

SECTION 5 TROUBLESHOOTING

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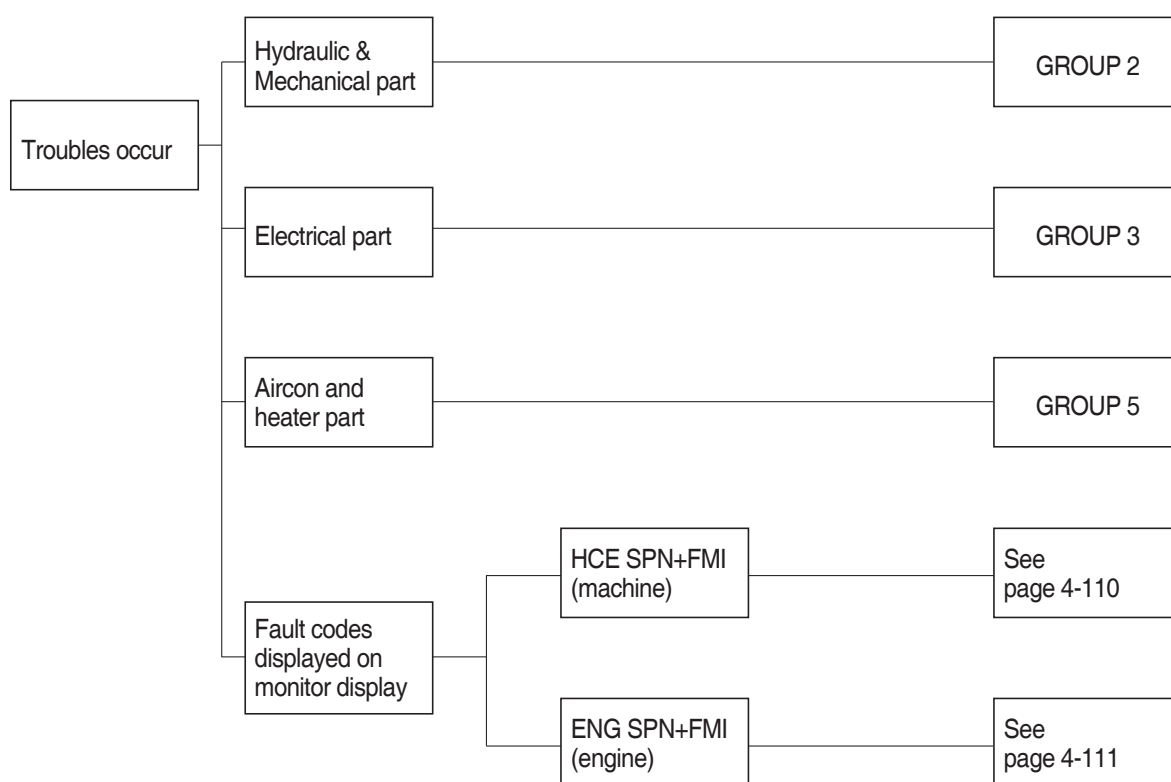
GROUP 1 BEFORE TROUBLESHOOTING

1. INTRODUCTION

When a trouble is occurred in the machine, this section will help an operator to maintain the machine with easy.

The trouble of machine is parted Hydraulic & Mechanical system, Electrical system and Air conditioner and heater system.

At each system part, an operator can check the machine according to the troubleshooting process diagram.



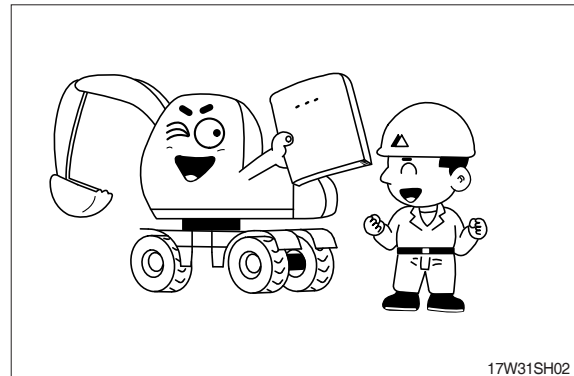
2. DIAGNOSING PROCEDURE

To carry out troubleshooting efficiently, the following steps must be observed.

STEP 1. Study the machine system

Study and know how the machine is operating, how the system is composing, what kinds of function are installed in the machine and what are specifications of the system components by the machine service manual.

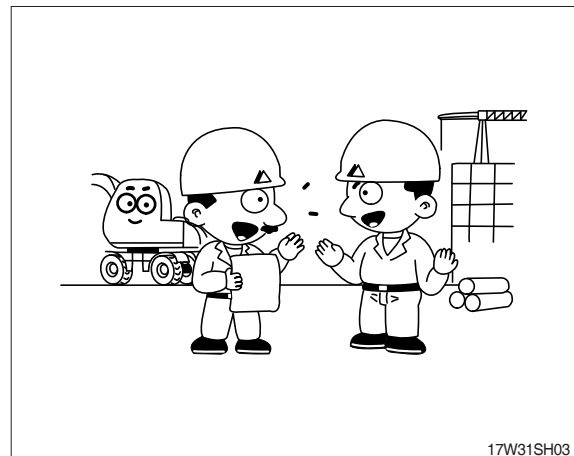
Especially, deepen the knowledge for the related parts of the trouble.



STEP 2. Ask the operator

Before inspecting, get the full story of malfunctions from a witness --- the operator.

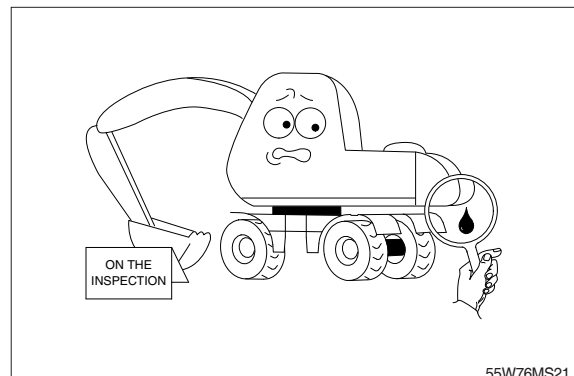
- 1) How the machine is used and when it is serviced?
- 2) When the trouble was noticed and what work the machine was doing at that time?
- 3) What is the phenomenon of the trouble?
Was the trouble getting worse, or did it come out suddenly for the first time?
- 4) Did the machine have any troubles previously? If so, which parts were repaired before.



STEP 3. Inspect the machine

Before starting troubleshooting, check the machine for the daily maintenance points as shown in the operator's manual.

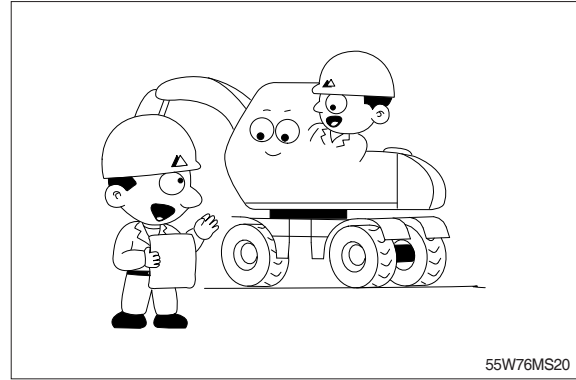
And also check the electrical system including batteries, as the troubles in the electrical system such as low battery voltage, loose connections and blown out fuses will result in malfunction of the controllers causing total operational failures of the machine.



STEP 4. Inspect the trouble actually on the machine

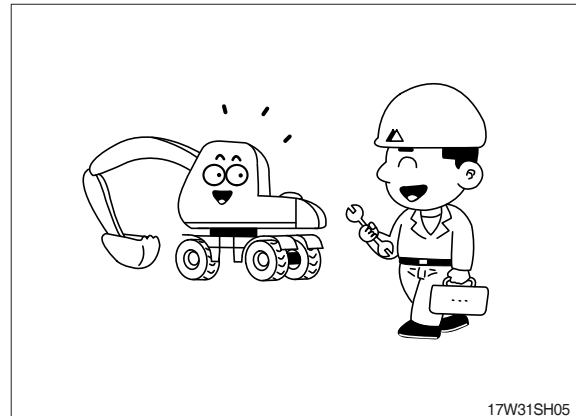
In case that some trouble cannot be confirmed, obtain the details of the malfunction from the operator.

Also, check if there are any incomplete connections of the wire harnesses or not.



STEP 5. Perform troubleshooting

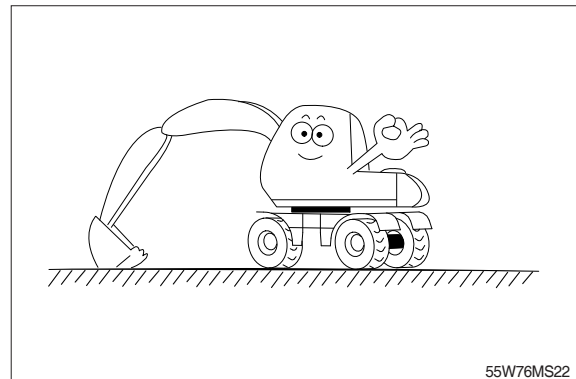
According to where the trouble parts are located, hydraulic & mechanical system part or electrical system part or mechatronics system part, perform troubleshooting the machine refer to the each system part's troubleshooting process diagram.



STEP 6. Trace a cause

Before reaching a conclusion, check the most susceptible causes again. Try to trace what the real cause of the trouble is.

Make a plan of the appropriate repairing procedure to avoid consequential malfunctions.



GROUP 2 HYDRAULIC AND MECHANICAL SYSTEM

1. INTRODUCTION

1) MACHINE IN GENERAL

- (1) If even a minor fault is left intact and operation is continued, a fatal failure may be caused, entailing a large sum of expenses and long hours of restoration.

Therefore when even a small trouble occurs, do not rely on your intuition and experience, but look for the cause based on the troubleshooting principle and perform maintenance and adjustment to prevent major failure from occurring. Keep in mind that a fault results from a combination of different causes.

- (2) The following lists up commonly occurring faults and possible causes with this machine. For the troubleshooting of the engine, refer to the coming troubleshooting and repair.

- (3) When carrying out troubleshooting, do not hurry to disassemble the components.
It will become impossible to find the cause of the problem.

- (4) Ask user or operator the following.

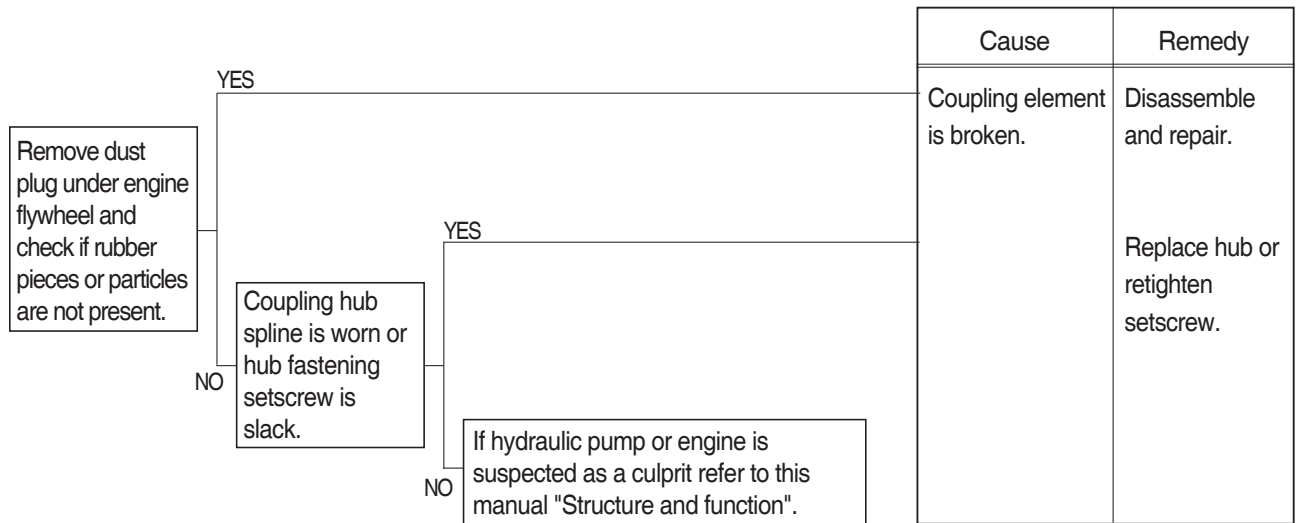
- ① Was there any strange thing about machine before failure occurred?
- ② Under what conditions did the failure occur?
- ③ Have any repairs been carried out before the failure?

- (5) Check before troubleshooting.

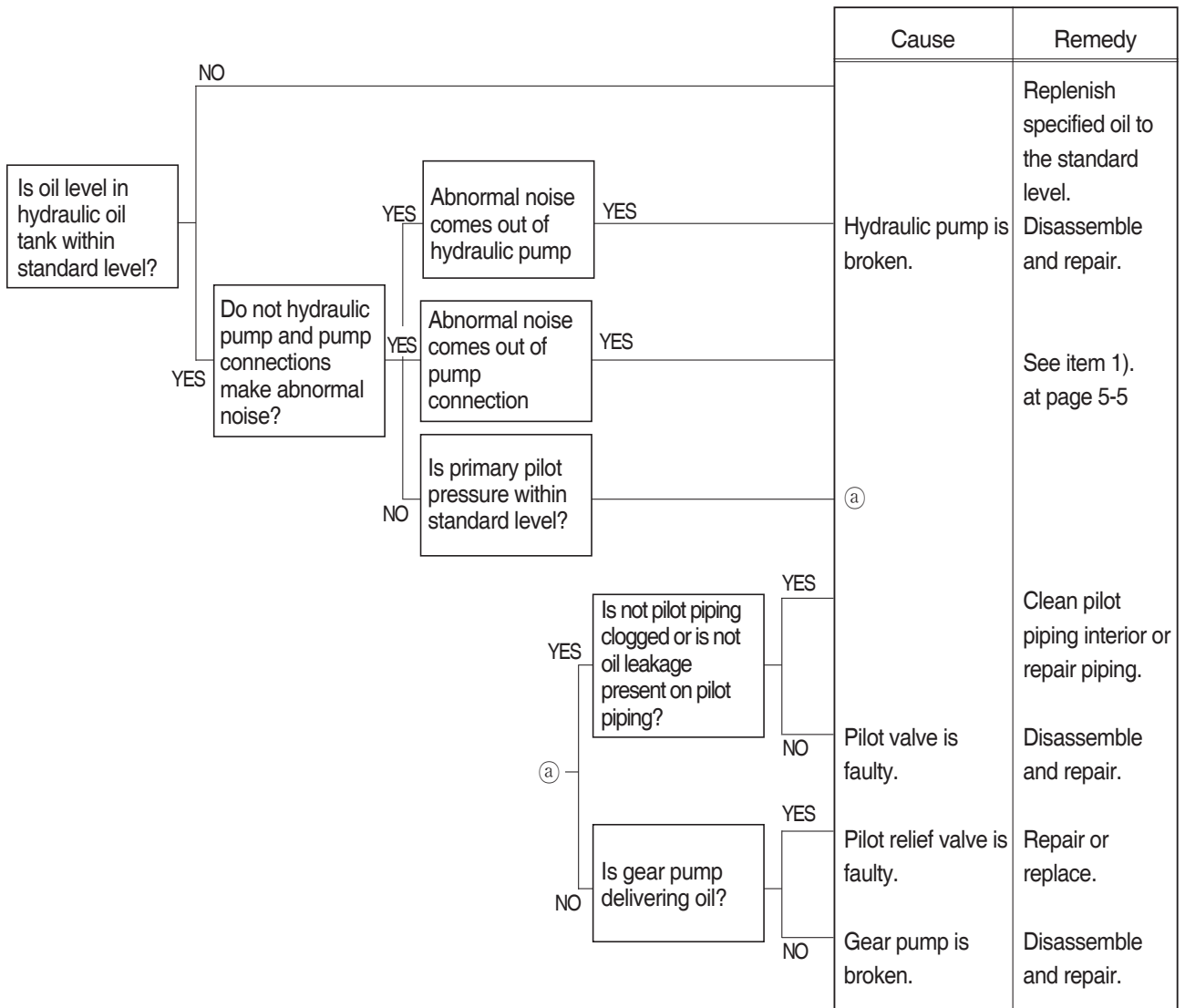
- ① Check oil and fuel level.
- ② Check for any external leakage of oil from components.
- ③ Check for loose or damage of wiring and connections.

2. DRIVE SYSTEM

1) UNUSUAL NOISE COMES OUT OF PUMP CONNECTION



2) ENGINE STARTS BUT MACHINE DOES NOT OPERATE AT ALL



3. HYDRAULIC SYSTEM

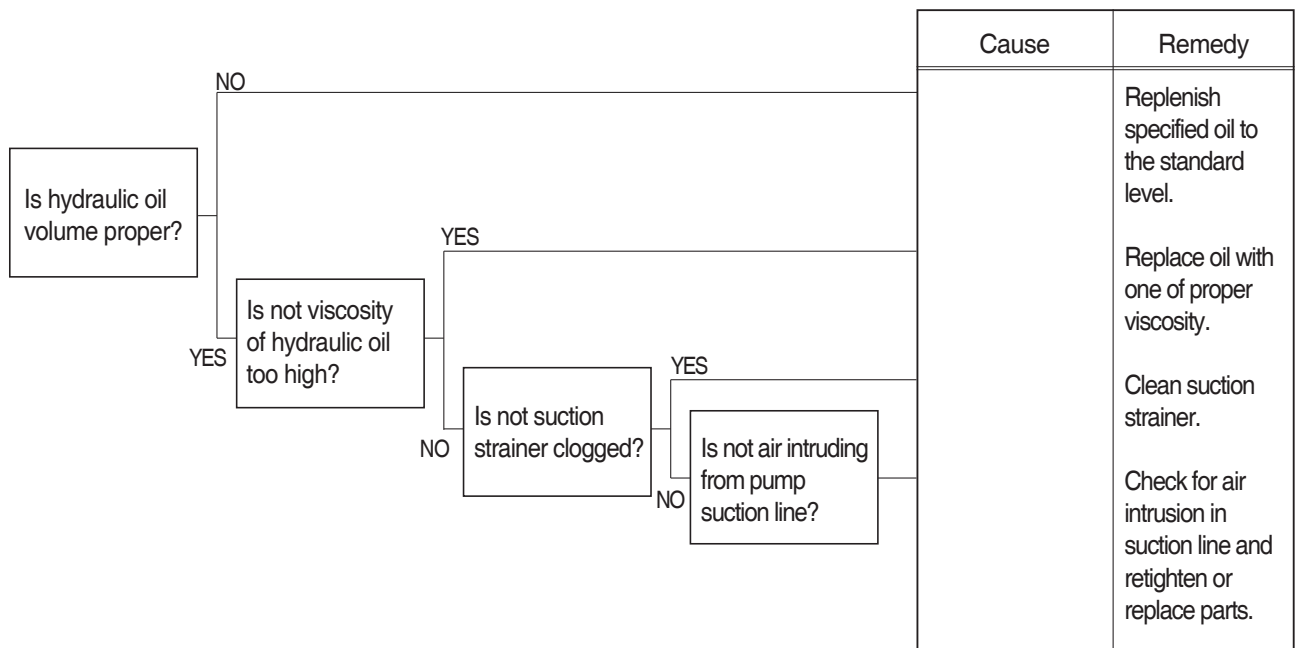
1) HYDRAULIC OIL IS CLOUDY

		Cause	Remedy
Drop hydraulic oil sample on hot plate and check if foams come up.	YES	Water is mixed.	Put hydraulic oil still, separate water and dispose it or replace hydraulic oil.
	NO	Air is intruded.	Check suction line and return line and eliminate the air intruding source.

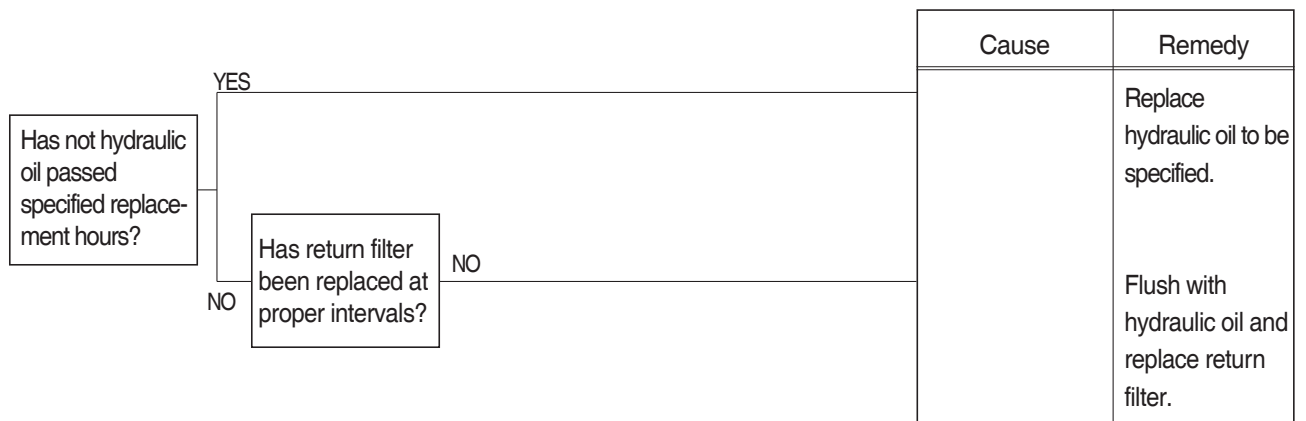
2) HYDRAULIC OIL TEMPERATURE HAS RISEN ABNORMALLY

		Cause	Remedy
Is hydraulic oil volume proper?	NO	Ⓐ	Replenish specified oil to the standard level. Clean oil cooler. Secure air circulation route.
	YES		Adjust belt tension or replace belt.
	Is not oil cooler clogged and is anything blocking air circulation?		
	YES		Readjust set pressure.
	NO		
	Is fan belt tension proper?		Reduce load.
Ⓐ	YES		
	NO		
Is not the set pressure of main relief, relief and travel relief valve lower than the standard level?	YES	Is main relief valve used very often?	
	NO	YES	

3) CAVITATION OCCURS WITH PUMP

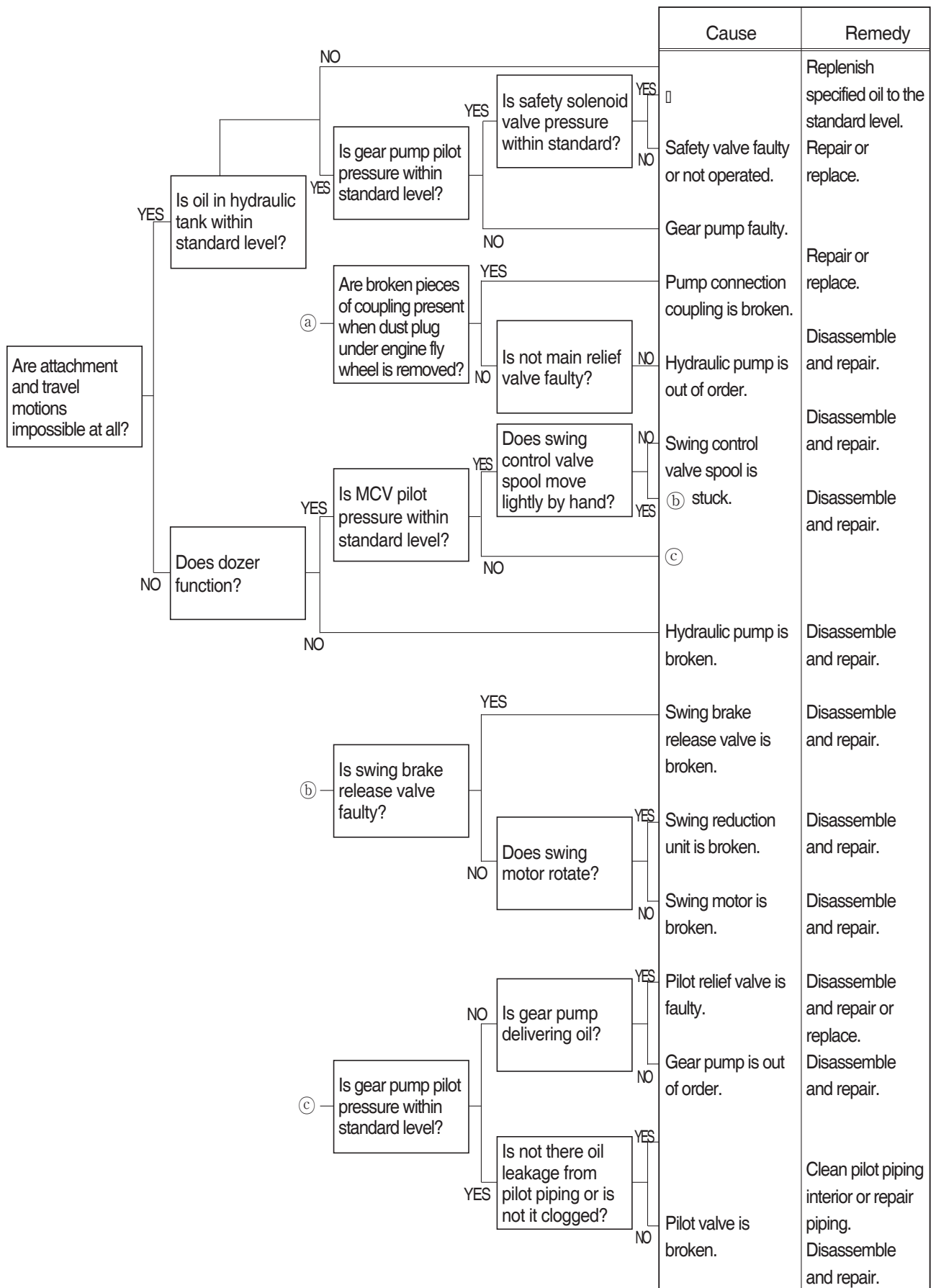


4) HYDRAULIC OIL IS CONTAMINATED

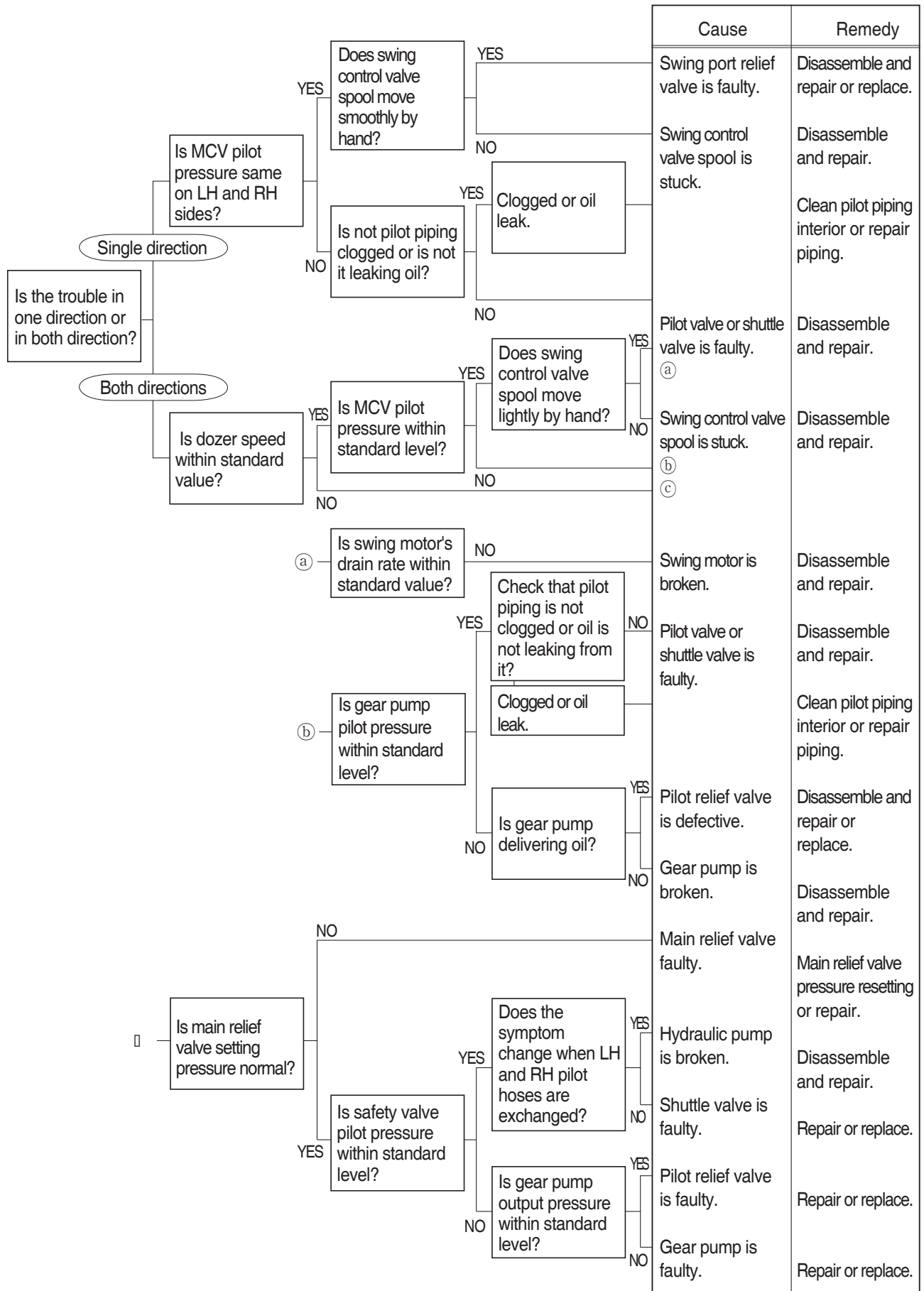


4. SWING SYSTEM

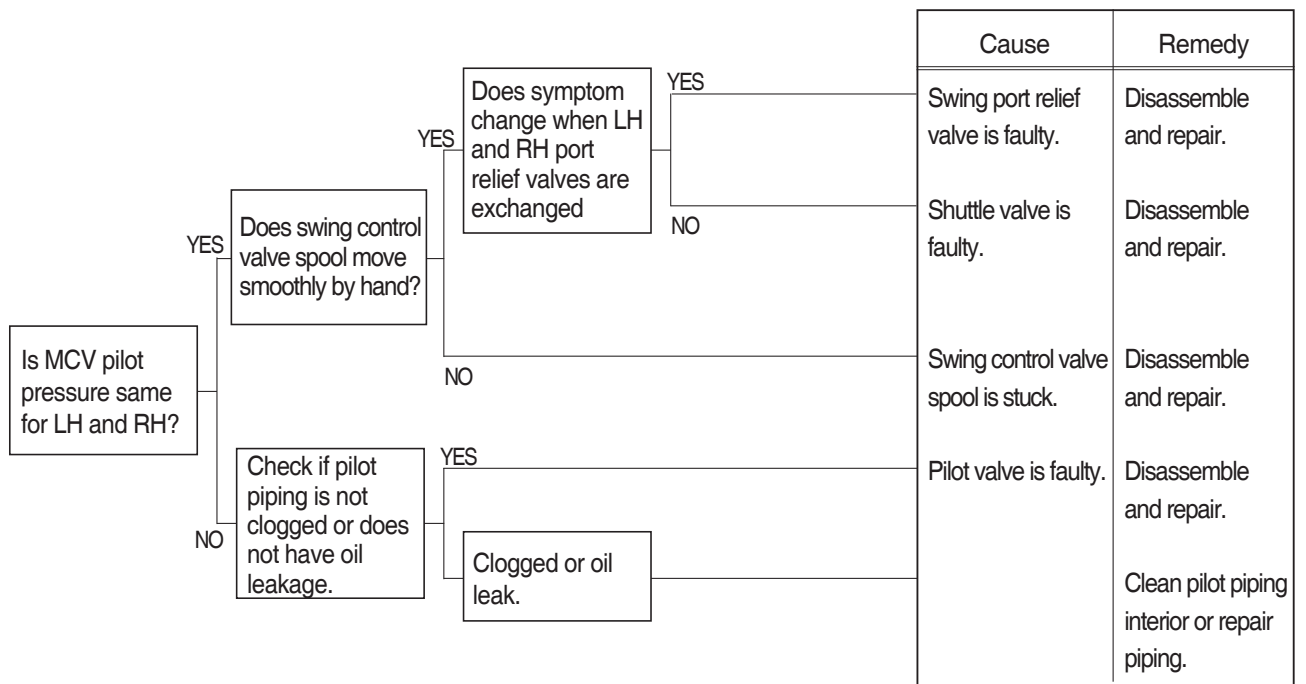
1) BOTH LH AND RH SWING ACTIONS ARE IMPOSSIBLE



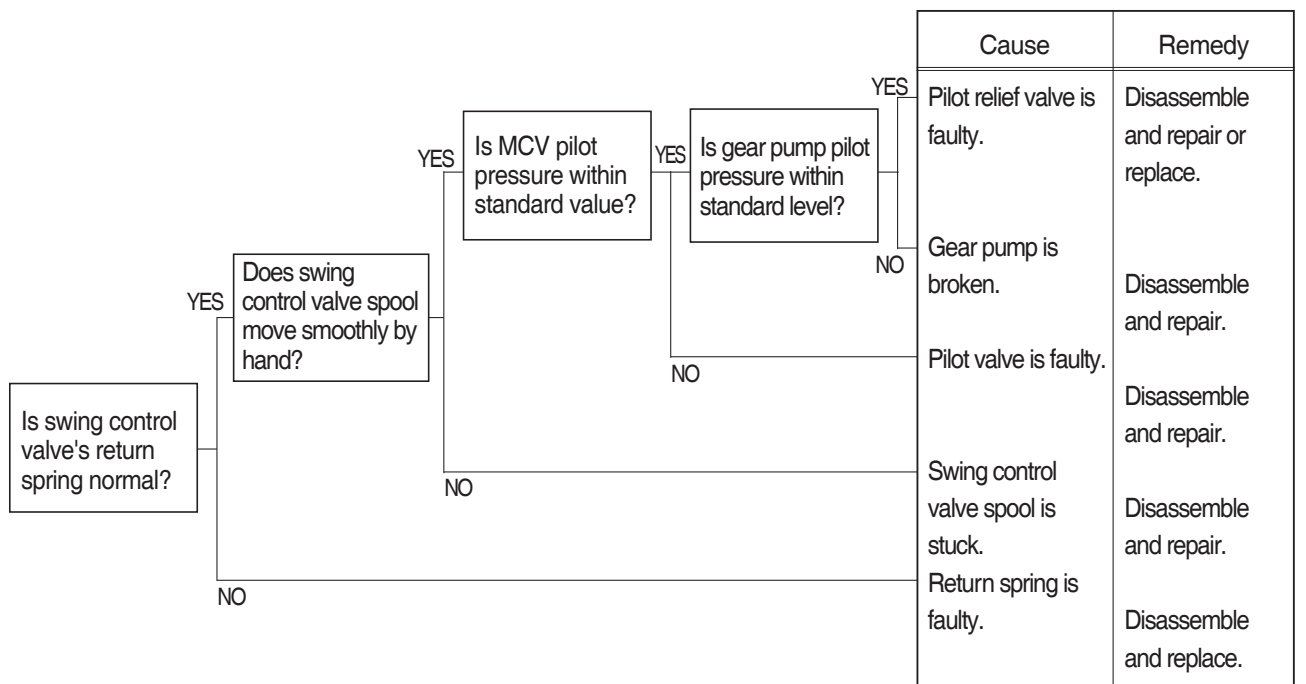
2) SWING SPEED IS LOW



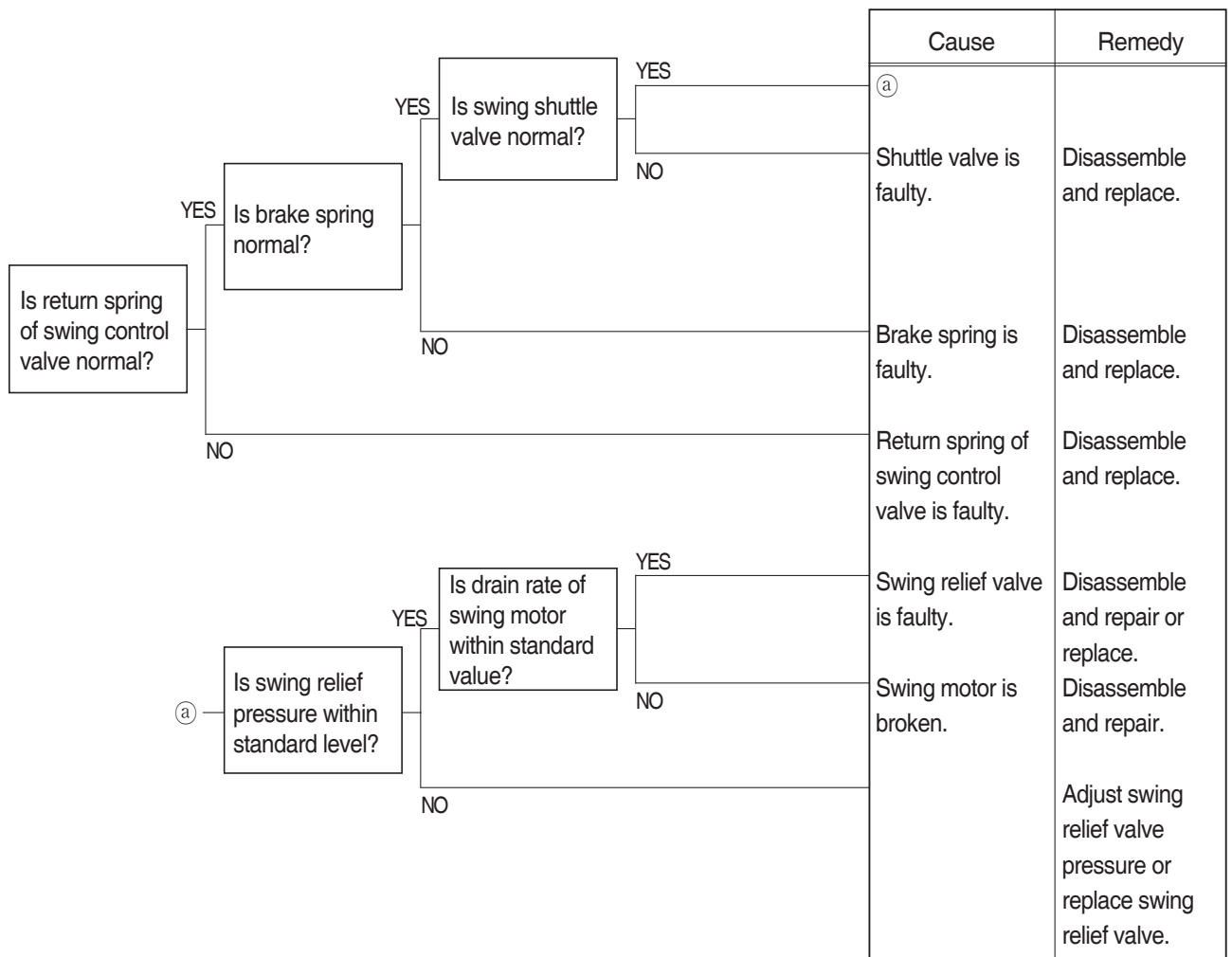
3) SWING MOTION IS IMPOSSIBLE IN ONE DIRECTION



4) MACHINE SWINGS BUT DOES NOT STOP

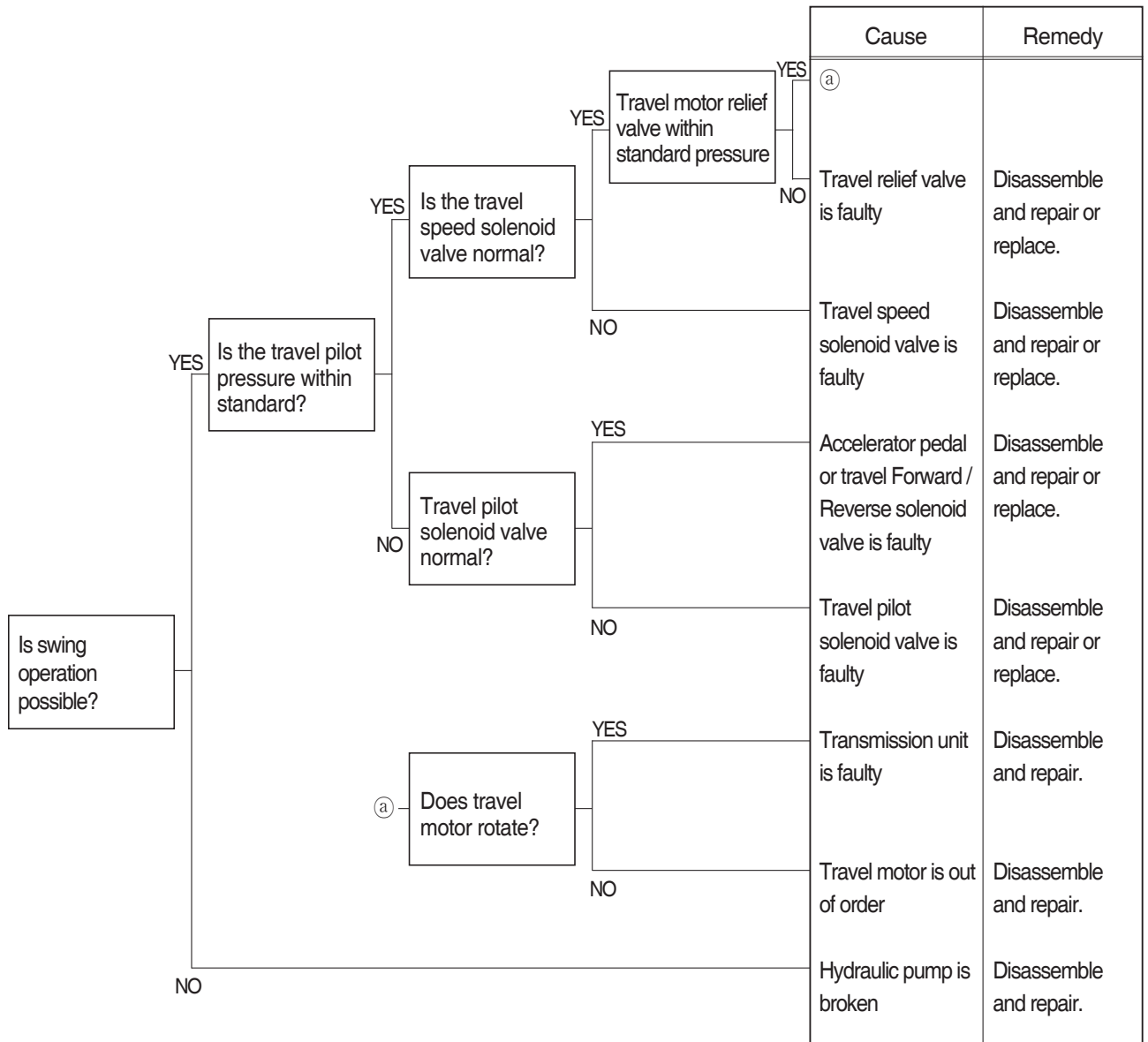


5) THE SWING UNIT DRIFTS WHEN THE MACHINE IS AT REST ON A SLOPE

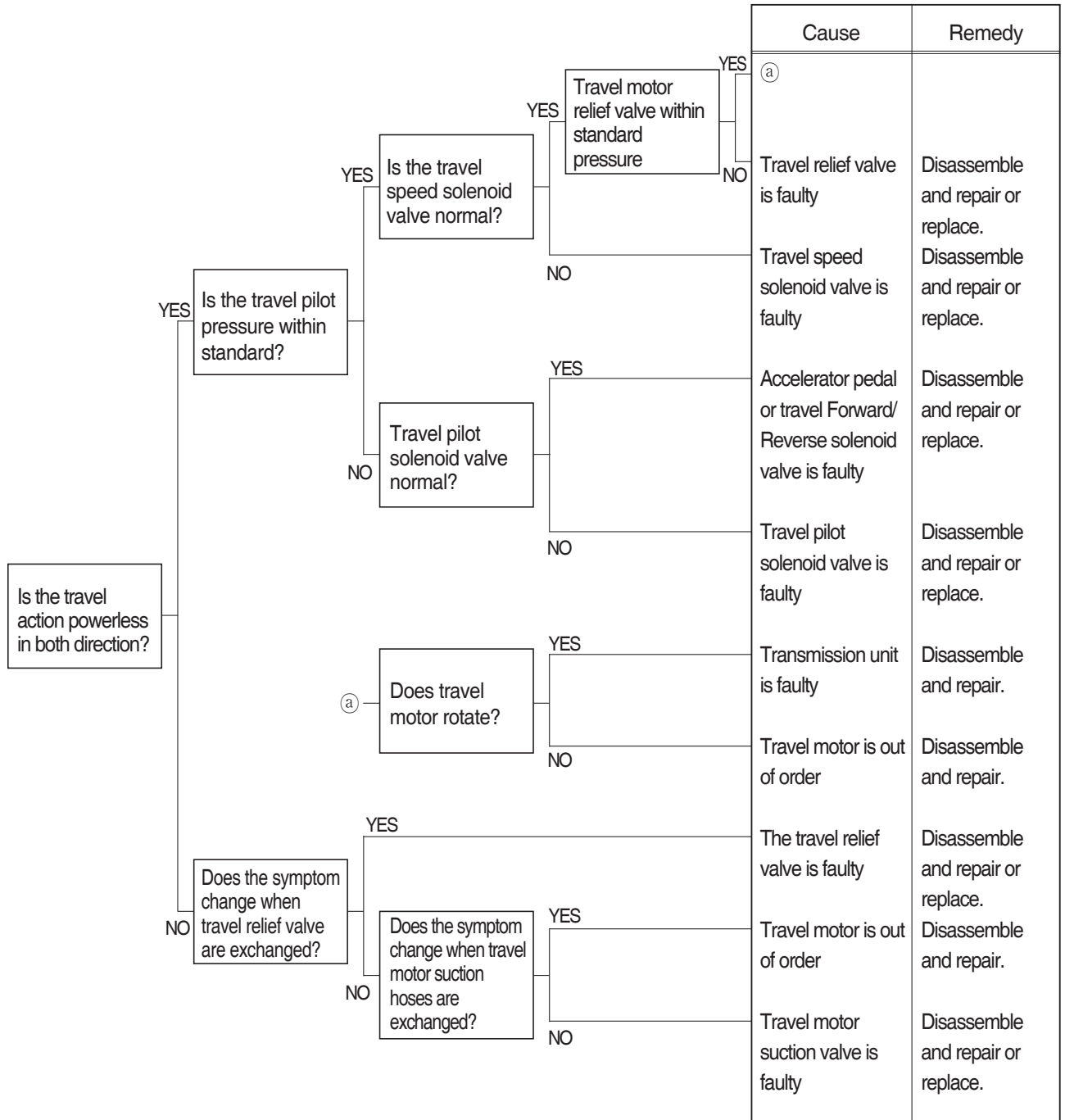


5. TRAVEL SYSTEM

1) TRAVEL DOES NOT FUNCTION



2) TRAVEL ACTION IS POWERLESS (travel only)



3) THE HYDRAULIC MOTOR DOES NOT GET STARTED

		Cause	Remedy
The hydraulic motor does not get started		The spool does not work properly. (the spool keeps fully open)	Screw the fitting bolts one more time with correct tightening torque. If the spool turns out to be damaged, it should be repaired or the new one should be used
		The anti-cavitation check valve does not work properly. (the check valve is kept open.)	Ditto

4) IT TAKES TIME TO ACCELERATE THE MOTOR

		Cause	Remedy
It takes time to accelerate the motor		The spool does not work properly.	Screw the fitting bolts one more time with correct tightening torque. If the spool turns out to be damaged, it should be repaired, or the new one should be used.
		The orifice for closing the counterbalance is clogged.	Remove the foreign matter by disassembling and cleaning.
		Wrong setting of pressure of the relief valve.	Adjust at the correct value. If the relief valve turns out to be out of order, the new one should be used.

5) IT IS NOT POSSIBLE TO REDUCE THE MOTOR SMOOTHLY

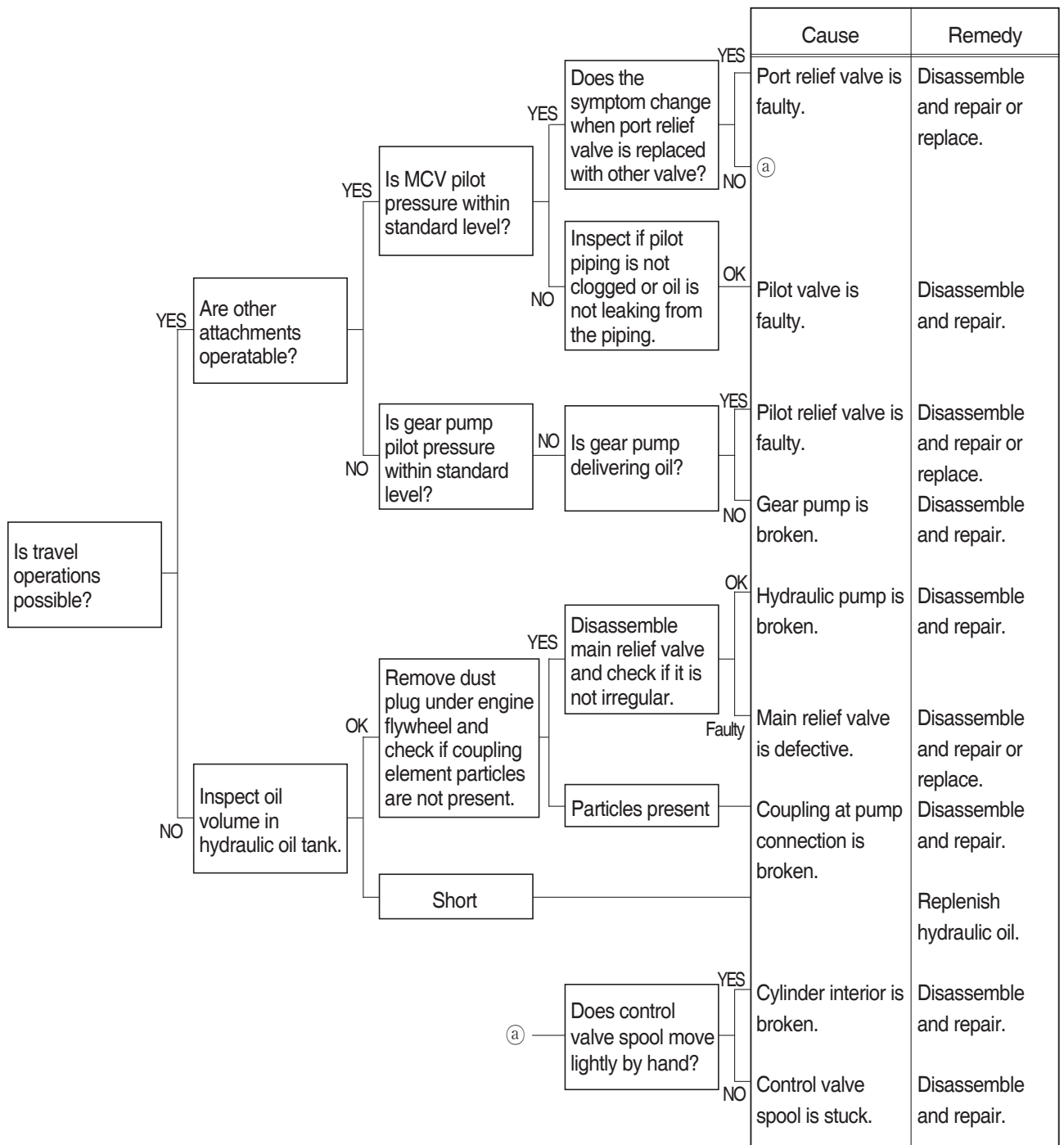
		Cause	Remedy
It is not possible to reduce the motor smoothly		The orifice for closing the counterbalance is clogged. The opening of the neutral position of the spool is clogged.	Remove the foreign matter by disassembling and cleaning.
		Wrong setting of pressure of the relief valve.	Adjust at the correct value. If the relief valve turns out to be out of order, the new one should be used.

6) EXTRAORDINARY NOISE IS HEARD WHEN SUDDENLY REDUCING THE SPEED FROM THE HIGH-SPEED MODE

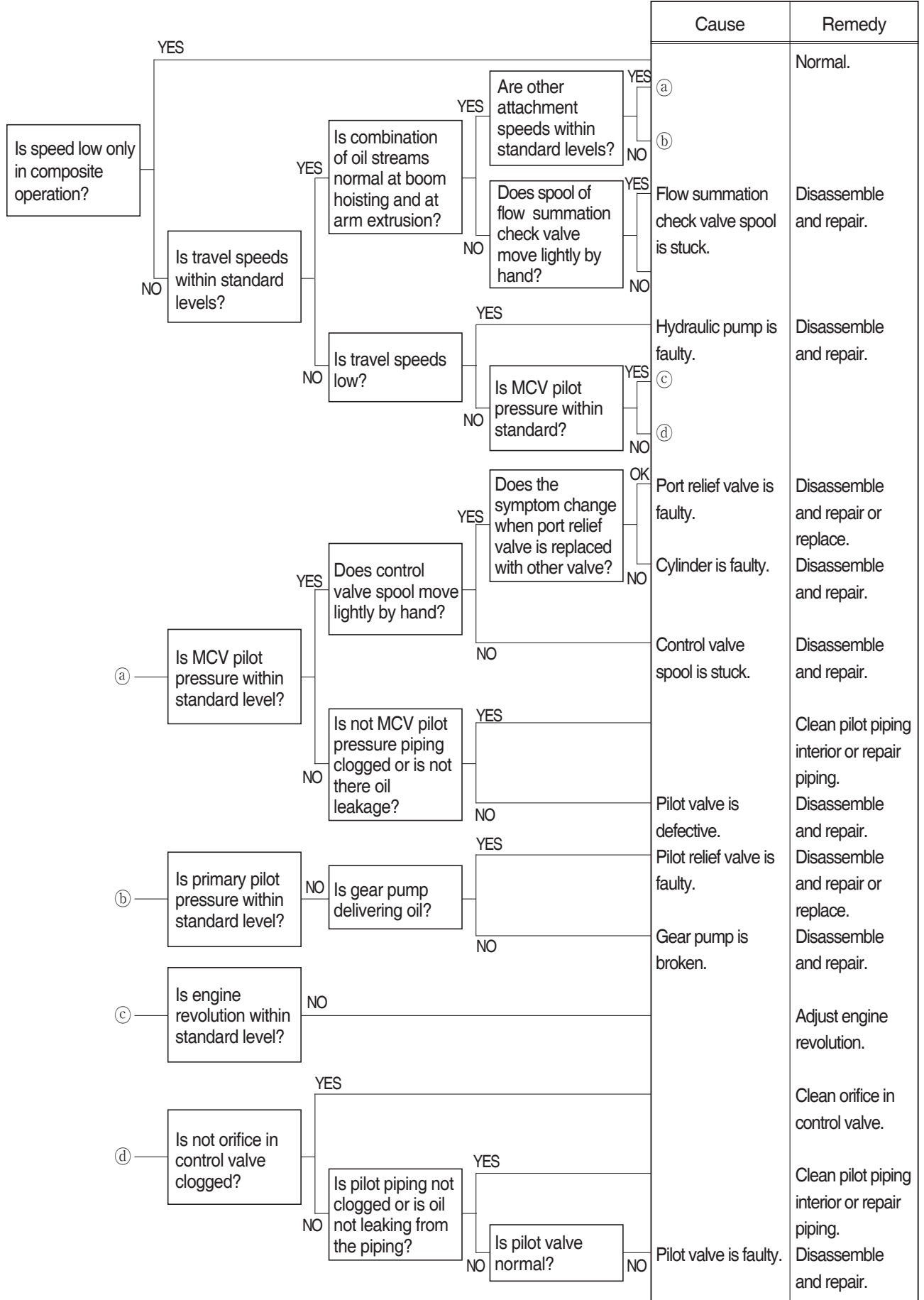
		Cause	Remedy
It takes time to accelerate the motor		The anti-cavitation valve does not work properly.	Screw the fitting bolts one more time with correct tightening torque. If the valve turns out to be damaged, it should be repaired.

6. ATTACHMENT SYSTEM

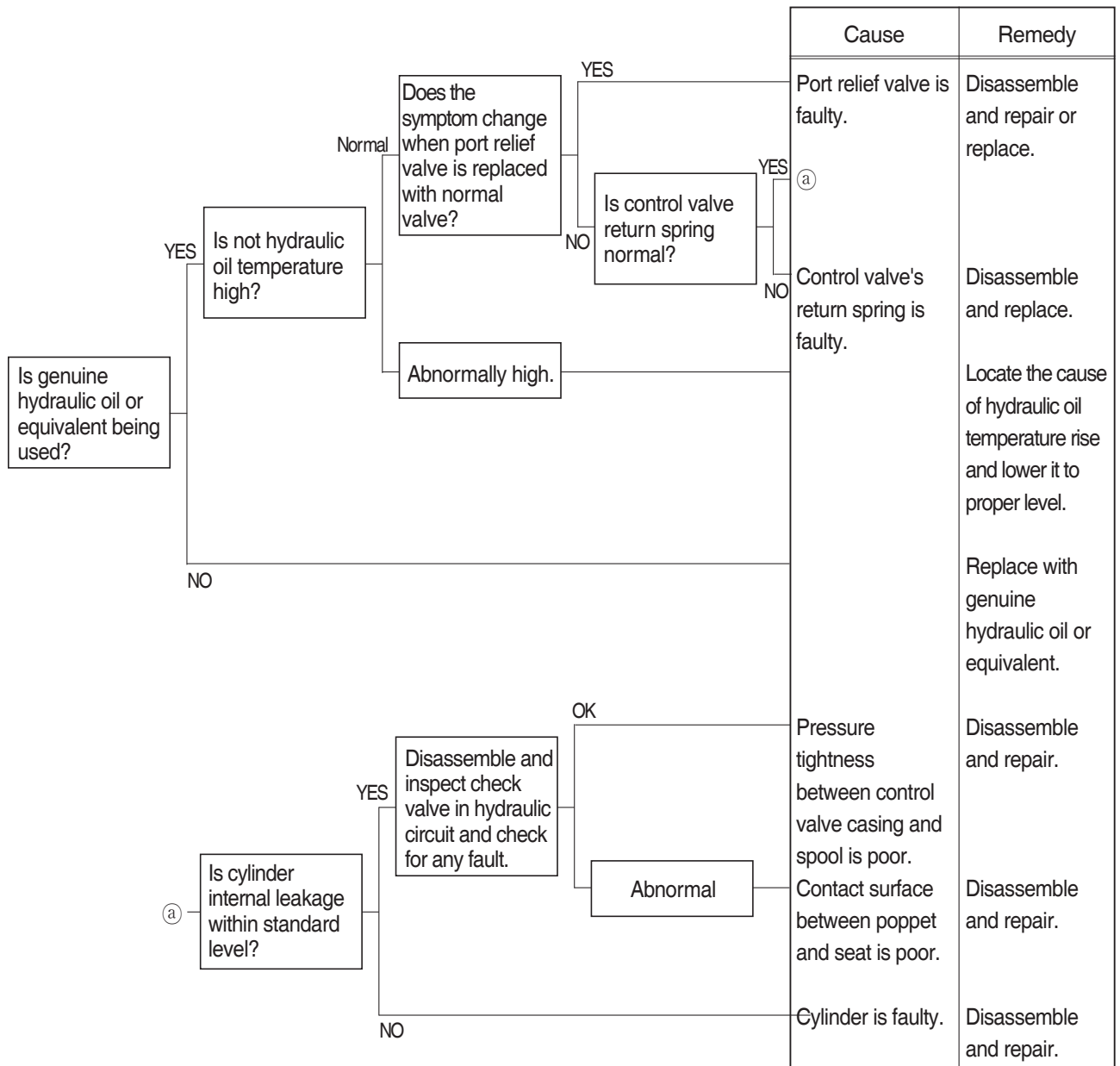
1) BOOM OR ARM ACTION IS IMPOSSIBLE AT ALL



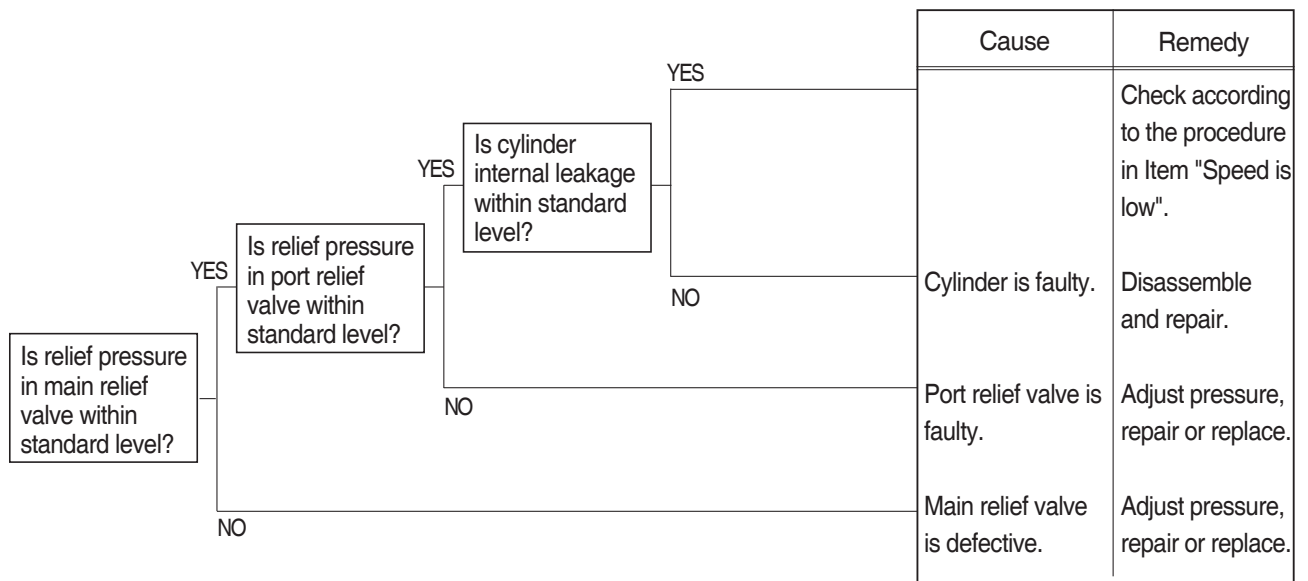
2) BOOM, ARM OR BUCKET SPEED IS LOW



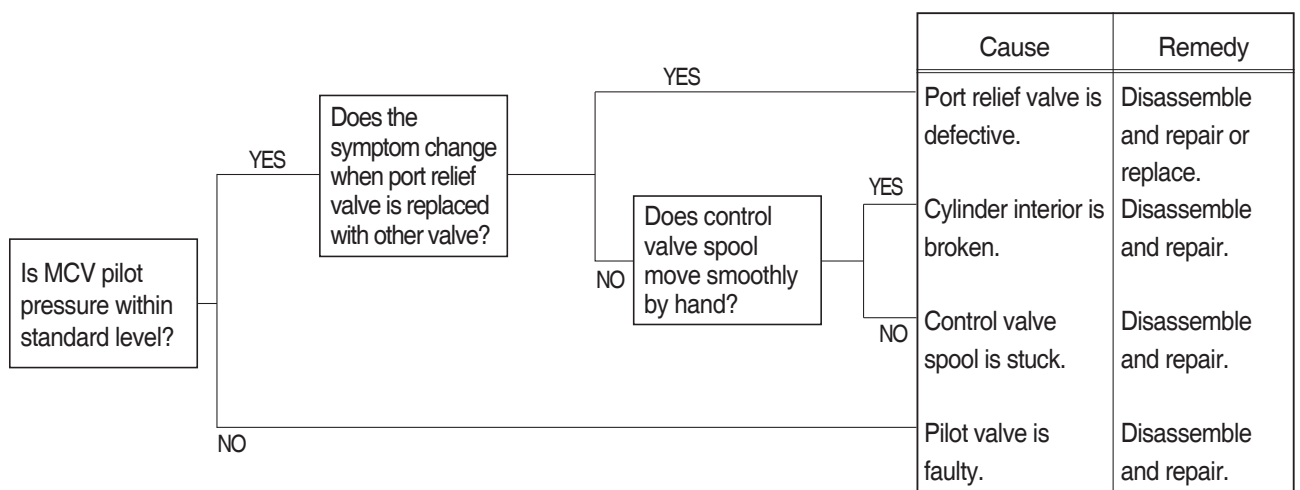
3) BOOM, ARM OR BUCKET CYLINDER EXTENDS OR CONTRACTS ITSELF AND ATTACHMENT FALLS



4) BOOM, ARM OR BUCKET POWER IS WEAK



5) ONLY BUCKET OPERATION IS TOTALLY IMPOSSIBLE

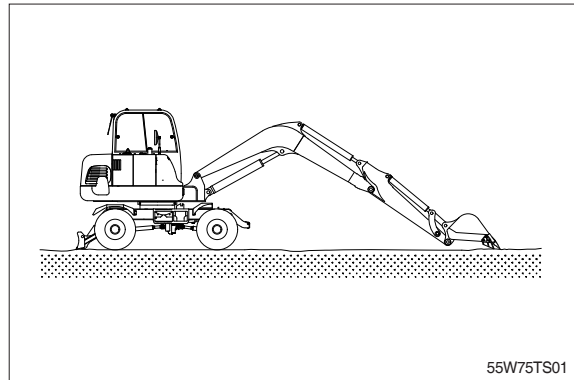


6) BOOM MAKES A SQUARING NOISE WHEN BOOM IS OPERATED

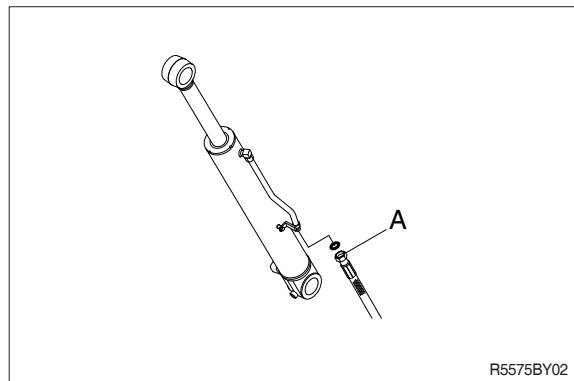
		Cause	Remedy
Is boom foot pin greased sufficiently?	YES		Frictional noise occurs between the sliding faces of boom cylinder's oil seal and boom proper. ※ Frictional noise will disappear if they are kept used.
	NO	Boom foot pin has run out of grease.	Supply grease to it. ※ If seizure is in an initial stage, supply sufficient grease. If seizure is in a grown state, correct it by paper lapping or with an oil stone.

※ HOW TO CHECK INTERNAL BOOM CYLINDER LEAKAGE

1. Lower the bucket teeth to the ground with bucket cylinder fully retracted and arm cylinder rod retracted almost in full.



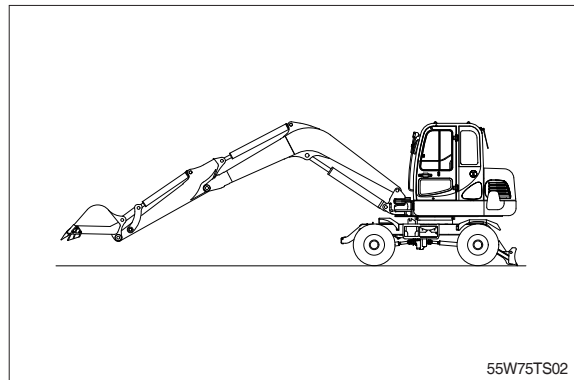
2. Disconnect hose (A) from rod side of boom cylinder and drain oil from cylinder and hose. (put cups on piping and hose ends)



3. Raise bucket OFF the ground by retracting the arm cylinder rod.

If oil leaks from piping side and boom cylinder rod is retracted there is an internal leak in the cylinder.

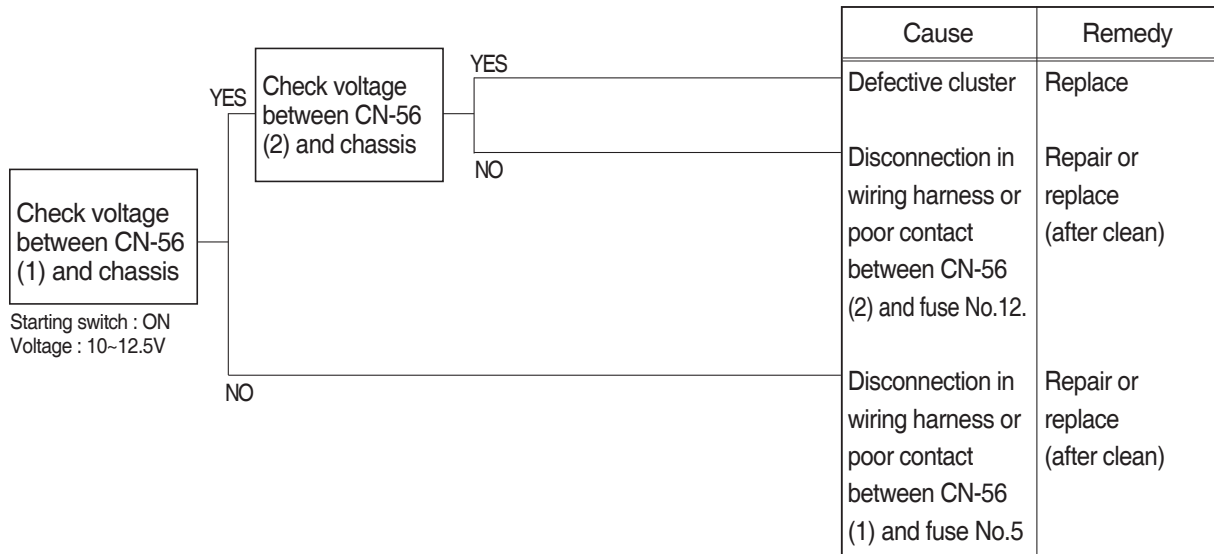
If no oil leaks from piping side and boom cylinder rod is retracted, there is an internal leak in the control valve.



GROUP 3 ELECTRICAL SYSTEM

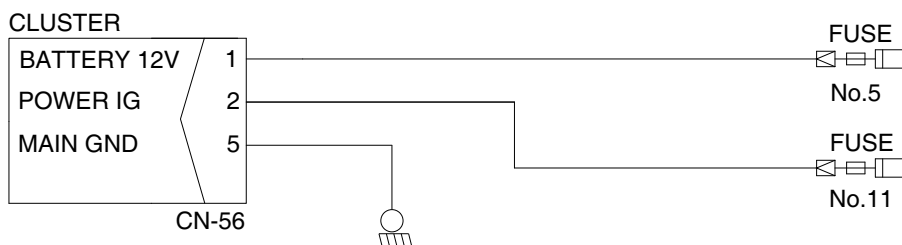
1. WHEN STARTING SWITCH IS TURNED ON, MONITOR PANEL DISPLAY DOES NOT APPEAR

- 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.5 and No.12.
- After checking, insert the disconnected connectors again immediately unless otherwise specified.



Check voltage

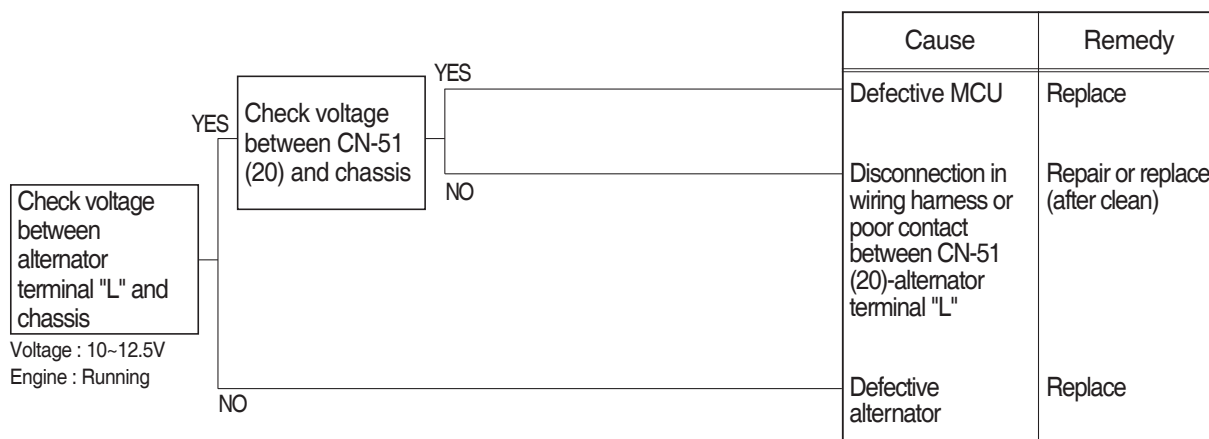
YES	10 ~ 12.5V
NO	0V



65AH5TS10

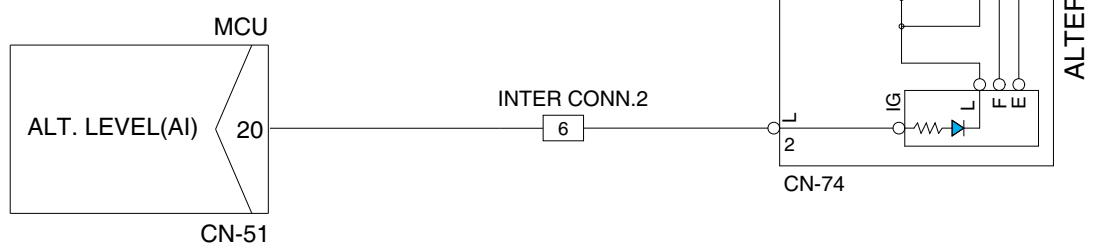
2. BATTERY CHARGING WARNING LAMP LIGHTS UP (starting switch : ON)

- 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

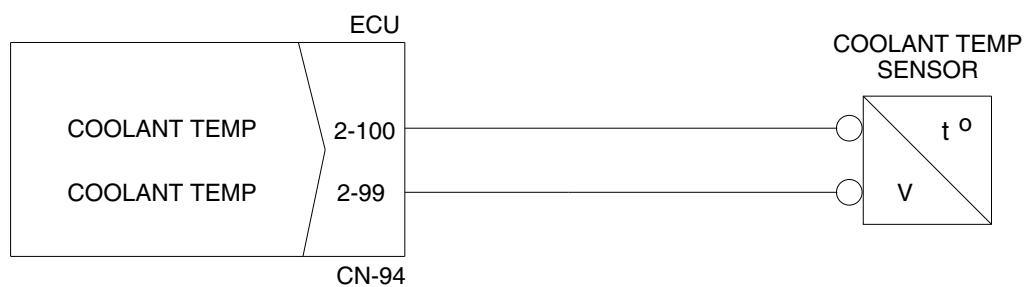
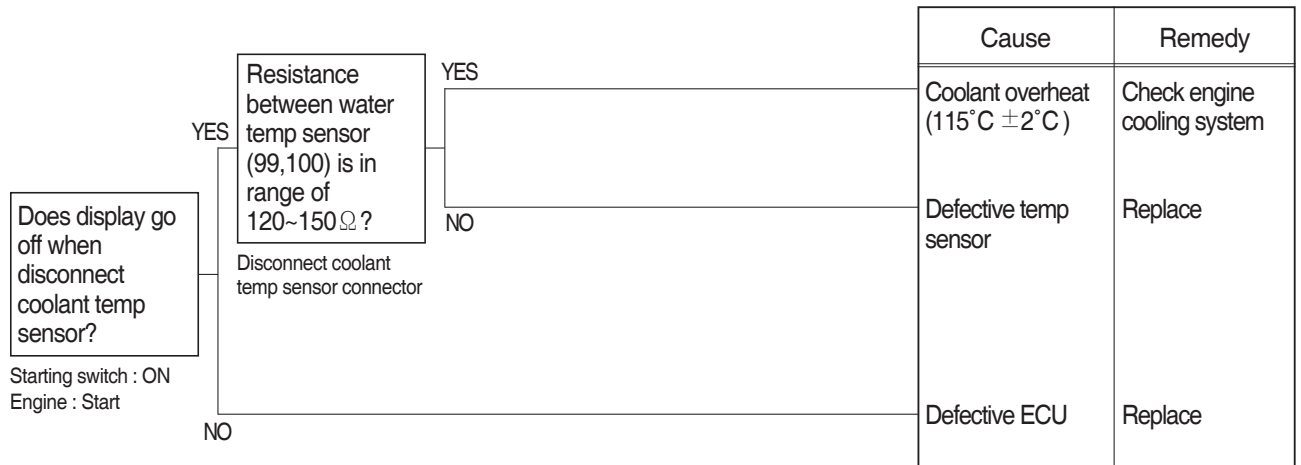
YES	10~12.5V
NO	0V



65A5TS11

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

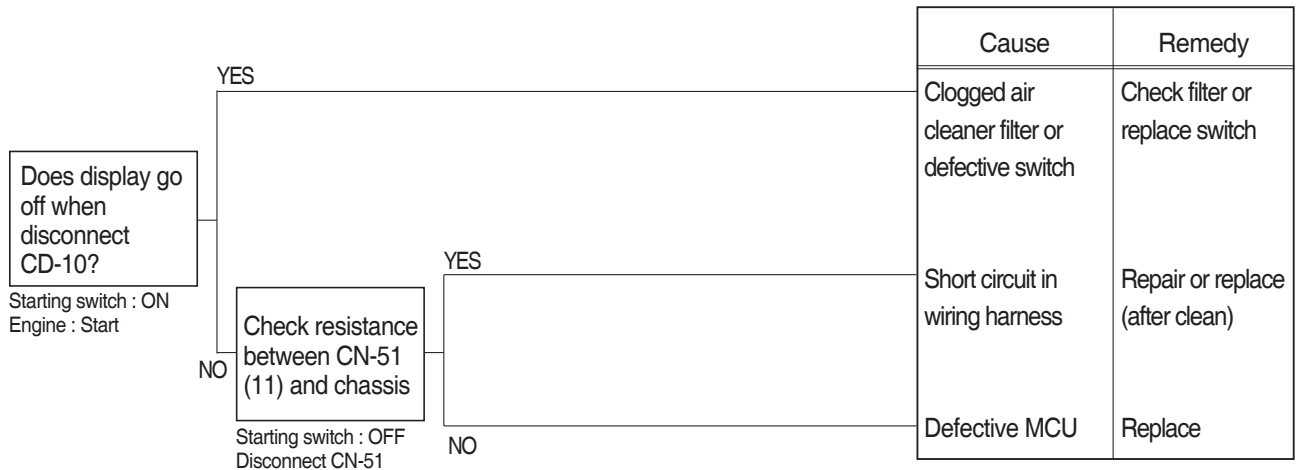
- Before disconnecting the connector, always turn the starting switch OFF.
- Before carrying out below procedure, check all the related connectors are properly inserted.
- After checking, insert the disconnected connectors again immediately unless otherwise specified.



65A5TS12

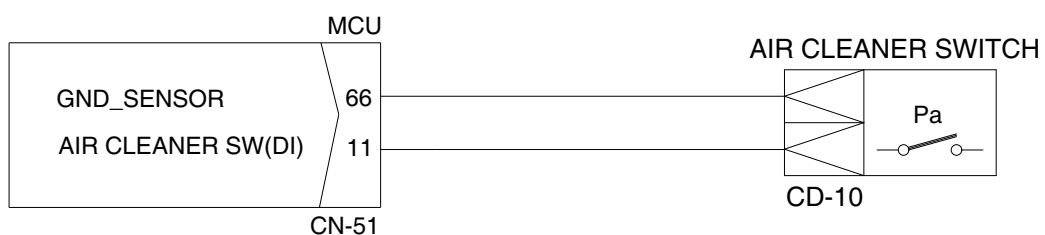
4. WHEN AIR CLEANER WARNING LAMP LIGHTS UP (engine is started)

- 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

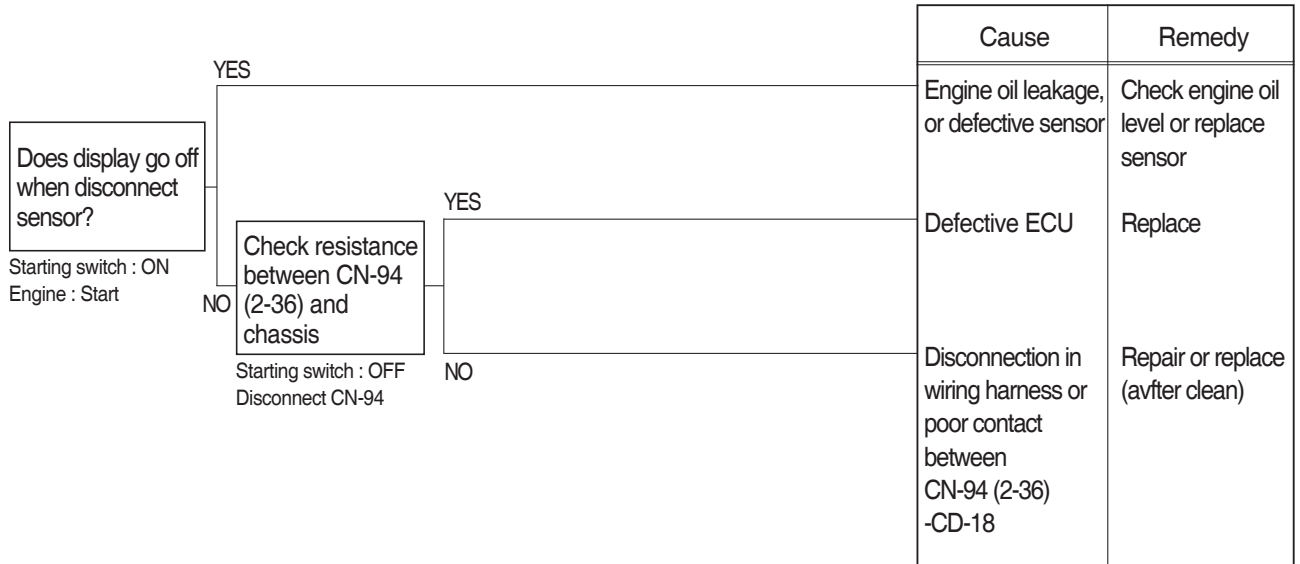
YES	MAX 1Ω
NO	MIN 1MΩ



65AH5TS13

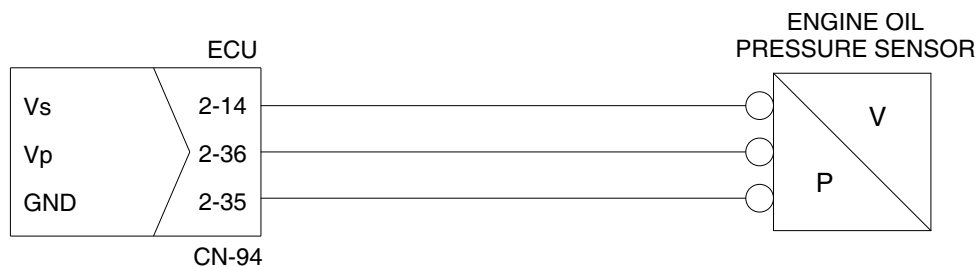
5. WHEN ENGINE OIL PRESSURE WARNING LAMP LIGHTS UP (engine is started)

- 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

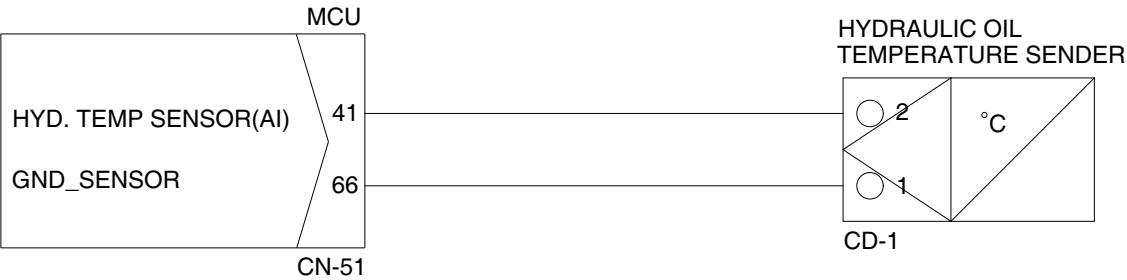
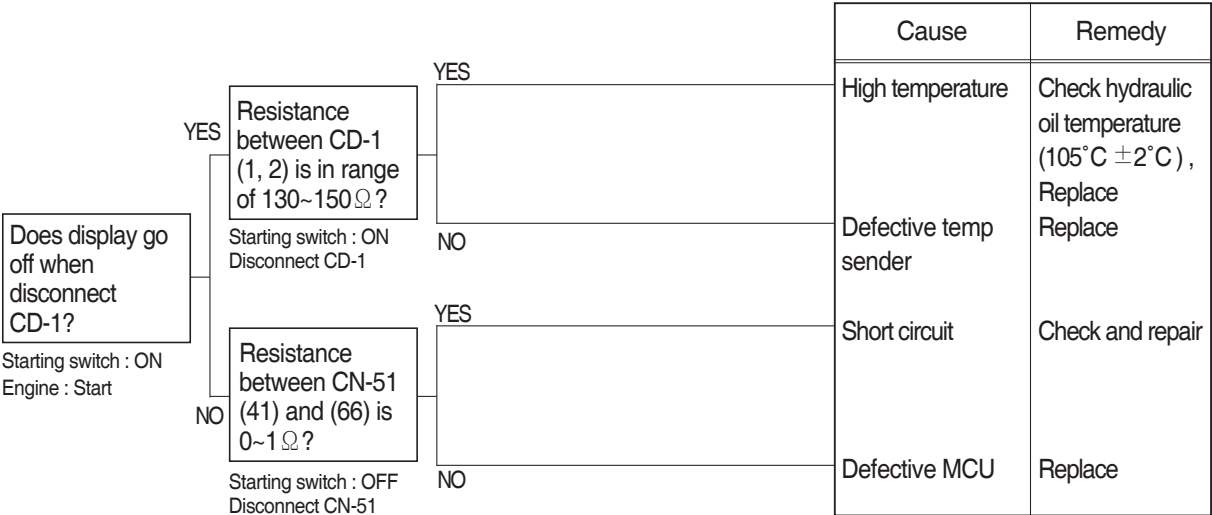
YES	MAX 1Ω
NO	MIN 1MΩ



65A5TS14

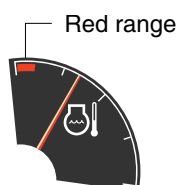
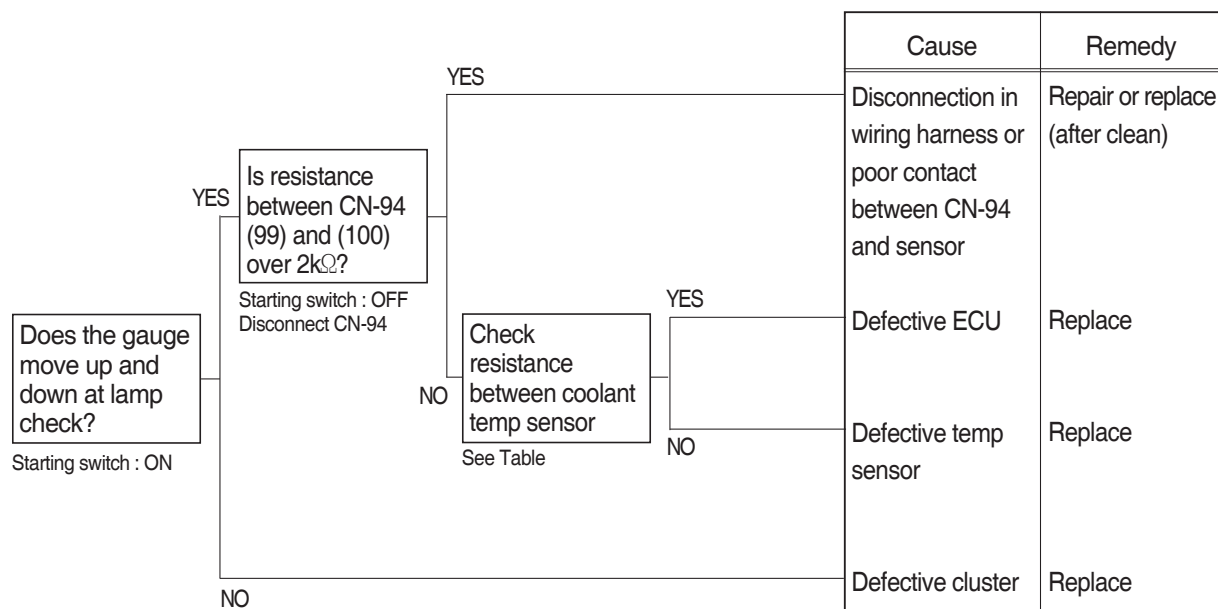
6. WHEN HYDRAULIC OIL TEMPERATURE WARNING LAMP LIGHTS UP (engine is started)

- 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.



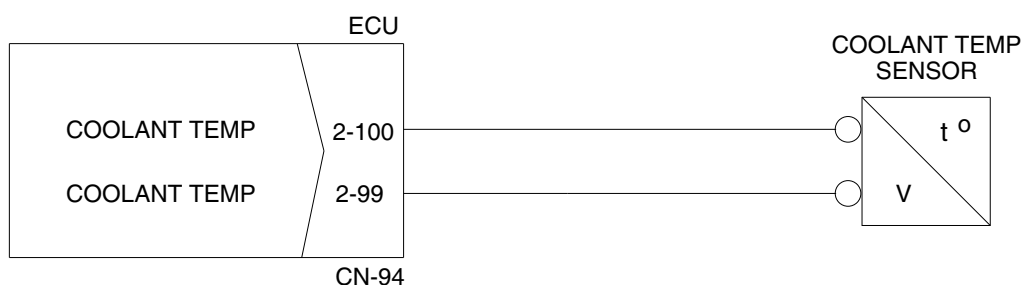
7. WHEN COOLANT TEMPERATURE GAUGE DOES NOT OPERATE

- 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.



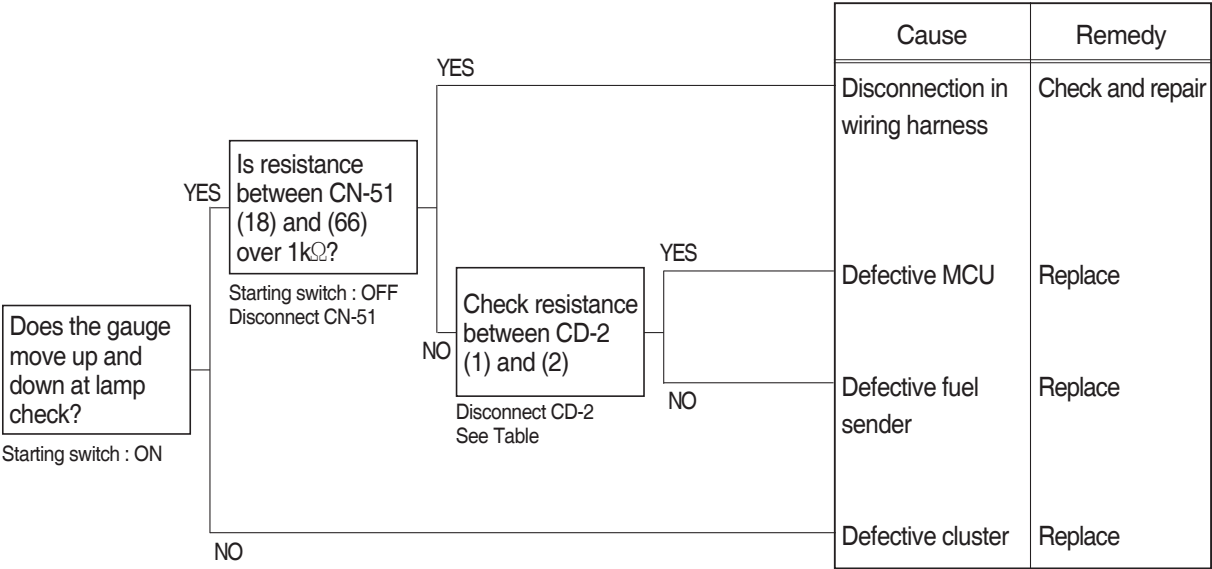
Check Table

Temperature \ Item	40°C	85~110°C	115°C (red range)
Unit Resistance(Ω)	1170~	270~130	~124
Tolerance(%)	± 5	-8~0	± 5



8. 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.



Empty

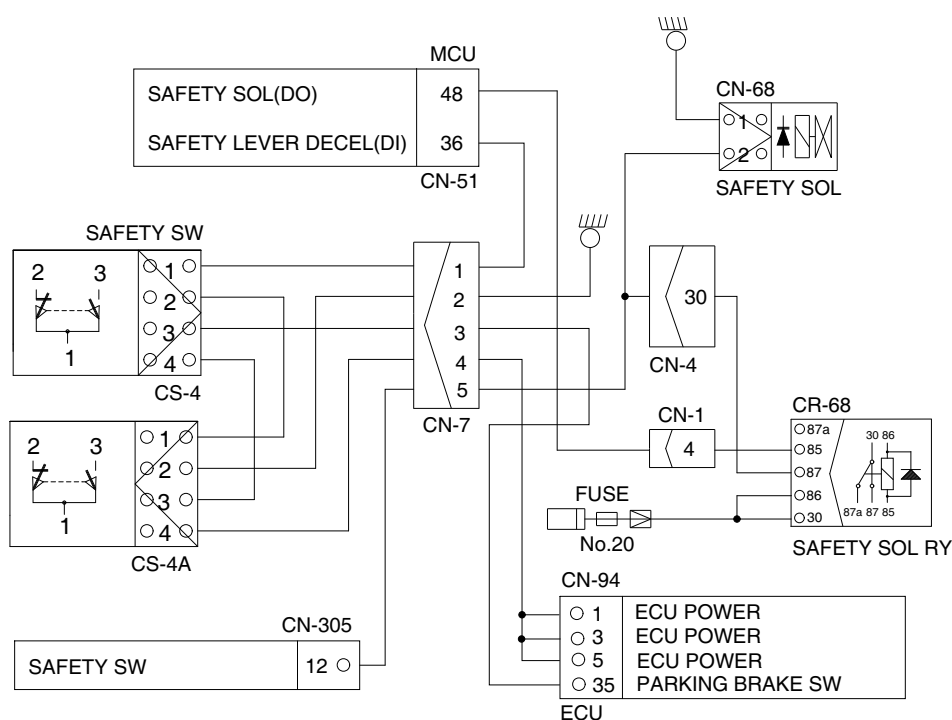
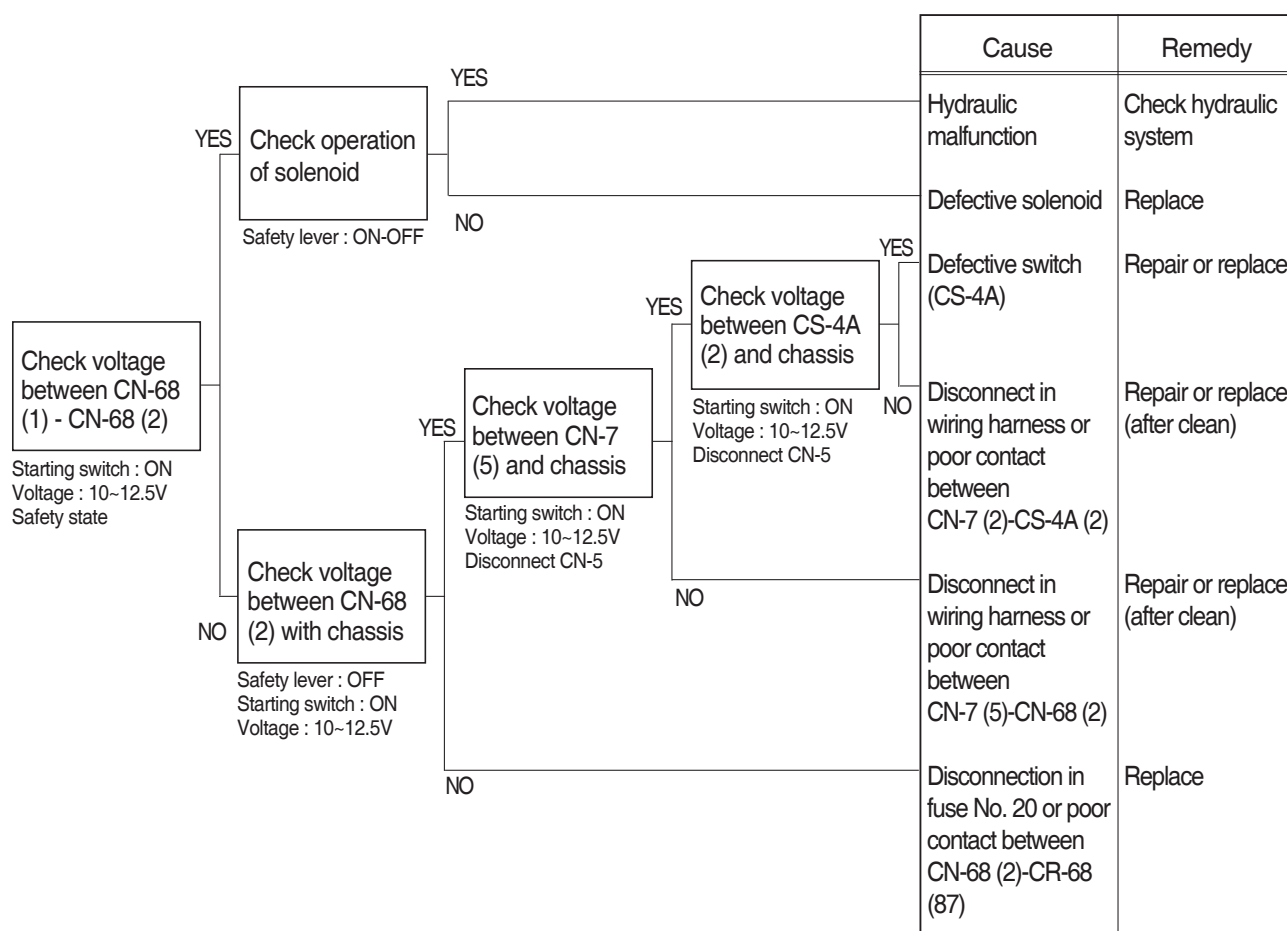
Check Table

Item \ Level	Empty	1/2	Full
Unit Resistance (Ω)	700	300	~100
Tolerance (%)	±5	±8	±5



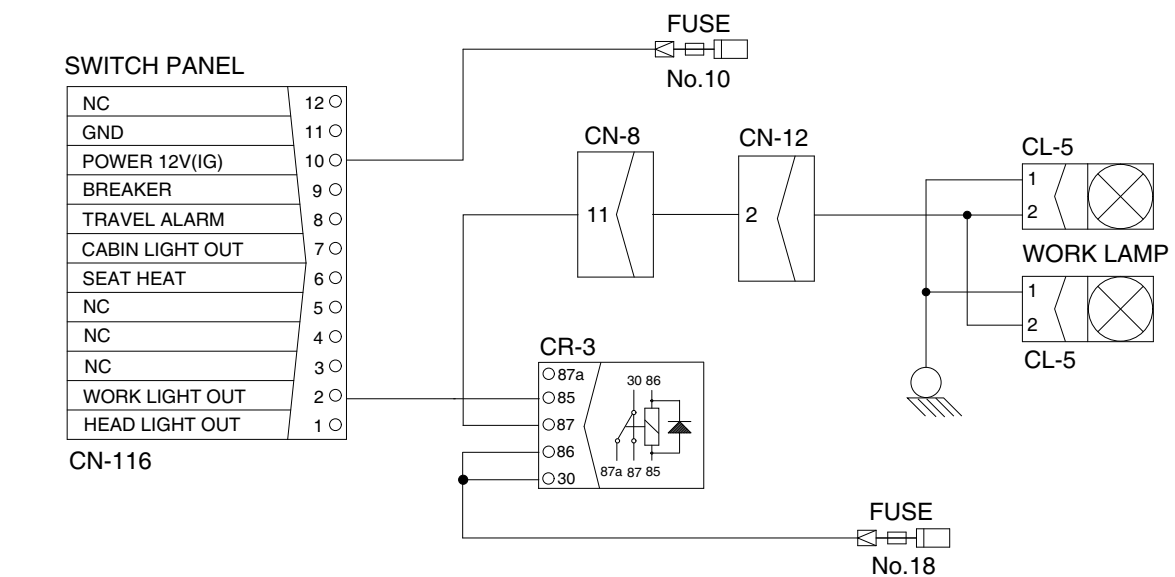
9. WHEN SAFETY SOLENOID DOES NOT OPERATE

- 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.20.
- After checking, insert the disconnected connectors again immediately unless otherwise specified.



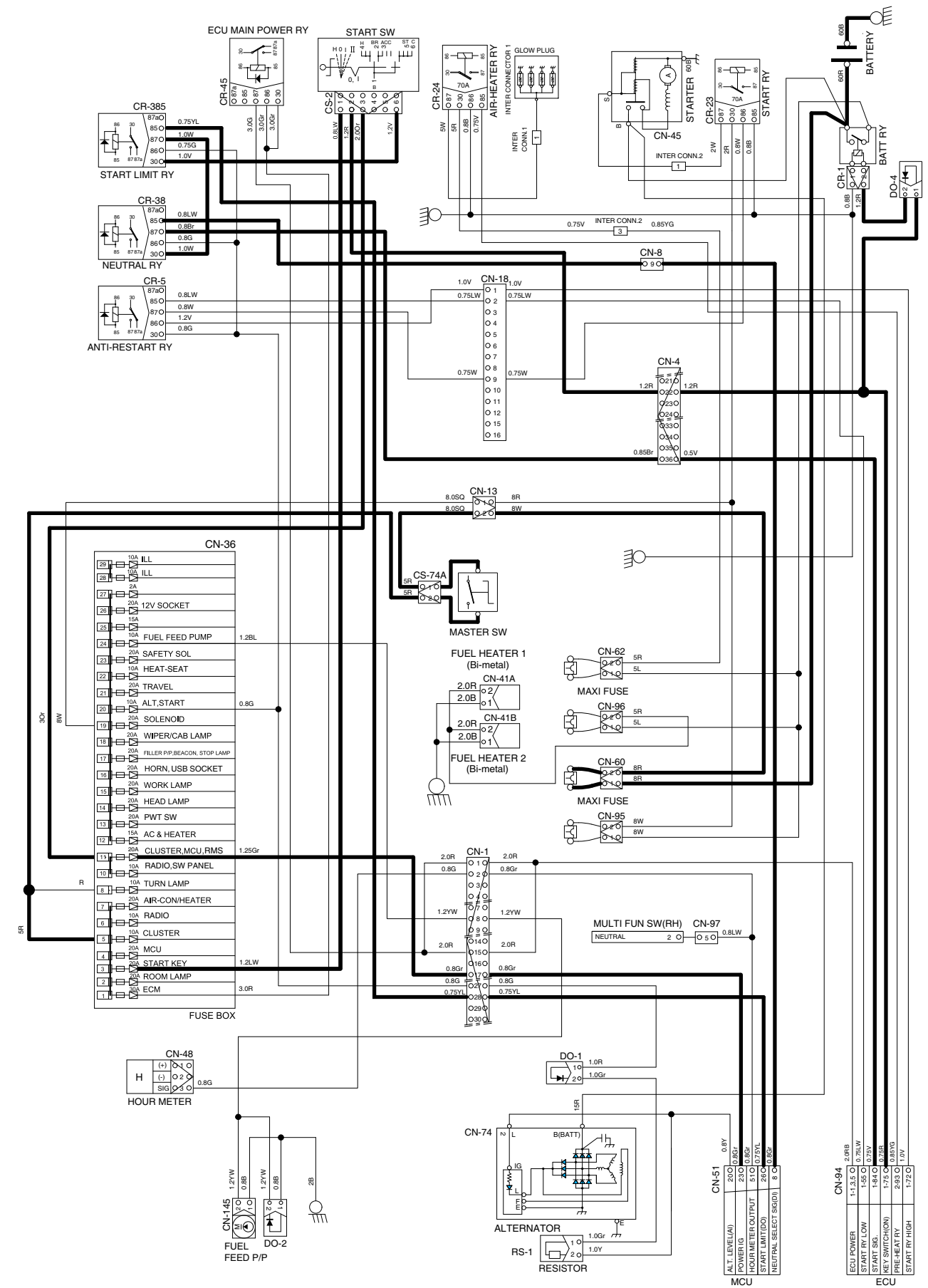
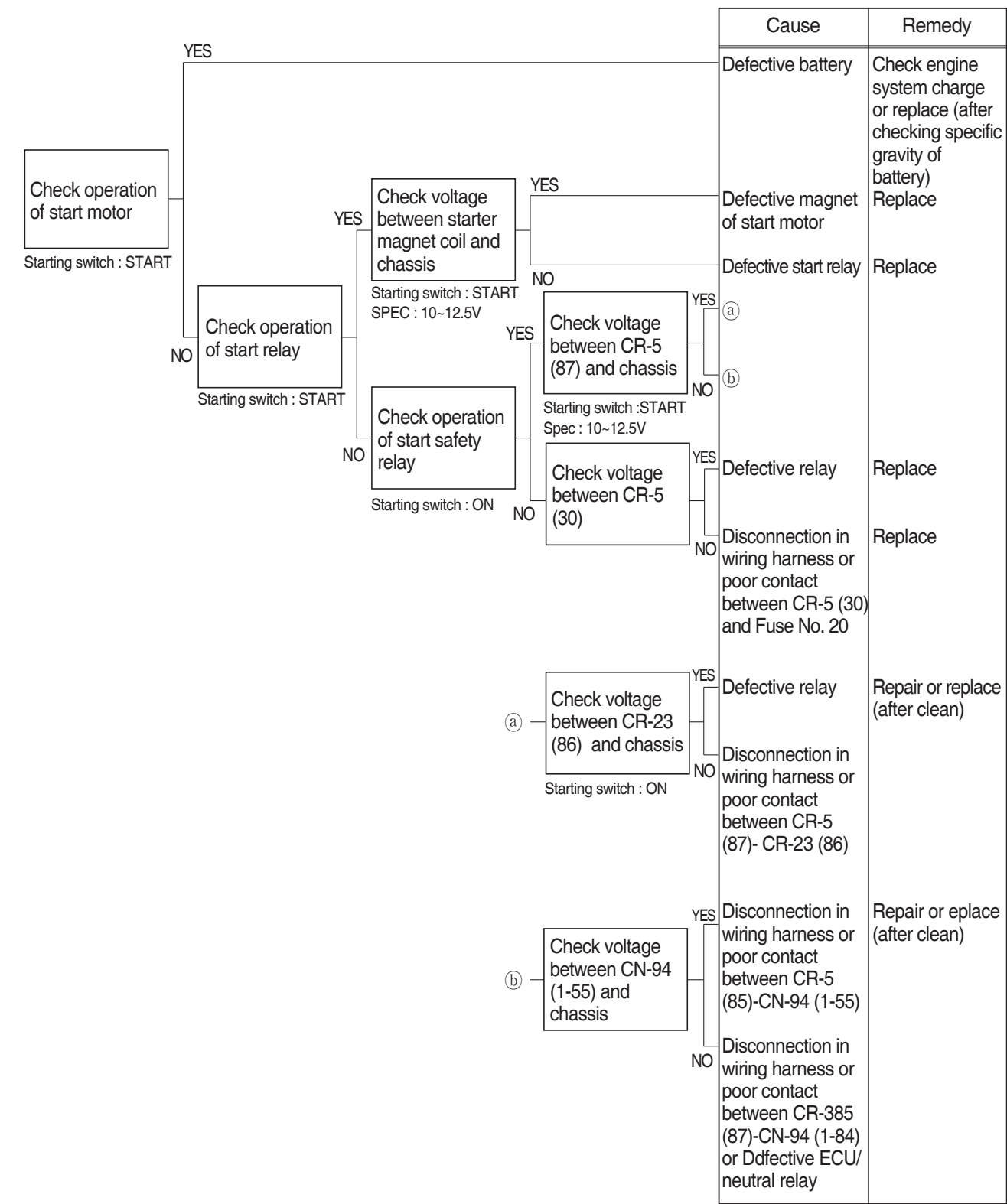
65AH5TS19

- 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.10, 18.
- After checking, insert the disconnected connectors again immediately unless otherwise specified.



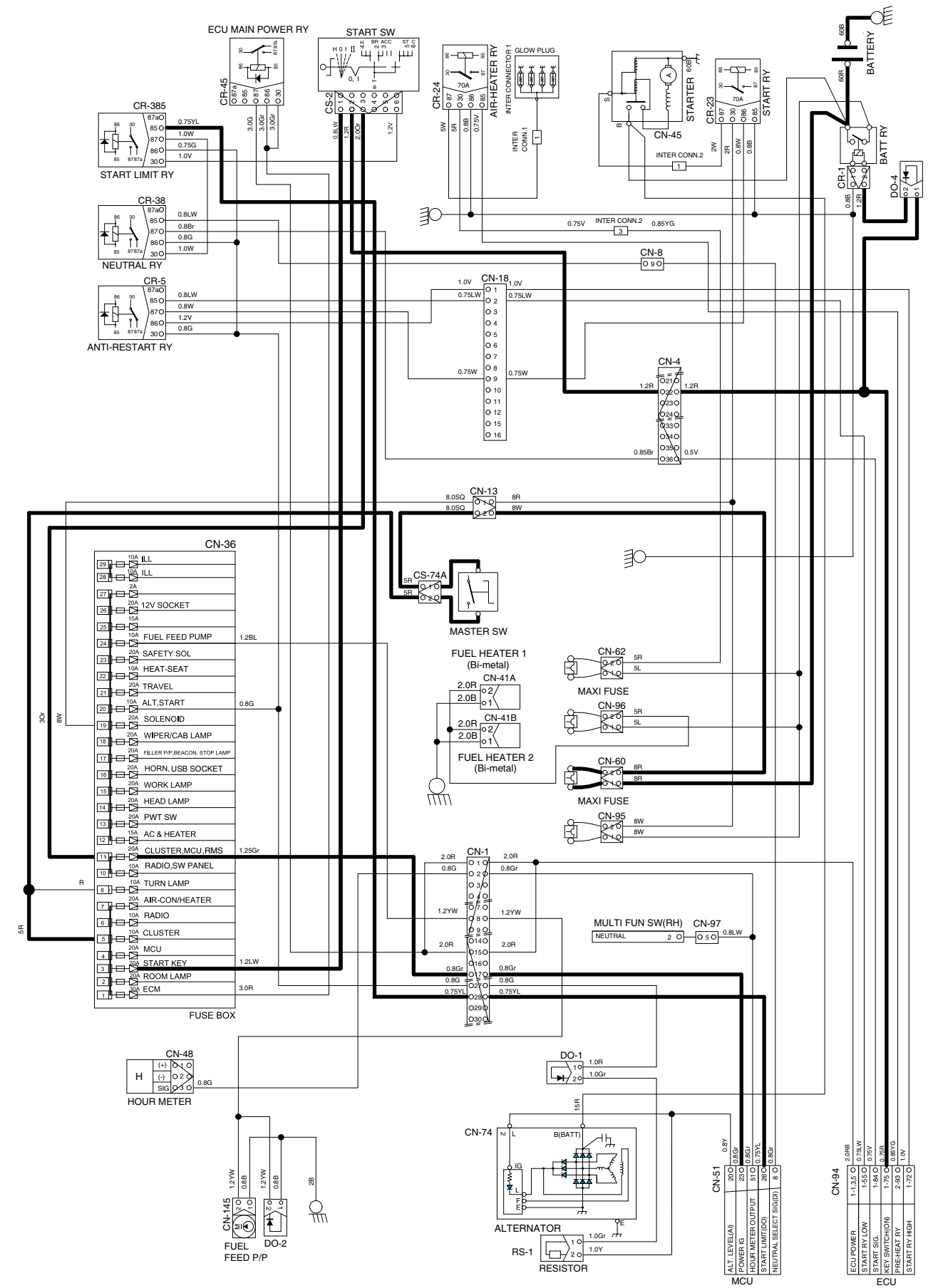
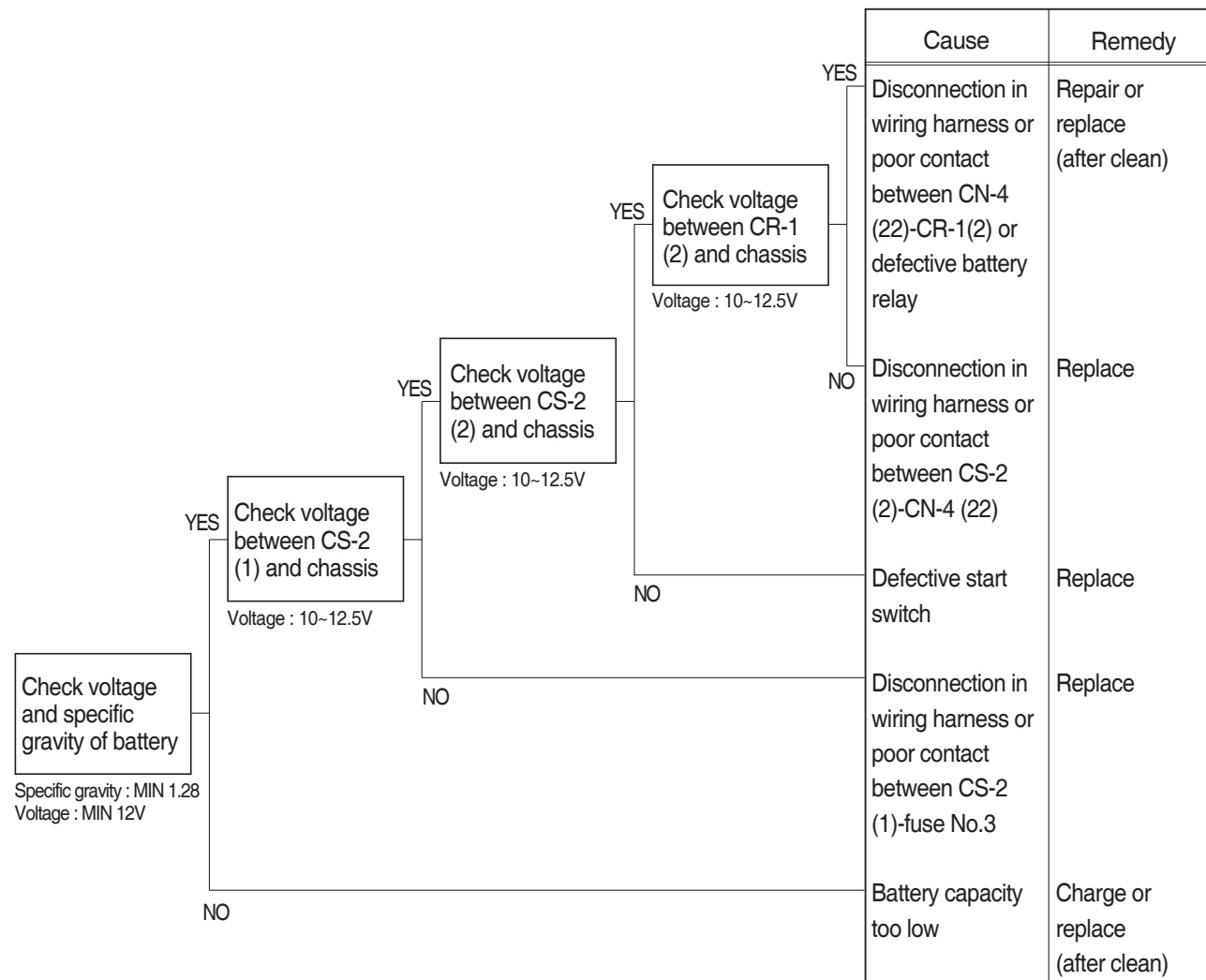
11. WHEN ENGINE DOES NOT START

- Check supply of the power at engine stop solenoid while starting switch is 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.



12. WHEN STARTING SWITCH ON DOES NOT OPERATE

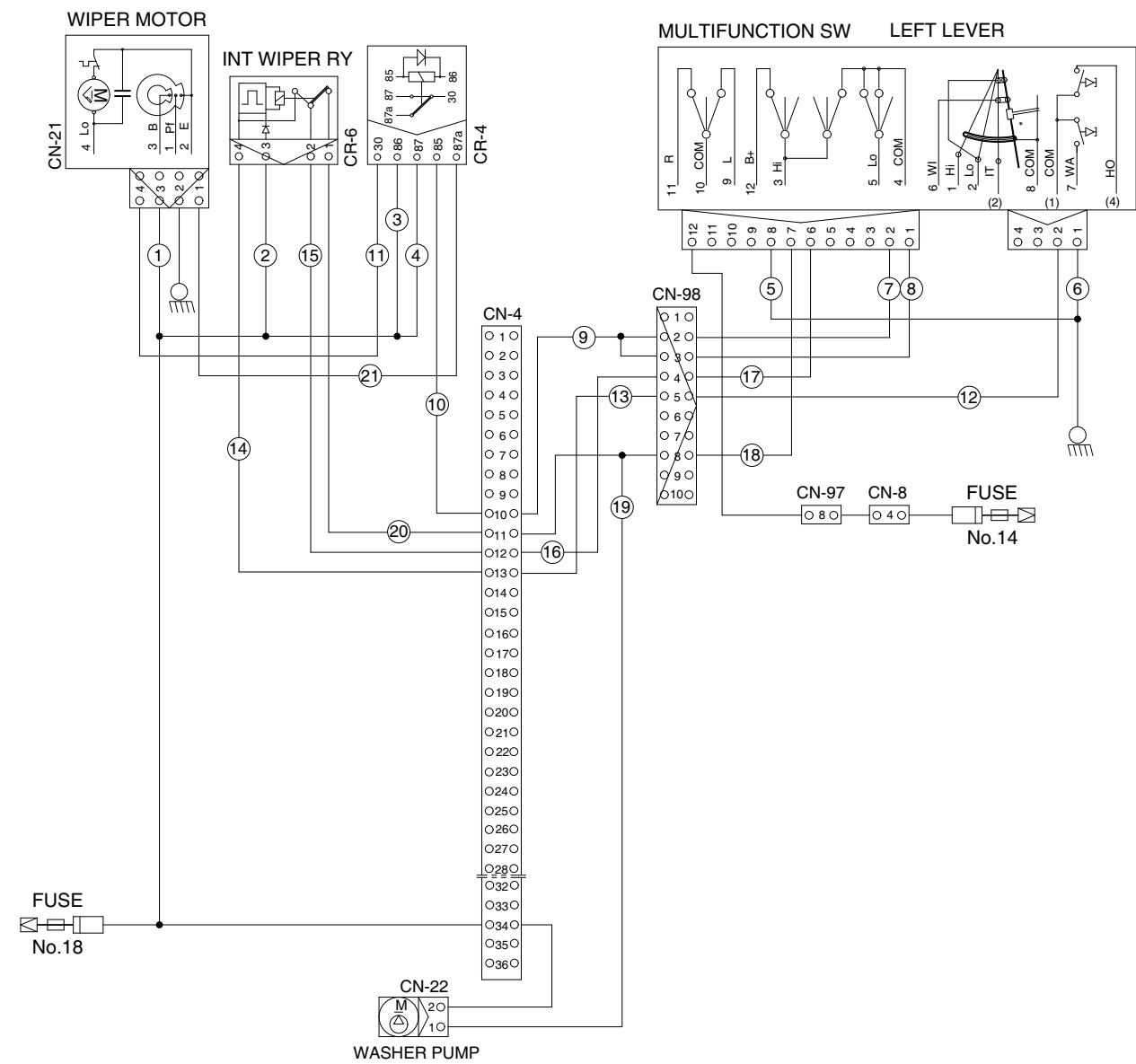
- Before disconnecting the connector, always turn the starting switch OFF.
- Before carrying out below procedure, check all the related connectors are properly inserted and master switch ON.
- After checking, insert the disconnected connectors again immediately unless otherwise specified.



13. 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.14, 18 is not blown out.
- After checking, insert the disconnected connectors again immediately unless otherwise specified.

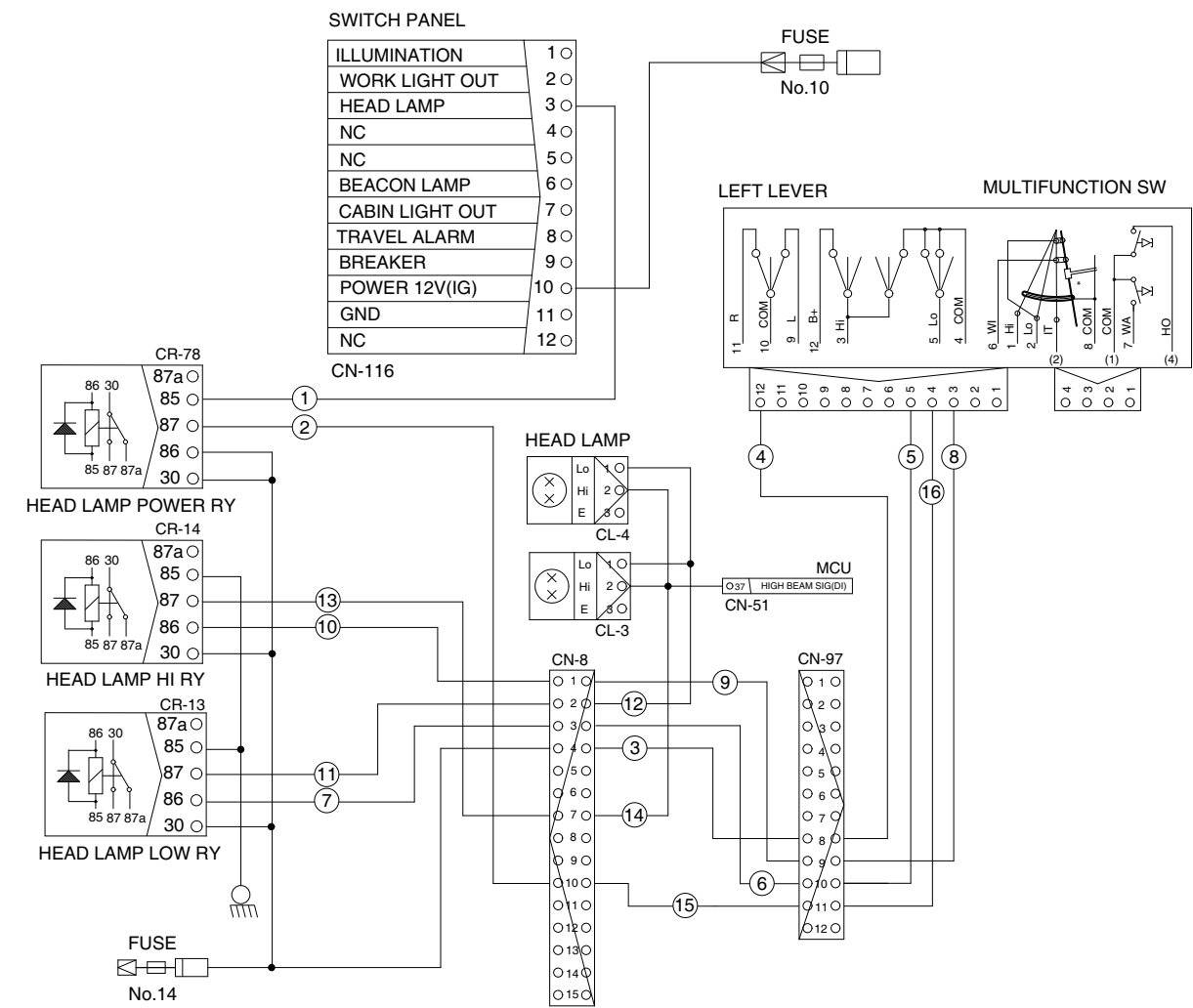
		Cause	Remedy
Check voltage ① ② ③ ④ Starting switch : ON Wiper switch : OFF Voltage : 12V	NO(Open)	Disconnection in wiring harness or defective fuse	Repair or replace (After clean)
	YES(12V)	⑤ ⑥	
	NO(Open)	Disconnection in wiring harness	Repair or replace (After clean)
Check voltage ⑦ ⑧ Starting switch : ON Wiper switch : Lo or Hi Voltage : 12V	YES(0V)	⑦ ⑧	Defective multifunction switch
	NO(Open)	Disconnection in wiring harness	Repair or replace (After clean)
	YES(0V) ⑨	NO	Disconnection in wiring harness
	YES ⑩	NO	Disconnection in wiring harness
		YES ⑪	Defective wiper motor
Check voltage ⑫ Starting switch : ON Wiper switch : INT Voltage : 12V	YES(12V)	Defective relay	Replace
	NO(Open)	Defective multifunction switch	Replace
	YES(0V) ⑬	NO	Disconnection in wiring harness
	YES ⑭	NO(Open)	Disconnection in wiring harness
		YES ⑮	Defective Int wiper relay
	YES(0V) periodically ⑯	YES(0V) periodically	⑯
Check voltage ⑰ Starting switch : ON Wiper switch : INT Voltage : 12V	NO(Open)	Defective multifunction switch	Replace
	YES(0V) periodically ⑱	NO	Disconnection in wiring harness
	YES ⑲	NO(Open)	Disconnection in wiring harness
		YES ⑲	Defective multifunction switch
	YES periodically ⑲	YES periodically	⑲
Check voltage ⑳ Starting switch : ON Washer switch : ON Voltage : 12V	NO(Open)	Defective multifunction switch	Replace
	YES(0V) ⑲	NO	Disconnection in wiring harness
	YES ⑲	NO(Open)	Disconnection in wiring harness
		YES ⑲	Defective Int relay
	YES ⑲	YES ⑲	⑲



14. 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.10, 14.
- After checking, insert the disconnected connectors again immediately unless otherwise specified.

		Cause	Remedy
Check Voltage 1 Starting switch ON Head lamp switch ON Voltage 1V	NO	Disconnection in wiring harness or defective fuse	Repair or replace After clean
	ES	Disconnection in wiring harness or poor contact between CN-116 (3) and CR-78 (85)	Repair or replace
	NO	Disconnection in wiring harness	Repair or replace After clean
	ES	Disconnection in wiring harness	Repair or replace After clean
Check Voltage 5 Starting switch ON Head lamp switch ON Multifunc switch LOW Voltage 1V	NO	Disconnection in wiring harness	Repair or replace After clean
	ES	Disconnection in wiring harness	Repair or replace After clean
	NO	Disconnection in wiring harness	Repair or replace After clean
	ES	Disconnection in wiring harness	Repair or replace After clean
Check Voltage 10 Starting switch ON Head lamp switch ON Multifunc switch LOW Voltage 1V	NO	Disconnection in wiring harness	Repair or replace After clean
	ES	Disconnection in wiring harness	Repair or replace After clean
	NO	Disconnection in wiring harness	Repair or replace After clean
	ES	Disconnection in wiring harness	Repair or replace After clean
Check Voltage 11 Starting switch ON Head lamp switch ON Multifunc switch LOW Voltage 1V	NO	Disconnection in wiring harness	Repair or replace After clean
	ES	Disconnection in wiring harness	Repair or replace After clean
	NO	Disconnection in wiring harness	Repair or replace After clean
	ES	Disconnection in wiring harness	Repair or replace After clean
Check Voltage 13 Starting switch ON Head lamp switch ON Multifunc switch LOW Voltage 1V	NO	Disconnection in wiring harness	Repair or replace After clean
	ES	Disconnection in wiring harness	Repair or replace After clean
	NO	Disconnection in wiring harness	Repair or replace After clean
	ES	Defective head lamp bulb	Replace



GROUP 4 AXLE

1. TROUBLE SHOOTING

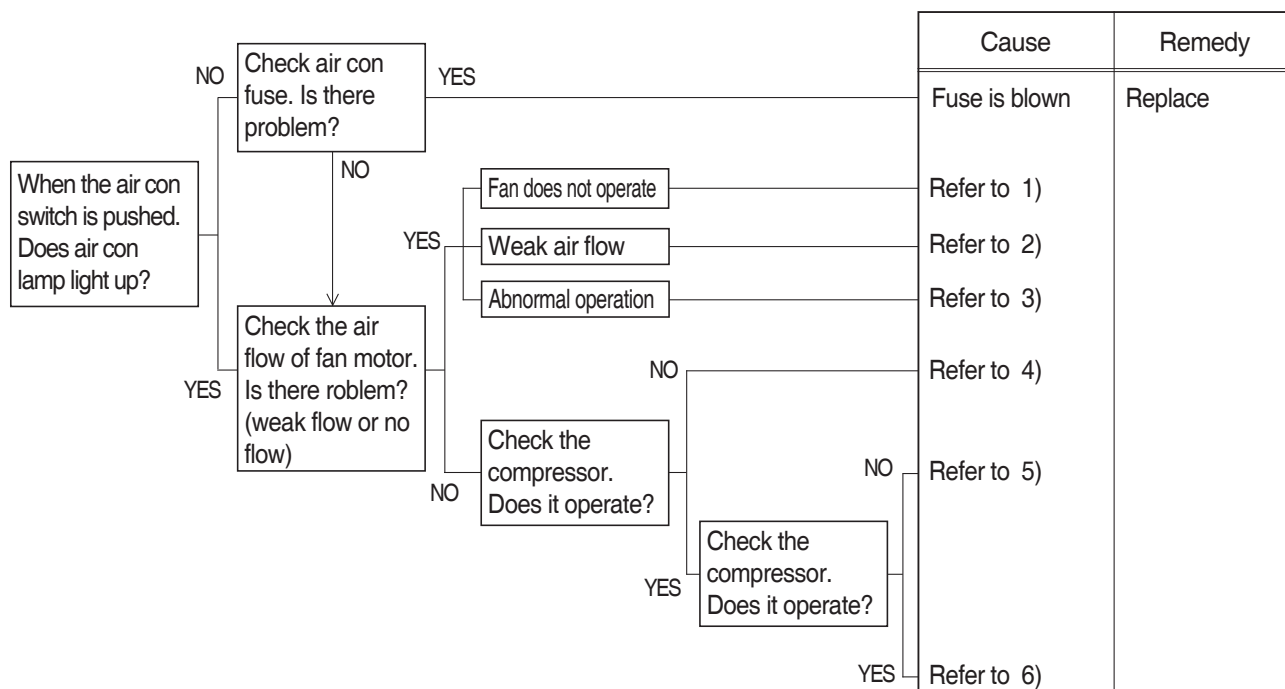
Problem	Cause	Correction
Loss of brakes	1. Incorrect adjustment	Inspect disc thickness (see page 7-149) and if discs are usable readjust brakes to the specifications in the manual.
	2. Brake discs worn out	Inspect disc thickness (see page 7-149) and replace if needed
	3. Incorrect brake fluid	Replace all seals in axle and master cylinder that have made contact with the incorrect fluid and all brake hoses. If incorrect fluid leaked into axle oil, seals and O-rings in axle must be replaced.
	4. Loss of brake fluid	Inspect for and repair any leaks in outside circuit or master cylinder. If caused by incorrect brake fluid see correction No.3. If leak is to the outside replace the O-rings between the center and intermediate sections. If leak is to the inside replace above O-rings and brake piston O-rings.
	5. Overheated axle causing brake fluid to vaporize (brake return when axle cools).	See "Overhearing" problem.
Soft brake pedal	6. Air in brake fluid	Bleed brakes.
Ineffective safety brake	7. One or both overrides are engaged	Check override bolts and adjust if needed (see page 7-155).
	8. Incorrect adjustment	See correction No.1.
	9. Brake disc worn out	See correction No.2.
Overheating	10. Oil level wrong	Drain, flush and refill oil to proper level.
	11. Too small of a brake gap.	Readjust brakes to the specifications (see page 7-155)
	12. Park brake dragging.	Unlock the brake and adjust the correct gap.
	13. Incorrect brake fluid in system.	See correction No.3.
	14. No free-pedal at master cylinder.	Readjust brake pedal.
	15. Restriction in brake lines.	Inspect for and replace damage lines.
	16. Restriction in return line of brake servo system.	Inspect for and replace damaged return line. Inspect for and remove any filter, tee'd in line or any other source of back pressure from the return line.
	17. Incorrect oil	Drain, flush and refill to the proper level with oil recommended.

Problem	Cause	Correction
Diff-lock inoperative	18. If manual, loss or misadjusted linkage. 19. If hydraulic, problems in the hydraulic or electrical circuits of the vehicle. 20. If hydraulic, problems in the hydraulic or electrical circuits of the vehicle. 21. If with self locking differential, worn discs.	Inspect and correct linkage and readjust. Refer to the Group 2 and 3 of this section. Rebuilt cylinder as described on page 7-192. Replace discs as described on page 7-189.
Oil coming out of breather	22. Hydraulic leak in brake system. 23. Hydraulic leak in diff-lock activating cylinder.	See corrections No.2 & 3. See corrections No.20.
No spin indexing noise when driven straight.	24. Unequal tire pressure from one side to the other. 25. Different style, size or brand of tires from one side to the other.	Inflate tires to the recommended pressure or until the rolling radius is equal. Change tires to make the rolling radius equal. Vary the tire pressure within the specifications until the rolling radius is equal.
Noise during coast and under power the same	26. Wheel bearings	Replace and adjust as described on page 7-157.
Noise under power greater than during coast.	27. Low oil level 28. Incorrect oil 29. Ring and pinion worn 30. Worn ring and pinion bearings 31. Worn planetary gears or bearings	Refill oil to proper level See correction No.17. Inspect through rear cover. Replace and adjust as described on page 7-173. Replace and adjust as described on page 7-173. Replace as described on page 7-157.
Noise during coast greater than under power	32. Loose pinion nut 33. Only one pinion bearing damaged.	Inspect ring, pinion and pinion bearings. If undamaged, retighten nut as described on page 7-173. See correction No.30.
Noise during turn (without no spin)	34. Worn spider and / or side gears	Replace as described on page 7-185.

Problem	Cause	Correction
A "Stick slip" noise when going from forward to reverse.	35. Worn or damaged U-joint on drive shaft	Inspect and replace the u-joint.
	36. Loose wheel	Inspection for wheel and wheel stud damage. Replace if needs and retorque nuts.
	37. Worn or damaged U-joint at steering knuckle	Inspect and replace as described on page 7-166.
	38. Spider pins loose in carrier.	Inspect through rear cover. Replace as described on page 7-185.
	39. Damaged or missing spider and / or side gear washers	See correction No.34.

GROUP 5 AIR CONDITIONER AND HEATER SYSTEM

1. AIR CONDITIONER DOES NOT OPERATE



1) FAN DOES NOT OPERATE

Cause	Check	Remedy
Fuse is blown or abnormal relay operation	* Fuse * Does relay normally operate?	Replace
Harness short or poor contact	Check any harness short or abnormal contact of connector	Repair shortage
Fan motor failure	Supply 24V to 2 lead wire from motor and check the operation	Replace
Resistor is broken	Check current flow of resistor with tester	Replace
Fan switch failure	Push fan switch by turn and check the operation	Replace

2) WEAK AIR FLOW FROM FAN MOTOR

Cause	Check	Remedy
Clogged evaporator or obstacles around air inlet	Check if evaporator is contaminated	Clean
Leakage of air flow	Check HVAC case assembly	Adjust
Duct sensor failure	Check if evaporator is frozen	Replace

3) ABNORMAL OPERATION OF FAN MOTOR

Cause	Check	Remedy
Abnormal operation of each step of control	4 step only operate	Replace resistor
	1 or 2 step does not operate	Replace control
	3 or 4 step does not operate	Replace relay

4) COMPRESSOR DOES NOT ROTATE OR HARDLY ROTATE

Cause	Check	Remedy
Loose belt	Belt shaking is severe	Adjust tension
Failure of compressor itself	Belt slip	Repair or Replace
Low voltage of battery	Slip when rotate	Charge battery
Fieldcoil short	Slip when rotate	Replace magnetic clutch
Oily clutch face	Contamination around clutch	Replace magnetic clutch, clean
Fieldcoil is broken	Magnetic clutch does not operate or " ∞ " resistance	Replace compressor
Leakage of refrigerant or oil inside	Check if wet with oil	Replace compressor Charge refrigerant

5) COMPRESSOR OPERATE NORMALLY AND AIR FLOW IS NORMAL

Cause	Check	Remedy
Shortage of refrigerant	When air con operate during 5~10 min small temperature difference between high and low pressure pipes.	Repair leakage joint Charge refrigerant
Overcharge of refrigerant	*Magnetic clutch on/off rapidly *High pressure over specification *Lukewarm air from nozzle	Recharge refrigerant following specification
Lower pressure than normal condition at low side	Shortage of refrigerant	Make up refrigerant
	Clogged receive dryer	Replace receive dryer
	Clogged expansion valve	Replace expansion valve
	Clogged or crushed pipe	Replace pipe or clean
	Failure of duct sensor	Replace duct sensor

6) COMPRESSOR OPERATE NORMALLY AND AIR FLOW IS NORMAL

Cause	Check	Remedy
Lower pressure than normal condition at low side	Failure of duct sensor Magnetic clutch off before air temperature sufficiently down	Replace duct sensor or adjust location
	Defective compressor gasket When compressor off, high and low pressure balance immediatly	Repair compressor or Replace
Higher pressure than normal condition at high side	Failure of condensing Contamination on condenser or insufficient air flow from fan	Clean the condenser Repair fan
	Overcharge of refrigerant	Adjust refrigerant
	Entrained air	Vacuum and recharge
Lower pressure than normal condition at high side	Shortage of refrigerant	Make up refrigerant