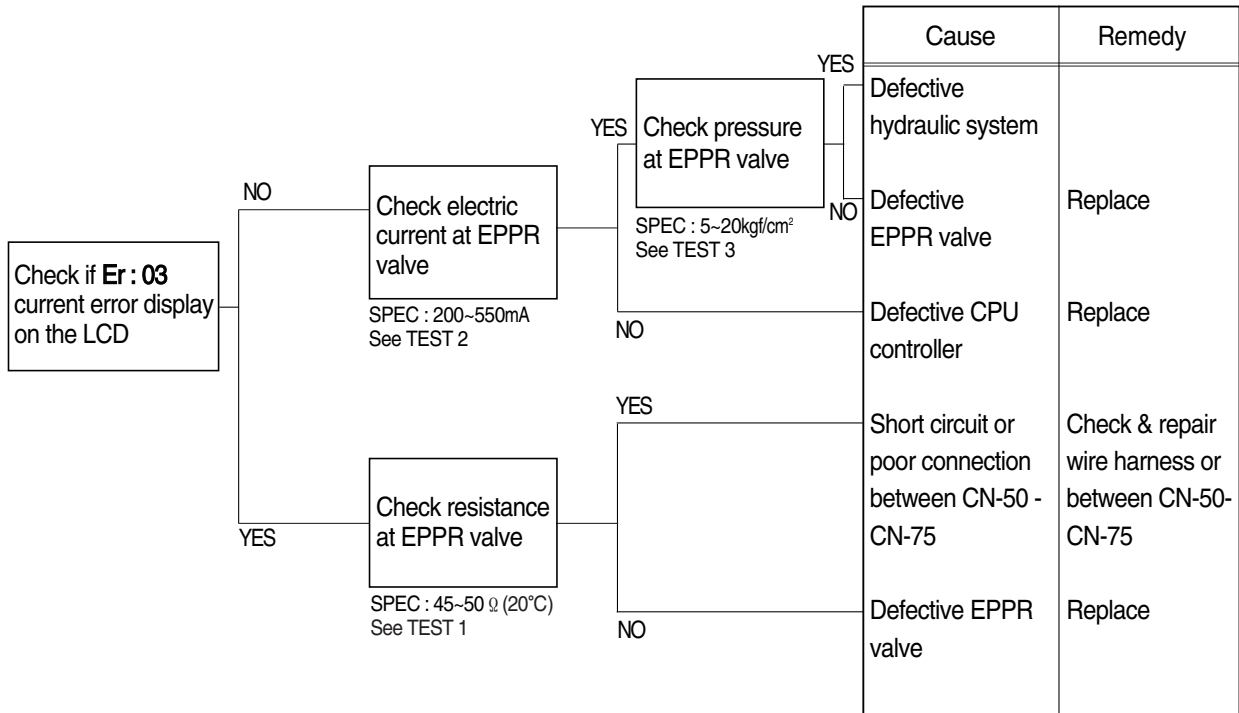


# GROUP 4 MECHATRONICS SYSTEM

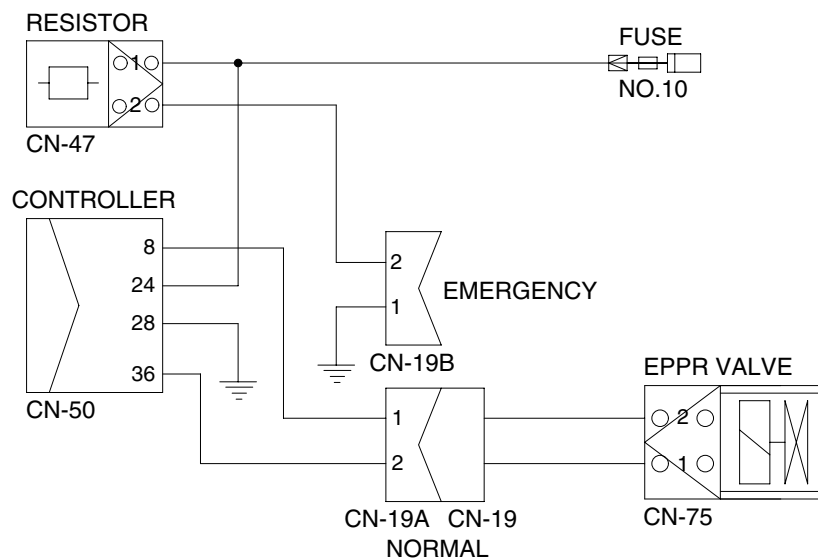
## 1. ALL ACTUATORS SPEED ARE SLOW

- ※ Boom, Arm, Bucket, Swing and travel speed are slow, but engine speed is good.
- ※ Spec : M-mode 1700±50rpm H-mode 1600±50rpm S-mode 1500±50rpm
- ※ Before carrying out below procedure, check all the related connectors are properly inserted.

### 1) INSPECTION PROCEDURE



### Wiring diagram

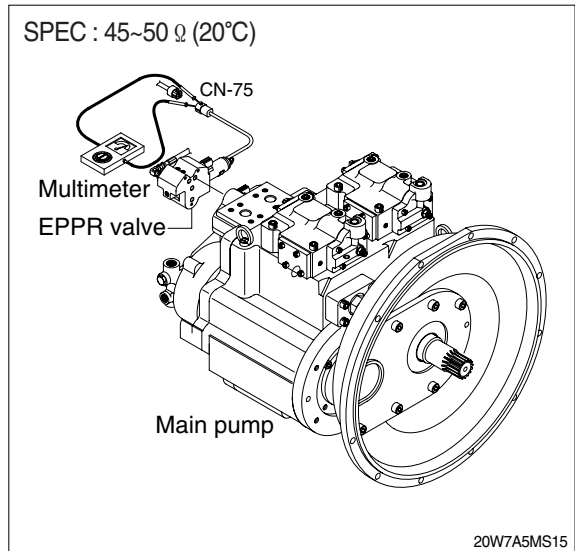


20W7A6MS01

## 2) TEST PROCEDURE

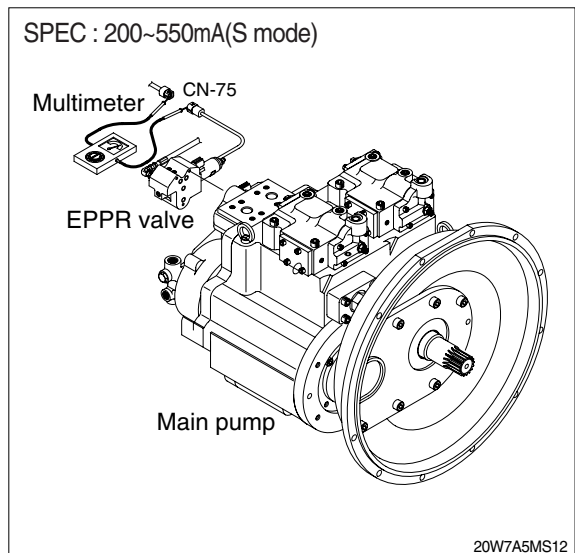
(1) **Test 1** : Check resistance at connector CN-75.

- ① Starting key OFF.
- ② Disconnect connector CN-75 from EPPR valve at main hydraulic pump.
- ③ Check resistance between 2 lines as figure.



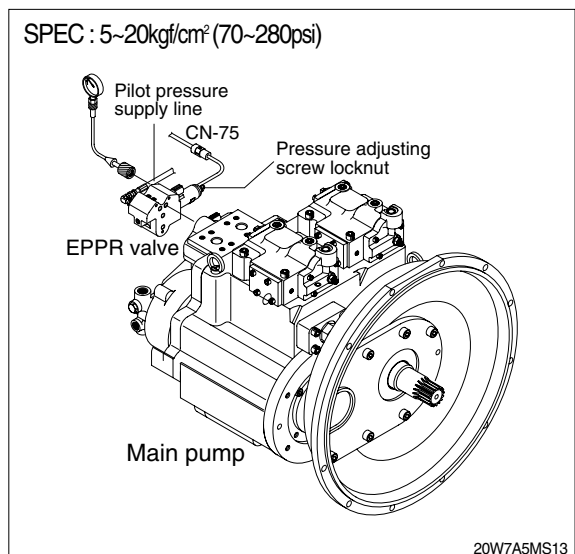
(2) **Test 2** : Check electric current at EPPR valve.

- ① Install multimeter as figure.
- ② Start engine.
- ③ Set the accel dial at "10"(MAX)
- ④ Set S-mode and cancel auto decel mode.
- ⑤ If tachometer show approx 1500  $\pm$  50rpm, check electric current.



(3) **Test 3** : Check pressure at EPPR valve.

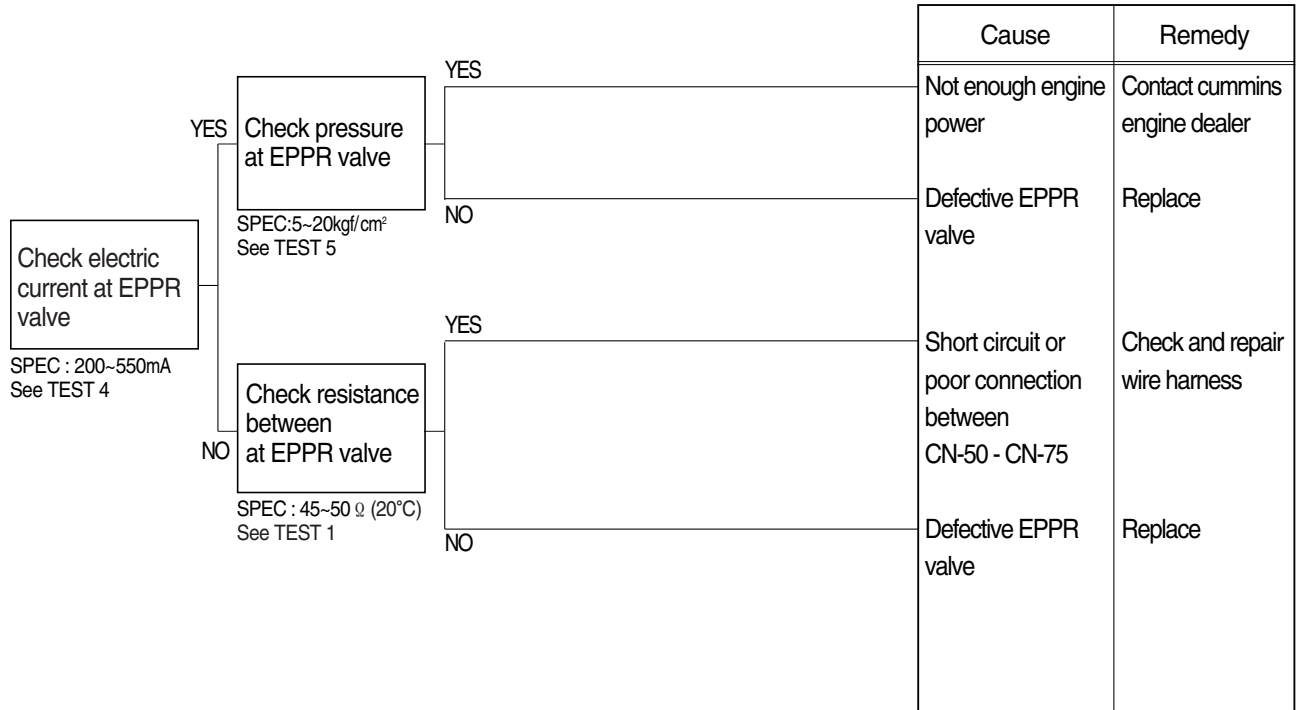
- ① Remove plug and connect pressure gauge as figure.
  - Gauge capacity : 0 to 40~50kgf/cm<sup>2</sup>  
(0 to 580~725psi)
- ② Start engine.
- ③ Set the accel dial at "10"(Max).
- ④ Set S-mode and cancel auto decel mode.
- ⑤ If tachometer show approx 1500  $\pm$  50rpm, check pressure.
- ⑥ If pressure is not correct, adjust it.
- ⑦ After adjust, test the machine.



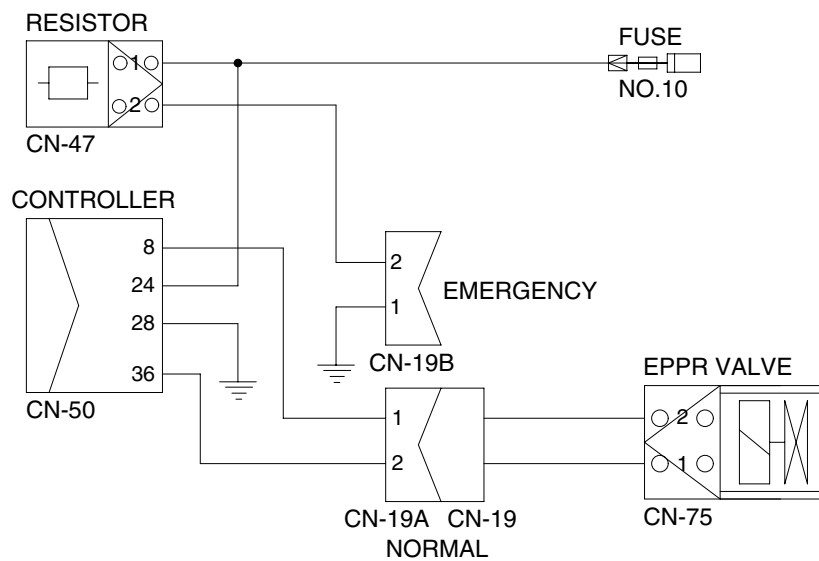
## 2. ENGINE STALL

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

### 1) INSPECTION PROCEDURE



### Wiring diagram

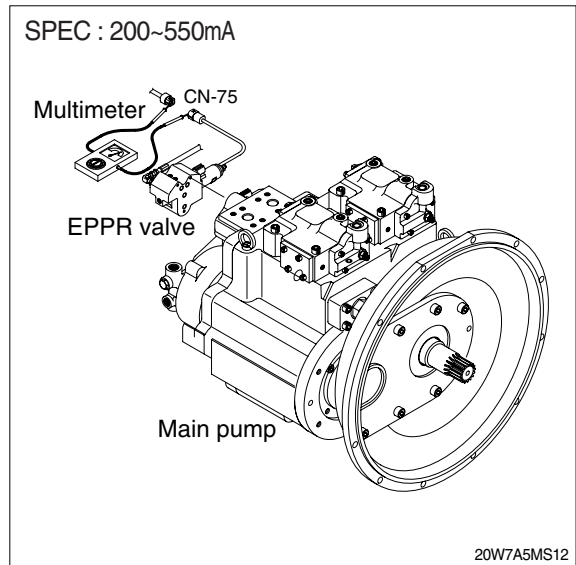


20W7A6MS01

## 2) TEST PROCEDURE

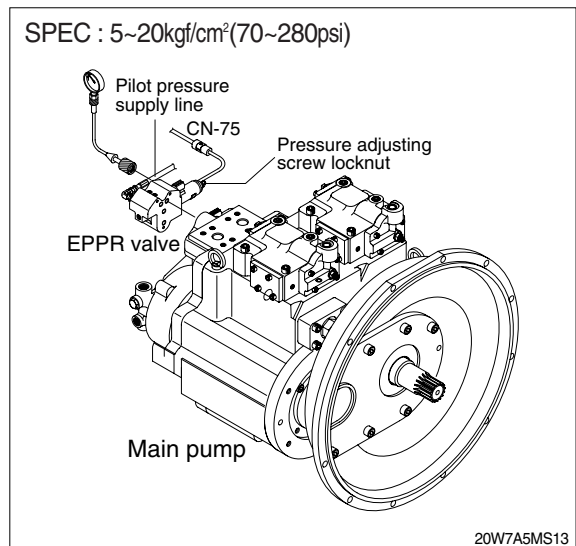
### (1) Test 4 : Check electric current at EPPR valve at S-mode

- ① Install multimeter as figure.
- ② Start engine.
- ③ Set the accel dial at "10"(max)
- ④ Set S-mode with  $1500 \pm 50$ rpm.
- ⑤ Check electric current.



### (2) Test 5 : Check pressure at EPPR valve at S-mode

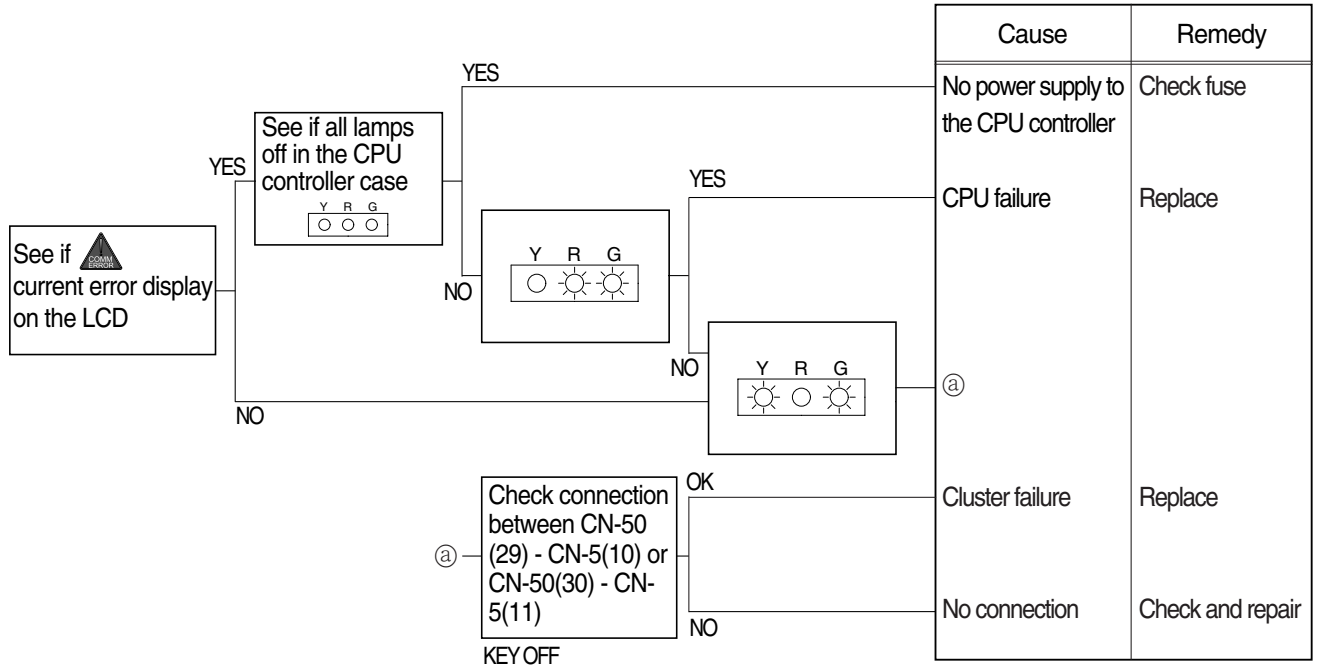
- ① Connect pressure gauge at EPPR valve.
- ② Start engine.
- ③ Set the accel dial at "10"(max)
- ④ Set S-mode with  $1500 \pm 50$ rpm.
- ⑤ Operate bucket lever completely push or pull.
- ⑥ Hold arm lever at the end of stroke.
- ⑦ Check pressure at relief position.



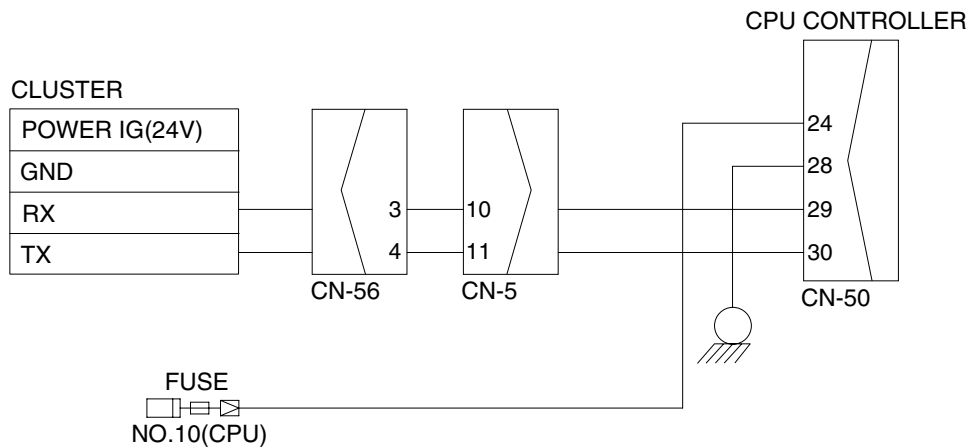
### 3. MALFUNCTION OF CLUSTER OR MODE SELECTION SYSTEM

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

#### 1) INSPECTION PROCEDURE



#### Wiring diagram



14W7A6MS02

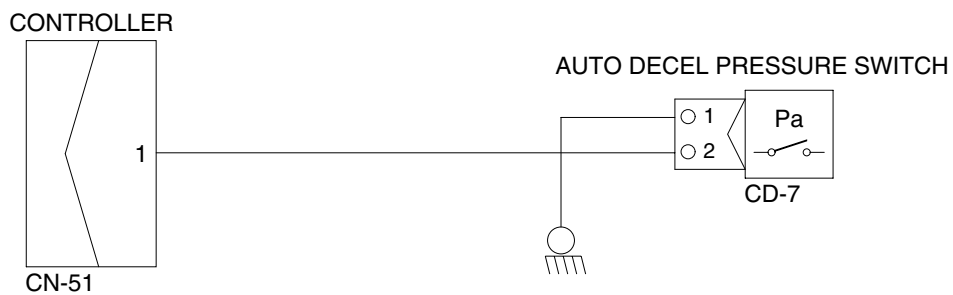
#### 4. AUTO DECEL SYSTEM DOES NOT WORK

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

##### 1) INSPECTION PROCEDURE

		Cause	Remedy
<div style="border: 1px solid black; padding: 5px; width: fit-content;">                     Check resistance between CN-51 (1)-GND                 </div> <p>SPEC :                      Actuator operating : 11~13V                      Actuator stop : 0~2V                      See TEST 6</p>	YES	Defective CPU controller	Replace
	NO	Short circuit or poor connection between CN-51(1)- pressure switches	Replace or repair
	NO	Defective auto decel pressure switch	Replace

#### Wiring diagram



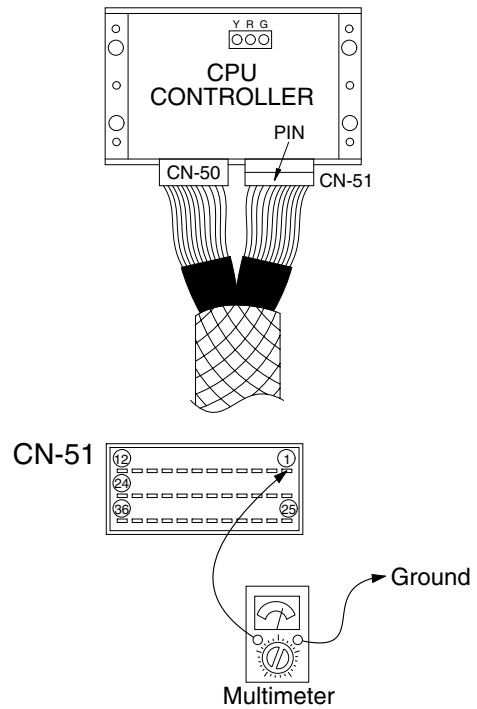
1607A6MS10

## 2) TEST PROCEDURE

(1) **Test 6** : Check voltage at CN-51(1) and ground.

- ① Prepare 1 piece of thin sharp pin, steel or copper.
- ② Starting key ON.
- ③ Insert prepared pin to rear side of connectors : One pin to (1) of CN-51.
- ④ Check voltage as figure.

SPEC : Actuator stop : 0~2V  
Actuator operating : 11~13V

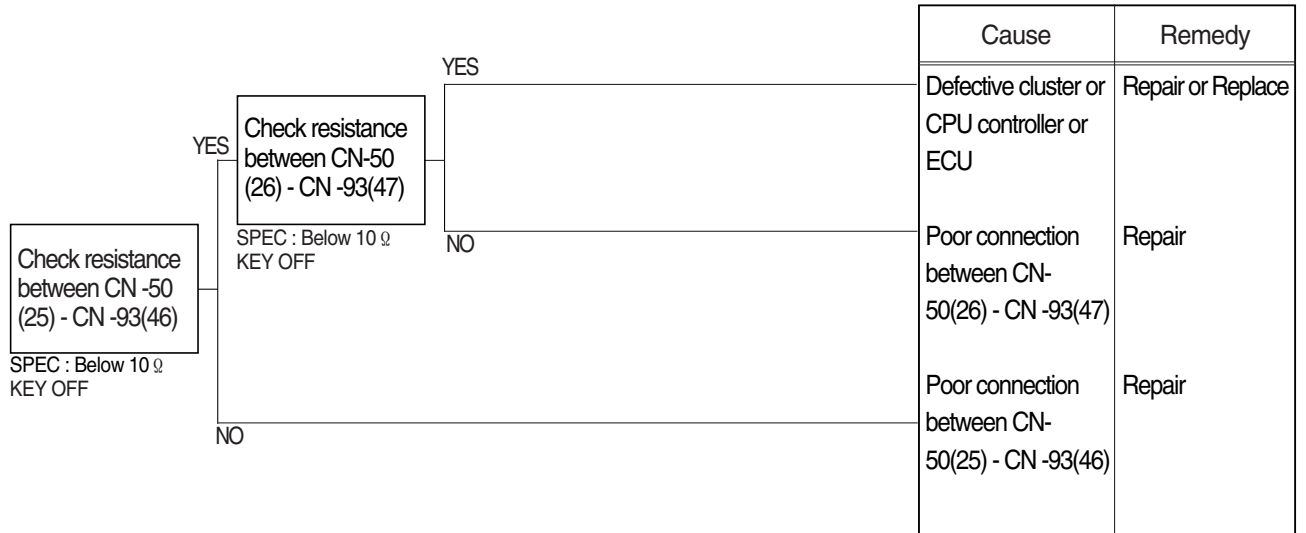


1607A6MS11

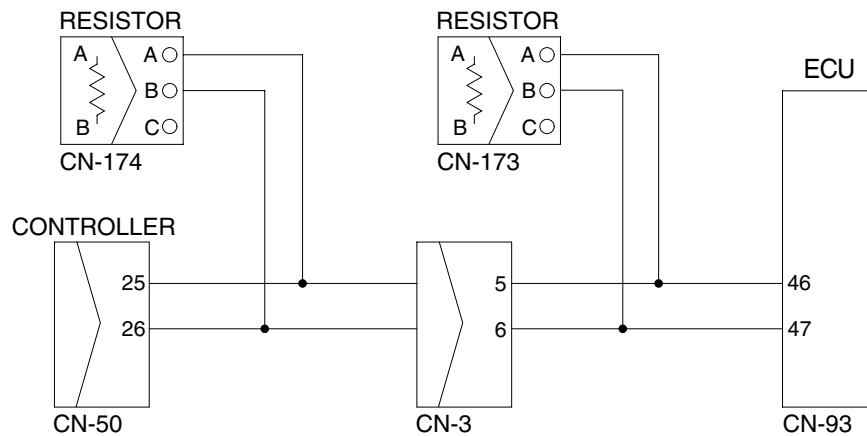
## 5. MALFUNCTION OF WARMING UP

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

### 1) INSPECTION PROCEDURE



### Wiring diagram

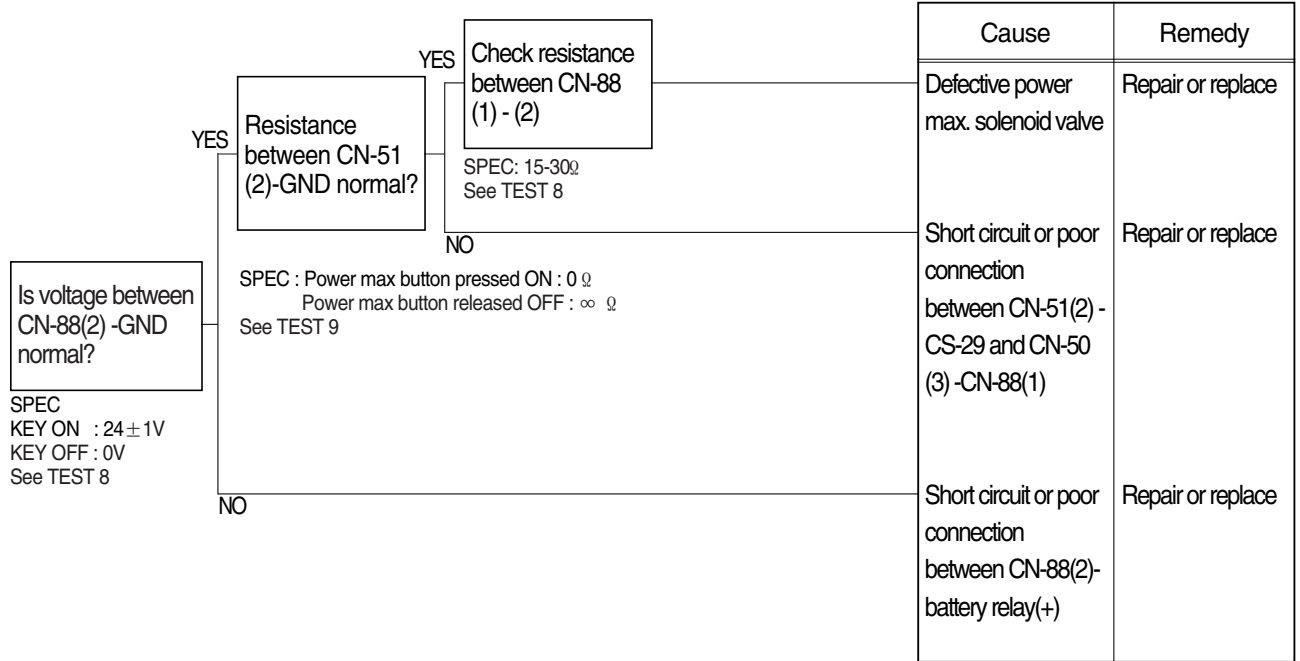


20W7A6ES03

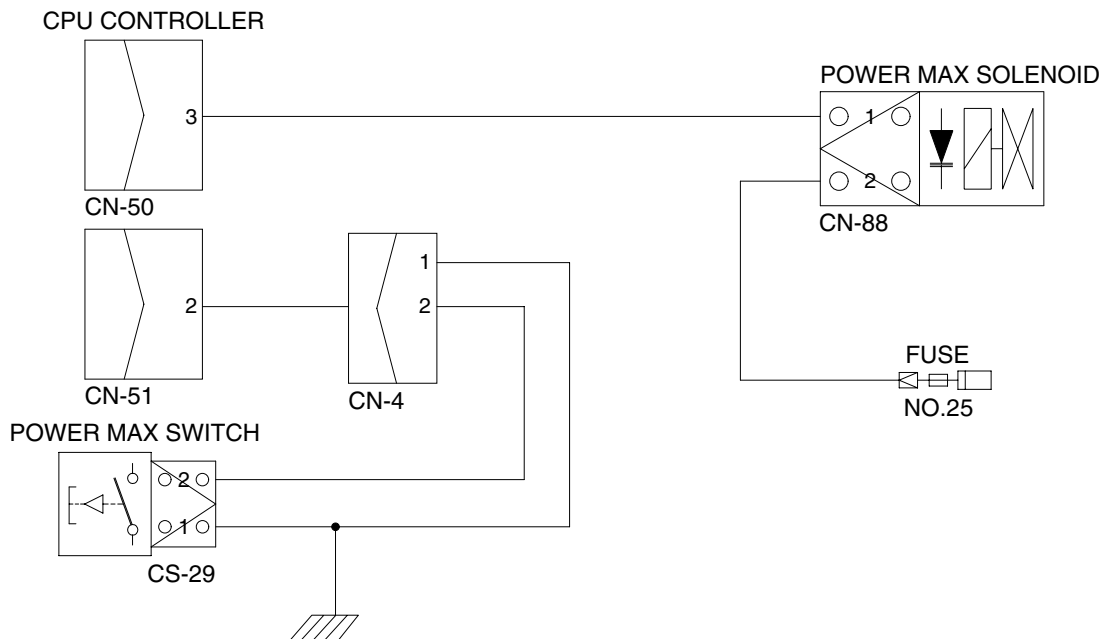
## 6. MALFUNCTION OF POWER MAX

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

### 1) INSPECTION PROCEDURE



### Wiring diagram



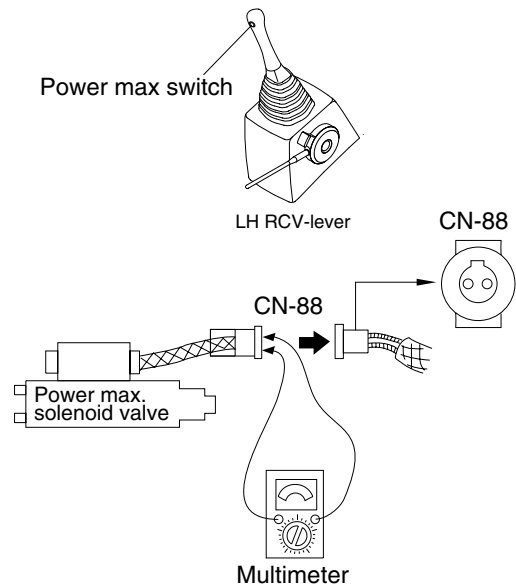
50076MS04

## 2) TEST PROCEDURE

(1) **Test 8:** Check voltage between connector CN-88 - GND.

- ① Start key ON.
- ② Disconnect connector CN-88 from power max solenoid valve.
- ③ Check voltage as figure.

SPEC : Key ON :  $24 \pm 1V$   
Key OFF :  $0V$   
Resistance :  $15 \sim 30 \Omega$

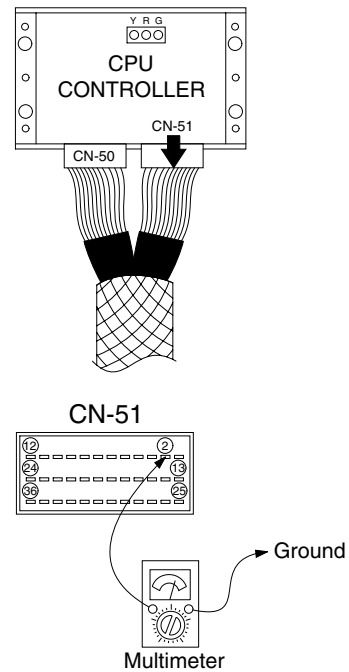


2107A5MS16

(2) **Test 9:** Check resistance between connector CN-51(2)-GND.

- ① Starting key OFF.
- ② Remove CPU controller and disconnect connector CN-51 from CPU controller.
- ③ Check resistance as figure.

SPEC : Power max button pressed ON :  $0 \Omega$   
Power max button released OFF :  $\infty \Omega$



R29076MS15