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FARMALL® 85C
FARMALL® 95C
FARMALL® 105C
FARMALL® 115C
With Hi-Lo Transmission
With Mechanical or Power Shuttle Transmission
Tractor

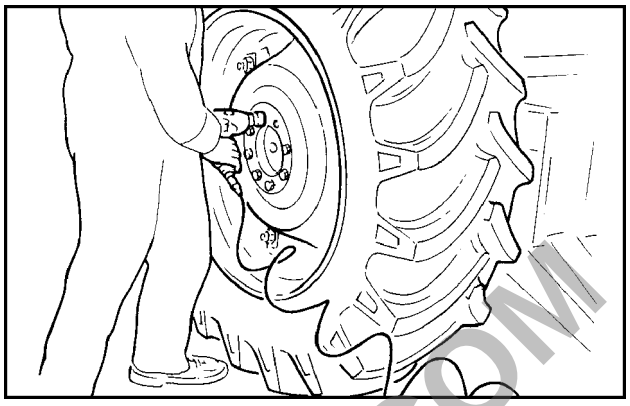
With Hi-Lo Transmission PIN ZxJV0xxxx and above
With Mechanical or Power Shuttle Transmission PIN ZxJV5xxxx and above

SERVICE MANUAL

Part number 47840678
English
March 2015
Replaces part number 47561951

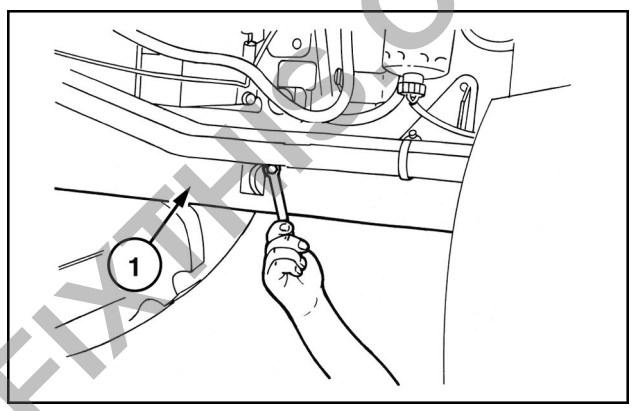
CASE IH AGRICULTURE

7. Raise the rear of the tractor with a hydraulic jack. Place a mechanical jack stand under the reduction gear case. Use a pneumatic gun to remove the retaining nuts of the left-hand rear wheel. Then remove the wheel.



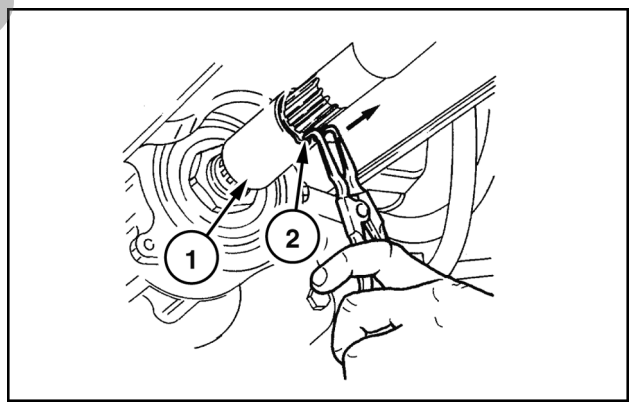
WLAPL4S10C110A 4

8. Unscrew the front, central, and rear retaining bolts on the guard of the front axle control shaft. Then remove the guard **(1)**.



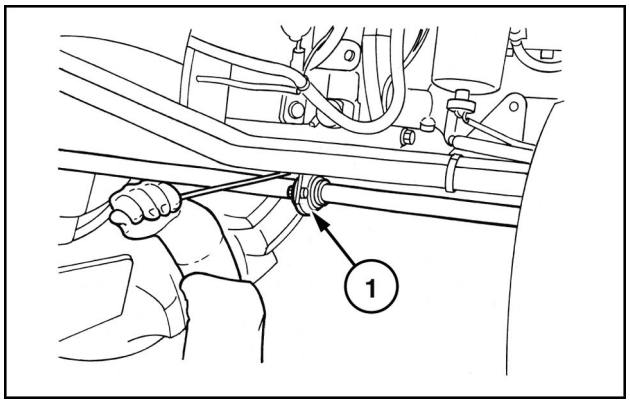
WLAPL4S10C112AA 5

9. Remove the circlip **(2)** and move the front sleeve **(1)** in the direction indicated by the arrow until it is released from the groove on the front axle.



WLAPL4S10C113AA 6

10. Remove the bolts that secure the central support **(1)** of the drive shaft. Remove the shaft complete with the support. Also remove the shim that adjusts the clearance of the shaft on the back.

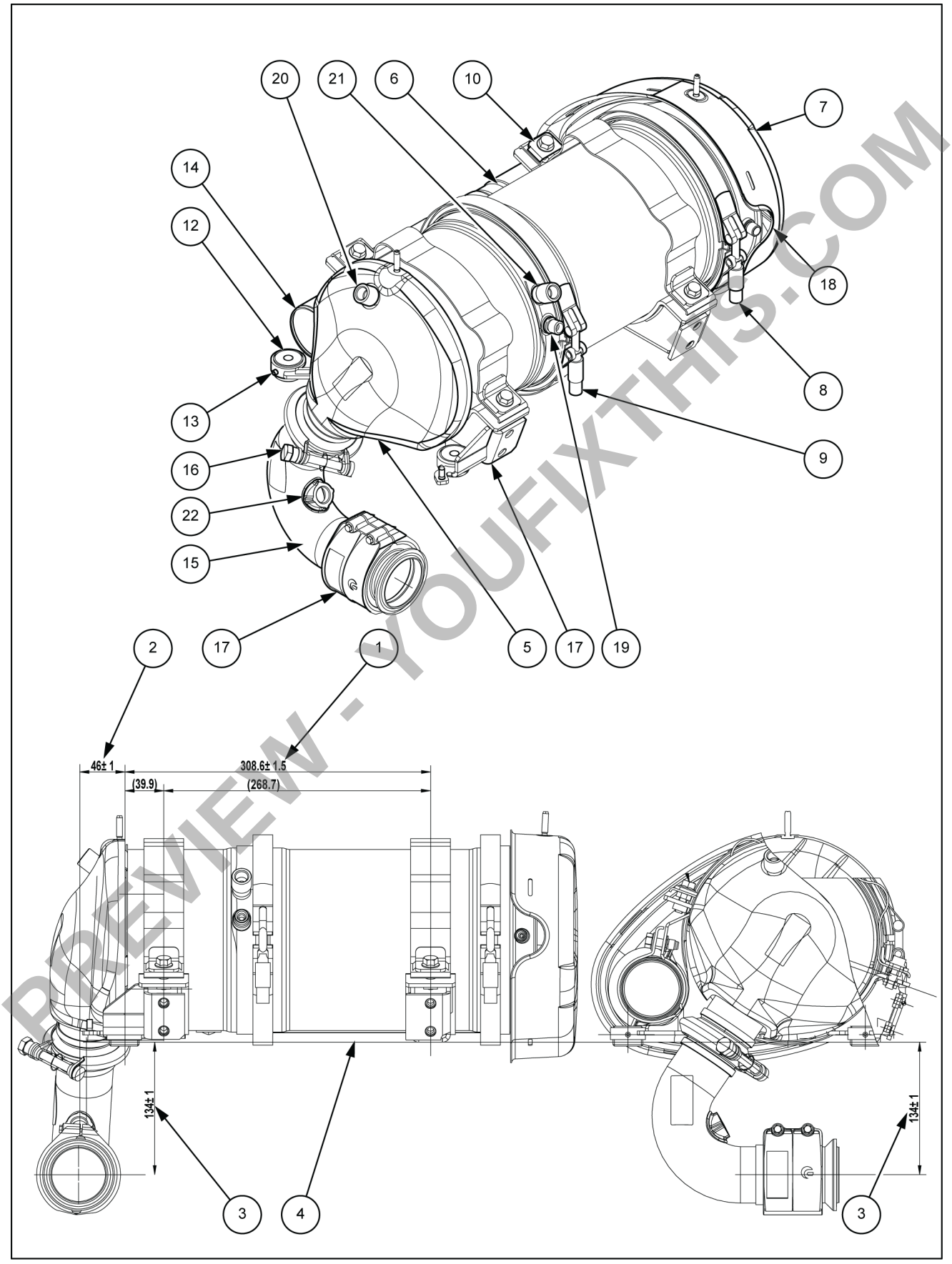


WLAPL4S10C115AA 7

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Diesel Particulate Filters (DPF) - General specification Installation measurements

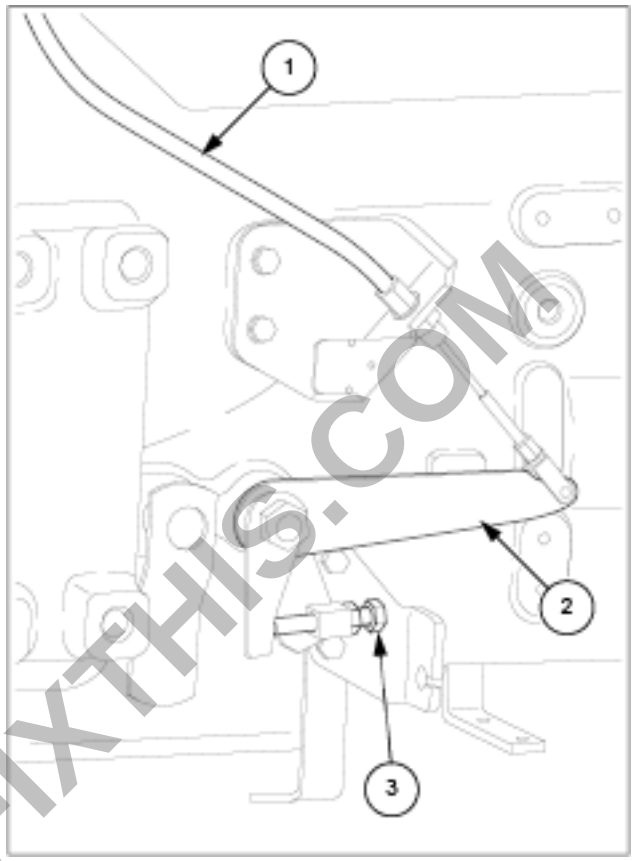


MOIL12APL104 1

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1. Connect the clutch control cable **(1)** to the lever **(2)** on the left-hand side of the transmission case.
2. Turn the adjusting screw **(3)** to obtain the specified distance **(A)** of Figure **1**.



MOIL13UTL0011AA 2

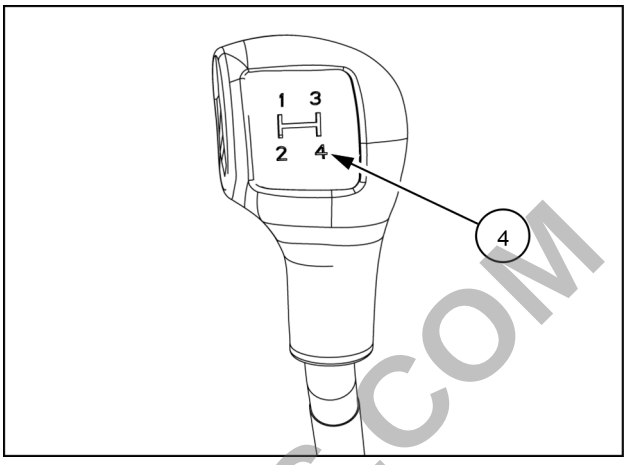
3. Lock the cable by tightening the relative lock nut.
4. Depress the clutch control pedal several times. Check again that the clutch pedal height **(A)** of Figure **1** is as specified.

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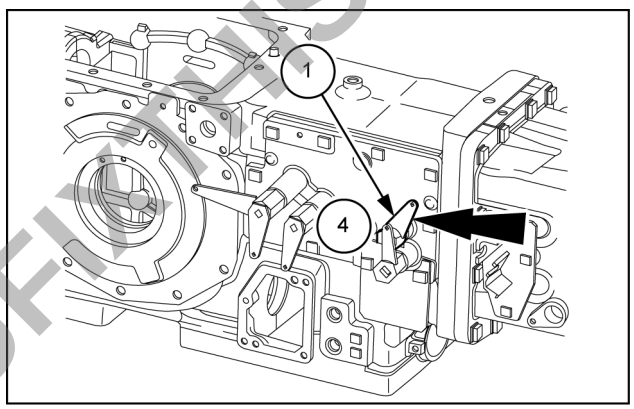
Third / fourth gear cable (no marking)

1. Pull the gear lever in the cab into position **(4)**.



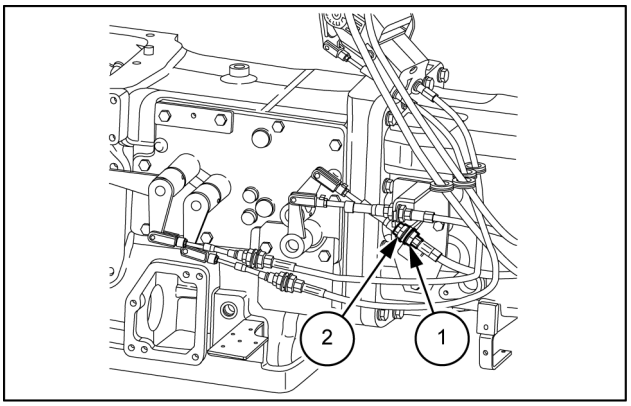
NHVM12TR00685AA 4

2. Move the third/forth lever **(1)** on the right-hand side of the transmission to position **(4)**.



MOIL13TR01355AB 5

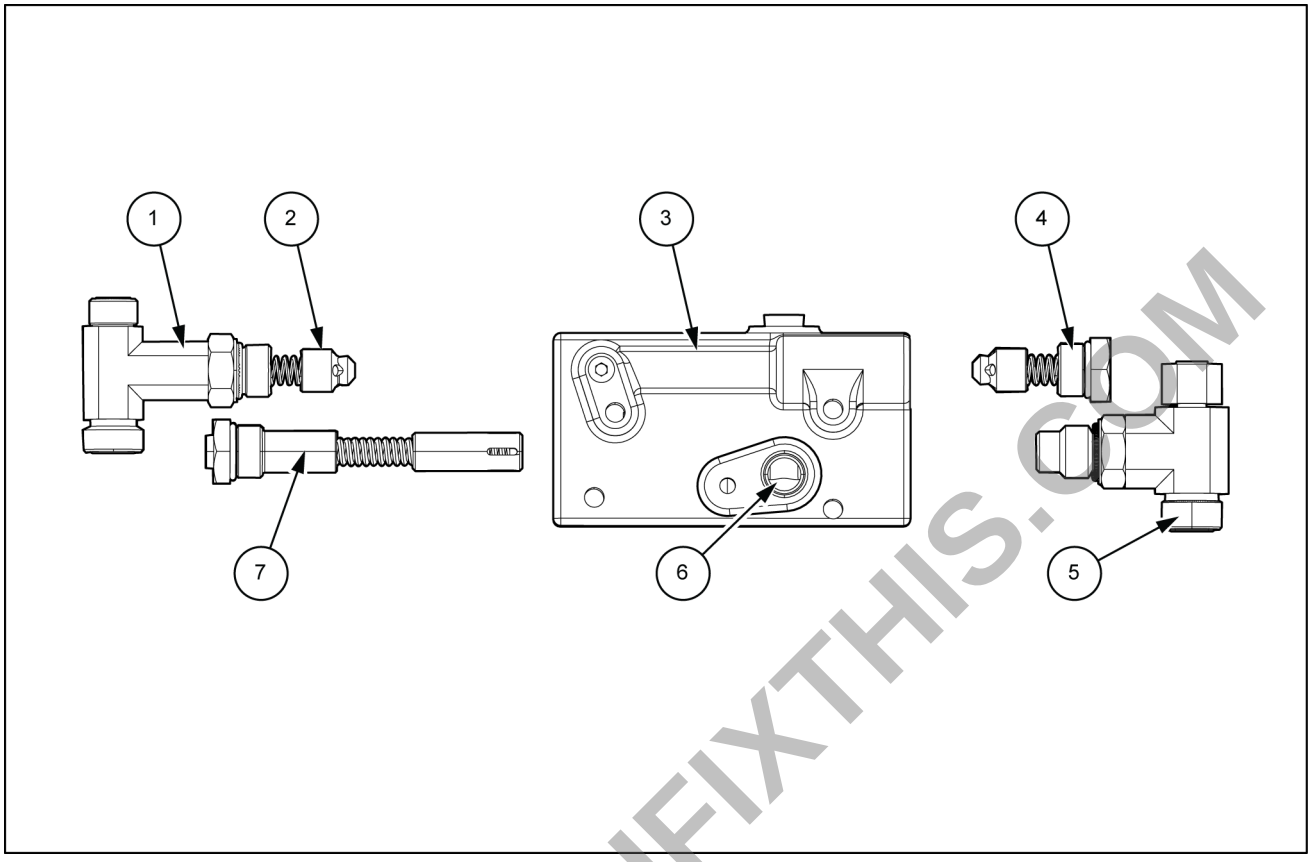
3. Loosen nuts **(1)** and **(2)** completely.
4. Push the cable (no marking) with about **5 kg** (**11.0 lb**) load and screw nut **(1)** to the mounting bracket until the clevis can be connected to the lever.
5. Unscrew nut **(1)** two revolutions.
6. Tighten nut **(2)** to the mounting bracket until the requested torque of **15 N·m** (**11.1 lb ft**) is reached.



MOIL13TR01358AB 6

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MOIL13TR01458FB 2

Exploded view of the pressure regulating valve

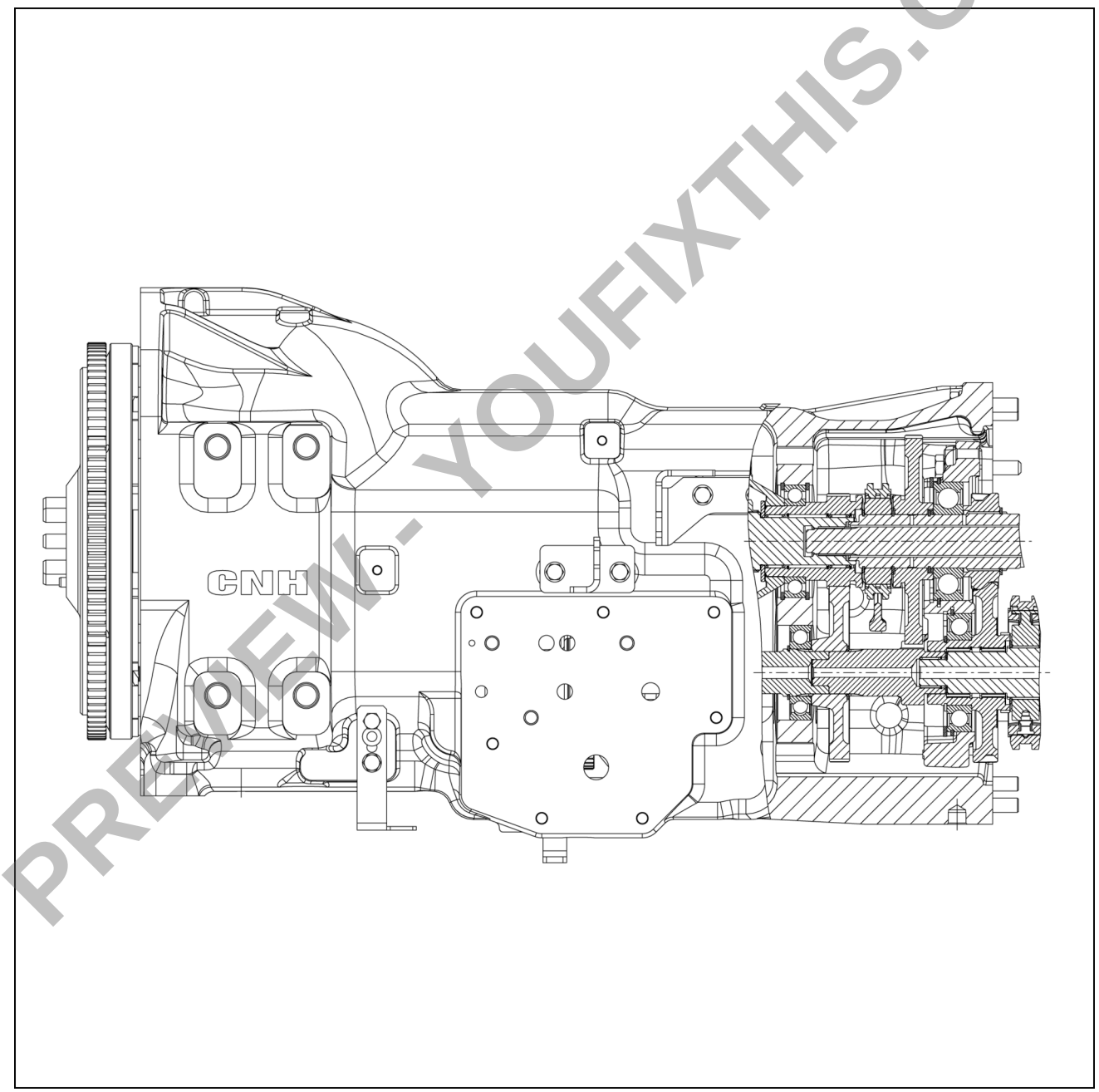
1. T-fitting to primary shaft lubrication
2. T-fitting to transmission oil heat exchanger
3. Valve Body
4. Lubrication relief valve (**3.5 bar** (**50 psi**))
5. T-fitting to auxiliary control valves
6. Hydraulic oil supply attachment
7. Clutch engagement relief valve (**18 bar** (**261 psi**))

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Creeper - Sectional view - Power Shuttle transmission

Farmall® 105C less cab, with mechanical or power shuttle transmission [ZxJV5xxxx]	Transmission - Power Shuttle
Farmall® 105C with cab, with mechanical or power shuttle transmission [ZxJV5xxxx]	Transmission - Power Shuttle
Farmall® 115C less cab, with mechanical or power shuttle transmission [ZxJV5xxxx]	Transmission - Power Shuttle
Farmall® 115C with cab, with mechanical or power shuttle transmission [ZxJV5xxxx]	Transmission - Power Shuttle
Farmall® 85C less cab, with mechanical or power shuttle transmission [ZxJV5xxxx]	Transmission - Power Shuttle
Farmall® 85C with cab, with mechanical or power shuttle transmission [ZxJV5xxxx]	Transmission - Power Shuttle
Farmall® 95C less cab, with mechanical or power shuttle transmission [ZxJV5xxxx]	Transmission - Power Shuttle
Farmall® 95C with cab, with mechanical or power shuttle transmission [ZxJV5xxxx]	Transmission - Power Shuttle

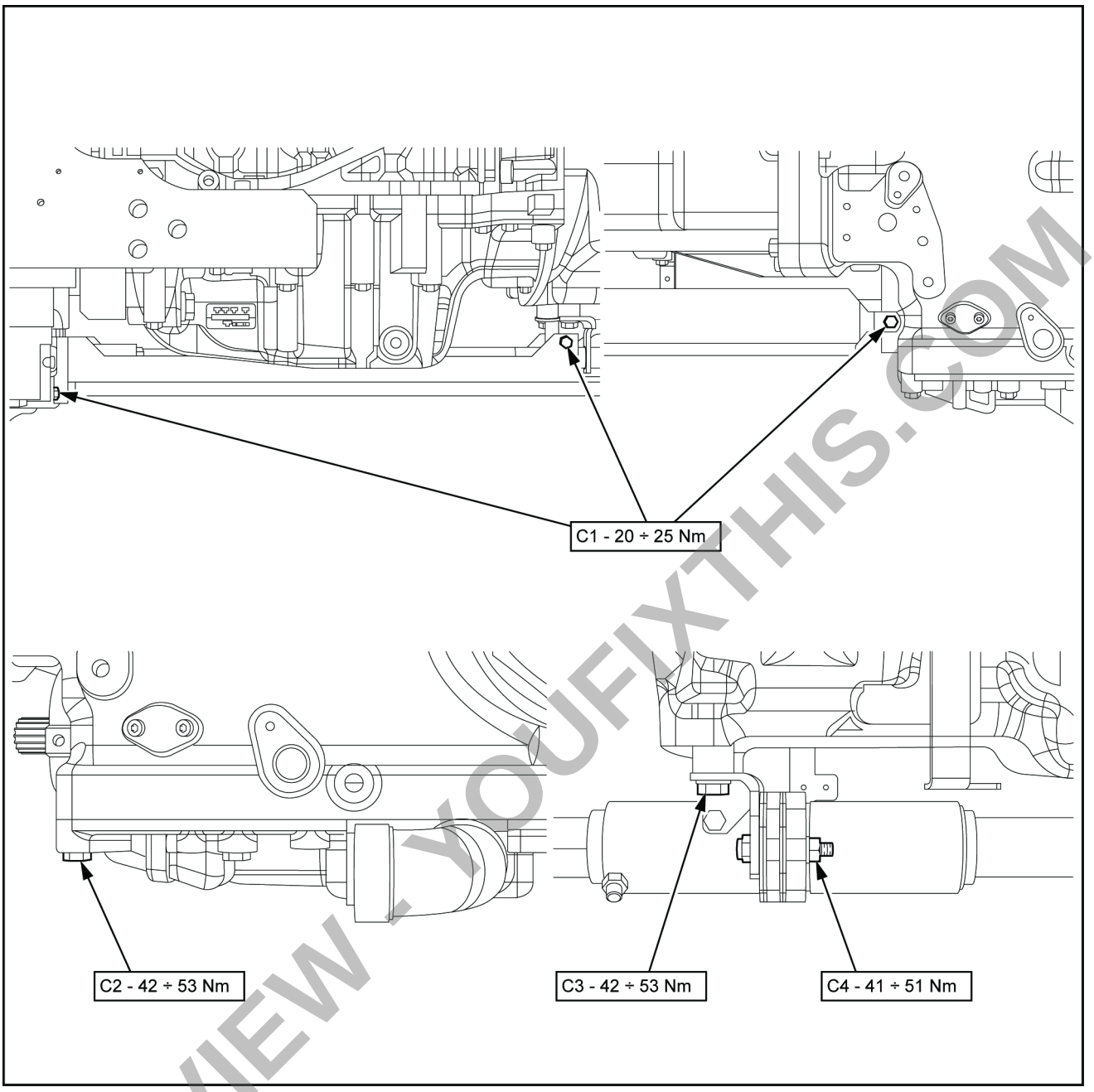


MOIL14TR00328GA 1

Longitudinal section of the creeper and reversing mechanism assembly

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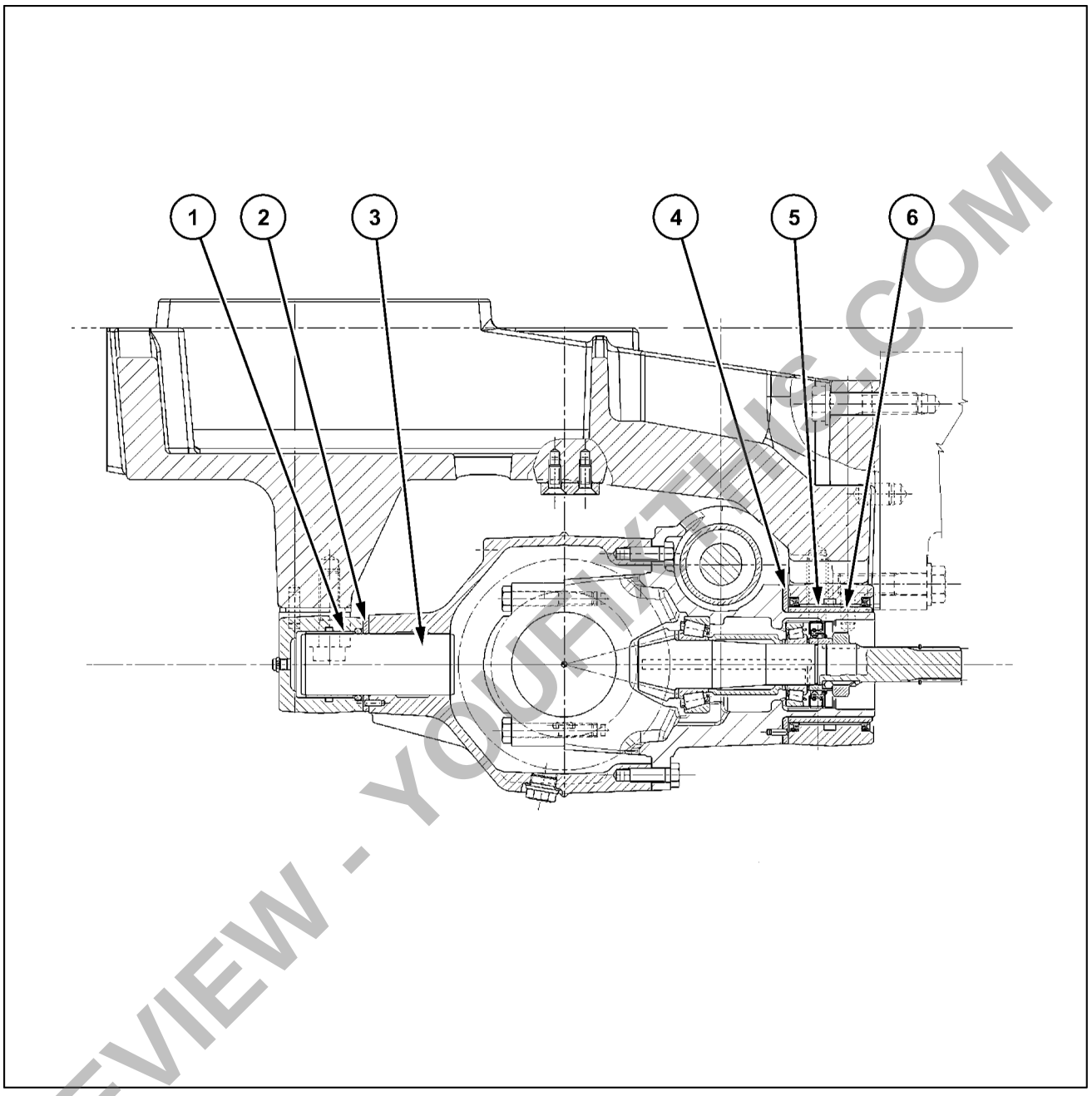
MOIL13TR01867GB 1

PARTS TO BE TIGHTENED	THREAD SIZE	TORQUE
Drive shaft guard retaining bolts (C1)	M8 X 14	**20 - 25 N·m** (**15 - 18 lb ft**)
4WD cover retaining bolts (C2)	M10 x 1.25	**42 - 53 N·m** (**31 - 39 lb ft**)
Bracket retaining bolts (C3)	M12	**73 - 90 N·m** (**54 - 66 lb ft**)
Bracket bearing retaining nut (C4)	M10 x 1.25	**41 - 51 N·m** (**30 - 38 lb ft**)

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Axle support - Sectional view



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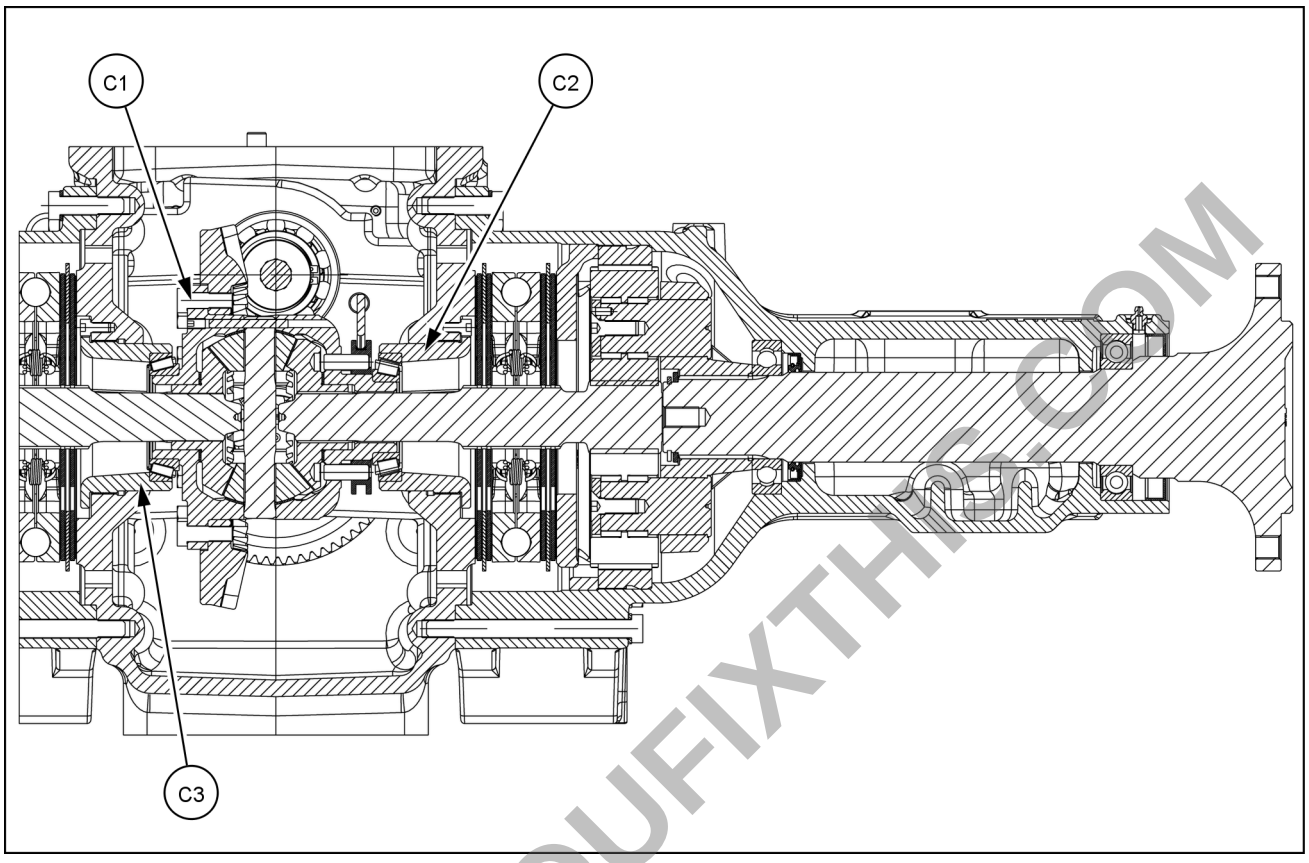
Cross-sectional views of front axle pivot

1. Axle pivot front bush
2. Front thrust washer
3. Axle pivot front pin
4. Rear thrust washer
5. Rear bush installed on axle support
6. Rear bush installed on bevel drive-differential support

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Rear bevel gear set and differential - Torque



MOIL15TR00254FA 1

Parts to be torqued	Thread	Tighten Torque
Crown wheel to gearbox retaining bolts **(C1)**	M12 x 1.25	**131 - 144 N·m** (**96.62 - 106.21 lb ft**)
Differential bearings support nuts **(C2)**	M120 x 2	**49 N·m** (**36.14 lb ft**)

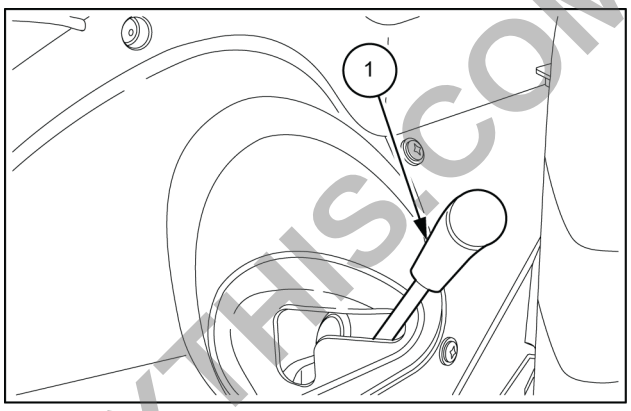
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Rear mechanical control - Dynamic description - PTO engagement - 540, 540/540E, 540/1000 rpm

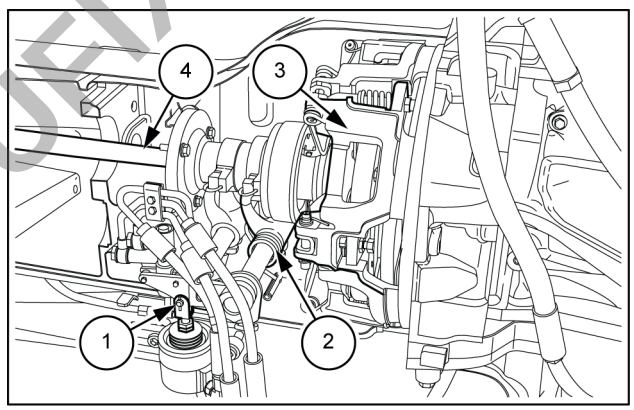
Farmall® 105C with cab, with mechanical or power shuttle transmission [ZxJV5xxxx]	Transmission - Mechanical
Farmall® 115C with cab, with mechanical or power shuttle transmission [ZxJV5xxxx]	Transmission - Mechanical
Farmall® 85C with cab, with mechanical or power shuttle transmission [ZxJV5xxxx]	Transmission - Mechanical
Farmall® 95C with cab, with mechanical or power shuttle transmission [ZxJV5xxxx]	Transmission - Mechanical

1. The mechanically controlled power take-off is activated by a lever **(1)** located to the right of the driver.



MOIL13TR01467AB 1

2. This lever activates the engagement control tie-rod **(1)** (see **Engage and release control tie rod - Dynamic description (31.101)**), which activates the lever **(2)**, which in turn engages the clutch of the engine **(3)** and assists the movement of the front driven shaft **(4)**.

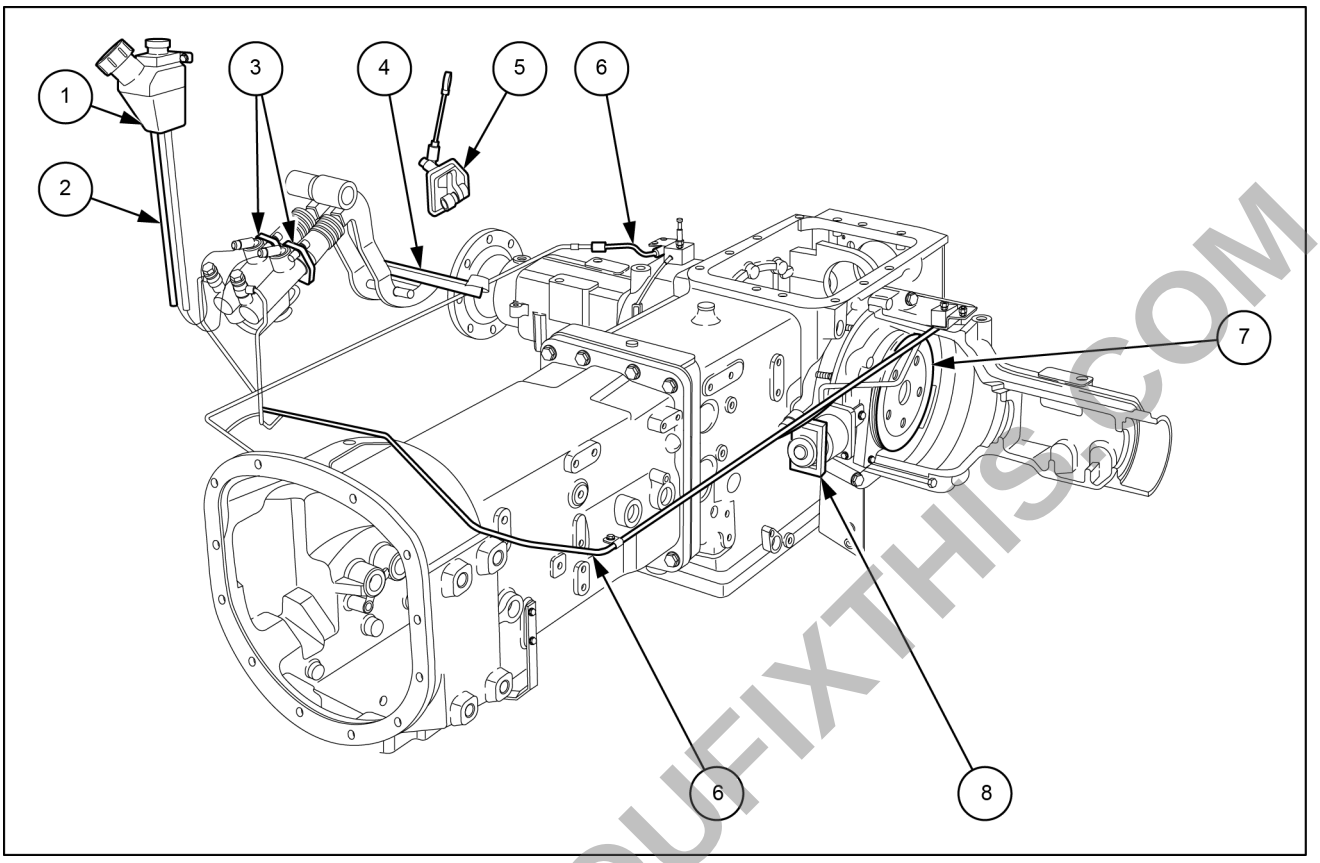


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Hydraulic service brakes - Component localization



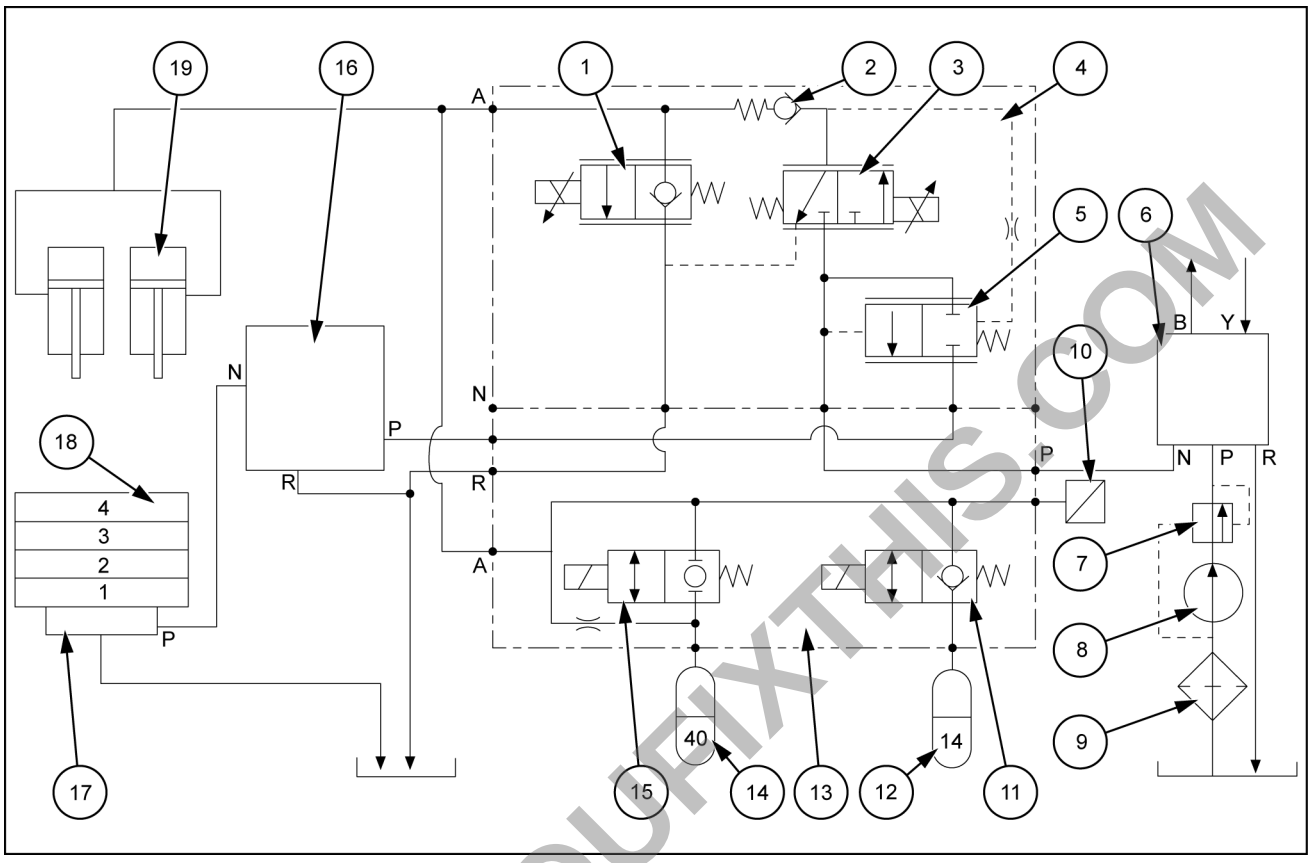
MOIL13TR01794FA 1

1. Brake oil tank
2. Oil supply pipes
3. Brake control pump
4. Brake pedals
5. Control for parking brake lock
6. Brake pipes to slave cylinders
7. Brake caliper and disks
8. Slave cylinder of parking brake

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Front hitch control valve - Hydraulic schema



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Schematic of front lift hydraulic control valve

A. Supply for front lift cylinders
B. Supply for trailer brake quick coupling
N. Unused oil outlet
P. Oil supply from the pump
R. Discharge oil outlet
Y. Signal from rear brakes
1. Solenoid valve for the lowering control
2. Inlet non-return valve for front lift cylinder
3. Solenoid valve for lift control
4. Front electronic lift block
5. Pressure Compensator Valve
6. Trailer brake valve
7. Regulating pressure valve
8. Pump
9. Filter
10. Pressure Switch
11. Solenoid valve for **14.0 bar** (**203.0 psi**) accumulator
12. **14.0 bar** (**203.0 psi**) accumulator
13. Accumulator block
14. **40.0 bar** (**580.0 psi**) accumulator
15. Solenoid valve for **40.0 bar** (**580.0 psi**) accumulator
16. Mid mount control valve assembly
17. Rear electronic lift
18. Control valve assembly
19. Front lift cylinders

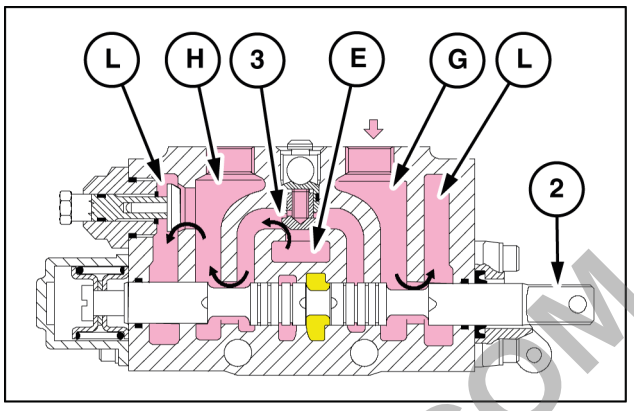
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Lower

To operate the lowering stage, you need to pull the control lever forward and trigger the following actions:

- The control cable moves and shifts the spool **(2)** of the control valve.
- The movement of the spool allows:
  - The oil in the cylinder to flow to the drain **(L)** through line **(G)**
  - The entire flow of oil from the pump to run to the drain **(L)** through check valve **(3)** and line **(H)**.



MOLI11U0320AB 4

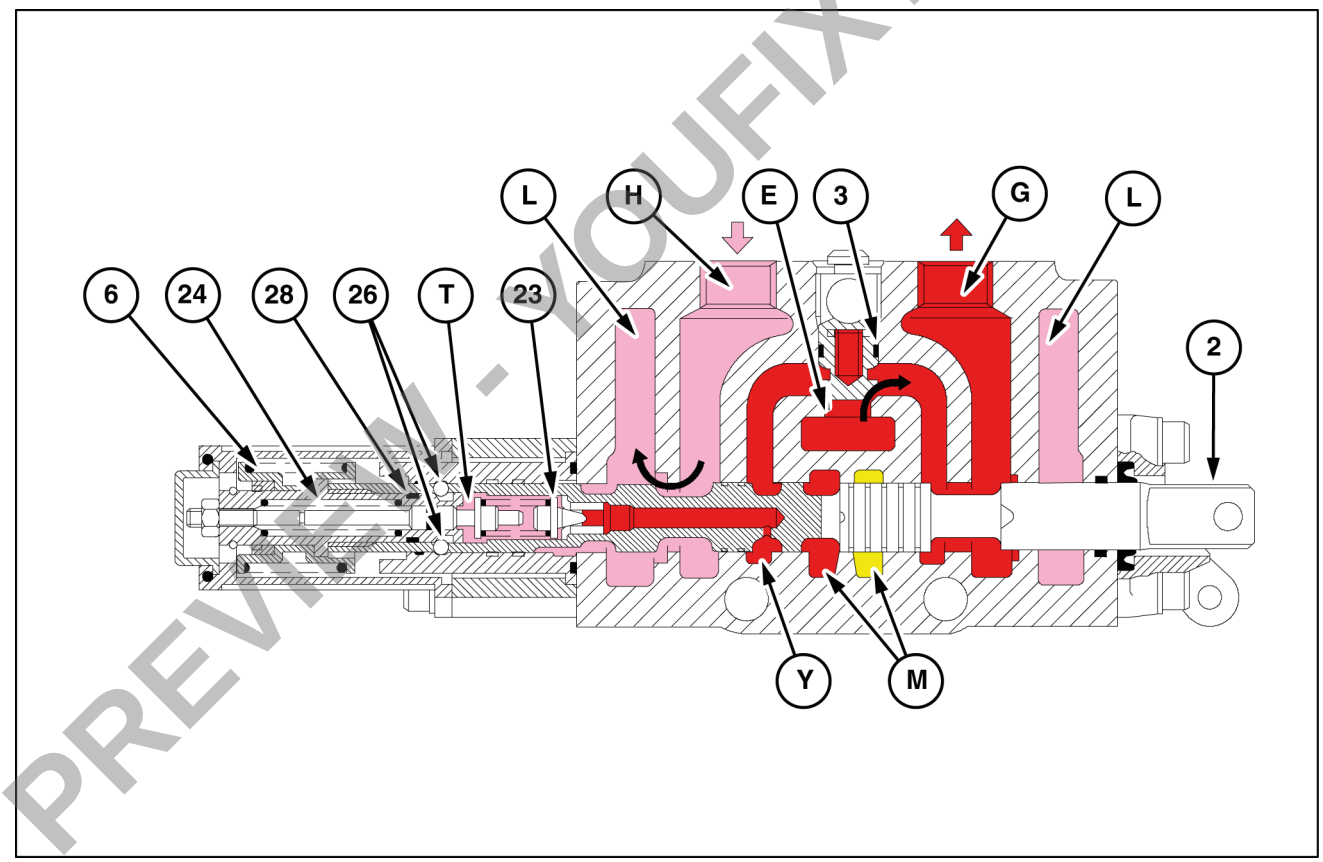
Pressure oil

Oil in suction, delivery or return

Trapped oil

NOTE: *To operate the single-acting cylinder, loosen the switching valve* ***(1)****; see Fig.* ***3****.*

Operating stages of an auxiliary control valve for operation of a single-acting cylinder/double-acting cylinder with automatic detent release and float position



MOLI11U0321FB 5

Pressure oil

Oil in suction, delivery or return

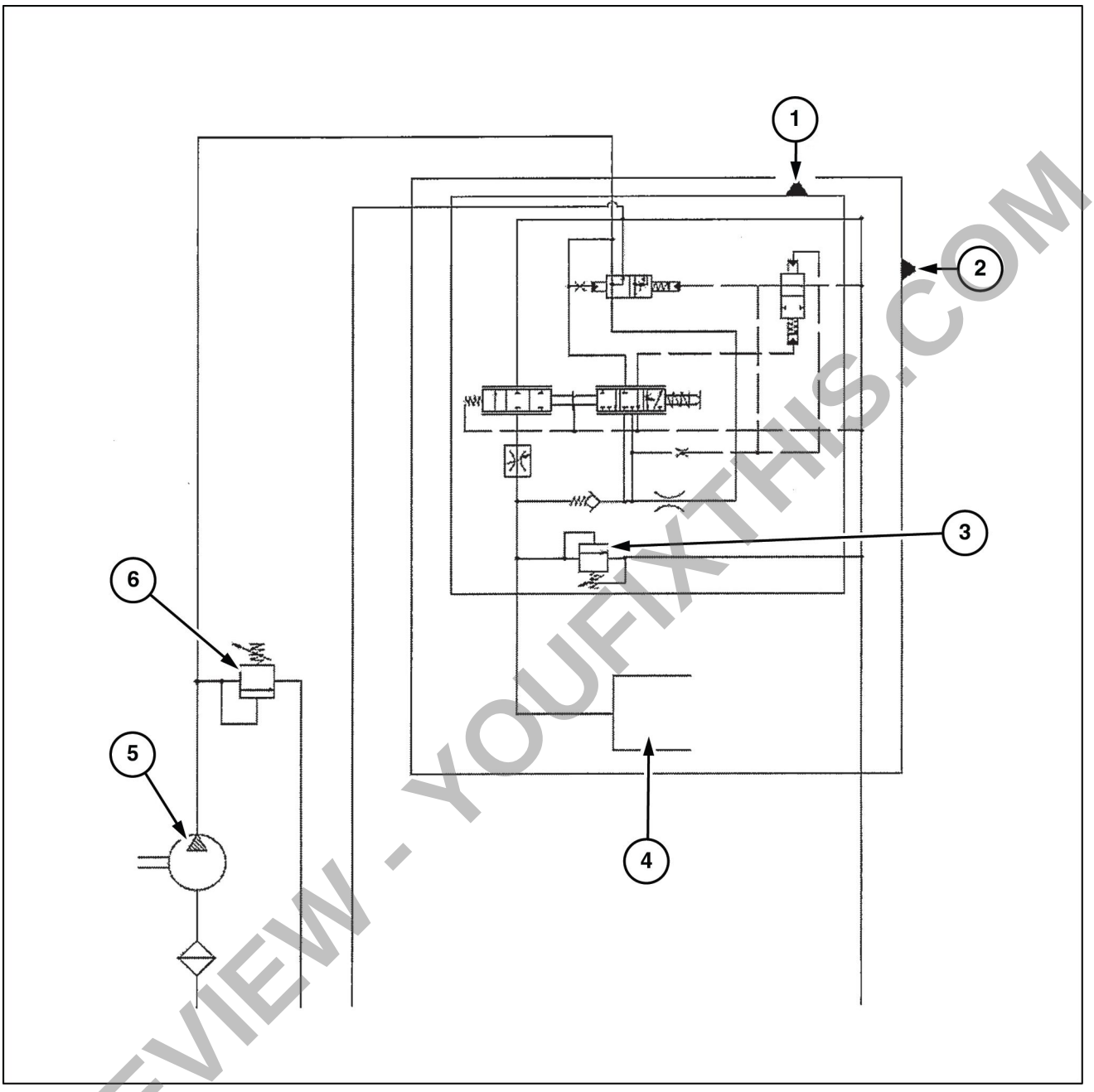
Trapped oil

Raising

To operate the lifting stage, you need to pull the control lever back and trigger the following actions:

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Rear three-point hitch - Functional diagram



MOLI11U0894GB-[1

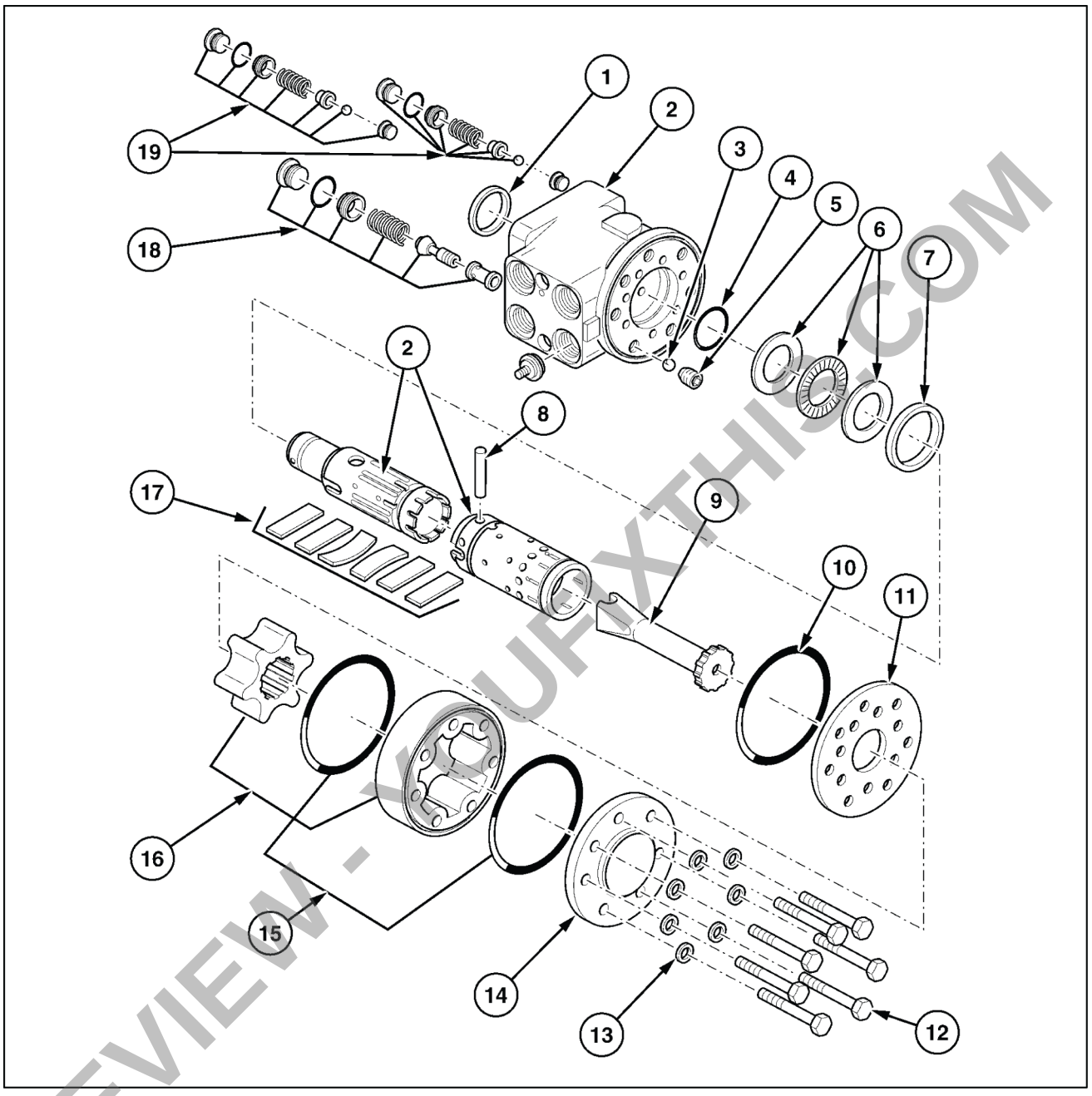
Hydraulic diagram

1. Lift hydraulic distributor
2. Hydraulic power lift
3. Safety valve
4. Lift cylinder
5. Hydraulic pump
6. Pressure relief valve

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Power steering control valve - Exploded view



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Hydrostatic steering control valve components

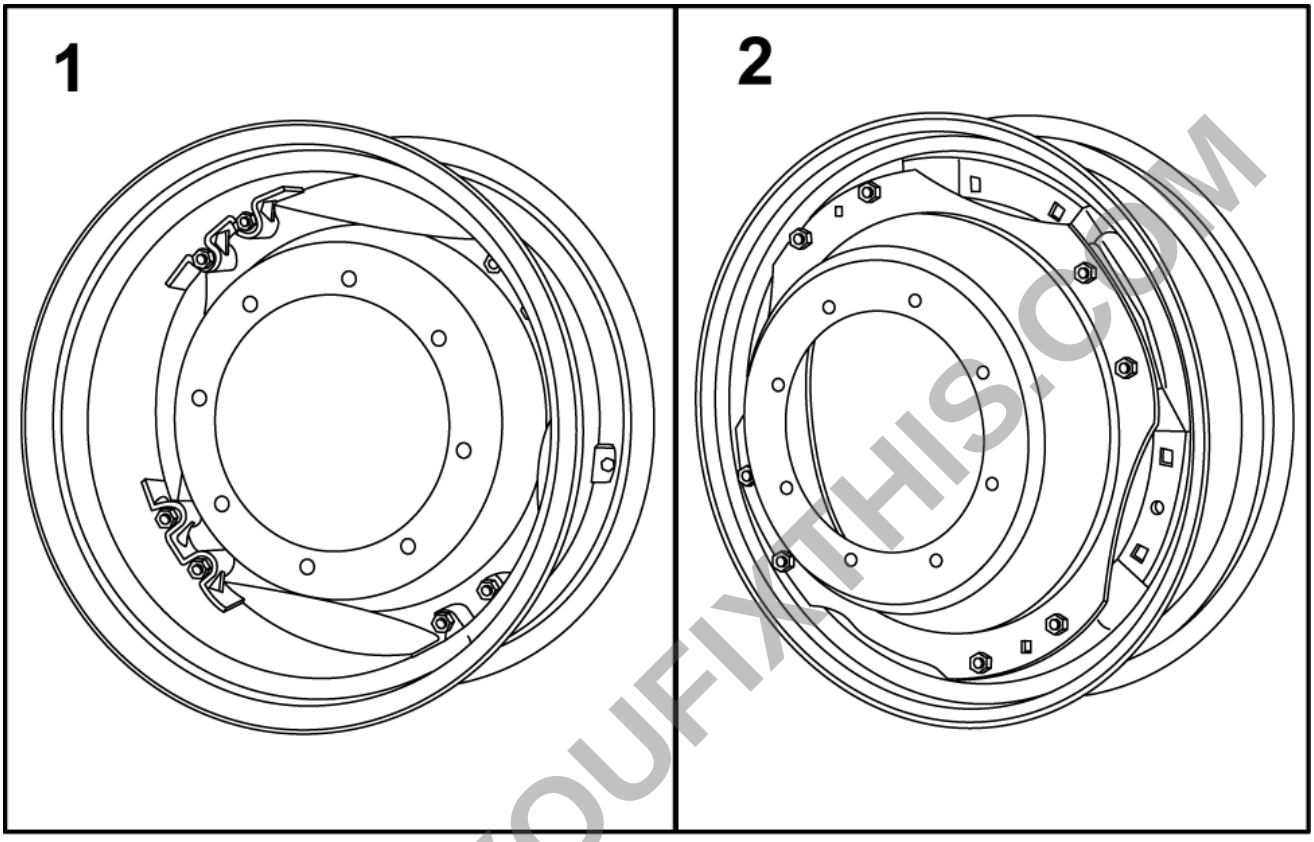
1. Dust ring
2. Control valve body, rotary valve and rotary valve seat sleeve
3. Check valve ball
4. Seal
5. Check valve threaded plug
6. Thrust bearing components
7. Retaining ring for springs **(17)** (Danfoss only)
8. Rotor drive shaft - sleeve trim pin
9. Rotor drive shaft
10. O-ring
11. Shim ring
12. Cover retaining screws
13. Washers
14. Cover
15. O-rings
16. Rotor and fixed ring for rotor
17. Springs for returning sleeve to neutral position
18. Pressure relief valve
19. Cylinder safety valve

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Rear wheel - Torque

Rear wheels - Rear flange axle



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Description	Screw to nut tightening torque - Nm (lb ft)
Rear disc to hub nuts	**310.0 N·m** (**228.6 lb ft**)
1. Rear disc to rim nuts	**250.0 - 310.0 N·m** (**184.4 - 228.6 lb ft**)
2. Rear disc to rim nuts	**280.0 - 340.0 N·m** (**206.5 - 250.8 lb ft**)

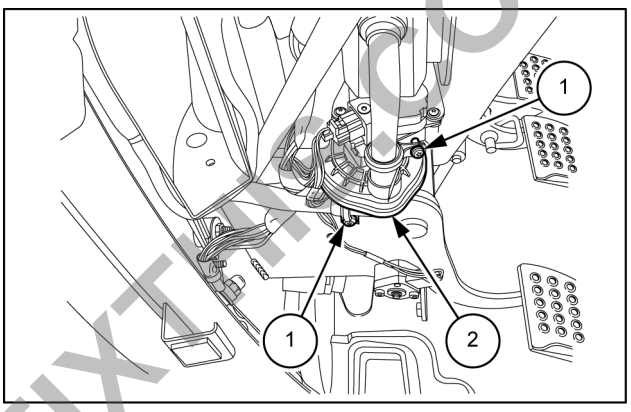
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Heater control valve - Remove - Heater Valve

Farmall® 105C with cab, with hi-lo transmission [ZxJV0xxxx]	
Farmall® 105C with cab, with mechanical or power shuttle transmission [ZxJV5xxxx]	
Farmall® 115C with cab, with hi-lo transmission [ZxJV0xxxx]	
Farmall® 115C with cab, with mechanical or power shuttle transmission [ZxJV5xxxx]	
Farmall® 85C with cab, with hi-lo transmission [ZxJV0xxxx]	
Farmall® 85C with cab, with mechanical or power shuttle transmission [ZxJV5xxxx]	
Farmall® 95C with cab, with hi-lo transmission [ZxJV0xxxx]	
Farmall® 95C with cab, with mechanical or power shuttle transmission [ZxJV5xxxx]	

1. Remove the cover on the left side of the cab, (not shown). Drain the coolant from the system.
2. Remove the hose clamps, **(1)**.
3. Remove the hoses from both sides of the heater valve, **(2)**.
4. Disconnect the cable from the valve, (not shown). Remove valve from the roof.

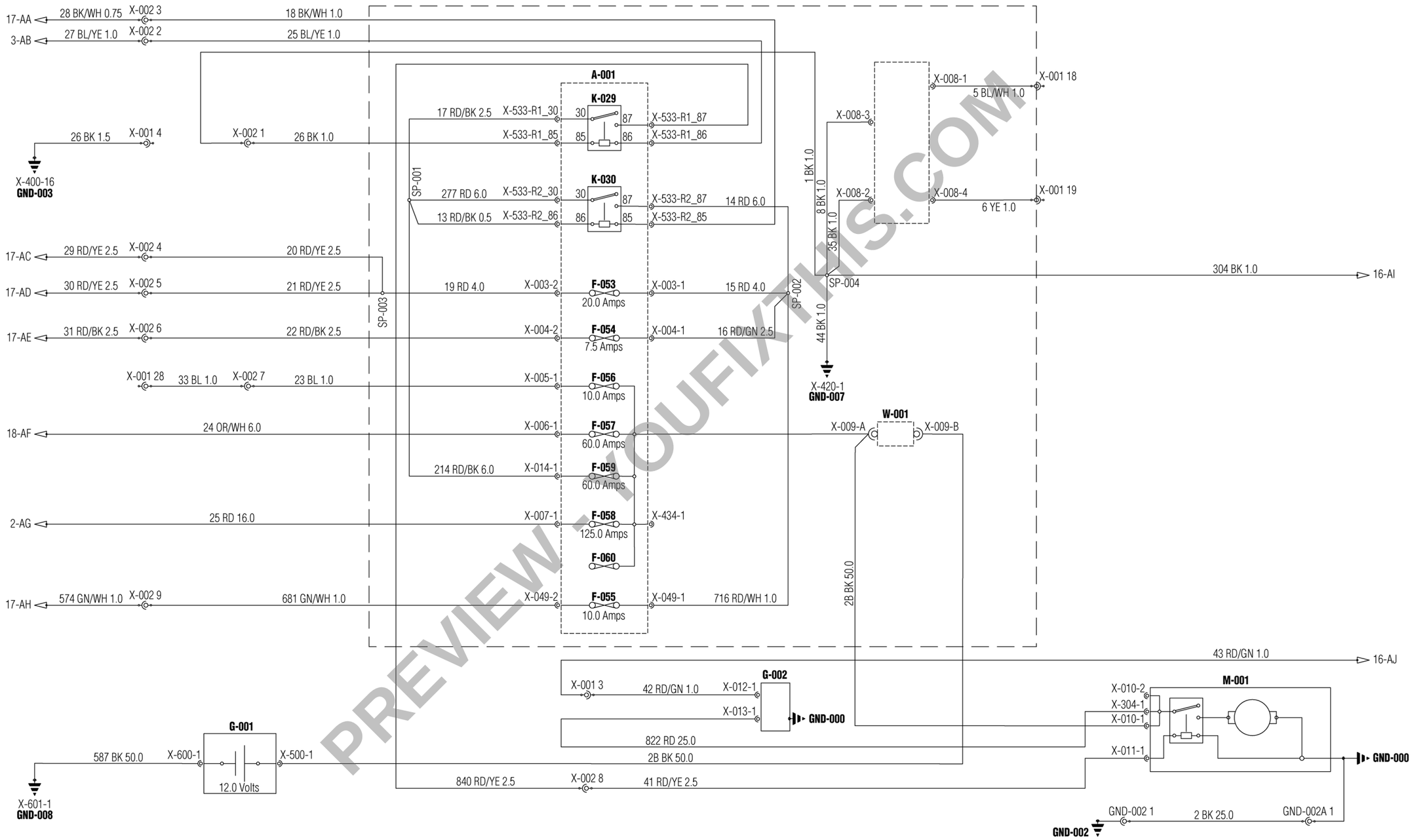


MOIL13TR01585AB 1

Next operation:
Heater control valve - Install (50.100)

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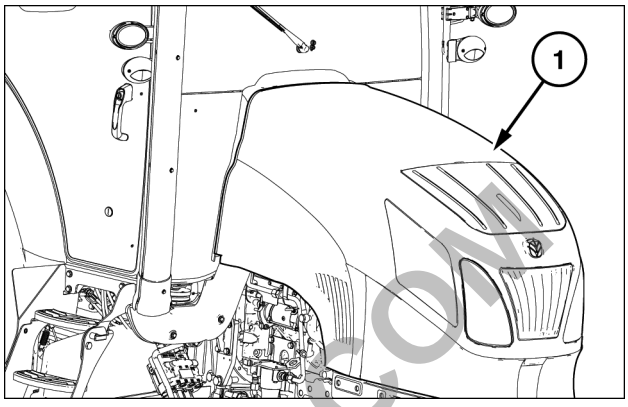
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Engine starter - Remove

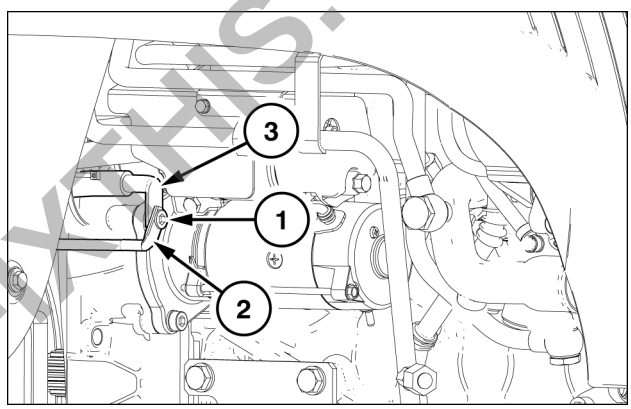
1. Lift the bonnet and remove the right plastic guard.



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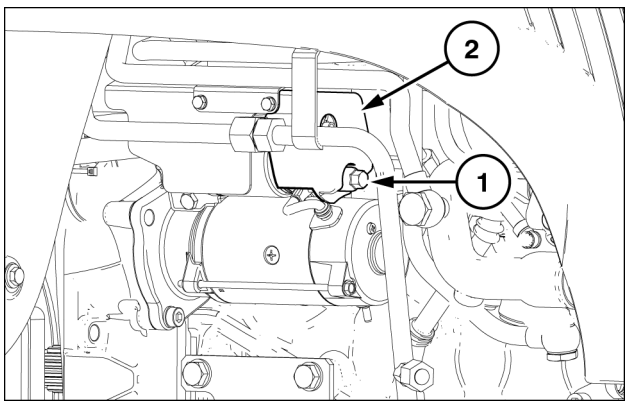
2. Unscrew the motor retainer screw **(1)**, then disconnect the negative battery cable **(3)** and the engine ground cable **(2)** .

ATTENTION: *Take care to ensure that the negative battery cable foes not come into contact with the metal parts of the chassis.*



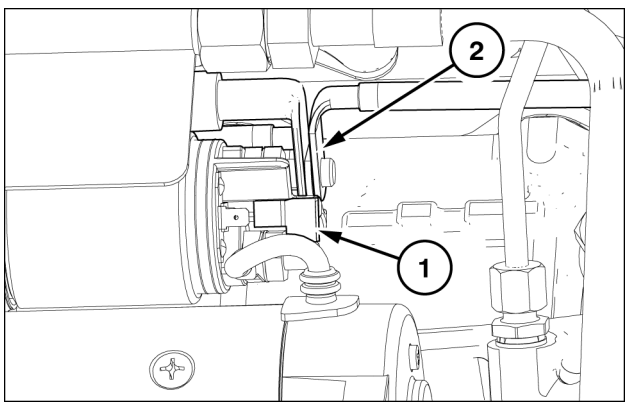
WLAPL4S55C307A 2

3. Remove the plastic guard **(1)** retaining screw **(2)**. Then remove the guard



WLAPL4S55C308A 3

4. Having removed the bolt, remove the three positive terminals **(2)**:
   - battery power
   - power to the engine connector block and maxi fuses
   - alternator charge cable.
5. Remove the coil cable **(1)** from the starter relay.

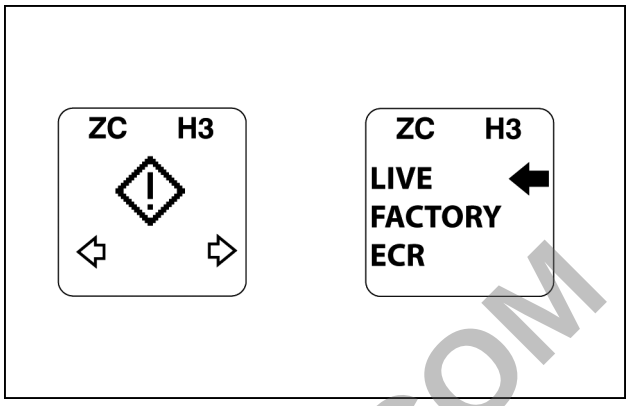


WLAPL4S55C309A 4

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1. Enter the H3 menu for the ZC unit, and select the “Error codes management option” (icon represented in **3**). The display will show the management options of the error code and an arrow indicating which option is currently selected.
2. Use buttons (**(2)**, **1**) **(A)** or **(B)** to select the error state required:
   - LIVE: displays all fault codes.
   - FACTORY: displays all fault codes until **6 min** has passed without any fault codes, then will automatically go in ECR.
   - ECR: displays only critical errors
3. Hold down (**(2)**, **1**) **(A)** or **(B)** buttons for **1 s** the cluster will bleep and the setting is stored.
4. Press (**(1)**, **1**) **(A)** button to come back out of the option.



WLAPL4S55C1012A 3

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1003-Speed sensor error

Farmall® 105C with cab, with hi-lo transmission [ZxJV0xxxx]	
Farmall® 115C with cab, with hi-lo transmission [ZxJV0xxxx]	
Farmall® 85C with cab, with hi-lo transmission [ZxJV0xxxx]	
Farmall® 95C with cab, with hi-lo transmission [ZxJV0xxxx]	

Control Module : XCM (multi-function CM)

Cause:
No signal from speed sensor.

Possible failure modes:

1. Faulty connector
2. Incorrect tractor performance monitor radar alignment
3. Faulty speed sensor
4. Faulty tractor performance radar
5. Faulty wiring harness
6. Faulty speed pickup gear

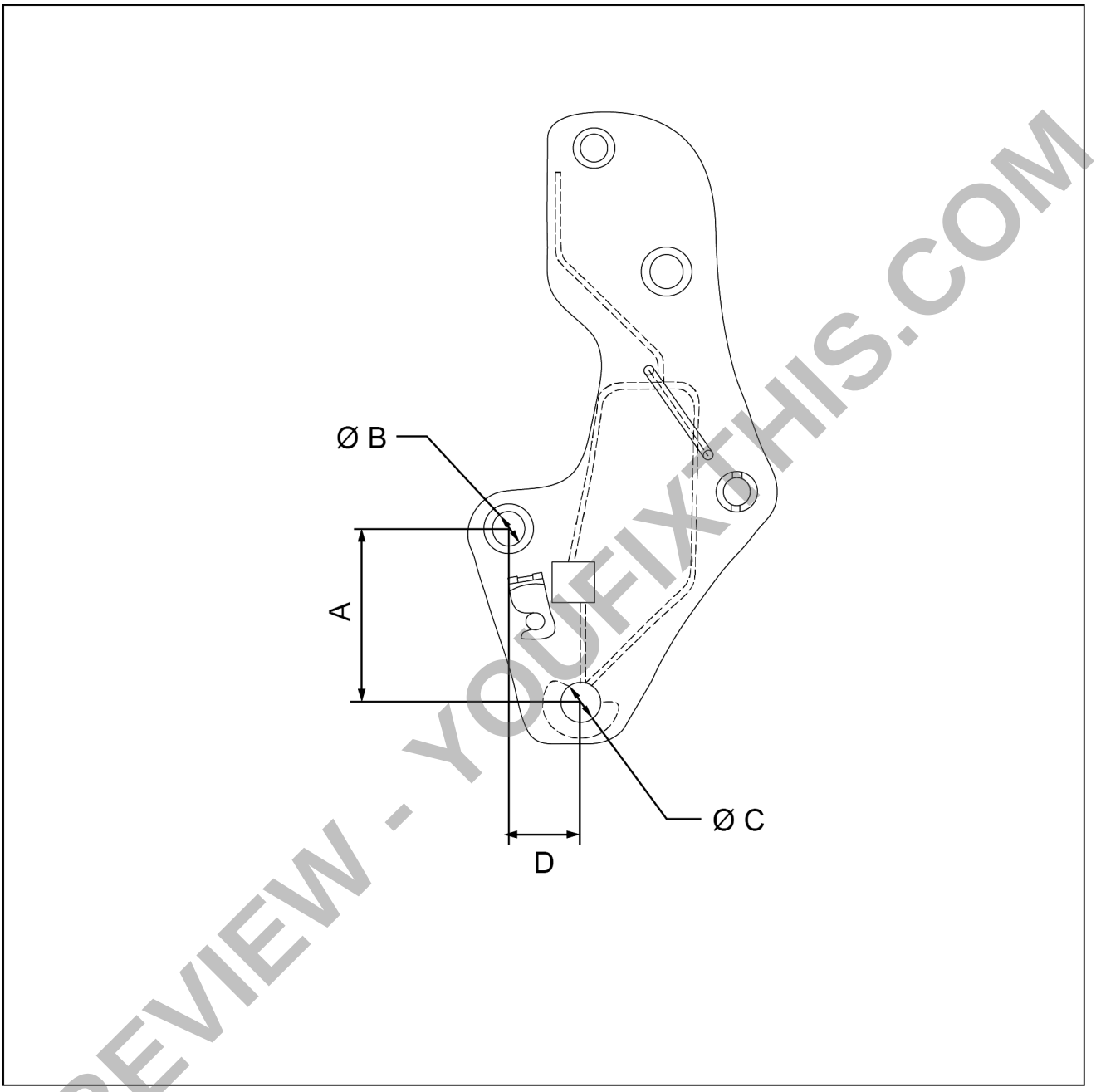
Solution:

1. Check for other fault codes being displayed.
   A. If other error codes are displayed, continue to these tests.
   B. If the connectors are okay, continue with Step . **2**
2. Check the position of the radar.
   A. If the radar is pointing at the tractor wheel or excessively vibrating, point the radar at the ground and tighten the fixings.
   B. If the speed sensor is okay, continue with Step . **3**
3. Check the speed sensor.
   A. If the speed sensor is loose in the parking brake housing or damaged, re--tighten or remove and replace the speed sensor as required.
   B. If the radar mounting and position is okay, continue with Step . **4**
4. Check the speed pickup gear.
   A. Remove the speed sensor and check for damage to the speed pickup gear inside the parking brake housing. If any damage is indicated, disassemble the housing and replace the speed pickup gear.
   B. If the speed pickup gear is okay,

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Coupling brackets - Drawing – For MSL systems (with mechanical self-leveling)



MOIL14TR00843GA 1

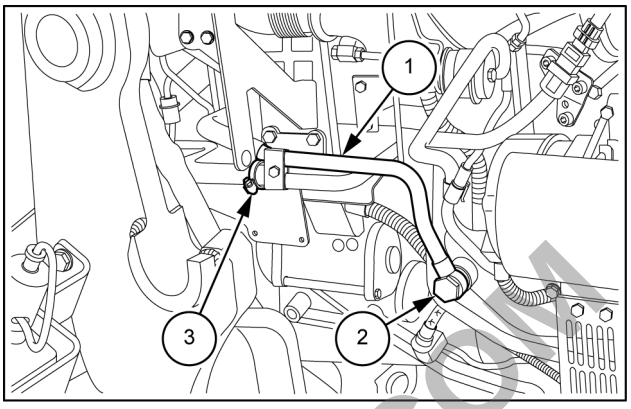
Reference dimensions of the connecting bracket

A= **220.00 mm** (**8.661 in**)
B= **40.00 mm** (**1.574 in**)
C= **50.00 mm** (**1.968 in**)
D= **90.00 mm** (**3.543 in**)

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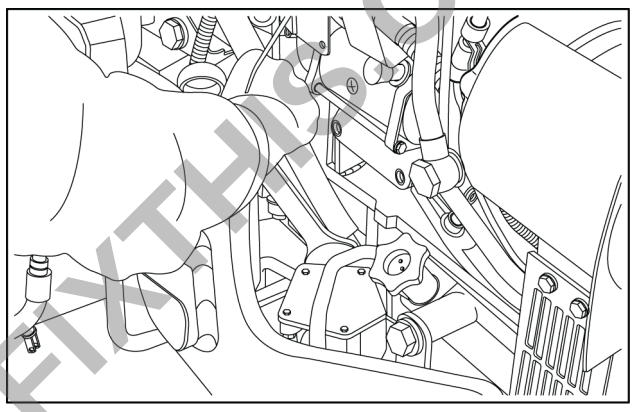
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3. Remove the pipe support plate **(1)**. Loosen the hydraulic fitting **(2)** to empty the engine cooling system. Slacken the clamps **(3)**. Disconnect the two hoses.



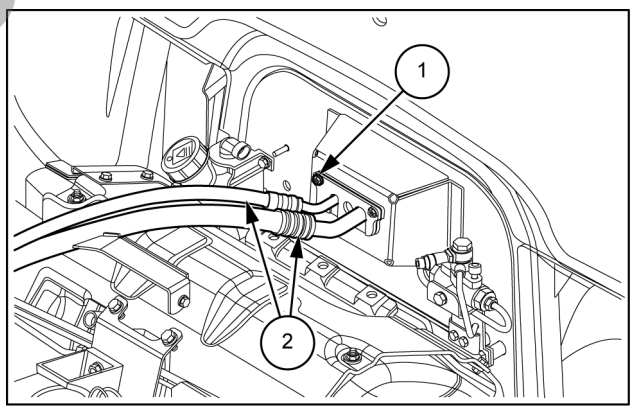
MOIL13TR01692AB 3

4. Detach the oil return line that connects the steering cylinder to the filter on the right-hand side of the engine.



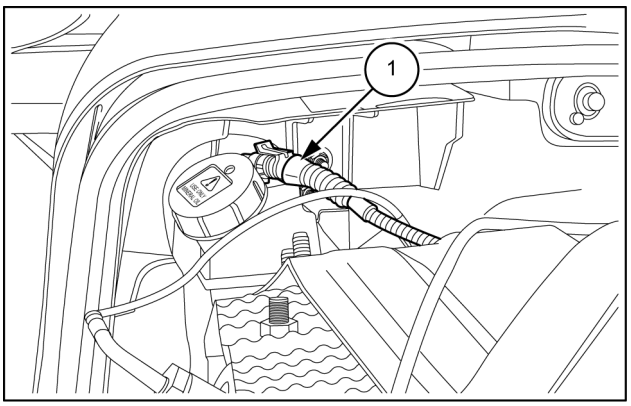
MOIL13TR01703AA 4

5. Remove the seal, loosening the two fixing screws **(1)**. Disconnect the air-conditioning system pipes **(2)** from the cab.



MOIL13TR01693AB 5

6. Disconnect the electrical connection **(1)** from the brake fluid reservoir.



MOIL12TR00553AA 6

7. Perform the operation **Fuel tank - Remove (10.216)**.

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