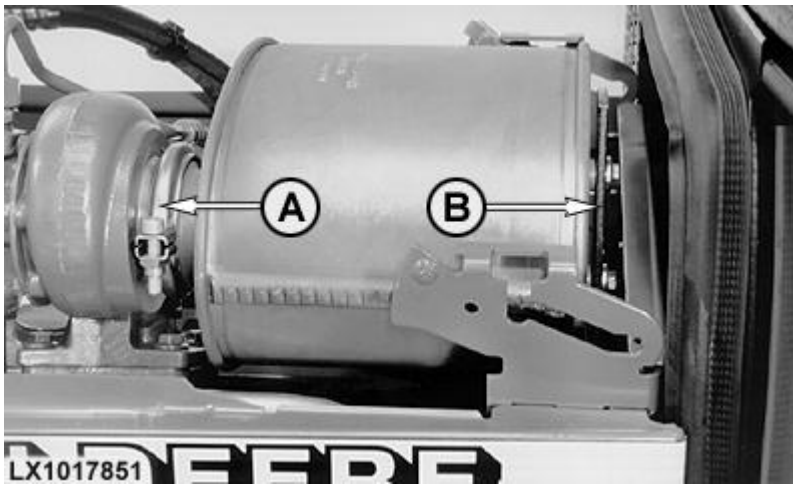


Group 05 - Special Tools (Dealer-Fabricated)

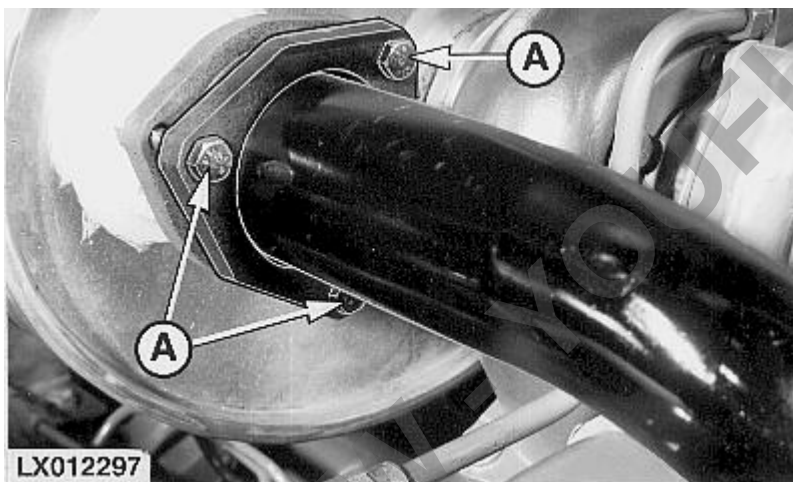
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Tractors with muffler pipe to the right:

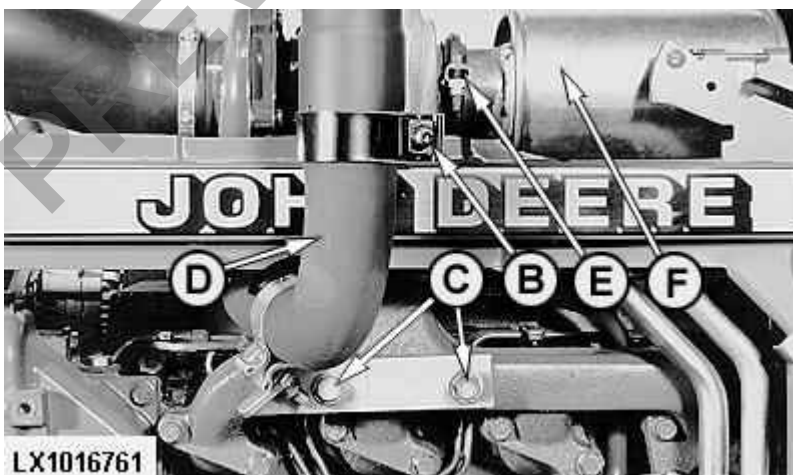
Slacken off clamp (A) and unbolt bracket (A) from the cylinder head.

Lift off the muffler.

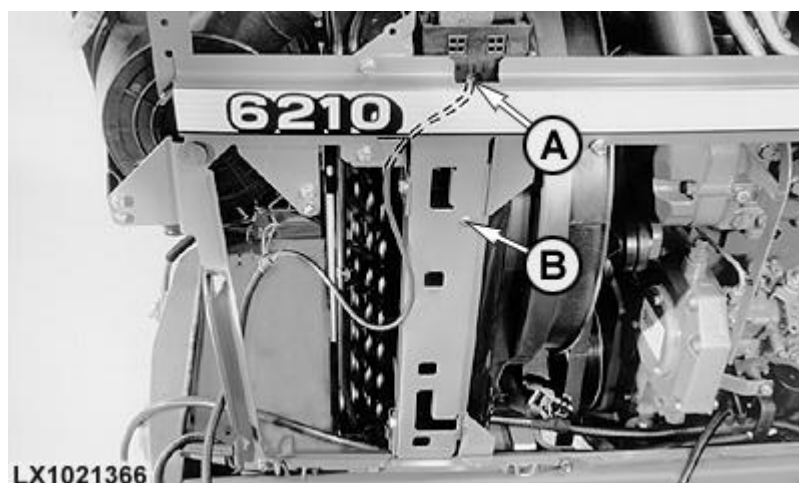


Tractors with muffler pipe to the left:

Take out screws (A).



Unfasten clamp (B) and take off the exhaust pipe.



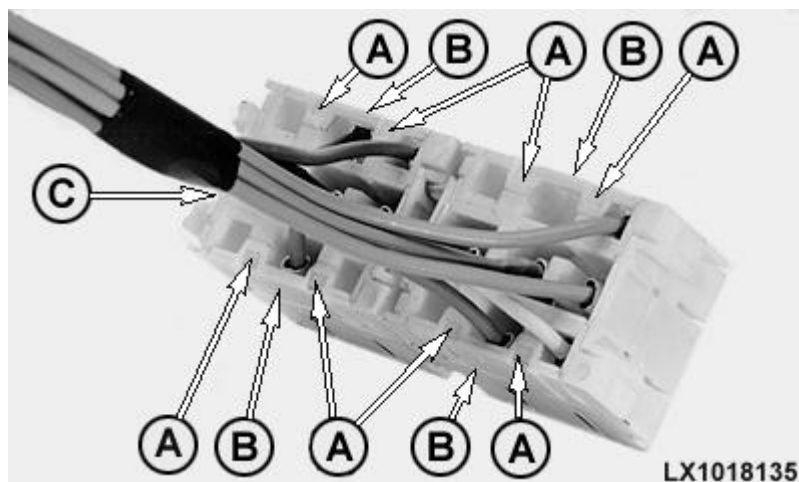
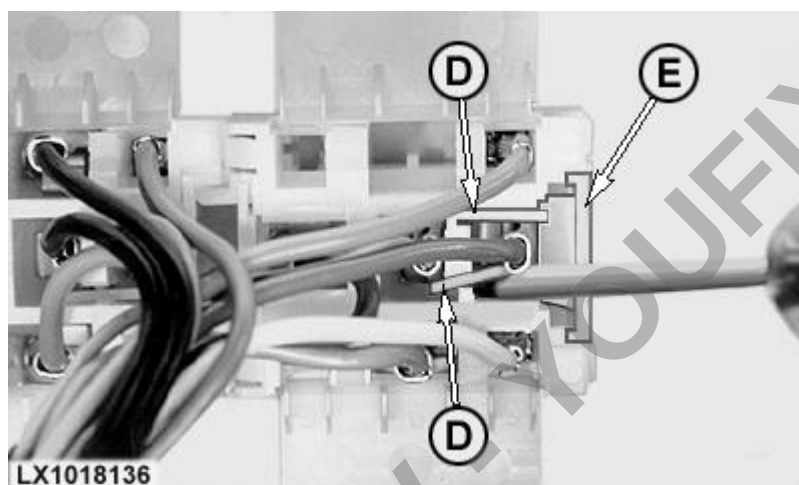
Disconnect ground cable (A) from the radiator.

Remove cap screws (B) from both sides of radiator.

Pull radiator up out of the guide rails.

Relay socket

Opening the locks



LEGEND:

- A Lock
- B Terminal detent at side
- C Terminal detent at rear
- D Lock
- E Terminal detent at front

→NOTE:

Mark the wires for identification purposes before opening the locks.

Use a small screwdriver to open the locks (A) and fold out the terminal detents at the sides (B).

Fold out the terminal detent at the rear (C).

Use a small screwdriver to open the locks (D) and fold out the terminal detents at the sides

Load Center on SE Tractors

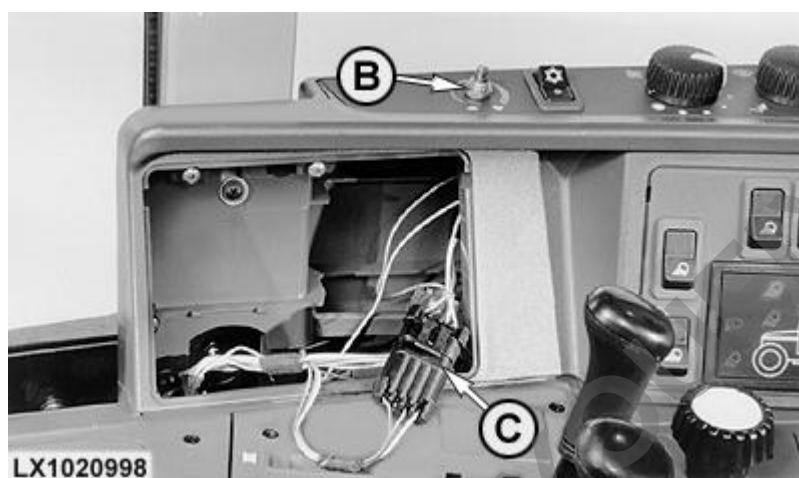
Load center 1

IMPORTANT:

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

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Replacing the Cruise Control Potentiometer



LEGEND:

A
B
C

Knob
Hex. nut
Plug

Tractors with AutoPowr transmission only

Carefully pry out the console using a screwdriver at the locations indicated (arrows).

→NOTE:

For identification purposes, mark the plugs before you pull them out.

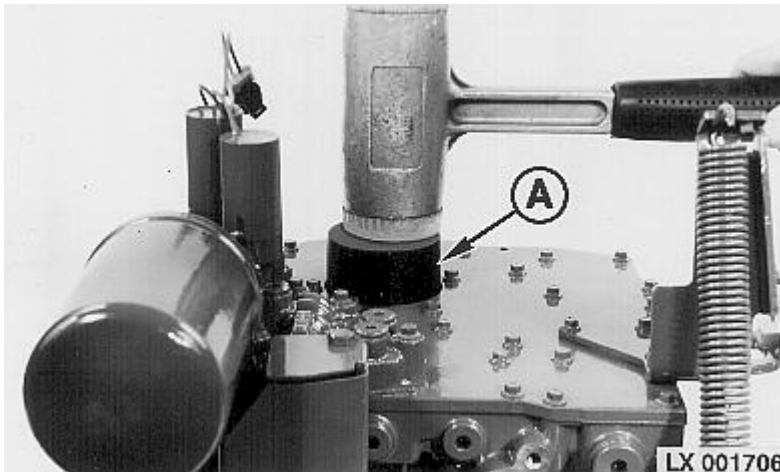
Disconnect plug and remove console.

Pull off knob (A).

Take off hex. nut (B) and pull the potentiometer inwards out of the guide.

Disconnect plug (C) and replace the potentiometer with a new one.

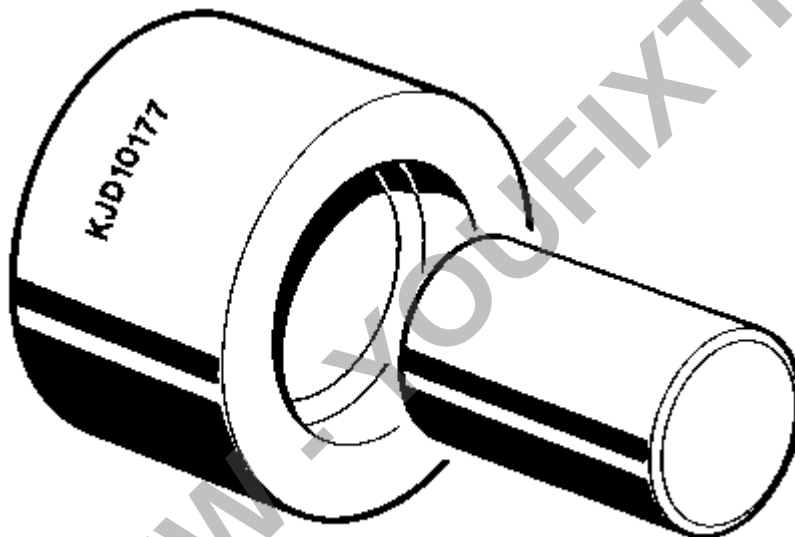
[4] -



Use pressure tool KJD10177 (A)

Pressure tool

KJD10177



LX 001717

Pressing the shaft sealing ring into the clutch housing
to press in the sealing ring.

→NOTE:

The open side of the sealing ring must face toward the clutch housing.

Then slide the input flange into the input shaft.

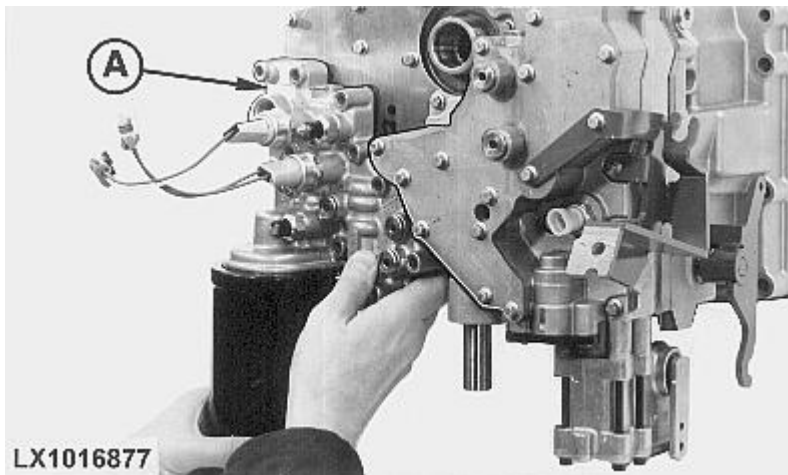
[4] - If necessary, round off the result. When (d) is at its minimum, round the sum up. When (d) is at its maximum, round the sum down.

Sample calculation	
Bearing pin sticks out by: a = 0.3 mm (0.012 in.)	
d (min.) = 0.3 mm + 0.9 mm = 1.2 mm	
d (min.) = 0.012 in. + 0.035 in. = 0.047 in.	
d (max.) = 0.3 mm + 1.5 mm = 1.8 mm	
d (max.) = 0.012 in. + 0.059 in. = 0.071 in.	
In this example, shim (P) must be 1.5 mm (0.059 in.) thick.	
Thickness of shims available	
1.0 mm 0.039 in.	2.0 mm 0.078 in.
1.5 mm 0.059 in.	

[5] - Install the bowden cables, making sure that they are not too tight or bent.

[29] -

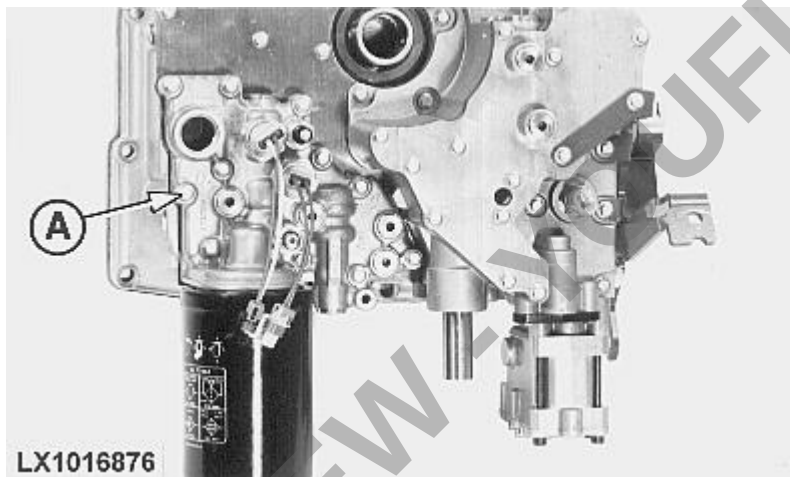
→NOTE:



Before installing the filter housing, check the gasket.

Install the filter housing (A).

[30] -



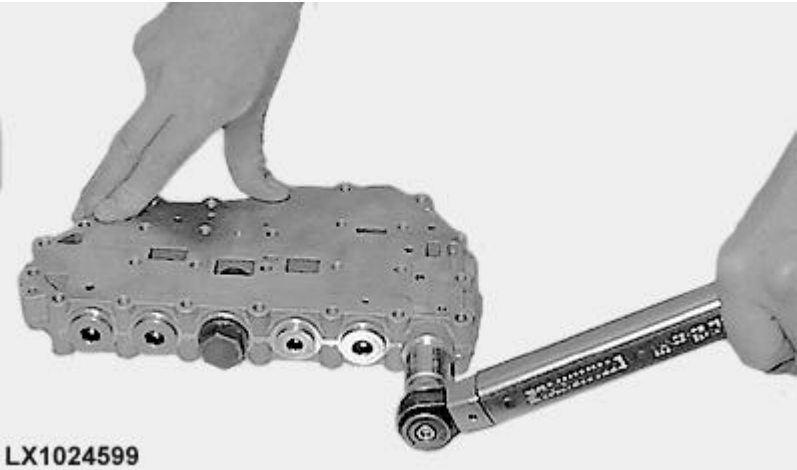
Install screws (A).

[31] -

→NOTE:

Tighten the screws in clockwise direction, starting with the innermost screws.

[6] -



Tighten the screw plugs on the valves.

Item	Measurement	Specification
System pressure control block, M10 x 1 screw plug	Torque	12 N·m 9 lb-ft
System pressure control block, M18 x 1.5 screw plug	Torque	23 N·m 17 lb-ft
System pressure control block, M20 x 1.5 screw plug	Torque	45 N·m 33 lb-ft
System pressure control block, M22 x 1.5 screw plug	Torque	30 N·m 22 lb-ft
System pressure control block, M26 x 1.5 screw plug	Torque	45 N·m 33 lb-ft

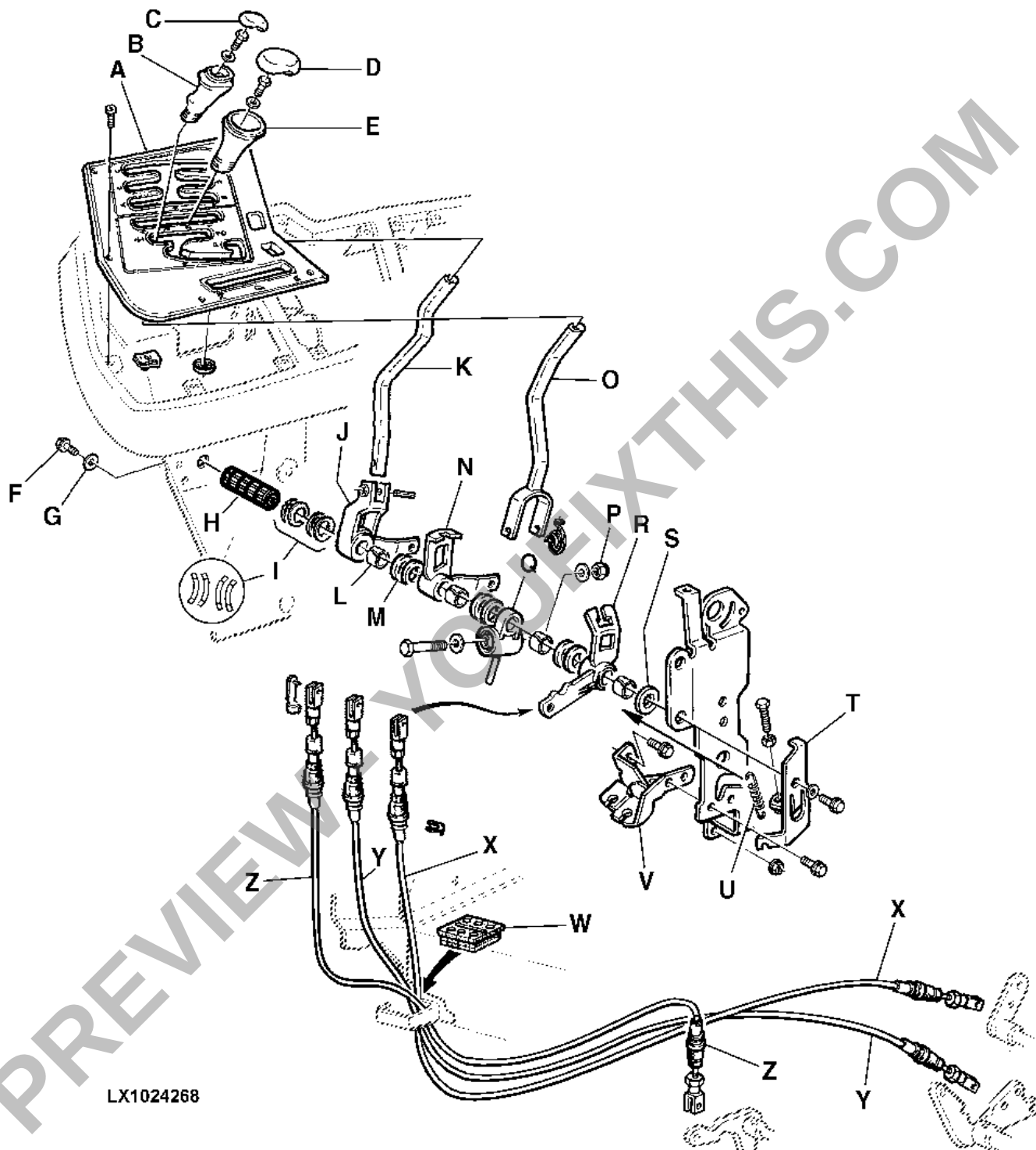
[7] -



Tighten the two screw plugs.

Item	Measurement	Specification
System pressure control block, M14 x 1.5 screw plug	Torque	25 N·m 18 lb-ft

Gear Shift Linkage without Forward/Reverse Interlock (Reverser Control on Shift Console)



LEGEND:

A	Shifting gate
B	Handle
C	Cap
D	Cap
E	Handle
F	Cap screw
G	Washer

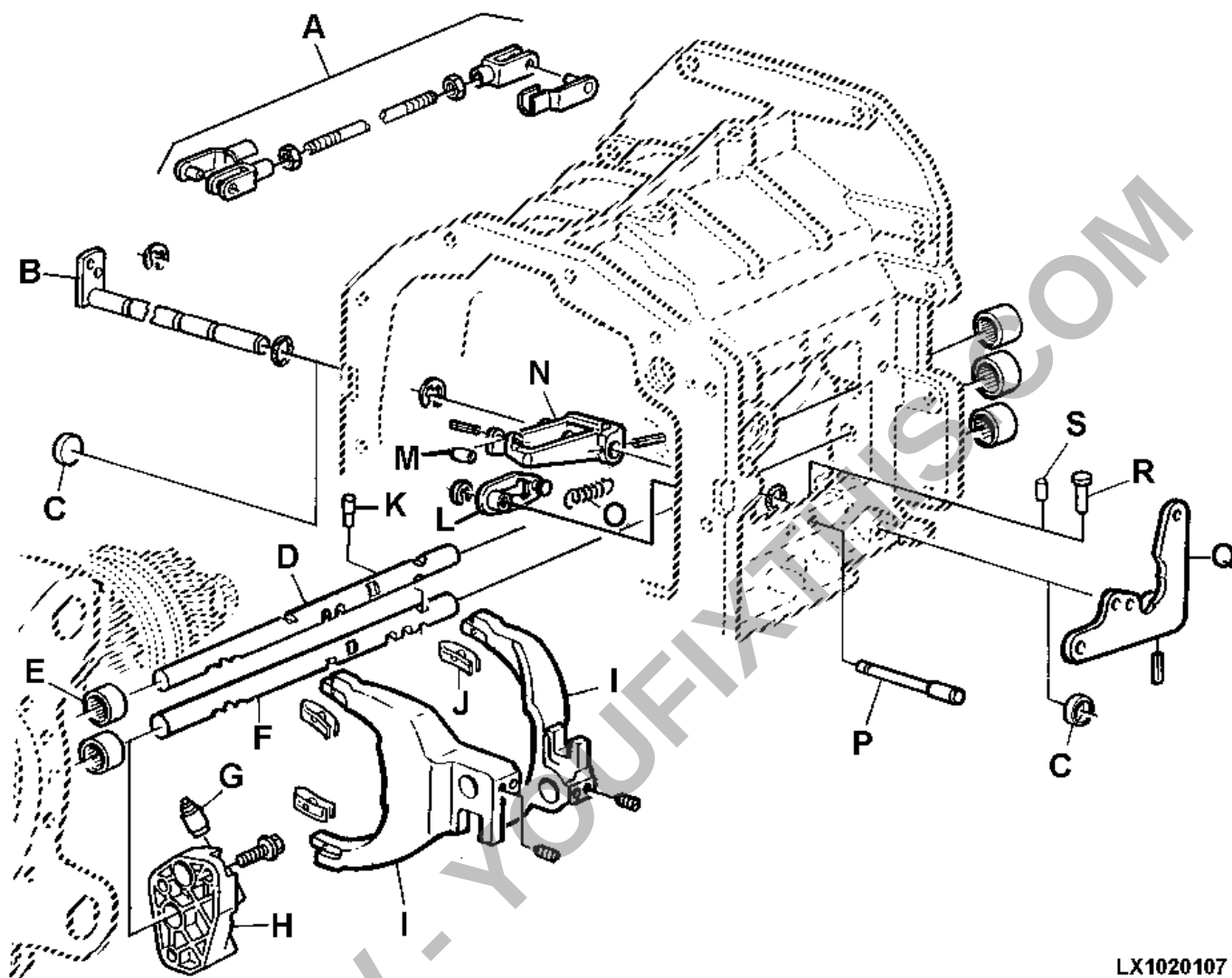
[3] -



Inspect thrust washer (A) and ring gear. Replace parts if necessary.

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Exploded View of Shift Linkage



LX1020107

LEGEND:

- A Forward/reverse linkage assembly
[Mechanical reverser control]
- B Fwd/rev. shifter shaft
[Mechanical reverser control]
- C Cover
[Electrical reverser control or SyncroPlus transmission]
- D Shifter shaft
- E Ball bushing (4
[12- and 16-speed transmissions]
or 5
[20- and 24-speed transmissions]
used)
- F Shifter shaft
- G Locking pin (2 used)
- H Shifter shaft housing
- I Shifter fork
- J Plastic tip (4 used)
- K Pin
[20- and 24-speed transmissions]
- L Lever
[Mechanical reverser control]

[1] -



Change the torsion damper bearing (B).

[2] - Install washer (D) and tighten the cap screw or corrugated-head screw (C).

Item	Measurement	Specification
Torsion damper bearings, cap screw	Torque	65 N·m 48 lb-ft

[3] -

IMPORTANT:

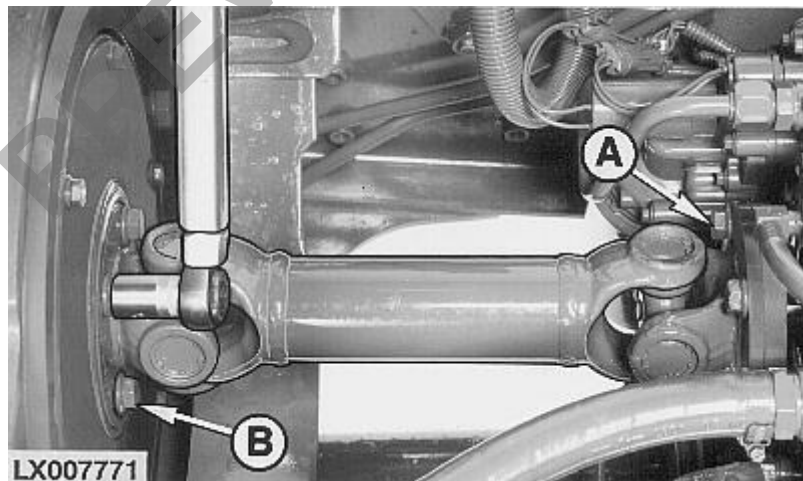
If the bearing is held in place by a corrugated-head screw, the latter must be used only once, and then replaced.

Tighten the six M8 cap screws.

Item	Measurement	Specification
Torsion damper to flywheel, cap screw	Torque	35 N·m 26 lb-ft

[4] - Ensure seal (A) is seated correctly.

Installing the U.j. Shaft (Engine)



E	Gear with cover
F	Belleville springs
G	Disk pack
H	Clutch drum
I	Brake piston with segment
J	Piston
K	Speed sending unit
L	Washer
M	PTO stub shaft
N	Gear
O	Shift collar

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Group 05 - Hydrostatic Steering

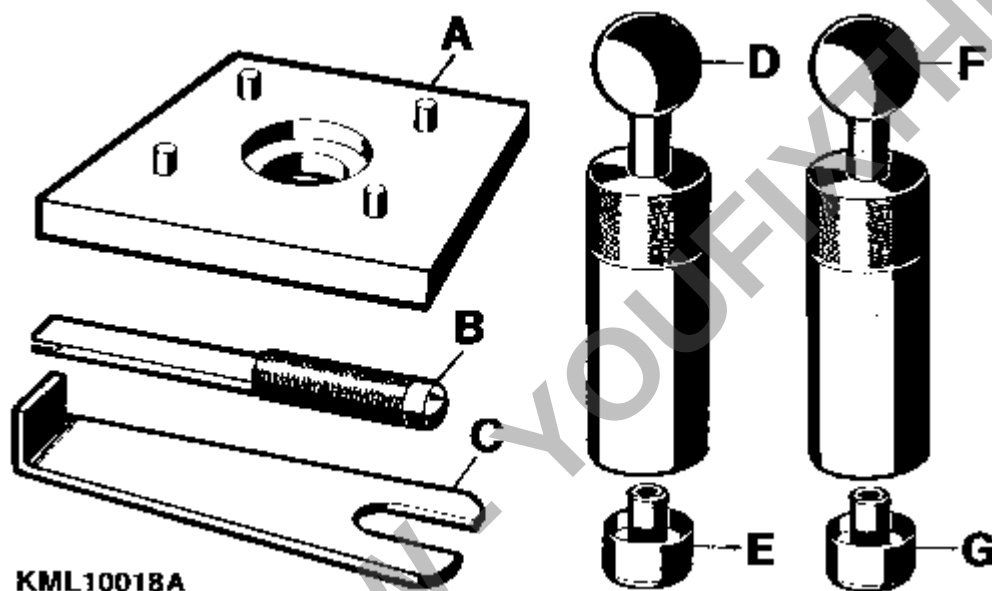
Special or Essential Tools

→NOTE:

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

Assembly tool set

KML10018A



KML10018A

LEGEND:

- A Base (KML10018-1)
- B Spring installer (KML10018-3)
- C Shaft holder (KML10018-4)
- D Seal installer (KML10018-2)
- E Piston (KML10018-5)
- F Seal installer (KML10018-6)
- G Piston (KML10018-7)

Assembling hydrostatic steering valves

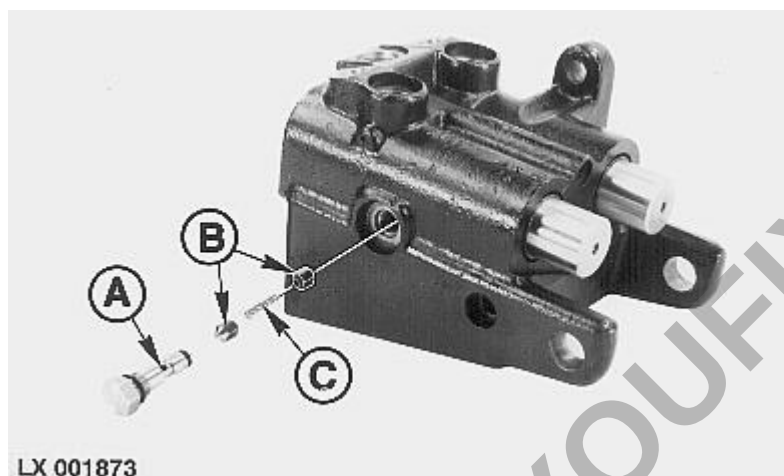
Special tools required for repair work							
Steering valve type [See type plate on steering valve]	A	B	C	D	E	F	G
OSPF 100 LS (Danfoss)	X		X	X	X		
OSPF 125 LS (Danfoss)	X		X	X	X		
OSPF 160 LS (Danfoss)	X		X	X	X		

IMPORTANT:

Wait until the brake valve has been installed before determining the precise thickness of shim required. To do this, control valve opening pressure must be checked. See the description that follows "Installing the Brake Valve" in this Group.

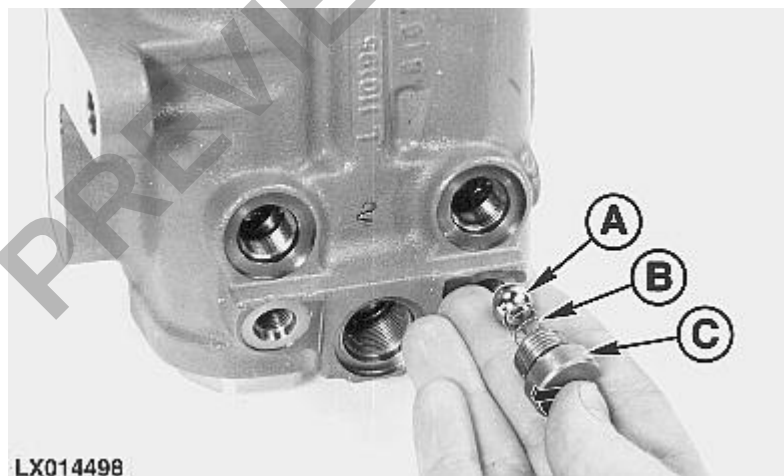
→NOTE:

Usually, a shim thickness of between 0.1 and 0.2 mm (0.004 and 0.008 in.) should be sufficient.

**LEGEND:**

- | | |
|---|--------------|
| A | Special plug |
| B | Cone |
| C | Spring |

Install check valves.

**LEGEND:**

- | | |
|---|--------|
| A | Ball |
| B | Spring |
| C | Plug |

A	Spring
B	Unlocking rod
C	Grip
D	Handbrake lever
E	Pawl
F	Toothed segment
G	Bracket
H	Bracket [Without cab]
I	Sending unit, handbrake indicator light [Without cab]
J	Console
K	Shield [Without cab]
L	Sending unit, handbrake indicator light [With cab]
M	Rubber sleeve
N	Handbrake cable
O	Bracket
P	Nut
Q	Pin
R	Bushing
S	Locknut

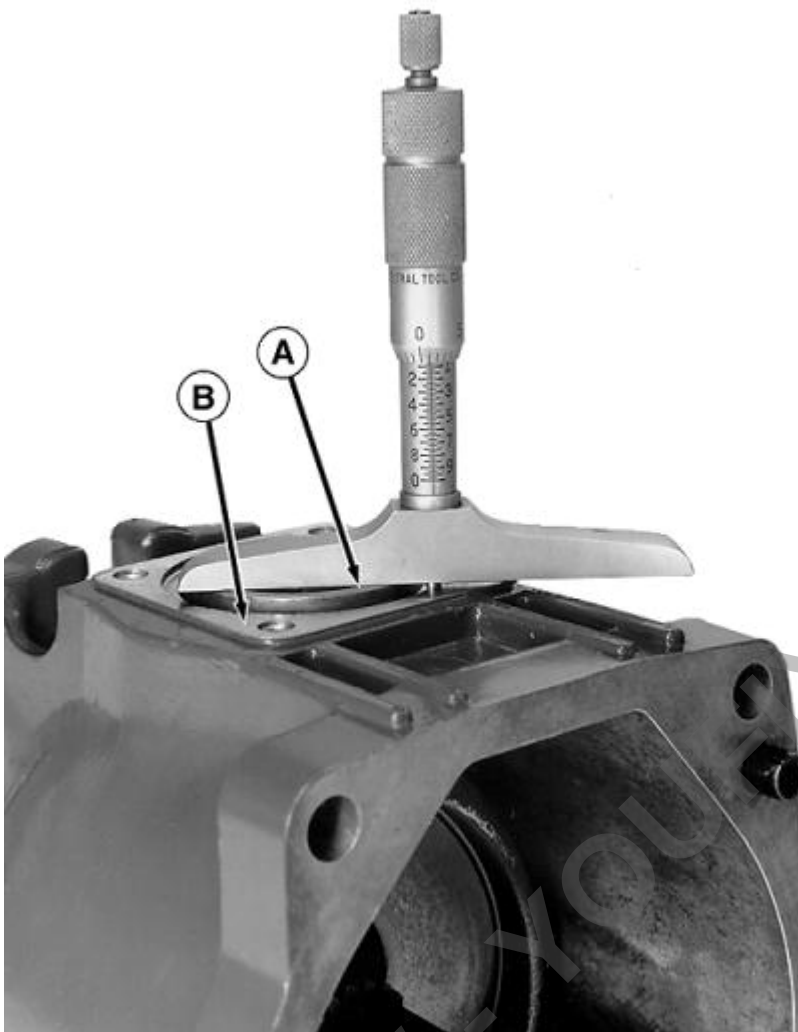
Replacing the Handbrake Cable



Release the handbrake fully.

Disconnect handbrake cable (A) from the handbrake lever arm.

Adjusting the Swashplate Bearing Preload



25 cm³ (1.5 cu in.) and 40 cm³ (2.4 cu in.) pumps:

IMPORTANT:

Bearing preload must be adjusted every time the swashplate or swashplate cones and cups are replaced.

Install the bearing cone, cup, spacer, O-ring and a 0.25 mm (0.010 in.) shim underneath the bearing quill on the pump housing side. Tighten the bearing quill to 20-22 N·m (170-190 lb in.).

Turn the housing over so that the other side is now uppermost.

Install the bearing cone, cup and spacer on the opposite side, while at the same time rotating the swashplate to seat the bearings.

Measure the distance between the top of the spacer (A) and the housing surface (B), in two

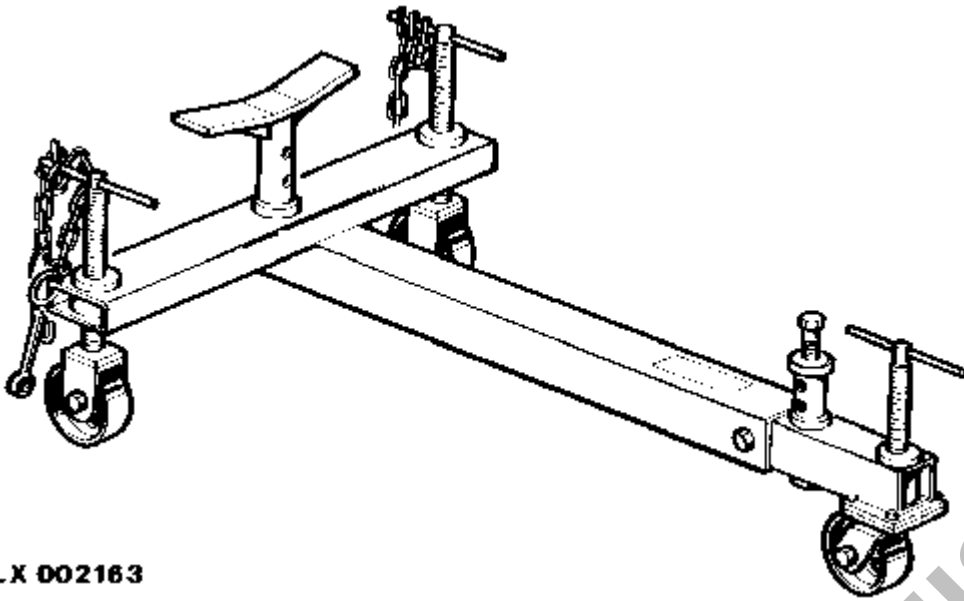
IMPORTANT:

There are valve plates between the various valves. Take care not to lose any of the plates.

Take off endplate (B) and SCV unit.

Series 100/101 Selective Control Valve - Exploded View

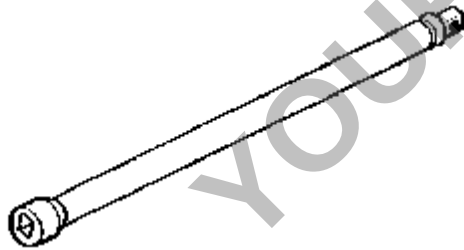
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**LX 002163**

Removing and installing front axle or FWD axle

Torque extension

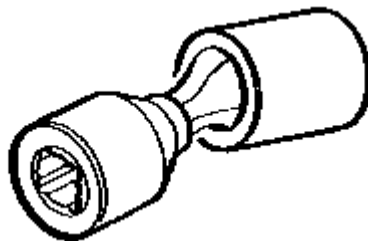
JDG749

**JDG749**

Removing and installing front axle or FWD axle

Swivel socket

JDG750

**JDG750**

Removing and installing front axle or FWD axle

Dealer-Manufactured Special Tools

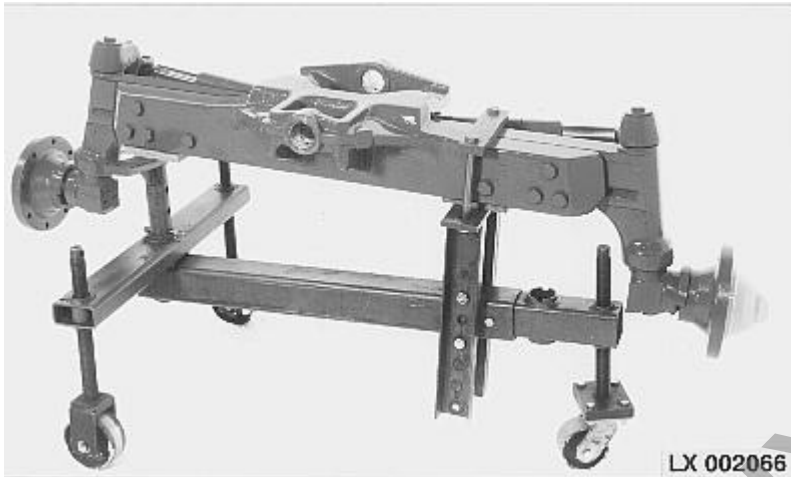
See also Section 99, Group 05.

Disassembling the Front Axle

[1] -

→NOTE:

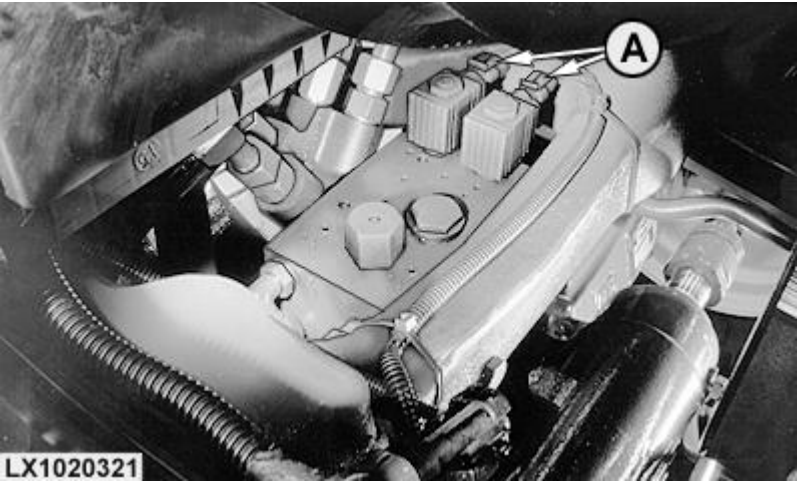
There is no need to remove the front axle to repair the knuckle and spindle assembly or wheel hub.



Before removing the front axle, see ["Removing the Front Axle"](#) in this Section, Group 00.

[2] -

[7] -



Pull plugs (A) out of the solenoid valves.

[8] -



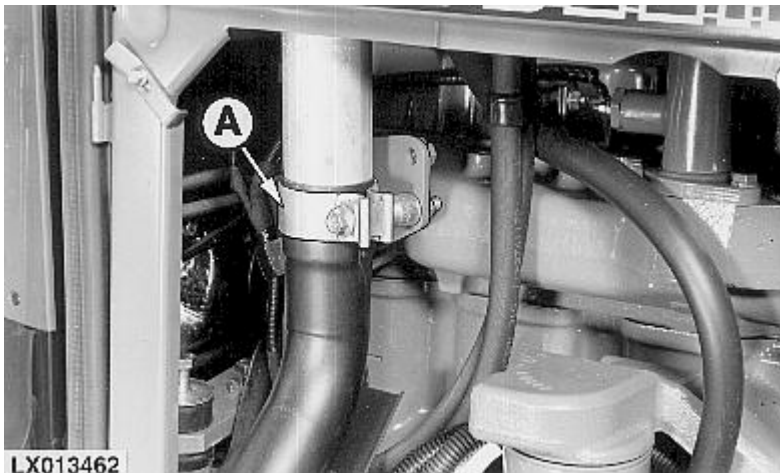
Take retaining screws (A) out of the control valve block.

[9] - Move the control valve block downward and then take it out between the main frame and the FWD axle.

Installing the Control Valve Block

Install the control valve block in reverse order (with regard to removal procedure).

Item	Measurement	Specification
Control valve block to front axle support, cap screws	Torque	55 N·m
		40 lb·ft
Hydraulic hose or line, collar nut (19 mm across flats)	Torque	33 N·m
		24 lb·ft
Hydraulic hose or line, collar nut (22 mm across flats)	Torque	41 N·m
		30 lb·ft
Hydraulic hose or line, collar nut (24 mm across flats)	Torque	50 N·m
		37 lb·ft
Hydraulic hose or line, collar nut (27 mm across flats)	Torque	70 N·m

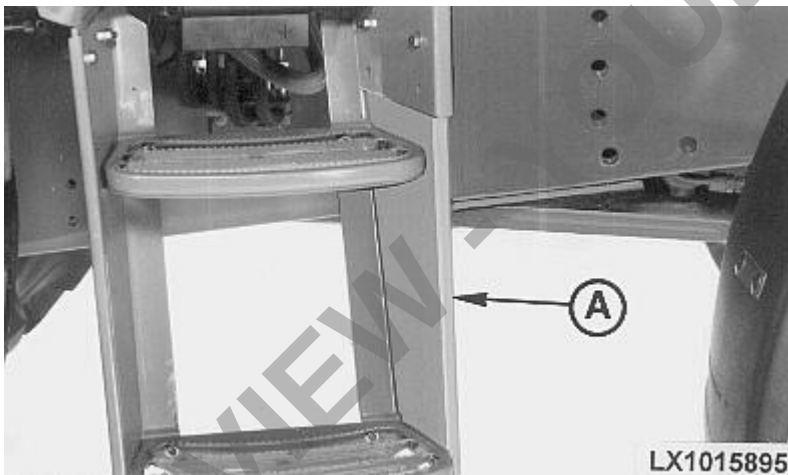
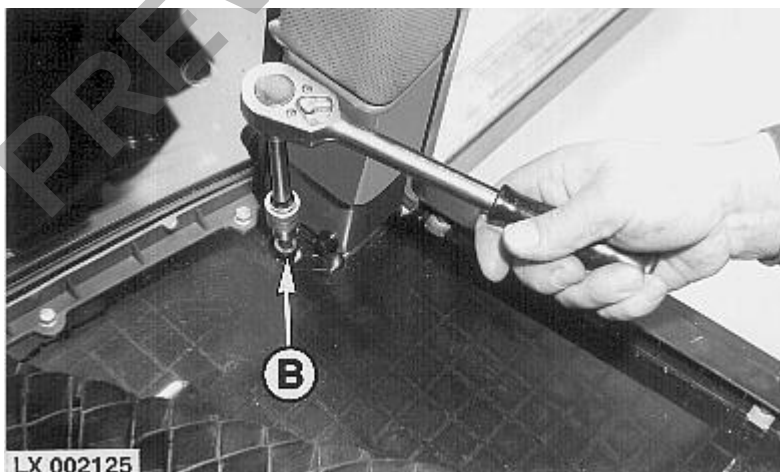


Unfasten clamp (A) and remove the muffler pipe.

→NOTE:

The procedure is the same for flexible muffler pipes.

Before re-installing, see also [“Installing the Muffler Pipe”](#), Section 30, Group 30.



Take out hex. socket screw (B) and then remove the access step (A) and step retainer.

Safety At Work

CAUTION:

Certain basic safety regulations apply when dealing with air conditioning systems, and must be observed at all times. They are backed up by legislation covering safety precautions for air conditioning systems. The following excerpts are particularly important:

Air conditioning systems may be operated, serviced or repaired by authorized, trained personnel only.

Adolescents should not be allowed to carry out service work on air conditioning systems involving the discharge of Category 2 or 3 refrigerants, unless trade training of adolescents over 16 years old requires such work. In this case, the adolescent must be supervised by a trained adult.

Before repairing components carrying refrigerant, remove refrigerant as far as necessary to ensure that the work can be carried out safely.

Refrigerant should be extracted by suction and re-used. When refrigerant is discharged into the air, there is the danger of asphyxiation, especially if work is being performed in an inspection pit, since refrigerant is heavier than air and concentrates at the lowest level. Moreover, refrigerant is odorless and colorless, so small quantities emerging from a leak cannot be detected. In such a case, ensure that there is adequate ventilation at the place of work.

Smoking and naked flames are not permitted in enclosed spaces where refrigerant has been released. High temperatures cause chemical reactions in the refrigerant gas, and highly poisonous substances can form. If inhaled, these substances have serious effects on health.

High temperatures produced by welding and soldering cause very high pressures inside components of the air conditioning system, and these pressures may result in an explosion.

Handling Refrigerant

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