Magnum 250
Magnum 280
Magnum 310
Magnum 340
Magnum 380

Continuously Variable Transmission (CVT) Tractor

PIN ZERF04500 and above

SERVICE MANUAL

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CASE IH AGRICULTURE

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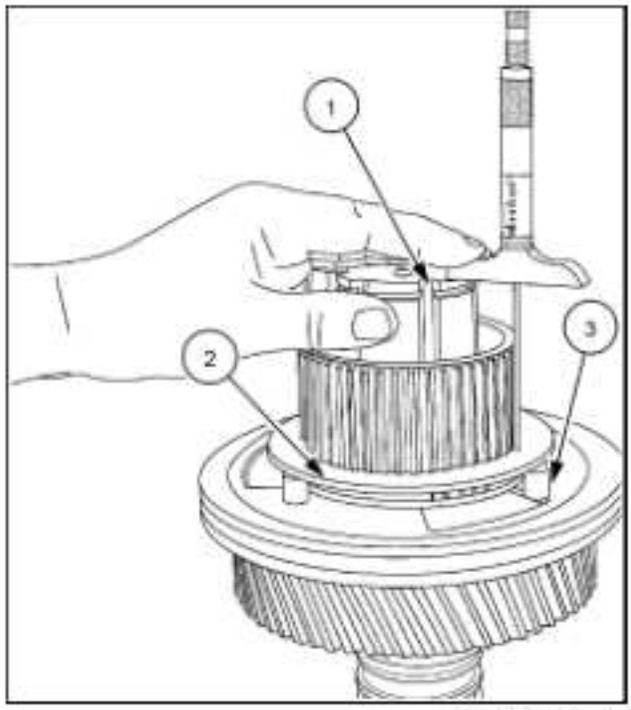
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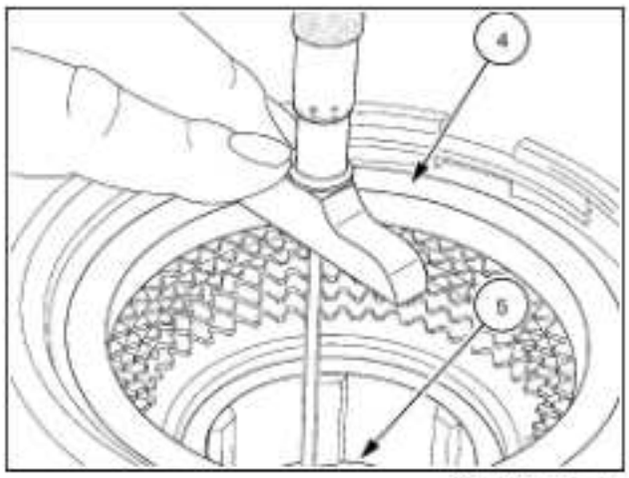
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45. With a depth micrometer, measure the distance from the top of the hub **(1)** to the top of the pusher plate **(2)** at each pin **(3)**. Average the three measurements. Record this measurement as dimension "A."



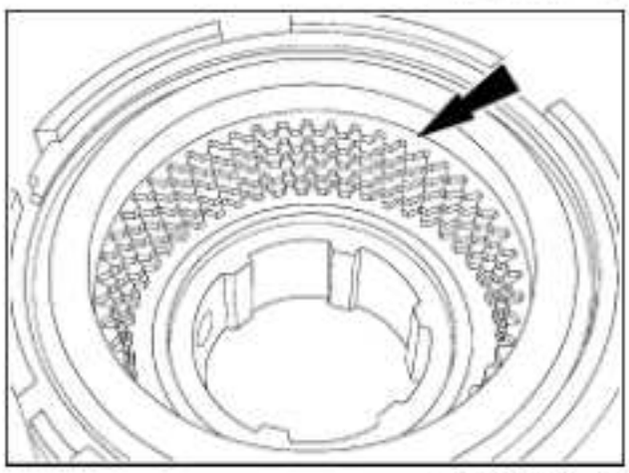
RCPH07CCHT78BBC 44

46. With a depth micrometer, measure the distance from the top surface of the backing plate **(4)** to the bottom of the can hub **(5)** at three locations. Average these three measurements. Record this measurement as dimension "B."
    - If dimension "A" minus dimension "B" is less than or equal to **11.235 mm** (**0.442 in**), proceed to the next step.
    - If dimension "A" minus dimension "B" is greater than **11.235 mm** (**0.442 in**), remove the **3.5 mm** (**0.138 in**) brake pusher plate installed in Step **34** and replace with **3 mm** (**0.118 in**) brake pusher plate **87366284**.



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47. Align the teeth of the friction plates as shown.

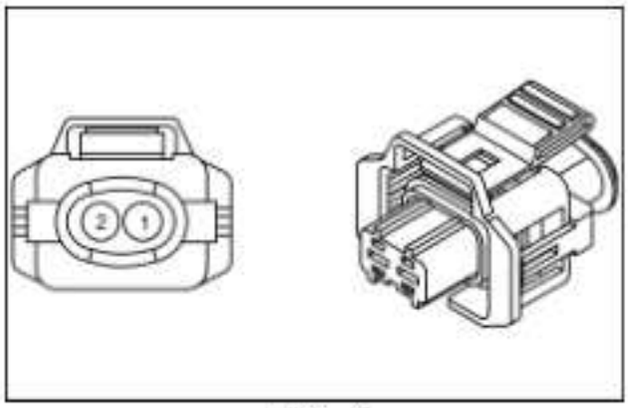


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Connector X-9007 - Fuel metering unit

CONNECTOR X-9007 - Fuel metering unit			
PIN NUMBER	**WIRE NUMBER**	**CIRCUIT REFERENCE**	**ELECTRICAL SCHEMATIC FRAME**
1	EN-015	Supply	**Wire harnesses - Electrical schematic sheet 05 - Engine inputs/outputs (55.100)**
2	EN-016	Ground	



Connector X-9012 - Electronic Variable Geometry Turbocharger (EVGT) actuator

CONNECTOR X-9012 - Electronic Variable Geometry Turbocharger (EVGT) actuator			
PIN NUMBER	**WIRE NUMBER**	**CIRCUIT REFERENCE**	**ELECTRICAL SCHEMATIC FRAME**
1	EN-048C	CAN high	**Wire harnesses - Electrical schematic sheet 04 - Engine - Controller Area Network (CAN) (55.100)**
2	EN-047C	CAN low	
3	EN-050A	Actuator ground	
4	EN-049A	Actuator supply	

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18068-EHR (remote valve) 3 lever implausibility error

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

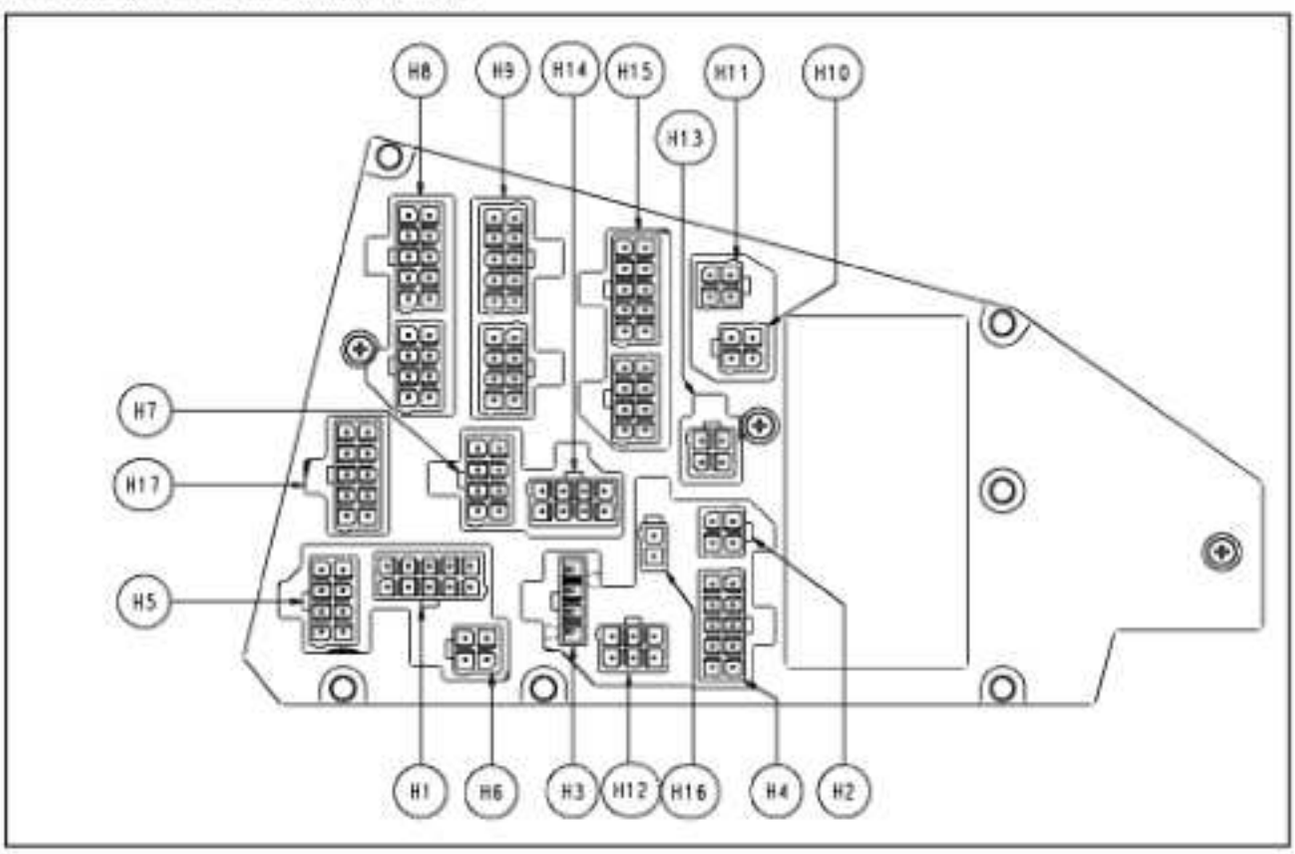
Cause:
Voltages from the dual track potentiometers inside lever3 do not match

Possible failure modes:

1. Faulty remote control lever
2. Incorrect armrest configuration
3. Faulty connector
4. Swapped connectors
5. Faulty armrest 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 operations of remote lever 3. Refer to the EST user guide.
   A. Lever not operating correctly. Continue with step **3**.
   B. Lever operating correctly. Return unit to field operation and monitor for continuing problem.
3. Check the armrest controller connectors.



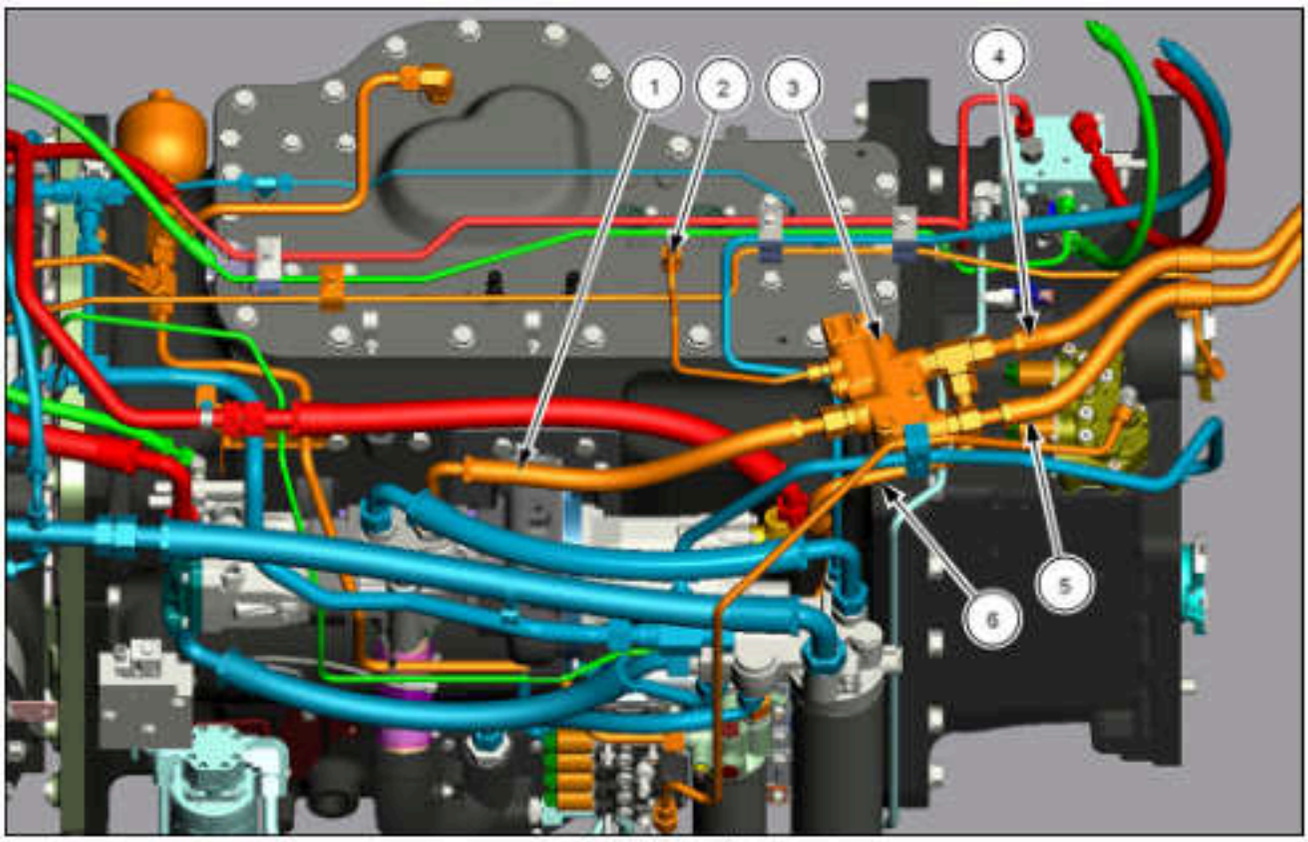
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Oil cooler/Heat exchanger Bypass valve - Dynamic description

The cooler bypass valve is located on the top of the transmission housing, above the main filter assembly.

All regulated circuit pump flow is directed to the cooler bypass valve inlet. The Tractor Control Unit (TCU) controls the cooler bypass valve function based on transmission oil temperature.

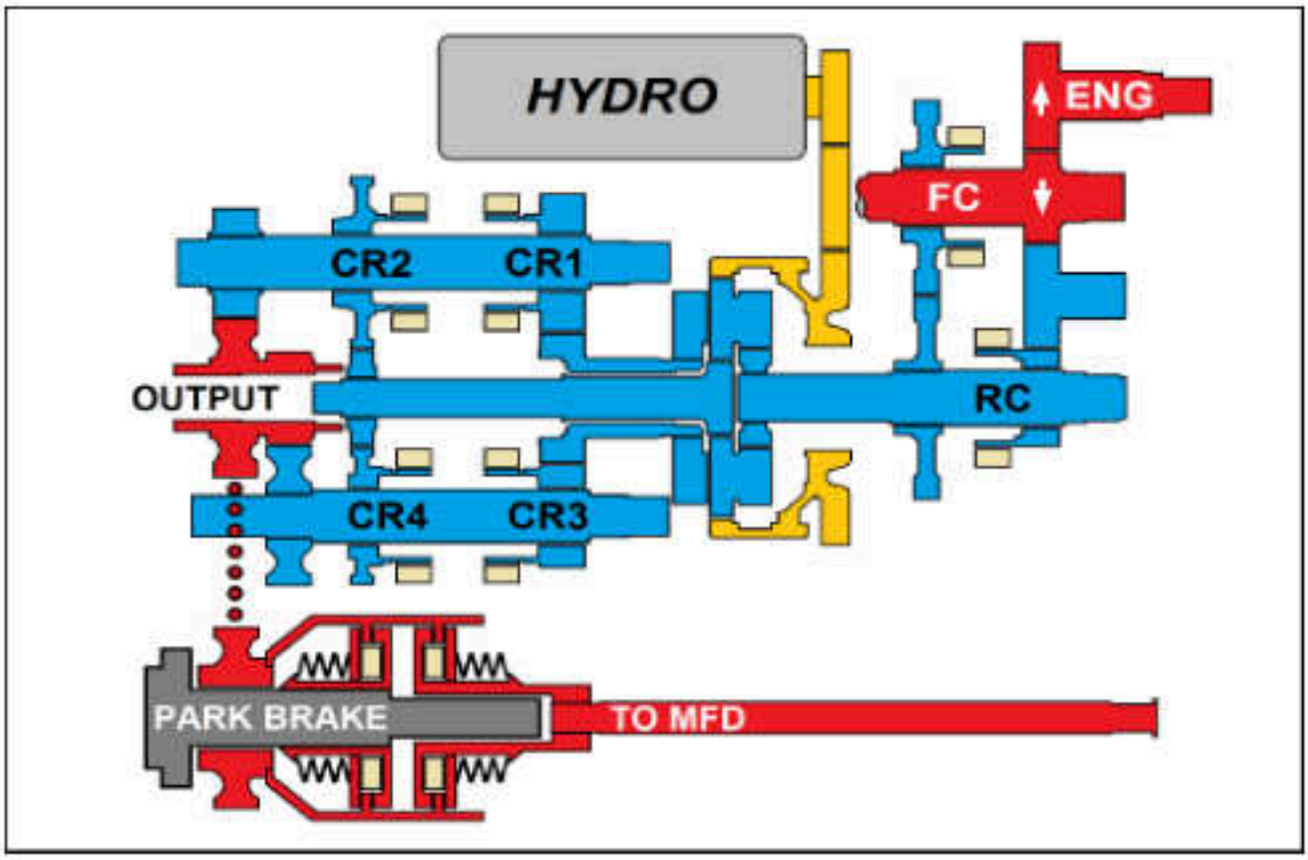
When the transmission oil temperature is below a preset limit, the cooler bypass solenoid valve will be energized. When energized most of the supply flow will bypass the cooler. When the oil temperature exceeds the preset limit, the cooler bypass solenoid will be de-energized by the tractor control unit (TCU), now all of the flow entering the bypass valve to be directed through the oil cooler.



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1. Regulated supply to cooler bypass valve	4. Cooler return line
2. Cooler bypass drain	5. Cooler supply line
3. Cooler bypass valve	6. Cooler bypass to regulated filter assembly

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Park position with Mechanical Front Drive (MFD) engaged

Torque transmitting/clutch pressurized	HSU driven
Non-torque transmitting	Clutch not pressurized

In park, no drive clutches are engaged, but the park brake is; and this locks the output shaft of the transmission. If the Mechanical Front Drive (MFD) clutch is not released, braking is also through the front axle.

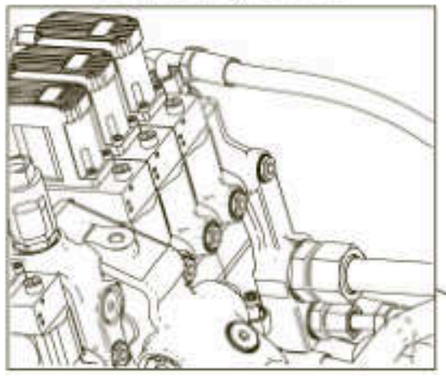
The HSU motor drives the large compound planetary ring gear. By varying the speed of the ring gear, the output speed of the planetary system is varied. The engine drives the input sun in the planetary system through the forward or reverse clutch.

The dual output planetary; one output from the planetary carrier, the other from the output sun gear shaft drives two range shafts containing the four range clutches.

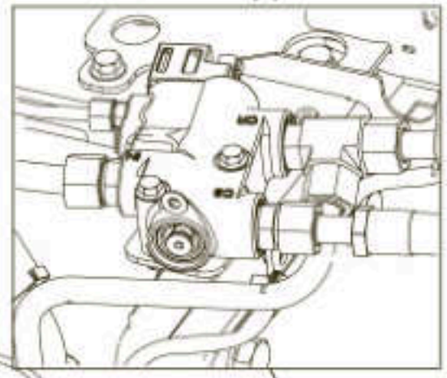
As the vehicle speed increases, the clutches alternate between the planetary outputs and range shafts to ensure seamless shifts and constant transmission output speed increase. The pump swashes back and forth as the clutches are shifted. The TCU calculates when the off-going and the on-coming clutches are speed matched so there is minimal slipping of the clutches during transition. One of the two range shafts then drives the transmission output shaft, depending on which clutch is selected.

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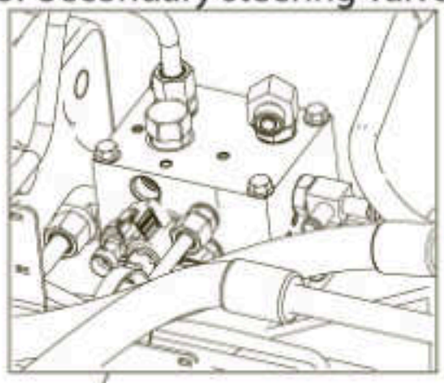
1. Priority valve



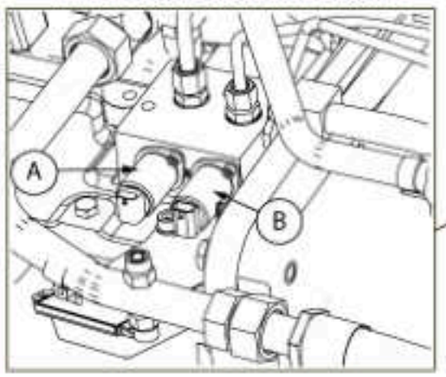
2. Oil cooler bypass valve

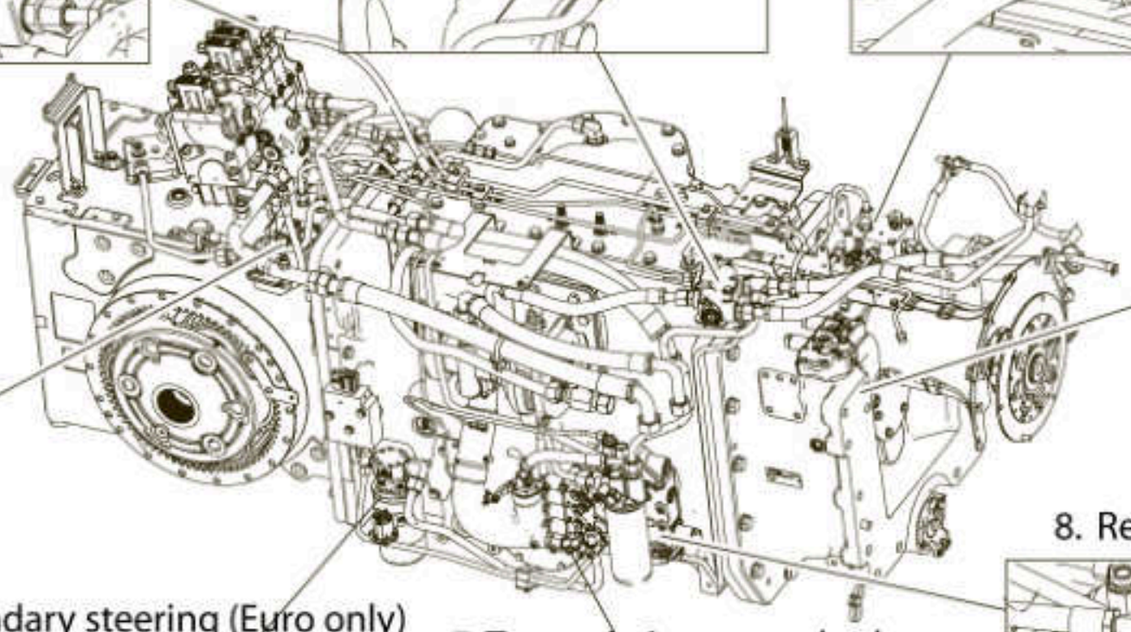


3. Secondary steering valve (Euro only)

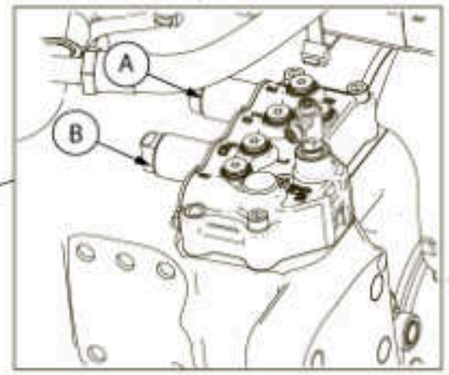


4. Rear PTO brake
MFD Differential lock

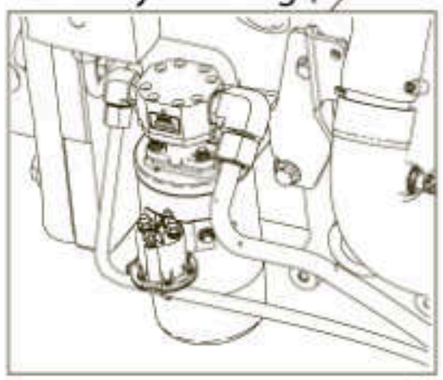




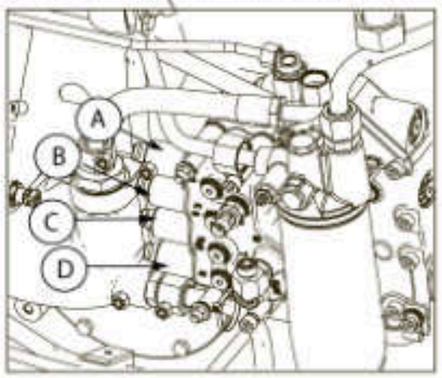
5. Forward/Reverse valve



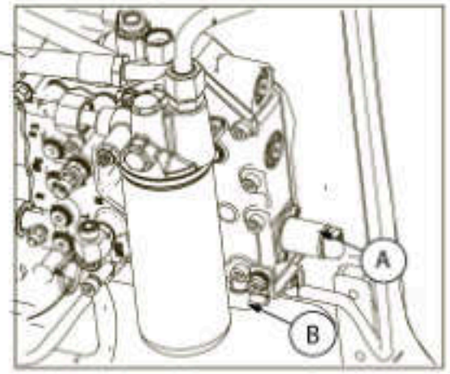
6. Secondary steering (Euro only)



7. Transmission control valve



8. Regulator valve



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