WHEEL LOADER

SERVICE MANUAL

SL763

HYUNDAI

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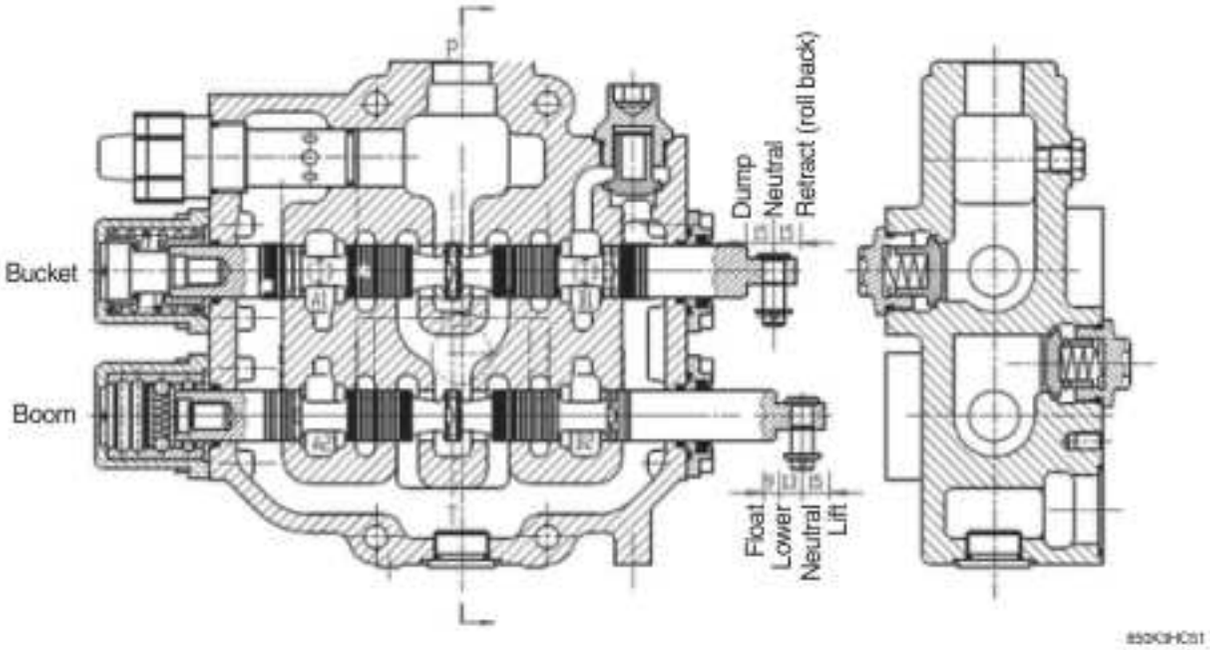
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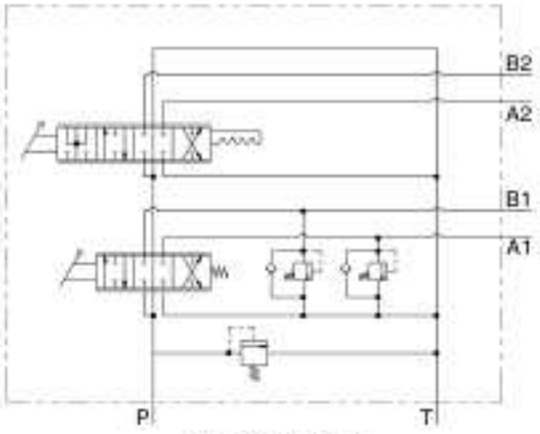
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5) STRUCTURE AND WORKING PRINCIPLE

(1) Structure



(2) Working Principle



Hydraulic circuit

The Multi-way directional valve has boom control lever and bucket control lever. The bucket lever has three positions, i.e. neutral, roll back and dump. Boom lever has four positions, i.e., hold, raise, lower and float. Port P is flow inlet, T is flow return port and port A1 and B1 are connected to large and small chamber bucket cylinder respectively, and port A2 and B2 are to large and small chamber of boom cylinder.

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2. TROUBLESHOOTING

※ Diagnose malfunction charts are arranged from most probable and simplest to verify, to least likely, more difficult to verify. Remember the following steps when troubleshooting a problem :

Step 1. Operational check out procedure (see section 1)
Step 2. Operational checks (see group 3)
Step 3. Troubleshooting
Step 4. Tests and adjustments (see group 4)

Problem	Cause	Remedy
Noisy hydraulic pump	Low oil supply or wrong viscosity.	Fill reservoir with recommended oil.
	Plugged or pinched suction line.	Clean or replace line.
	Air in oil.	Check for foamy oil. Tighten connections. Replace O-rings and or lines.
	Plugged suction strainer.	Inspect and clean strainer in reservoir.
	Loose or missing hydraulic line clamps.	Tighten or replace clamps.
	Hydraulic lines in contract with frame.	Inspect and repair.
	Worn or damaged pump.	Do hydraulic pump performance check in group 3. Do hydraulic pump flow test in group 4.
No or Slow hydraulic functions	Failed or worn hydrualic pump.	Do performance check.
	Cold oil.	Warm oil up.
	Slow engine speed.	Adjust engine speed. Check high idle speed.
	Suction line air leak.	Check for foamy oil.
	Low oil supply.	Add recommended oil.
	Wrong oil viscosity.	Use recommended oil.
	Oil leaking past cylinders or control valve.	Check cylinder drift in group 3.
	Blocked or damaged line.	Inspect lines.
	Binding loader control valve (MCV) spool.	Inspect valve.

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6. HYDRAULIC SYSTEM RESTRICTION TEST

- SPECIFICATION

Oil temperature 45±5°C(113±9°F)
Engine speed High idle
Maximum pressure at steering unit
3 MPa (30 bar, 43 psi)
Maximum pressure at main control valve
1 MPa (10 bar, 145 psi)

- GAUGE AND TOOL

Gauge 0~7 MPa (0~70 bar, 0~1000 psi) 2EA
This test will check for restrictions in the hydraulic system which can cause overheating of hydraulic oil.

1) Install temperature reader.
(see temperature reader installation procedure in this group)

2) Heat hydraulic oil to specifications.
(see hydraulic oil warm up procedure in this group)

3) Connect fitting and gauge to steering valve.

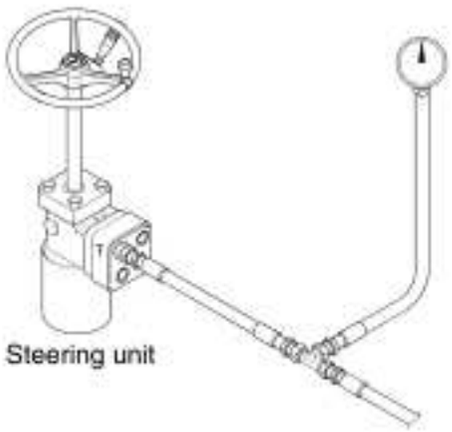
4) Connect fitting and gauge to main control valve.

⚠ Do not operate steering or loader functions or test gauge may be damaged.

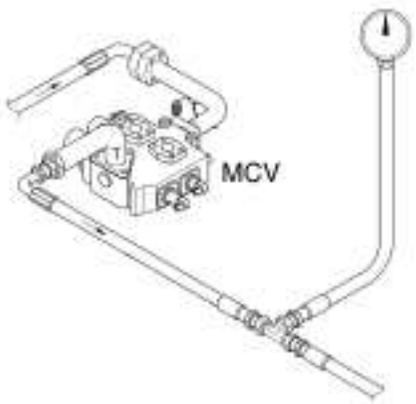
5) Run engine at specification and read pressure gauges.

If pressure is more than specification at the loader control valve, check for a kinked, dented or obstructed hydraulic line. Check loader control valve for a binding spool.

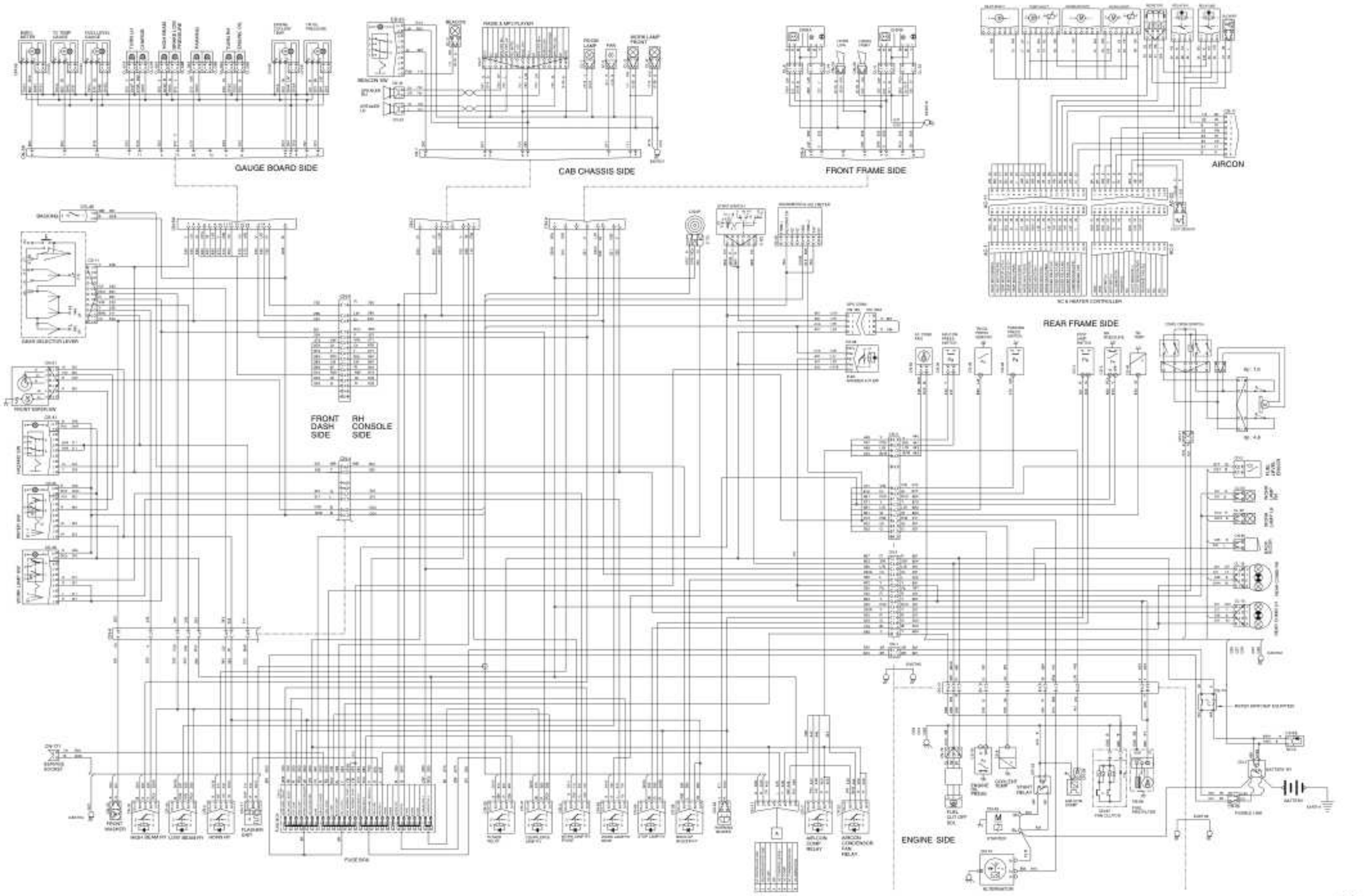
If pressure is more than specification at the steering unit, inspect neutral condition of the steering unit and priority valve for a stuck spool. Make sure orifice plugs are installed in ends of priority valve spool.
Check for plugged orifice in priority valve LS port and dynamic signal orifice on the spool of priority valve.



Steering unit



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