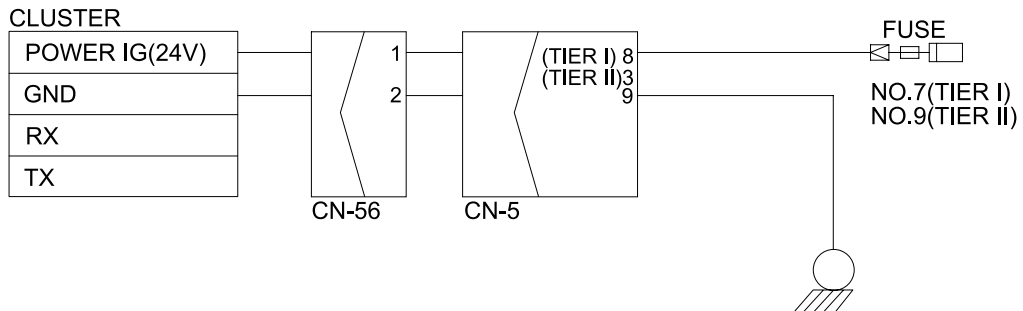
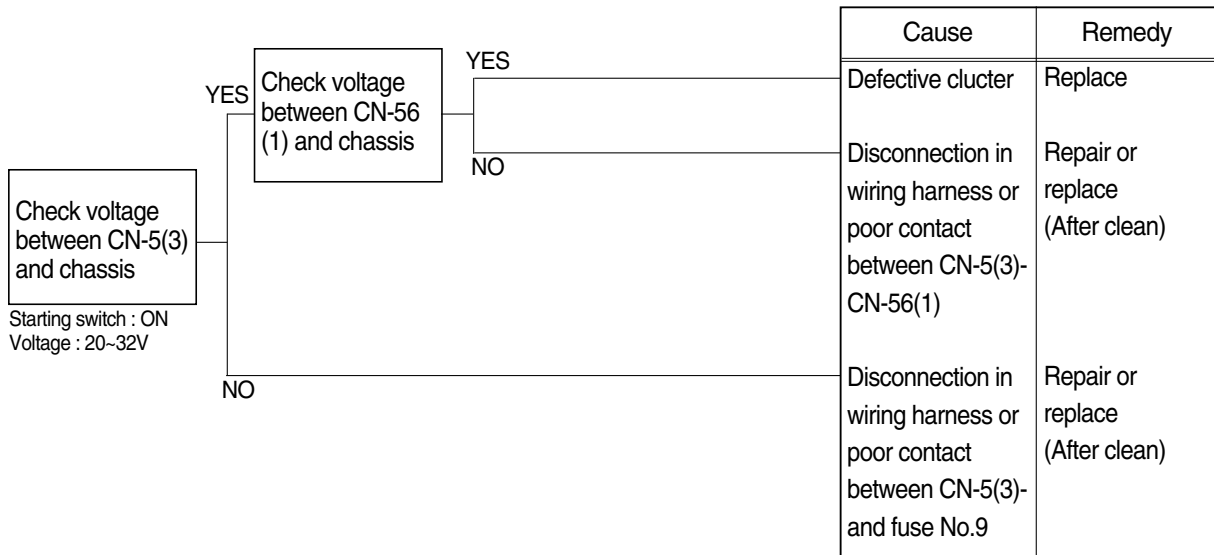


GROUP 3 ELECTRICAL SYSTEM

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.9.
- After checking, insert the disconnected connectors again immediately unless otherwise specified.



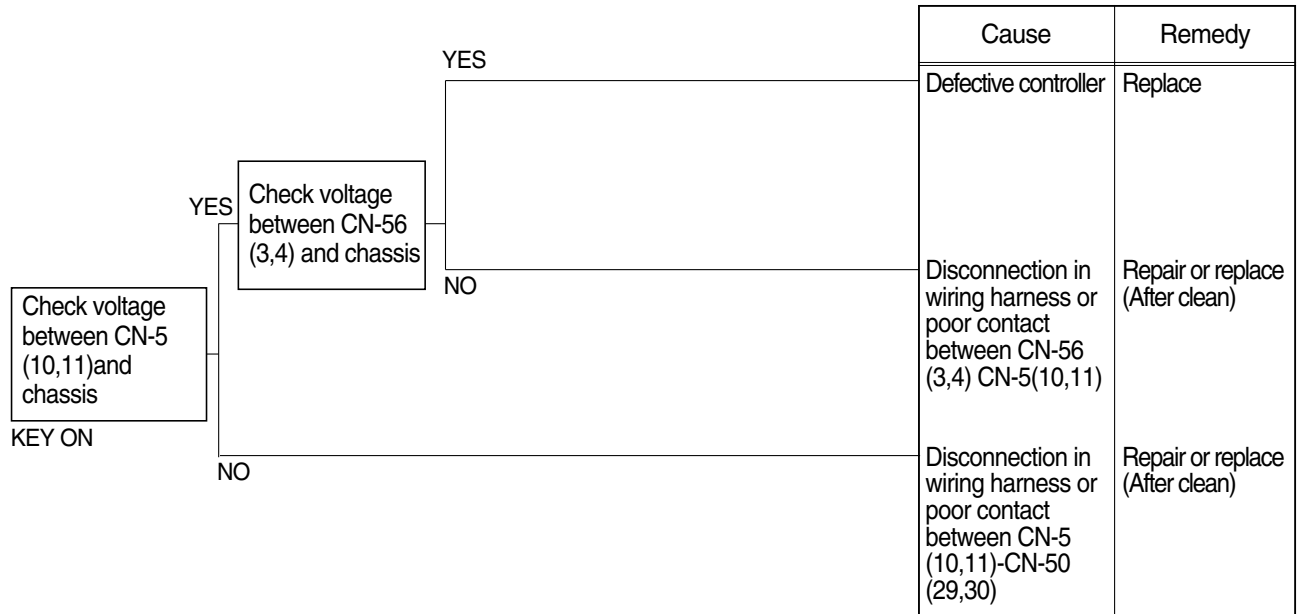
Check voltage

YES	20 ~ 32V
NO	0V

29076ES01

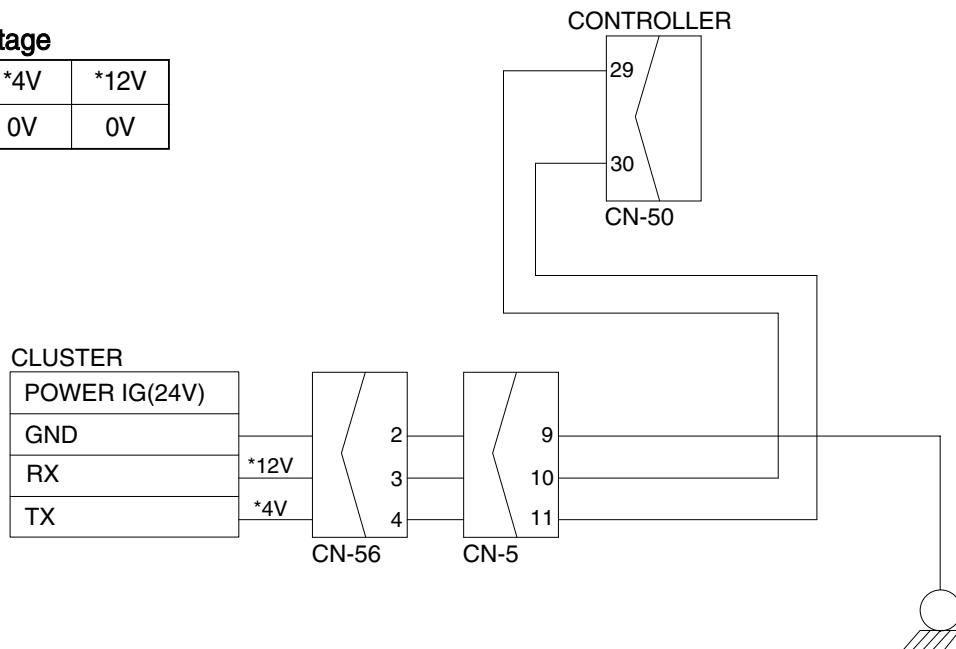
2. COMMUNICATION ERROR "Co : Er" FLASHES ON THE CLUSTER

- 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

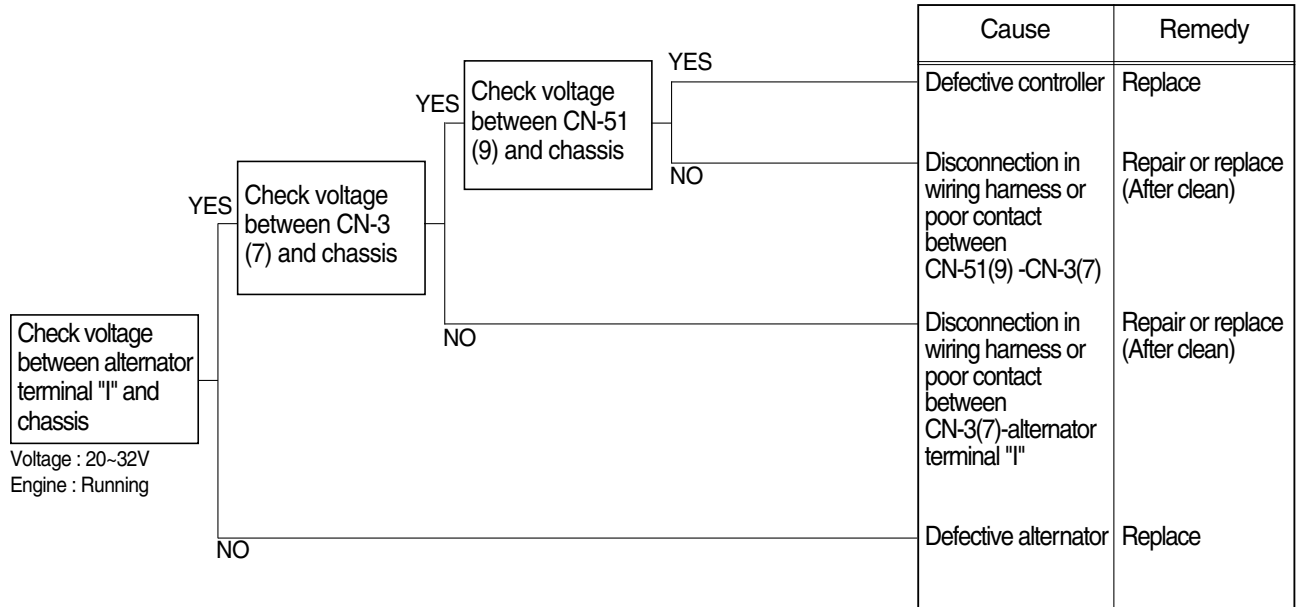
YES	*4V	*12V
NO	0V	0V



29076ES02

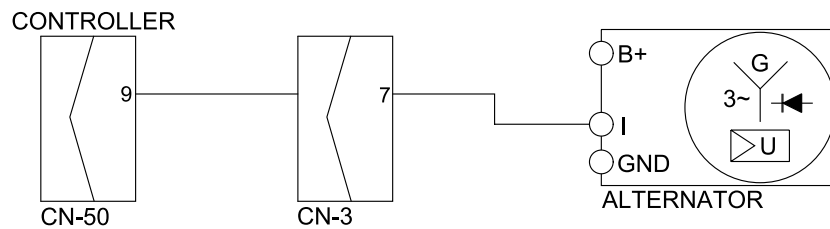
3. BATTERY CHARGING WARNING LAMP LIGHTS UP (Starting switch : ON)

- 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

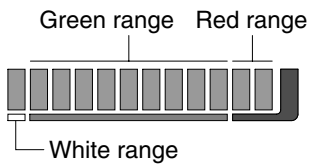
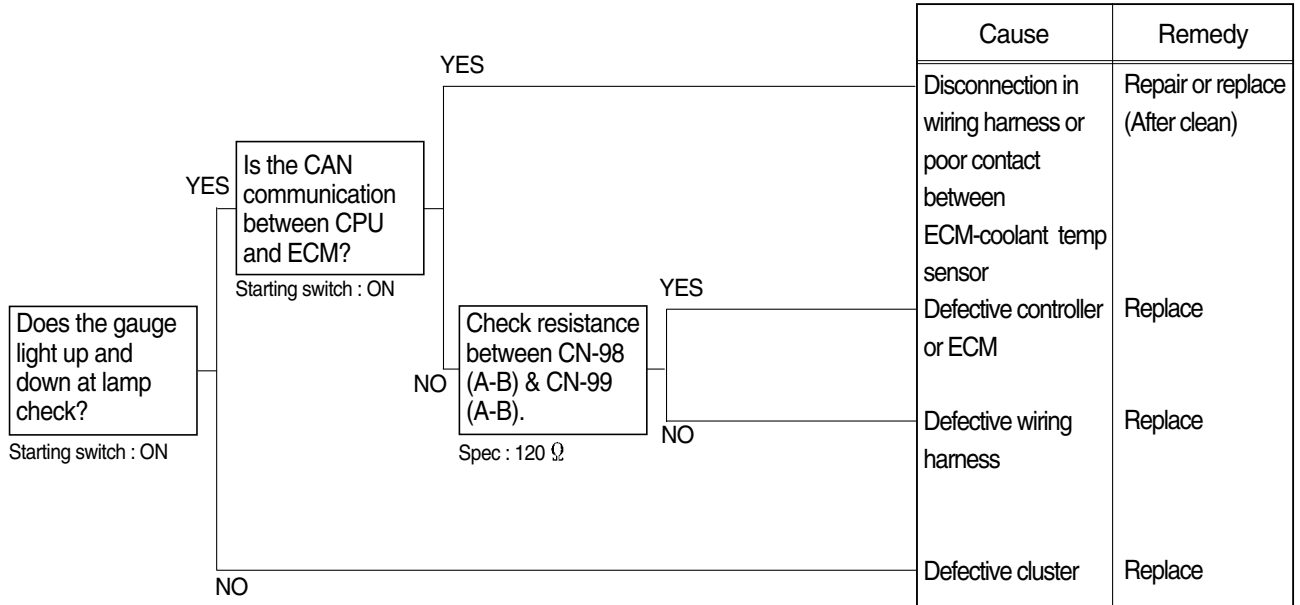
YES	20 ~ 32V
NO	0V



45076ES01

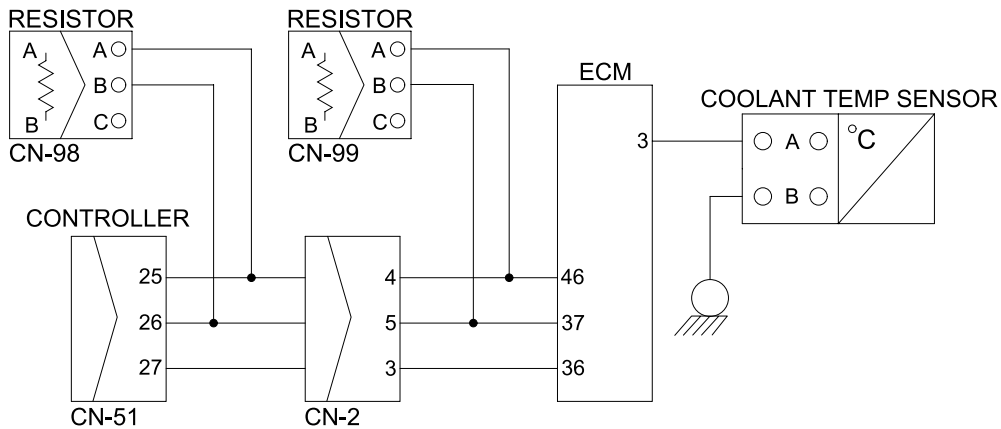
4. WHEN COOLANT OVERHEAT WARNING LAMP LIGHTS UP(Engine is started)

- 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.



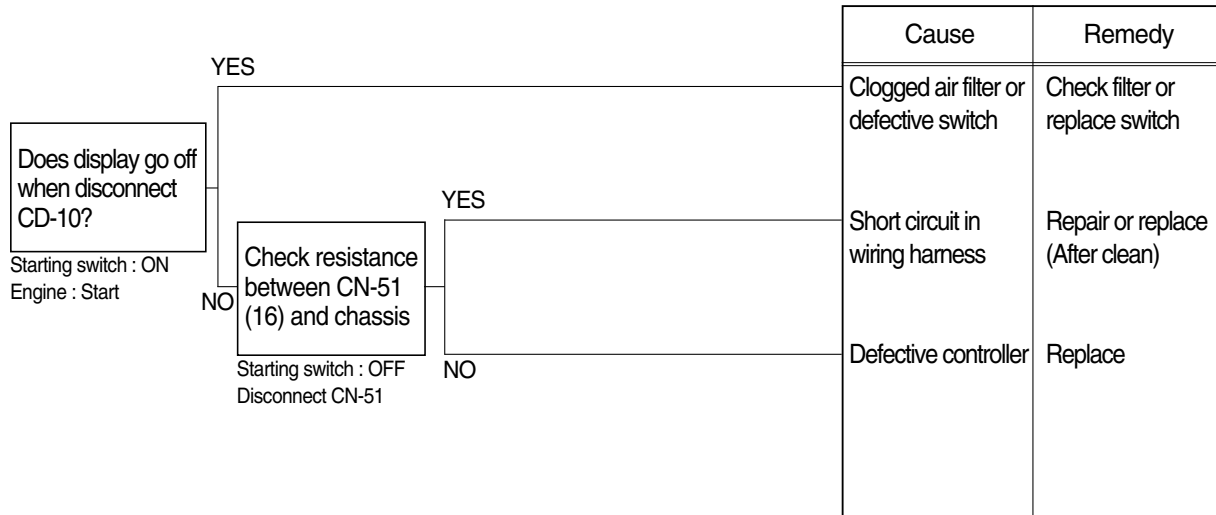
Check Table

Item \ Temperature	White range (~29°C)	Green range (30~105°C)	Red range (105°C ~)



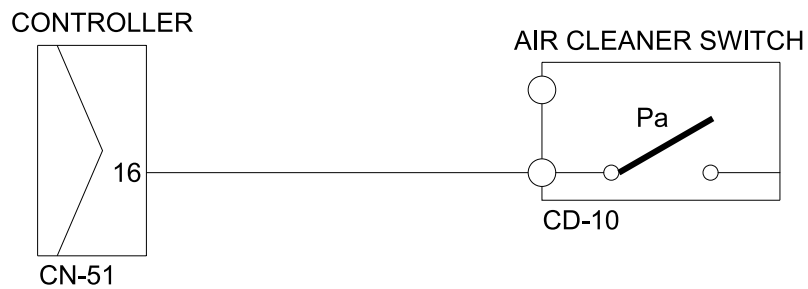
5.  **WHEN AIR CLEANER WARNING LAMP LIGHTS UP**(Engine is started)

- 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.



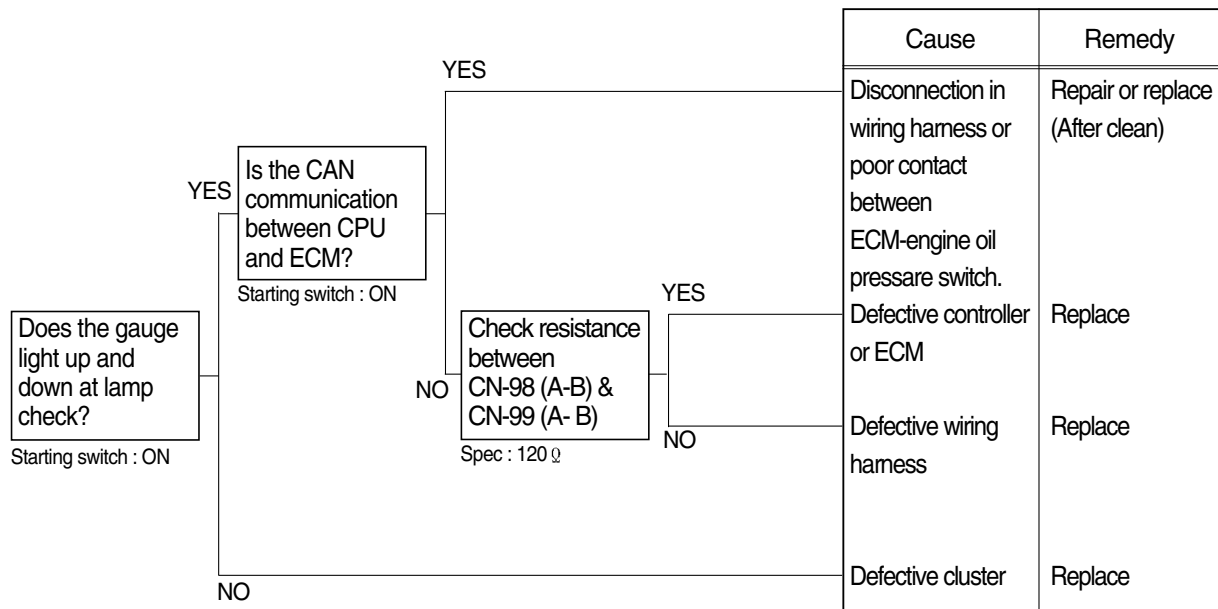
Check resistance

YES	MAX 1Ω
NO	MIN 1MΩ



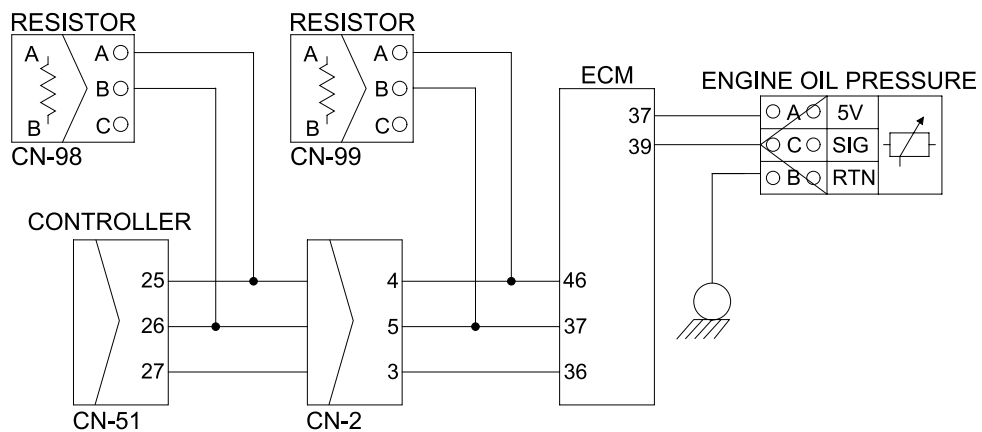
6. WHEN ENGINE OIL PRESSURE WARNING LAMP LIGHTS UP(Engine is started)

- 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.



Check resistance

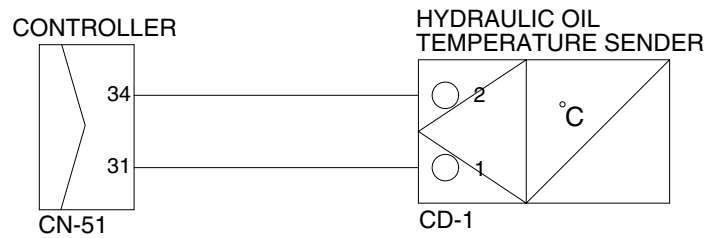
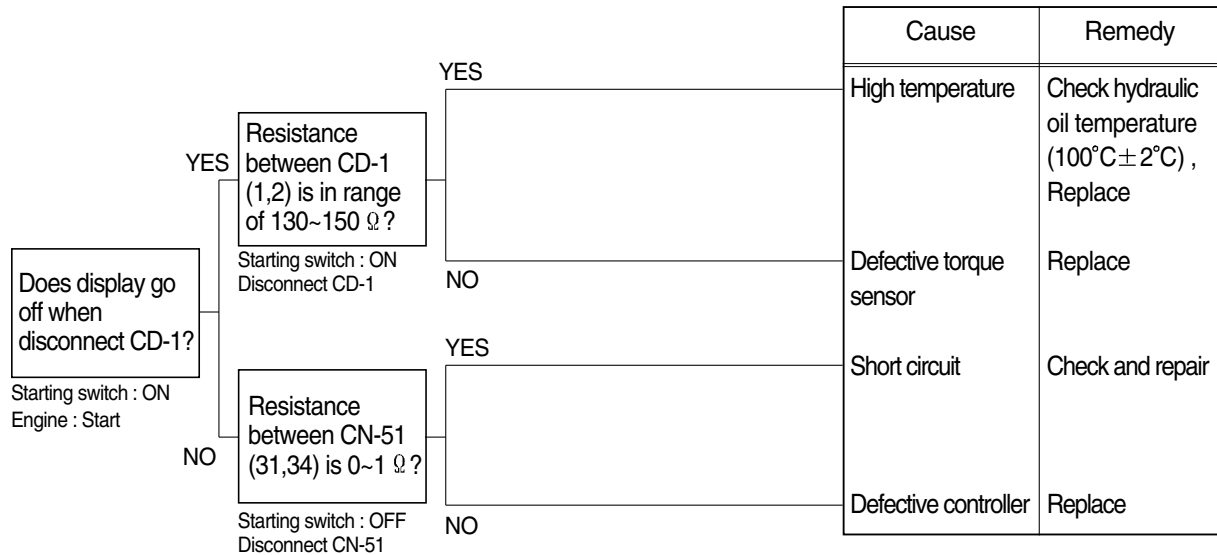
YES	MAX 1Ω
NO	MIN 1MΩ



45076ES05

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

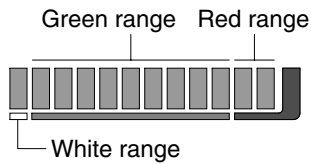
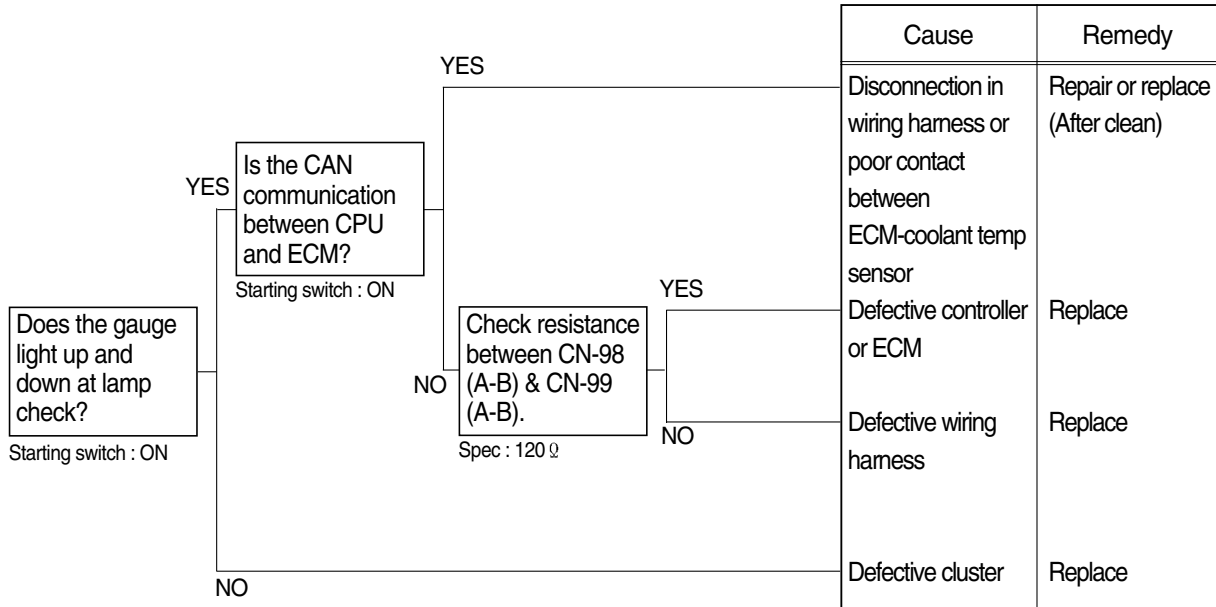
- Before disconnecting the connector, always turn the starting switch OFF.
- Before carrying out below procedure, check all the related connectors are properly inserted.
- After checking, insert the disconnected connectors again immediately unless otherwise specified.



29076ES04

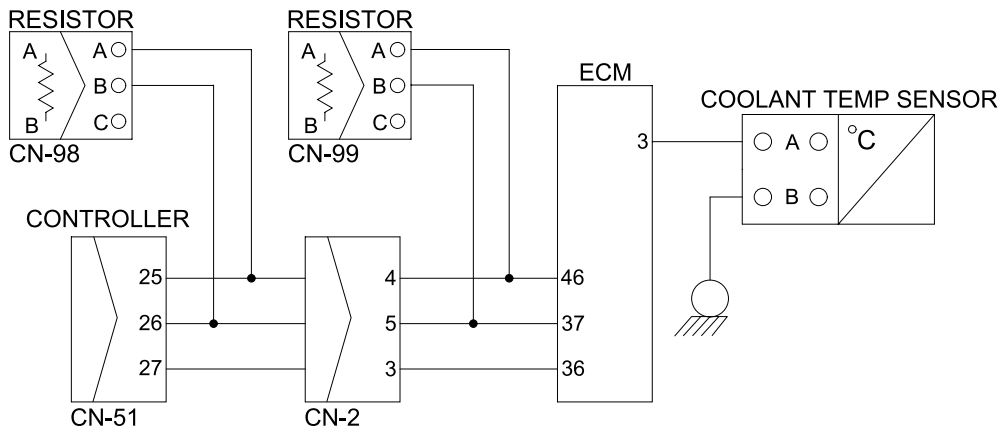
8. WHEN COOLANT TEMPERATURE GAUGE DOES NOT OPERATE

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



Check Table

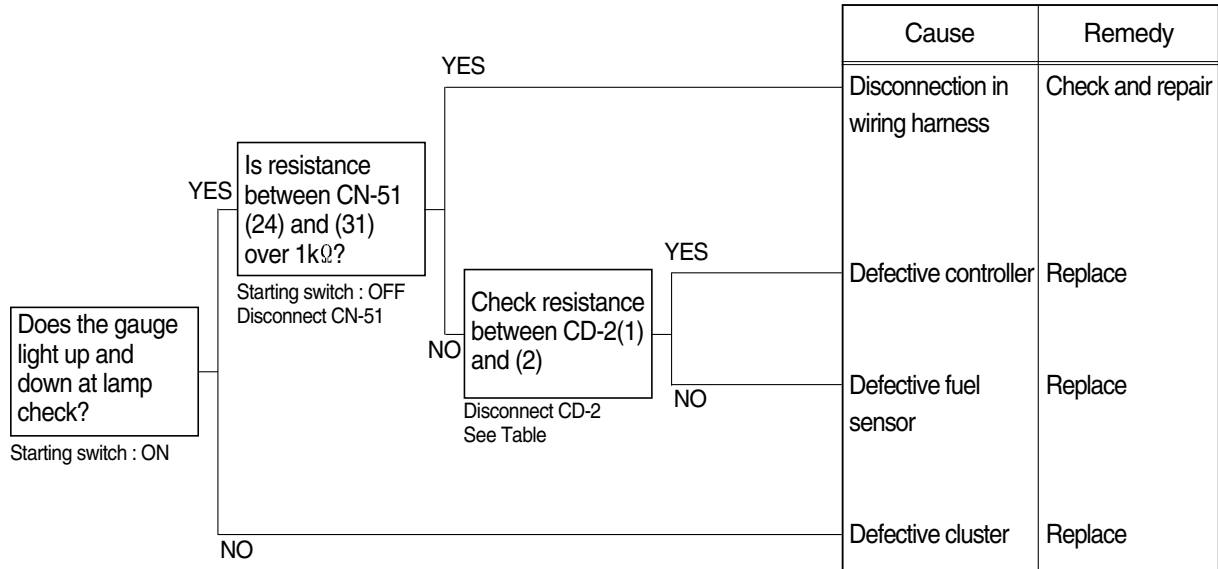
Temperature	White range (~29°C)	Green range (30~105°C)	Red range (105°C ~)
Item			



45076ES04

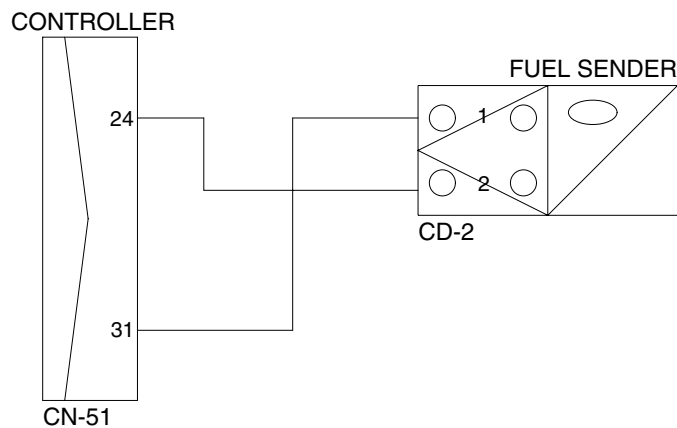
9. WHEN FUEL GAUGE DOES NOT OPERATE (Check warning lamp ON/OFF)

- 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.



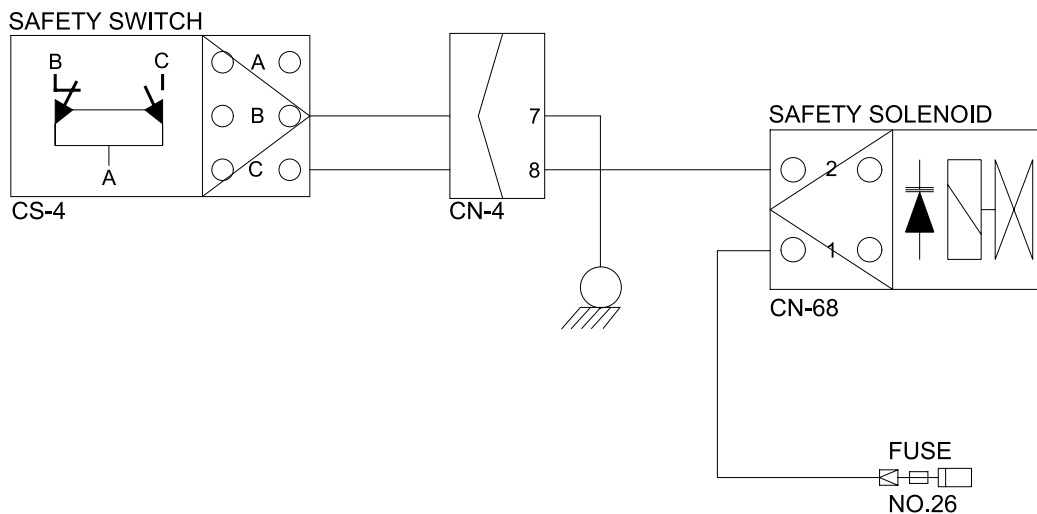
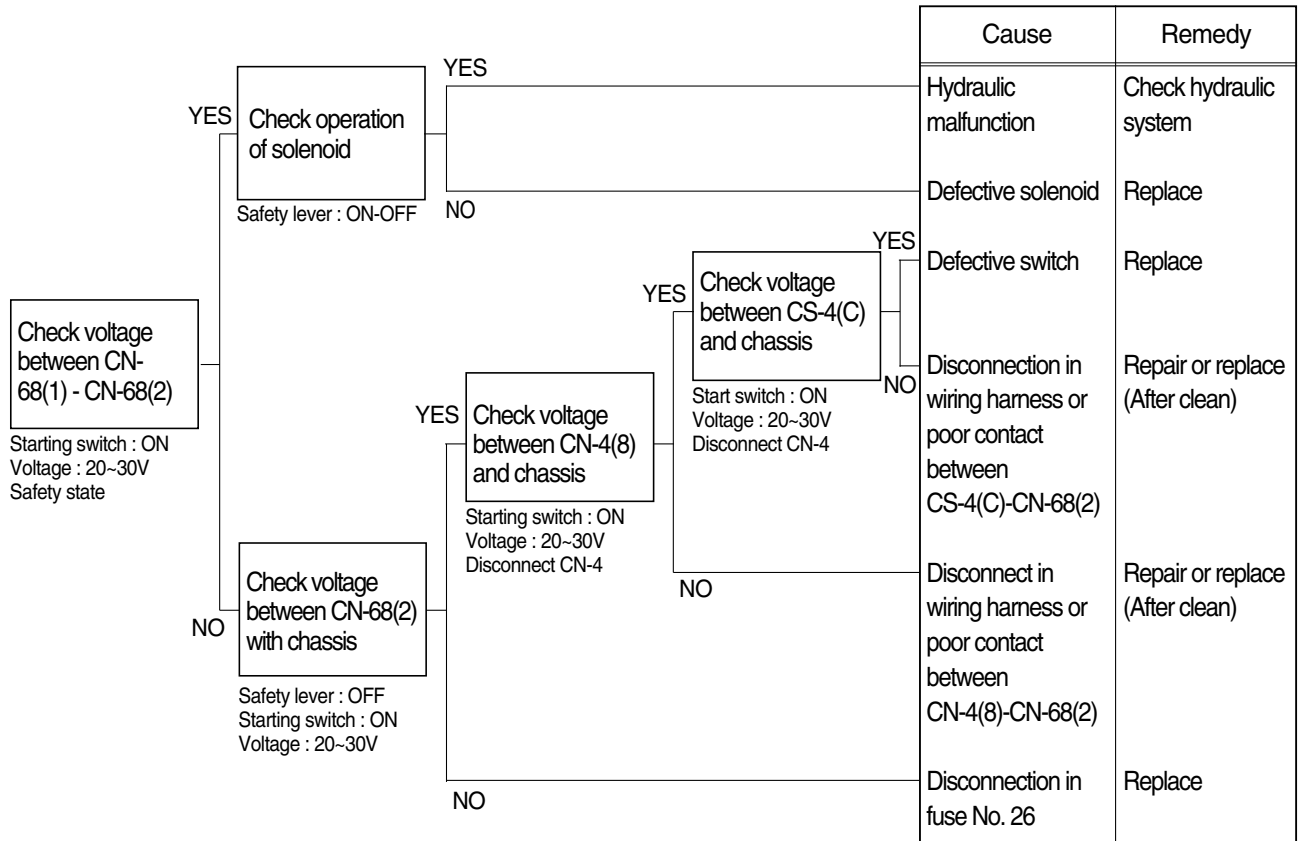
Check Table

Item \ Level	White range	Green range	Red range
Unit Resistance (Ω)	700~601	600~101	~100
Tolerance (%)	± 5	± 5	± 5



10. WHEN SAFETY SOLENOID DOES NOT OPERATE

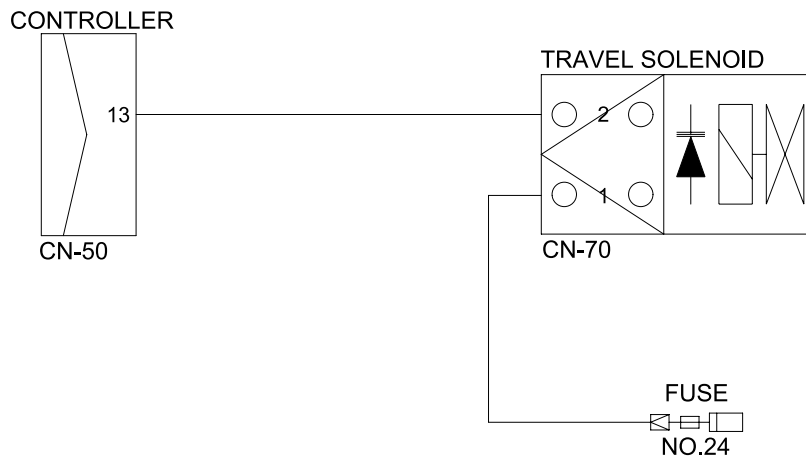
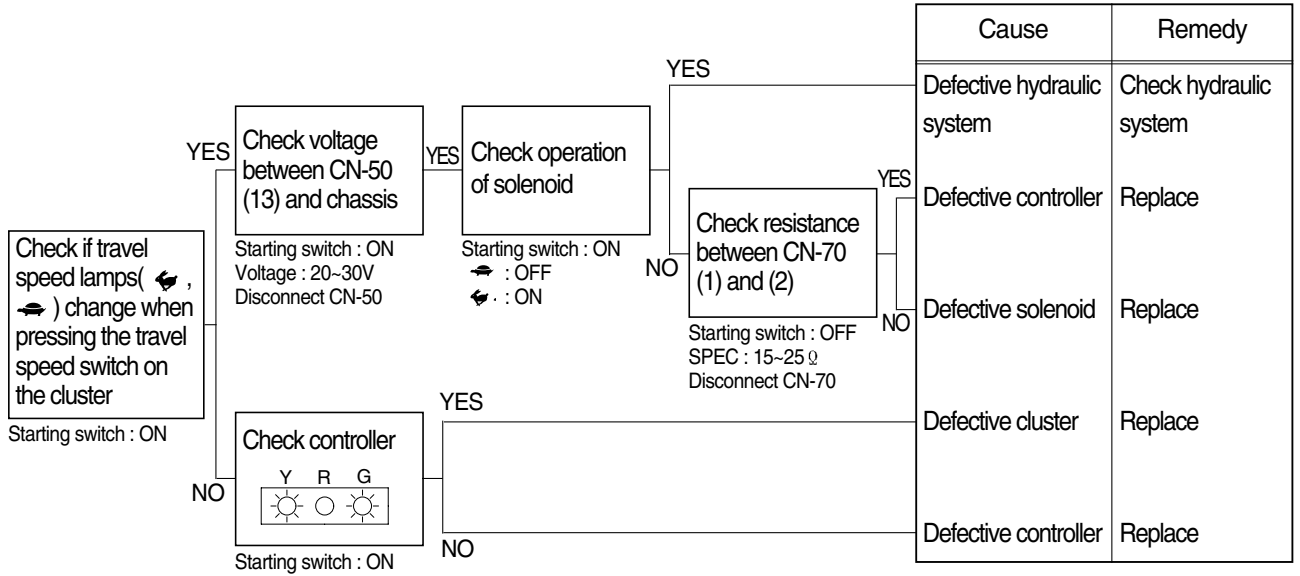
- Before disconnecting the connector, always turn the starting switch OFF.
- Before carrying out below procedure, check all the related connectors are properly inserted and short of fuse No.26.
- After checking, insert the disconnected connectors again immediately unless otherwise specified.



45076ES02

11. WHEN TRAVEL SPEED 1, 2 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.24 .
- After checking, insert the disconnected connectors again immediately unless otherwise specified.

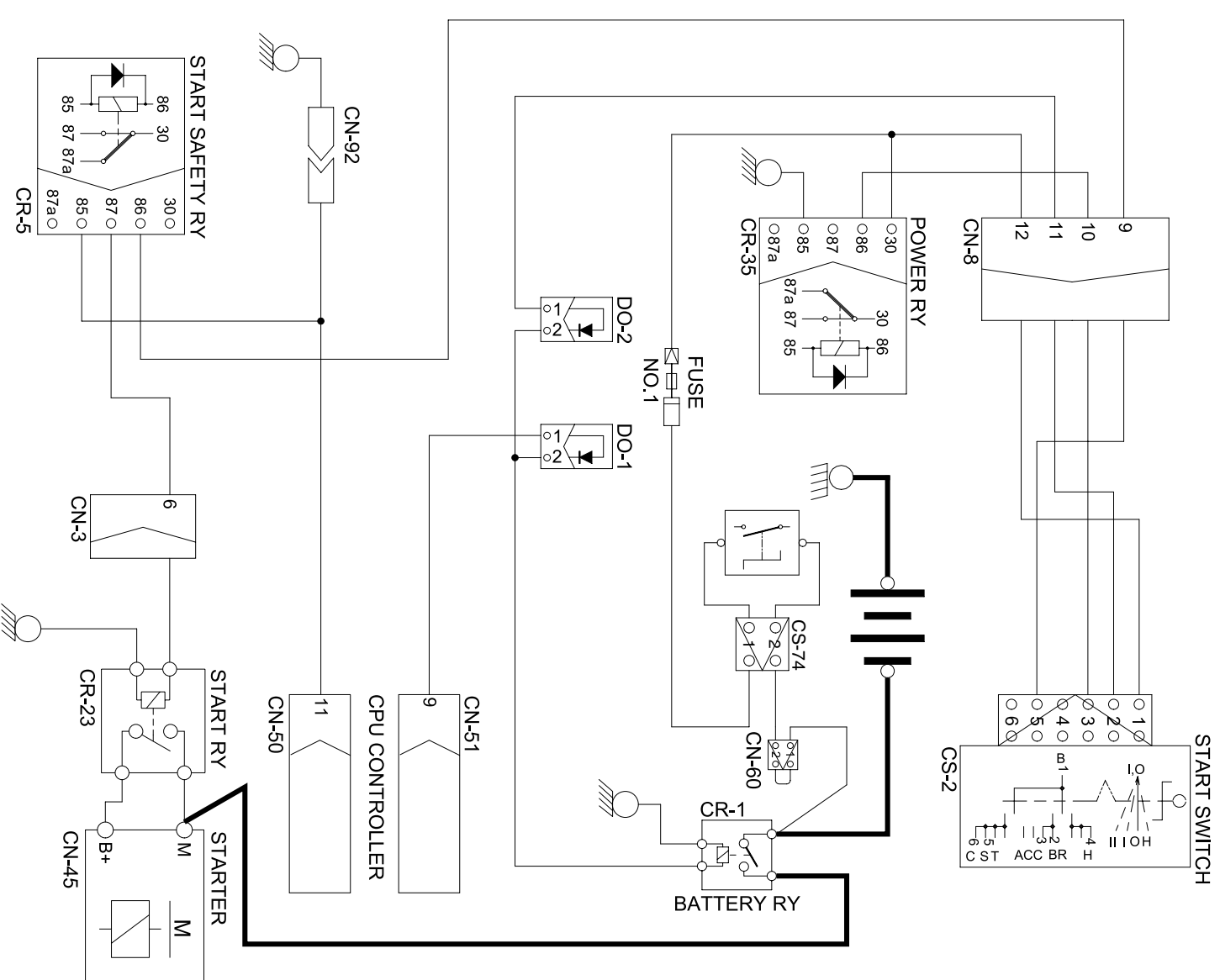


45076ES03

12. WHEN ENGINE DOES NOT START

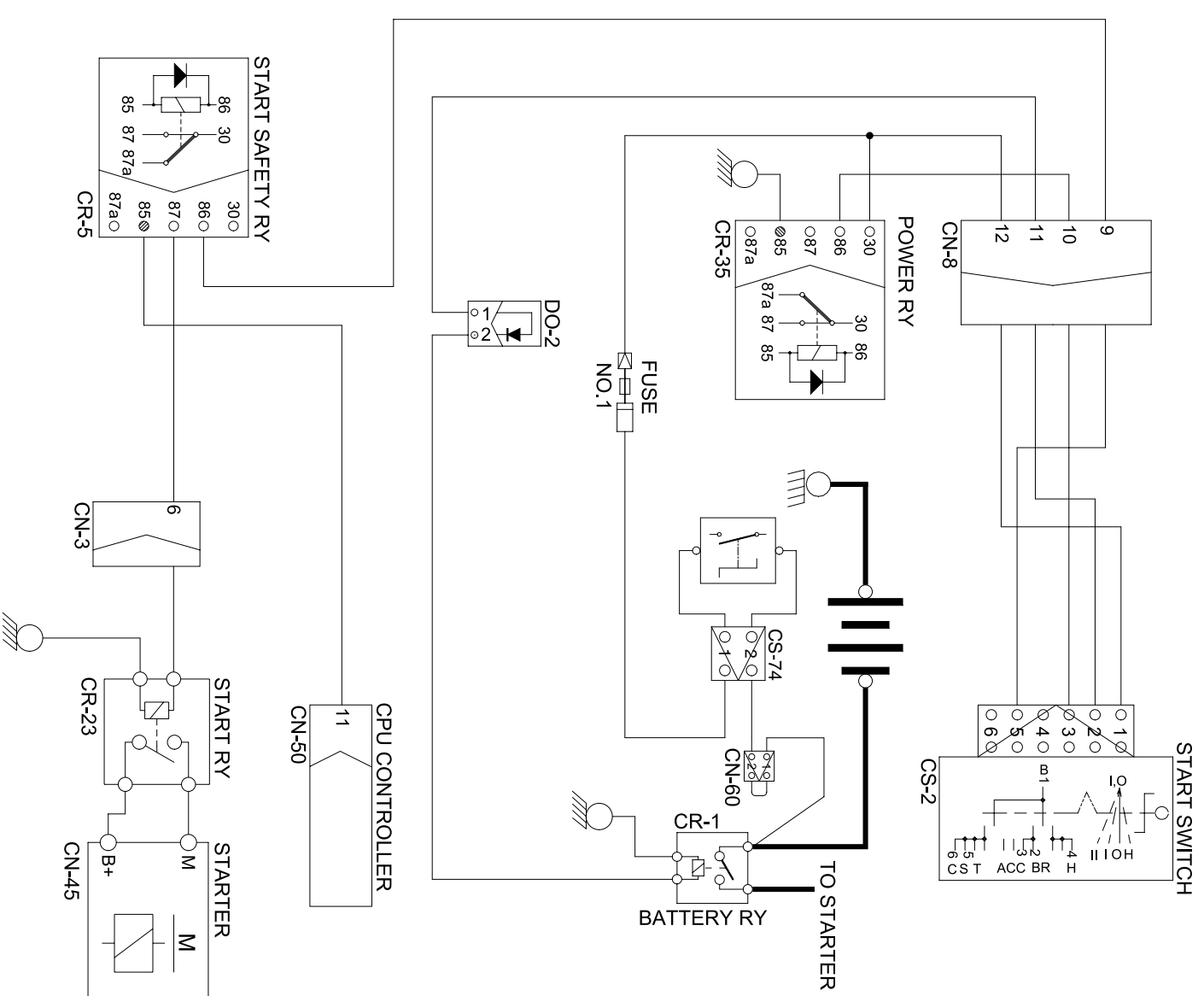
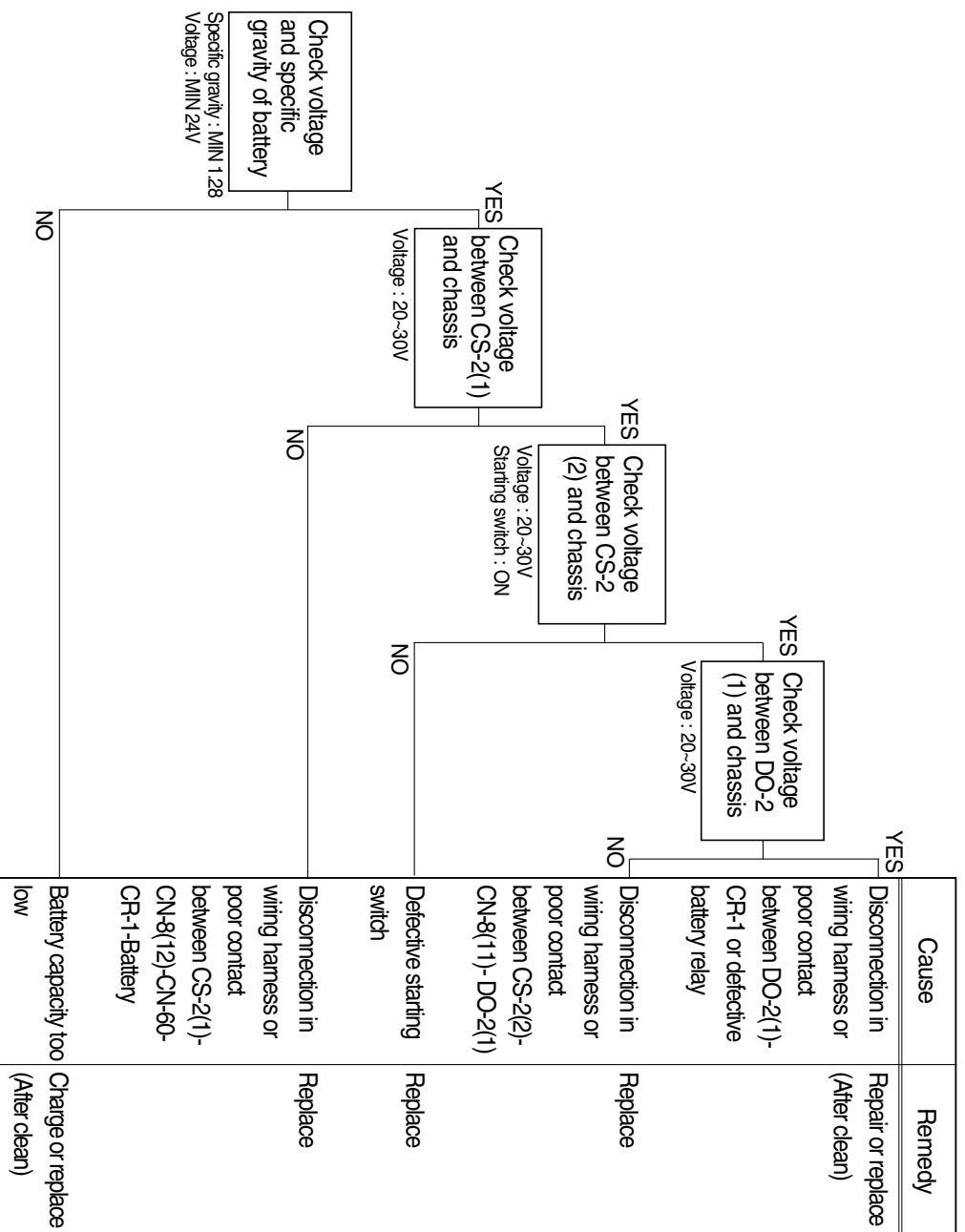
- Before disconnecting the connector, always turn the starting switch OFF.
- Before carrying out below procedure, check all the related connectors are properly inserted.
- After checking, insert the disconnected connectors again immediately unless otherwise specified.

Check operation of start motor Starting switch : START	YES	Defective battery	Check engine system charge or replace.(After checking specific gravity of battery)
Check operation of start relay CR-23 Starting switch : START	NO	Defective start relay	Replace
Check voltage between starter magnet coil and chassis Starting switch : START SPEC : 20-30V	YES	Defective magnet of start motor	Replace
Check operation of start safety relay CR-5 Starting switch : ON	NO	Defective start relay	Replace
Check voltage between CR-5 (30) and chassis Starting switch :START SPEC : 20-30V	YES	Defective start safety relay	Repair or replace (After clean)
Check voltage between CR-5 (86) and chassis Starting switch : ON Voltage : 20-30V	NO	Defective relay	Replace
Check voltage between CR-23 and chassis Starting switch : ON Voltage : 20-30V	NO	Disconnection in wiring harness or poor contact between CR-5(86) and CS-2(5)	Repair or replace (After clean)
	YES	Defective start relay	Replace
	NO	Disconnection in wiring harness or poor contact between CR-5(87)-CR-23	Repair or replace (After clean)



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 and master switch ON.
- After checking, insert the disconnected connectors again immediately unless otherwise specified.

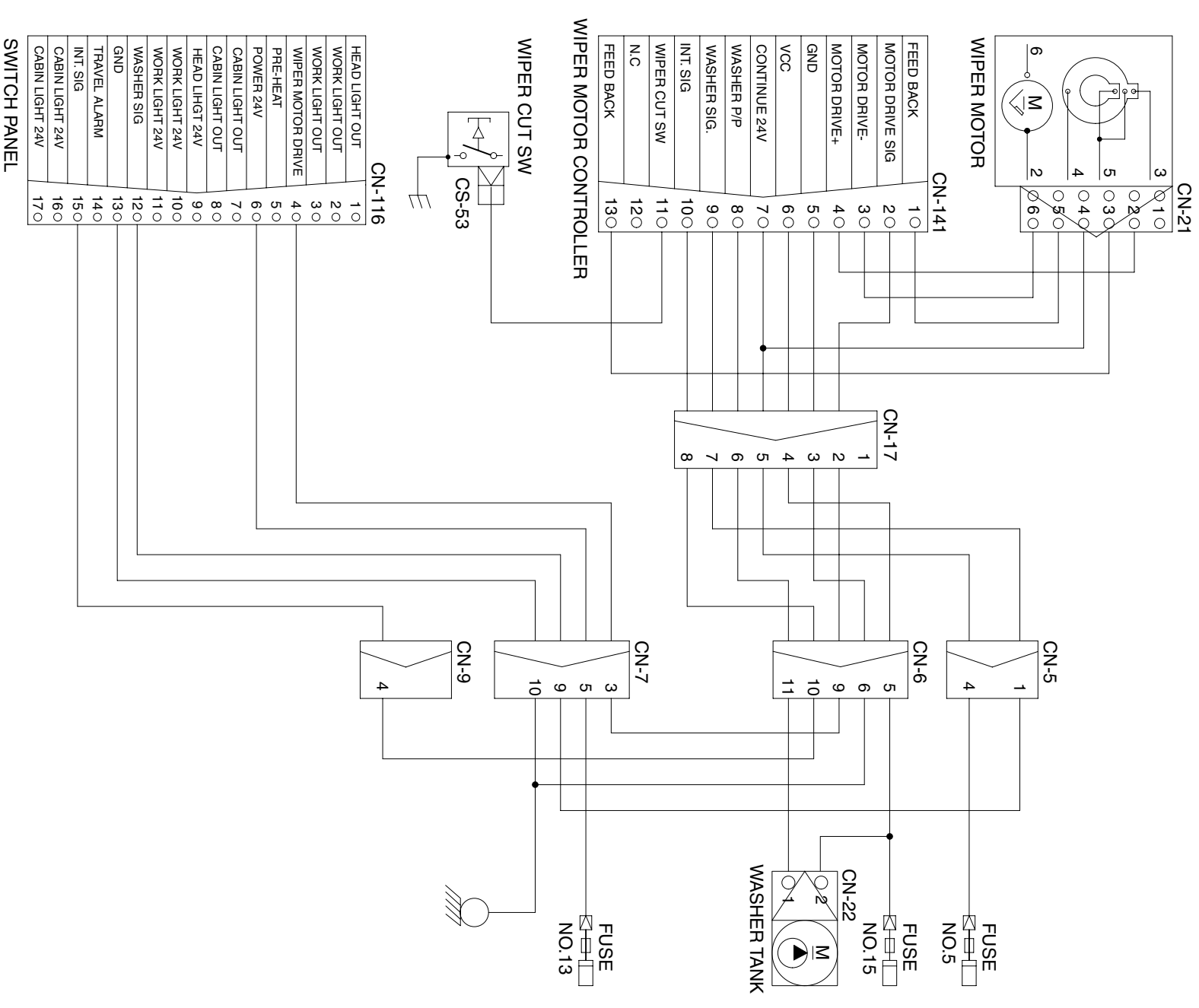


50076ES08

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.5, 13 and 15 is not blown out.
- After checking, insert the disconnected connectors again immediately unless otherwise specified.

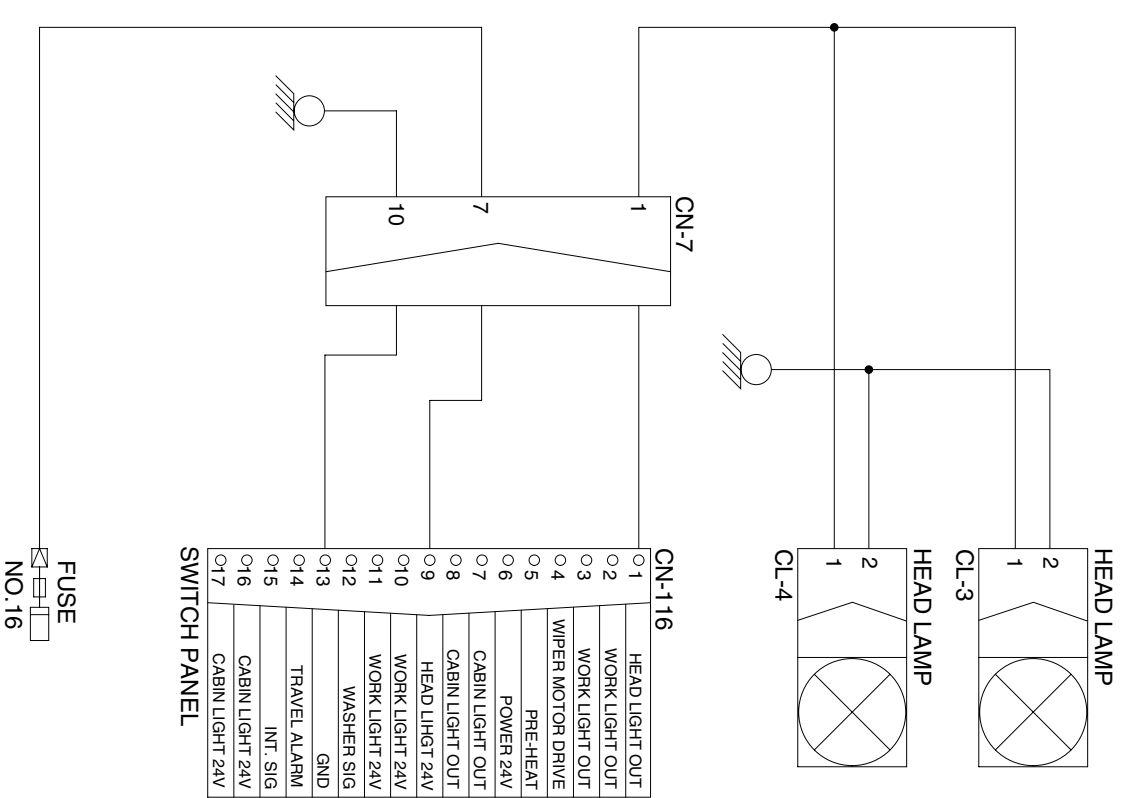
Check operation wiper cut switch	NO	Defective wiper cut switch	Replace
Front sliding door open-close	YES	Disconnection in wiring harness or poor contact between CN-141 (11) - CS-53	Repair or replace (After clean)
Check voltage between CN-141 (11) and chassis	YES	Defective switch panel	Replace
Front sliding door-close Voltage : 4-5V	NO	1) Recheck fuse NO.13	Replace
Check operation of switch panel LED ON.	NO	2) Disconnection in wiring harness or poor contact between CN-116(6)-Fuse between CN-116(13)-Chassis	Repair or replace (After clean)
Starting switch : ON Push wiper switch button	YES	Defective switch panel	Replace
Check voltage between CN-116 (6) and chassis	YES	1) Recheck fuse NO.5	Replace
Starting switch : ON Voltage : 20-30V	NO	2) Disconnection in wiring harness or poor contact between CN-141(7)-Fuse, CN-21(4)-Fuse	Repair or replace (After clean)
Check voltage between CN-116(4) and chassis Intermittent	NO	Defective switch panel	Replace
Check voltage CN-116 (12) and chassis	NO	1) Recheck fuse NO.5	Replace
Washing	NO	2) Disconnection in wiring harness or poor contact between CN-141(7)-Fuse, CN-21(4)-Fuse	Repair or replace (After clean)
Check voltage CN-116 (15) and chassis	NO	1) Recheck fuse NO.15	Replace
Starting switch : ON Voltage : 0-1V	NO	2) Disconnection CN-141(6)-Fuse	Repair or replace (After clean)
Check operation of wiper motor and controller check voltage CN-141(7) and chassis, CN-21(4)	NO	1) Recheck fuse NO.15	Replace
Starting switch : OFF Voltage : 20-30V	YES	2) Disconnection CN-141(6)-Fuse	Repair or replace (After clean)
Check voltage CN-141(6)-and chassis	YES	①	Repair or replace (After clean)
Starting switch : ON	NO	Disconnection in wiring harness or poor contact	Repair or replace (After clean)
Check continuity between CN-141(2)-CN-116(4), CN-141(9)-CN-116(12), CN-141(10)-CN-116(15), CN-141(5)-Chassis, CN-141(1)-CN-21(5), CN-141(3)-CN-21(6), CN-141(4)-CN-21(2), CN-141(13)-CN-21(3)	NO	Defective wiper motor	Replace
Check wiper motor resistance between CN-21 (2)-CN-21(6)	NO	Defective wiper motor controller	Replace
Resistance : 3-4 Ω	YES		



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.16.
- After checking, insert the disconnected connectors again immediately unless otherwise specified.

Cause	Remedy
Defective lamp switch	Replace switch
Defective bulb	Replace
Disconnection in wiring harness or poor contact between CN-7(1)-CL-4(1)	Repair or replace (After clean)
Disconnection in wiring harness or poor contact between CN-116(1)-CN-7(1)	Repair or replace (After clean)
Disconnection in wiring harness or poor contact between CN-116 (9)-CN-7(7)	Repair or replace (After clean)
Redcheck fuse No. 16	Replace



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.17.
- After checking, insert the disconnected connectors again immediately unless otherwise specified.

Cause	Remedy
Defective lamp switch	Replace switch
Defective bulb	Replace
Disconnection in wiring harness or poor contact between CN-7(1)-CL-5(2) and CL-6(2)	Repair or replace (After clean)
Disconnection in wiring harness or poor contact between CN-116 (2,3)-CN-7(2)	Repair or replace (After clean)
Disconnection in wiring harness or poor contact between CN-116 (10,11)-CN-7(8)	Repair or replace (After clean)
Recheck fuse No. 17	Replace

