WHEEL LOADER

SERVICE MANUAL

HL780-9S UMA

HYUNDAI

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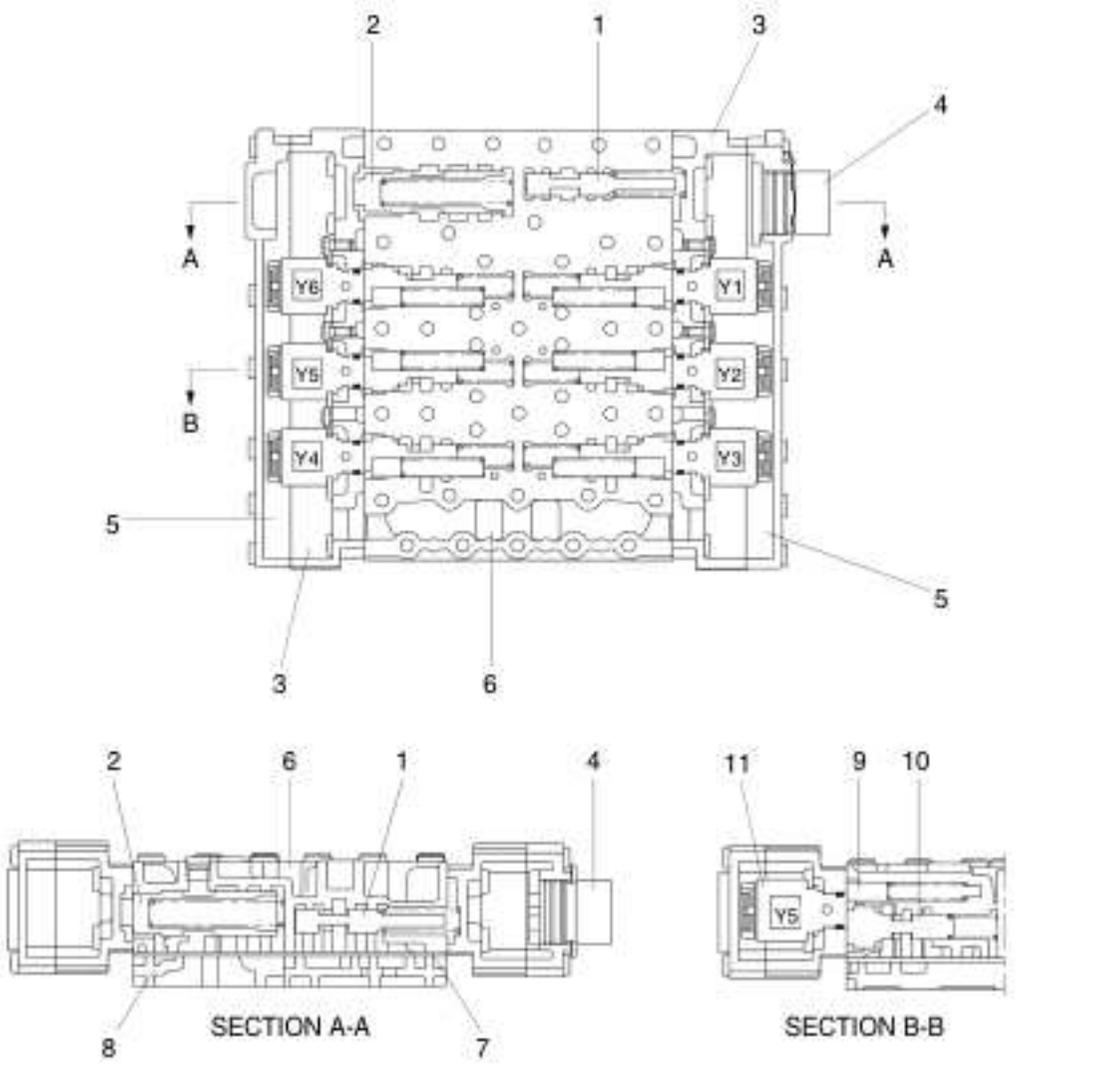
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4) ELECTRO-HYDRAULIC SHIFT CONTROL WITH PROPORTIONAL VALVE



1	Pressure reducing valve (9bar)	7	Intermediate plate
2	Main pressure valve (16+2bar)	8	Duct plate
3	Housing	9	Vibration damper
4	Cable harness	10	Follow-on slide
5	Cover	11	Pressure regulator
6	Valve block		

Transmission control, see schedule of measuring points, hydraulic schematic and electro-hydraulic control unit at page 3-2, 3-14 and 3-64.

The six clutches of the transmission are selected via the 6 proportional valves P1 to P6.
The proportional valve (pressure regulator unit) consists of pressure regulator (e.g. Y6), follow-on slide and vibration damper.

The control pressure of 9 bar for the actuation of the follow-on slides is created by the pressure reducing valve.
The pressure oil (16+2bar) is directed via the follow-on slide to the respective clutch.

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③ Determine dimension III (bearing width).

Dimension III e.g. ..... 63.60 mm

Calculation example A :

Dimension I	331.25 mm
Dimension II	- 265.00 mm
Dimension III	- 63.60 mm
Difference = shim	s = 2.60 mm



7606AX127

Reassembly of input pinion

① Undercool the external bearing outer ring and insert it into the axle drive housing until contact is obtained.

Driver tool	5870 050 007
Handle	5870 260 004



7606AX128

② Insert the determined shim e.g. s = 2.60 mm into the housing hole.



7606AX129

③ Undercool the internal bearing outer ring and bring it into contact position in the housing hole by using the assembly fixture.

Assembly fixture	AA00 623 955



7606AX130

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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 2)
Step 3. Troubleshooting
Step 4. Tests and adjustments (see group 3)

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 2. Do hydraulic pump flow test in group 3.
No or Slow hydraulic functions	Failed or worn hydraulic 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 2.
	Blocked or damaged line.	Inspect lines.
	Faulty pilot control valve (RCV).	Do pilot control valve (RCV) pressure test in group 3.
	Binding loader control valve (MCV) spool.	Inspect valve.
	Faulty flow amplifier.	Check priority valve, orifice of flow amplifier specification.

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③ Machine information



- Version
  - Software versions of MCU, cluster and monitor can be checked.
- Status info
  - The machine status can be checked.

④ Service contact



- The phone number of the service man can be checked and changed.

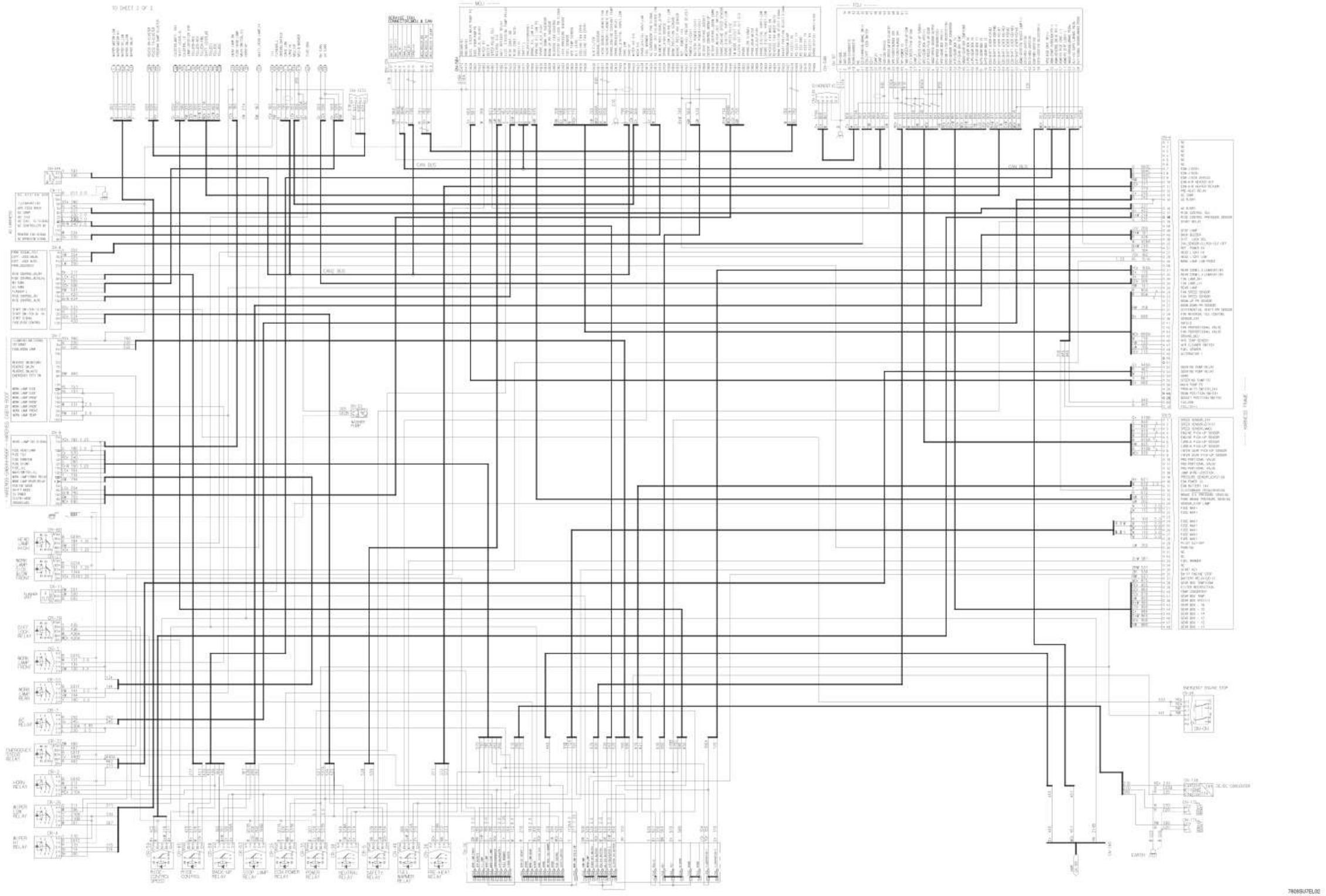
⑤ Service menu



- The software of monitor can be downloaded.

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· ELECTRICAL CIRCUIT (1/2)



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