Group 20—Rockshaft
Group 25—Selective Control Valves and Couplers
Group 30—Independent Control Valve

SECTION 80—MISCELLANEOUS
Group 00—Removal and Installation of Components
Group 05—Main Frame
Group 10—Front Axle
Group 15—Front and Rear Wheels
Group 20—Trailer Mounting and Swinging Drawbar
Group 25—Triple Link Suspension (TLS) of Front-Wheel Drive Axle
Group 30—Pick-Up Hitch

SECTION 90—OPERATOR'S CAB
Group 00—Removal and Installation of Components
Group 05—Controls and Instruments
Group 10—Air-Conditioning System
Group 15—Heating System
Group 20—Seats
Group 25—Operator's Cab
Group 30—Cab Suspension

SECTION 99—SPECIAL TOOLS (DEALER-FABRICATED)
Group 05—Special Tools (Dealer-Fabricated)

Special or Essential Tools

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

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OULXBER,0000877 –19–01OCT01–1/5

RW25560 –UN–29AUG96

Lifting eye JDG19

Removal and installation of tractor components

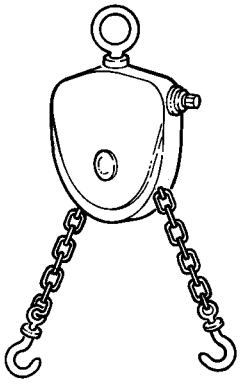


OULXBER,0000877 –19–01OCT01–2/5

Load-positioning sling. D01042AA

Removal and installation of tractor components[1]

[1]*This tool permits the adjustment of the angle of the load being handled.*



D01042AA

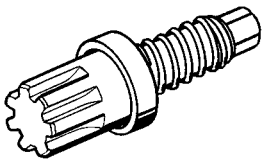
D01042AA –UN–14NOV95

OULXBER,0000877 –19–01OCT01–3/5

JDG820 –UN–30OCT95

Flywheel turning tool JDG820

Turning flywheel on 6-cylinder engines

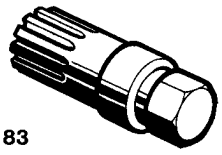


OULXBER,0000877 –19–01OCT01–4/5

JDE83 –UN–15MAR96

Flywheel turning tool JDE83

Turning flywheel on 4-cylinder engines



JDE83

OULXBER,0000877 –19–01OCT01–5/5

Special Tools

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

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LX25599,00003AC –19–01MAY02–1/11

Wiring harness repair kit FKM10461

Repairing wiring harnesses



FKM10461 –UN–27NOV95

LX25599,00003AC –19–01MAY02–2/11

Connector set AL70932

Repairing wiring harnesses



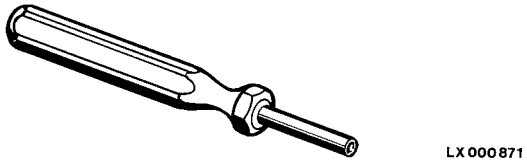
LX012370 –UN–06NOV95

LX25599,00003AC –19–01MAY02–3/11

LX000871 –UN–12OCT94

Extraction tool JDG364

Removing electrical connectors

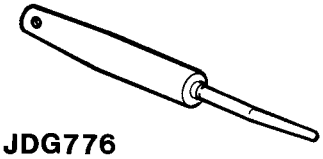


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JDG776 –UN–12OCT94

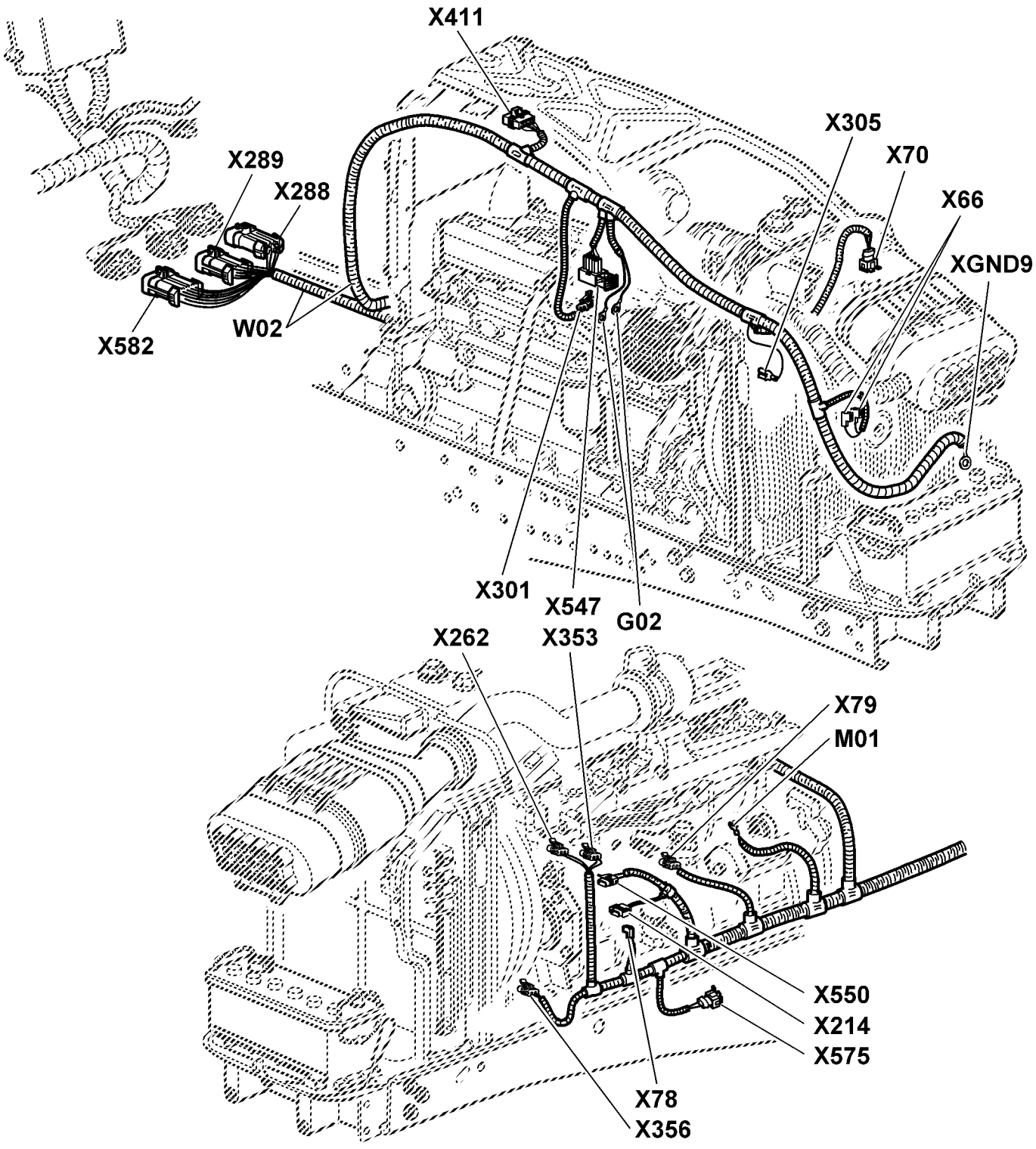
Extraction tool JDG776

Removing electrical connectors



Continued on next page

LX25599,00003AC –19–01MAY02–5/11

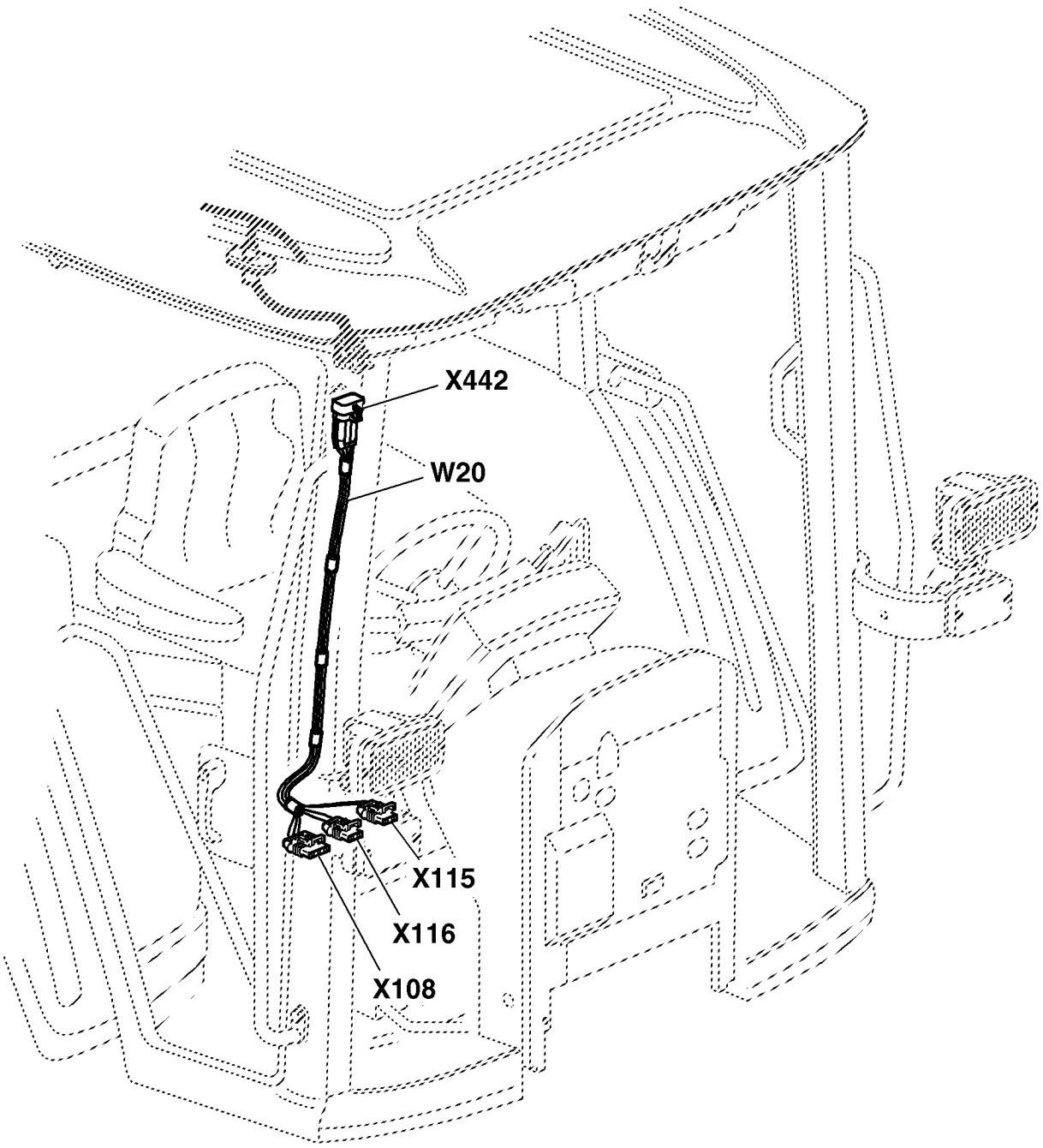


W02 - 6-cylinder Stage II engine to 97/68/EC (Level 12 ECU) (open operator's station)

LX1030564 –UN–29OCT02

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38

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LX1025809

LX1025809 –UN–14SEP01

W20 - Harness for r.h. turn-signal and clearance lights

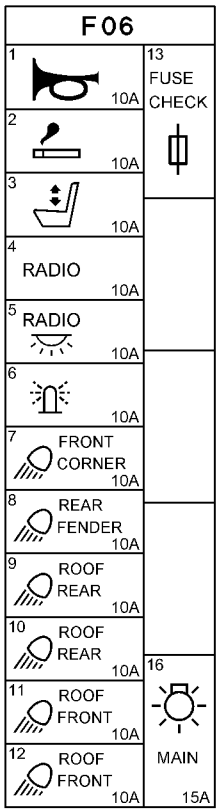
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LX25599,0000463 –19–01NOV02–2/4

Fuses (fuse box F06)

IMPORTANT: To prevent unnecessary damage to the electrical system, never use a fuse with a higher rating than the one already installed.

F06/01 — 10-amp horn
F06/02 — 10-amp cigarette lighter
F06/03 — 10-amp operator's seat
F06/04 — 10-amp radio (power supply)
F06/05 — 10-amp console light, radio lighting
F06/06 — 10-amp beacon light
F06/07 — 10-amp front corner work light
F06/08 — 10-amp worklights on fenders (rear-facing)
F06/09 — 10-amp outer worklight on rear of cab roof
F06/10 — 10-amp inner worklight on rear of cab roof
F06/11 — 10-amp outer worklight on front of cab roof
F06/12 — 10-amp inner worklight on front of cab roof
F06/13 — Fuse tester
F06/14 — Not used
F06/15 — Not used
F06/16 — 15-amp light switch (terminal B)



LX1027994

LX1027994 –UN–15NOV01

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LX25599,00002EA –19–01NOV02–8/12

Replacing the Rockshaft Remote Control Switch

Take out screws (A) and remove cover (B).

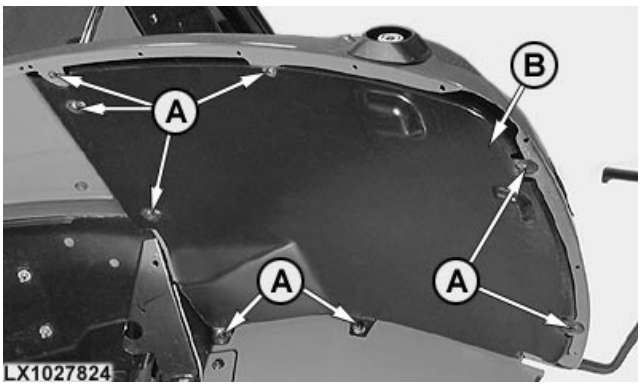
Disconnect plug (C).

On the inside of the fender, take out Phillips-head screws (D). Pull out the rockshaft's remote control switch and replace it with a new one.

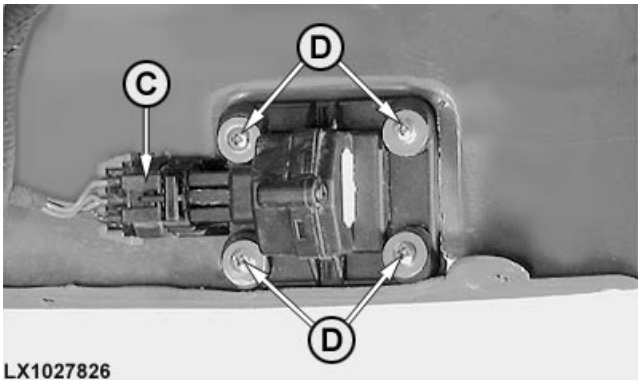
Re-assemble all parts in reverse order.

IMPORTANT: If you replace the rockshaft's remote control switch, you should check the basic control unit (BCU) for diagnostic trouble codes. See reference "245-05-002, Accessing the Addresses and Diagnostic Trouble Codes".

A—Screws
B—Cover
C—Plug
D—Screws



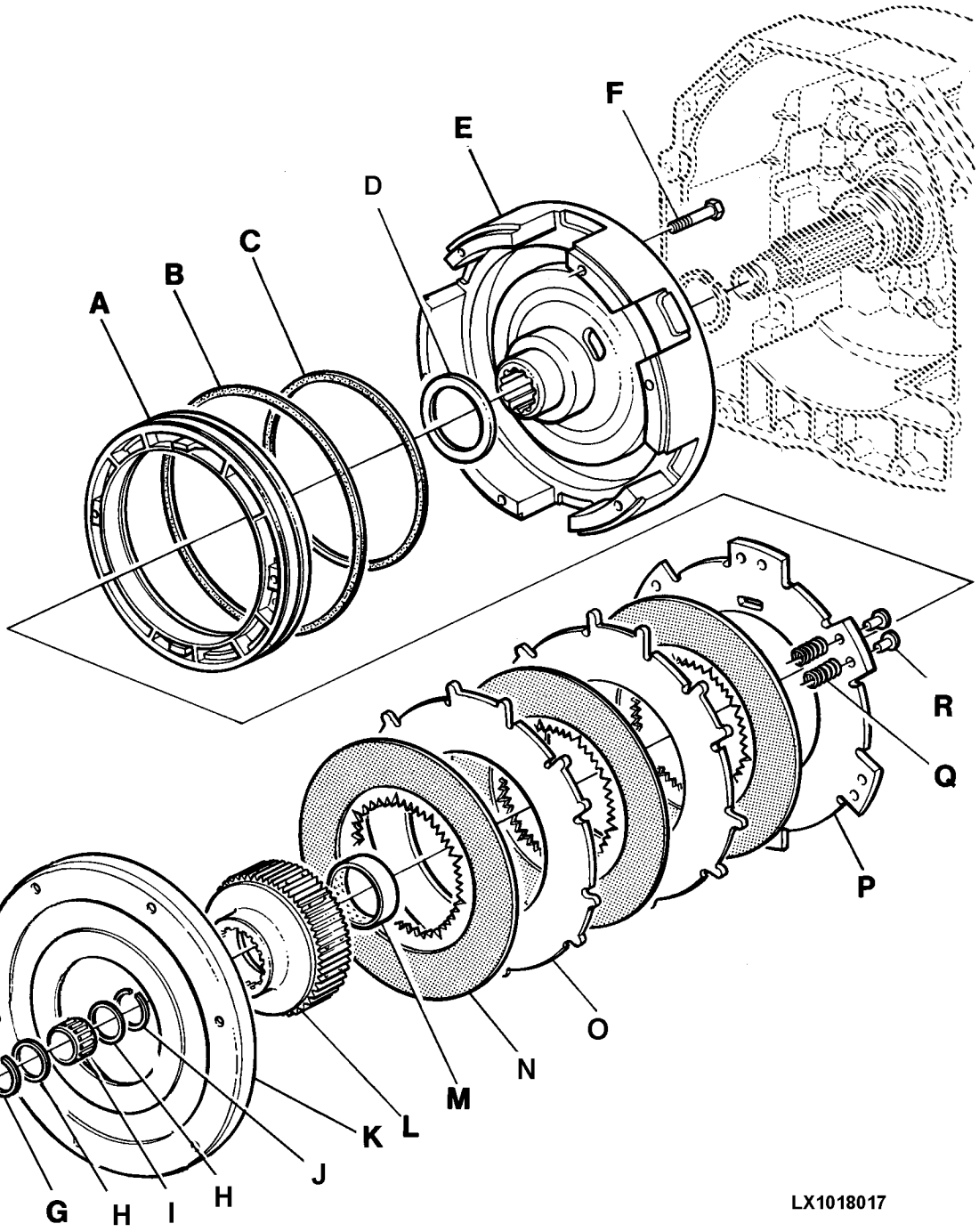
LX1027824 –UN–05SEP01



LX1027826 –UN–05SEP01

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LX25599,00002DA –19–01MAY02–1/1

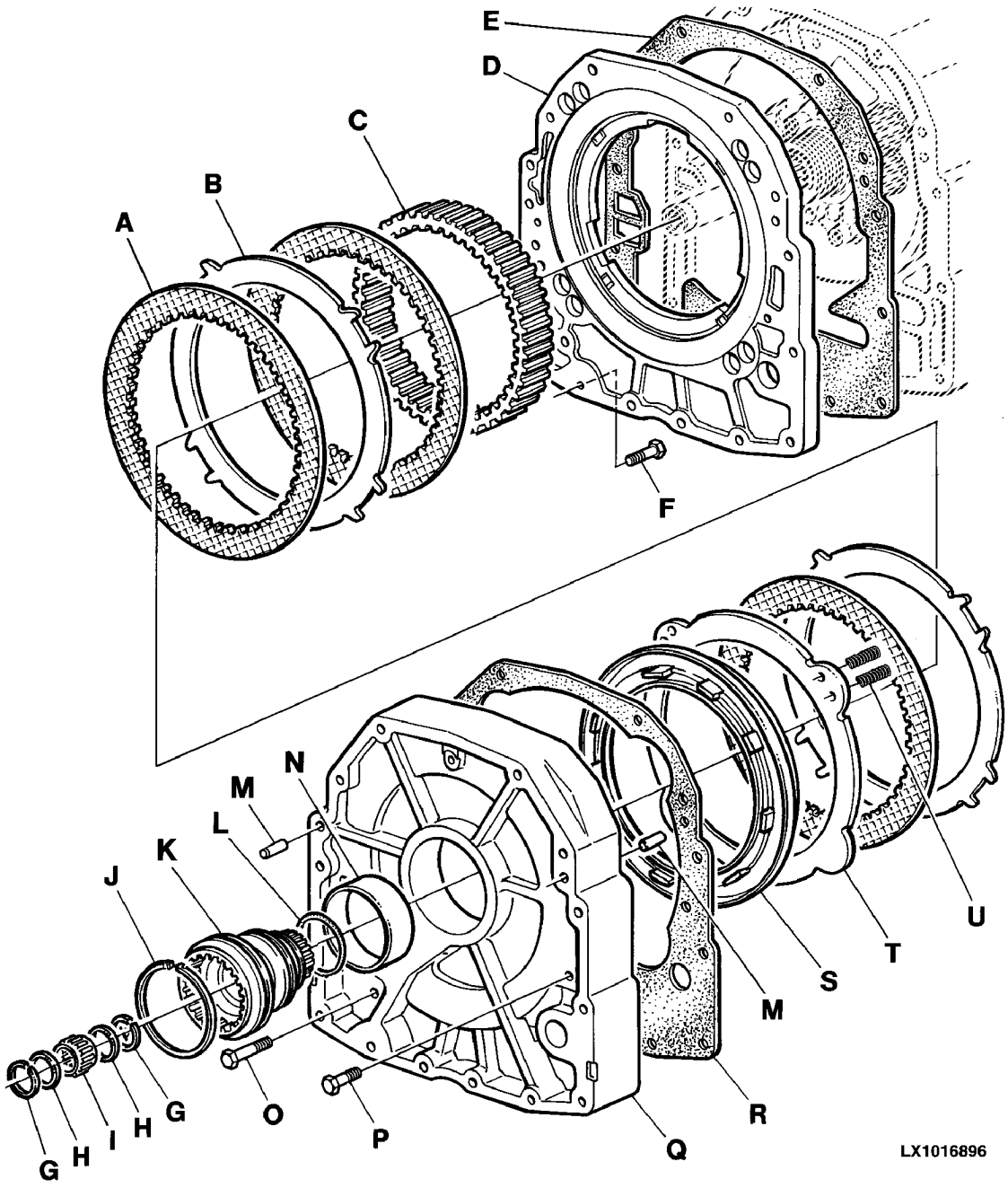


LX1018017 –UN–20NOV97

A—Pressure piston
B—Sealing ring
C—Sealing ring
D—Thrust washer
E—Clutch drum
F—Cap screw
G—Thin snap ring
H—Thrust washer
I—Needle bearing
J—Thick snap ring
K—Cover
L—Clutch hub
M—Bearing bushing
N—Internally splined clutch disk
O—Carrier disk
P—End plate
Q—Return springs
R—Guide stud

Exploded view of clutch

Continued on next page



A—Brake disk with teeth on inside
B—Brake disk with teeth on outside
C—Ring gear
D—Plate
E—Gasket
F—Cap screw
G—Snap ring
H—Thrust washer
I—Needle bearing
J—Seal ring
K—Transmission output shaft
L—Seal ring
M—Dowel pin
N—Bearing bushing
O—Cap screw
P—Cap screw
Q—Brake housing
R—Gasket
S—Brake piston
T—Endplate
U—Return spring

Exploded view of disk brake

Final assembly: See “Installing the Disk Brake”.

LX25601,0000296 –19–01JUN01–2/2

Installing the AutoPowr/IVT Transmission

1. Thoroughly clean the flanges on the housing and install a new gasket.

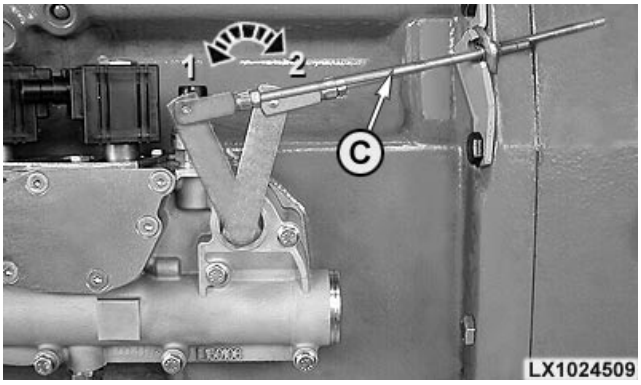
NOTE: Use multi-purpose grease to stick the gasket to the flange.

OULXBER,0000883 –19–25OCT01–1/8

2. Install special tool (C; dealer-fabricated) and **disengage** the park lock. Do this by tightening the hex. nut on the device until the lever reaches the position shown in the illustration (2).

CAUTION: The disengaging lever is subject to great tension. Inappropriate usage may result in personal injury.

C—Special tool (dealer-fabricated)
1—Park lock engaged
2—Park lock disengaged

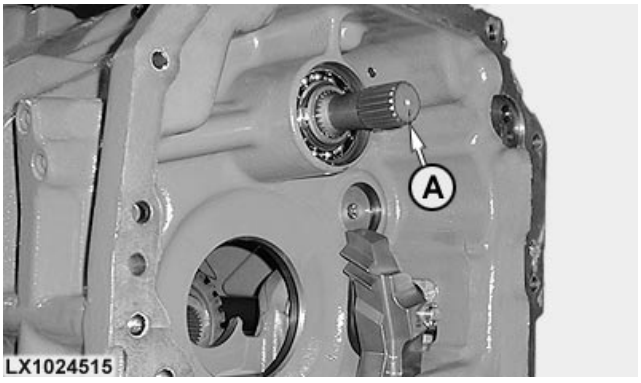


LX1024509 –UN–09JUN00

Disengaging the park lock

OULXBER,0000883 –19–25OCT01–2/8

3. Install shaft (A).



LX1024515 –UN–08JUN00

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OULXBER,0000883 –19–25OCT01–3/8

Installing the hydrostatic unit

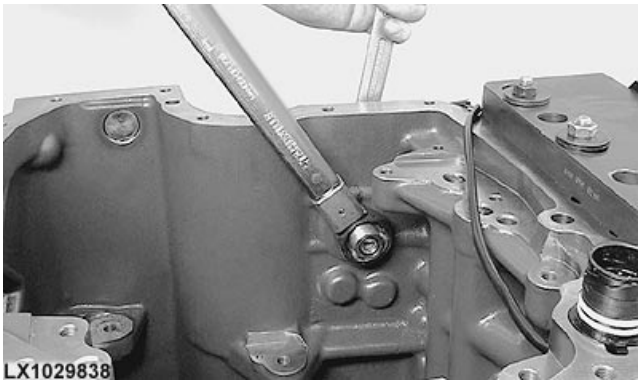
1. Install the elbow fitting in accordance with the mark made before it was removed. Apply LOCTITE® 270 (L41476) to the hex. nut.

2. Secure the elbow fitting with the hex. nut. Tighten the hex. nut.

Specification

Elbow fitting to housing, hex. nut—Torque	80 N•m 60 lb-ft





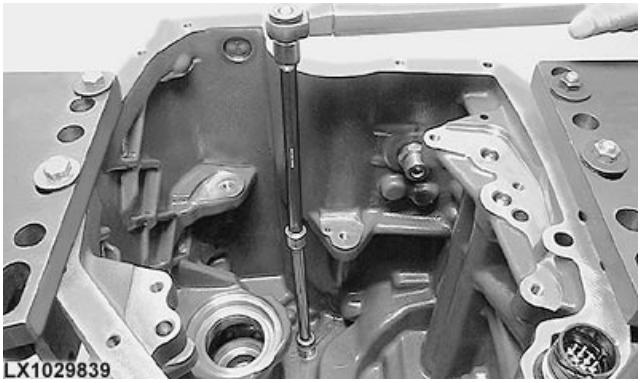
LOCTITE is a registered trademark of the Loctite Corporation

LX24888,0000543 –19–01JUL02–8/14

3. Tighten the fitting.

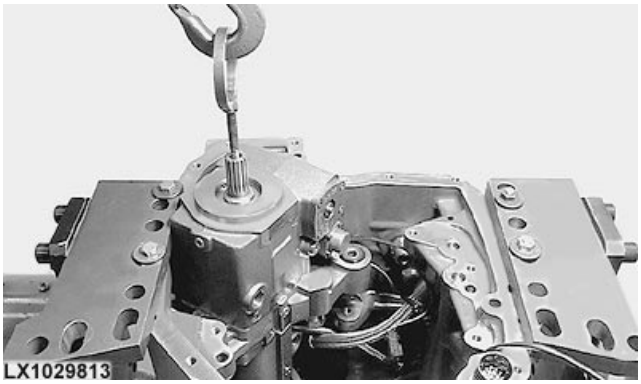
Specification

Fitting to housing—Torque	50 N•m 37 lb-ft



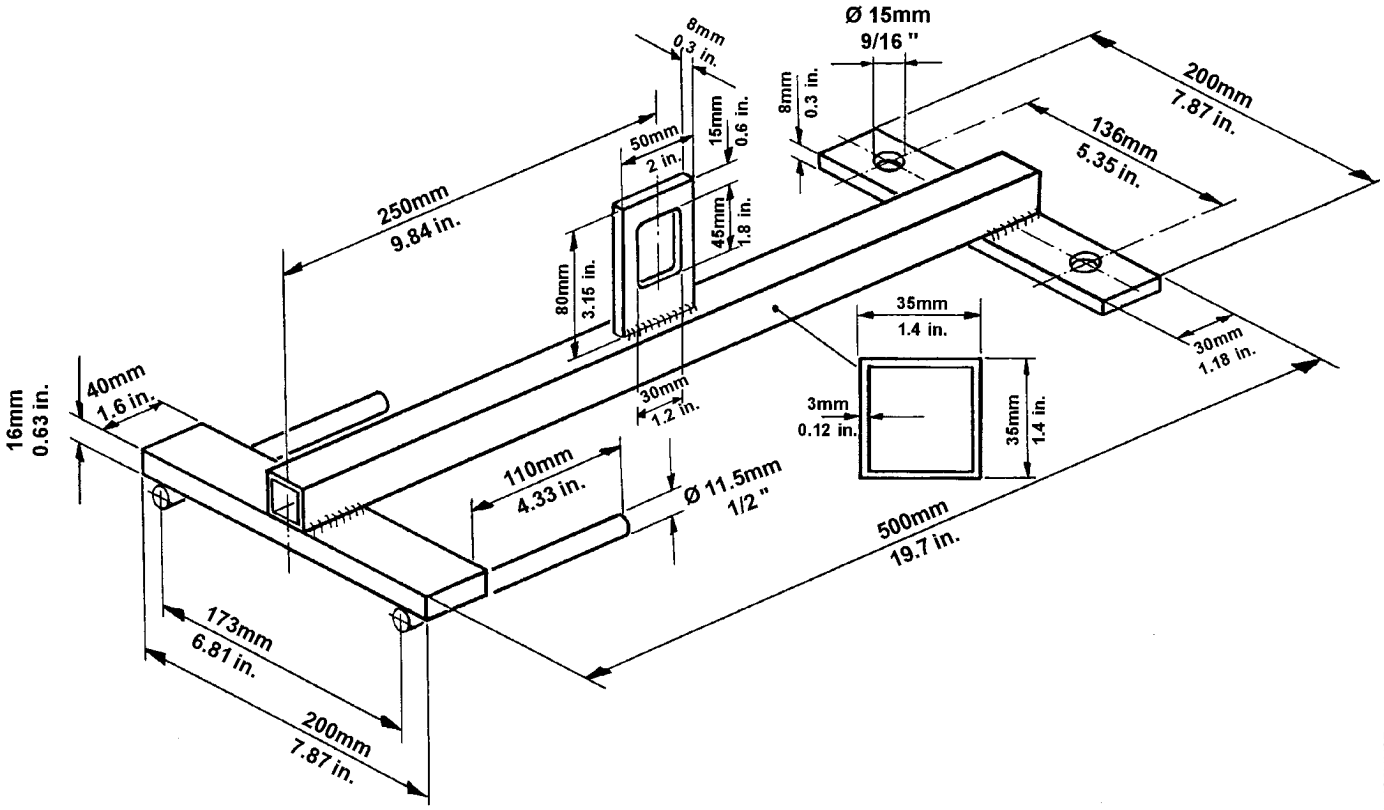
LX24888,0000543 –19–01JUL02–9/14

4. Carefully install the hydrostatic unit.



Continued on next page

LX24888,0000543 –19–01JUL02–10/14



LX1016743

Device for suspending the PowrQuad module during removal and installation

OULXBER,000087E –19–19OCT01–2/2

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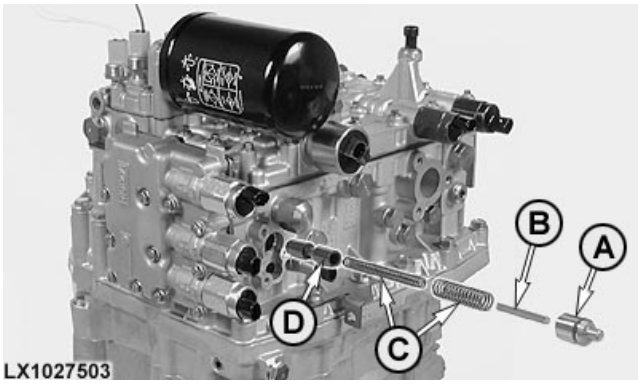
2. Remove accumulator (A), pin (B), the two springs (C) and modulator valve (D).

3. Check components for wear. Replace, if necessary.

NOTE: Before installing the valve, check that its bores are clean and allow a through-passage.

Keep all the screws and bores clean and dry (i.e. free of oil and grease).

4. Reinstall the valves and put the cover back on. Tighten cap screws.



LX1027503 –UN–28AUG01

Specification

Cover for return valve and gear-to-gear modulation valve, screw—Torque ..... 12 N•m 9 lb-ft

LX25601,0000436 –19–01OCT02–5/7

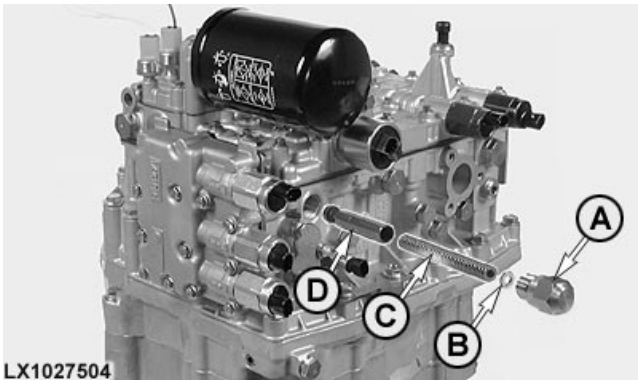
Reconditioning the pressure-regulating valve

1. Remove plug (A) together with washers (B), spring (C) and pressure-regulating valve (D).

2. Check parts for wear and replace if necessary.

NOTE: Before installing the valve, check that its bore is clean.

3. Install the pressure-regulating valve and tighten the plug.



LX1027504 –UN–28AUG01

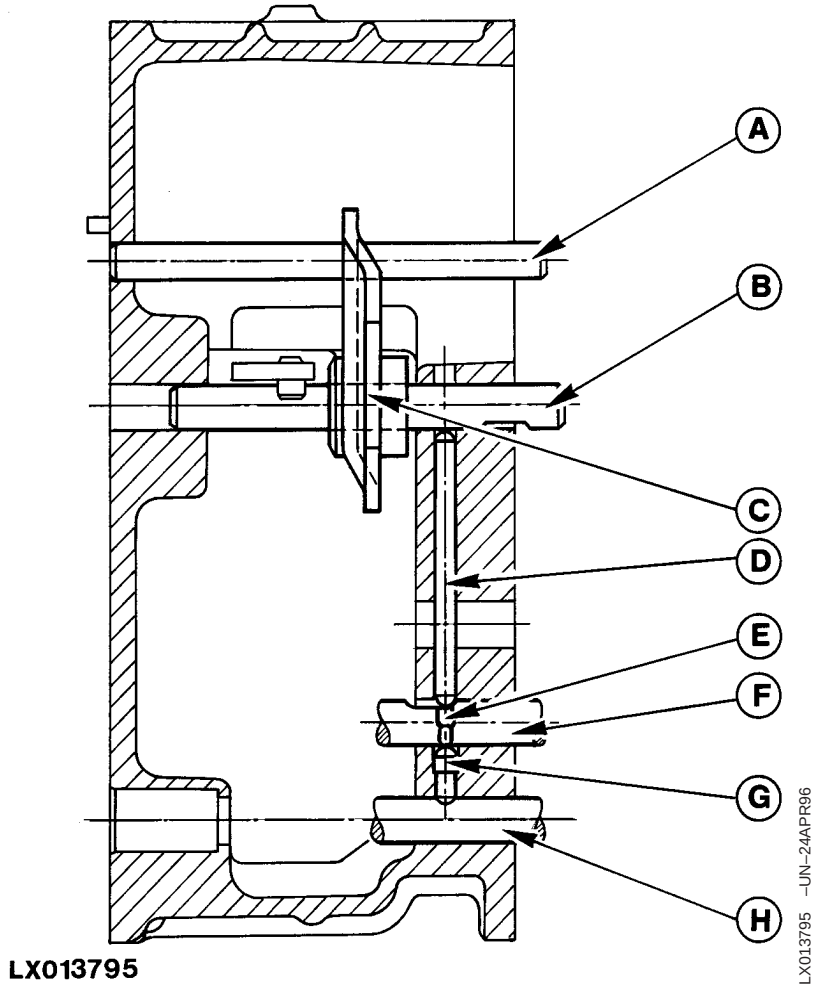
Specification

Pressure-regulating valve, plug—Torque ..... 30 N•m 22 lb-ft

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LX25601,0000436 –19–01OCT02–6/7



LX013795

A—Shaft
B—Shifter shaft
C—Shifter fork
D—Lock pin
E—Locking pin[1]
F—Shifter shaft, ranges C and D
G—Locking pin[1]
H—Shifter shaft, ranges E and F[1]

Shift Linkage (Locking Pins)—Sectional View

Installation instructions

1. If necessary, install locking pin (G)[1].
2. Install locking pin (D).
3. When the creeper transmission is being installed, locking pin (D) must be raised to allow the housing to be pushed over shifter shaft (F).

NOTE: Shifter shaft (F) is a component of the range transmission. It protrudes into the creeper transmission when the latter is installed.

4. Before the creeper transmission is installed, locking pin (E)[1] must be inserted into shifter shaft (F), which protrudes from the range transmission.

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[1]With 20- and 24-speed transmissions (PowrQuad, PowrQuad Plus and AutoQuad) only

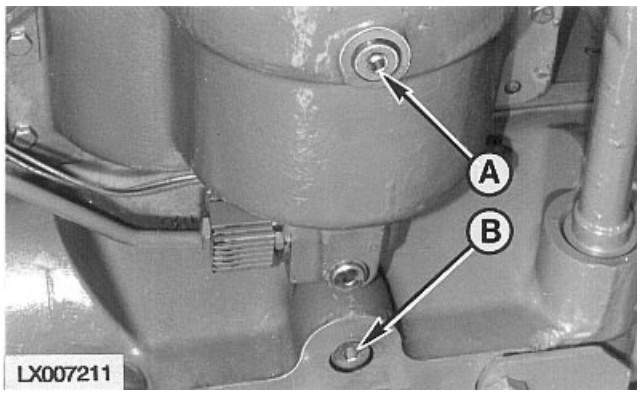
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2. If a swinging drawbar is equipped, pull it out to the rear.

   Remove drain plug(s) (A) or (B) and allow the transmission oil to drain out.

NOTE: Trap the oil in a container with a capacity of at least 60 liters (15 U.S.gal.).

A— Tractors with FWD only
B— Drain screw on all tractors



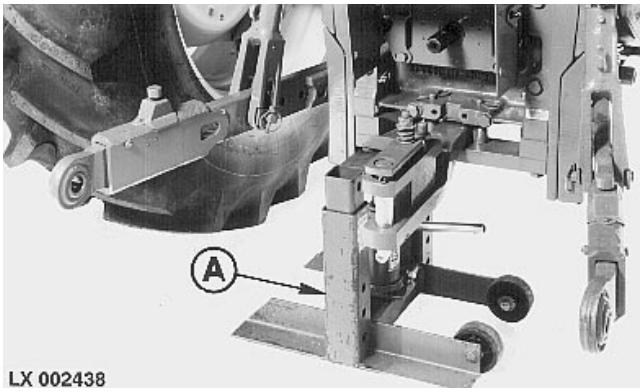
LX007211 –UN–04NOV94

Tractors with FWD

OULXBER,0000808 –19–06APR01–2/17

3. Raise tractor and support it SECURELY with support stand JT05725 (A).

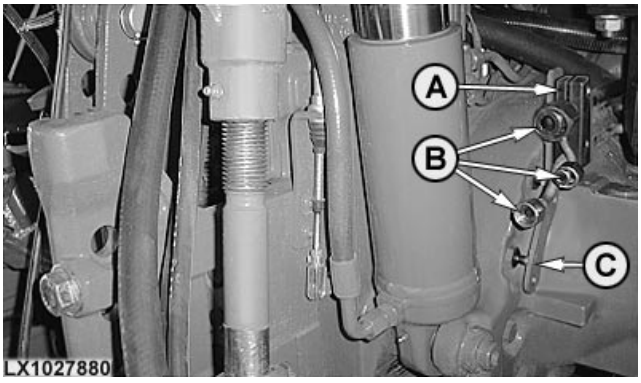
4. Take off one of the rear wheels. See “Removing the Front and Rear Wheels”, Section 80, Group 15.



LX002438 –UN–08NOV94

OULXBER,0000808 –19–06APR01–3/17

5. If lines (B) are equipped, disconnect them, take out the screws that hold bracket (A) to bracket (C), and then take off bracket (C).



LX1027880 –UN–04SEP01

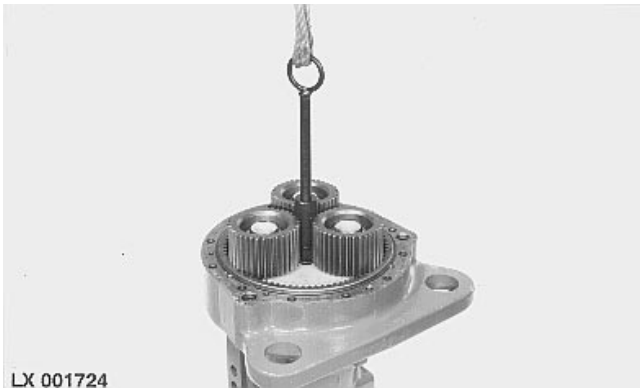
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OULXBER,0000808 –19–06APR01–4/17

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10. Install the planetary carrier.

11. Insert the special twelve-point screw.



LX001724 –UN–23NOV94

LX23006,000019A –19–09NOV01–21/23

Adjusting rear-axle rolling-drag torque

1. Rotate the final drive housing through three complete revolutions. This will settle the bearings.

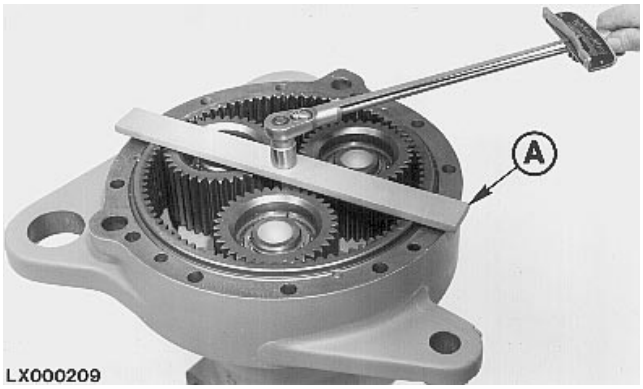
NOTE: Always rotate the final drive housing smoothly through ten complete revolutions before measuring rolling drag torque.

2. Using turning device (A), rotate final drive housing smoothly through ten complete revolutions, and then use a torque wrench to determine rolling drag torque of final drive housing.

3. Add the following value to the rolling drag torque measurement:

Specification	
6120 to 6220 tractors with flanged axle—Torque	8 to 11.5 N•m 6 to 8.5 lb-ft
6320 to 6420 tractors with flanged axle, plus all tractors with rack-and-pinion axle—Torque	10 to 13.5 N•m 7.5 to 10 lb-ft

4. Tighten special twelve-point screw until the calculated rolling drag torque is achieved.



LX000209 –UN–22NOV94

A—Turning device (dealer-fabricated)

Continued on next page

LX23006,000019A –19–09NOV01–22/23

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12

Adjusting the taper roller bearing at the output shaft

1. Install bearing quill (A) without shims to obtain a measurable axial play. Tighten the hex. socket screws evenly.

Specification

Bearing quill to housing cover, hex. socket screw—Torque ..... 10 N•m (7.5 lb-ft)

2. Measure axial play.

3. Remove bearing quill.

4. Place shims under bearing quill until a bearing preload is obtained.

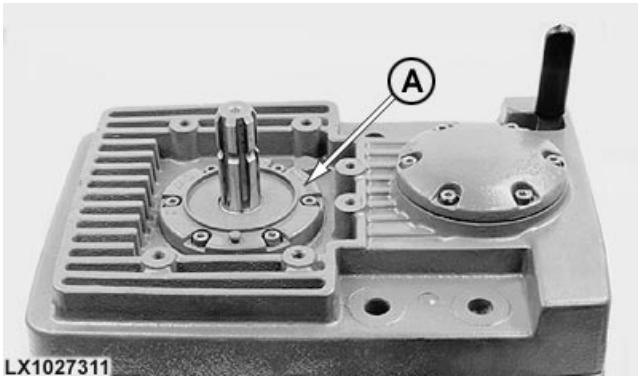
Specification

Output shaft, taper roller bearings—Preload ..... 0.01 to 0.04 mm (0.0004 to 0.0016 in.)

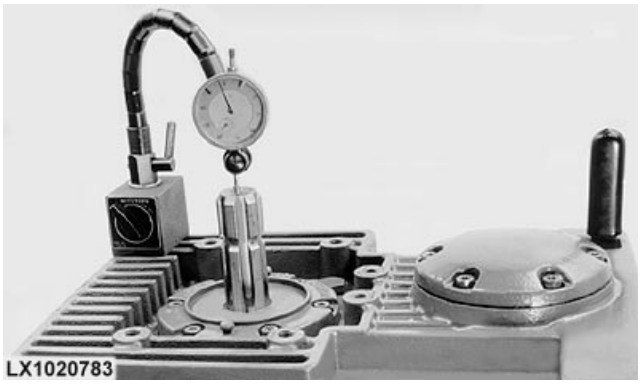
5. Apply sealant to bearing quill and re-install it. Tighten the hex. socket screws.

Specification

Bearing quill to housing cover, hex. socket screw—Torque ..... 10 N•m (7.5 lb-ft)



LX1027311 –UN–01AUG01



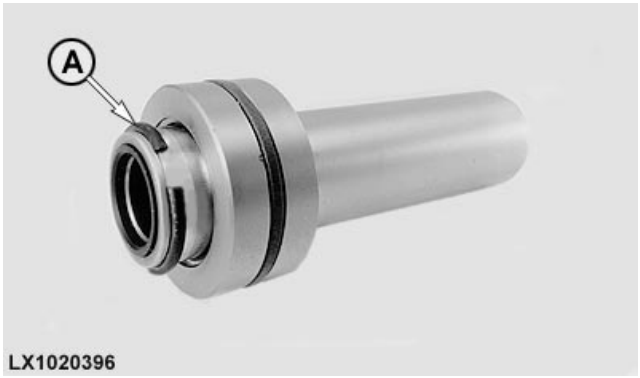
LX1020783 –UN–10JUN98

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LX24888,0000425 –19–01AUG02–8/11

Install the annular piston on the piston.

Install snap ring (A).



LX1020396 –UN–26MAY98

LX25458,0000026 –19–01AUG02–31/48

Install O-ring (B) and wiper seal (A) on the guide piece.

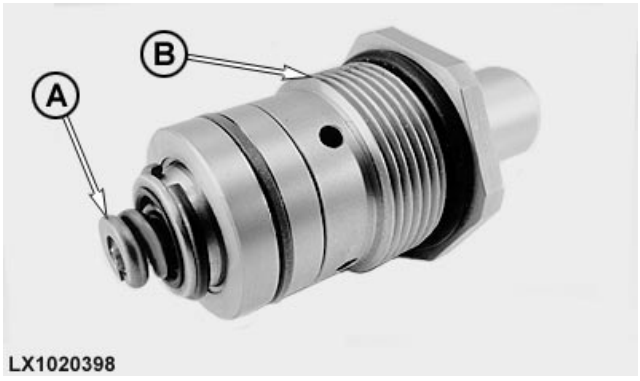


LX1020397 –UN–26MAY98

LX25458,0000026 –19–01AUG02–32/48

Install guide piece (B) on the piston.

Install spring (A).

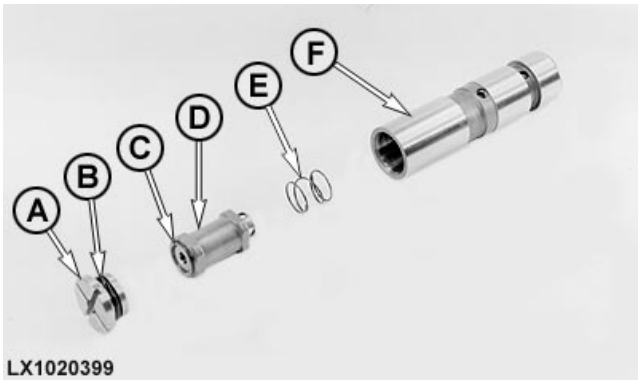


LX1020398 –UN–26MAY98

LX25458,0000026 –19–01AUG02–33/48

Assemble the spool.

A—Cover
B—O-ring
C—O-ring
D—Valve assembly
E—Spring
F—Valve spool



LX1020399 –UN–26MAY98

Continued on next page

LX25458,0000026 –19–01AUG02–34/48

Section 70
HYDRAULIC SYSTEM

Contents

Page

Group 05—Controls
Hydraulic System — Controls (Summary of References) 70-05-1
Specifications 70-05-1
Selective Control Valves — Removing and Installing the Actuating Elements 70-05-2
Selective Control Valves — Adjusting the Bowden Cable 70-05-5
Removing and Installing the Multifunction Lever 70-05-6
Adjusting the Multifunction Lever 70-05-7

Group 10—Hydraulic Pump and Charge Pump (PFC Hydraulic System)
Other Material 70-10-1
Specifications 70-10-1
Removing and Installing the Charge Pump 70-10-3
Reconditioning the Charge Pump 70-10-4
Charge Pump - Checking the Lube Oil Valve 70-10-6
Hydraulic Oil Reservoir — Restrictor 70-10-6
Hydraulic Pump — Removing and Installing the Pressure-and-Flow Controller 70-10-7
Hydraulic Pump — Reconditioning the Pressure-and-Flow Controller 70-10-8
Removing and Installing the Hydraulic Pump 70-10-10
Reconditioning the Hydraulic Pump 70-10-12

Group 11—Hydraulikpumpe (PC-Hydrauliksystem)
Other Material 70-11-1
Specifications 70-11-1
Removing the Hydraulic Pump 70-11-3
Reconditioning the Hydraulic Pump 70-11-4
Hydraulic Pump - Removing the Installation Plate 70-11-6
Replacing the Lube Priority Valve 70-11-7
Hydraulic Pump - Installing the Installation Plate 70-11-8
Installing the Hydraulic Pump 70-11-9

Group 15—Valves
Reconditioning the Valves (PFC Hydraulic System — Summary of References 70-15-1
Reconditioning the Valves (PC Hydraulic System — Summary of References 70-15-1
Special or Essential Tools 70-15-2
Special Tools (Dealer Fabricated) 70-15-2
Specifications 70-15-3
Hydraulic System — General Instructions on Safety and Repair 70-15-5
Direct Control of Rockshaft 70-15-6
Removing the Rockshaft Valve 70-15-7
Reconditioning the Rockshaft Valve 70-15-8
Rockshaft Valve — Depth to Which Raising and Lowering Valves are Screwed In 70-15-12
Rockshaft Valve — Removing and Installing the Stepper Motor 70-15-12
Rockshaft Valve — Centering the Stepper Motor 70-15-14
Installing the Rockshaft Valve 70-15-15
Removing Main Block (PFC Hydraulic System) 70-15-17
Reconditioning the Main Block (PFC Hydraulic System) 70-15-18
Installing the Main Block (PFC Hydraulic System) 70-15-22
Removing Main Block (PC Hydraulic System) 70-15-23
Reconditioning the Main Block (PC Hydraulic System) 70-15-24
Installing the Main Block (PC Hydraulic System) 70-15-29
Reconditioning the Hydraulic Oil Filter (PFC Hydraulic System) 70-15-30
Reconditioning the Hydraulic Oil Filter (PC Hydraulic System) 70-15-32
Power Beyond Valve—Exploded View 70-15-33
Connecting the Power Beyond Valve 70-15-34
Converting the Power Beyond Valve 70-15-37

Group 20—Rockshaft
Special or Essential Tools 70-20-1
Self-Manufactured Special Tools 70-20-2
Other Material 70-20-2
Specifications 70-20-3

Continued on next page

Specifications

Item	Measurement	Specification
Position sensor:		
Toothed segment to rockshaft, hex. socket screws	Torque	10 N•m 7.5 lb-ft
Position sensor to bearing block, cap screws	Torque	5 N•m 3.7 lb-ft
Rockshaft bearing block:		
Lift arms to rockshaft, cap screws	Torque	115 N•m 85 lb-ft
Bearing block to differential housing, cap screws	Torque	370 N•m 273 lb-ft
Trailer hitch to transmission case, hex. socket screws	Torque	340 N•m 250 lb-ft
Stabilizer console to final drive housing, cap screws	Torque	700 N•m 520 lb-ft
Draft sensor to draft link bearing pins, cap screws	Torque	12 N•m 9 lb-ft

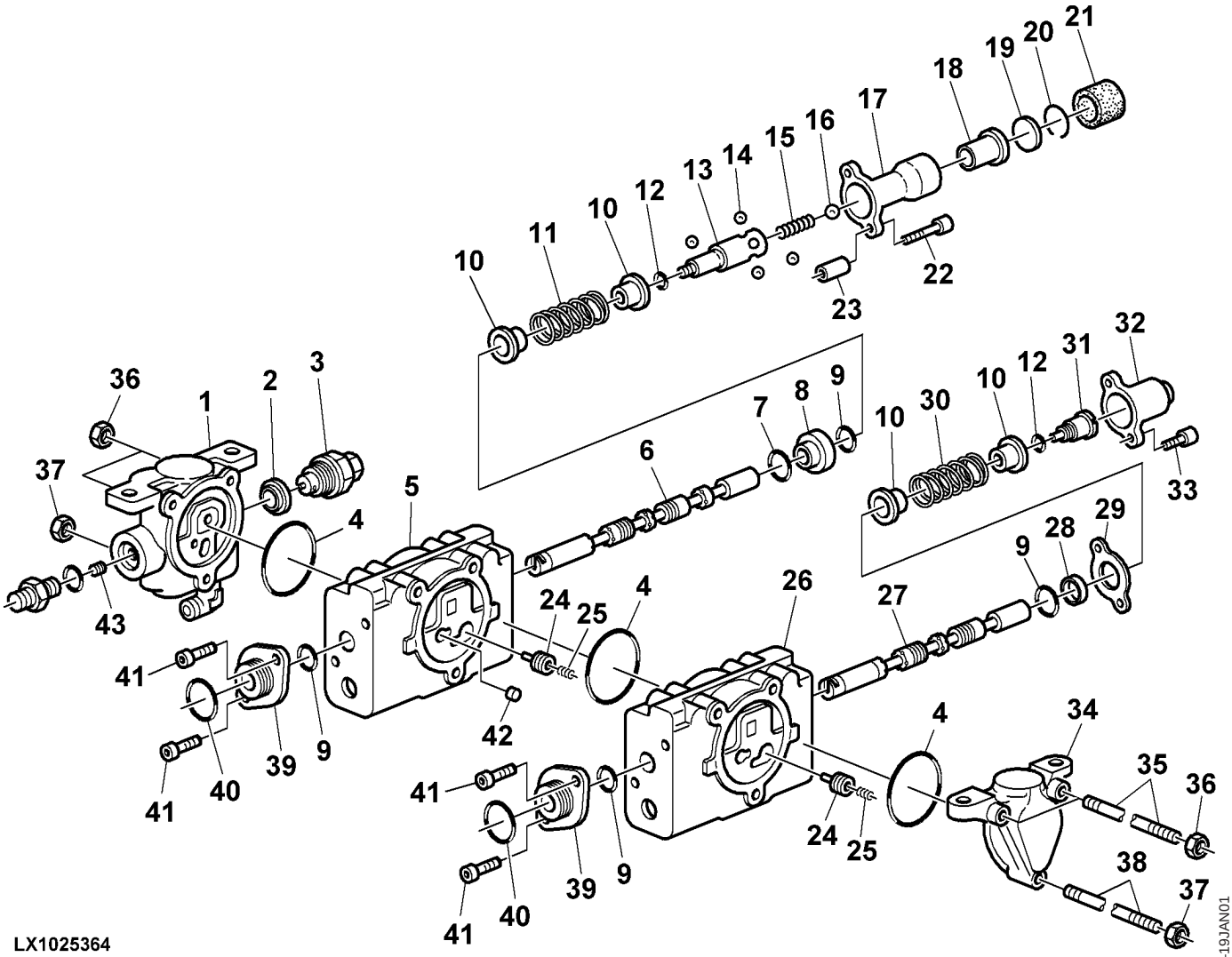
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Rockshaft — Removing and Installing the Electronic Control Unit

For installation or removal of the basic control unit (BCU) for the rockshaft control, see Replace Control Unit (BCU/HCU) in Section 90, Group 05.

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Reconditioning the Independent Control Valve (M-ICV)

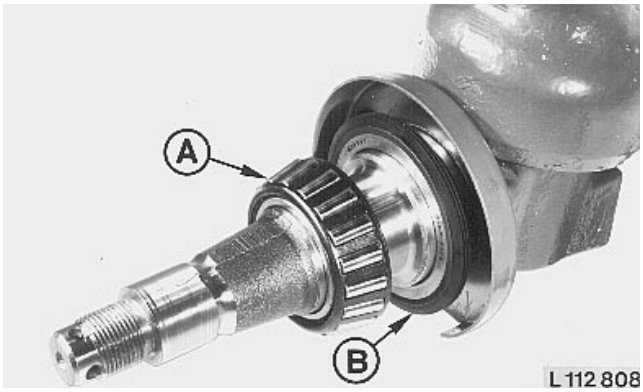


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Assembling the wheel hub

1. Install seal ring (B) with the inscription facing away from the knuckle and spindle assembly, i.e. facing towards taper roller bearing cone (A).
2. Coat the lips of the seal ring with grease.
3. Install bearing cone (A).



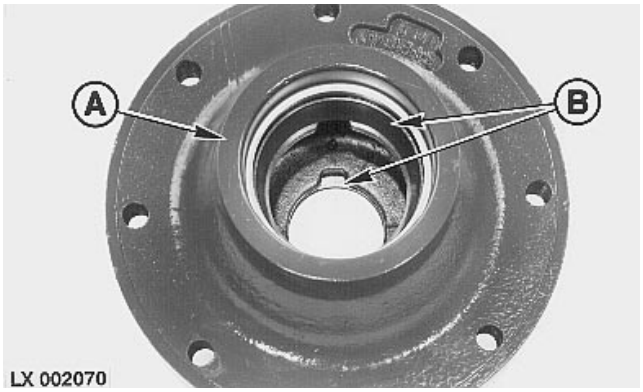
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80
10
10

4. Press bearing cups (B) and collared ring (A) into the wheel hub.

NOTE: Coat all the parts with grease once they are installed.



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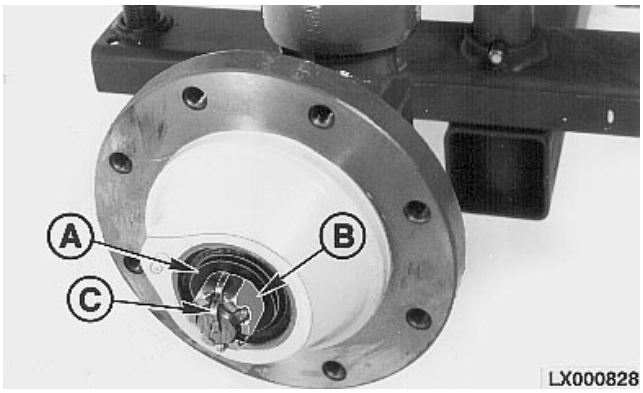
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Adjusting the wheel bearings

1. Slide wheel hub onto knuckle and spindle assembly.
2. Position taper roller bearing cone, washer (A) and slotted nut (B).
3. Tighten the slotted nut (B).

Specification

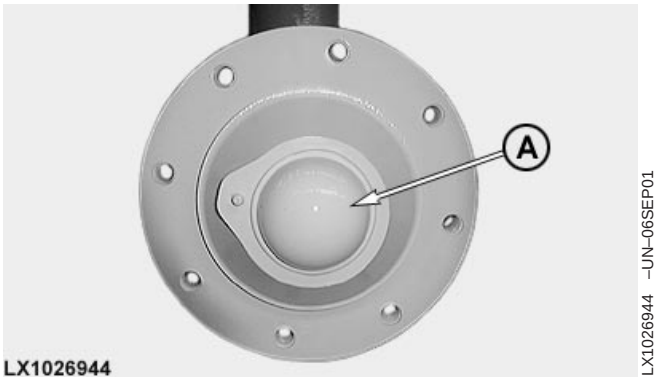
Wheel hub to knuckle and spindle assy., slotted nut—Torque ..... 50 N•m (35 lb-ft)



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4. Turn wheel hub several times, retighten slotted nut to the same torque, and secure with cotter pin (C). If this proves impossible, turn slotted nut back to the next locking position.
5. Secure the hub cab (A).

NOTE: When the adjustment is completed, lubricate the hub cap.

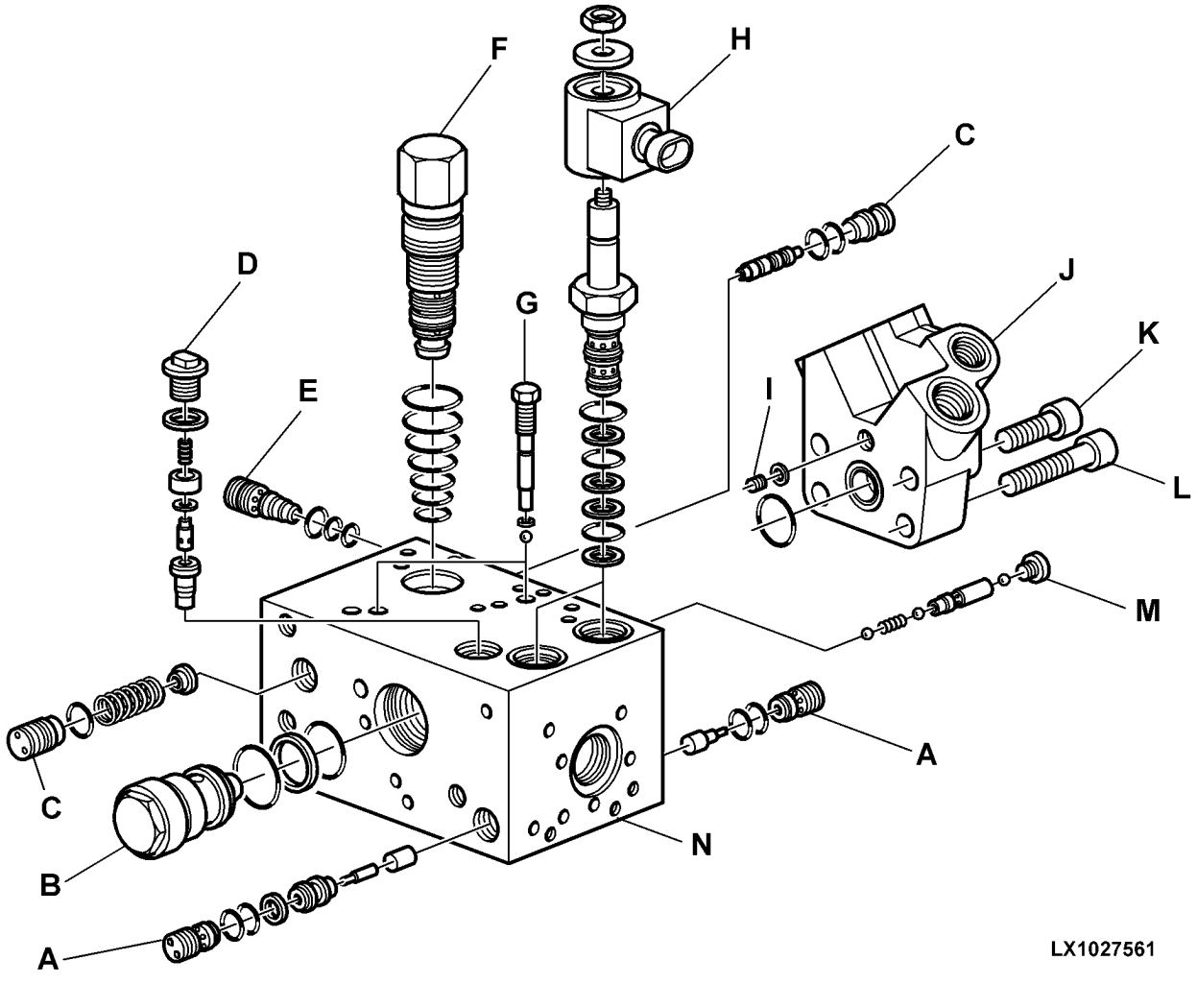


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Reconditioning the Valves in the Control Valve Block



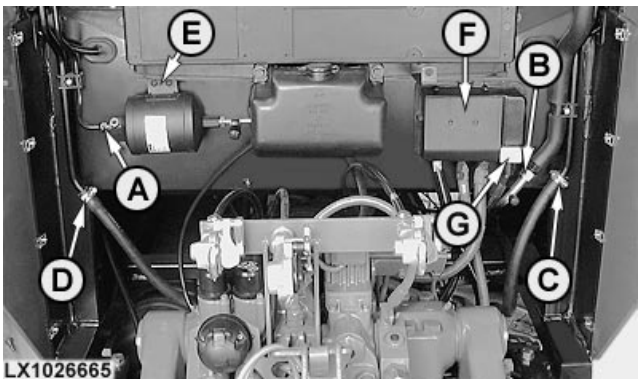
Control block, exploded view

A—Electro-hydraulic control valve
B—Pressure relief valve
C—Preload valve
D—Flow control valve
E—Electro-hydraulic control valve
F—Pressure-regulating valve
G—Bleed valve (2 used)
H—Solenoid valve (2 used)
I—Restriction valve
J—Manifold block
K—Screw (2 used
L—Screw (2 used
M—Shuttle valve
N—Control valve block

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10. On tractors with air-conditioning: Take fitting (A) off the receiver-drier and remove bracket (E) from the cab. Disconnect the refrigerant line at fitting (B).



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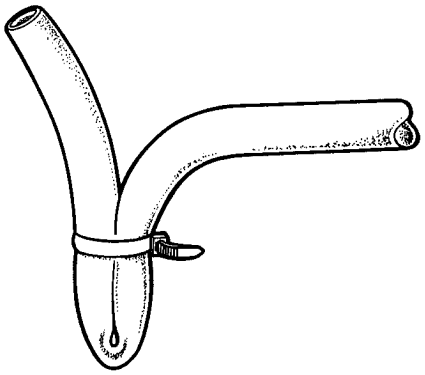
CAUTION: It is vitally important to extract the refrigerant BEFORE disconnecting any refrigerant lines.

IMPORTANT: Seal the air-conditioning system disconnection points immediately so that no air can get in.

To facilitate re-assembly, put identifying marks on heater hoses (C) and (D). Seal the open ends so that dust cannot penetrate. Then pull out the hoses and bend them into a loop. Secure the loops with cable binders as shown in the drawing.

Disconnect the hoses from the lines. If necessary, seal the ends of the hoses with suitable pins.

NOTE: Trap the water (quantity: approx. 1 liter; 0.26 US.gal.) in a suitable container as it emerges from the lines, then pour this water back into the radiator.

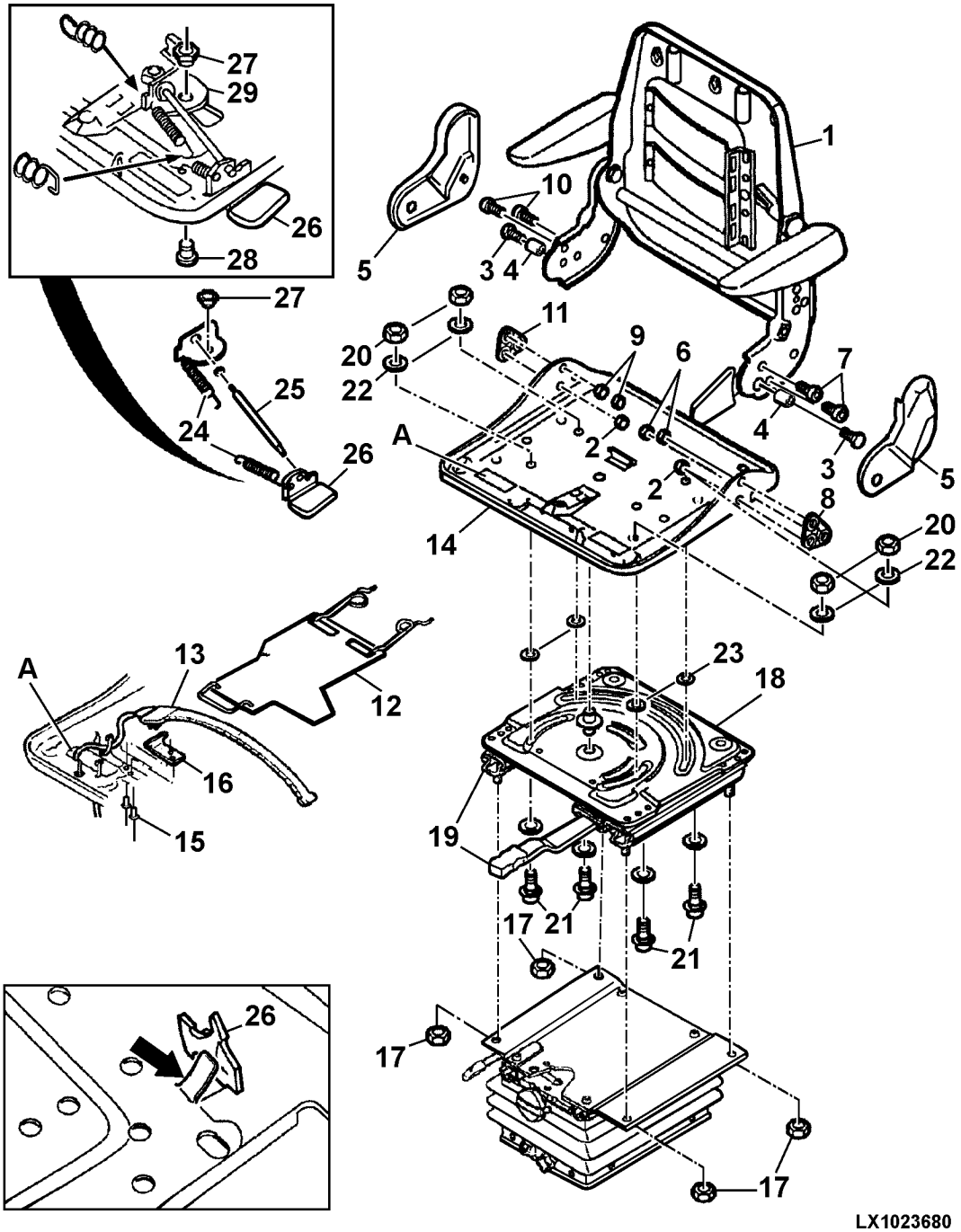


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Take off cover (F) and pull out the connectors that lie behind the cover. Pull off connector (G).

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Removing and installing the baseplate (including turntable)

1. Remove cushions from seat and backrest.
2. Tilt backrest (1) to the front.
3. At both sides, remove hex. nuts (2), cap screws (3) and spacer sleeves (4); also remove the seat-belt.

NOTE: Tighten to specified torque

Specification	
Hex. socket screws, backrest mounting to top of seat— Torque	50 N•m 37 lb-ft

4. Take off the two mountings (5).

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