Magnum™ 250
Magnum™ 280
Magnum™ 310
Magnum™ 340
Magnum™ 380
Magnum™ 310 Rowtrac™
Magnum™ 340 Rowtrac™
Magnum™ 380 Rowtrac™
Continuously Variable Transmission (CVT) Tractor

PIN ZFRF05001 and above

SERVICE MANUAL

Part number 47917643
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CASE IH AGRICULTURE

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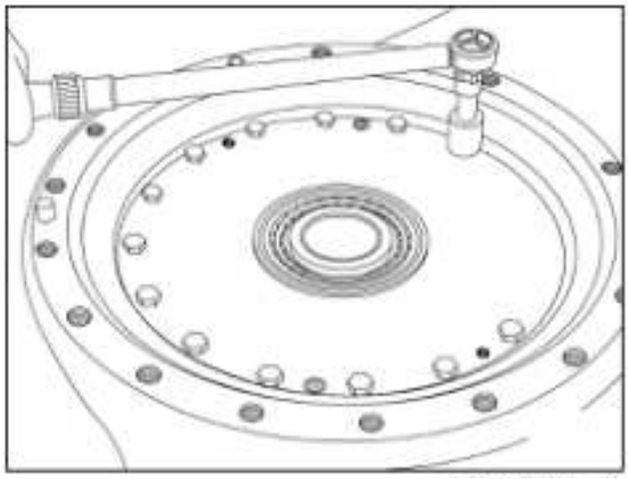
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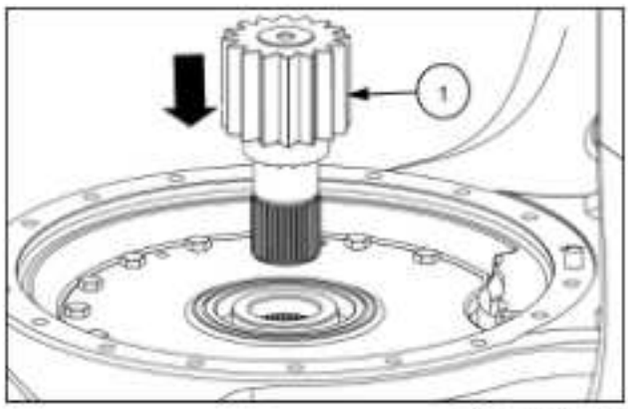
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21. Install the thirteen mounting bolts and torque to **101 - 113 N·m** (**74 - 83 lb ft**).

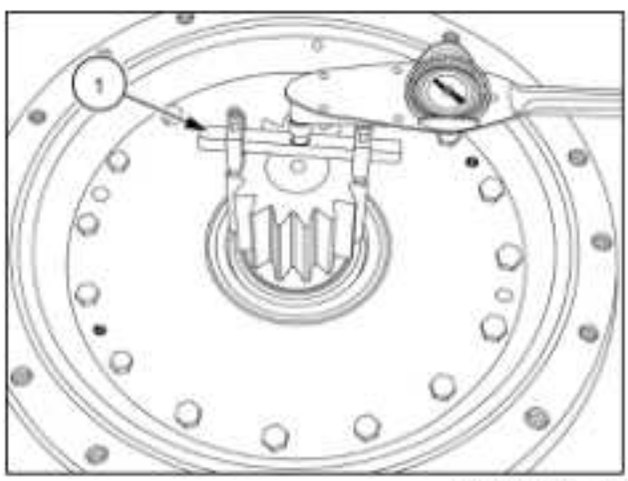


22. Insert the sun shaft **(1)** into the output gear.

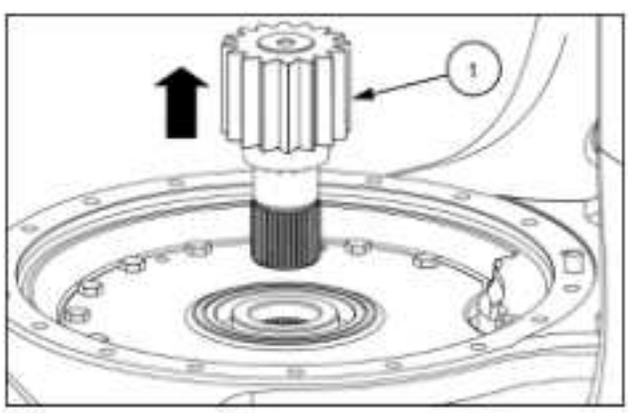
NOTE: *The sun shaft is used on the output side of the track yoke for the final drive assembly, removed in the procedure* ***Track yoke final drive assembly - Remove (27.610).*** *It is temporarily used on the input side to allow the use of the rolling torque tool.*



23. Assemble the special tool **380003339 (1)** on the sun gear as shown.
24. Check the rolling torque of the output gear.
    The rolling torque must between **2.84 - 7.34 N·m** (**25.14 - 64.964 lb in**).
    If the rolling torque is not within specifications, repeat steps **13** through **24**. Remove or add shims as needed until the rolling torque is within specifications.



25. Remove the sun shaft **(1)** from the output gear.



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Wiring harnesses - Electrical schematic sheet 31 - Lighting, strobe beacon and cigar lighter

Type	Component	Connector / Link	Description
Lamp	**E-032**	**X-1A X-2A**	STROBE/BEACON
Lamp	**E-070**	**X-1 X-2**	STROBE/BEACON
Power outlet	**J-010**	**X-131A X-131B**	CIGAR LIGHTER
Switch	**S-025**	**X-129**	STROBE/BEACON SWITCH
Connector	X-013	**X-013**	TO CAB HARNESS
Connector	X-1	**X-1**	STROBE/BEACON
Connector	X-114	**X-114**	TO ROOF HARNESS
Connector	X-129	**X-129**	STROBE/BEACON SW
Connector	X-131A	**X-131A**	CIGAR LIGHTER
Connector	X-131B	**X-131B**	CIGAR LIGHTER LAMP
Connector	X-1A	**X-1A**	STROBE/BEACON
Connector	X-2	**X-2**	STROBE/BEACON GROUND
Connector	X-2A	**X-2A**	STROBE/BEACON GROUND
Connector	X-364	**X-364**	TO BEACON
Connector	X-365	**X-365**	TO JUMPER

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18026-Rear hitch slip control potentiometer - voltage too high

NOTE: *When the cause of the error code has been rectified, clear the error code and test the system for normal operation.*

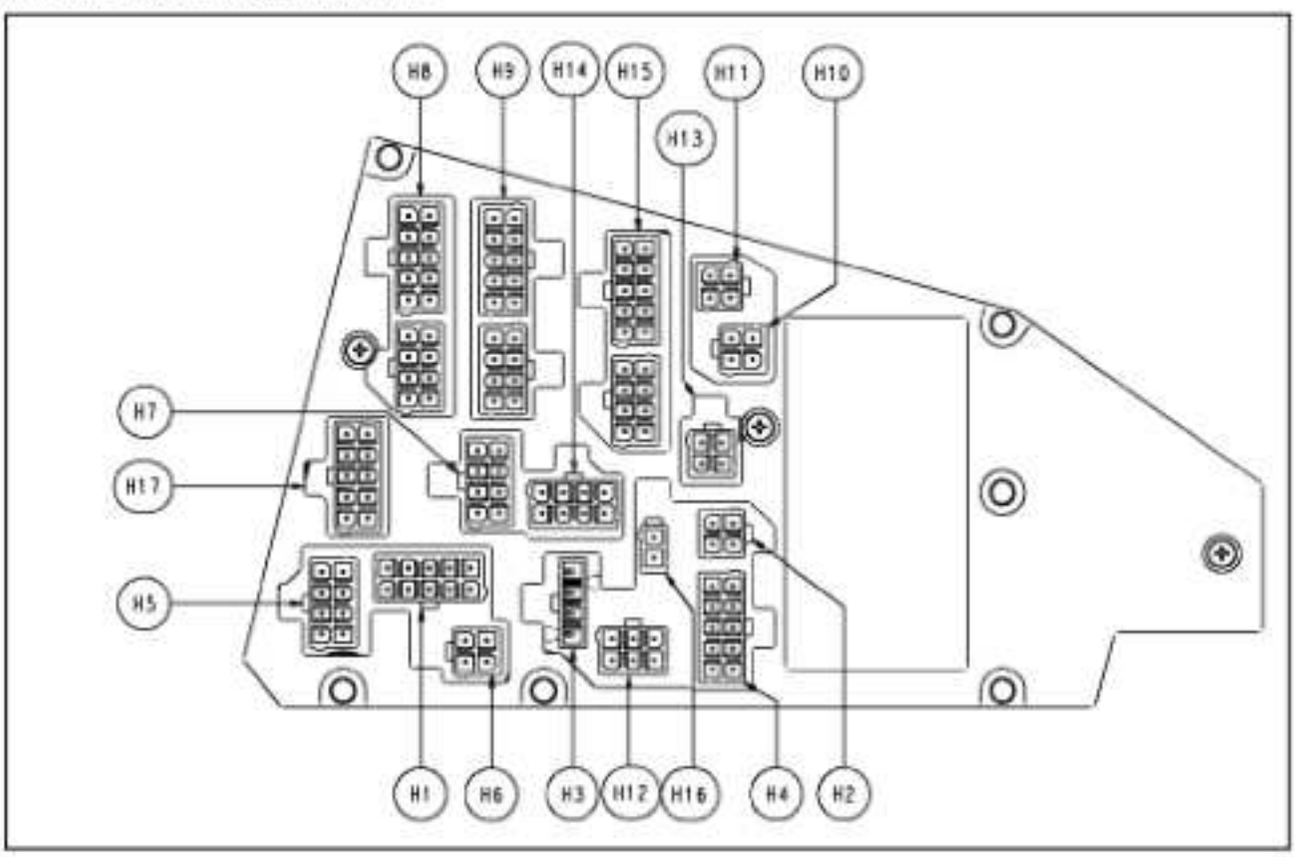
Cause:
Voltage from sensor too high (above **4.8 V**) as measured at armrest controller.

Possible failure modes:

1. Faulty connector
2. Faulty slip control potentiometer
3. Faulty harness
4. Faulty controller

Solution:

1. Check if the fault code is still active. Clear all fault codes. Operate the tractor under normal conditions.
   A. Fault code does not redisplay. Return unit to field operation and monitor for continuing problems.
   B. Fault code redisplays. Continue to step **2**.
2. Use the monitor screen function on the electronic service tool (EST) to check operation of the slip control potentiometer. Refer to the EST user guide.
   A. Slip control potentiometer not operating correctly. Continue with step **3**.
   B. Slip control potentiometer operating correctly. Return unit to field operation and monitor operation.
3. Check the slip control potentiometer.



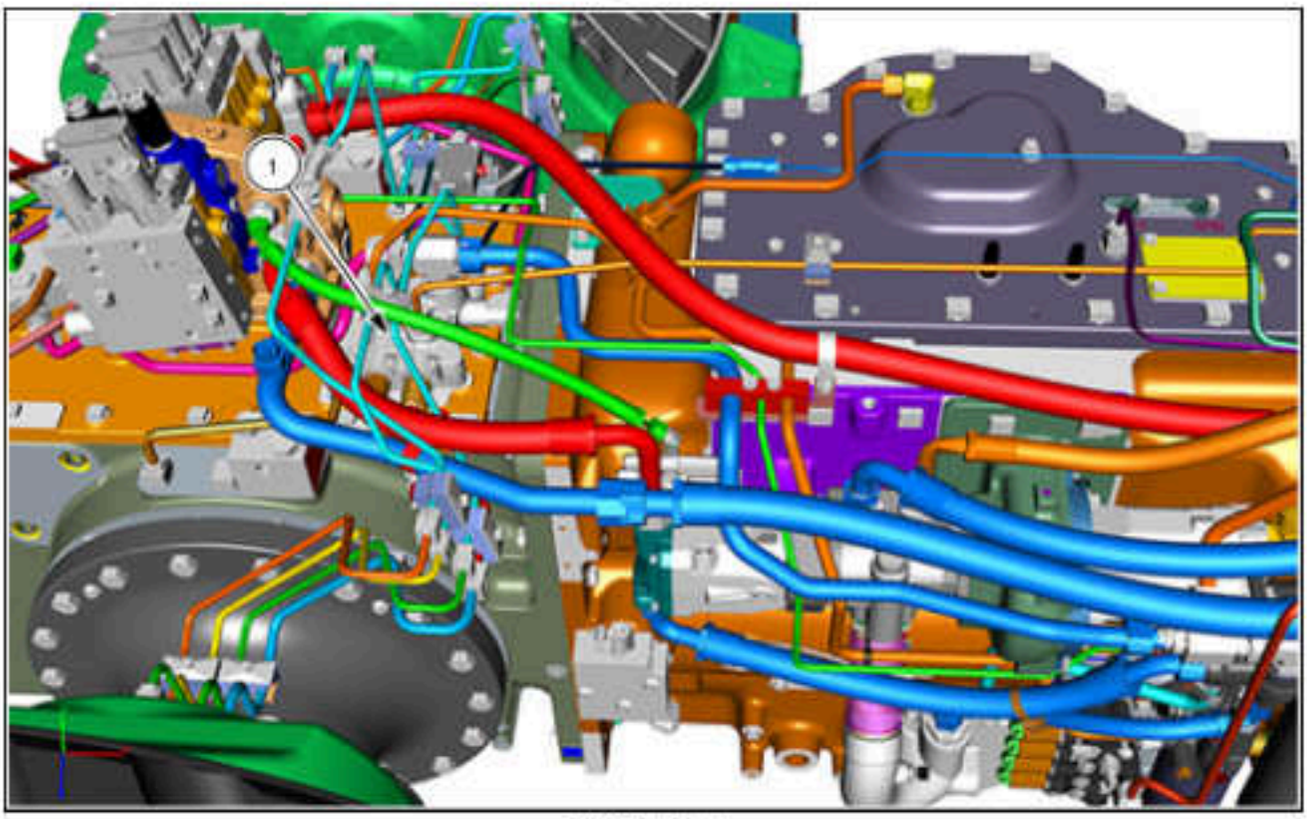
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Power Take-Off (PTO) control valve - Dynamic description

Magnum™ 310 Rowtrac™ CVT TIER 4B [ZFRF05001 -]	
Magnum™ 340 Rowtrac™ CVT TIER 4B [ZFRF05001 -]	
Magnum™ 380 Rowtrac™ CVT TIER 4B [ZFRF05001 -]	

The Power Take-Off (PTO)/differential lock/lube valve is located on top of the rear frame housing. The PTO/differential lock/lube valve controls the PTO and differential lock operation and distributes lube flow.



RAIL14TR04012GA 1

1. PTO/differential lock/lube valve	

The regulated pressure circuit supplies the PTO and differential lock functions. The regulated supply to both the PTO and differential lock is limited to **22.4 - 24.5 bar** (**325 - 355 psi**). The supply to the PTO clutch and differential lock are internally ported through the rear frame assembly.

The charge/lube circuit supplies the lubrication functions of the valve for these lubrication points: differential lock, pinion, front and rear hydro bearings, rear axle final drives, and service brakes. The amount of lube to the left and right brakes is controlled with the lube solenoid valve. The lube solenoid is used by the Tractor Control Unit (TCU) to minimize lube to the brakes and direct oil to the lube points when the brakes are not applied. When the brakes are applied, a signal from brake pedal switch energizes the lube solenoid to increase flow to the brakes.

The Tractor Control Unit (TCU) controller lubricates the rear axle final drive when these conditions are met:

- engine speed is above **1400 RPM**
- or ground speed is above **35 km/h** (**22 mph**)
- and oil temperature is above **65 °C** (**149 °F**).

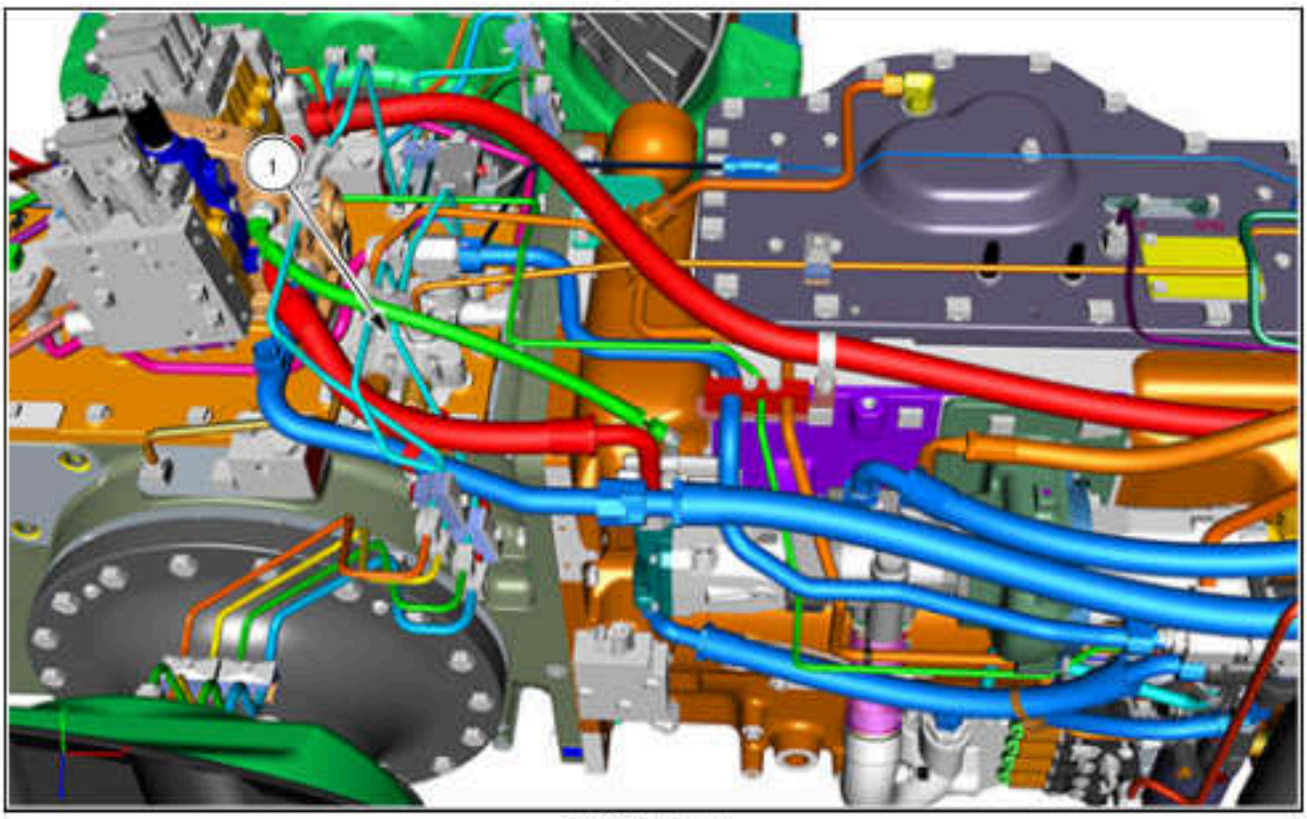
When the TCU detects no ground speed or when transmission temperature is below **65 °C** (**149 °F**), the lubrication solenoid is deenergized, which blocks lube oil flow to the rear axle final drives.

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Differential lock control valve - Dynamic description

Magnum™ 310 Rowtrac™ CVT TIER 4B [ZFRF05001 -]	
Magnum™ 340 Rowtrac™ CVT TIER 4B [ZFRF05001 -]	
Magnum™ 380 Rowtrac™ CVT TIER 4B [ZFRF05001 -]	

The Power Take-Off (PTO)/differential lock/lube valve is located on top of the rear frame housing. The PTO/differential lock/lube valve controls the PTO and differential lock operation and distributes lube flow.



RAIL14TR04012GA 1

1. PTO/differential lock/lube valve	

The regulated pressure circuit supplies the PTO and differential lock functions. The regulated supply to both the PTO and differential lock is limited to **22.4 - 24.5 bar** (**325 - 355 psi**). The supply to the PTO clutch and differential lock are internally ported through the rear frame assembly.

The charge/lube circuit supplies the lubrication functions of the valve for these lubrication points: differential lock, pinion, front and rear hydro bearings, rear axle final drives, and service brakes. The amount of lube to the left and right brakes is controlled with the lube solenoid valve. The lube solenoid is used by the Tractor Control Unit (TCU) to minimize lube to the brakes and direct oil to the lube points when the brakes are not applied. When the brakes are applied, a signal from brake pedal switch energizes the lube solenoid to increase flow to the brakes.

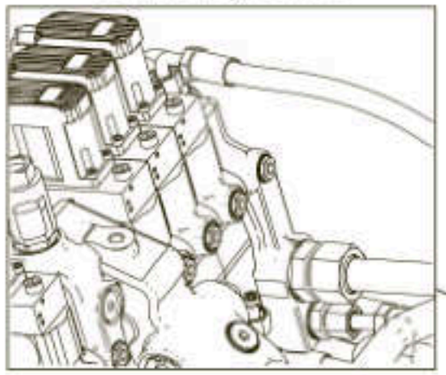
The Tractor Control Unit (TCU) controller lubricates the rear axle final drive when these conditions are met:

- engine speed is above **1400 RPM**
- or ground speed is above **35 km/h** (**22 mph**)
- and oil temperature is above **65 °C** (**149 °F**).

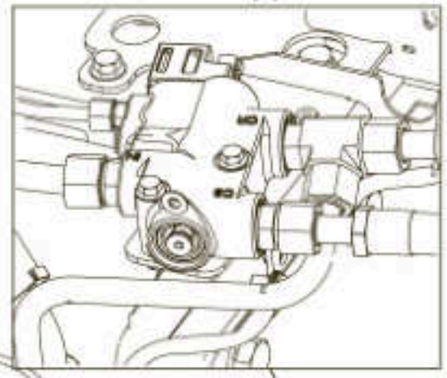
When the TCU detects no ground speed or when transmission temperature is below **65 °C** (**149 °F**), the lubrication solenoid is deenergized, which blocks lube oil flow to the rear axle final drives.

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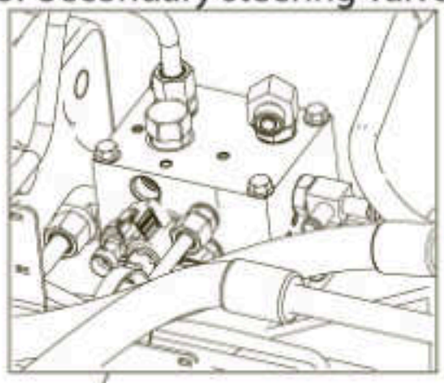
1. Priority valve



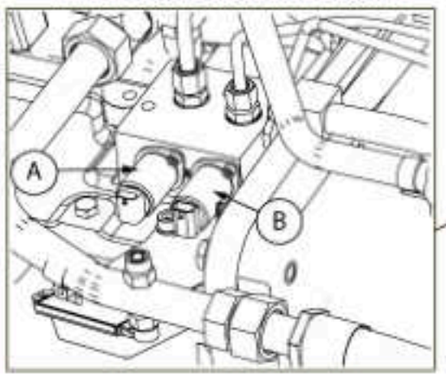
2. Oil cooler bypass valve

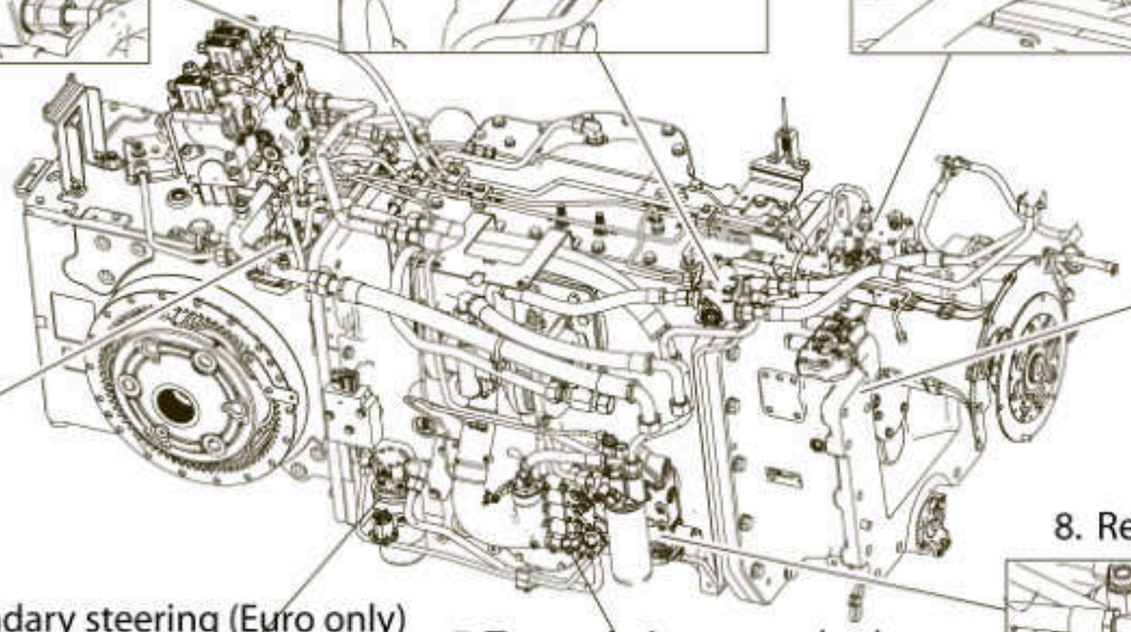


3. Secondary steering valve (Euro only)

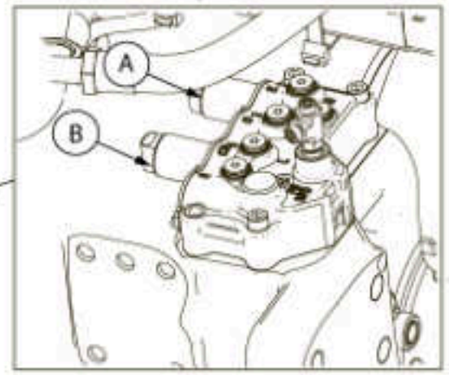


4. Rear PTO brake
MFD Differential lock

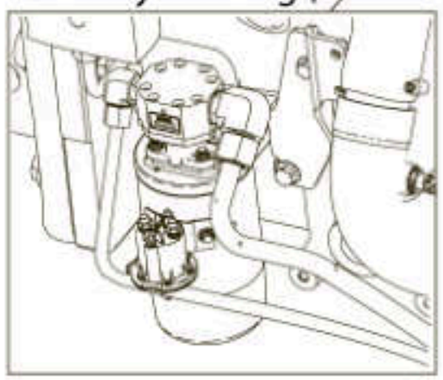




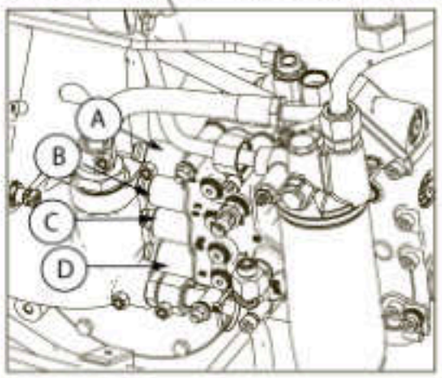
5. Forward/Reverse valve



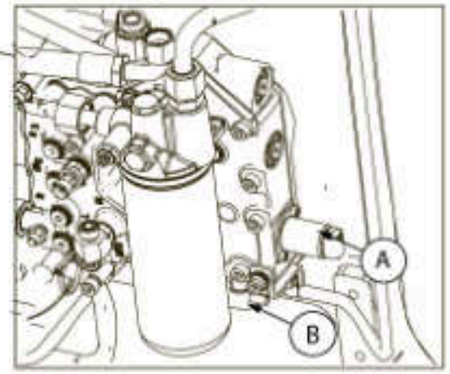
6. Secondary steering (Euro only)



7. Transmission control valve



8. Regulator valve



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