-7/8").

Bushing, Bearing and Seal Driver Sets

D01045AA

Install bushing, bearings and seals

Hydraulic Puller Set

D01048AA

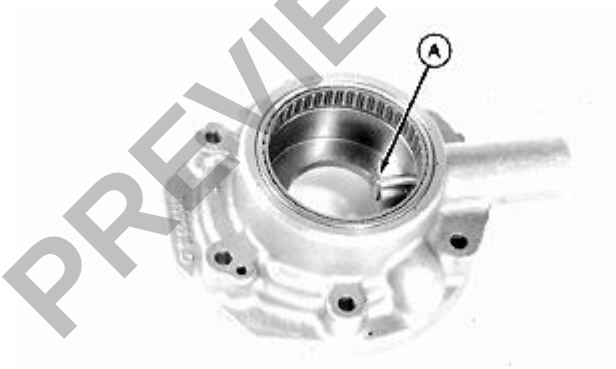
Remove bearings

Mechanical Puller Set

D01173AA

Remove bearings

[13] -



Install air pump operating pin (A) in distributor.

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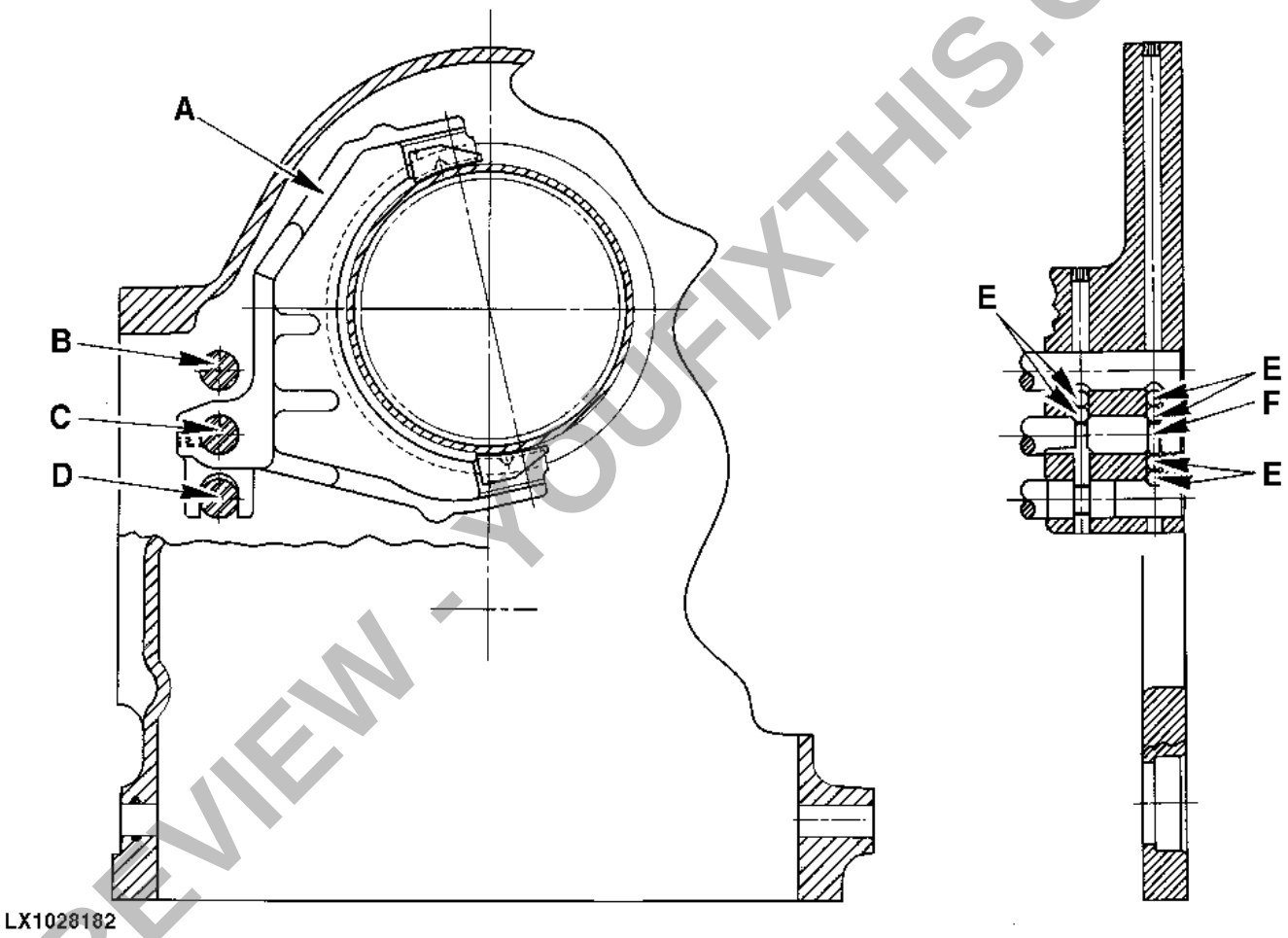
Repair Range Box

Preparation:Remove Range Box.

→NOTE:

The repair of the 40 km/h (25 mph) range box is explained.

Shift Mechanism Components—Cross-Sectional View



LEGEND:

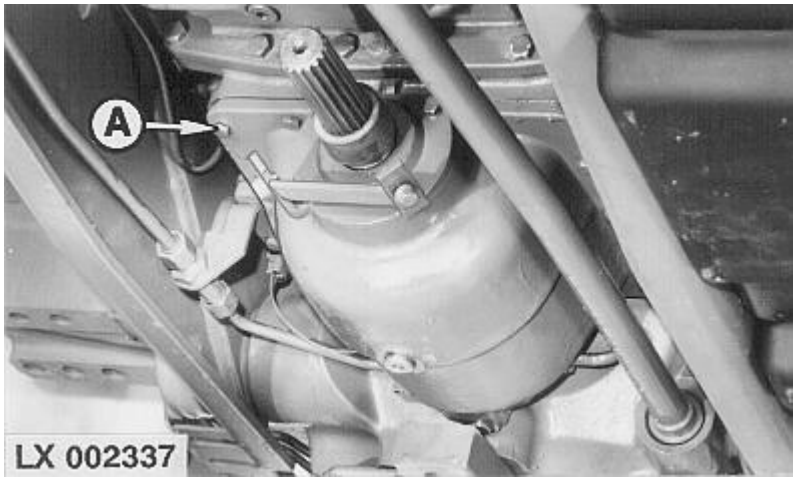
A	Shift Fork, Ranges C and D
B	Shift Rod, Range E
C	Shift Rod, Ranges C and D
D	Shift Rod, Ranges A and B
E	Balls
F	Lock Pin

Repair (disassemble and assemble) the shift mechanism using the cross-sectional view as a reference.

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[6] -



Place a jack under the MFWD housing.

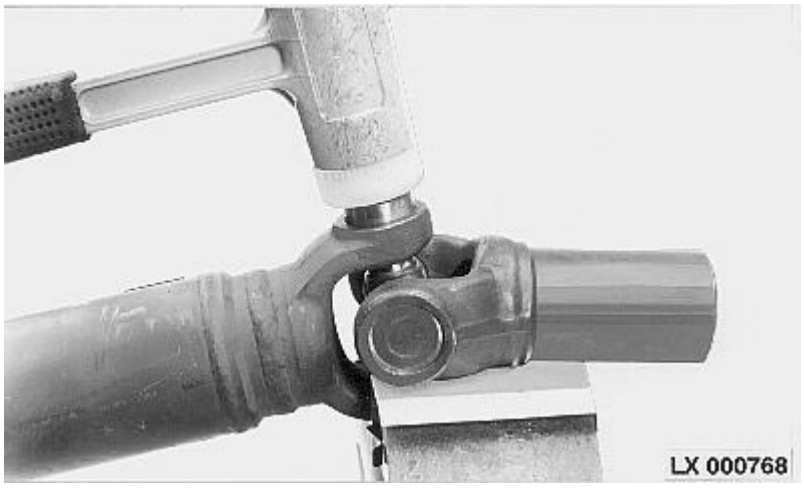
Remove cap screws (A) and pull the housing out from below.

→NOTE:

The liquid sealant assures the housing flange is tightly adhered to the range box, even when the cap screws are removed.

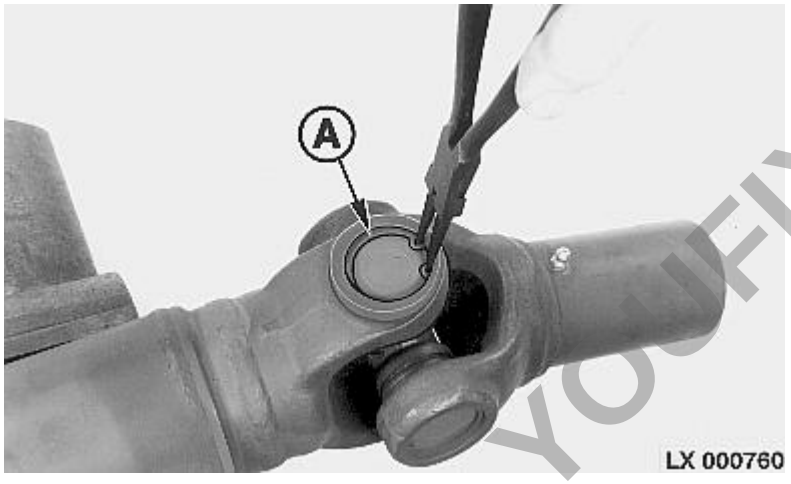
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Install the bearing races in the drive shaft.

[9] -



Install the snap rings.

[10] - The universal joints should have an end play value as close to zero as possible.

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Install the amount of shims needed under the right bearing housing in order to obtain perceptible end play. This will allow the bearings to be adjusted.

→NOTE:

If no components affecting preload or backlash have been replaced the existing shim pack can be used. The shims must be used in the same bearing housing. In this case there is no need to adjust differential preload and backlash.

Install the right and left bearing housing cap screws and torque to 90 Nm (65 lb-ft).

Remove the lifting tool.

Adjust differential preload and backlash.

Adjust Differential Preload

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General Repair Procedures—Hi-Crop Final Drive

→NOTE:

Before beginning repair, review the following guidelines. These are provided to emphasize the need for attention to detail and care when servicing hi-crop final drive.

Thoroughly clean outside of axle assembly to prevent contamination.

Handle parts carefully to prevent nicking or burring machined surfaces.

Disassembly and Assembly:

- Fasteners must be tightened to specified torque.
- Lubricate each component part with clean hydraulic oil.
- During assembly, each part should be lubricated with clean hydraulic oil.
- During assembly, ensure roller thrust washer is installed with stamped letters/numbers away from rollers.

Inspection Before Disassembly:

- Inspect gears and axle shaft before removal from housing as follows:
  - Wipe lubricant from internal working parts and visually inspect parts for wear and damage.
  - Inspect gears for roughness.
  - Inspect gear teeth for signs of scoring, abnormal wear or nicks/chips.

Cleaning and Inspection:

- Clean all parts with clean solvent and use moisture-free air for drying.

IMPORTANT:

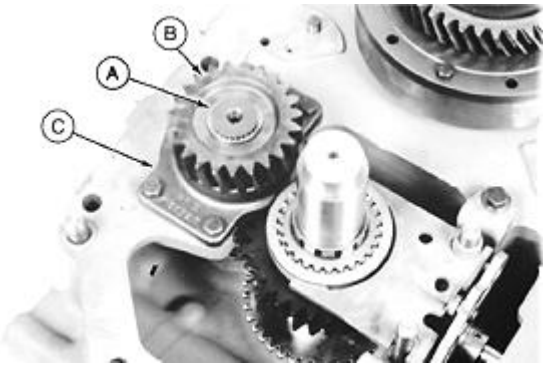
Heat bearing races in a bearing heater. Use a thermometer and do not exceed 150°C (300°F).

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.

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[3] -

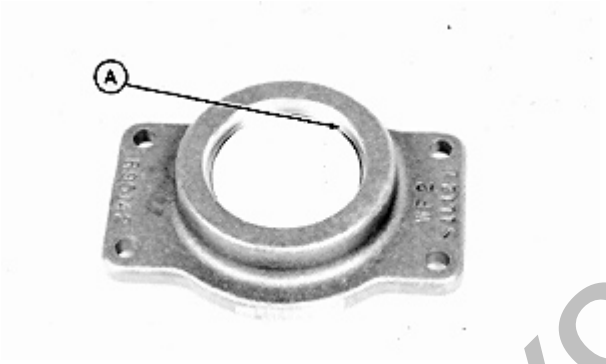


Remove the snap ring (A) and countershaft drive gear (B).

[4] - Remove bearing quill and shims (C).

[5] - Remove countershaft from PTO housing.

[6] -



Remove the bearing cup from behind using a press and a 72.6 mm (2-7/8 in.) driver disk.

Bushing, Bearing and Seal Driver Set

D01045AA

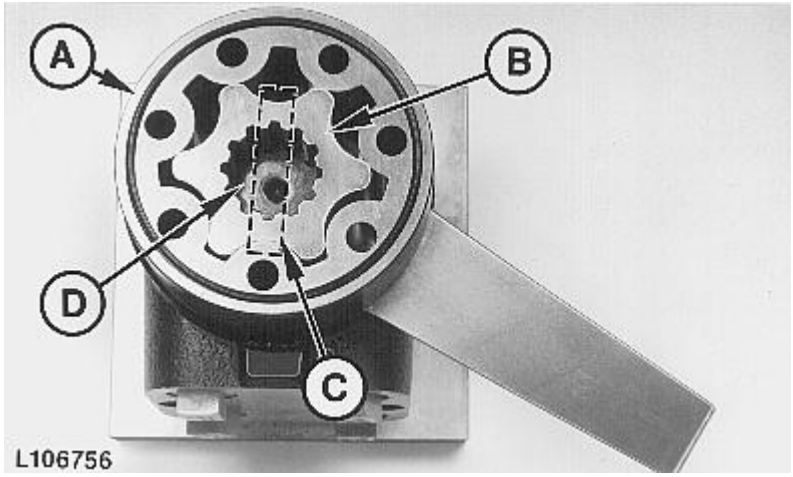
Remove and install bearing cups, bearing cones and bushings.

[7] - Install new bearing cup using a 66.7 mm (2-5/8 in.) driver disk and a press.

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[3] - Insert drive shaft (B) and secure it with required tool KML10018-4 (C).



LEGEND:

A	Stator
B	Rotor
C	Cross Pin
D	Drive Shaft

Lubricate stator O-rings (A).

Place rotor (B) and stator as shown.

CAUTION:

Avoid Injury! The cross pin must be in the position shown.

IMPORTANT:

Rotor (B) and cross pin (C) must be placed as shown to ensure proper operation of the steering system.



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→NOTE:

The machined side should face the brake disk and the "Outboard Side" marking (arrow) should face out.

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Group 20 - Hydraulic Rockshaft

Hydraulic System — Hydraulic Rockshaft (Summary of References)

In this group:

"Repair Hydraulic Rockshaft - Summary of Special Tools"

"Other Materials"

"Specified Values"

"Hydraulic Rockshaft Valve — Remove and Install Stepper Motor"

"Remove Hydraulic Rockshaft Valve"

"Repair Hydraulic Rockshaft Valve"

"Install Hydraulic Rockshaft Valve"

"Hydraulic Rockshaft — Remove and Install Position Sensor and Sector"

"Hydraulic Rockshaft - Remove and Install Hydraulic Rockshaft"

"Hydraulic Rockshaft - Remove Lift Cylinders"

"Hydraulic Rockshaft - Repair Lift Cylinders"

"Hydraulic Rockshaft - Install Cylinders"

"Hydraulic Rockshaft - Remove and Install Load Sensors and Draft Link Spindle Shafts"

Recondition Rockshaft - Summary of Special Tools

Special Tools (Dealer-Fabricated) - Section 99, Group 05:

DFLX8- Thrust pieces

Special Tools (available from the dealer) - Section 99, Group 10:

→NOTE:

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

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[11] - Install the SCV, see“Install the Selective Control Valves (SCVs)”, in this Group.

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Specifications

Item	Measurement	Specification
Steering Arm-to-Spindle Assembly Cap Screw	Torque	230 Nm
		170 lb-ft
Axle Spindle Assembly-to-Axle Knee	End Play	0.76 mm max.
		0.03 in. max.
Wheel Hub-to-Axle Spindle Assembly Slotted Nut	Torque	50 Nm
		35 lb-ft
Front Axle-to-Support Suspension Cap Screws	Torque	550 Nm
		405 lb-ft
Front Axle Support-to-Main Frame Cap Screws	Torque	550 Nm
		405 lb-ft
Steering Cylinder-to-Axle Knee Slotted Nut	Torque	100 Nm
		75 lb-ft
Axle Knee-to-Axle Center Screws	Torque	400 Nm
		300 lb-ft
Tie Rod Clamp Cap Screws	Torque	50 Nm
		35 lb-ft
Front Wheels	Toe-In	3 to 9 mm
		0.12 to 0.35 in.

Remove Front Axle

→NOTE:

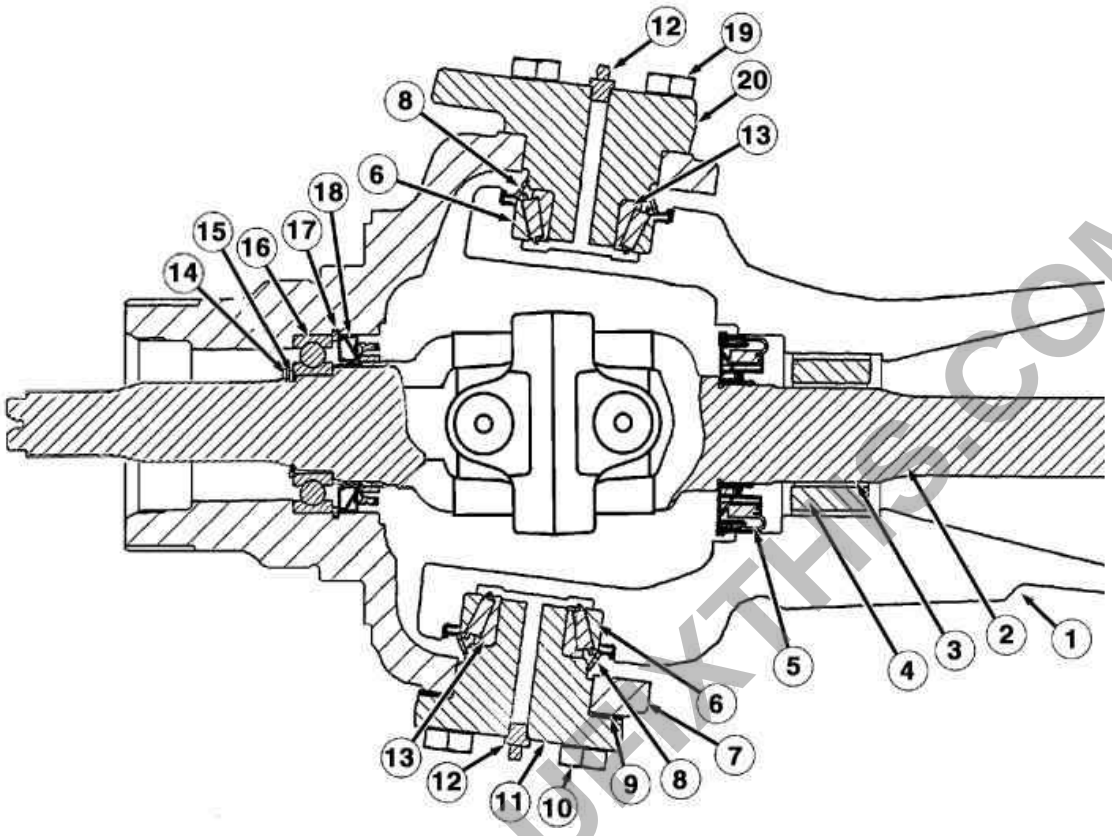
Group 80-10 only describes the front axle used in 2WD tractors. The MFWD axle is described in the Front Wheel Drive Axle Technical Manual.

Preparation: Remove front axle. SeeFront Axle - Summary Of References.

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Cross-Sectional View—Knuckle Spindle Assembly



LEGEND:

1	Axle Housing
2	U-Joint/Axle Shaft
3	Bushing
4	Axle Housing Spacer
5	Oil Seal
6	Bearing Cup (2 used)
7	Knuckle Spindle Housing
8	Grease Seal (2 used)
9	Shim Pack
10	Cap Screw (4 used)
11	Lower Kingpin
12	Grease Fitting (2 used)
13	Bearing Cone (2 used)
14	Snap Ring
15	Spacer
16	Roller Ball Bearing
17	Snap Ring
18	Oil Seal
19	Cap Screw (4 used)
20	Upper Kingpin

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[3] -



LEGEND:

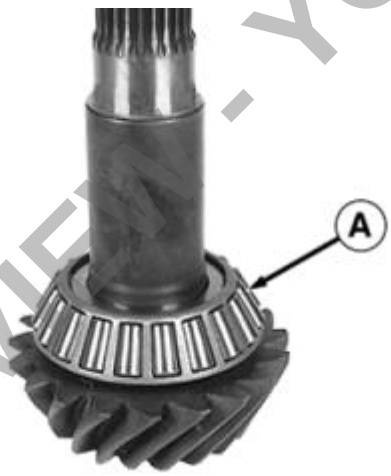
A	Shim Pack

Install shim pack (A), on pinion drive shaft.

[4] -

CAUTION:

Heat bearing in a bearing heater. DO NOT exceed 150°C (300°F). Plan a safe handling procedure to avoid burns.



LEGEND:

A	Bearing

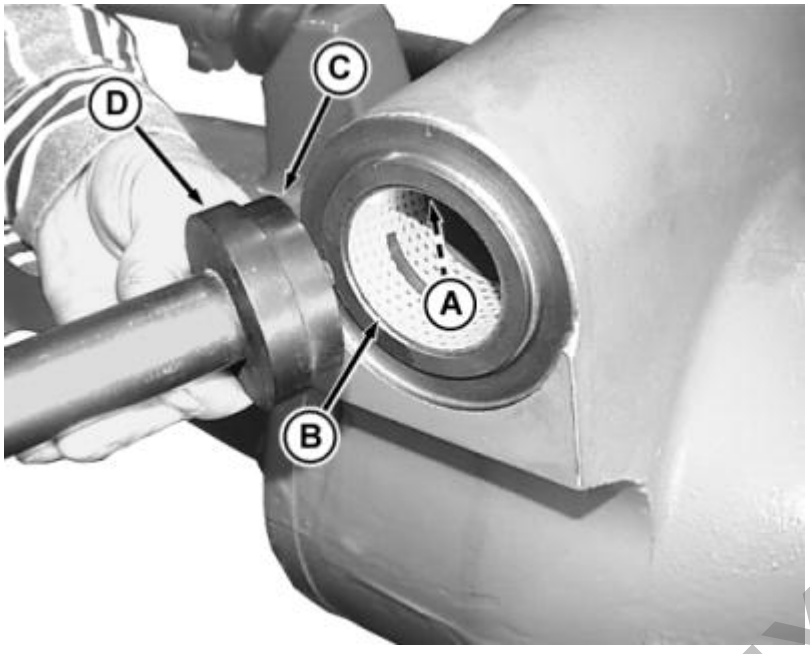
Heat large drive shaft bearing (A) and install until bearing bottoms against shim pack.

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Replace MFWD Pivot Bushing

[1] -



LEGEND:

A	Bushing Split
B	Chamfer Edge
C	Pilot Disk
D	Driver Disk

Remove axle from tractor. (See REMOVE MFWD AXLE in Group 00.)

[2] - Remove bushing.

[3] -

IMPORTANT:

Install bushing with bushing split (A) between 11 and 1 o′clock position.

Install front bushing using a 62 mm or 2 7/16 in. pilot disk (C), and a 64 mm or 2 1/2 in. driver disk (D), until edge of bushing is flush with bottom edge of chamfer (B).

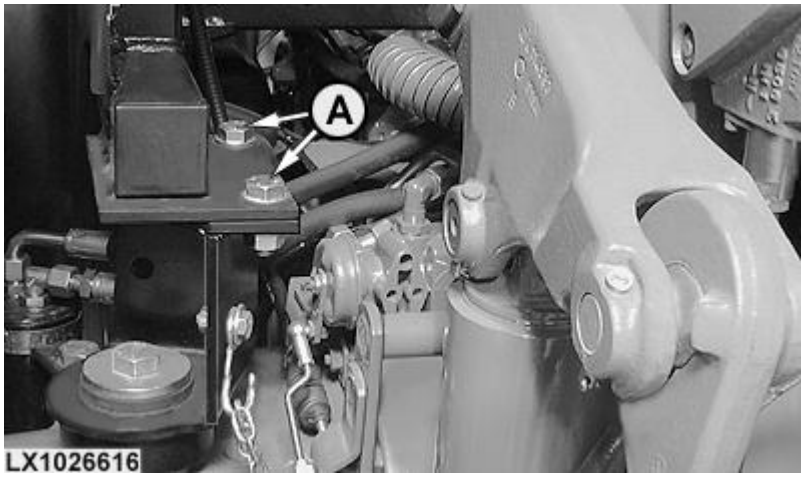
[4] - Repeat procedure for rear bushing.

[5] - Install axle on tractor. (See INSTALL MFWD AXLE in Group 00.)

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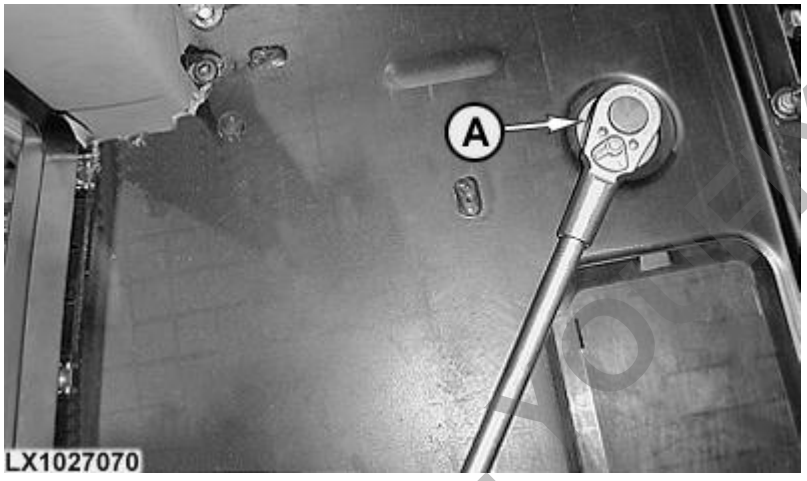
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[12] -



Remove bolts (A) on both sides of cab.

[13] -



Remove bolts (A) on both sides of cab.

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Disconnect condensation water drain hoses from heater/evaporator housing.

Remove outer section of cab roof.

Remove cover of heater/evaporator housing (B).

Disconnect and remove heater hoses (D).

Disconnect refrigerant lines from expansion valve (D)

[If equipped]
and seal ends with plastic plugs.

Disconnect connections of the two fan motors or of thermostat switch.

[If equipped]

Route heater hoses, refrigerant lines

[If equipped]
and cables through openings (C) in housing.

⚠ ***CAUTION:***

When performing separation of heater/evaporator housing, remember they have a considerable weight.

Remove bolts (A) on both sides (8 together).

Remove heater/evaporator housing to the rear.

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