FORKLIFT

SERVICE MANUAL

15, 18, 20BT7

HYUNDAI

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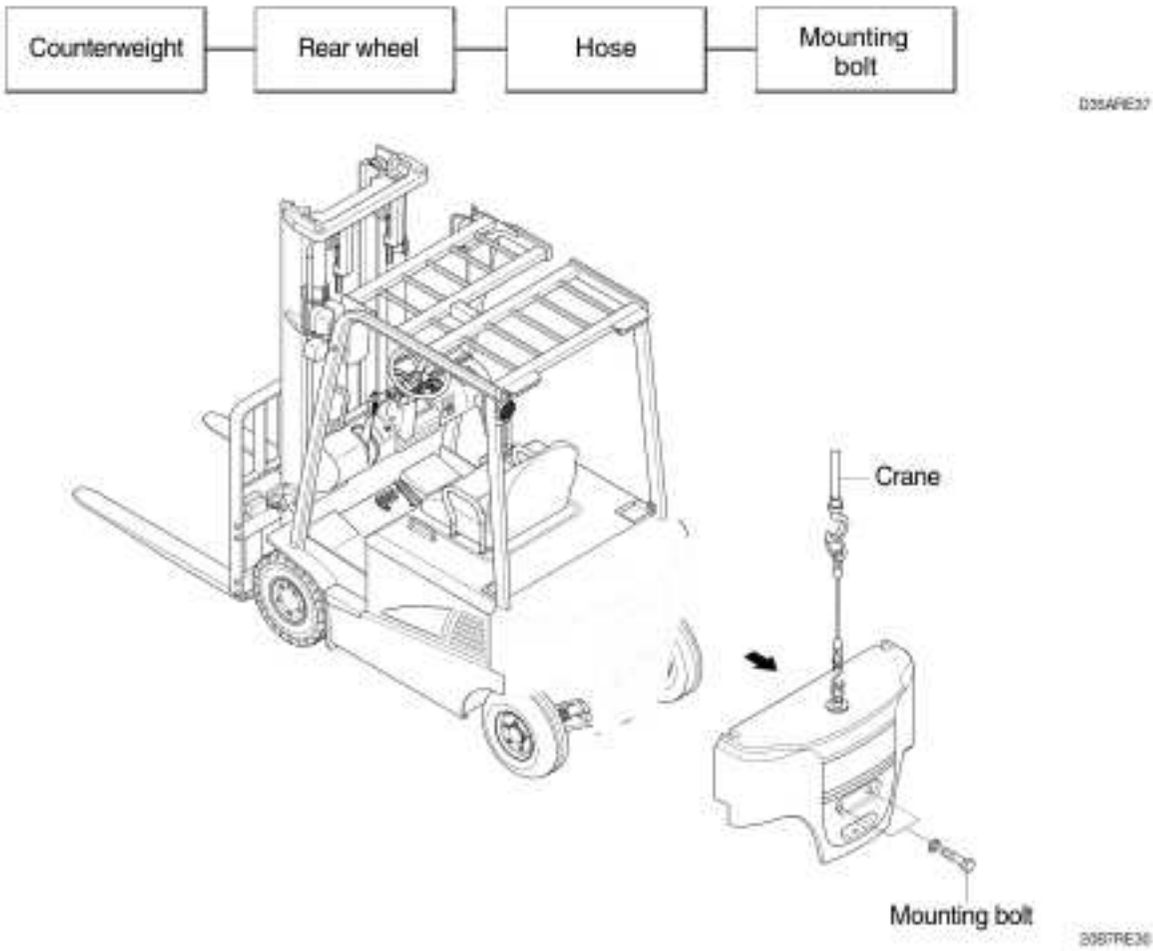
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2) 16/18/20B-7

(1) Removal



① **Counterweight**

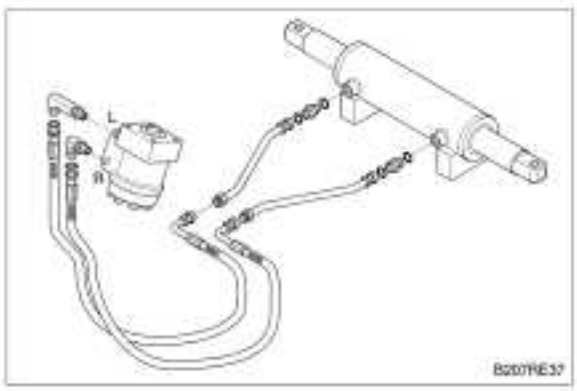
Install a lifting tool in the counterweight, and raise with a crane.
Remove the mounting bolts, raise slightly and move to the rear.

- Weight of counterweight(standard)

16B-7	550kg (1210lb)
18B-7	550kg (1210lb)
20B-7	645kg (1420lb)

- Tightening torque : 85~115 kgf · m (615~832lbf · ft)

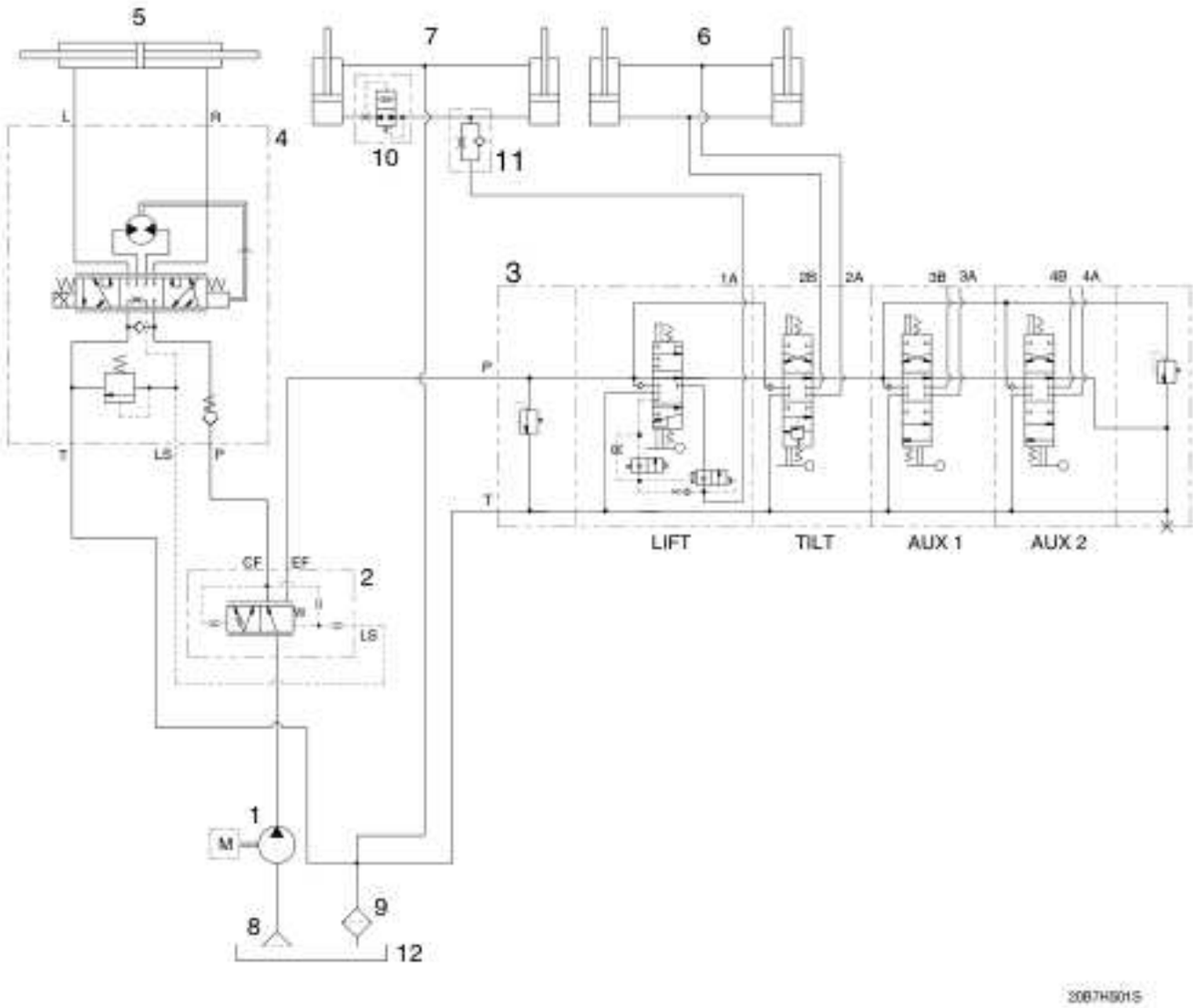
② **Hose**



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HYDRAULIC CIRCUIT (with OPSS)

(16B-7 : #0006-, 18B-7 : #0005-, 20B-7 : #0009-)



1	Hydraulic gear pump with priority valve	7	Suction strainer
2	Main control valve	8	Down control valve
3	Steering unit	9	Down safety valve
4	Steering cylinder	10	Return filter
5	Tilt cylinder	11	Hydraulic oil tank
6	Lift cylinder		

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⑤ **CAN BUS KO**

Cause:

Graphic Smart Display doesn't receive messages from canbus line or the hour meter synchronization at key-on fails.

Troubleshooting:

A) If this fault code is displayed together with other alarm messages, the fault is probably to be looked for in the Graphic Smart Display can interface, since the display seems to be unable to receive any can message. So it is suggested to check Graphic Smart Display canbus wiring and connection.

B) Otherwise, the fault is in the can interface of other modules present on canbus network.

(2) Graphic Smart Display warnings

① **EEPROM KO**

Cause:

It's due to an HW or SW defect of the non-volatile embedded memory supporting the dashboard parameters. This alarm does not inhibit the machine operations, but the truck will work with the Graphic Display parameters default values.

Troubleshooting:

Try to execute a CLEAR EEPROM operation (refer to console manual).

Switch the key off and on to check the result. If the alarm occurs permanently, it is necessary to replace the logic. If the alarm disappears, the previously stored parameters will have been replaced by the default parameters.

② **MAINTENANCE NEEDED**

Cause:

This is just a warning to call for the time programmed maintenance.

Troubleshooting:

It is just enough to turn the MAINTENANCE DONE option to level ON after the maintenance is executed.

(3) Alarms visualization

When an alarm condition occurs, Graphic Smart Display gives the information showing the initial of module in which the alarm occurred, the alarm code and description.

For example, the information:

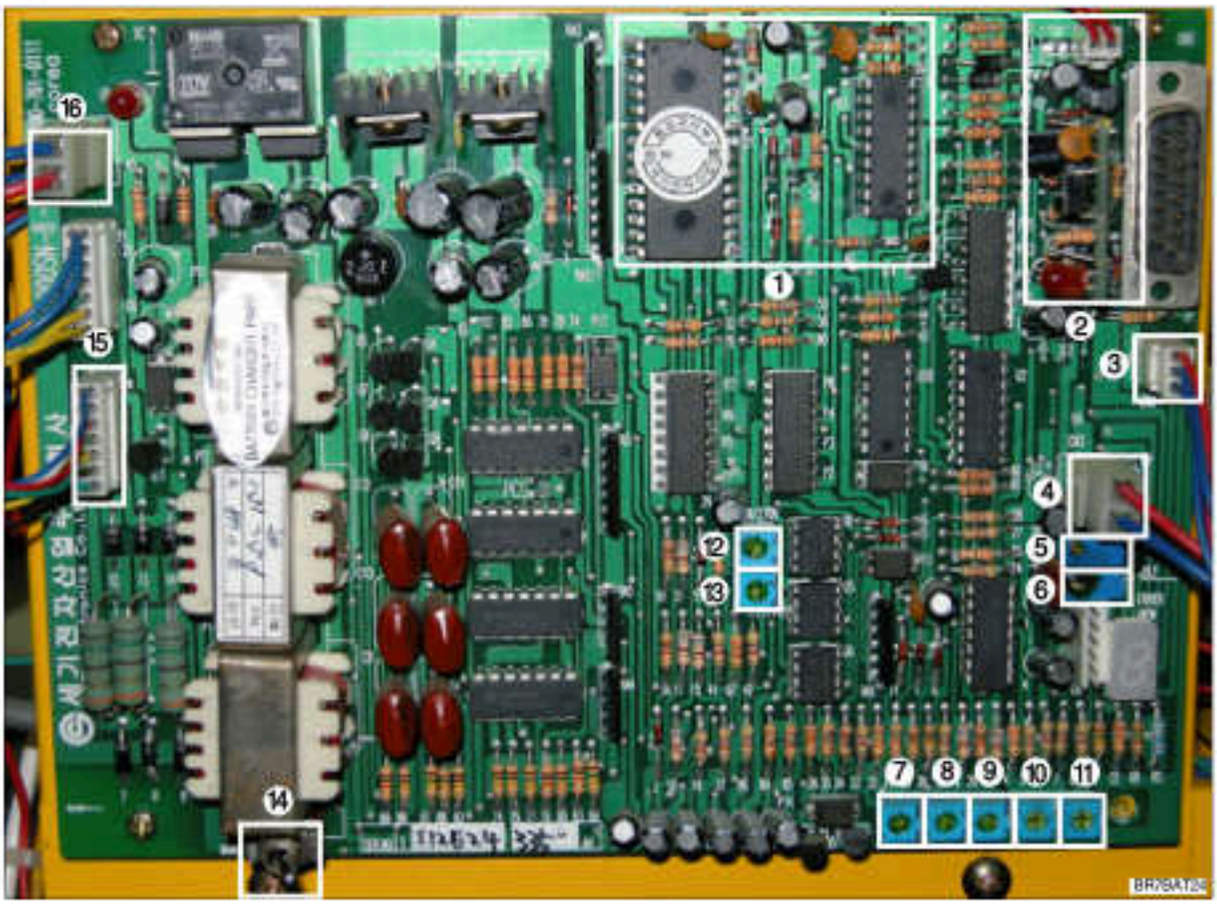
```
M 245:
   WRONG SET BAT
```

means that the alarm 245 - "WRONG SET BATTERY" occurred in the master traction controller (M).

Here the table with the alarm codes and the respective meaning is shown.

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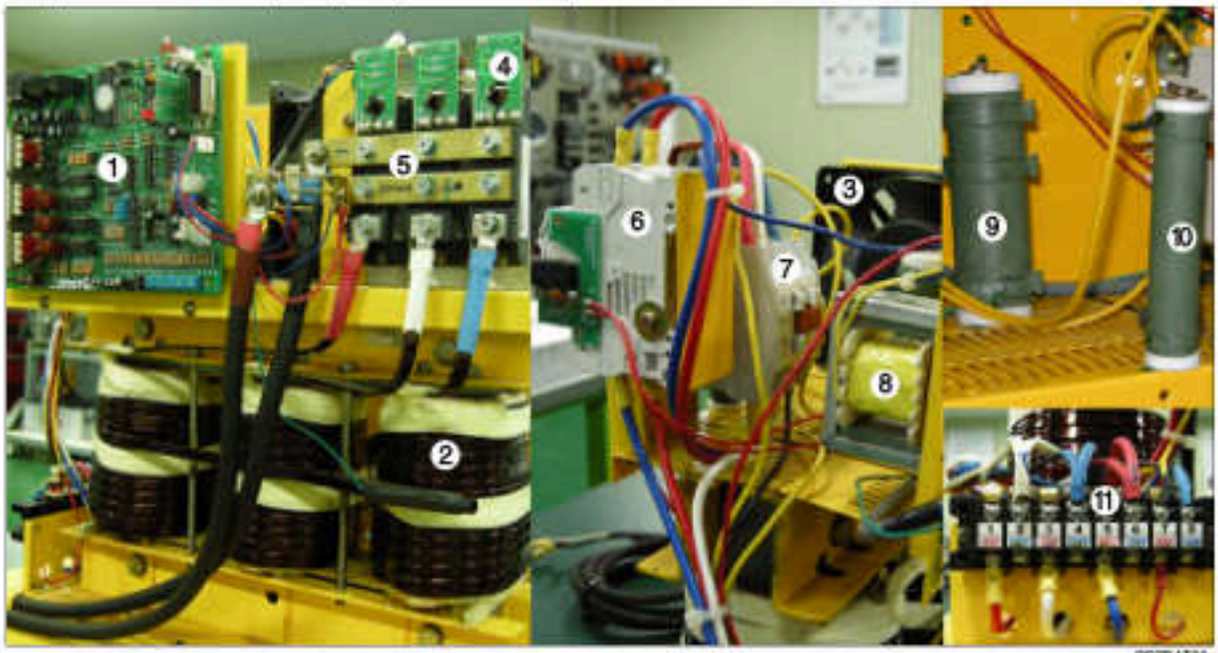
8) PCB MAJOR PARTS NAME AND LOCATION



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)

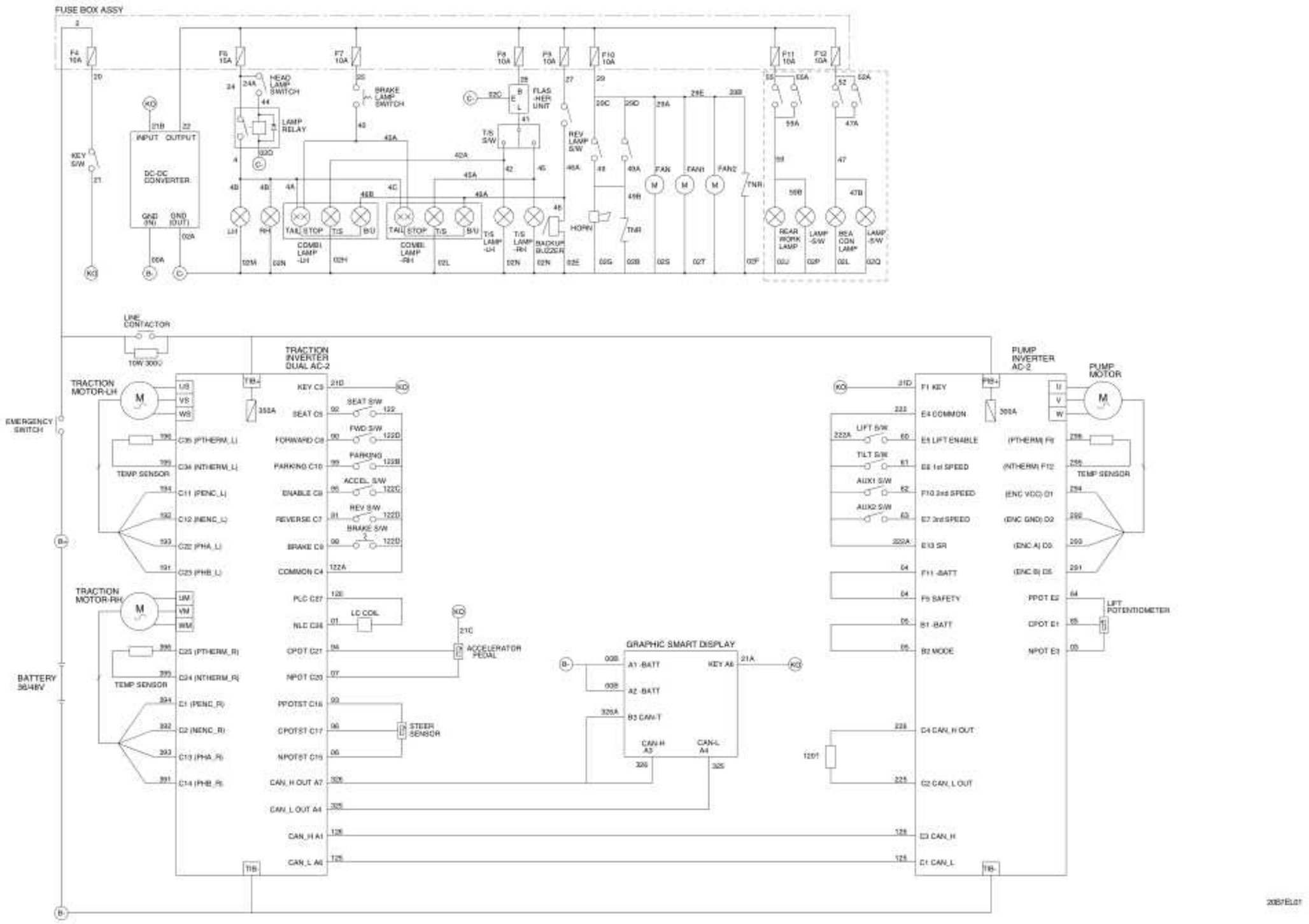


1	Main PCB board	5	Shunt	9	Resistance (RD)
2	Main trans (Class H)	6	NFB	10	Resistance (DR)
3	Cooling fan	7	MG S/W	11	TAP changer
4	SCR module	8	Assistant trans		

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GROUP 2 ELECTRICAL CIRCUIT (without OPSS)

(15BT-7 : -#0034, 18BT-7 : -#0041, 20BT-7 : -#0021 / 16B-7 : -#0005, 18B-7 : -#0004, 20B-7 : -#0008)



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