WHEELED EXCAVATOR

SERVICE MANUAL

R180W-9S

HYUNDAI

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9. WIPER AND WASHER CIRCUIT

1) OPERATING FLOW

(1) Key switch ON

Fuse box (No.17) → I/conn [CN-97 (7)] → Multifunction switch left lever [12]

Fuse box (No.6) → I/conn [CN-5 (18)] → I/conn [CN-17 (5)] → Wiper motor controller [CN-141(7)]
→ Wiper motor [CN-21(4)]

Fuse box (No.18) → I/conn [CN-5 (24)] → I/conn [CN-17 (4)] → Wiper motor controller [CN-141 (6)]
→ Washer pump [CN-22 (2)]

(2) Wiper switch ON : 1st step (Intermittent)

Wiper switch ON [Multifunction sw left lever (2)] → I/conn [CN-98 (5)] → I/conn [CN-5 (43)]
→ I/conn [CN-17 (8)] → Wiper motor controller [CN-141 (10) → (3)]
→ Wiper motor intermittently operating [CN-21 (6)]

(3) Wiper switch ON : 2nd step (continual)

Wiper switch ON [Multifunction sw left lever (1, 2)] → I/conn[CN-98 (3, 4)] → I/conn[CN-5 (23)]
→ I/conn[CN-17 (2)] → Wiper motor controller [CN-141(2) → (4)] → Wiper motor operating [CN-21 (2)]

(4) Washer switch ON

Washer switch ON [Multifunction sw left lever (7)] → I/conn [CN-97 (10)] → I/conn[CN-5 (37)]
→ I/conn [CN-17 (7)] → Wiper motor controller [CN-141 (9) → (8)]
→ I/conn [CN-17 (6)] → I/conn [CN-5 (19)] → Washer pump [CN-22 (1)] → Washer operating

Wiper switch ON [Multifunction sw left lever (1, 2)] → I/conn[CN-98 (3, 4)]
→ I/conn [CN-5 (23)] → I/conn [CN-17 (2)] → Wiper motor controller [CN-141 (2) → (4)]
→ Wiper motor operating [CN-21 (2)]

(5) Auto parking(when switch OFF)

Switch OFF [Multifunction sw left lever OFF position] → Wiper motor parking position by wiper motor controller

2) CHECK POINT

Engine	Start switch	Check point	Voltage
STOP	ON	① - GND (fuse box) ② - GND (switch power input)	24V
		③ - GND (switch power output) ④ - GND (wiper power output)	0 – 5V
		⑤ - GND (wiper power input)	24V
		⑥ - GND (wiper motor)	0 or 24V

※ GND : Ground

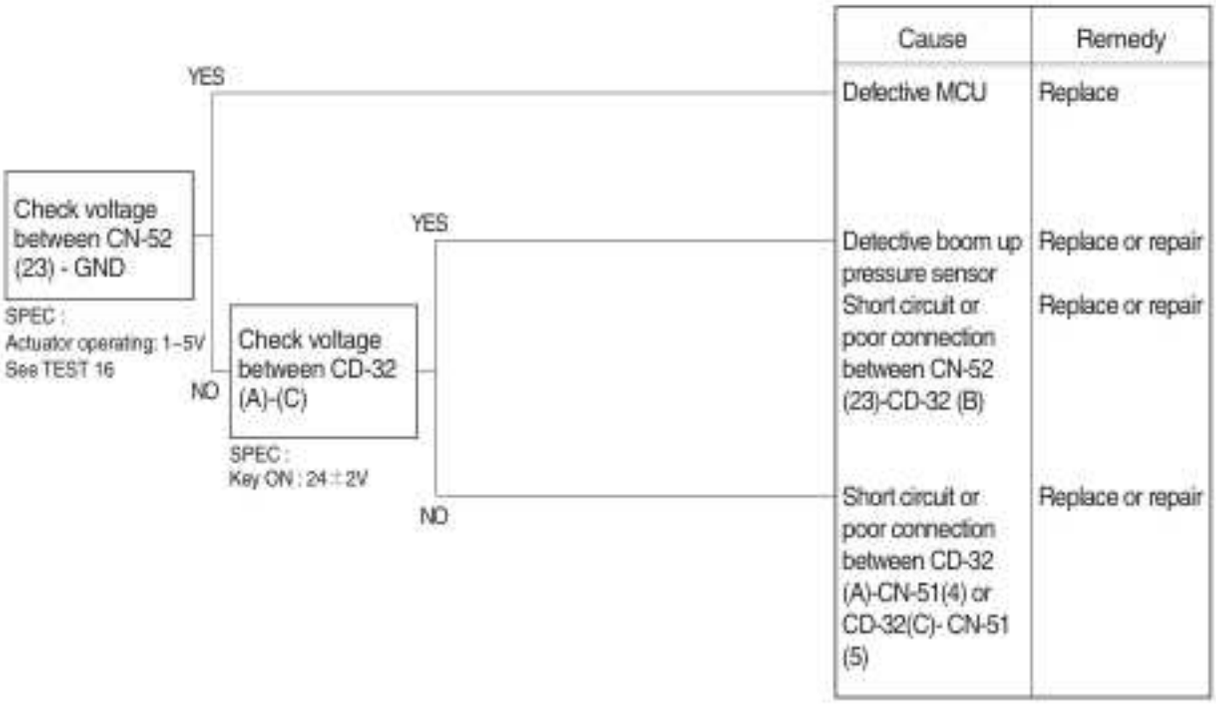
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10. MALFUNCTION OF BOOM UP PRESSURE SENSOR

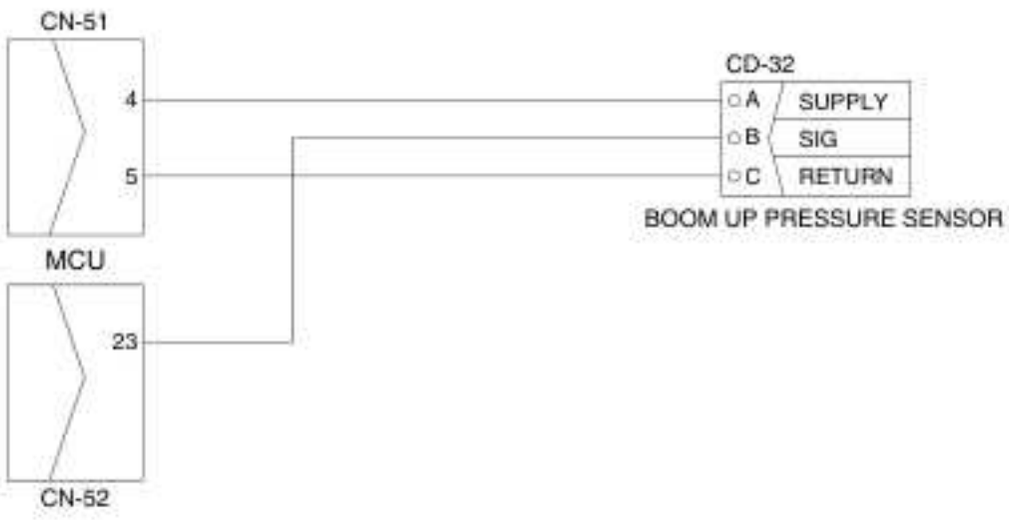
- Fault code : HCESPN 127, FMI 0~4

※ Before carrying out below procedure, check all the related connectors are properly inserted.

1) INSPECTION PROCEDURE



Wiring diagram



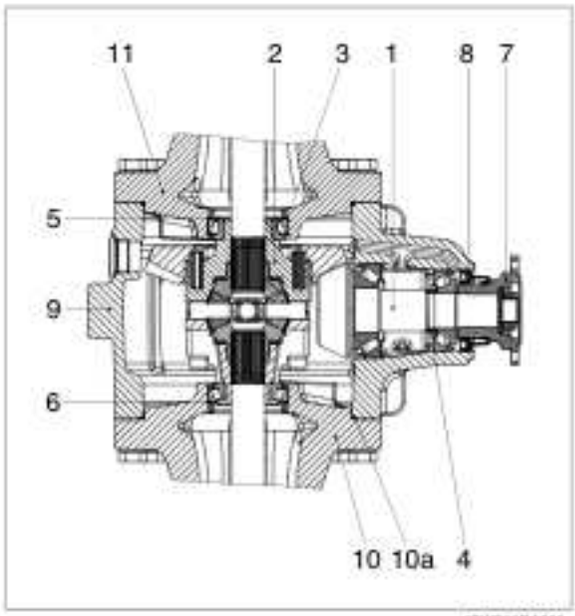
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2. REASSEMBLY

1) INPUT

(1) Comment on sketch :

1 = Drive pinion
2 = Differential (with crown wheel)
3 = Shim for contact pattern (bevel gear set)
4 = Spacer ring
(Bearing rolling moment / pinion bearing)
5 = Shim for backlash
6 = Shim (bearing rolling moment / differential bearing
7 = Input flange
8 = Seal ring
9 = Axle drive housing
10 = Axle housing
10a = O-ring
11 = Axle housing (crown wheel side)



17W7A8RA039

Just for New part assembly or if disassembled :
Install O-ring (10a) on axle housing (10) and mount axle drive housing (9) - observe installation position.

Tightening torque ..... M_A = 390 Nm (M18 / 10.9)

(2) Determine shim for pinion positioning to obtain an optimum contact pattern of crown wheel / pinion.

Read dimension I (Position - see arrow) from axle drive housing.

Dimension I e.g ..... 149.09 mm



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(3) Read pinion dimension (basic distance) X from pinion (see arrow) or measure it in case of a + or - deviation of the pinion dimension caused by the production (value concerned is marked by hand on the pinion, e.g.+ 0.1).

Pinion dimen. X (without + or - deviation) = 116.0 mm
Pinion dimen. X with an indicated $^{+0.1}$ deviation = 116.1 mm
Pinion dimen. X with an indicated $_{-0.1}$ deviation = 115.9 mm
Dimension II (Pinion basic distance) e.g ..... 116.00 mm



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3) ASSEMBLING PINION GEAR SUB ASSY

(1) Prepare drive shaft pinion gear vertical with ground.

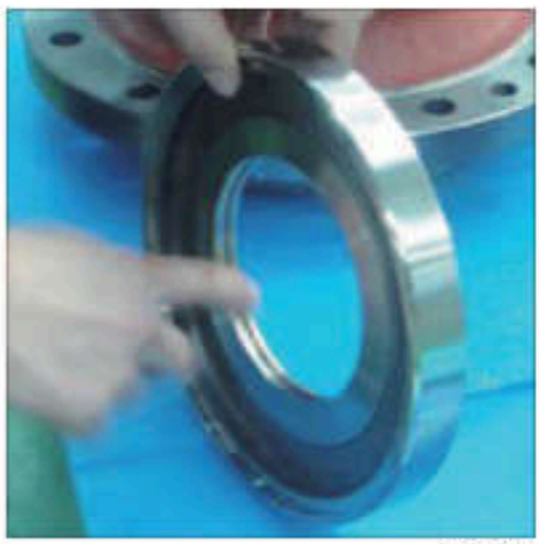


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(2) Fully apply grease (albania EP02) to O-ring groove of sleeve.

※ Be sure to maintain it vertical with ground when assembling it.

(3) Put O-ring into O-ring groove of sleeve. Fully apply grease on O-ring.



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(4) Assemble taper bearing and sleeve into drive shaft using press jig.
Use special jig for pressing. Leave no space between sleeve and taper bearing.

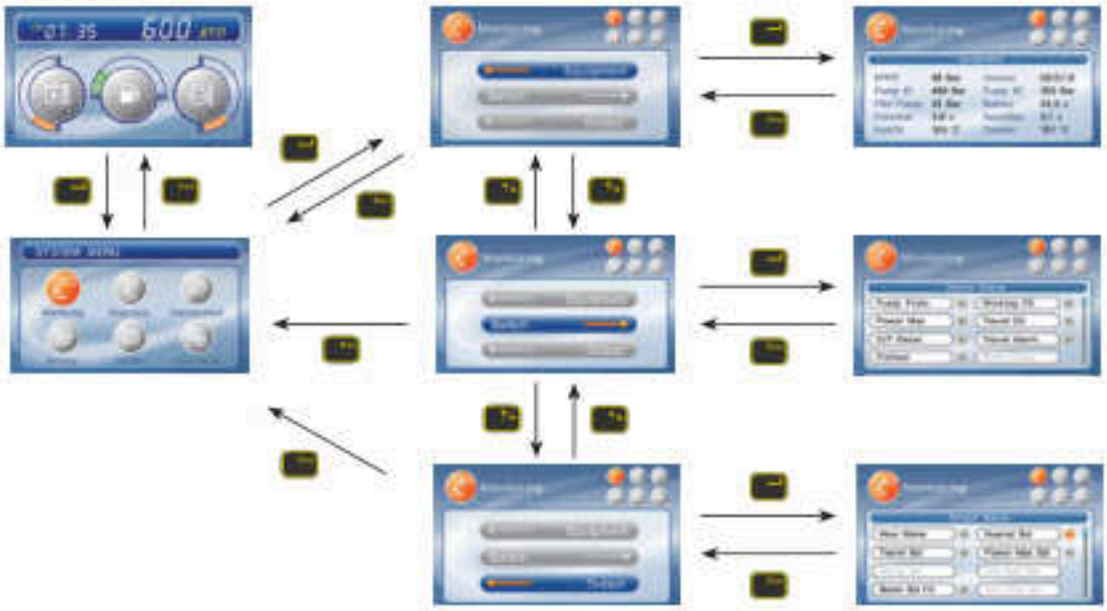


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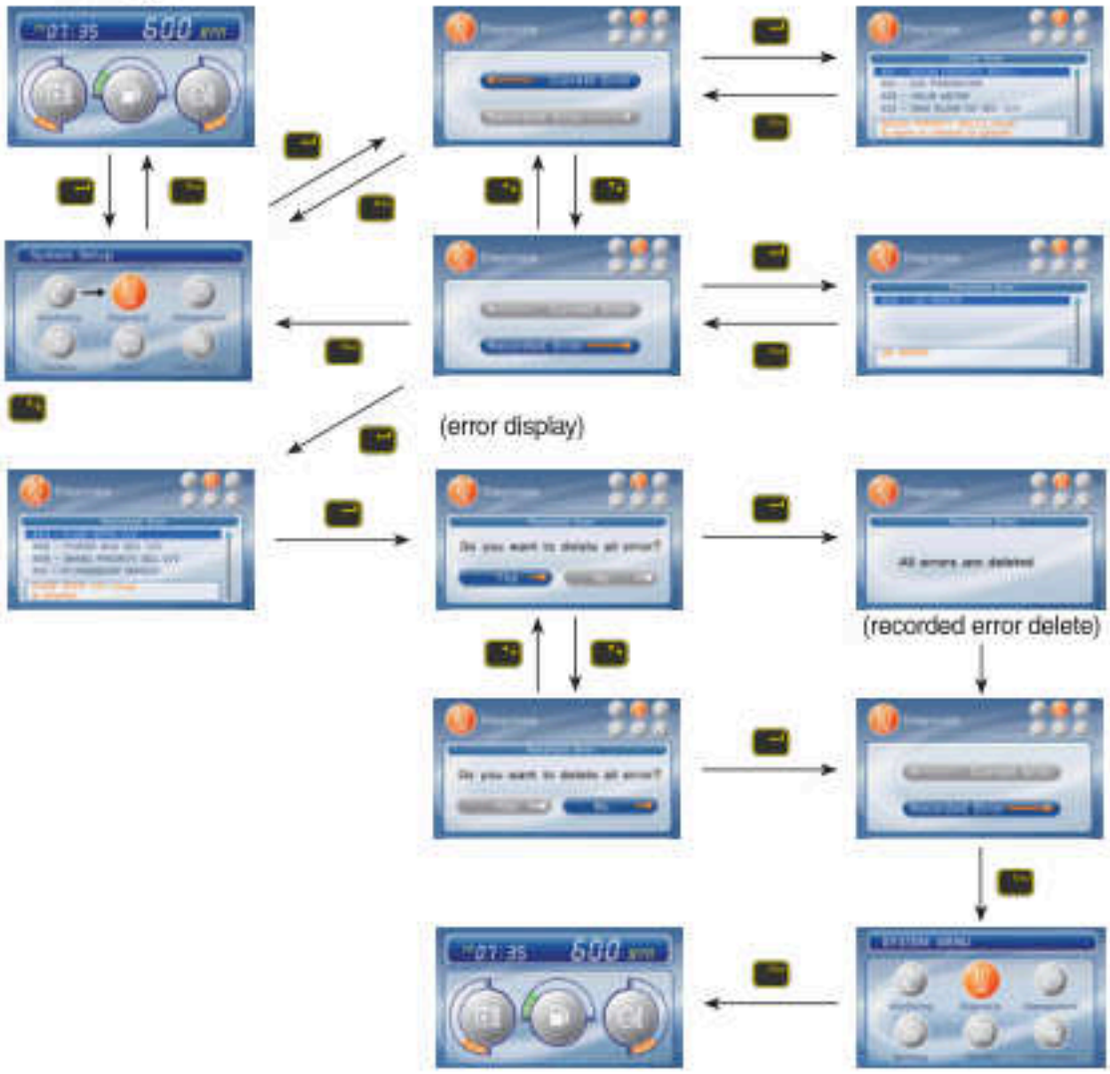
(2) Display map

① Monitoring

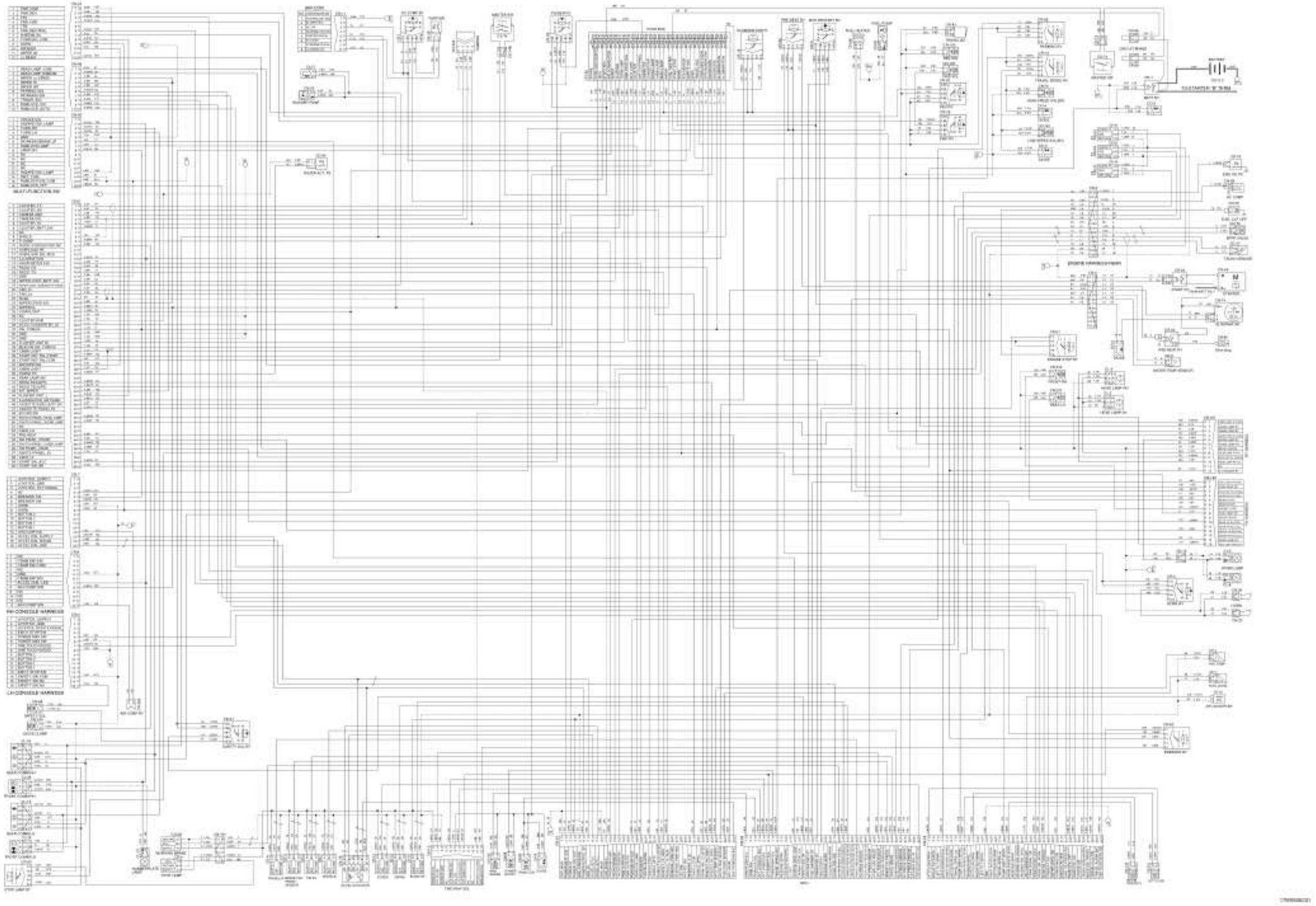


② Diagnosis

a. Protocol type 1



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