CRAWLER EXCAVATOR

SERVICE MANUAL

R450, R500LC-7A

HYUNDAI

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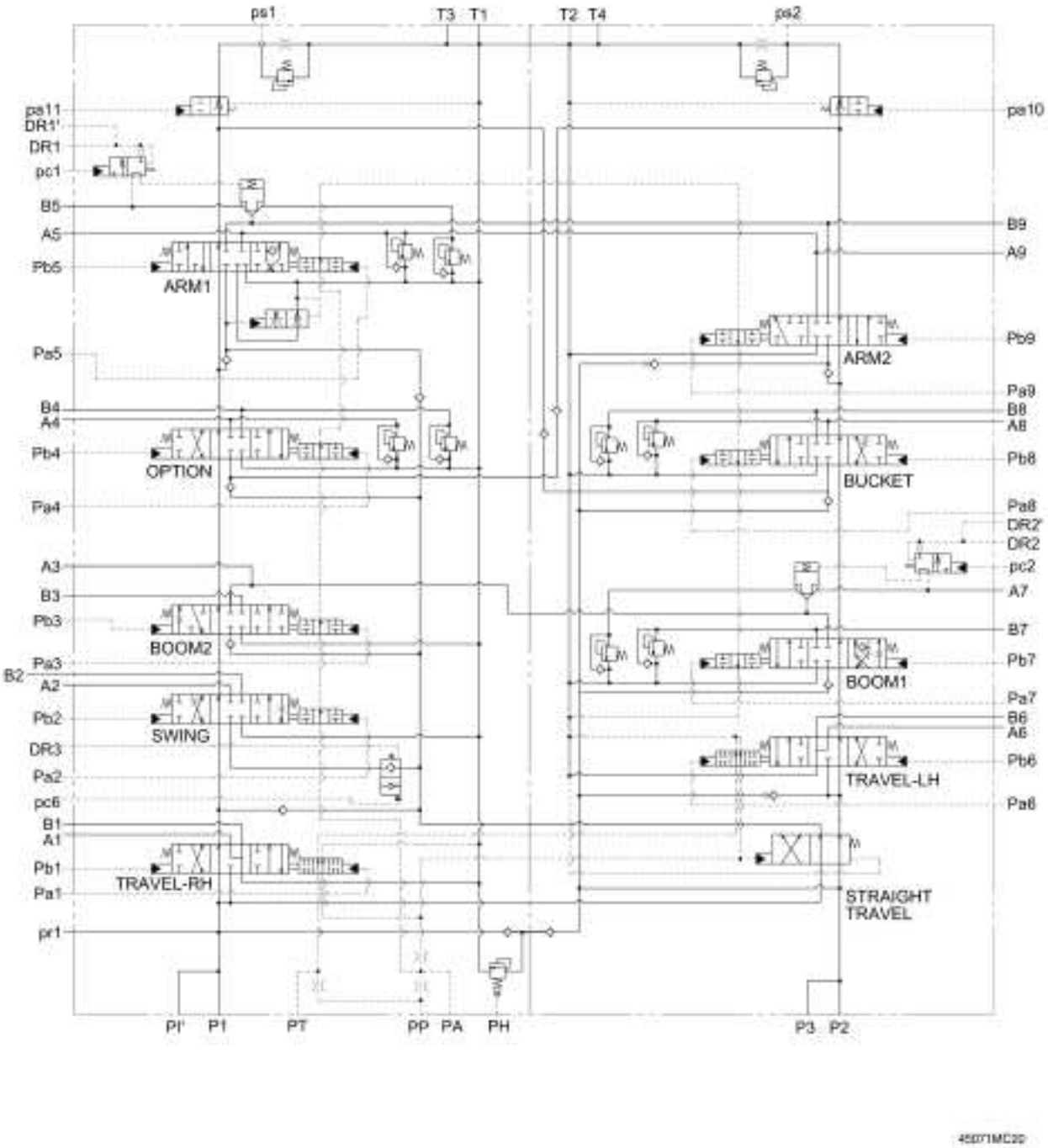
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4. WEIGHT

Item	R500LC-7A	
	kg	lb
Upperstructure assembly	24540	54100
Main frame weld assembly	3550	7830
Engine assembly	940	2070
Main pump assembly	180	400
Main control valve assembly	420	930
Swing motor assembly	230	510
Hydraulic oil tank assembly	450	990
Fuel tank assembly	250	550
Counterweight(for 7.06m boom)	10200	22500
Counterweight(for 9.0m boom)	10700	23590
Cab assembly	310	680
Center frame support	8070	17790
Lower chassis assembly	15200	33510
Lower track frame	2130	4700
Swing bearing	600	1320
Travel motor assembly	360	790
Turning joint	50	110
Track recoil spring and idler	300	660
Idler	250	550
Carrier roller	80	180
Track roller	80	180
Track-chain assembly(600mm standard triple grouser shoe)	6050	13330
Front attachment assembly(7.06m boom, 3.38m arm, 2.15m³ SAE heaped bucket)	10160	22400
7.06m boom assembly	3310	7300
6.55m boom assy	3180	7010
9.0m boom assy	4060	8950
3.38m arm assembly	1450	3200
2.15m³ SAE heaped bucket	2540	5600
Boom cylinder assembly	910	2010
Arm cylinder assembly	540	1190
Bucket cylinder assembly	300	660
Bucket control rod assembly	130	290

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2. HYDRAULIC CIRCUIT



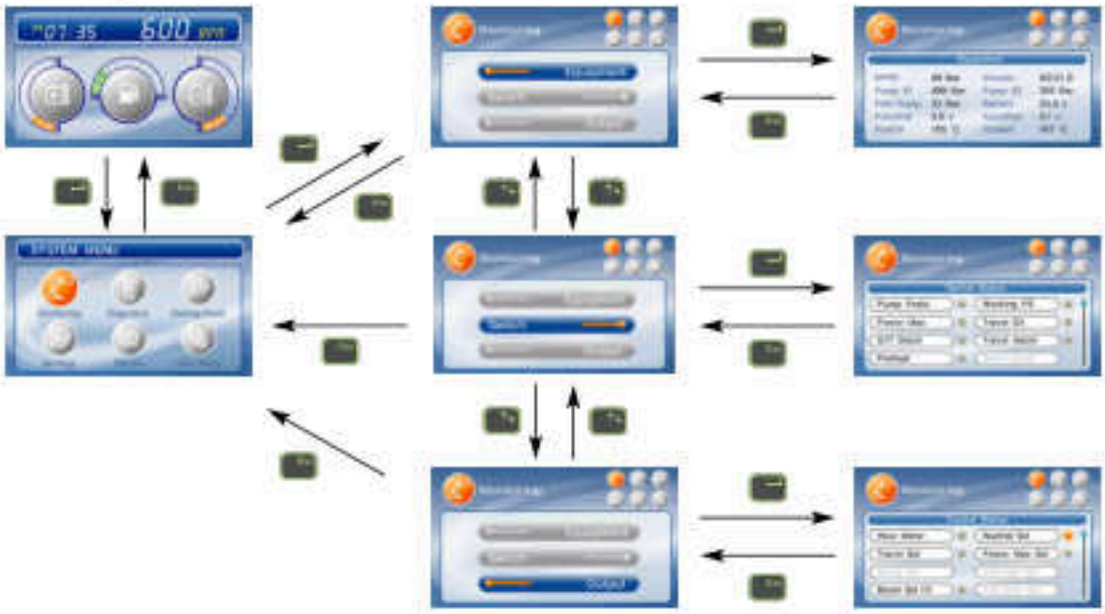
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Fault code No.	Reason	Effect(only when fault code is active)
288	The machine vehicle electronic control unit (VECU) detected a fault with its remote throttle.	The engine will not respond to the remote throttle.
293	High voltage detected at the machine temperature sensor signal pin of the 31-pin machine connector.	No engine protection for machine temperature.
294	Low voltage detected at the machine temperature sensor signal pin of the 31-pin machine connector.	No engine protection for machine temperature.
295	An error in the ambient air pressure sensor signal was detected by the ECM.	Engine is derated to no air setting.
297	High voltage detected at the machine pressure sensor signal pin of the 31-pin machine connector.	No engine protection for machine pressure.
298	Low voltage detected at the machine pressure sensor signal pin of the 31-pin machine connector.	No engine protection for machine pressure.
299	Engine shutdown by device other than key switch before proper engine cool down resulting in filtered load factor above maximum shutdown threshold.	No action taken by the ECM.
311	Current detected at No.1 injector when voltage is turned off.	Current to injector is shut off.
312	Current detected at No.5 injector when voltage is turned off.	Current to injector is shut off.
313	Current detected at No.3 injector when the voltage is turned off	Current to injector is shut off.
314	Current detected at No 6 injector when the voltage is turned off.	Current to injector is shut off.
315	Current detected at No.2 injector when the voltage is turned off.	Current to injector is shut off.
319	Real time clock lost power.	None on performance. Data in the ECM will not have accurate time and date information.
321	Current detected at No.4 injector when the voltage is turned on.	Current to injector is shut off.
322	No current detected at No.1 injector when the voltage is turned on.	Current to injector is shut off.
323	No current detected at No.5 injector when the voltage is turned on.	Current to injector is shut off.
324	No current detected at No.3 injector when the voltage is turned on.	Current to injector is shut off.
325	No current detected at No.6 injector when the voltage is turned on.	Current to injector is shut off.
331	No current detected at No.2 injector when the voltage is turned on.	Current to injector is shut off.
332	No current detected at No.4 injector when the voltage is turned on.	Current to injector is shut off.
341	Severe loss of data from the ECM.	Possible no noticeable performance effects OR engine dying OR hard starting. Fault information, trip information and maintenance monitor data may be inaccurate.
343	Internal ECM error.	Possible none on performance or severe derate.
349	A frequency greater than calibrated threshold was detected at the tail shaft governor signal pin of the 31-pin machine connector.	Calibration dependent power and speed derate.
352	Low voltage detected on the ECM voltage supply line to some sensors (VSEN 1 supply).	Engine is derated to no air setting.

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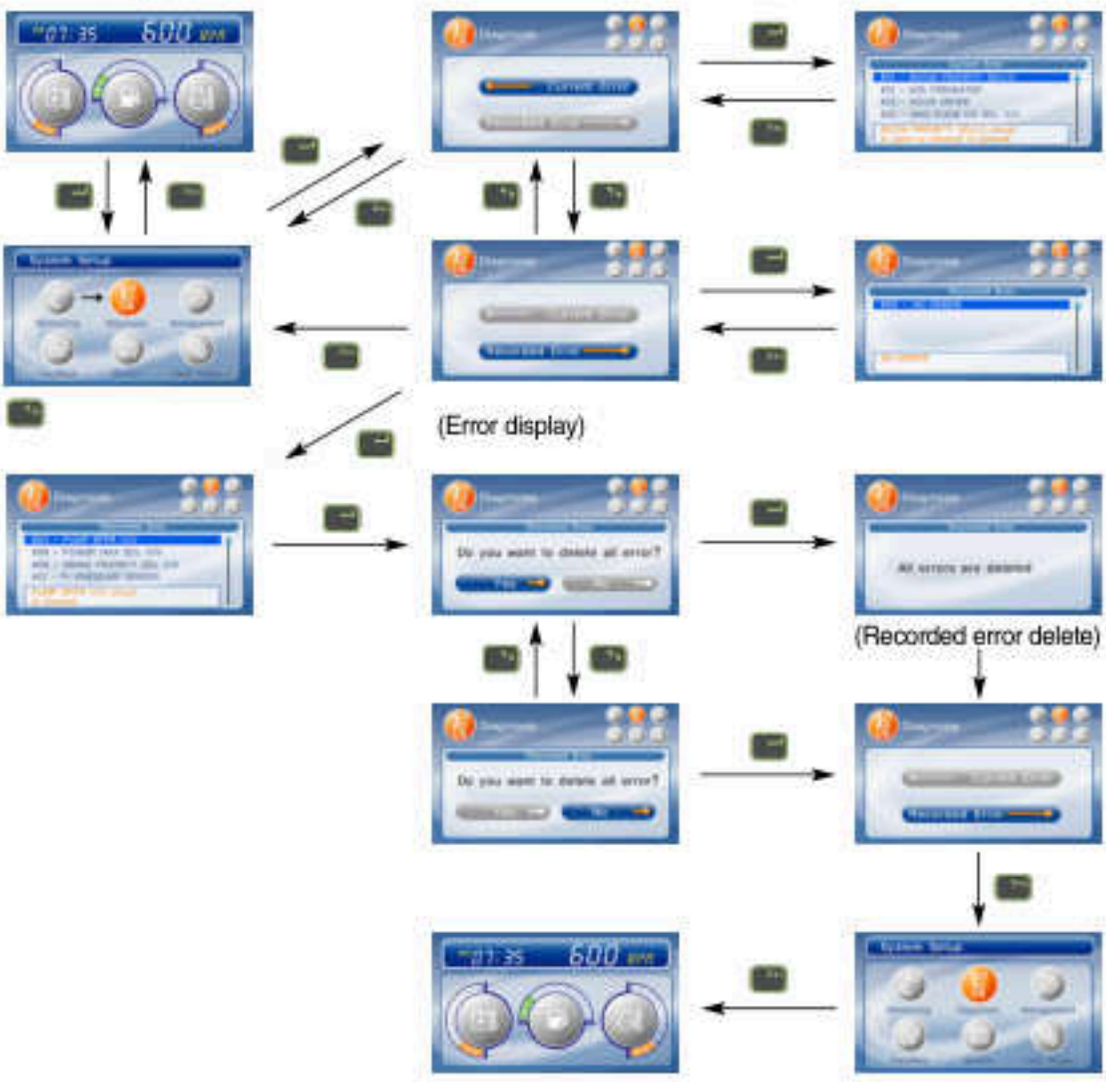
(2) Display map

① Monitoring



② Diagnosis

a. Protocol type 1



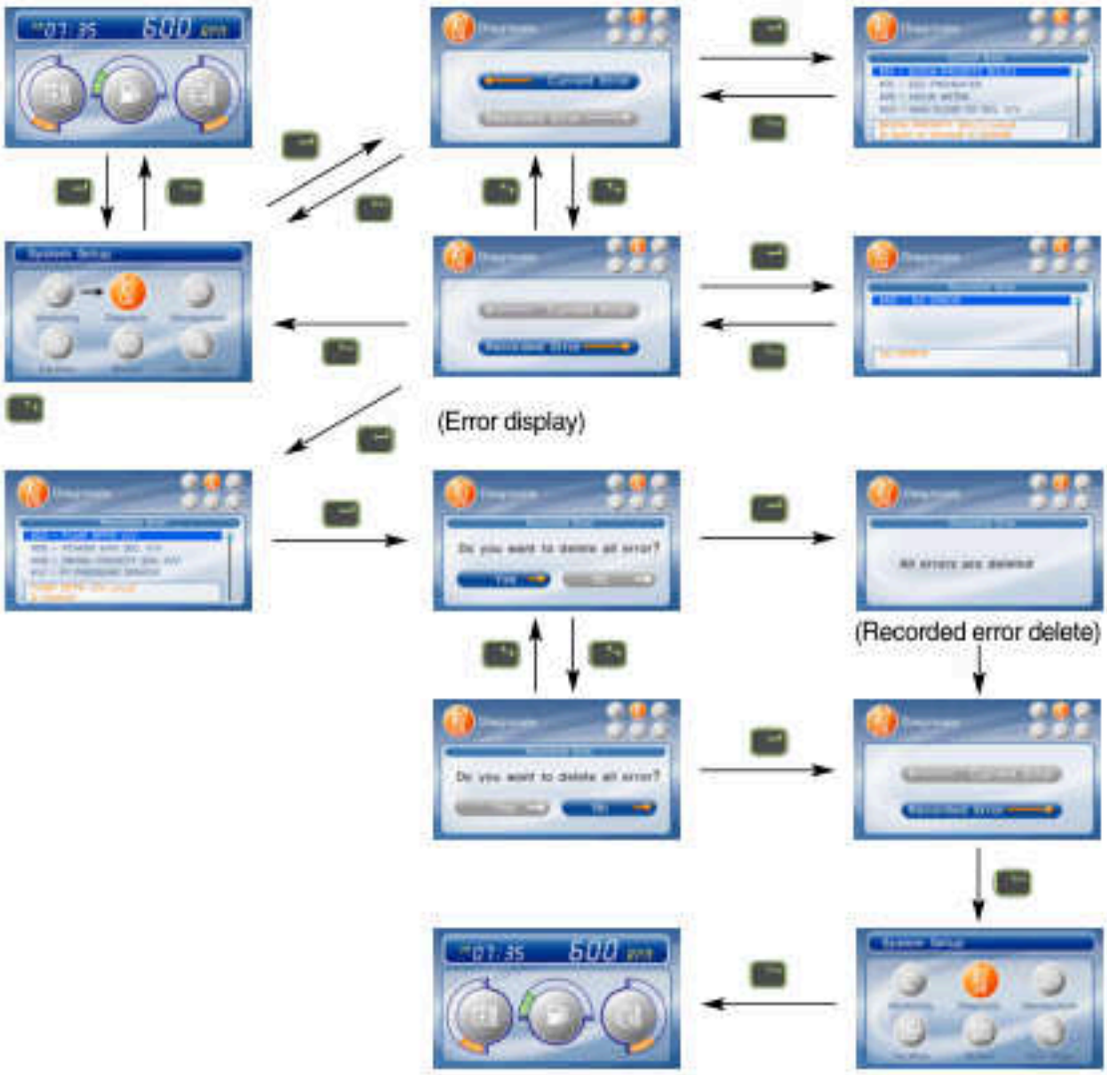
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GROUP 9 SELF-DIAGNOSTIC SYSTEM (R450LC-7A #0118 and up, R500LC-7A #0058 and up)

1. OUTLINE

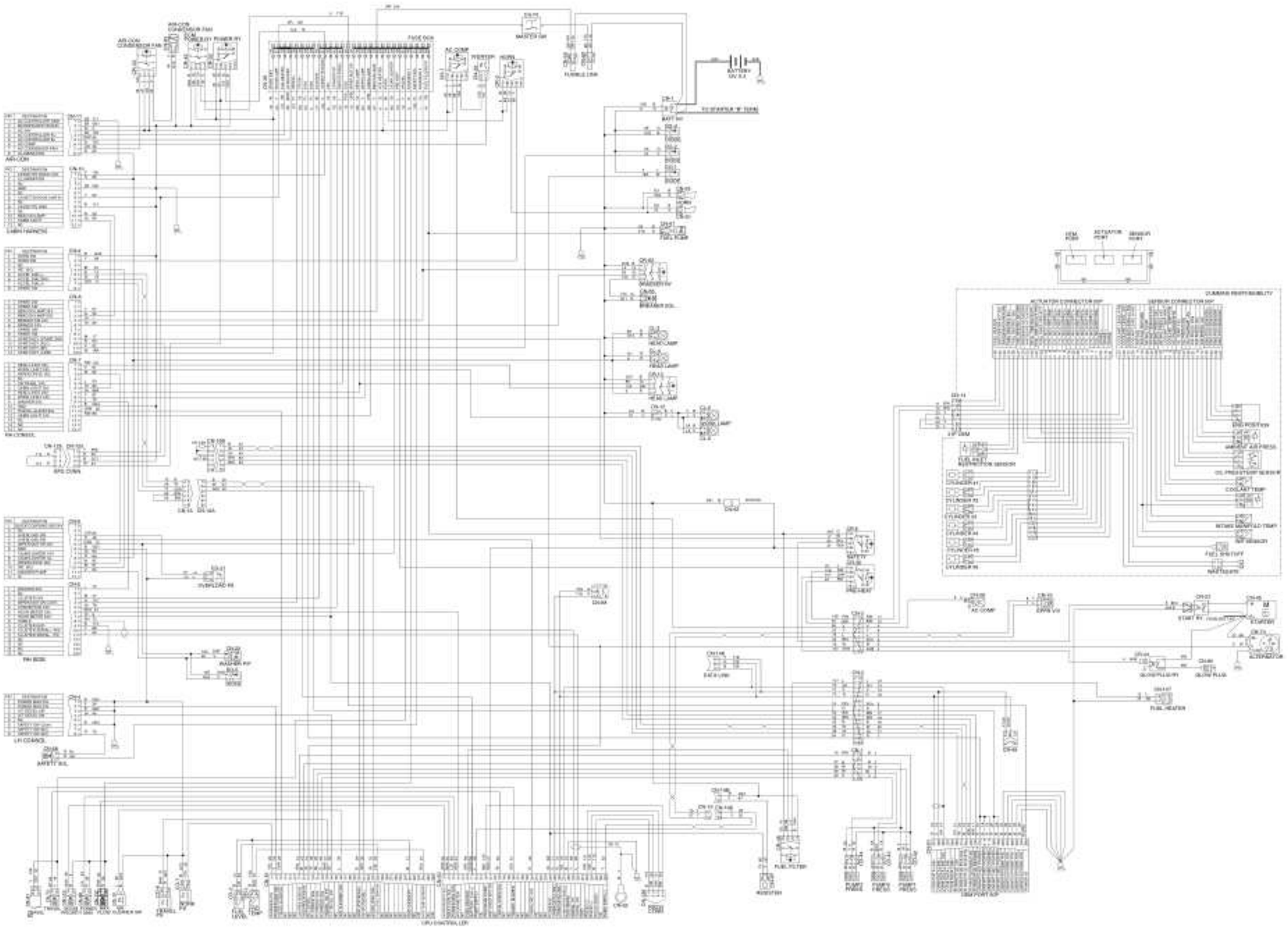
When any abnormality occurs in the NEW CAPO system caused by electric parts malfunction and by open or short circuit, the CPU controller diagnoses the problem and sends the error codes to the cluster and also stores them in the memory.

2. CURRENT ERROR DISPLAY



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· ELECTRICAL CIRCUIT(1/2)



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