FORKLIFT

SERVICE MANUAL

BRP

HYUNDAI

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CONTENTS

SECTION 1 GENERAL

Group 1 Safety hints 1-1
Group 2 Specifications 1-5
Group 3 Periodic replacement 1-15

SECTION 2 REMOVAL & INSTALLATION

Group 1 Structure 2-1
Group 2 Removal and Installation of Unit 2-2

SECTION 3 POWER TRAIN SYSTEM

Group 1 Structure and operation 3-1
Group 2 Troubleshooting 3-3
Group 3 Disassembly and assembly 3-5

SECTION 4 BRAKE SYSTEM

Group 1 Structure and function 4-1

SECTION 5 STEERING SYSTEM

Group 1 Structure and function 5-1

SECTION 6 HYDRAULIC SYSTEM

Group 1 Structure and function 6-1
Group 2 Operational checks and troubleshooting 6-17
Group 3 Disassembly and assembly 6-21

SECTION 7 ELECTRICAL SYSTEM

Group 1 Component location 7-1
Group 2 Electrical circuit 7-2
Group 3 Electric components 7-3

SECTION 8 MAST

Group 1 Structure 8-1
Group 2 Operational checks and troubleshooting 8-3
Group 3 Adjustment 8-6
Group 4 Removal and installation 8-9

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(2) Determination of necessary shim thickness for optimum setting of torsional backlash of the crown Gear

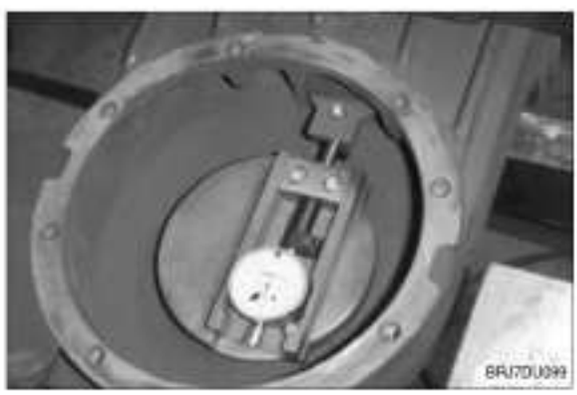
Correct setting of the crown gear is necessary to obtain an optimum torsional backlash of the bevel gearing.

Bearing width "B" for the taper roller bearing on the crown gear can be measured according to chapter 5) at page 3-25 "Determination of bearing width and difference of a taper roller bearing".

Thickness of the shim and the correct setting of the crown gear respectively will be determined acc. to the following method :



① Put the measuring fixture into the housing bearing bore L3 until contact is obtained (see Figure 101).
(S) Measuring fixture 62232



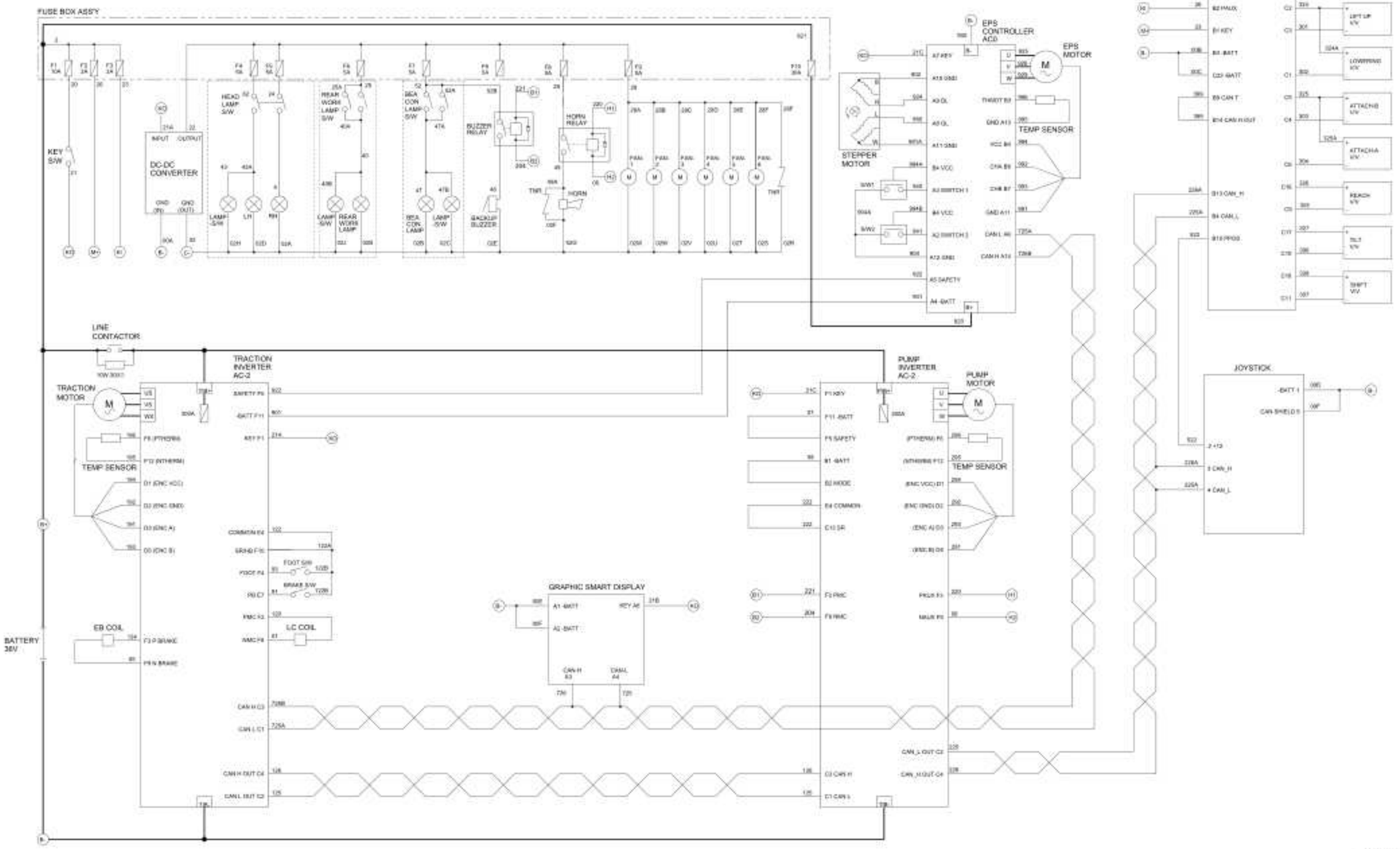
② Put measuring fixture dial gauge to zero position.
At zero position of the dial gauge the following can be taken as basis :
Dimension "3" = 110.50 mm

Determine Dimension "4" in housing bearing bore L2 and add it to the respective Dimension "3".

Example:

Dimension "3"	110.50 mm
Dimension "4"	0.01 mm
Housing dimension "G"	110.51 mm

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9) ANALYSIS OF GRAPHIC SMART DISPLAY RELATED ALARMS

(1) Graphic Smart Display alarms

① WATCHDOG

Cause:

At start-up the watch dog signal is already active before the software has generated it. At standby or running condition the watch dog signal is not active (in alarm status).

Troubleshooting:

The WD hardware circuit or microcontroller output port are damaged. In both cases no external component are involved. Replace the logic board.

② COIL SHORTED

Cause:

This alarm occurs when there is a short circuit of the AUXILIARY coil connected to CNB#1 output. After the overload condition has been removed, the alarm exits automatically by releasing and then enabling a travel demand.

Troubleshooting:

A) The typical root cause for this error code to be displayed is in the harness or in the load coil. So the very first check to carry out concerns connections between dashboard outputs and loads.

B) In case no failures/problems have been found externally, the problem is in the logic card, which has to be replaced.

③ DRIVER SHORTED

Cause:

The driver of the auxiliary electro valve coil is shorted.

Troubleshooting:

A) Check if there is a short or a low impedance pull-down between NAUX (CNB#1) and -BATT.

B) The driver circuit is damaged in the logic board, which has to be replaced.

④ AUX DRIVER OPEN

Cause:

The AUX coil driver is not able to drive the load. The device itself or its driving circuit is damaged.

Troubleshooting:

This type of fault is not related to external components; replace the logic board.

⑤ HARDWARE FAULT

Cause:

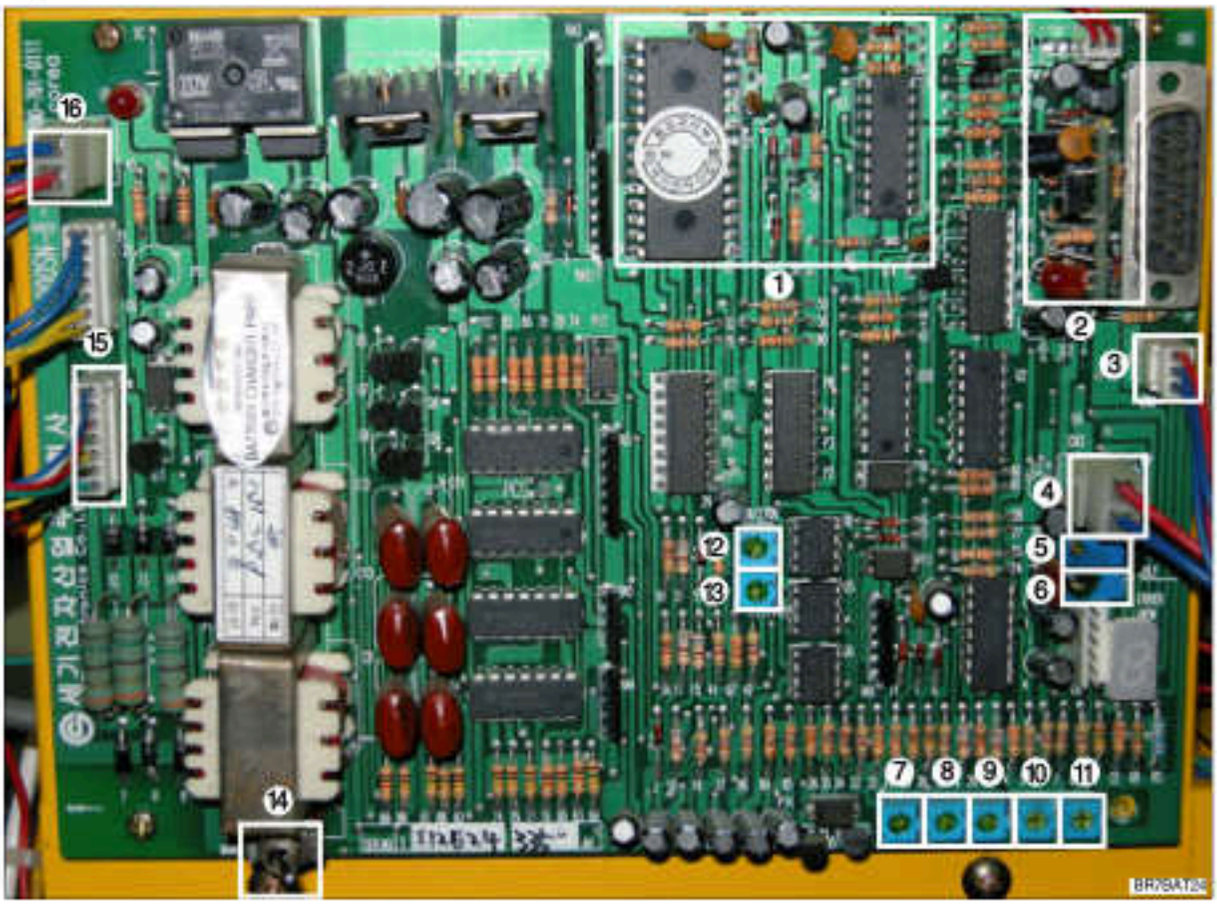
At key-on the dashboard checks if the AUX driver is turned off by a not active (alarm status) watch-dog signal. If it is not turned off then the alarm is generated.

Troubleshooting:

The problem is inside the logic, no external component are involved, replace the logic board.

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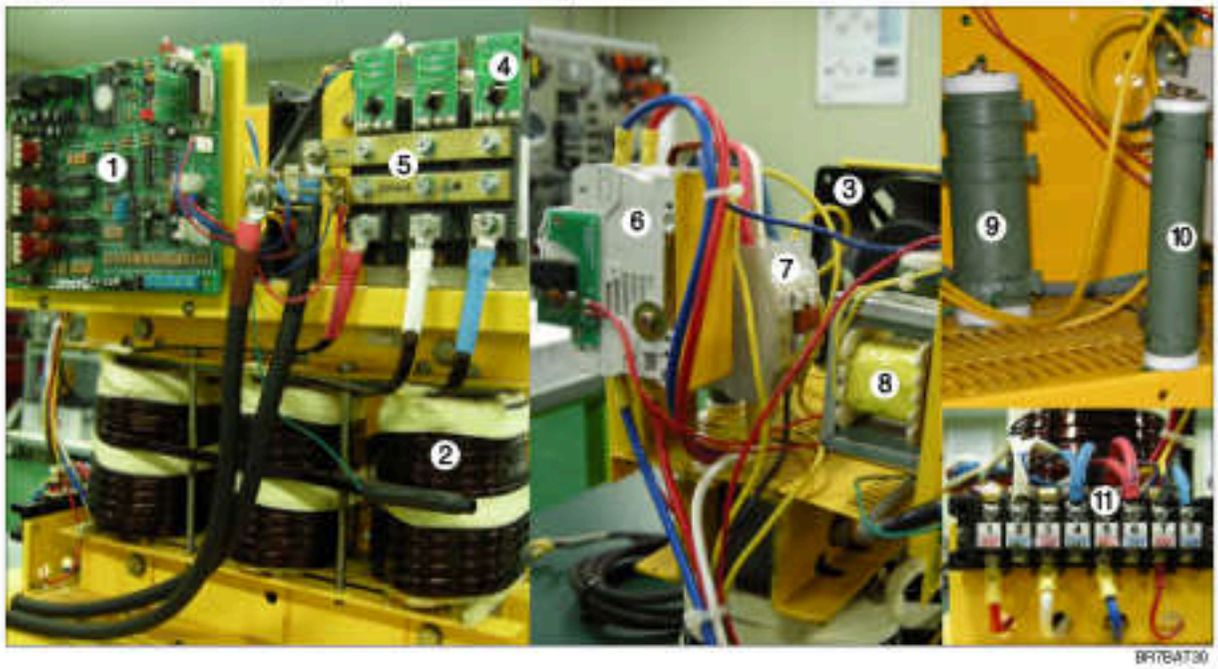
8) PCB MAJOR PARTS NAME AND LOCATION



1	Micro control unit #1	7	Over voltage	13	Set input over current
2	Micro control unit #2	8	Monitor level yellow	14	Auto/manual switch
3	CN6 voltage detect	9	Monitor level green	15	SCR control connector
4	SH current detect	10	Under current	16	CN4 RY contact point
5	Adjust charging current	11	Over current		
6	Adjust charging voltage	12	Set input over voltage		

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(3) Names of each part (independent items)



1	Main PCB board	5	Shunt	9	Resistance (RD)
2	Main trans (Class H)	6	NFB	10	Resistance (DR)
3	Cooling fan	7	MG S/W	11	TAP changer
4	SCR module	8	Assistant trans		

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