

Construction Equipment

Service Information

Document Title:	Information Type:	Date:
Description	Service Information	2014/5/29
Profile:		

Description

The loader is provided with hydrostatic load-sensing (LS) articulated frame steering consisting of pumps, flow amplifier, steering valve and two steering cylinders.

The machine can be provided with lever steering (CDC) and secondary steering system as options.

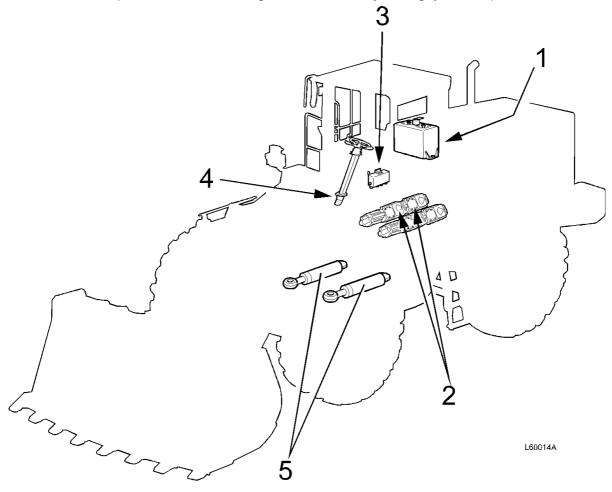


Figure 1 Steering system

- 1. Hydraulic oil tank
- 2. Hydraulic oil pumps, steering
- 3. Flow amplifier
- 4. Steering valve
- 5. Steering cylinders



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Control valve

Description

When the steering lever is operated, an electrical signal is sent via ramp generator CU20 to control unit 25 on the control valve (11 volt or lower for steering to the left and 13 volt or higher for steering to the right), see Fig. Two of the solenoid valves 21–22 or 23–25 in the control unit become energised, which means that oil is admitted at one side of control spool 15, which is displaced and opens for a controlled oil flow to one of the steering cylinders. Position sensor 27 sends signals back to the control unit and indicates the position of the spool. Oil is admitted until control spool 15 has been displaced a distance corresponding to the lever deflection and thereby reaching the desired steering speed.

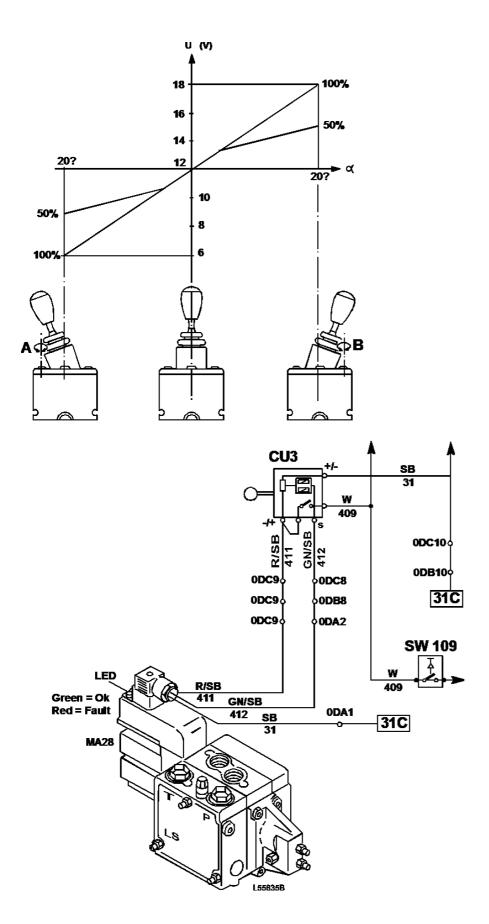


Figure 1 Steering speed

- A. Steering to the left
- B. Steering to the right

When the spool has taken up the position which corresponds to the signal to the control unit, the control unit interrupts the feed to solenoid valve 21 or 23 depending on the steering direction.

On the control unit of the control spool there is a light-emitting diode 28, which lights with a green light when steering. Should the control spool get stuck in the actuated position, when the steering lever is returned to neutral position, the light of the diode changes to red. If such a fault occurs, the machine will continue to steer even though the steering lever is not actuated.

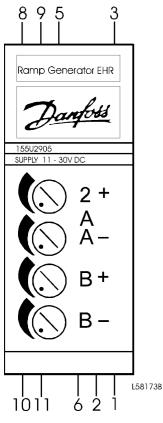


Figure 2 Ramp generator CU20, adjusting screws

- A Adjusting steering left
- + Adjusting start damping
- Adjusting stop damping
- B Adjusting steering right

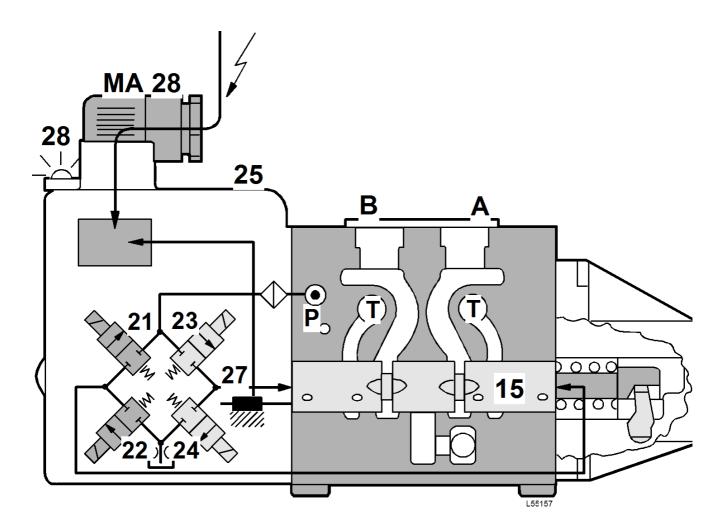


Figure 3 Control valve with control unit

15	Control spool
21–24	Solenoid valves
25	Control unit, CU3
27	Position sensor
28	Light-emitting diode

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