SERVICE MANUAL

T7.220 / T7.235 / T7.250 / T7.260 / T7.270
Auto Command™ Tractor

T7.220 / T7.235 / T7.250 / T7.260
Power Command™ Tractor

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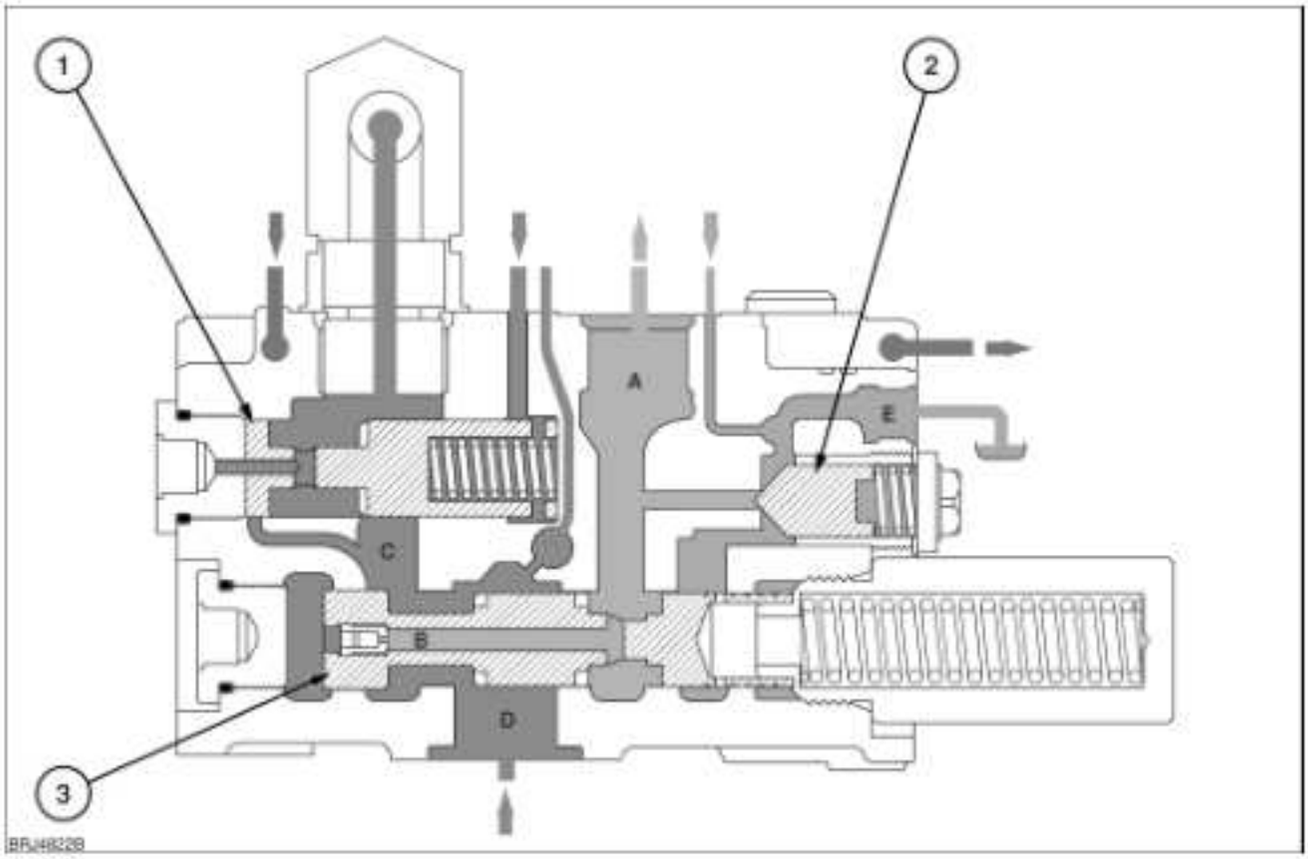
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Low pressure valve Priority/Regulator valve - Dynamic description



BAILEYCCM317FSA 1

Pressure Reducing Priority Valve

The regulated flow of oil discharged from the variable displacement piston pump is directed to the low and high pressure hydraulic circuits via the trailer brake valve (where fitted) and the pressure regulating valve.

Because pump output is initially directed through the trailer brake valve (where fitted), the system ensures that the trailer brakes have priority over other hydraulic circuits.

The pressure regulating valve is located on the top of the variable displacement pump and controls the maximum pressure of oil in the low pressure hydraulic circuit while at the same time directing high pressure system oil to the hydraulic power lift and remote control valves.

The low pressure hydraulic circuit, which is regulated at a pressure of **23 bar** (**333.50 psi**)) operates the electronic remote valve spools (where fitted), P.T.O., differential lock, four wheel drive engagement system and transmission control circuits.

When the pressure in the system is below **23 bar** (**333.50 psi**)the low-Pressure regulating valve **(3)** is held to the left by the spring allowing system pressure oil (Gallery **(D)**) from the variable displacement piston pump to flow to the low pressure hydraulic circuits through gallery **(A)** to give flow priority to the low-pressure circuit..

The resulting pressure in gallery **(A)** is sensed in the pressure sensing gallery **(B)** drilled through the centre of the spool. As the pressure in gallery **(A)** increases, the spool moves against the spring restricting the flow of oil into gallery **(A)** to maintain the pressure of oil in the low pressure hydraulic circuit at **23 bar** (**333.50 psi**)), while at the same time allowing system pressure oil to flow into gallery **(C)** .
It can now be seen that the spool moves back and forth to maintain the low pressure circuit oil at **23 bar** (**333.50 psi**)), while at the same time allowing system pressure oil to be directed to the high pressure hydraulic circuit for operation of the hydraulic lift and remote control valves.

When the high pressure hydraulic circuits are not in operation the priority valve **(1)** ensures an adequate supply is fed to the trailer brake valve (where fitted), and low pressure circuits to maintain circuit pressure of **23 bar** (**333.50 psi**)).

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Wire harnesses - Electrical schematic frame 39 LIGHTING (Headlamps - Roof)

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T7.220, T7.235, T7.250, T7.260 Power Command - With **Sidewinder**

Component	Connector	Description
Additional Connectors: **X555**		

Wire Colour Codes			
BK Black	**GN** Green	**PK** Pink	**BL** Blue
TN Light Brown	**BR** Brown	**OR** Orange	**LG** Light Green
RD Red	**GY** Grey	**LB** Light Blue	
WH White	**YE** Yellow	**VT** Violet	

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3137-Metering Unit - Open Load

Control Module : EDC

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

Cause:

Possible failure modes:

1. Faulty connector
2. Faulty fuel metering unit
3. Faulty harness
4. Faulty engine controller

Solution:

1. Before proceeding clear the error code with the approved diagnostic equipment. Run the machine under normal conditions and retest.
   A. If the error code is not indicated, check that the system is operating correctly.
   B. If the error code is indicated, continue to step **2**
2. Check the fuel metering unit connector **X833** and the engine controller connector **X913**.
   A. Ensure the connectors are connected, not damaged, the pins are in the correct position and that the fit is tight. Repair or replace as required.
   B. If the connectors are okay, continue to step **3**
3. Check the fuel metering unit.
   A. Disconnect connector **X833**. Measure the resistance between the component side of the connector **X833** pins 1 and 2. If the resistance indicated is not between **2.60 - 3.15 Ω**, remove and replace fuel metering unit.
   B. If the fuel metering unit is okay, continue to step **4**
4. Check for an open circuit.
   A. Check between connector:
   X833 pin 1 and **X913** pin 9
   X833 pin 2 and **X913** pin 10
   If an open circuit is indicated, repair or replace the harness as required.
   B. If the harness is okay, download the correct level of software. If the fault re-occurs, remove and replace the engine controller.

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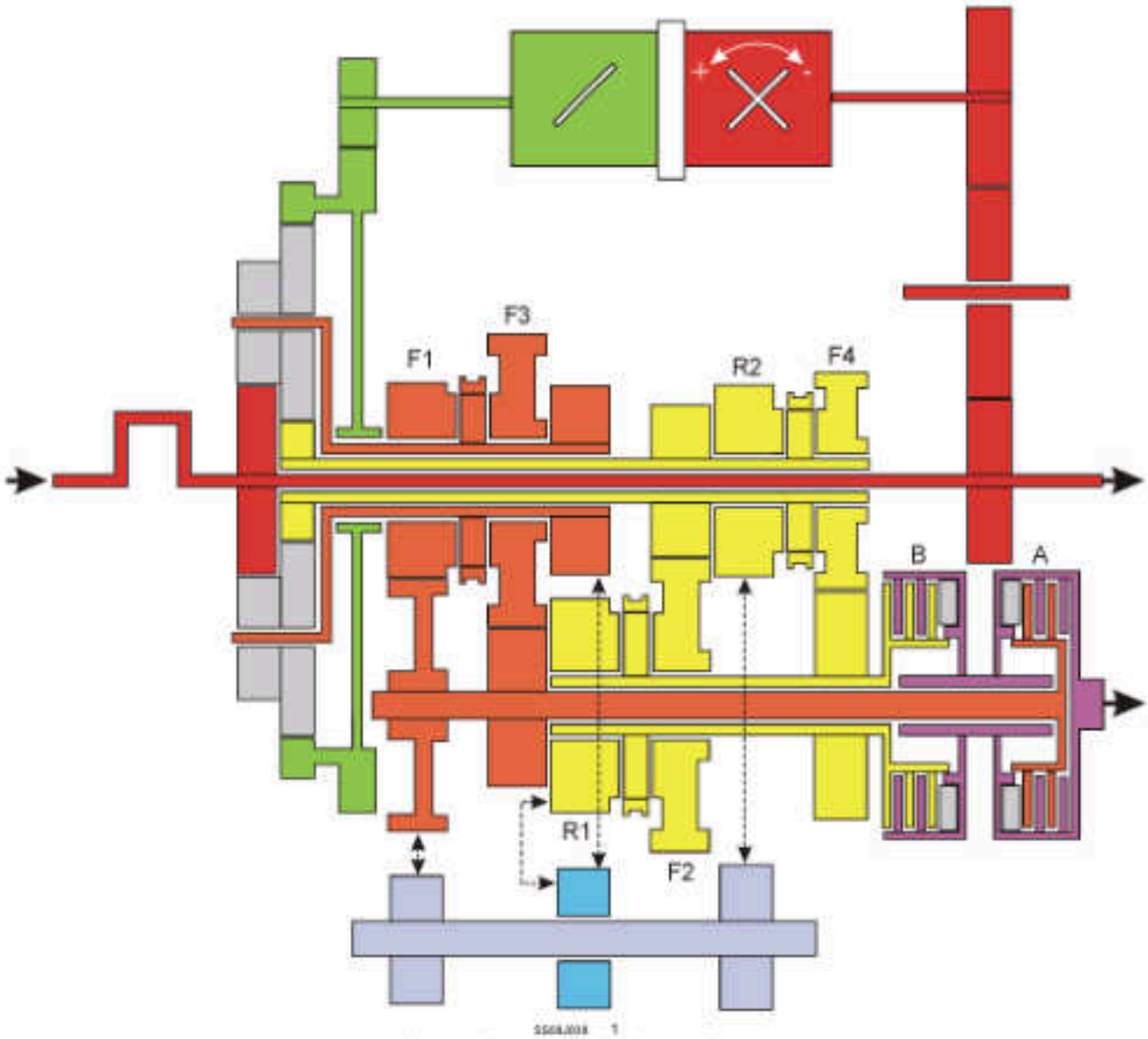
Continuously Variable Transmission (CVT) - Functional diagram

T7.220 AutoCommand 50 km/h gearbox, T7.220 AutoCommand 40 km/h ECO gearbox, T7.235 AutoCommand 50 km/h gearbox, T7.235 AutoCommand 40 km/h ECO gearbox, T7.250 AutoCommand 50 km/h gearbox, T7.250 AutoCommand 40 km/h ECO gearbox, T7.260 AutoCommand 50 km/h gearbox, T7.260 AutoCommand 40 km/h ECO gearbox, T7.270 AutoCommand 50 km/h gearbox, T7.270 AutoCommand 40 km/h ECO gearbox

The following diagrams show the power flow of the transmission in the individual mechanical gears and in the stationary control (powered zero) and neutral position / park position operating modes.

Colour coding

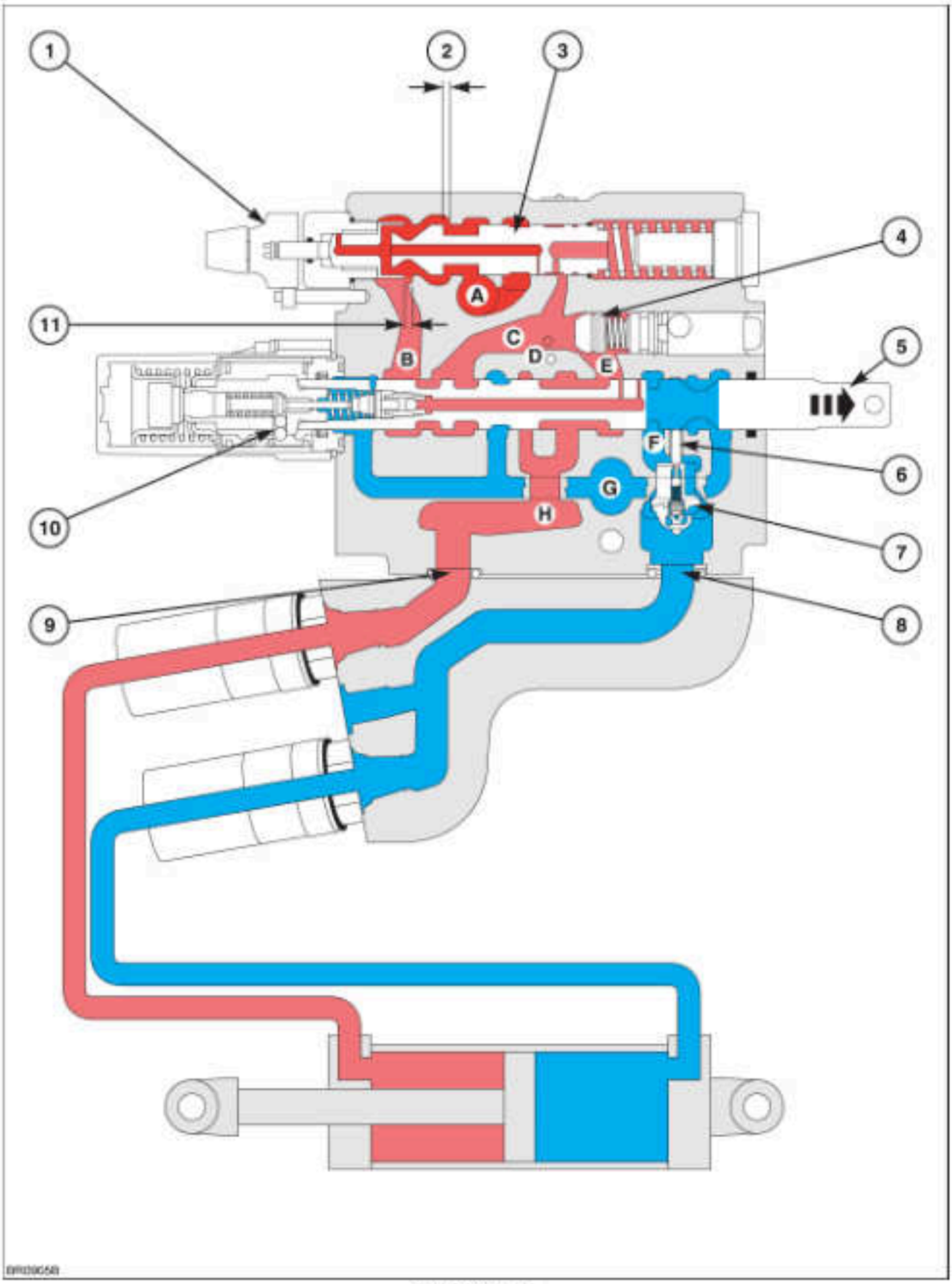
Transmission input and hydrostat drive	Hydrostat output - ring gear summing planetary gears
Power train summing planetary gear / planetary carrier - clutch A	Power train summing planetary gear / sun gear - clutch B
Power flow	



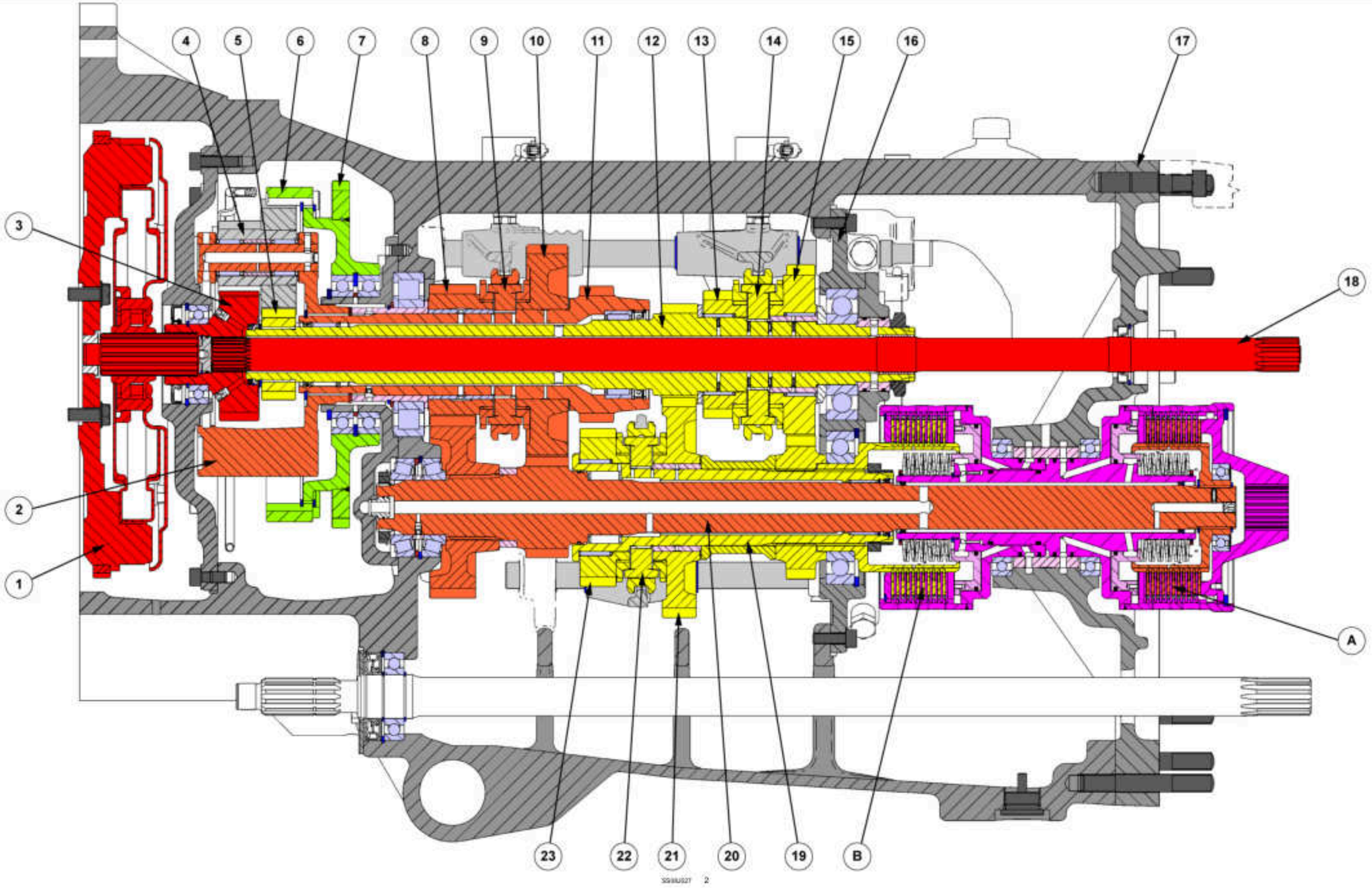
Neutral position / park position

In the neutral position and the park position the transmission is not engaged. No mechanical gear is engaged and the clutches A / B are open. If the tractor rolls off inadvertently in the neutral position, the speed differences arising as a result are equalized by the hydrostat. This means that when shifting out of the neutral position the relevant gear can be engaged again at the synchronous speed.

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