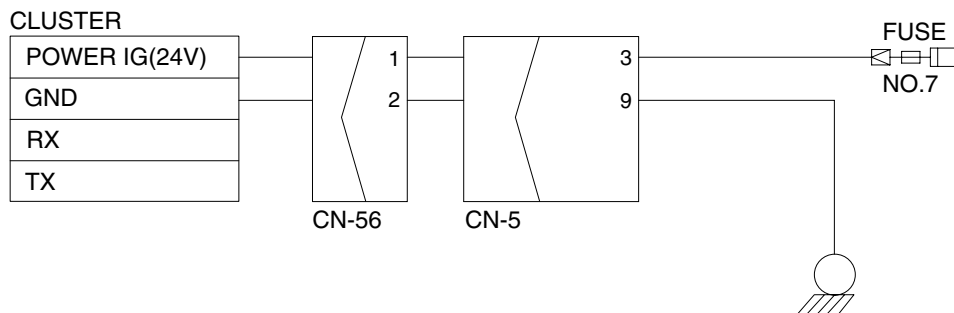
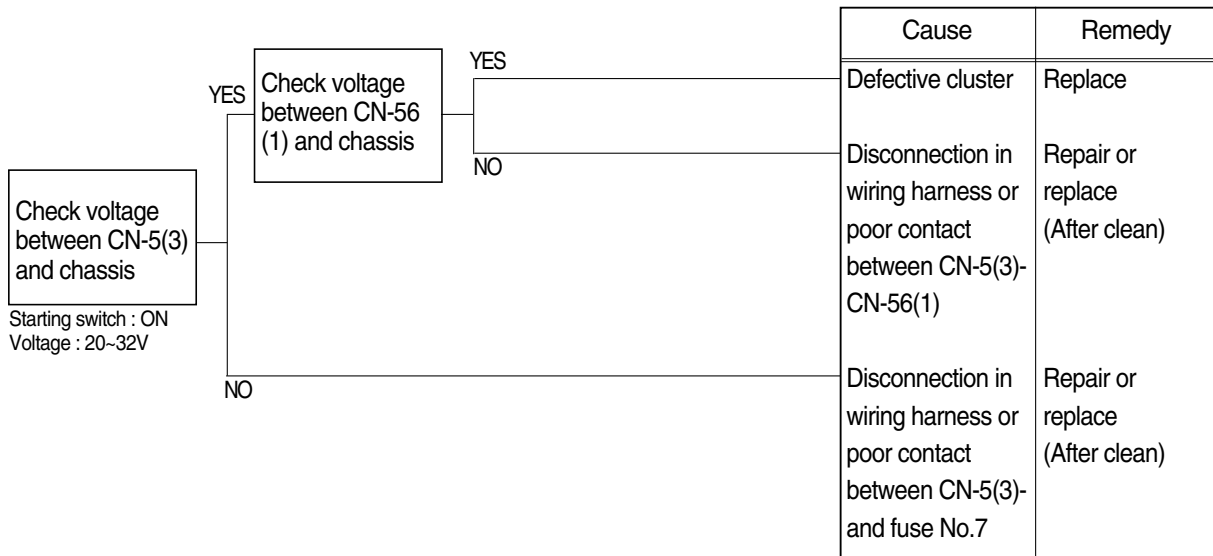


GROUP 3 ELECTRICAL SYSTEM

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



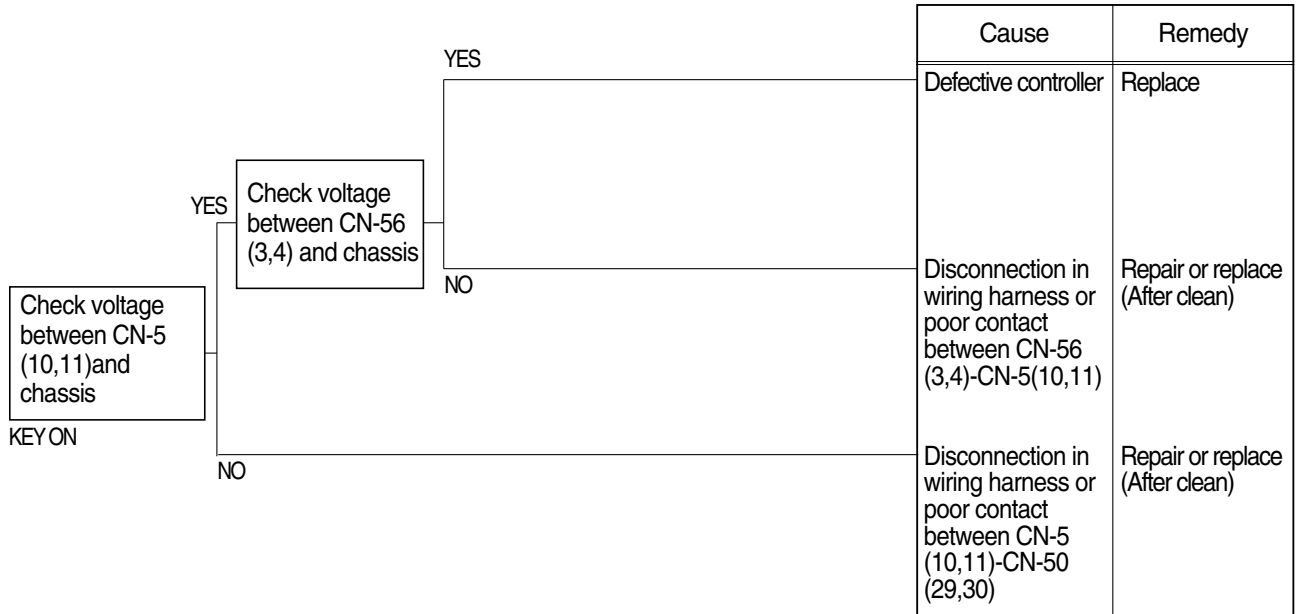
Check voltage

YES	20 ~ 30V
NO	0V

1607A6ES04

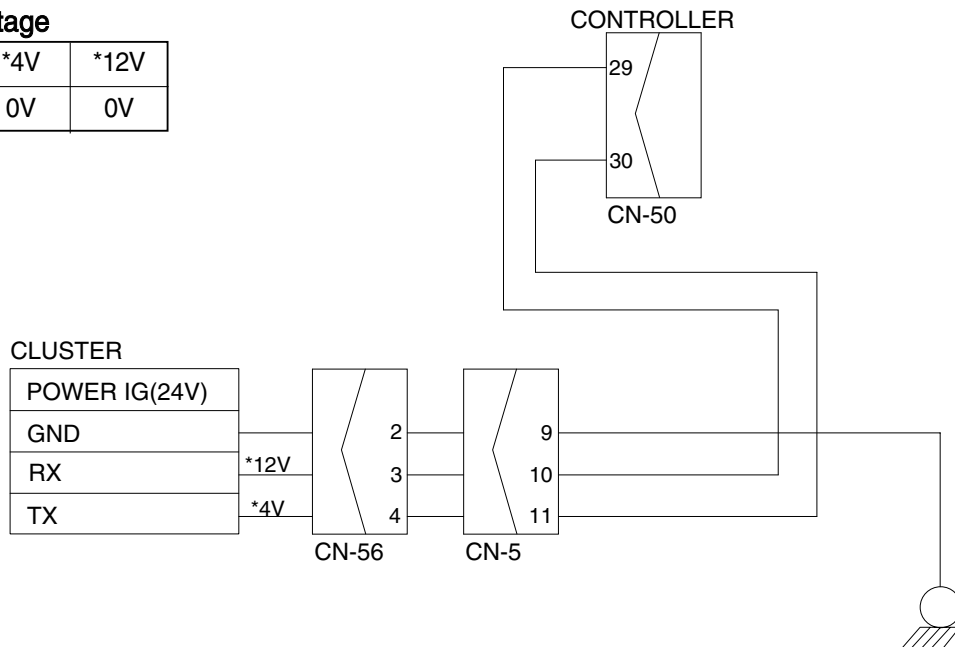
2. COMMUNICATION ERROR FLASHES ON THE CLUSTER

- 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

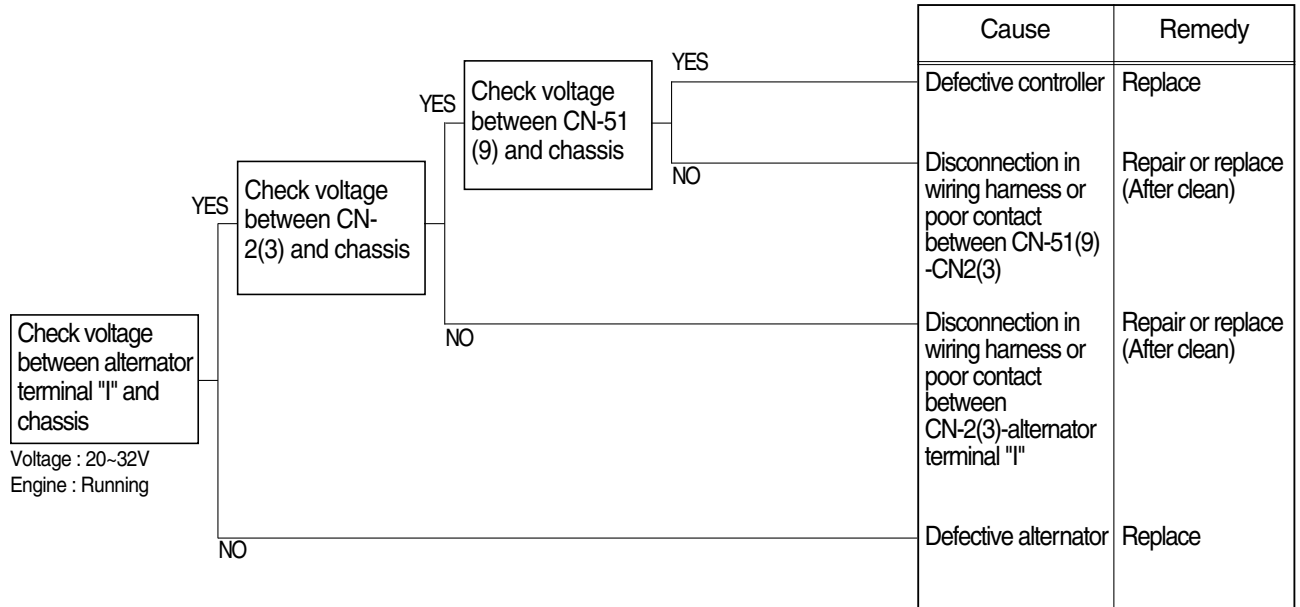
YES	*4V	*12V
NO	0V	0V



2107A6ES02

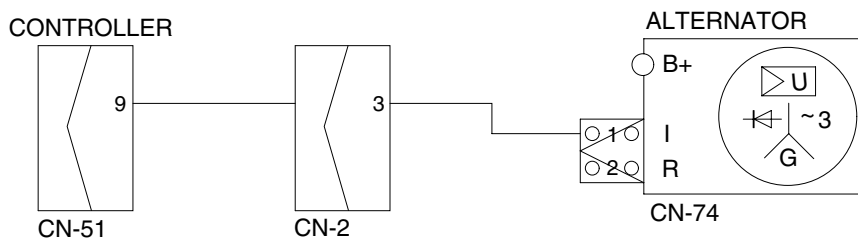
3. BATTERY CHARGING WARNING LAMP LIGHTS UP(Starting switch : ON)

- 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

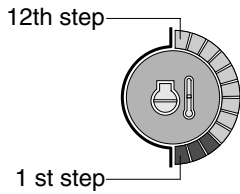
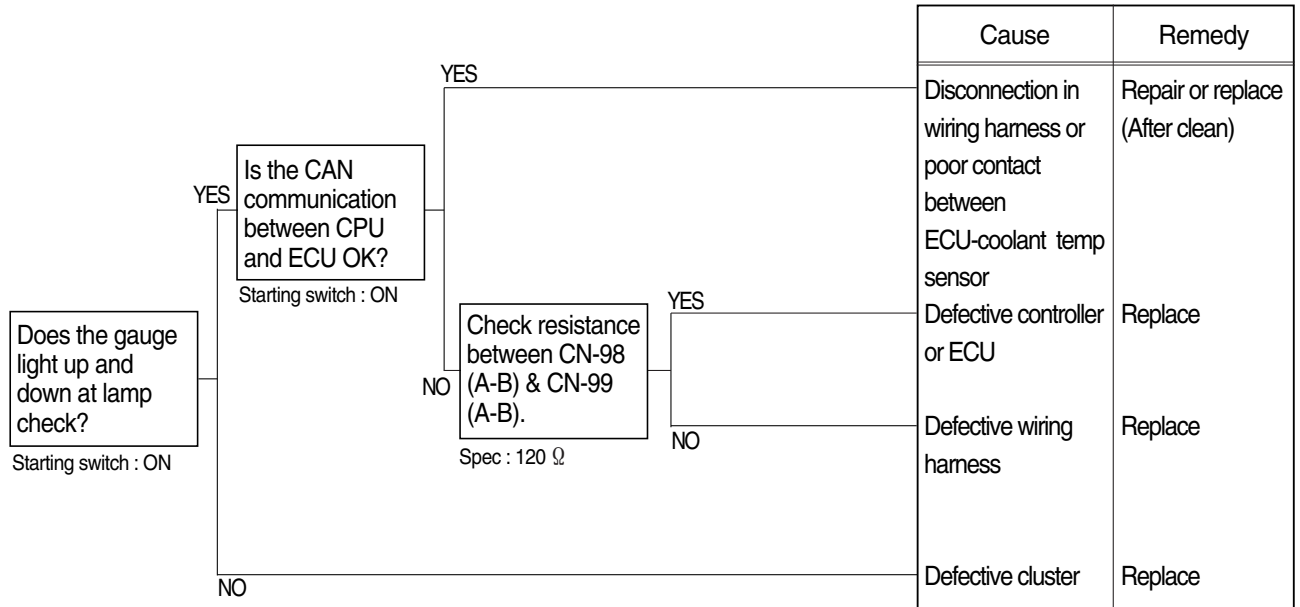
YES	20 ~ 32V
NO	0V



1607A6ES01

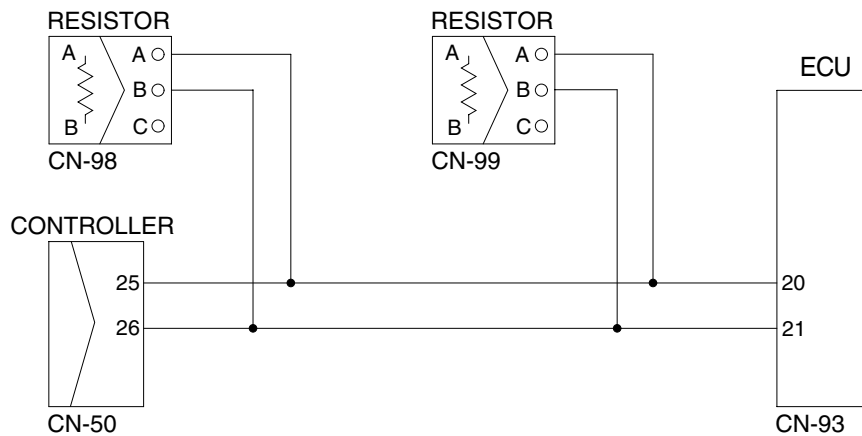
4. WHEN COOLANT OVERHEAT WARNING LAMP LIGHTS UP(Engine is started)

- 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

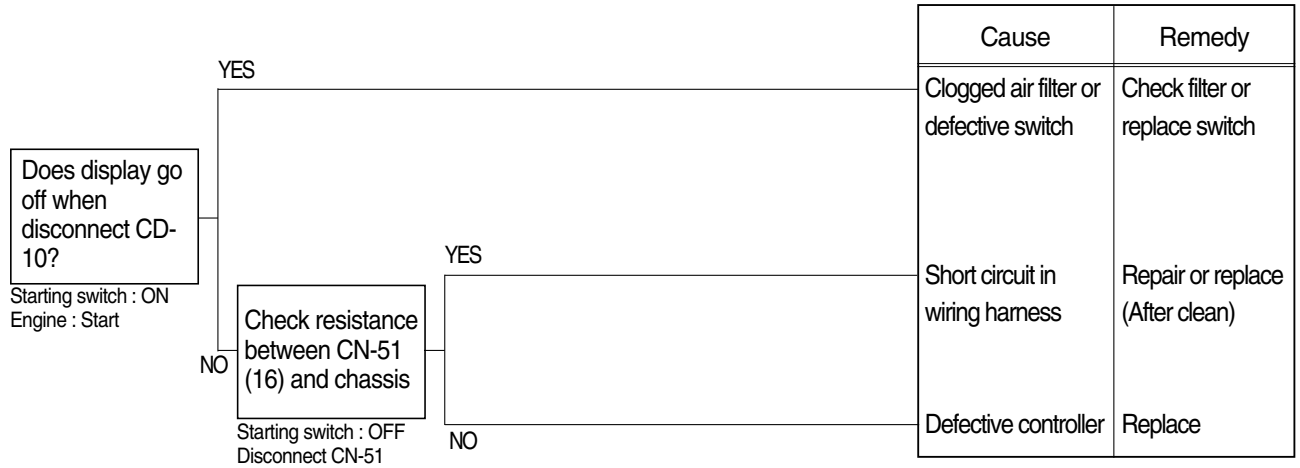
Range	1st step	2nd~10th step	11th~12th step
Temperature	~29°C	30~105°C	105°C ~



1607A6ES03

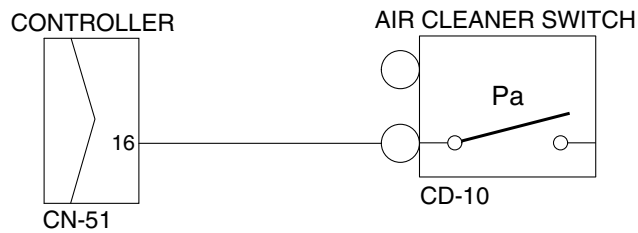
5. WHEN AIR CLEANER WARNING LAMP LIGHTS UP (Engine is started)

- 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

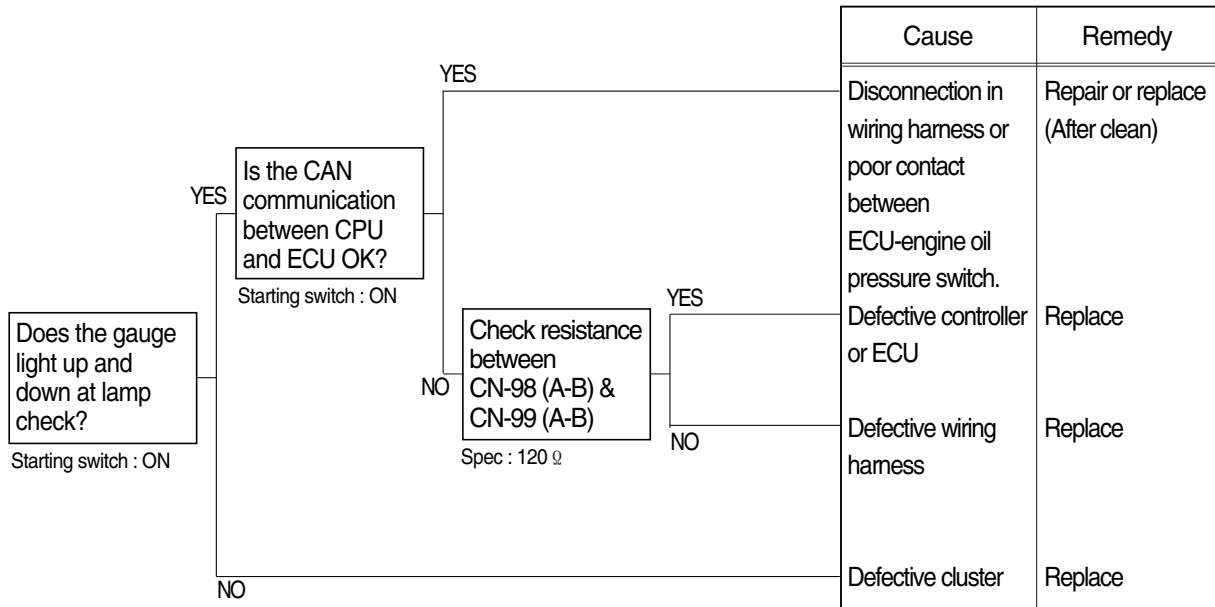
YES	MAX 1Ω
NO	MIN 1M Ω



2907A6ES07

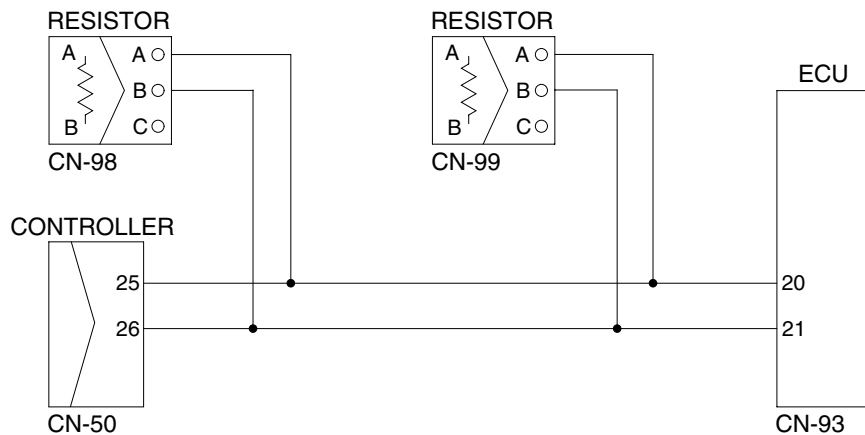
6. WHEN ENGINE OIL PRESSURE WARNING LAMP LIGHTS UP(Engine is started)

- 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

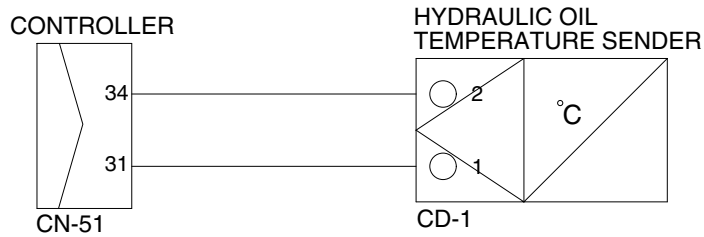
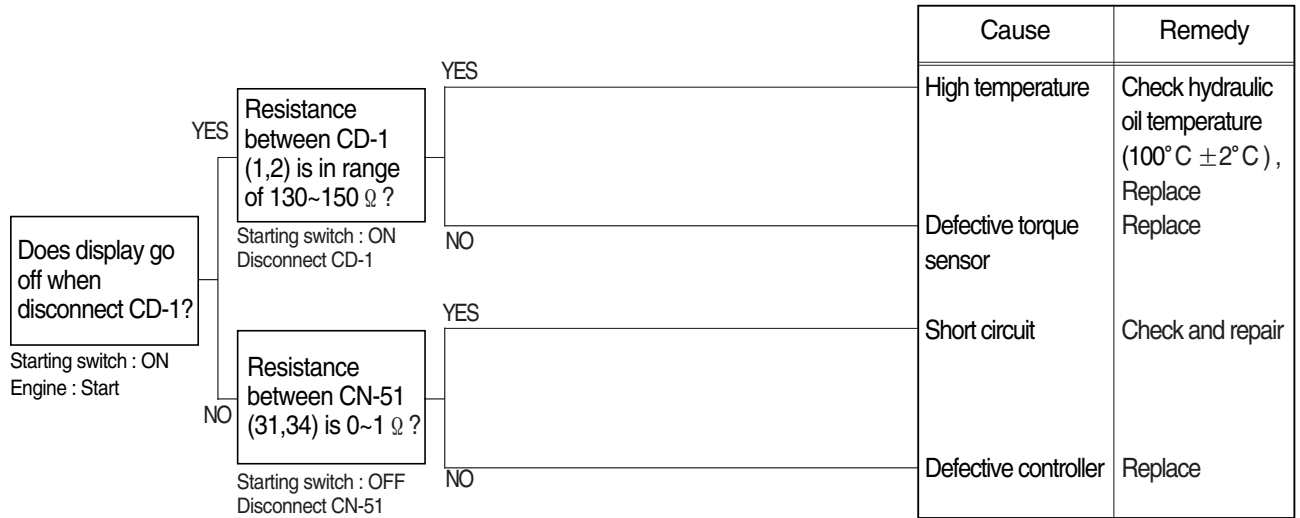
YES	MAX 1Ω
NO	MIN 1MΩ



1607A6ES03

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

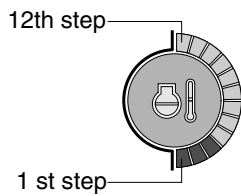
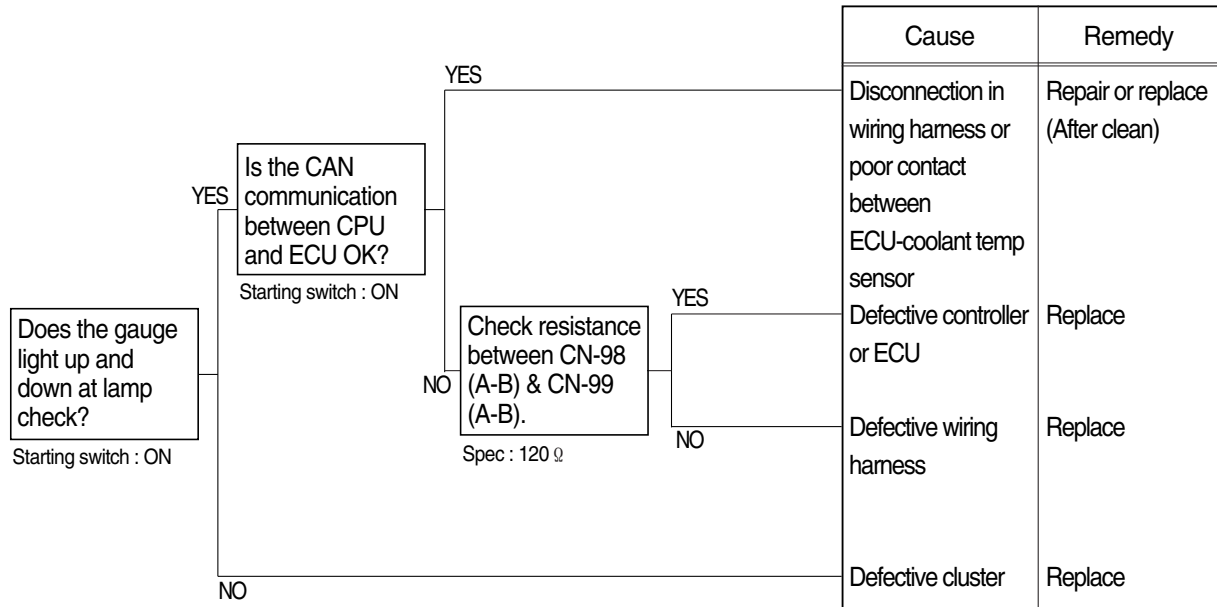
- Before disconnecting the connector, always turn the starting switch OFF.
- Before carrying out below procedure, check all the related connectors are properly inserted.
- After checking, insert the disconnected connectors again immediately unless otherwise specified.



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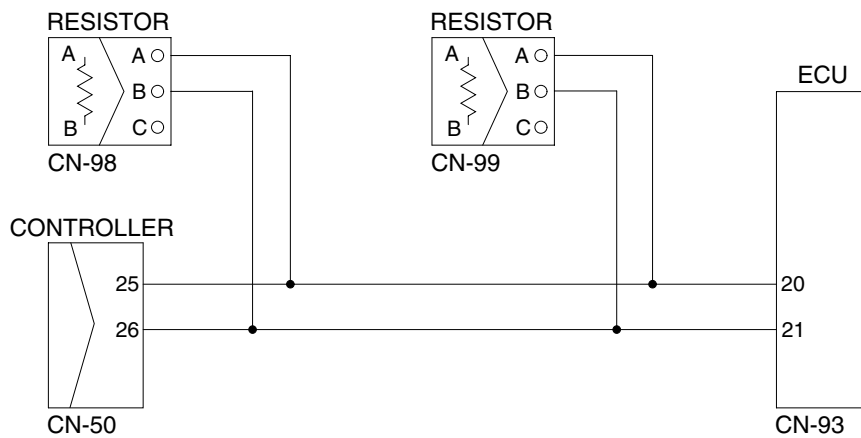
8. WHEN COOLANT TEMPERATURE GAUGE DOES NOT OPERATE

- 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

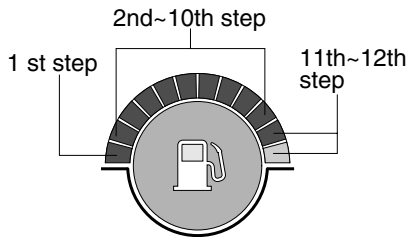
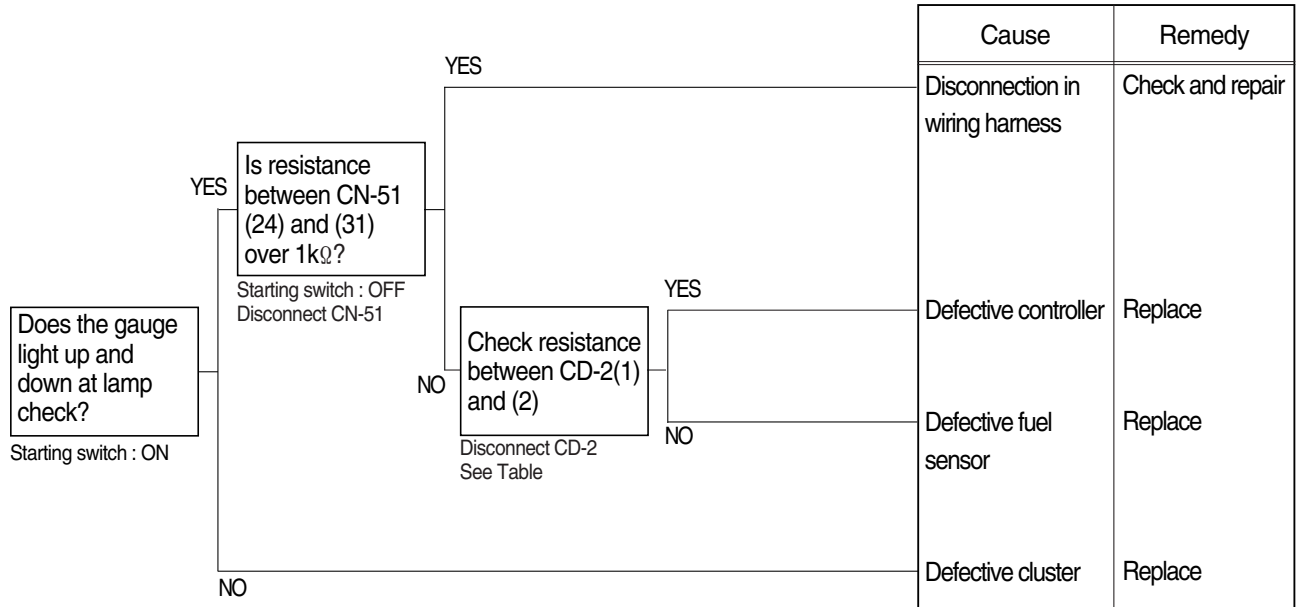
Range	1st step	2nd~10th step	11th~12th step
Temperature	~29°C	30~105°C	105°C ~



1607A6ES03

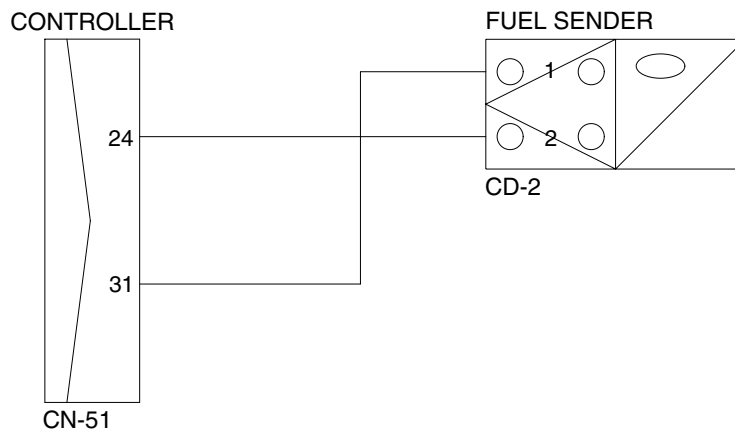
9. WHEN FUEL GAUGE DOES NOT OPERATE

- 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

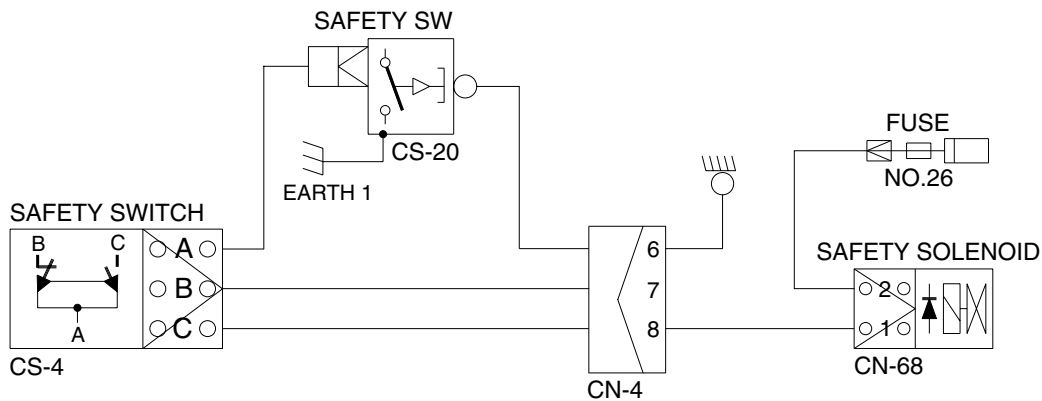
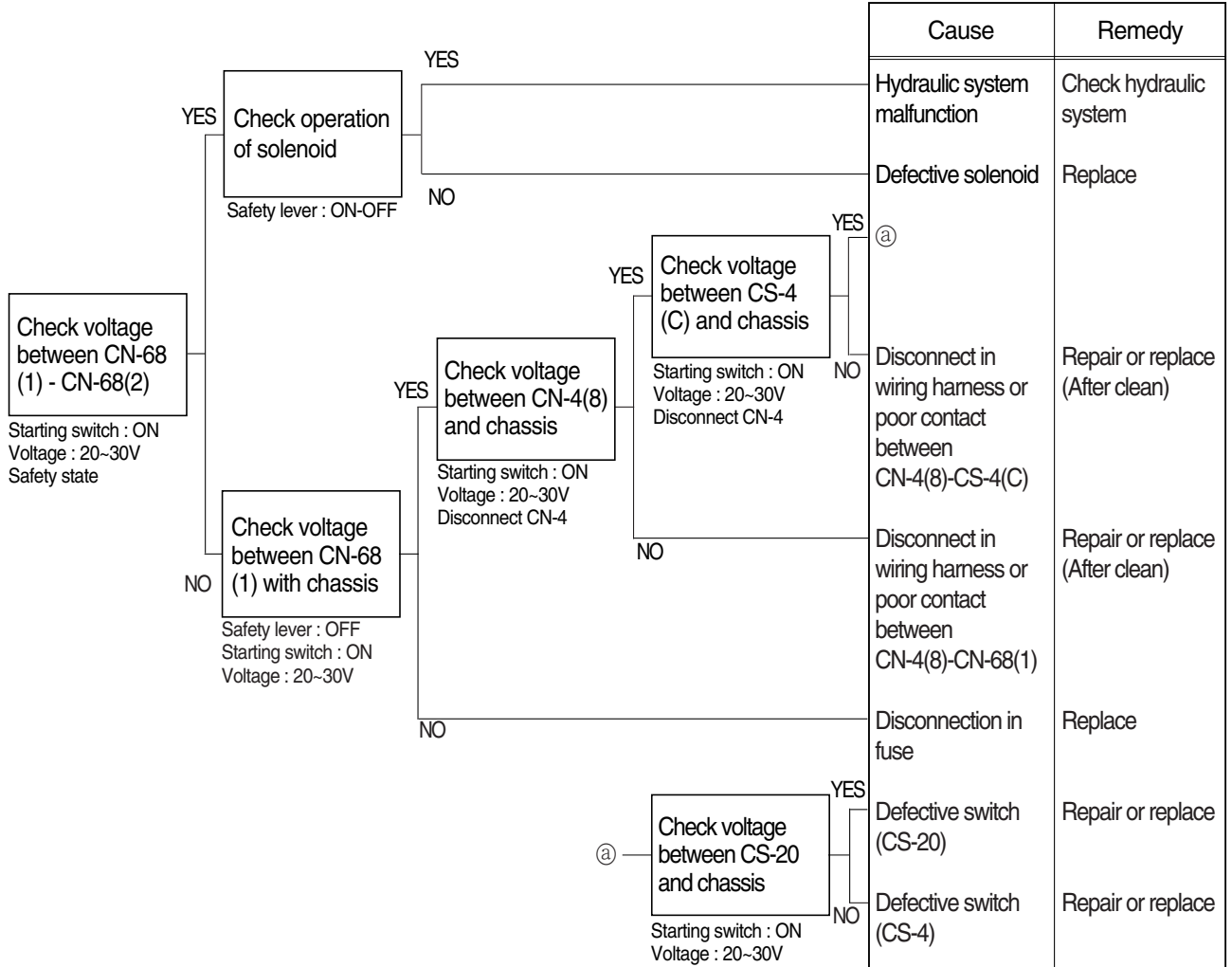
Item	Range	1st step	2nd~10th step	11th~12th step
Unit Resistance(Ω)		700~601	600~101	~100
Tolerance(%)		±5	±5	±5



1607A6ES06

10. WHEN SAFETY SOLENOID DOES NOT OPERATE

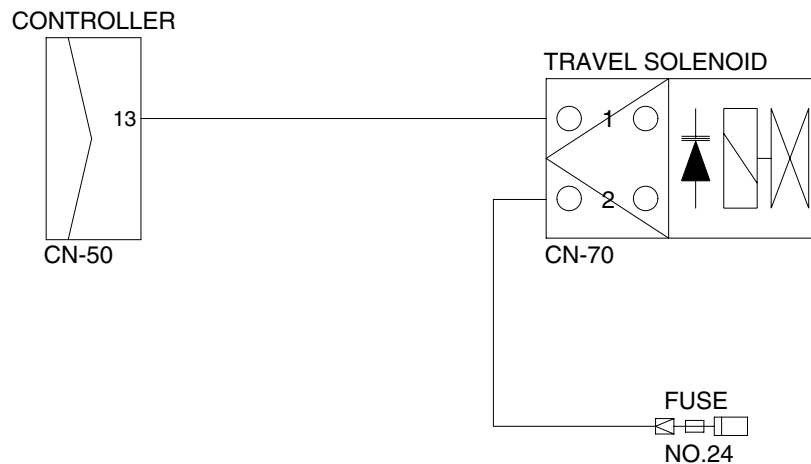
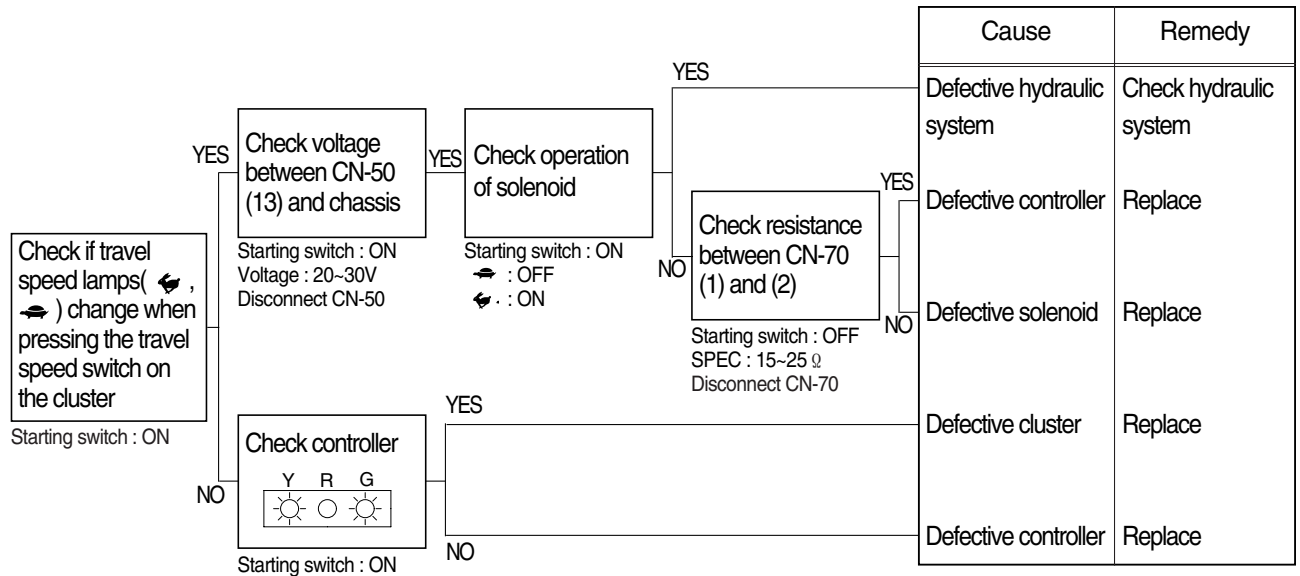
- Before disconnecting the connector, always turn the starting switch OFF.
- Before carrying out below procedure, check all the related connectors are properly inserted and short of fuse No. 26.
- After checking, insert the disconnected connectors again immediately unless otherwise specified.



2107A6ES04

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.

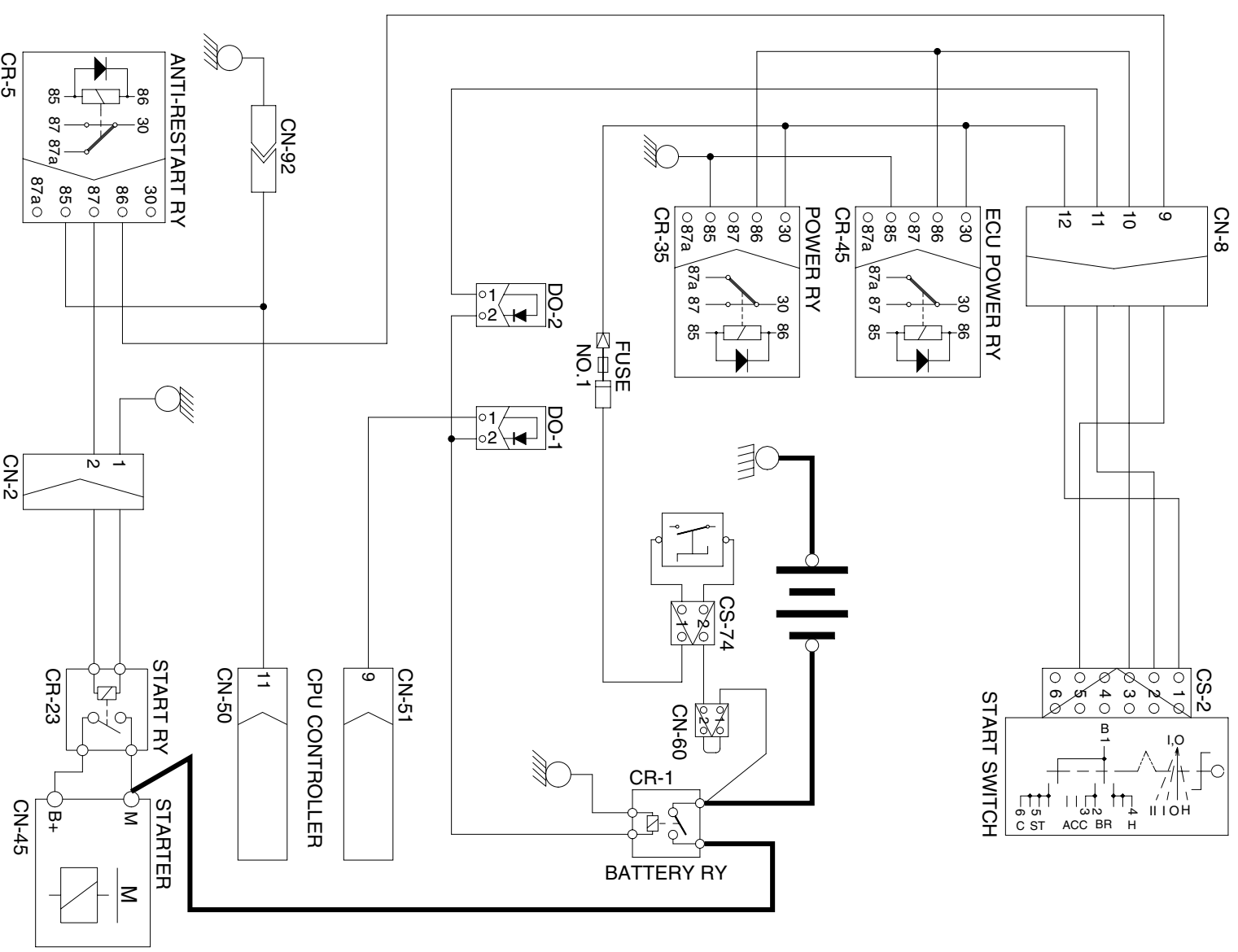


45076ES03

12. WHEN ENGINE DOES NOT START

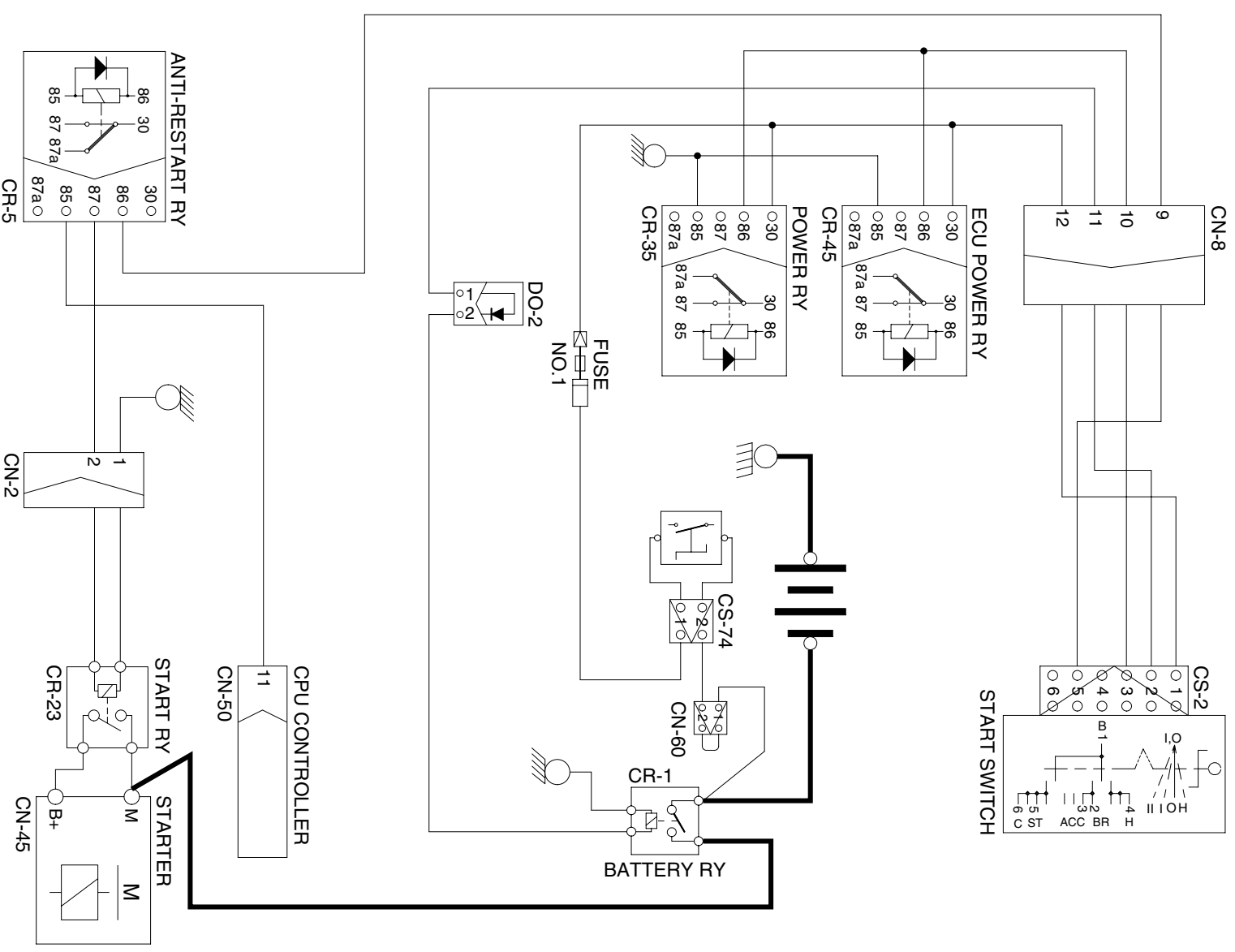
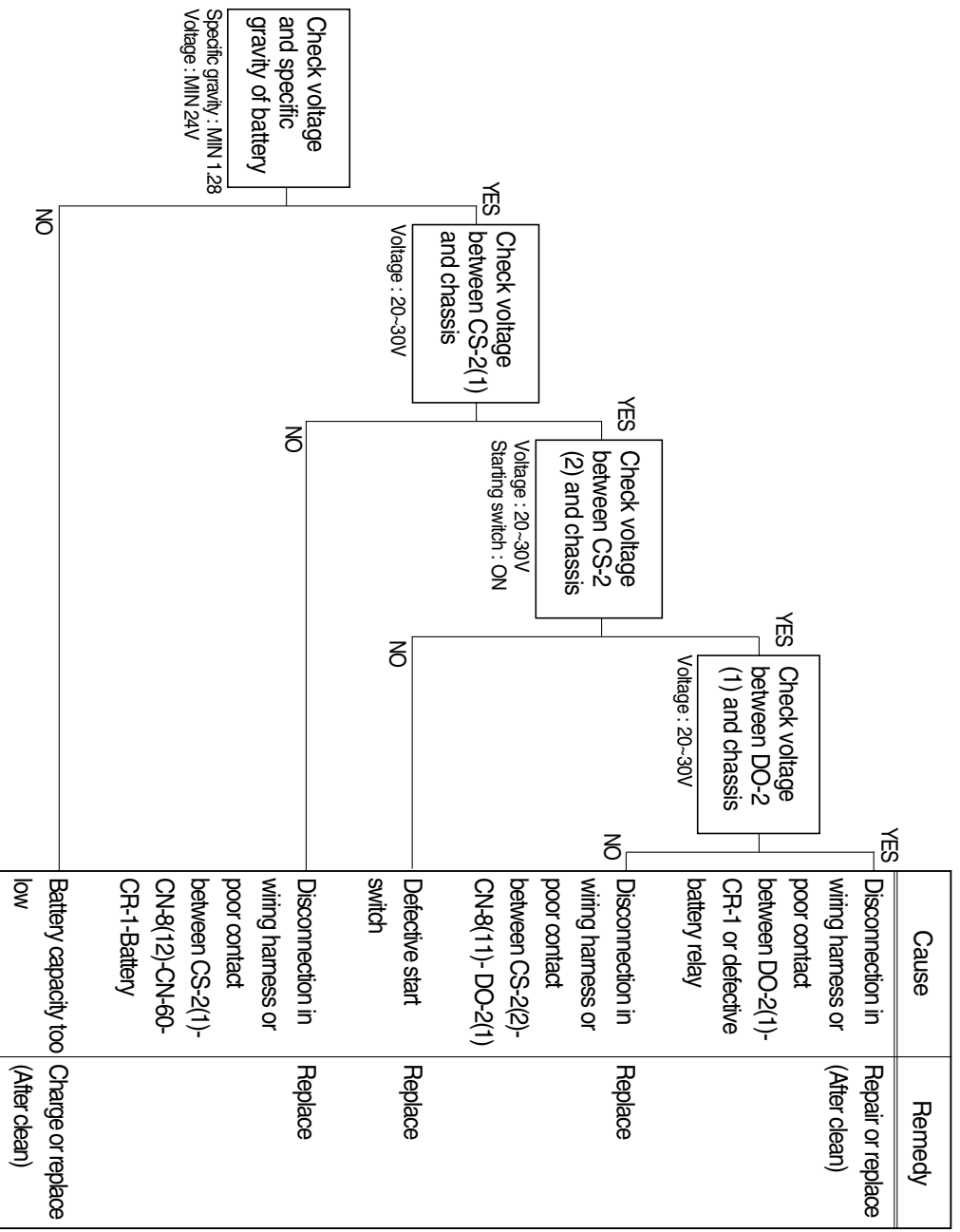
- Before disconnecting the connector, always turn the starting switch OFF.
- Before carrying out below procedure, check all the related connectors are properly inserted.
- After checking, insert the disconnected connectors again immediately unless otherwise specified.

Check operation of start motor	YES	Defective magnet of start motor	Replace	
	NO			Check operation of start relay CR-23
Check operation of start relay CR-23	YES	Defective magnet of start motor	Replace	
	NO			Check voltage between starter magnet coil and chassis
	YES			Check voltage between CR-5 (30) and chassis
	NO			Check voltage between CR-5 (86) and chassis
Check voltage between starter magnet coil and chassis	YES	Defective start relay	Replace	
	NO			Check operation of start anti-restart relay CR-5
Check operation of start anti-restart relay CR-5	YES	Defective start anti-restart relay	Repair or replace (After clean)	
	NO			Check voltage between CR-23 and chassis
Check voltage between CR-23 and chassis	YES	Defective start relay	Replace	
	NO			Disconnection in wiring harness or poor contact between CR-5(86)-CR-23



13. WHEN STARTING SWITCH ON DOES NOT OPERATE

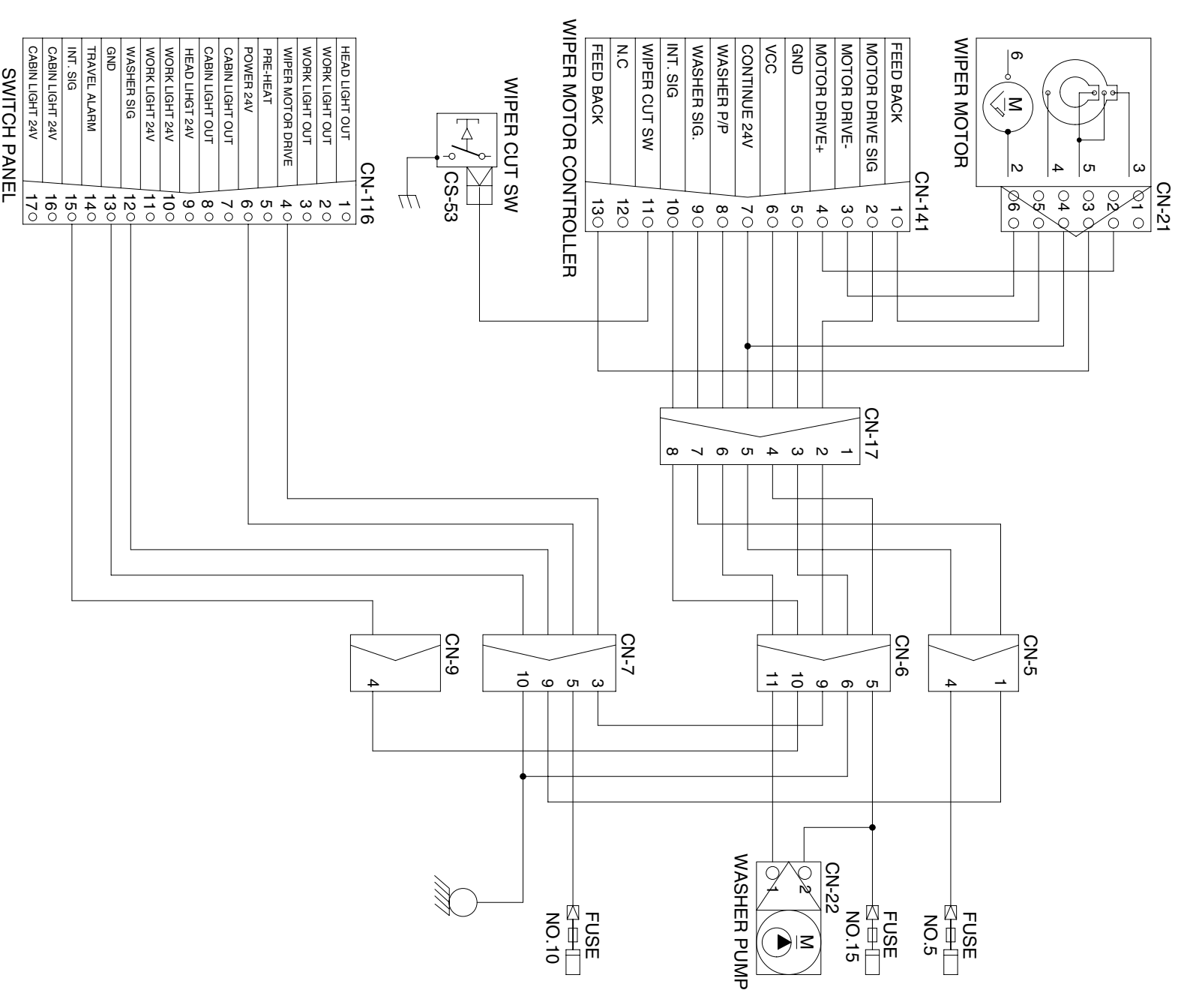
- Before disconnecting the connector, always turn the starting switch OFF.
- Before carrying out below procedure, check all the related connectors are properly inserted and master switch ON
- After checking, insert the disconnected connectors again immediately unless otherwise specified.



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

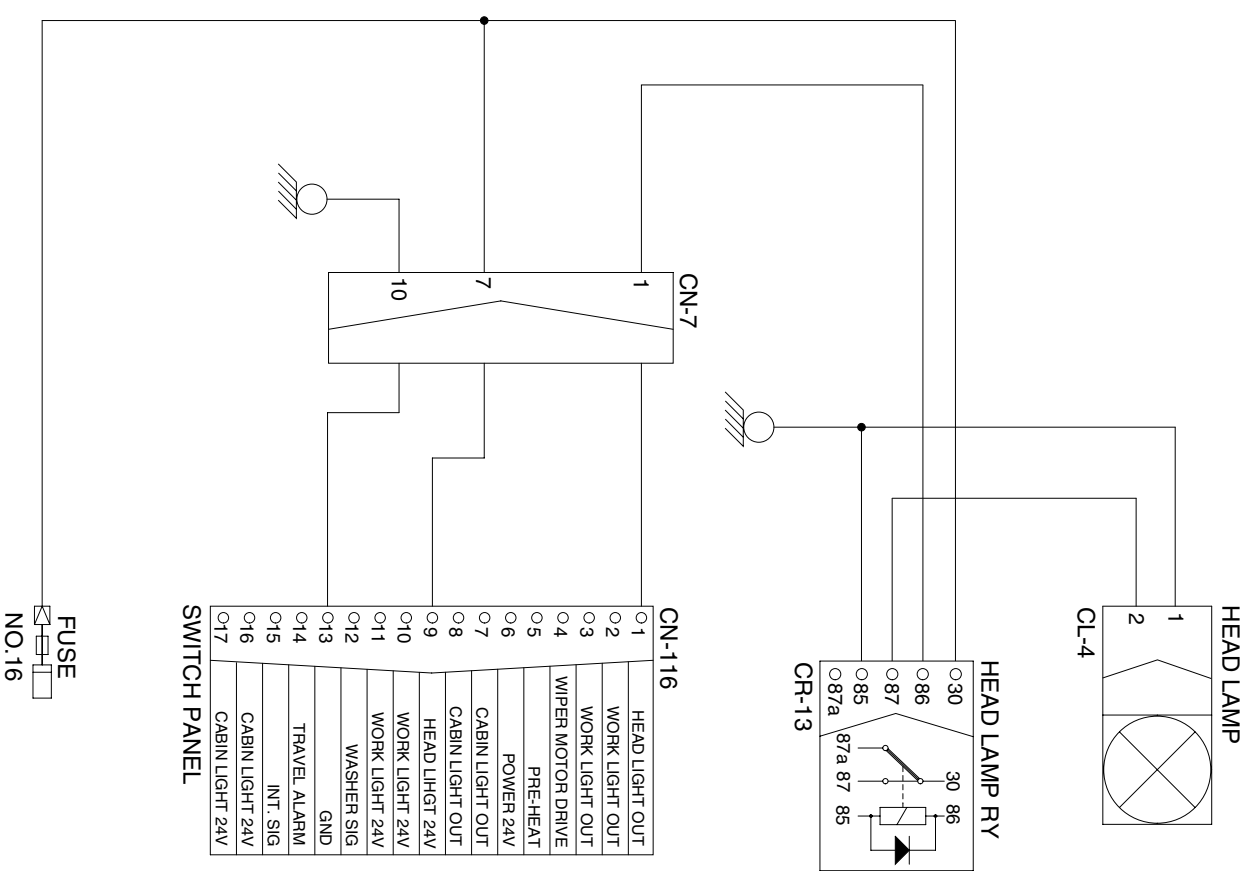
Check operation	YES	NO	Cause	Remedy
Check operation wiper cut switch				
Front sliding door open-close				
Check voltage between CN-141 (11) and chassis	YES Front sliding door-close Voltage : 4-5V	NO	Disconnection in wiring harness or poor contact between CN-141 (11)-CS-53	Repair or replace (After clean)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



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(2)	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	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(2) and 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

