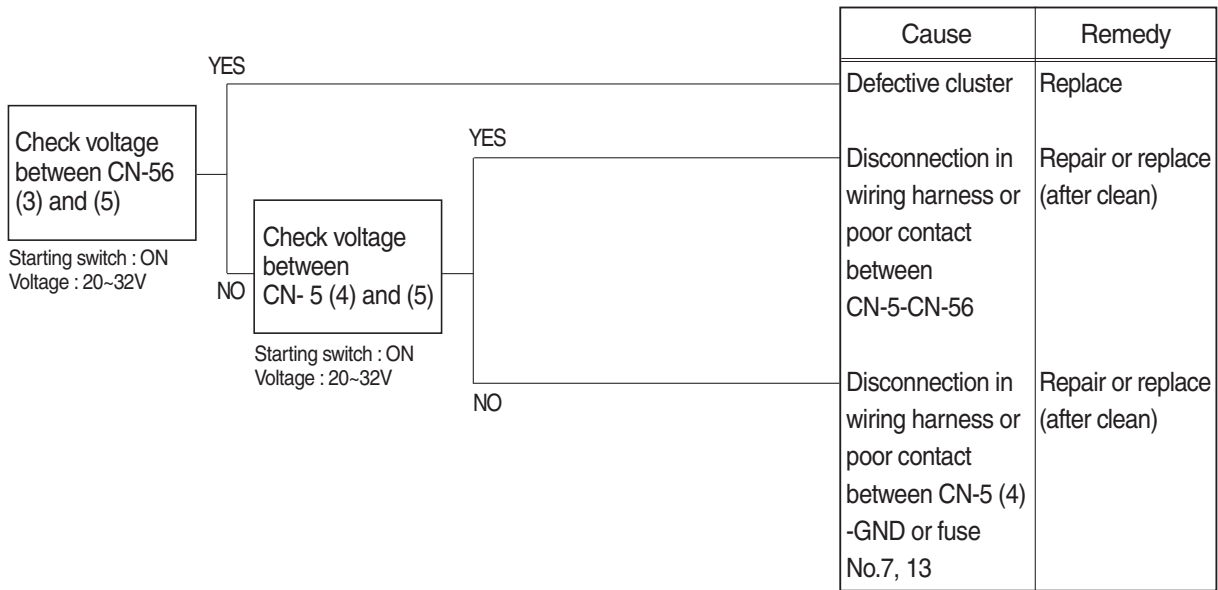


GROUP 3 ELECTRICAL SYSTEM

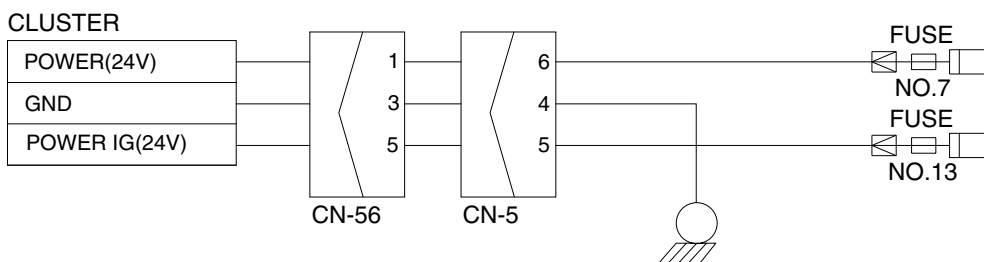
1. WHEN STARTING SWITCH IS TURNED ON, MONITOR PANEL DISPLAY DOES NOT APPEAR

- Before disconnecting the connector, always turn the starting switch OFF.
- Before carrying out below procedure, check all the related connectors are properly inserted and short of fuse No.7, 13.
- After checking, insert the disconnected connectors again immediately unless otherwise specified.



Check voltage

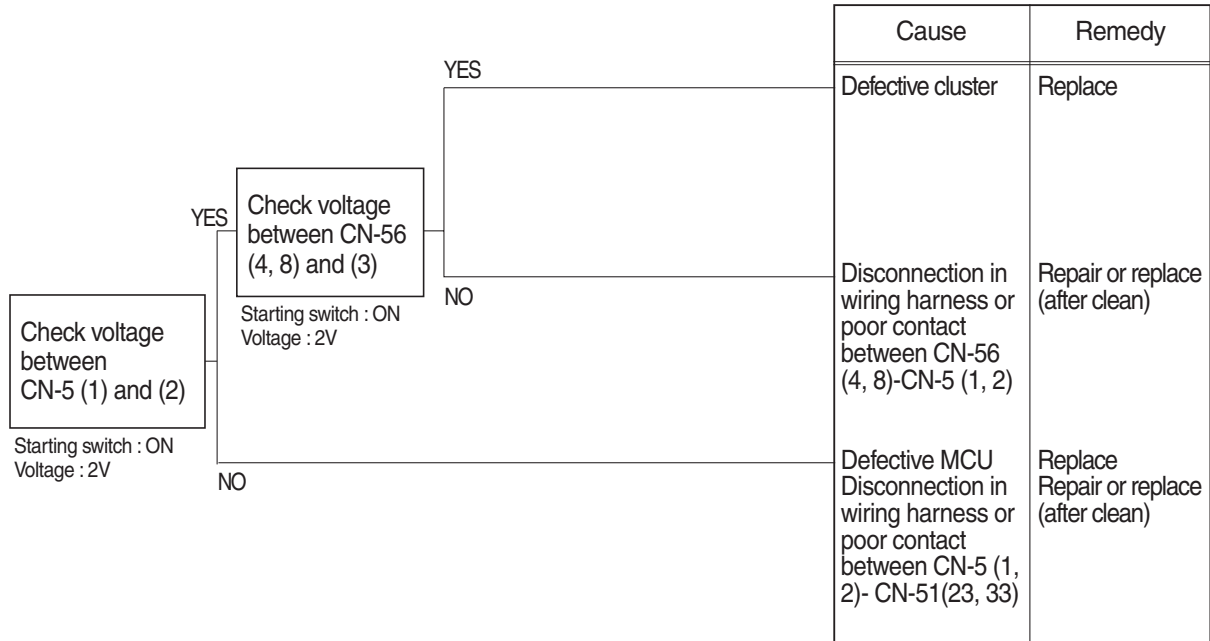
| | |
|-----|--------|
| YES | 20~32V |
| NO | 0V |



21096ES01

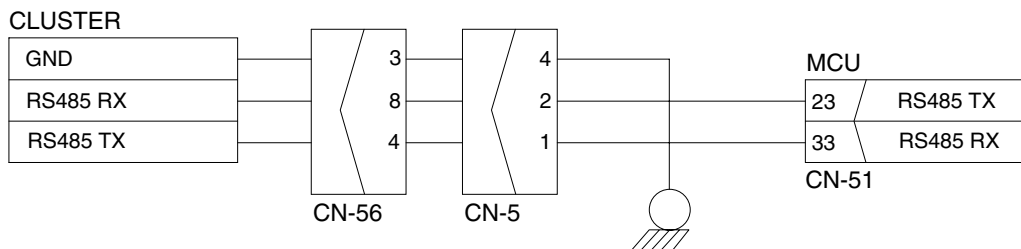
2. COMMUNICATION ERROR FLASHES ON THE CLUSTER (HCESPN 840, FMI 2)

- Before disconnecting the connector, always turn the starting switch OFF.
- Before carrying out below procedure, check all the related connectors are properly inserted.
- After checking, insert the disconnected connectors again immediately unless otherwise specified.



Check voltage

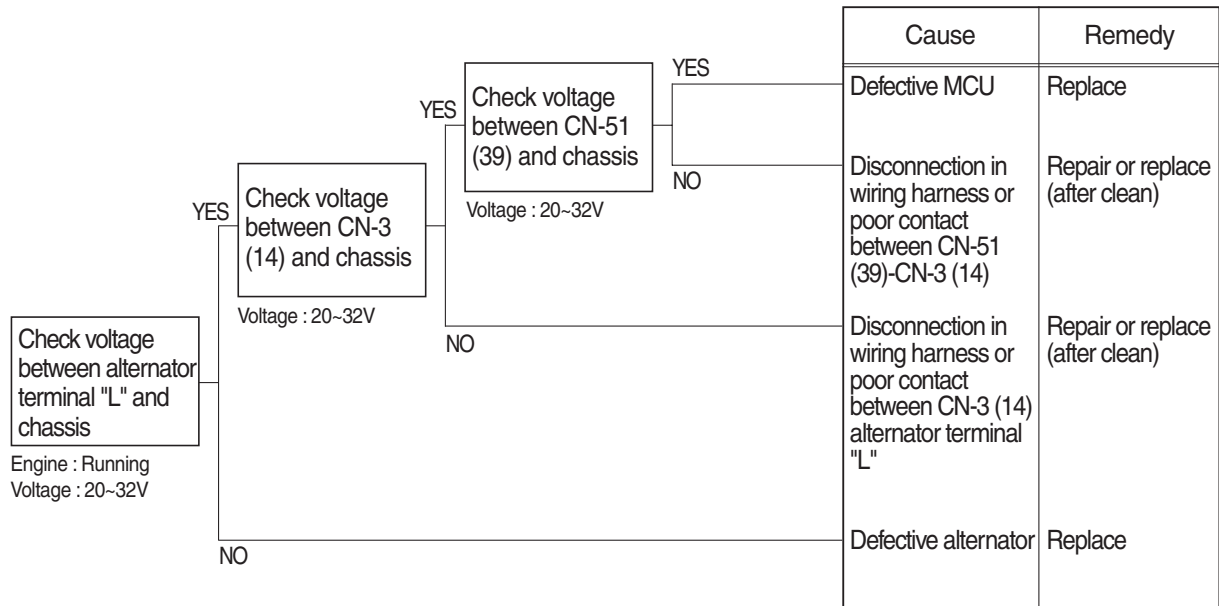
| | |
|-----|----|
| YES | 2V |
| NO | 0V |



21096ES02

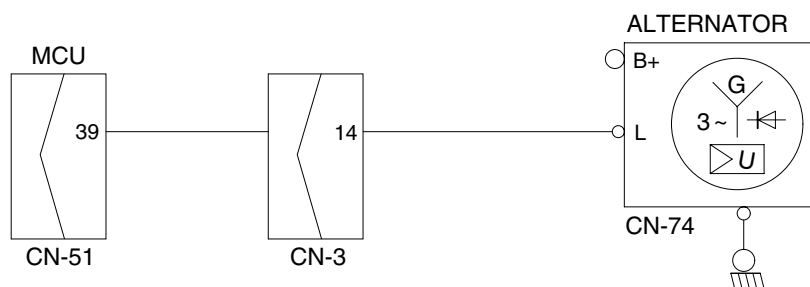
3. BATTERY CHARGING WARNING LAMP LIGHTS UP (Starting switch : ON)

- Before disconnecting the connector, always turn the starting switch OFF.
- Before carrying out below procedure, check all the related connectors are properly inserted.
- After checking, insert the disconnected connectors again immediately unless otherwise specified.



Check voltage

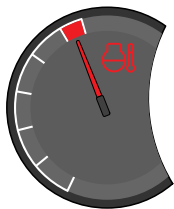
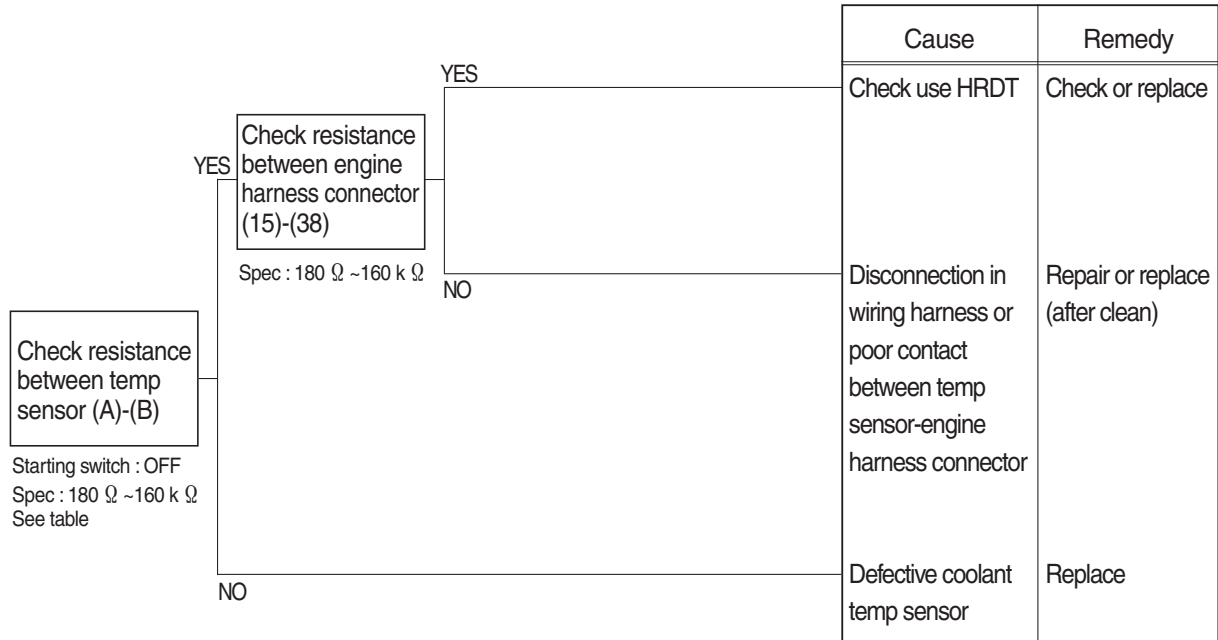
| | |
|-----|--------|
| YES | 20~32V |
| NO | 0V |



3809A6ES03

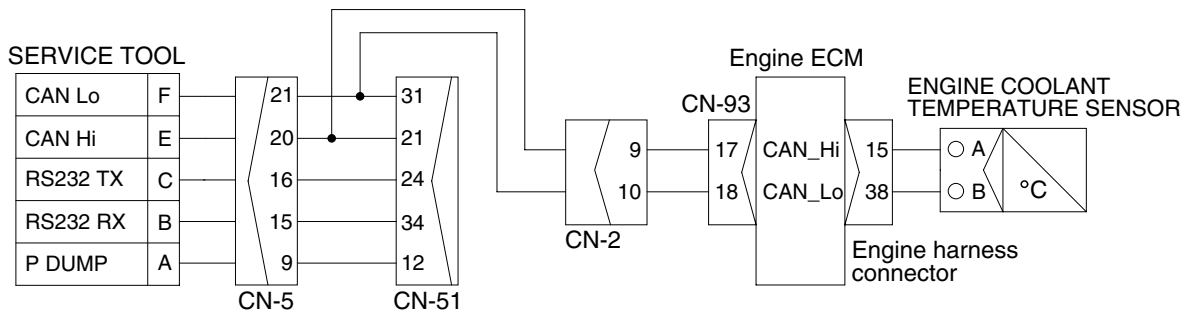
4. WHEN COOLANT OVERHEAT WARNING LAMP LIGHTS UP (engine is started)

- Before disconnecting the connector, always turn the starting switch OFF.
- Before carrying out below procedure, check all the related connectors are properly inserted.
- After checking, insert the disconnected connectors again immediately unless otherwise specified.



Check Table

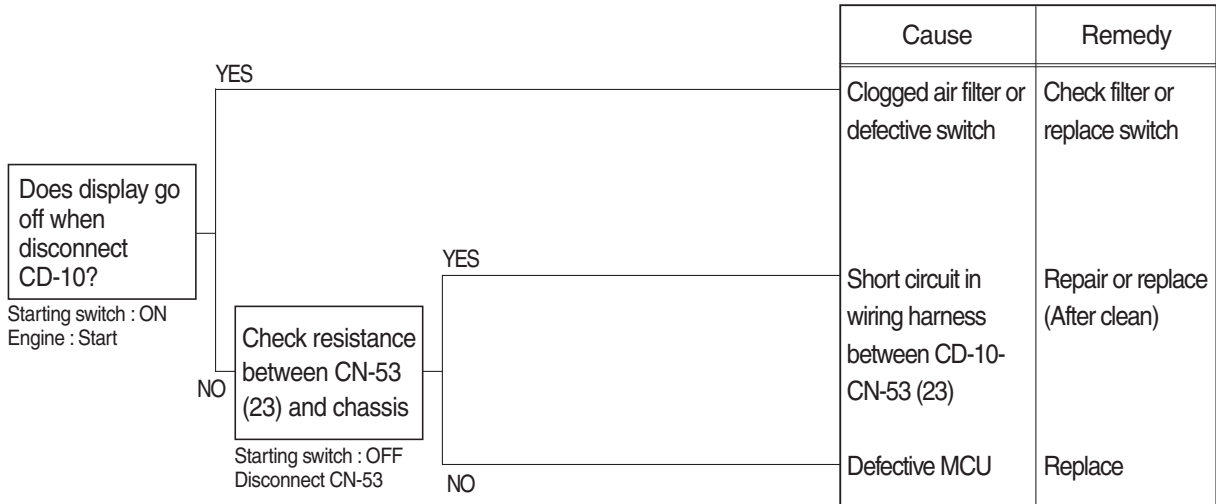
| Temperature (°C) | 0 | 25 | 50 | 80 | 95 |
|------------------|-------|----------|---------|---------|---------|
| Resistance (k Ω) | 30~37 | 9.3~10.7 | 3.2~3.8 | 1.0~1.3 | 0.7~0.8 |



3809A6ES04

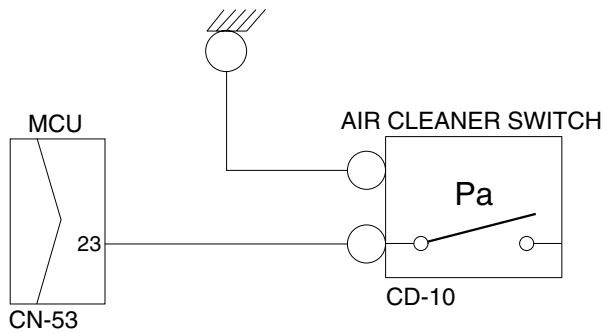
5.  **WHEN AIR CLEANER WARNING LAMP LIGHTS UP (engine is started)**

- Before disconnecting the connector, always turn the starting switch OFF.
- Before carrying out below procedure, check all the related connectors are properly inserted.
- After checking, insert the disconnected connectors again immediately unless otherwise specified.



Check resistance

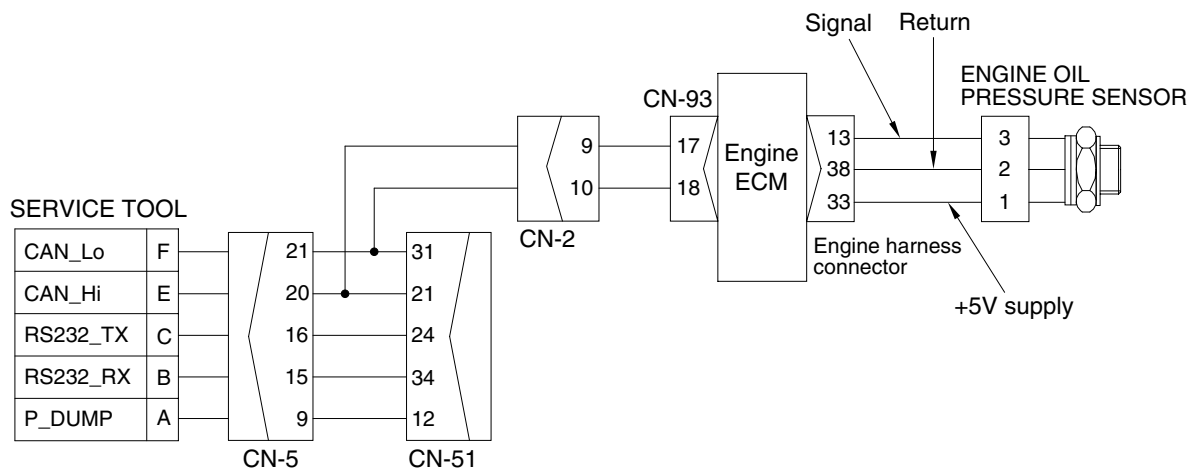
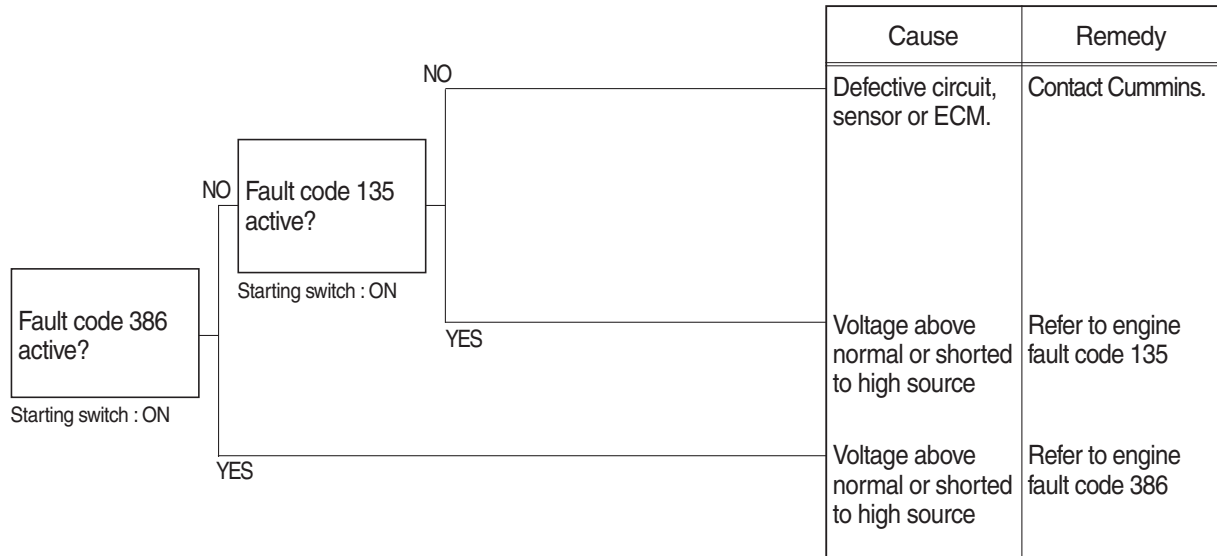
| | |
|-----|---------|
| YES | MAX 1Ω |
| NO | MIN 1MΩ |



21096ES05

6. WHEN ENGINE OIL PRESSURE WARNING LAMP LIGHTS UP (engine is started)

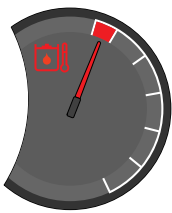
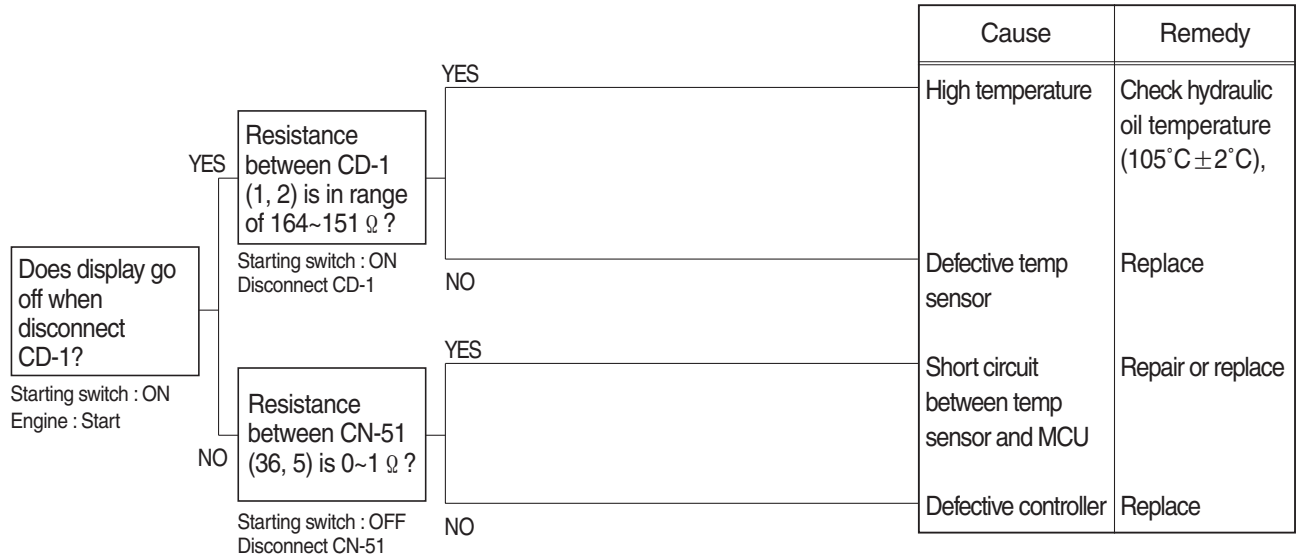
- Before disconnecting the connector, always turn the starting switch OFF.
- Before carrying out below procedure, check all the related connectors are properly inserted.
- After checking, insert the disconnected connectors again immediately unless otherwise specified.



3809A6ES06

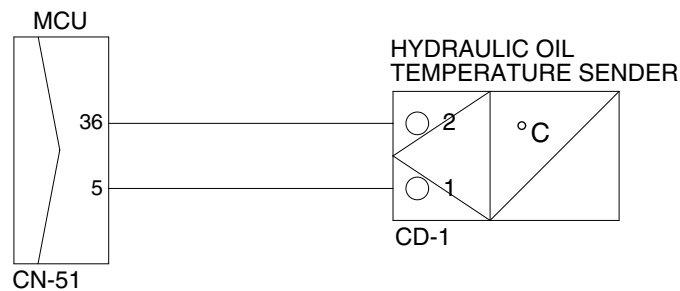
7. WHEN HYDRAULIC OIL TEMPERATURE WARNING LAMP LIGHTS UP (engine is started)

- Before disconnecting the connector, always turn the starting switch OFF.
- Before carrying out below procedure, check all the related connectors are properly inserted.
- After checking, insert the disconnected connectors again immediately unless otherwise specified.



Check Table

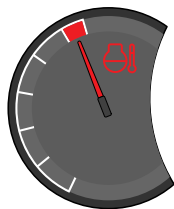
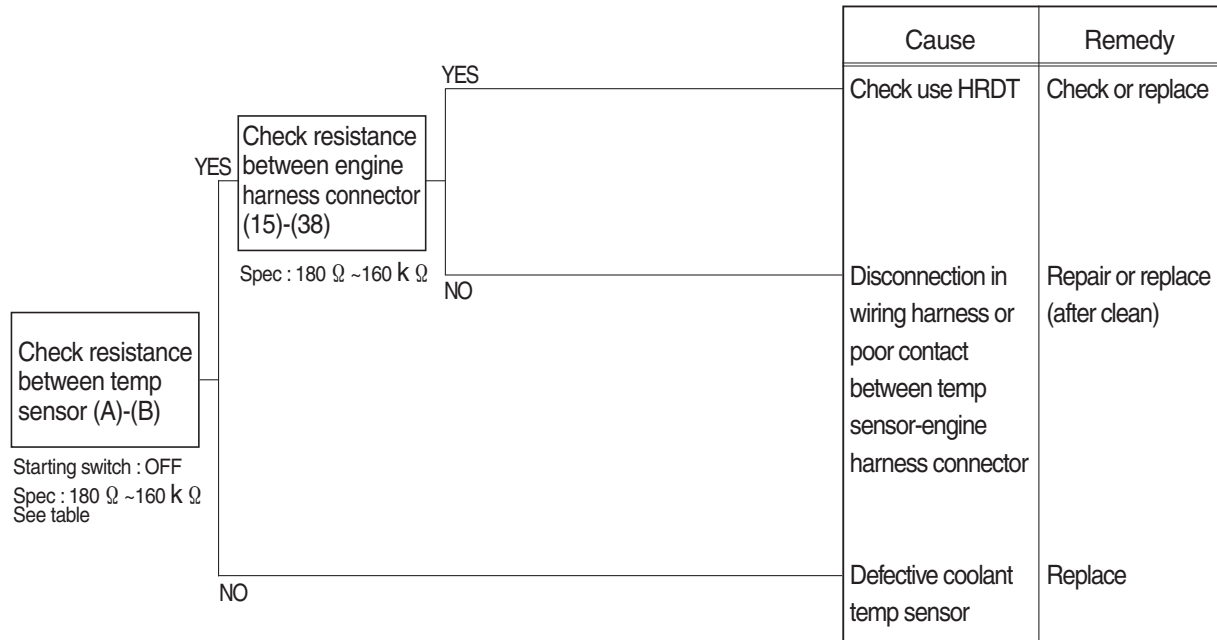
| Temperature ($^{\circ}\text{C}$) | ~ -30 | ~ -10 | ~ 0 | ~ 40 | ~ 70 | ~ 80 | ~ 90 | ~ 100 | 105~ |
|------------------------------------|-----------------|----------------|---------------|---------------|----------------|-----------------|-----------------|-----------------|----------------|
| Resistance (k Ω) | 22.22 ~31.78 | 8.16 ~10.74 | 5.18 ~ 6.6 | 1.06 ~1.28 | 0.39 ~0.476 | 0.322 ~0.298 | 0.243 ~0.219 | 0.185 ~0.167 | 0.164 0.151 |



21096ES07

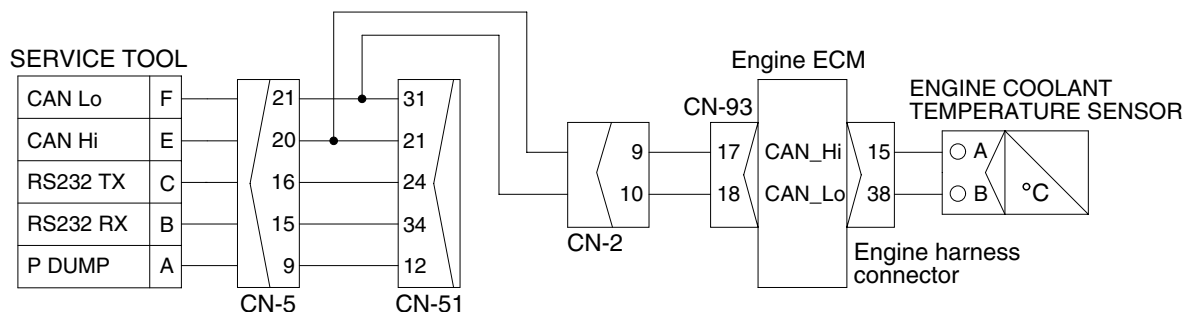
8. WHEN COOLANT TEMPERATURE GAUGE DOES NOT OPERATE (HCESPN 304, FMI 3 or 4)

- Before disconnecting the connector, always turn the starting switch OFF.
- Before carrying out below procedure, check all the related connectors are properly inserted.
- After checking, insert the disconnected connectors again immediately unless otherwise specified.



Check Table

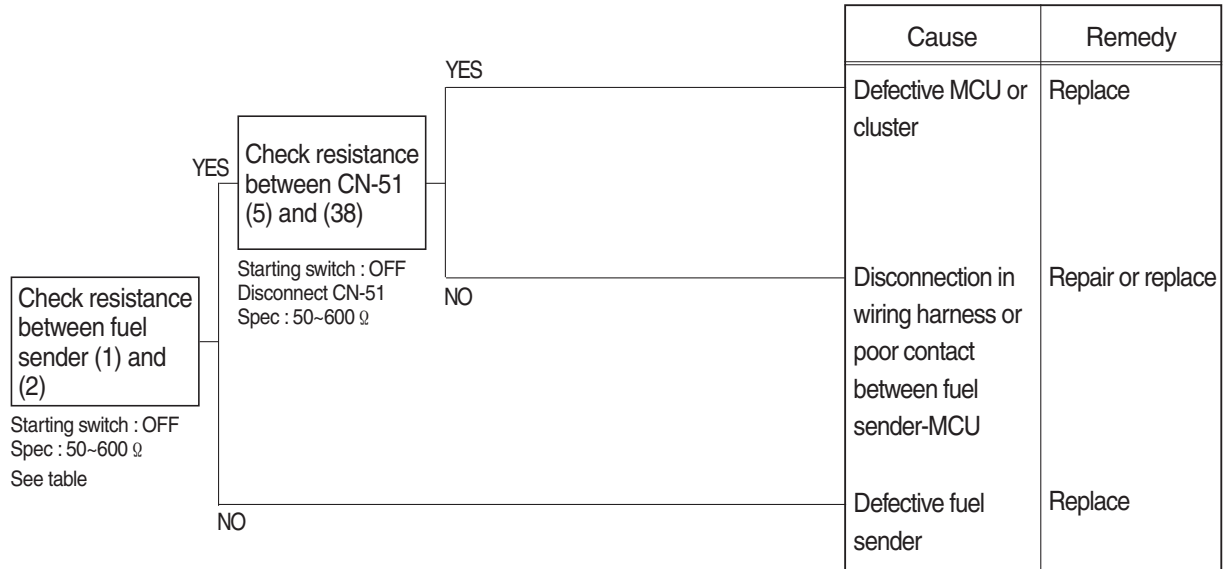
| Temperature (°C) | 0 | 25 | 50 | 80 | 95 |
|------------------|-------|----------|---------|---------|---------|
| Resistance (k Ω) | 30~37 | 9.3~10.7 | 3.2~3.8 | 1.0~1.3 | 0.7~0.8 |



3809A6ES04

9. WHEN FUEL GAUGE DOES NOT OPERATE(HCESPN 301, FMI 3 or 4)

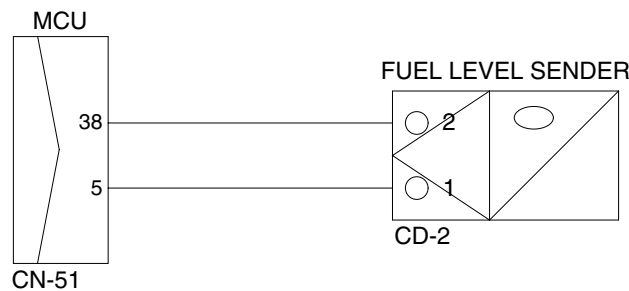
- Before disconnecting the connector, always turn the starting switch OFF.
- Before carrying out below procedure, check all the related connectors are properly inserted.
- After checking, insert the disconnected connectors again immediately unless otherwise specified.



Check Table



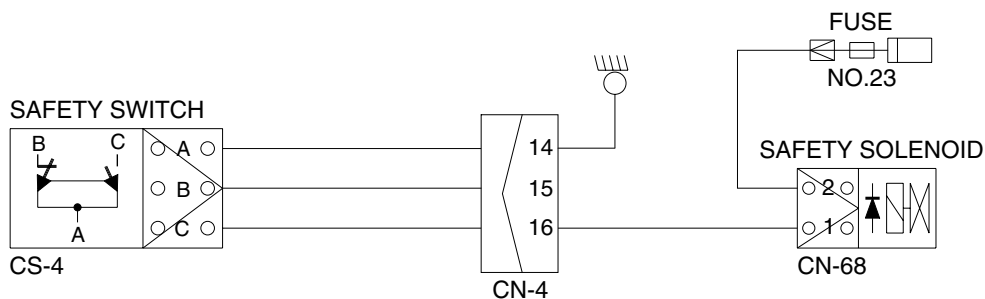
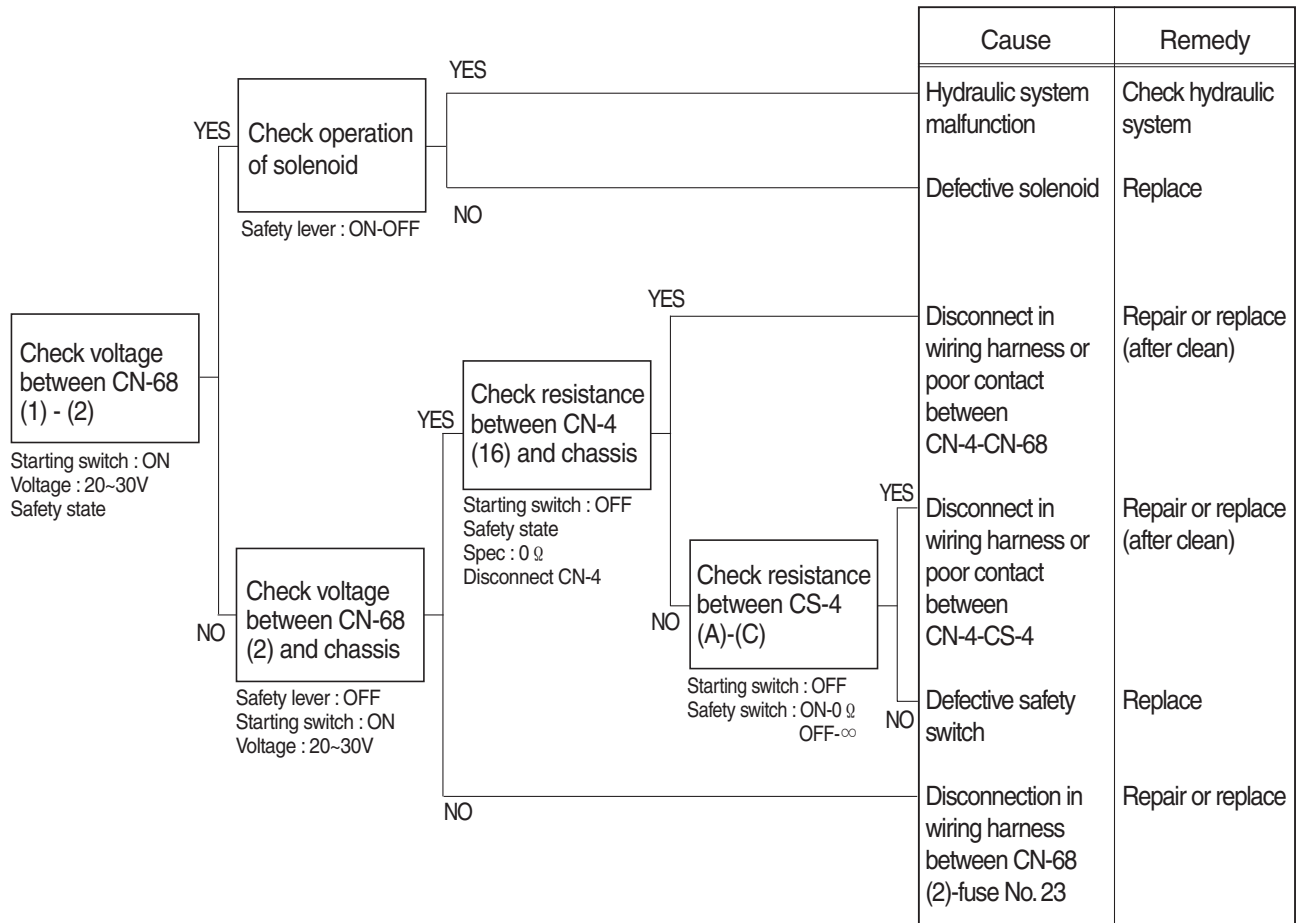
| Range | Resistance (Ω) | Range | Resistance (Ω) |
|-------|------------------|---------------|------------------|
| Full | 50 | 5/12 | 400 |
| 11/12 | 100 | 4/12 | 450 |
| 10/12 | 150 | 3/12 | 500 |
| 9/12 | 200 | 2/12 | 550 |
| 8/12 | 250 | 1/12 | 600 |
| 7/12 | 300 | Empty warning | 700 |
| 6/12 | 350 | - | - |



21096ES09

10. WHEN SAFETY SOLENOID DOES NOT OPERATE

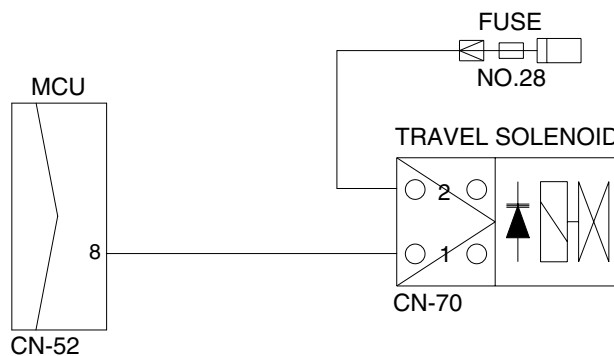
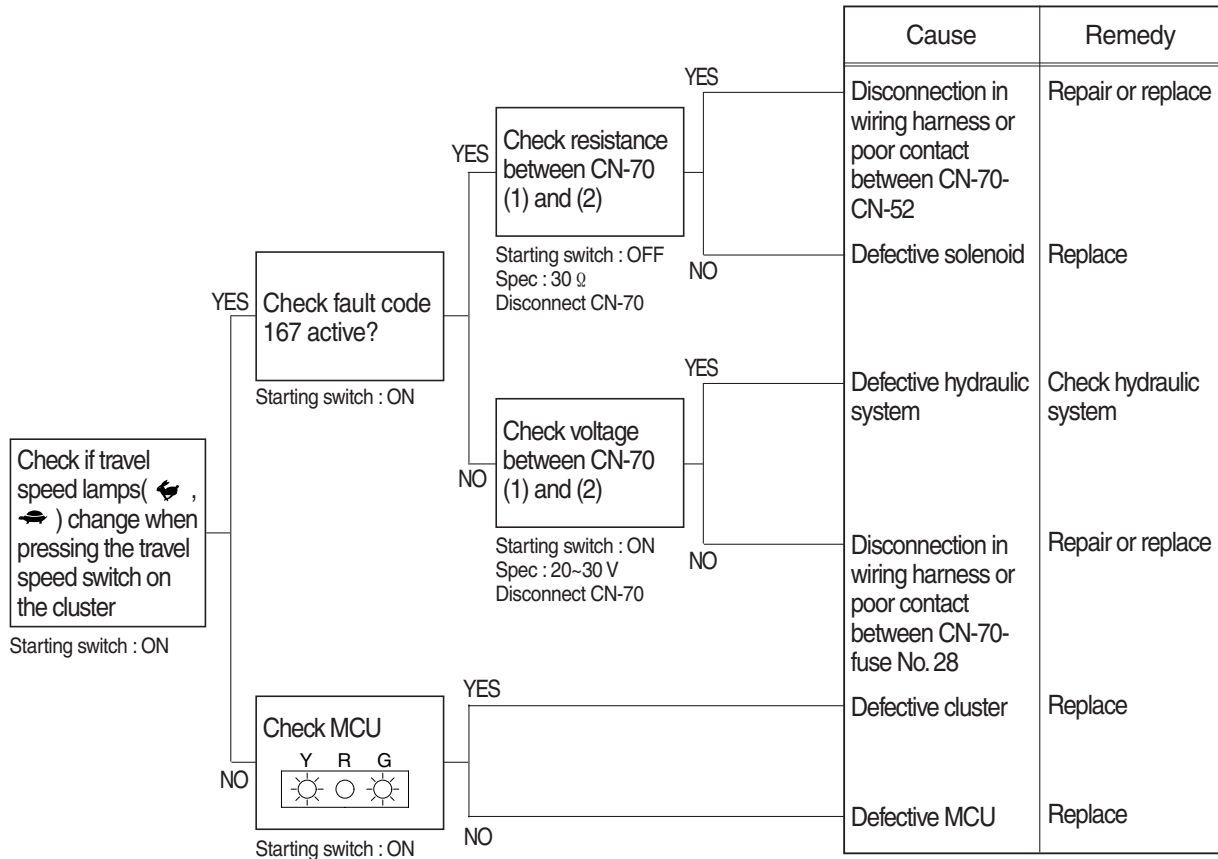
- Before disconnecting the connector, always turn the starting switch OFF.
- Before carrying out below procedure, check all the related connectors are properly inserted and short of fuse No.23.
- After checking, insert the disconnected connectors again immediately unless otherwise specified.



21096ES10

11. WHEN TRAVEL SPEED 1, 2 DOES NOT OPERATE (HCESPN 167, FMI 5 or 6)

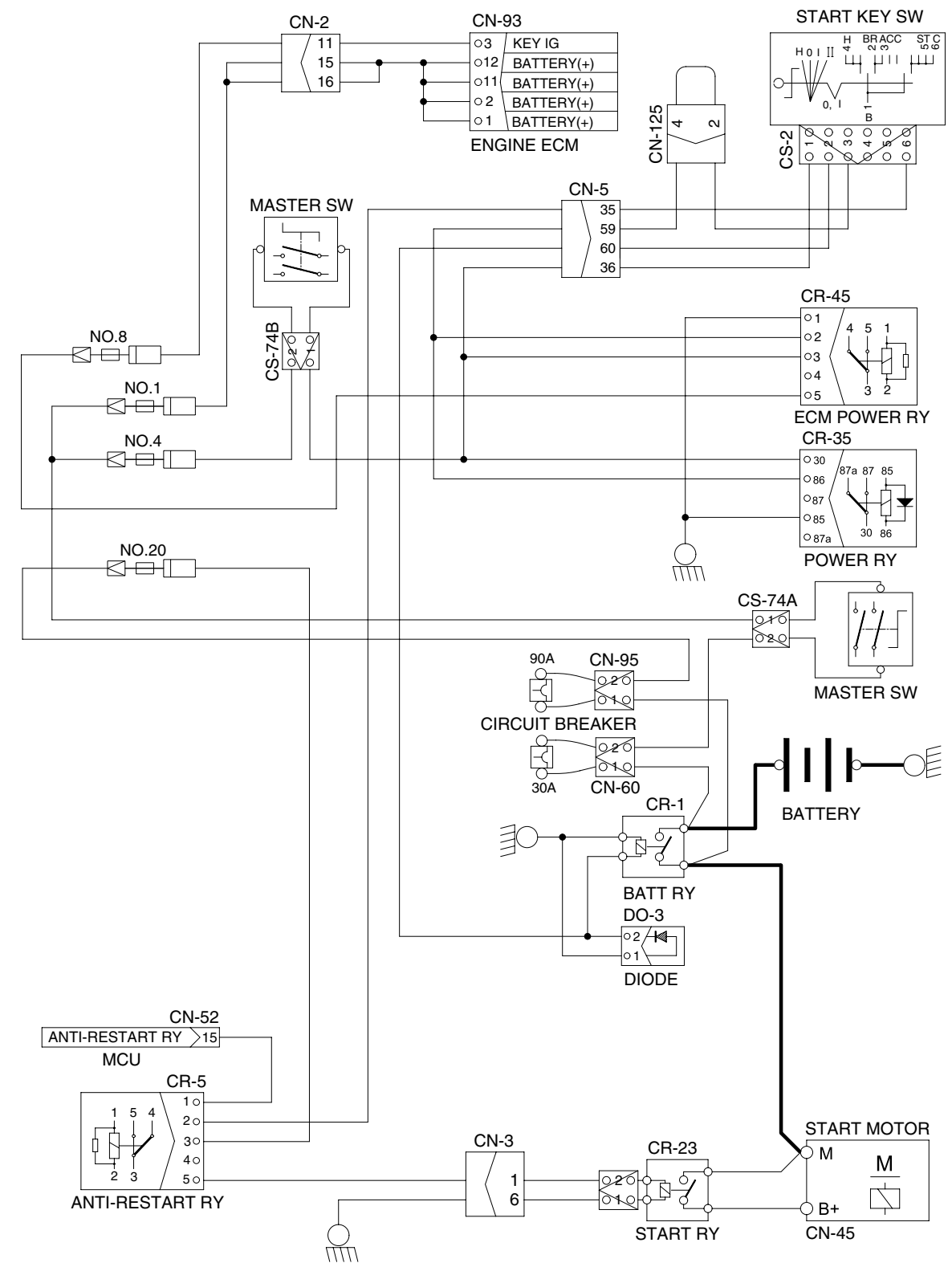
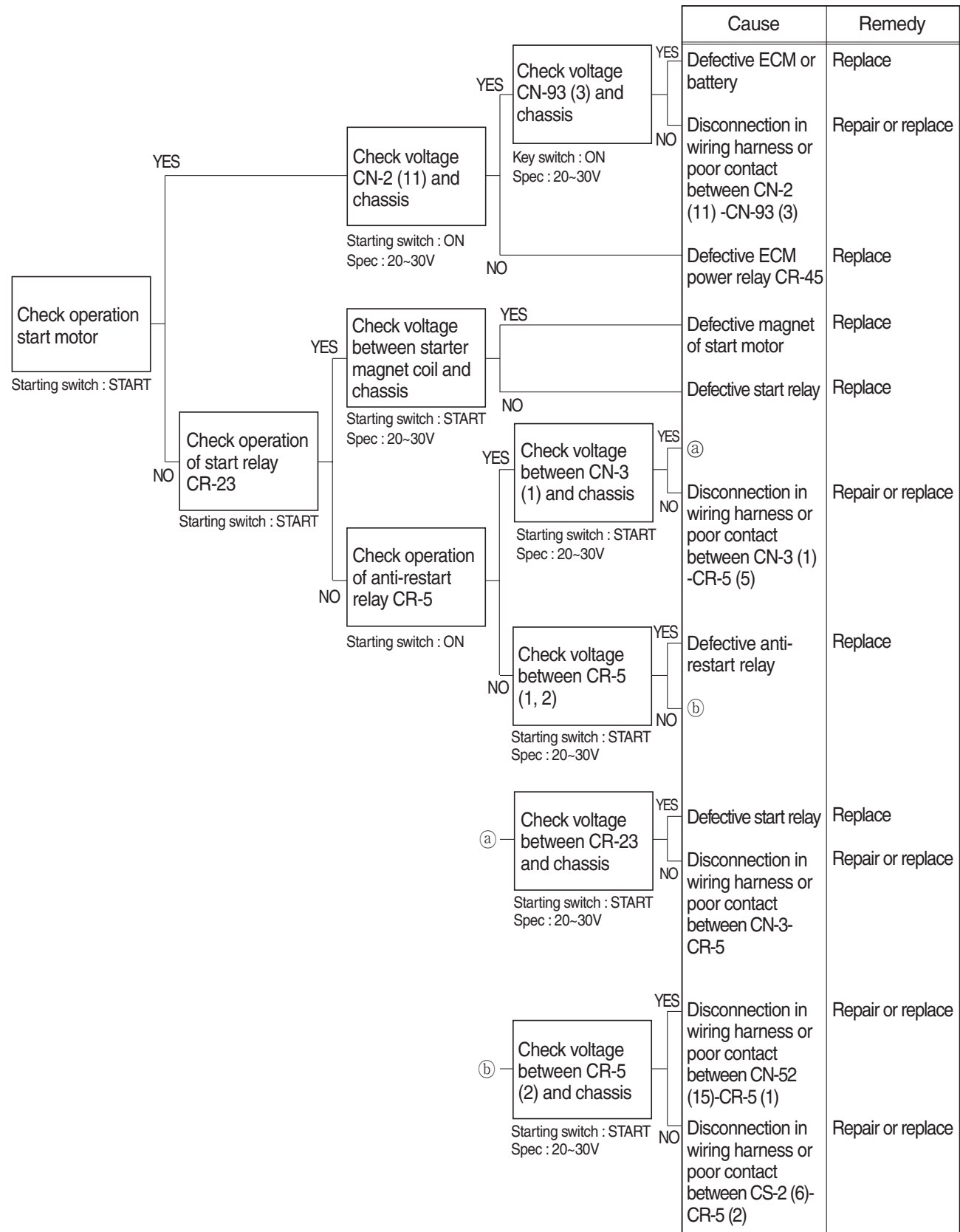
- Before disconnecting the connector, always turn the starting switch OFF.
- Before carrying out below procedure, check all the related connectors are properly inserted and short of fuse No.28 .
- After checking, insert the disconnected connectors again immediately unless otherwise specified.



21096ES11

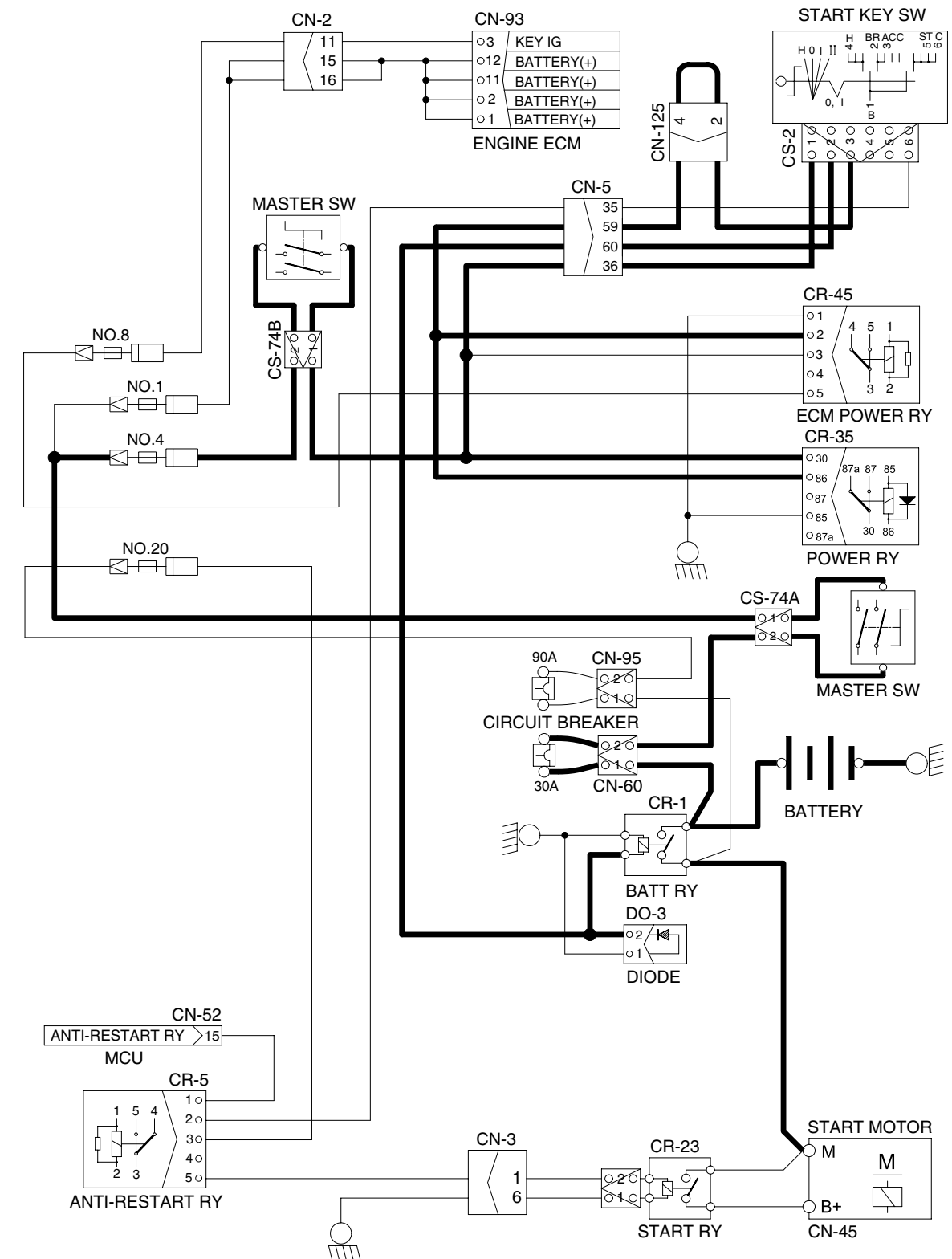
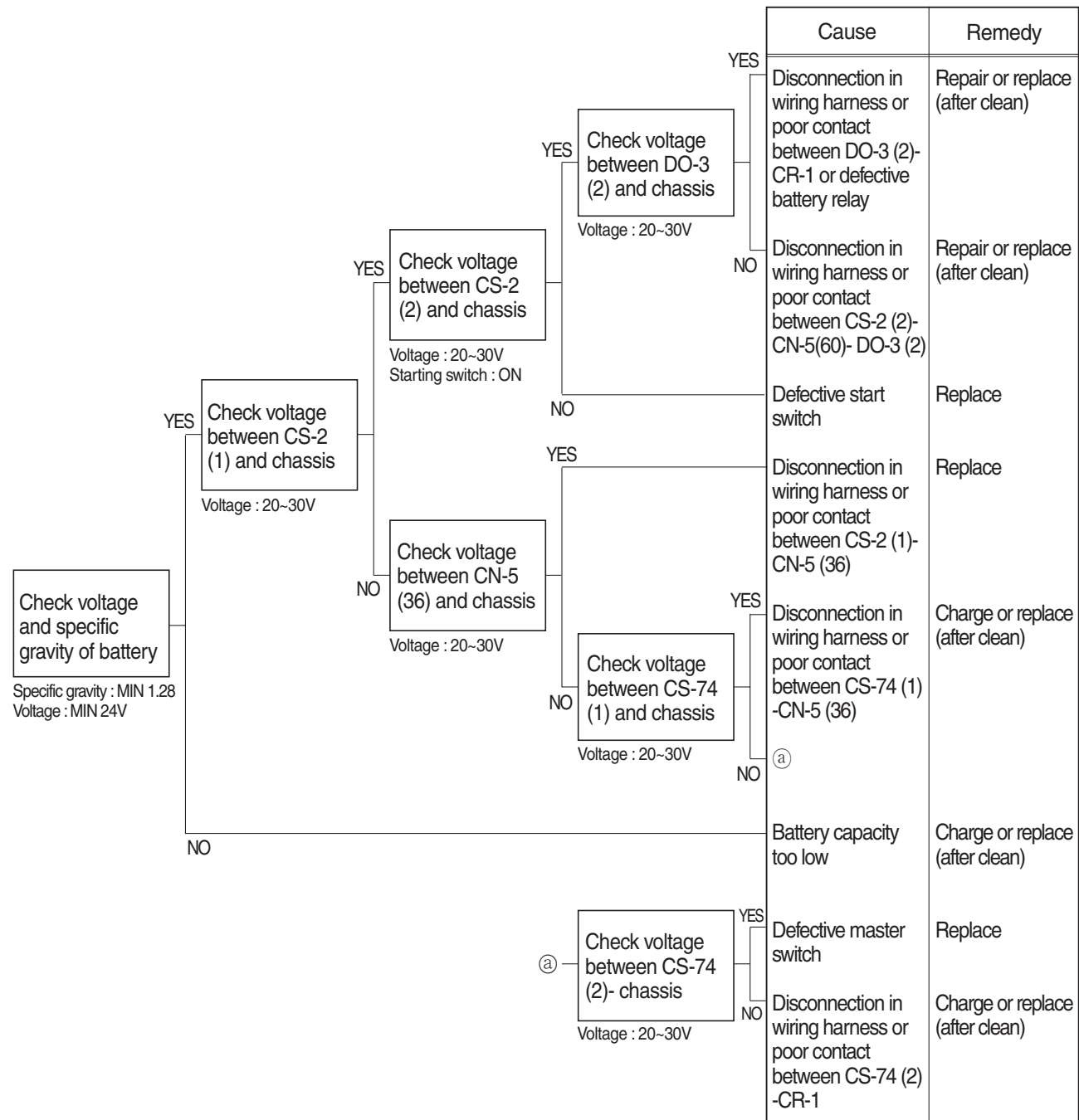
12. WHEN ENGINE DOES NOT START (lights up condition)

- Before disconnecting the connector, always turn the starting switch OFF.
- Before carrying out below procedure, check all the related connectors are properly inserted and short of fuse No. 1, 4, 8, 20.
- After checking, insert the disconnected connectors again immediately unless otherwise specified.



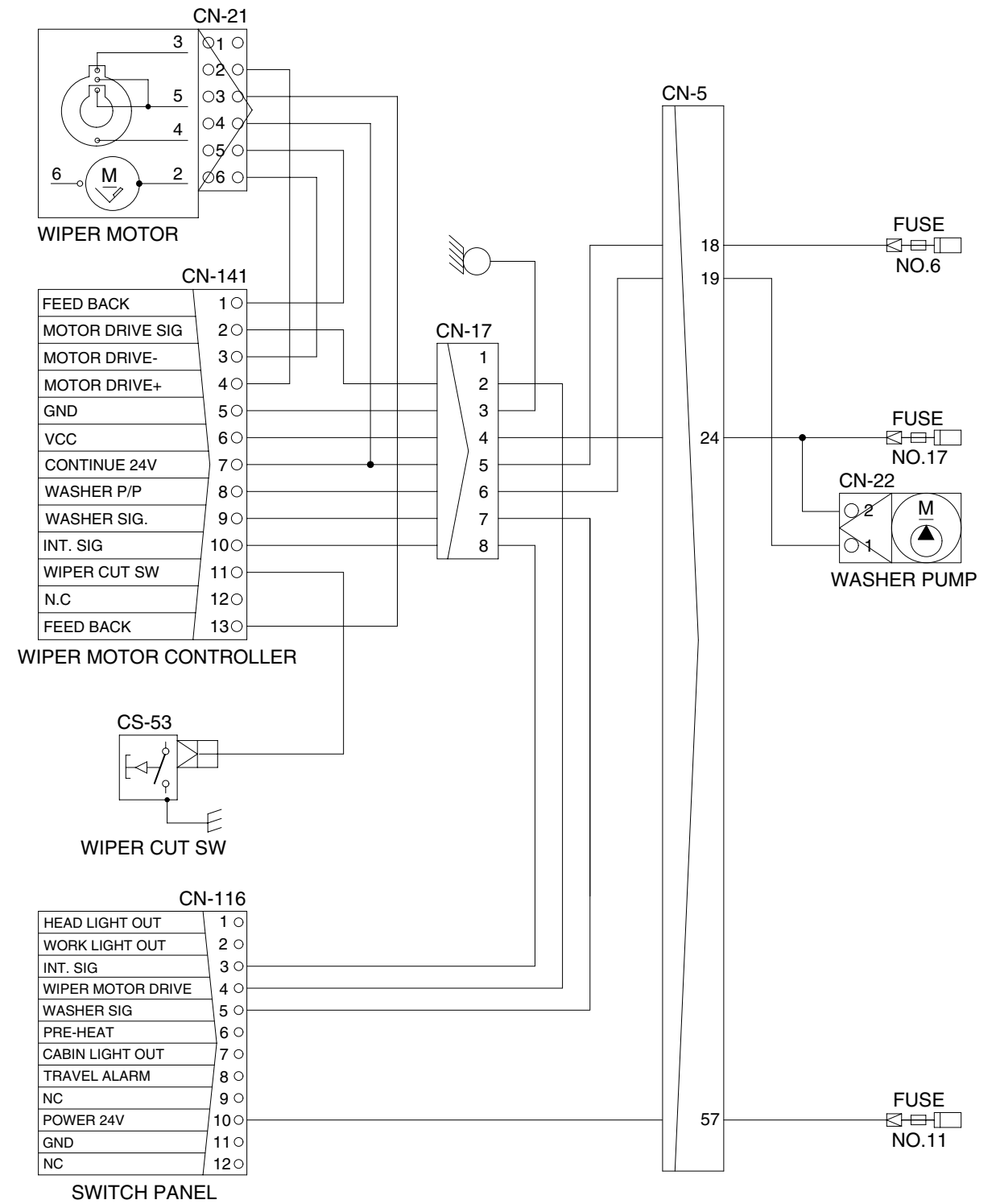
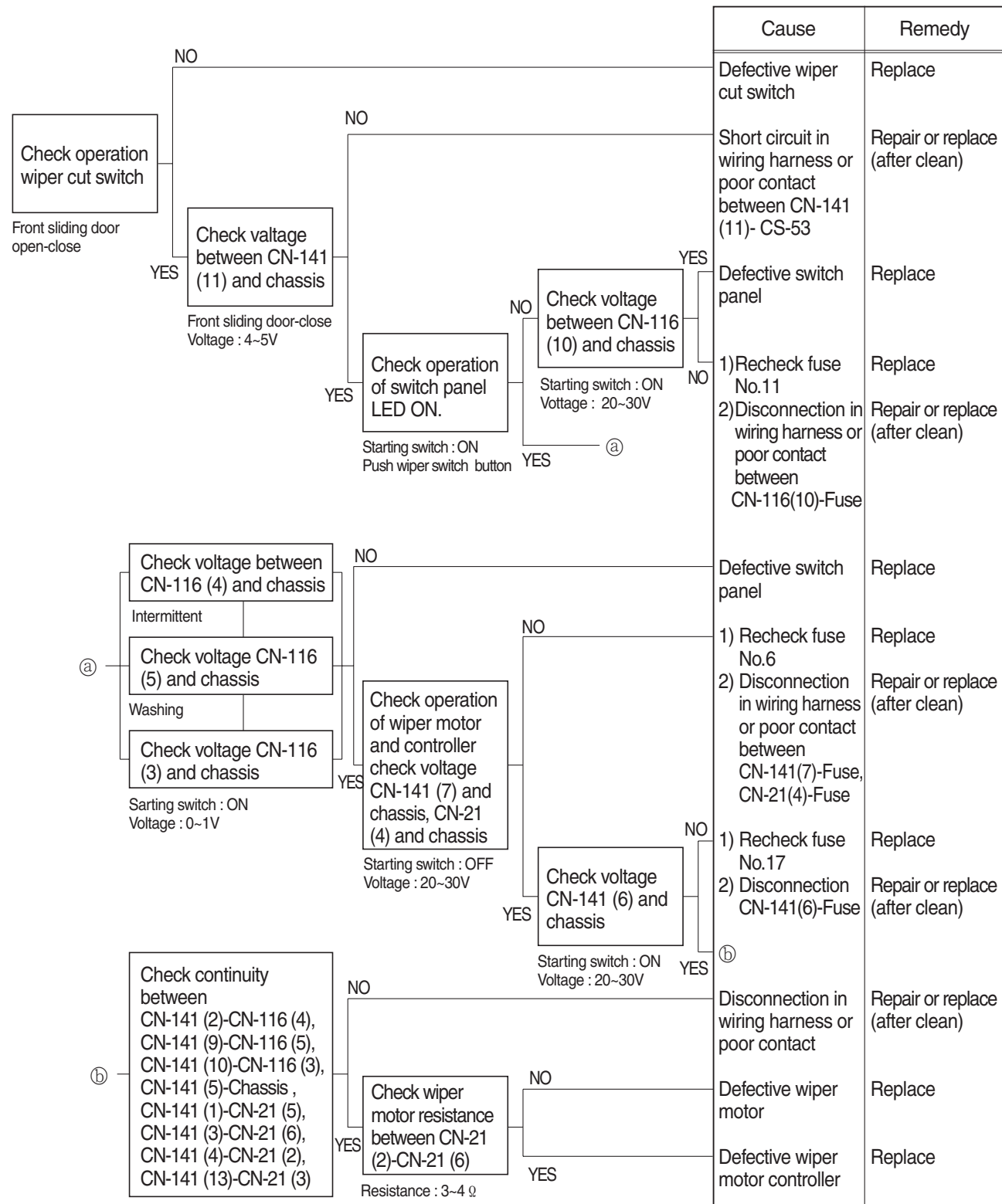
13. WHEN STARTING SWITCH ON DOES NOT OPERATE

- Before disconnecting the connector, always turn the starting switch OFF.
- Before carrying out below procedure, check all the related connectors are properly inserted, master switch ON and check open circuit of fusible link (CN-60).
- After checking, insert the disconnected connectors again immediately unless otherwise specified.



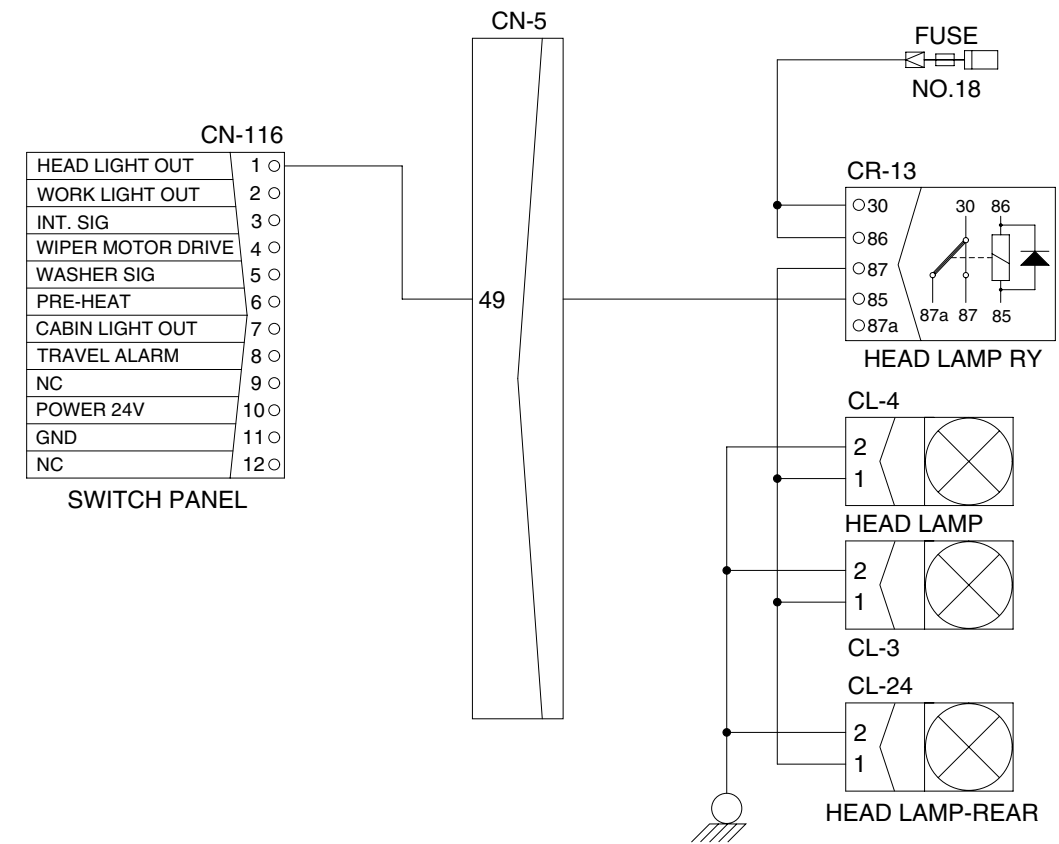
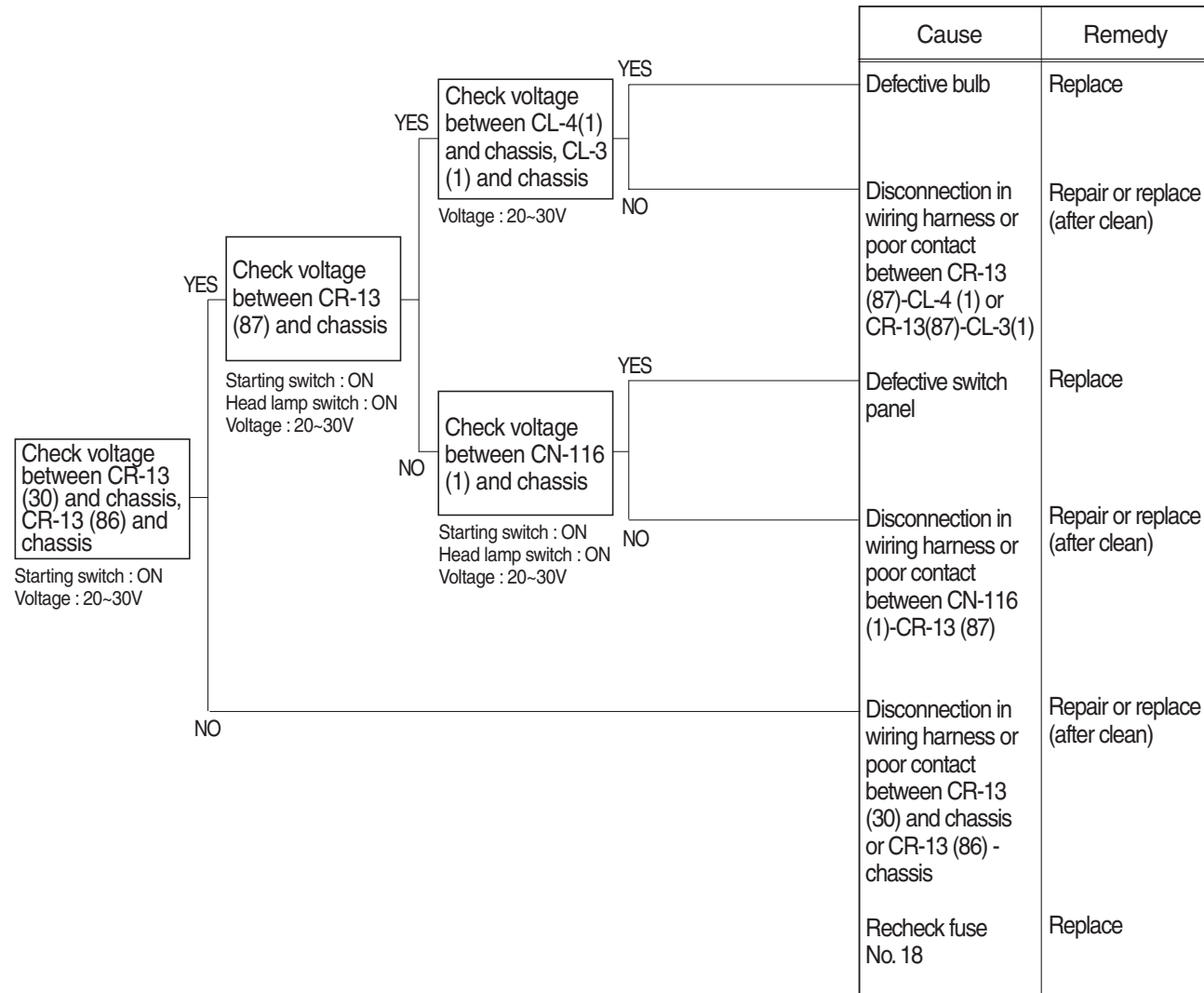
14. WHEN STARTING SWITCH IS TURNED ON, WIPER MOTOR DOES NOT OPERATE

- Before disconnecting the connector, always turn the starting switch OFF.
- Before carrying out below procedure, check all the related connectors are properly inserted and the fuse No. 6, 11 and 17 is not blown out.
- After checking, insert the disconnected connectors again immediately unless otherwise specified.



15. WHEN STARTING SWITCH IS TURNED ON, HEAD LAMP DOES NOT LIGHTS UP

- Before disconnecting the connector, always turn the starting switch OFF.
- Before carrying out below procedure, check all the related connectors are properly inserted and short of fuse No.18.
- After checking, insert the disconnected connectors again immediately unless otherwise specified.



16. WHEN STARTING SWITCH IS TURNED ON, WORK LAMP DOES NOT LIGHTS UP

- Before disconnecting the connector, always turn the starting switch OFF.
- Before carrying out below procedure, check all the related connectors are properly inserted and short of fuse No.15.
- After checking, insert the disconnected connectors again immediately unless otherwise specified.

