

## GROUP 9 SELF-DIAGNOSTIC SYSTEM

### 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.

The current or recorded error codes are displayed at the error display mode selected by touching **SELECT** switch 2 times while pressing **BUZZER STOP** switch.

### 2. CURRENT ERROR DISPLAY

Cluster displays **Co : Err** and makes buzzer sound itself to warn the communication error when communication problem caused by wire-cut or malfunction of the CPU controller occurs.

Cluster displays real time error codes received from CPU controller through communication. In case of no problem it displays **CHECK Er : 00**.

If there are more than 2 error codes, each one can be displayed by pressing ▲ and ▼ switch respectively.

#### Examples :

1) Communication Error

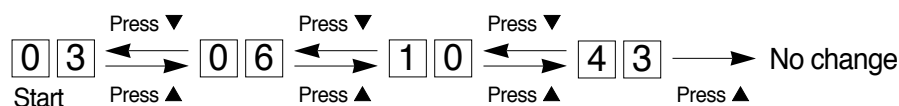
Co : Err & Buzzer sound

2) No problem

CHECK Er : 00

3) 4 Error codes(03, 06, 10, 43) display

CHECK Er : 03

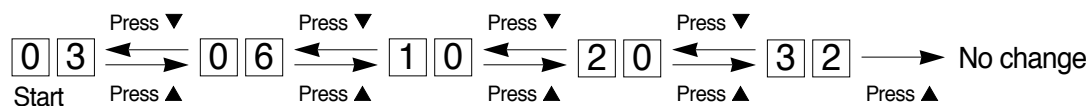


### 3. RECORDED ERROR DISPLAY

The recorded error can be displayed only when the key switch is at ON position.

**Examples** : 5 Recorded error codes(03, 06, 10, 20, 32) display

TIME Er : 03



### 4. DELETE ALL RECORDED ERROR CODES

Select recorded error(TIME Er) display and press engine (E) and select switch (S) at the same time for 2 seconds or more. Cluster display changes to TIME Er : 00, which shows that CPU controller deleted all the recorded error codes in the memory.

## 6. ERROR CODES TABLE

| Error code No. | Description                                                                |
|----------------|----------------------------------------------------------------------------|
| 1              | Short circuit in accel actuator system                                     |
| 2              | Potentiometer circuit is shorted to Vcc(5V) or battery +                   |
| 3              | Short circuit in pump EPPR valve system                                    |
| 4              | Short circuit in boom down EPPR valve system                               |
| 5              | Short circuit in travel speed solenoid system                              |
| 6              | Short circuit in power boost solenoid system                               |
| 7              | Short circuit in max flow solenoid system                                  |
| 10             | Short circuit in hour-meter system                                         |
| 11             | Accel dial circuit is shorted to Vcc(5V) or battery +                      |
| 12             | P1 pressure sensor circuit is shorted to power supply(24V) line            |
| 13             | P2 pressure sensor circuit is shorted to power supply(24V) line            |
| 14             | P3 pressure sensor circuit is shorted to power supply(24V) line            |
| 15             | Boom down pressure circuit is shorted to power supply(24V) line            |
| 16             | Accel actuator circuit is open or shorted to ground                        |
| 17             | Potentiometer circuit is open or shorted to ground                         |
| 18             | Pump EPPR valve circuit is open or shorted to ground                       |
| 19             | Boom down EPPR valve circuit is open or shorted to ground                  |
| 20             | Travel speed solenoid circuit is open or shorted to ground                 |
| 21             | Power boost solenoid circuit is open or shorted to ground                  |
| 22             | Max flow solenoid circuit is open or shorted to ground                     |
| 25             | Hour-meter circuit is open or shorted to ground                            |
| 26             | Accel dial circuit is open or shorted to ground                            |
| 27             | P1 pressure sensor circuit is open or shorted to ground                    |
| 28             | P2 pressure sensor circuit is open or shorted to ground                    |
| 29             | P3 pressure sensor circuit is open or shorted to ground                    |
| 30             | Boom down pressure sensor circuit is open or shorted to ground             |
| 31             | Engine preheater circuit is open or shorted to ground                      |
| 32             | Travel alarm buzzer circuit is open or shorted to ground                   |
| 33             | Alternator circuit is open or shorted to ground                            |
| 34             | Controller input voltage is below 18V                                      |
| 35             | Controller input voltage is over 38V                                       |
| 36             | Communication error with cluster                                           |
| 37             | Engine speed sensor circuit is open or shorted to ground                   |
| 38             | Anti-restart relay circuit is open or shorted to ground                    |
| 39             | Accel actuator does not stop at a target position                          |
| 40             | There is more than 500rpm difference between target speed and actual speed |

| Error code No. | Description                                                              |
|----------------|--------------------------------------------------------------------------|
| 41             | Hydraulic oil temperature sensor circuit is shorted to ground            |
| 42             | Fuel level sensor circuit is shorted to ground                           |
| 43             | Coolant temperature sensor circuit is shorted to ground                  |
| 44             | Boom up pressure sensor circuit is shorted to power supply(24V) line     |
| 45             | Hydraulic oil temperature sensor circuit is open or shorted to battery + |
| 46             | Fuel level sensor circuit is open or shorted to battery +                |
| 47             | Coolant temperature sensor circuit is open or shorted to battery +       |
| 48             | Boom up pressure sensor circuit is open or shorted to ground             |
| 49             | Engine preheater circuit is shorted to battery +                         |
| 51             | Boom priority solenoid circuit is open or shorted to ground              |
| 56             | Travel alarm buzzer circuit is shorted to battery +                      |
| 58             | Boom priority solenoid circuit is shorted to battery +                   |