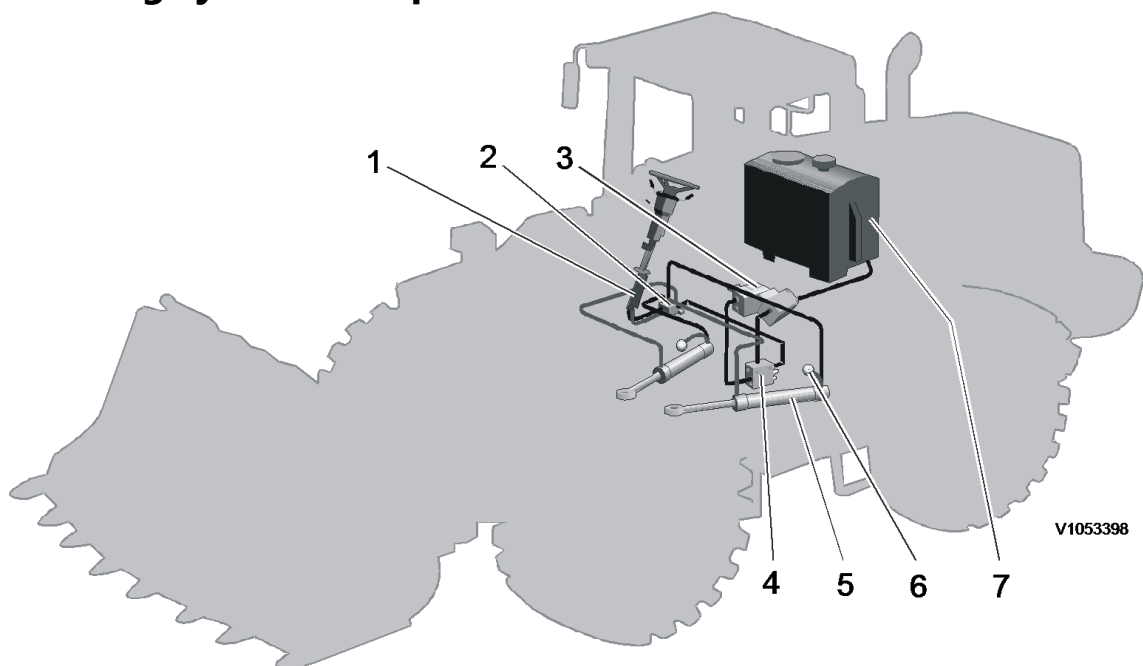


Document Title: <b>Steering system, component location</b>	Function Group: <b>600</b>	Information Type: <b>Service Information</b>	Date: <b>2014/5/4 0</b>
Profile: <b>WLO, L150F [GB]</b>			

## Steering system, component location



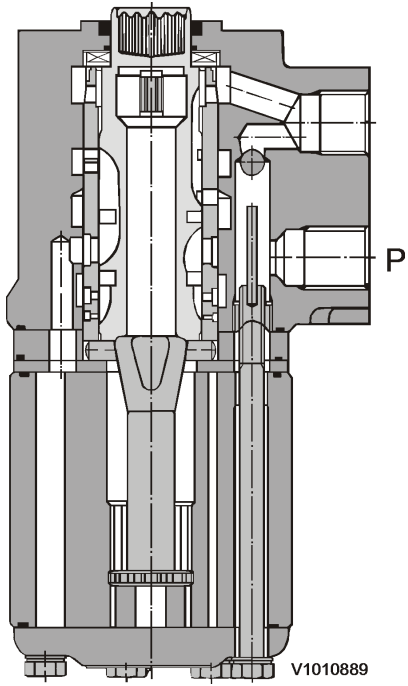
**Figure 1**  
**Steering system (principle illustration)**

1. Steering valve
2. Shift valve
3. Hydraulic pump
4. Central valve
5. Steering cylinder (2 pcs.)
6. Accumulator (2 pcs.)
7. Hydraulic tank

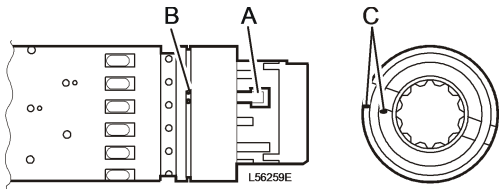
For description of the central valve, hydraulic pump and hydraulic tank, see [900 Hydraulic system and component positions](#).

### Steering valve

The steering valve is of the closed centre type. The steering valve is equipped with a load-sensing (LS) outlet from which a steering pressure is delivered to the LSS connection on the central valve. From the LS-connection on the central valve the steering pressure moves on to the flow compensator on P2.



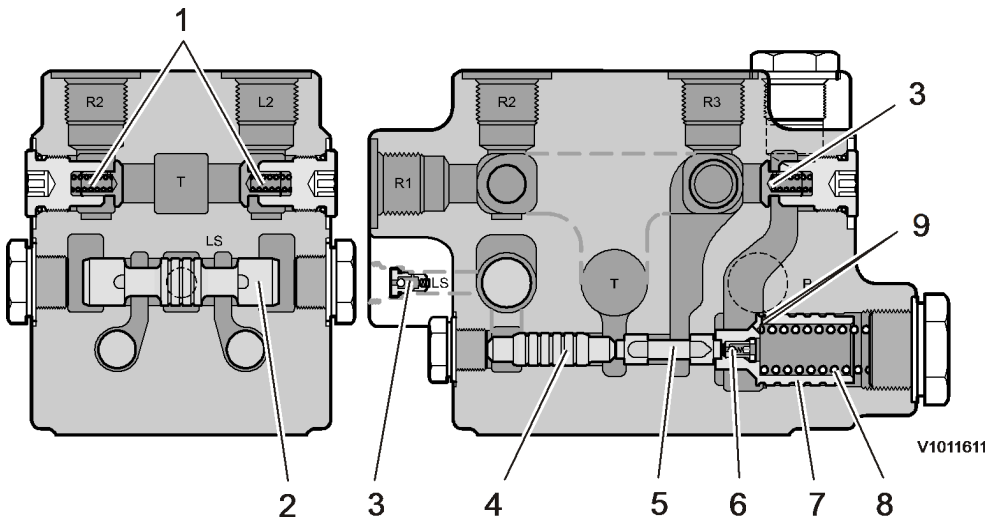
**Figure 2**  
**Steering valve**



**Figure 3**

- A. T-shaped groove (inner spool)
- B. Hole (outer spool)
- C. Punch marks, must line up when installing

**Shift valve**

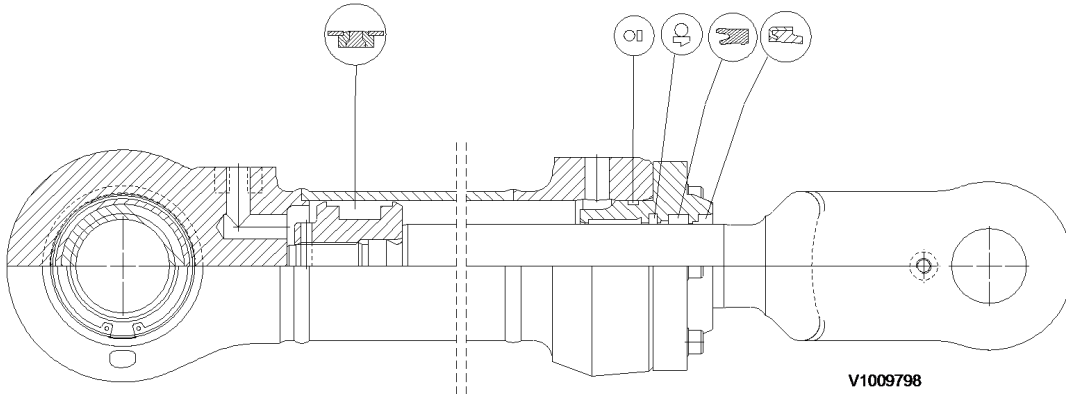


**Figure 4**

### Shift valve

1. Anti-cavitation valve
2. Directional spool
3. Non-return valve
4. Piston
5. Control spool
6. Non-return valve
7. Damping piston
8. Spring
9. Restriction

### Steering cylinder



**Figure 5**  
**Steering cylinder**

Document Title: <b>Steering description</b>	system, <b>600</b>	Function Group:	Information Type: <b>Service Information</b>	Date: <b>2014/5/4 0</b>
Profile: <b>WLO, L150F [GB]</b>				

## Steering system, description

The machine is provided with hydrostatic load-sensing (LS) articulated frame steering consisting of hydraulic pump P2, steering valve, shift valve, two accumulators and two steering cylinders. The pump is a variable axial piston pumps which is located on the transmission power take-off. P2 provides oil to the central valve, which gives priority to the steering system before the servo, brake and working hydraulic systems.

The purpose of the shift valve is to connect the minus side of the steering cylinder to increase the steering force during severe conditions. The minus side (piston rod end) of which cylinder is determined by the direction in which the machine is steered.

The purpose of the accumulators is to dampen pressure peaks against the steering cylinder piston, thus providing a smoother steering.

The steering valve is of the closed centre type. The steering valve is equipped with a load-sensing (LS) outlet from which a steering pressure is delivered to the LSS connection on the central valve. From the LSP-connection on the central valve the steering pressure moves on to the flow compensator on P2.

### Neutral position

P2 supplies oil to the priority spool in the central valve. Because the steering valve is closed and no LS-pressure is generated, the priority spool changes its position. As the priority spool is proportional, a stand-by pressure acts against the steering valve even though the priority spool has changed position over to working hydraulics.

Pressure builds up in the outlet line and the internal oil duct. When the steering is not used, the spring force of priority valve is overcome.

The spool closes the connection to the steering system and directs the oil over to the brake and servo systems and the working hydraulics.

The pump only supplies a stand-by pressure, as no steering is requested. Because the valve does not close fully, the pressure at the steering valve will be as great as the stand-by pressure.

The P1 connection is connected to the pump and the P2 connection to the steering valve. The steering valve is in neutral position, and therefore only stand-by pressure is built up in the shift valve up to the control spools and also in the damping pistons, via the non-return valves and the restrictions. The minus sides (piston rod ends) of the steering cylinders are connected to tank through the control spools. The oil at the plus sides (piston ends) of the respective steering cylinders is closed in by the steering valve. The same enclosed oil actuates the directional spool. The oil in the LS-duct is also enclosed because of the non-return valve.

**Thank you very much for reading.**

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