WHEEL LOADER

SERVICE MANUAL

HL770-9A

HYUNDAI

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SECTION 1 GENERAL

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Fault code (Hex)	Meaning of the fault code possible reason for fault detection	Reaction of the TCU	Possible steps to repair
B3	Slippage at clutch K3 TCU calculates a differential speed at closed clutch K3. If this calculated value is out of range, TCU interprets this as slipping clutch · Low pressure at clutch K3 · Low main pressure · Wrong signal at internal speed sensor · Wrong signal at output speed sensor · Wrong size of the sensor gap · Clutch is defective	TCU shifts to neutral OP mode : Limp home If failure at another clutch is pending TCU shifts to neutral OP mode : TCU shutdown	· Check pressure at clutch K3 · Check main pressure in the system · Check sensor gap at internal speed sensor · Check sensor gap at output speed sensor · Check signal at internal speed sensor · Check signal at output speed sensor Replace clutch
B4	Slippage at clutch K4 TCU calculates a differential speed at closed clutch K4. If this calculated value is out of range, TCU interprets this as slipping clutch · Low pressure at clutch K4 · Low main pressure · Wrong signal at internal speed sensor · Wrong signal at turbine speed sensor · Wrong size of the sensor gap · Clutch is defective	TCU shifts to neutral OP mode : Limp home If failure at another clutch is pending TCU shifts to neutral OP mode : TCU shutdown	· Check pressure at clutch K4 Check main pressure in the system · Check sensor gap at internal speed sensor · Check sensor gap at turbine speed sensor · Check signal at internal speed sensor · Check signal at turbine speed sensor Replace clutch
B5	Slippage at clutch KV TCU calculates a differential speed at closed clutch KV. If this calculated value is out of range, TCU interprets this as slipping clutch · Low pressure at clutch KV · Low main pressure · Wrong signal at internal speed sensor · Wrong signal at turbine speed sensor · Wrong size of the sensor gap · Clutch is defective	TCU shifts to neutral OP mode : Limp home If failure at another clutch is pending TCU shifts to neutral OP mode : TCU shutdown	· Check pressure at clutch KV · Check main pressure in the system · Check sensor gap at internal speed sensor · Check sensor gap at turbine speed sensor · Check signal at internal speed sensor · Check signal at turbine speed sensor · Replace clutch
B6	Slippage at clutch KR TCU calculates a differential speed at closed clutch KR. If this calculated value is out of range, TCU interprets this as slipping clutch · Low pressure at clutch KR · Low main pressure · Wrong signal at internal speed sensor · Wrong signal at turbine speed sensor · Wrong size of the sensor gap · Clutch is defective	TCU shifts to neutral OP mode : Limp home If failure at another clutch is pending TCU shifts to neutral OP mode : TCU shutdown	· Check pressure at clutch KR Check main pressure in the system · Check sensor gap at internal speed sensor · Check sensor gap at turbine speed sensor · Check signal at internal speed sensor · Check signal at turbine speed sensor · Replace clutch
B7	Overtemp sump TCU measured a temperature in the oil sump that is over the allowed threshold.	No reaction OP mode : Normal	· Cool down machine · Check oil level · Check temperature sensor
B9	Overspend engine	Retarder applies OP mode : Normal	-
BA	Differential pressure oil filter TCU measured a voltage at differential pressure switch out of the allowed range · Oil filter is polluted · Cable/connector is broken or cable/connector is contacted to battery voltage or vehicle ground · Differential pressure switch is defective	No reaction OP mode : Normal	· Check oil filter · Check wiring from TCU to differential pressure switch · Check differential pressure switch(Measure resistance)

※ Some fault codes are not applied to this machine.

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Housing dimension :

(1) Press on equally the bearing inner ring and detemine Dimension I, from the mounting face to the bearing inner ring.
Dimension I e.g ..... 43.65 mm

* Take several measuring points and determine the mean value.

Then remove the bearing inner ring again.

* Special tool

Measuring shaft	5870 200 022
Digital depth gauge	5870 200 072

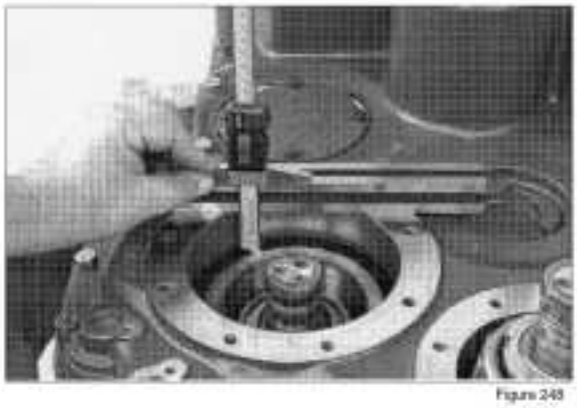


Figure 248

Cover dimension :

(2) Determine Dimension II, from the mounting face until contact/bearing inner ring.
Dimension II e.g ..... 42.12 mm

* Special tool

Straightedge	5870 200 022
Gauge blocks	5870 200 067
Digital depth gauge	5870 200 072

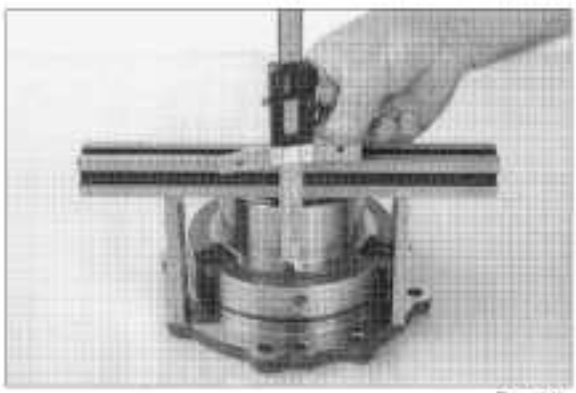


Figure 249

Example :

Dimension I		43.65 mm
Dimension II		- 42.12 mm
Difference		= 1.53 mm
Bearing preload	e.g.	+ 0.02 mm
Resulting shim(s)	s	= 1.55 mm

(3) Put on the shim.



Figure 250

(4) Heat the bearing inner ring and place it until contact.

⚠ Use safety gloves.

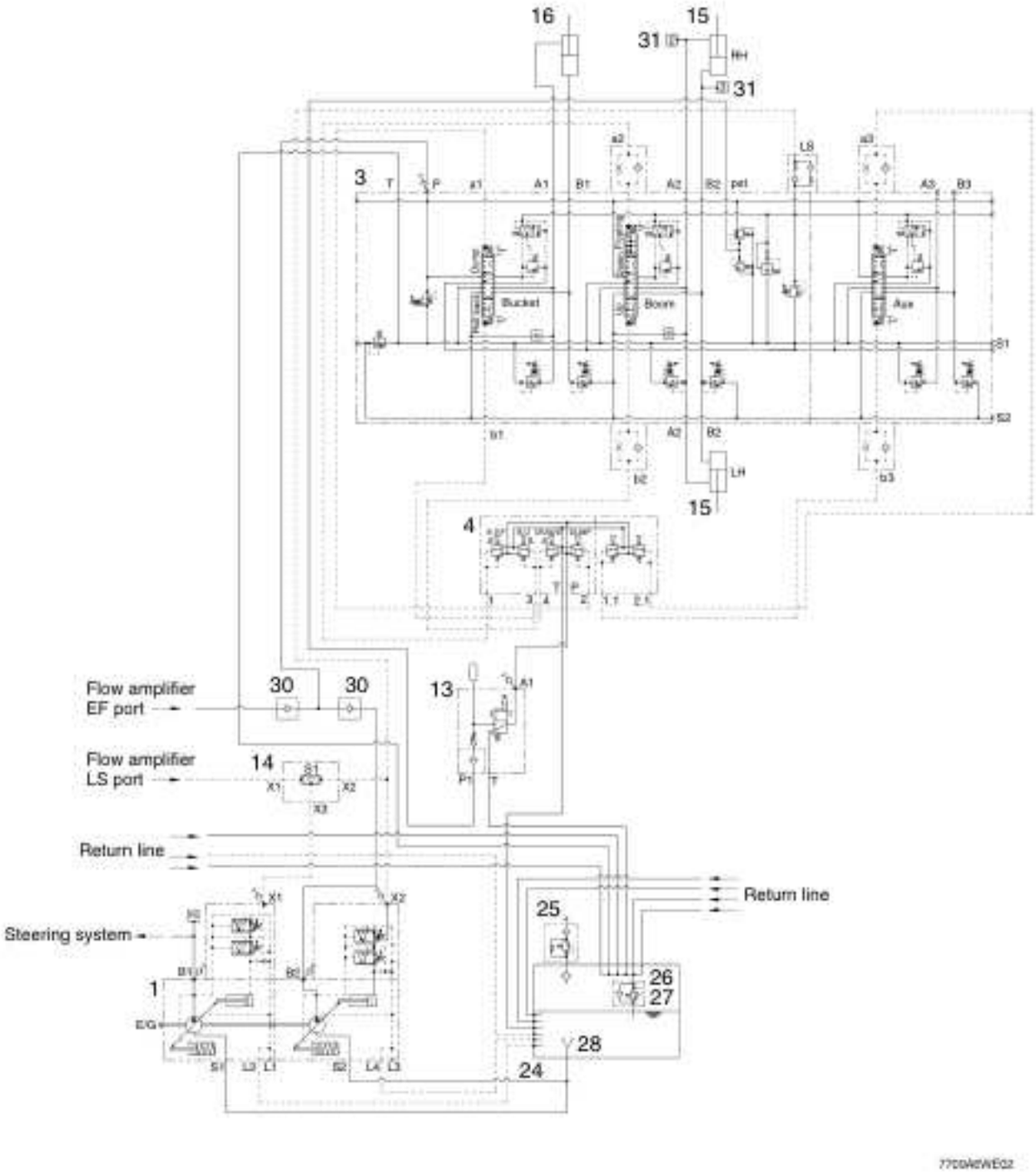
* Install the bearing inner ring after cooling down subsequently (press).



Figure 251

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3. WORK EQUIPMENT HYDRAULIC CIRCUIT



1	Main pump	15	Boom cylinder	27	Bypass valve
3	Main control valve	16	Bucket cylinder	28	Strainer
4	Remote control valve	24	Hydraulic tank	30	Check valve
13	Safety valve	25	Air breather	31	Pressure sensor
14	Shuttle valve	26	Return filter		

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5) DISASSEMBLY AND ASSEMBLY

(1) Spool

① Loosen the bolt (2EA).

- Tool : Wrench 5 mm
- Tightening torque : 0.85 kgf · m (6.1 lbf · ft)



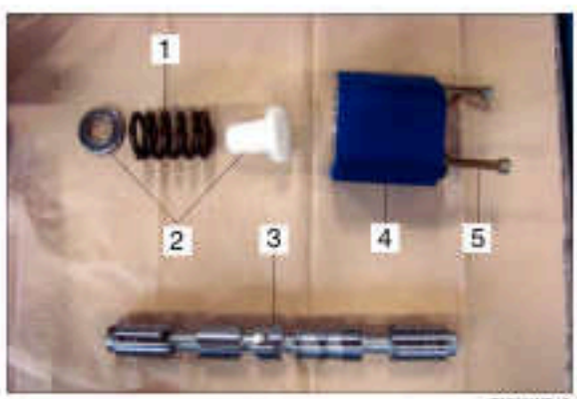
T6096WE40

② Remove the cover, spring retainer, spring and spool.



T6096WE41

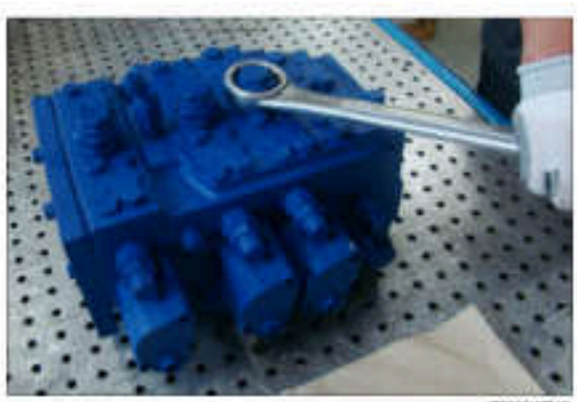
1 Spring
2 Spring ratainer
3 Spool
4 Cover
5 Bolt



T6096WE42

(2) Compensator valve

- Tool : Spanner 42 mm



T6096WE43

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⑤ Rear camera



- Reverse mode
  - If transmission engages the reverse gear (R1~R3), the camera mode is displayed automatically in main display.
- Active camera
  - Three cameras can be installed on the machine.
- Display order
  - Set the channel sequence of each camera.

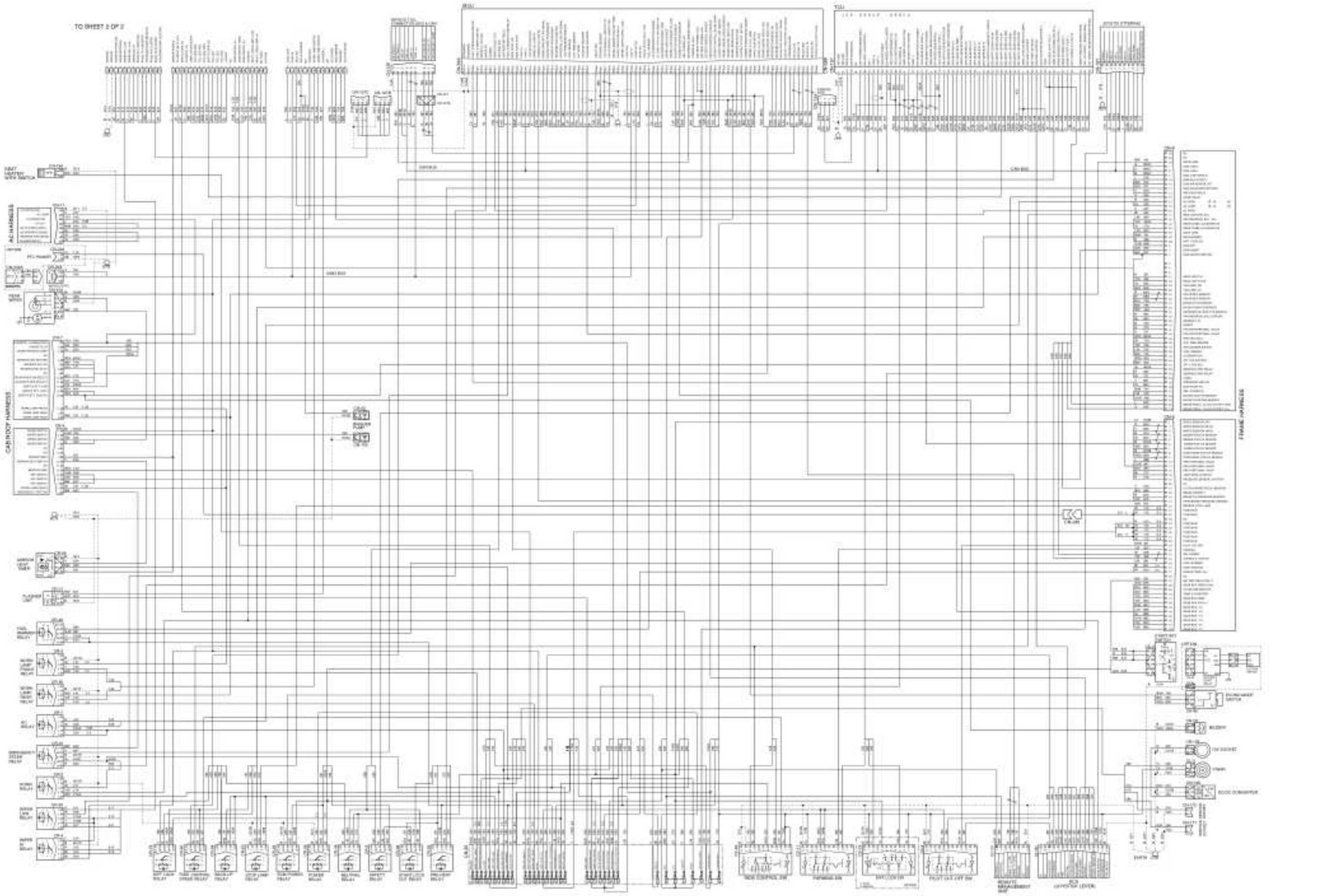
- If the camera was not equipped, this menu is not useful.
- In main display, if the ▣/**ESC** button is pushed, the first ordered display camera will be viewed.

⑥ Language



- User can select preferable language and all display are changed the selected language.
- 12 multi-language available.

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