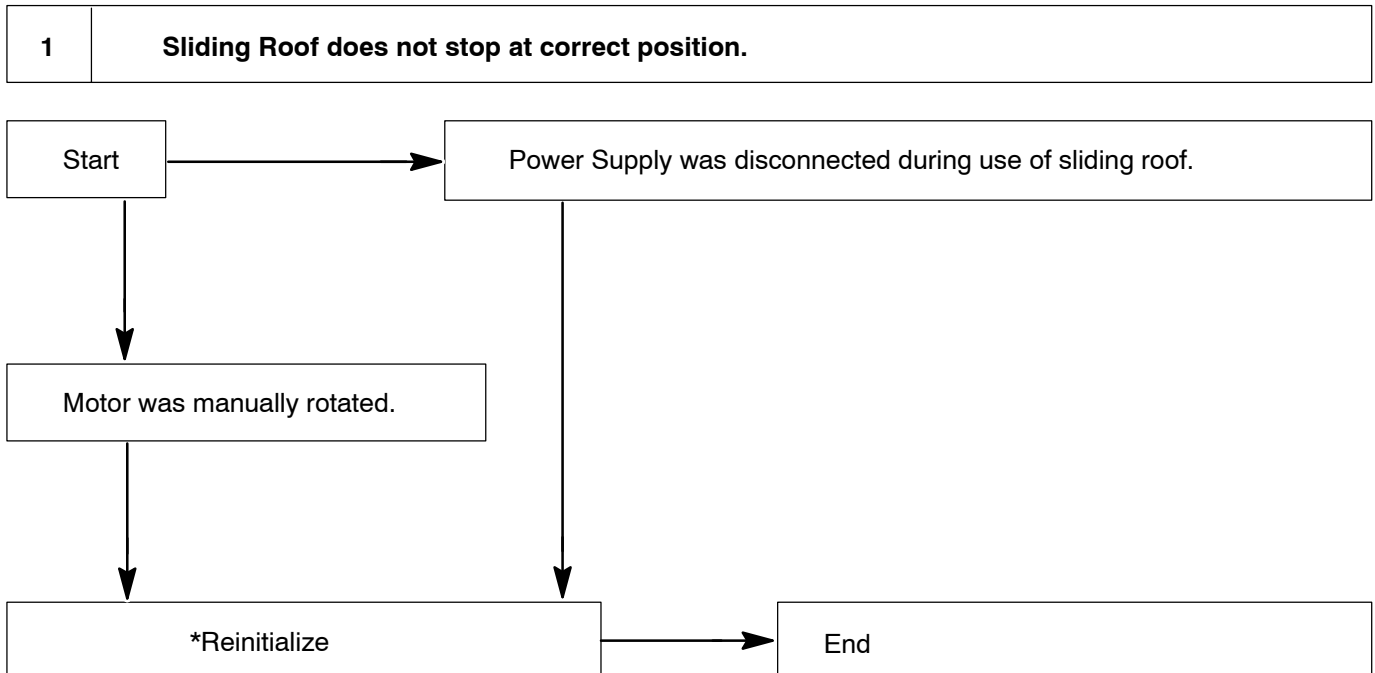


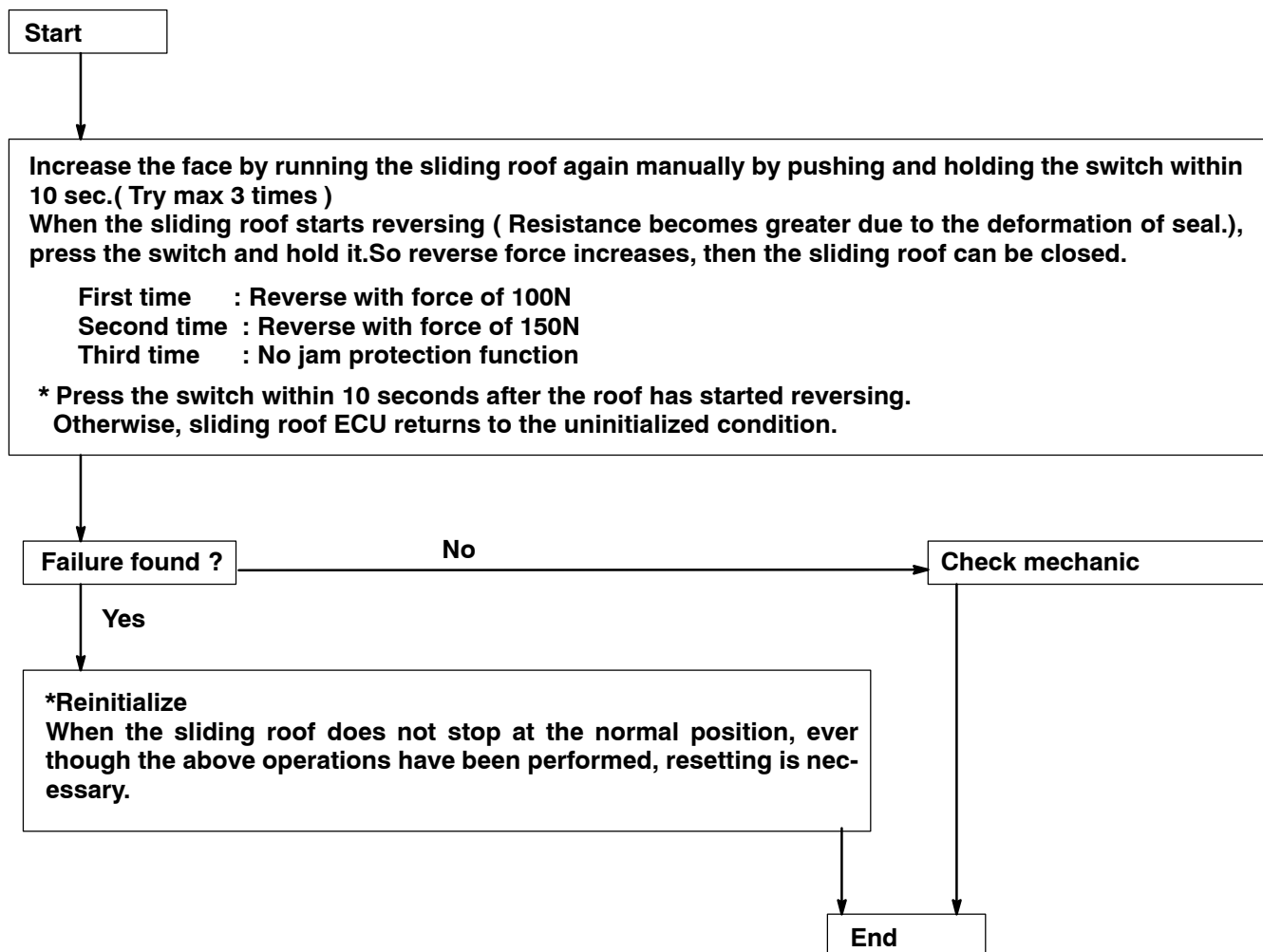
SLIDING ROOF SYSTEM

TROUBLESHOOTING

BE008-04



2	Sliding Roof always reopens (anti trap function).
---	---



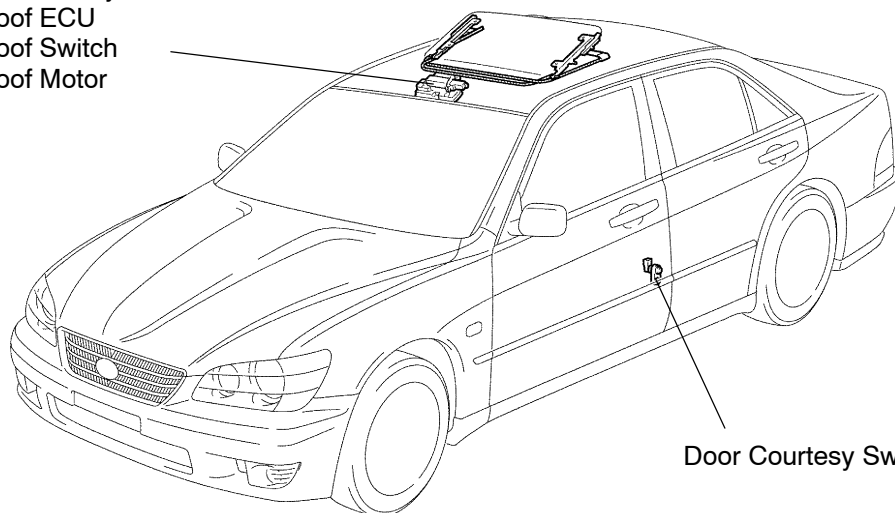
*Reinitializing method

- (a) Move the sliding roof to the maximum tilted position.
- (b) Release the switch, press the switch again and hold it for 10 secs.
- (c) The sliding roof operates in a cycle of TILT DOWN → SLIDE OPEN → SLIDE CLOSE → TILT UP.
This completes reinitializing.

LOCATION

Sliding Roof Assembly

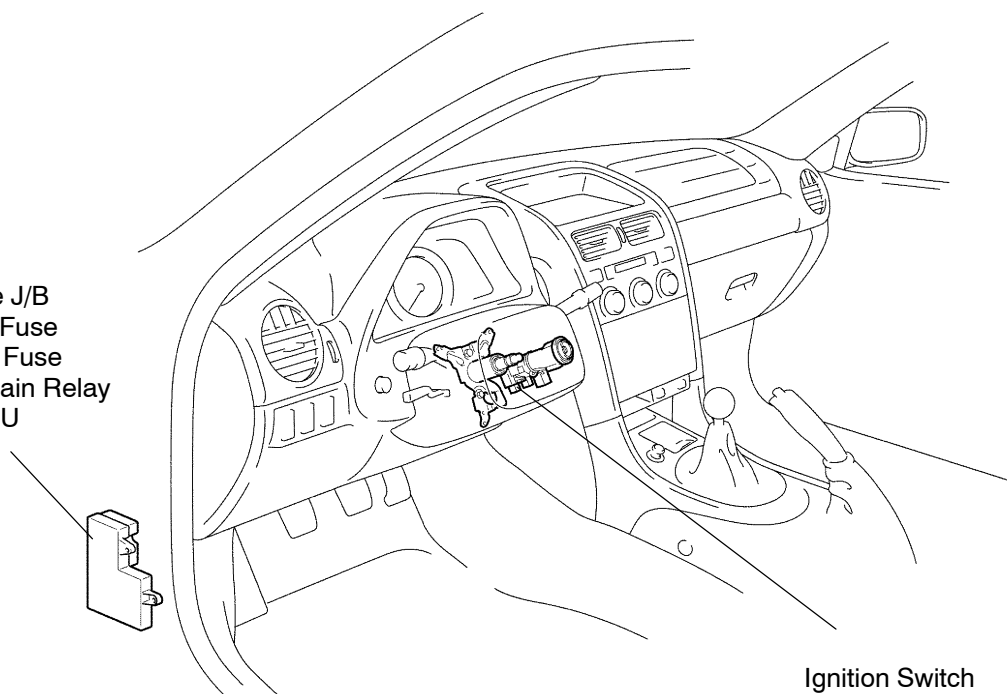
- Sliding Roof ECU
- Sliding Roof Switch
- Sliding Roof Motor



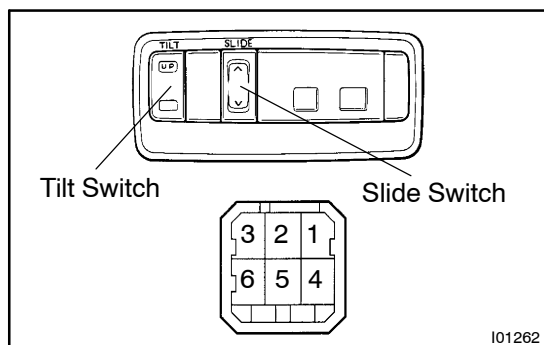
Door Courtesy Switch

Driver Side J/B

- GAUGE Fuse
- POWER Fuse
- Power Main Relay
- Body ECU



Ignition Switch

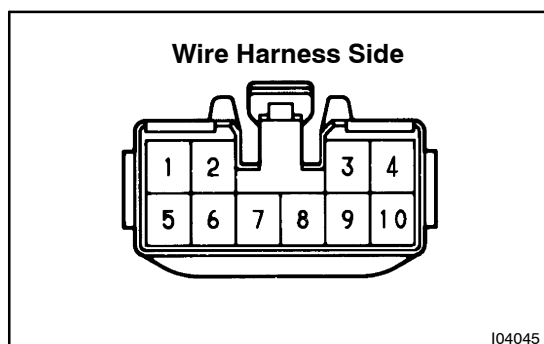


INSPECTION

1. INSPECT SLIDING ROOF SWITCH CONTINUITY

Switch position	Tester connection	Specified condition
SLIDE OPEN	1 - 6	Continuity
SLIDE OFF	-	No continuity
SLIDE CLOSE	2 - 6	Continuity
TILT DOWN	3 - 6	Continuity
TILT OFF	-	No continuity
TILT UP	4 - 6	Continuity

If continuity is not as specified, replace the switch.



2. INSPECT SLIDING ROOF CONTROL ASSEMBLY CIRCUIT

Disconnect the connector from the ECU and inspect the connector on the wire harness side, as shown in the chart.

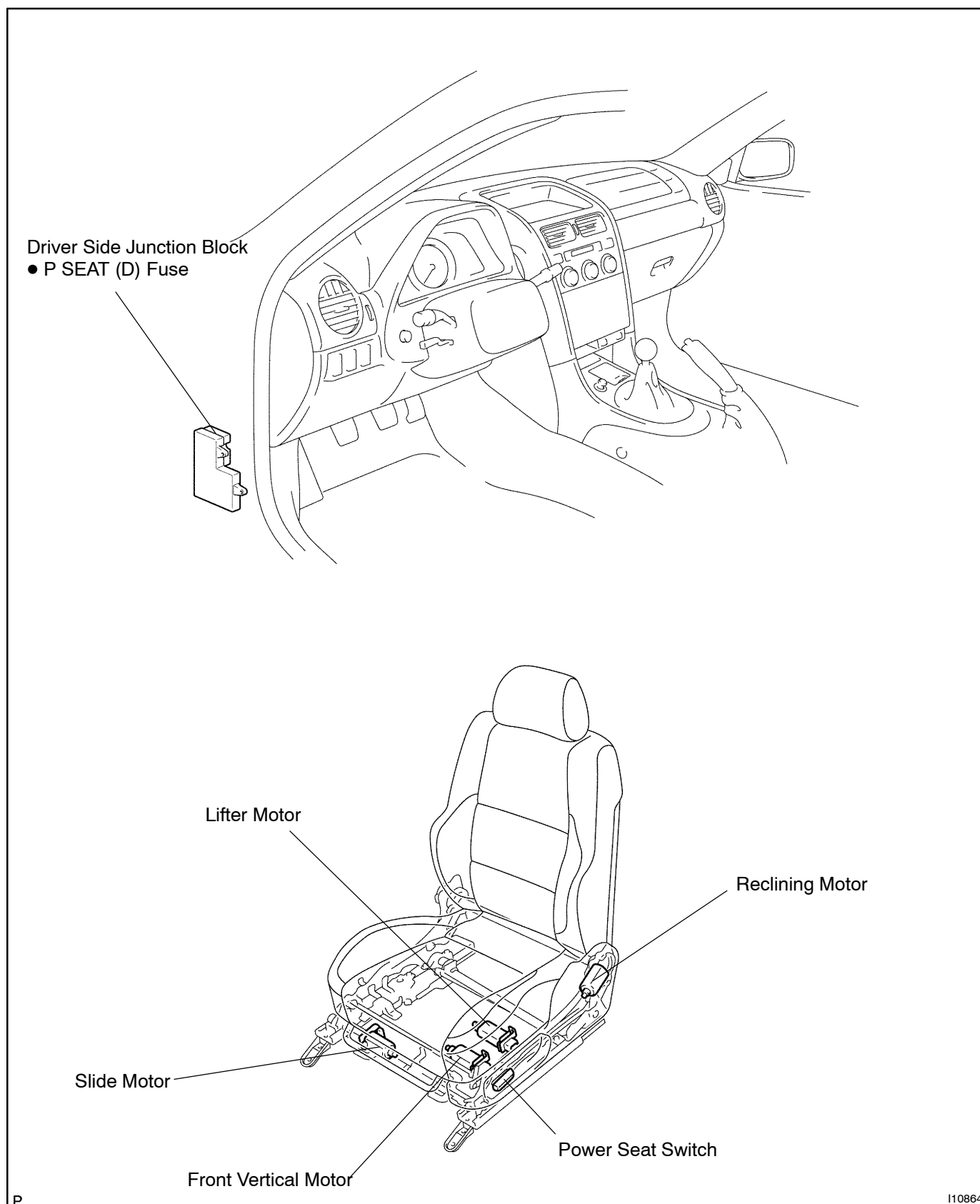
Tester connection	Condition	Specified condition
5 - Ground	Sliding roof control switch (TILT) UP	Continuity
6 - Ground	Sliding roof control switch (TILT) DOWN	Continuity
1 - Ground	Sliding roof control switch (SLIDE) CLOSE	Continuity
2 - Ground	Sliding roof control switch (SLIDE) OPEN	Continuity
8, 7 - Ground	Constant	Continuity
10 - Ground	Front door is opened	Continuity
3 - Ground	Ignition switch LOCK or ACC	* No voltage
3 - Ground	Ignition switch ON	Battery voltage
4 - Ground	Constant	Battery voltage

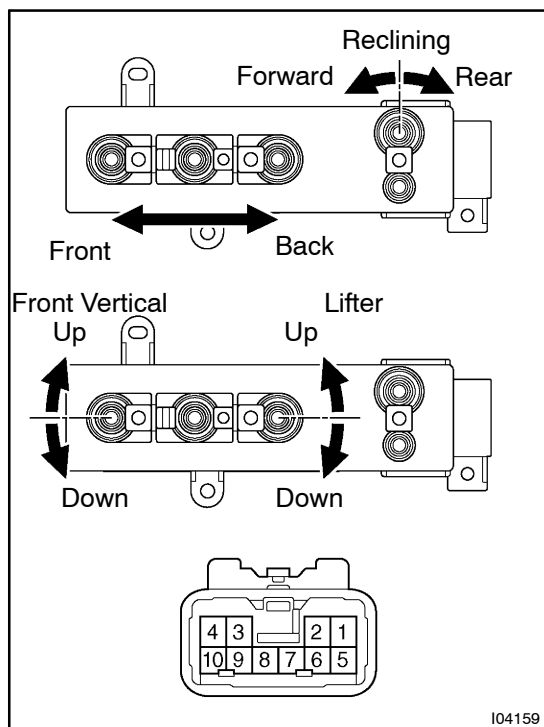
*: Exceptions: During 60 second period after ignition switch ON → OFF (ACC) or until driver of passenger door is opened after ignition switch ON → OFF (ACC).

If circuit is as specified, replace the relay.

POWER SEAT CONTROL SYSTEM LOCATION

BEOGK-05





INSPECTION

1. LHD models:

INSPECT POWER SEAT SWITCH CONTINUITY

Slide switch:

Switch position	Tester connection	Specified condition
FRONT	1 - 9 4 - 6	Continuity
OFF	4 - 6 4 - 9	Continuity
BACK	1 - 6 4 - 9	Continuity

Front vertical switch:

Switch position	Tester connection	Specified condition
UP	1 - 10 4 - 5	Continuity
OFF	4 - 5 4 - 10	Continuity
DOWN	1 - 5 4 - 10	Continuity

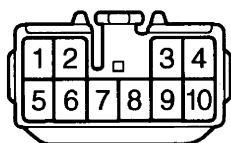
Lifter switch:

Switch position	Tester connection	Specified condition
UP	1 - 7 4 - 8	Continuity
OFF	4 - 7 4 - 8	Continuity
DOWN	1 - 8 4 - 7	Continuity

Reclining switch:

Switch position	Tester connection	Specified condition
FORWARD	1 - 3 2 - 4	Continuity
OFF	2 - 4 3 - 4	Continuity
REAR	1 - 2 3 - 4	Continuity

If continuity is not as specified, replace the switch.

Wire Harness Side

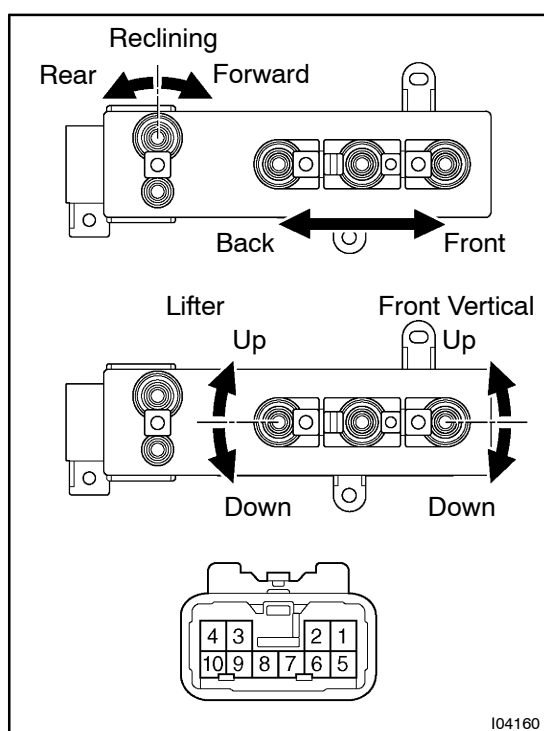
I05472

2. LHD models:**INSPECT POWER SEAT SWITCH CIRCUIT**

- (a) Disconnect the switch connector and connect the seat wire harness to the floor wire harness.
- (b) Inspect the connector on the wire harness side.

Tester connection	Condition	Specified condition
4 – Ground	Constant	Continuity
1 – Ground	Constant	Battery voltage

If circuit is not as specified, inspect the circuits connected to other parts.



I04160

3. RHD models:**INSPECT POWER SEAT SWITCH CONTINUITY****Slide switch:**

Switch position	Tester connection	Specified condition
FRONT	1 – 9 4 – 6	Continuity
OFF	4 – 6 4 – 9	Continuity
BACK	1 – 6 4 – 9	Continuity

Front vertical switch:

Switch position	Tester connection	Specified condition
UP	1 – 5 4 – 10	Continuity
OFF	4 – 5 4 – 10	Continuity
DOWN	1 – 10 4 – 5	Continuity

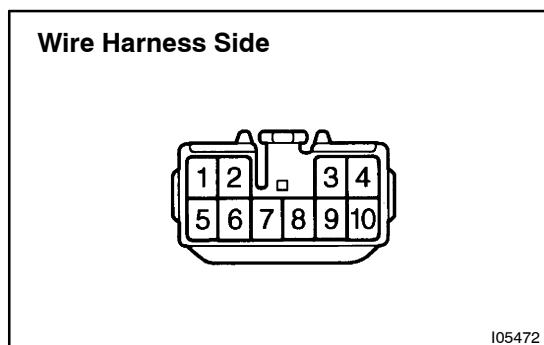
Lifter switch:

Switch position	Tester connection	Specified condition
UP	1 – 8 4 – 7	Continuity
OFF	4 – 7 4 – 8	Continuity
DOWN	1 – 7 4 – 8	Continuity

Reclining switch:

Switch position	Tester connection	Specified condition
FORWARD	1 – 3	Continuity
	2 – 4	
OFF	2 – 4	Continuity
	3 – 4	
REAR	1 – 2	Continuity
	3 – 4	

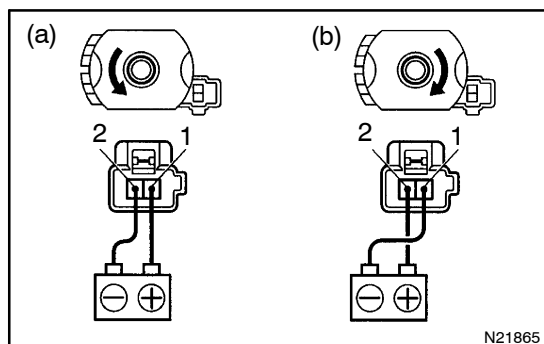
If continuity is not as specified, replace the switch.

**4. RHD models:****INSPECT POWER SEAT SWITCH CIRCUIT**

- Disconnect the switch connector and connect the seat wire harness to the floor wire harness.
- Inspect the connector on the wire harness side.

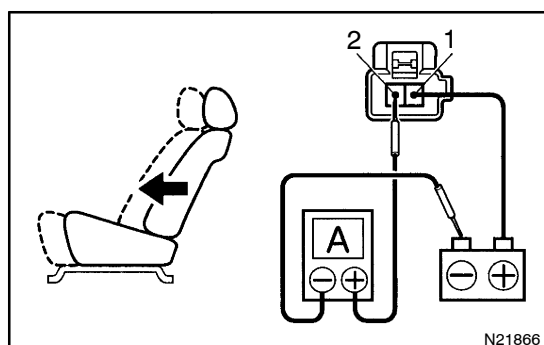
Tester connection	Condition	Specified condition
4 – Ground	Constant	Continuity
1 – Ground	Constant	Battery voltage

If circuit is not as specified, inspect the circuits connected to other parts.

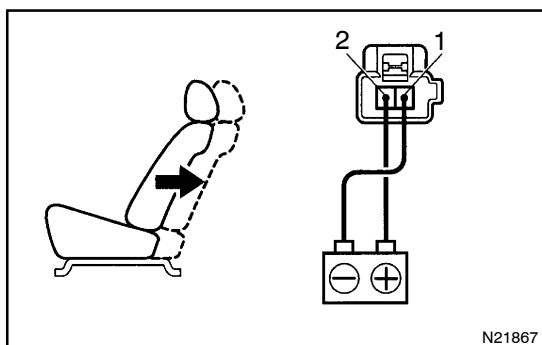
**5. INSPECT SLIDE MOTOR OPERATION**

- Connect the positive (+) lead from the battery to terminal 1 and the negative (-) lead to terminal 2, check that the motor turns counterclockwise.
- Reverse the polarity, check that the motor turns clockwise.

If operation is not as specified, replace the seat adjuster.

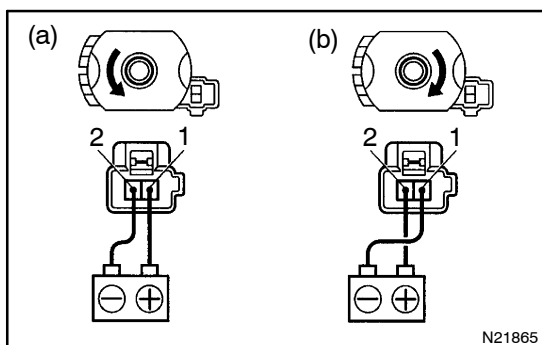
**6. INSPECT SLIDE MOTOR PTC THERMISTOR OPERATION**

- Connect the positive (+) lead from the battery to terminal 1, the positive (+) lead from the ammeter to terminal 2 and the negative (-) lead to the battery negative (-) terminal, then move the seat cushion to the front position.
- Continue to apply voltage, check that current changes to less than 1 ampere within 4 to 90 seconds.



- (c) Disconnect the leads from terminals.
- (d) Approximately 60 seconds later, connect the positive (+) lead from the battery to terminal 2 and the negative (-) lead to terminal 1, check that the seat cushion begins to move backwards.

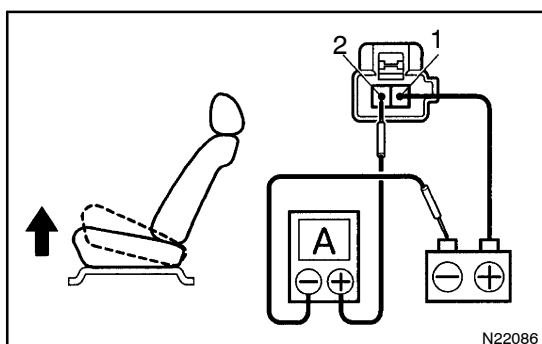
If operation is not as specified, replace the seat adjuster.



7. INSPECT FRONT VERTICAL MOTOR OPERATION

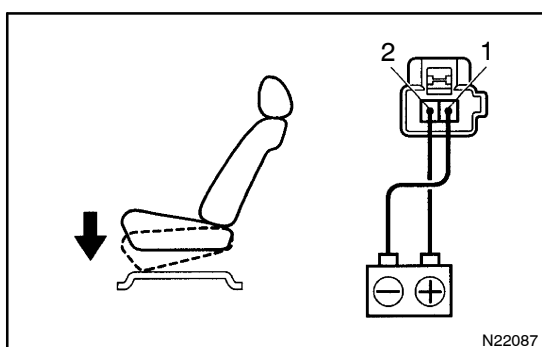
- (a) Connect the positive (+) lead from the battery to terminal 1 and the negative (-) lead to terminal 2, check that the motor turns counterclockwise.
- (b) Reverse the polarity, check that the motor turns clockwise.

If operation is not as specified, replace the seat adjuster.



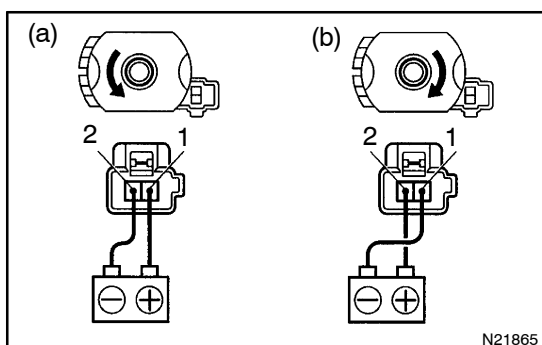
8. INSPECT FRONT VERTICAL MOTOR PTC THERMISTOR OPERATION

- (a) Connect the positive (+) lead from the battery to terminal 1, the positive (+) lead from the ammeter to terminal 2 and the negative (-) lead to the battery negative (-) terminal, then move the seat cushion to the highest position.
- (b) Continue to apply voltage, check that the current changes to less than 1 ampere within 4 to 90 seconds.



- (c) Disconnect the leads from the terminals.
- (d) Approximately 60 seconds later, connect the positive (+) lead from the battery to terminal 2 and the negative (-) lead to terminal 1, check that the seat cushion begins to descend.

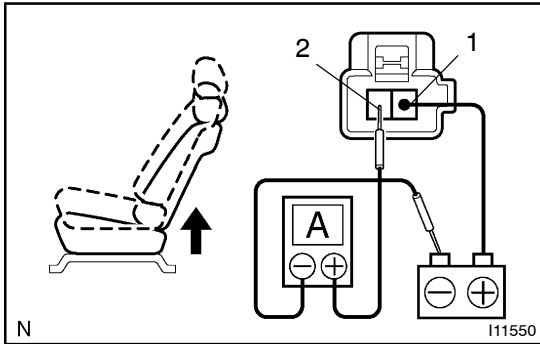
If operation is not as specified, replace the seat adjuster.



9. INSPECT LIFTER MOTOR OPERATION

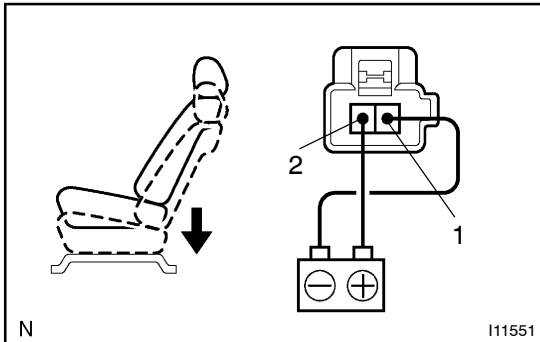
- (a) Connect the positive (+) lead from the battery to terminal 1 and the negative (-) lead to terminal 2, check that the motor turns counterclockwise.
- (b) Reverse the polarity, check that the motor turns clockwise.

If operation is not as specified, replace the seat adjuster.



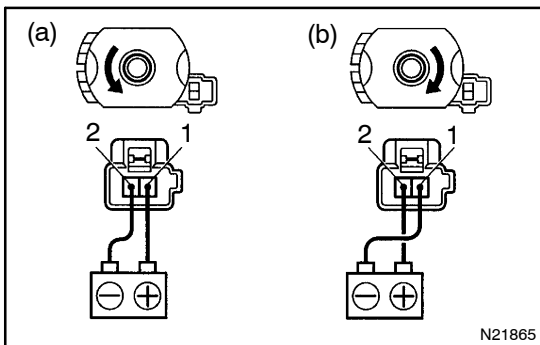
10. INSPECT LIFTER MOTOR PTC THERMISTOR OPERATION

- Connect the positive (+) lead from the battery to terminal 1, the positive (+) lead from the ammeter to terminal 2 and the negative (-) lead to the battery negative (-) terminal, then move the seat cushion to the highest position.
- Continue to apply voltage, check that the current changes to less than 1 ampere within 4 to 90 seconds.



- Disconnect the leads from the terminals.
- Approximately 60 seconds later, connect the positive (+) lead from the battery to terminal 2 and the negative (-) lead to terminal 1, check that the seat cushion begins to descend.

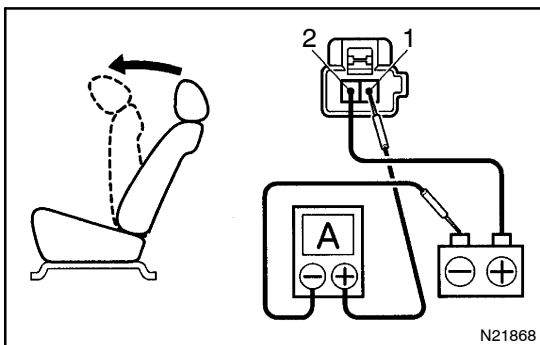
If operation is not as specified, replace the seat adjuster.



11. INSPECT RECLINING MOTOR OPERATION

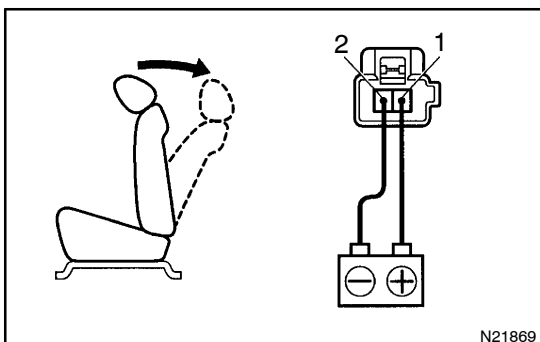
- Connect the positive (+) lead from the battery to terminal 1 and the negative (-) lead to terminal 2, check that the motor turns counterclockwise.
- Reverse the polarity, check that the motor turns clockwise.

If operation is not as specified, replace the seat adjuster.



12. INSPECT RECLINING MOTOR PTC THERMISTOR OPERATION

- Connect the positive (+) lead from the battery to terminal 2, the positive (+) lead from the ammeter to terminal 1 and the negative (-) lead to the battery negative (-) terminal, then recline the seat back to the most forward position.
- Continue to apply voltage, check that the current changes to less than 1 ampere within 4 to 90 seconds.

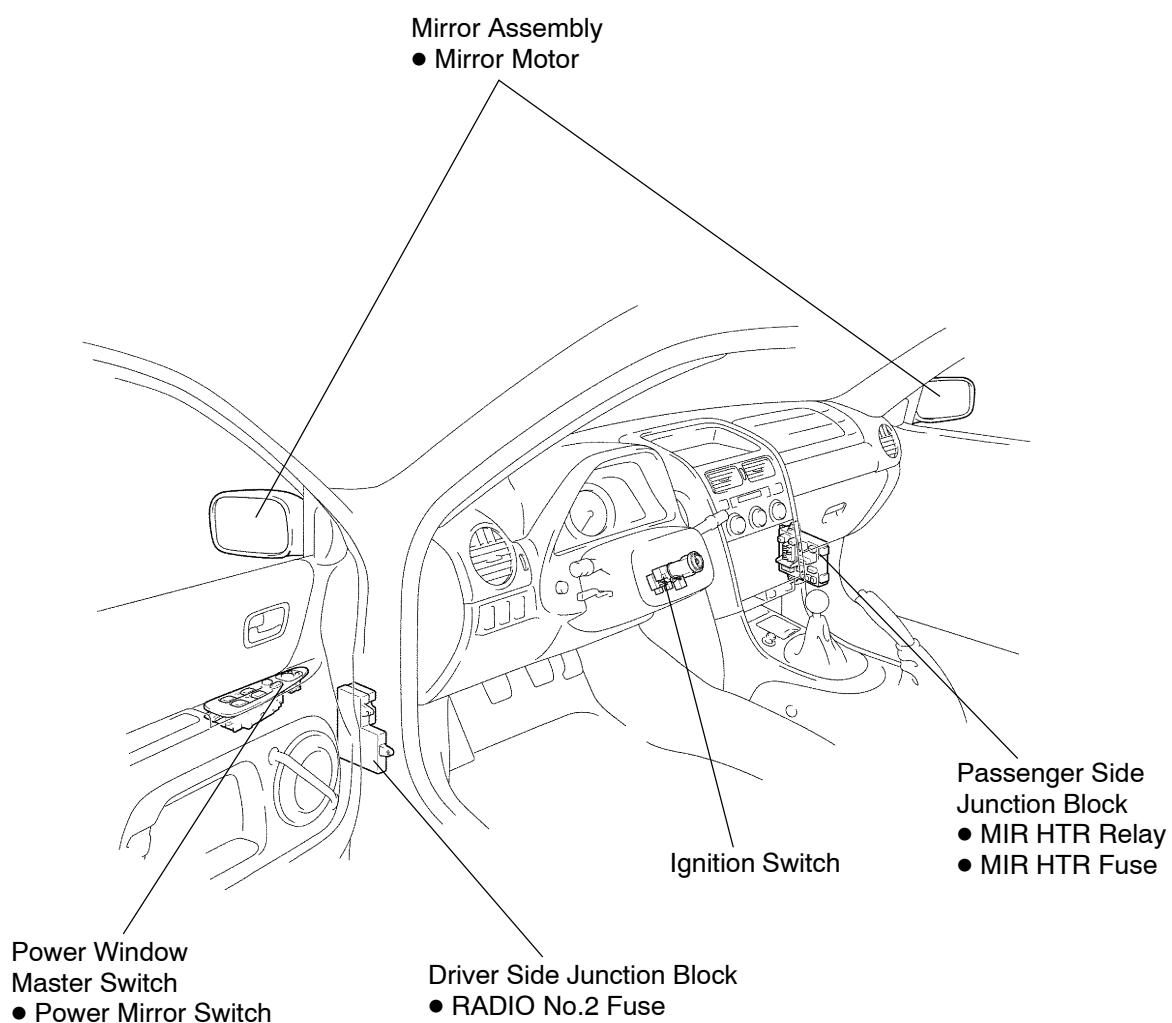


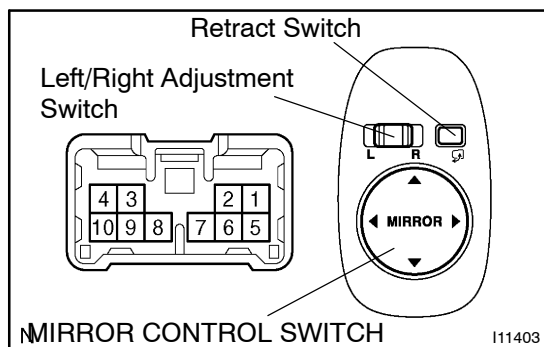
- Disconnect the leads from the terminals.
- Approximately 60 seconds later, connect the positive (+) lead from the battery to terminal 1 and the negative (-) lead to terminal 2, check that the seat back begins to fall backward.

If operation is not as specified, replace the seat adjuster.

POWER MIRROR CONTROL SYSTEM LOCATION

BE02J-09





INSPECTION

1. Left/right adjustment switch:

Left side:

INSPECT MIRROR SWITCH CONTINUITY

Switch position	Specified condition
UP	1 – 9 6 – 10
RIGHT	6 – 9 5 – 10
DOWN	6 – 9 1 – 10
LEFT	5 – 9 6 – 10

If continuity is not as specified, replace the switch.

2. Left/right adjustment switch:

Right side:

INSPECT MIRROR SWITCH CONTINUITY

Switch position	Specified condition
UP	7 – 9 6 – 10
RIGHT	6 – 9 8 – 10
DOWN	6 – 9 7 – 10
LEFT	8 – 9 6 – 10

If continuity is not as specified, replace the switch.

3. Left/right adjustment switch OFF

Switch position	Tester connection	Specified condition
UP	6 – 10	Continuity
DOWN	6 – 9	Continuity
LEFT	6 – 10	Continuity
RIGHT	6 – 9	Continuity

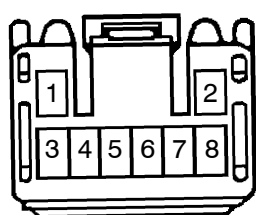
If continuity is not as specified, replace the switch.

4. INSPECT RETRACT SWITCH CONTINUITY

Switch position	Tester connection	Specified condition
RETURN	3 – 10 4 – 9	No Continuity
RETRACT	3 – 10 4 – 9	Continuity

If continuity is not as specified, replace the switch.

Mirror side



I11404

5. INSPECT MIRROR MOTOR OPERATION

- (a) Connect the positive (+) lead from the battery to terminal 8 and the negative (-) lead to terminal 7, and check that the mirror turns to the upward.
- (b) Reverse the polarity, and check that the mirror turns to the downward.
- (c) Connect the positive (+) lead from the battery to terminal 6 and the negative (-) lead to terminal 7, and check that the mirror turns to the inside.
- (d) Reverse the polarity, and check that the mirror turns outside.

If operation is not as specified, replace the mirror assembly.

6. INSPECT ELECTRICAL RETRACT MOTOR OPERATION

- (a) When folded front position:
 - (1) Connect the positive (+) lead from the battery to terminal 1 and negative (-) lead to terminal 2, check that the mirror operates at retract position.
 - (2) Reverse the polarity, check that the mirror does not operate.

If operation is not as specified, replace the mirror assembly.

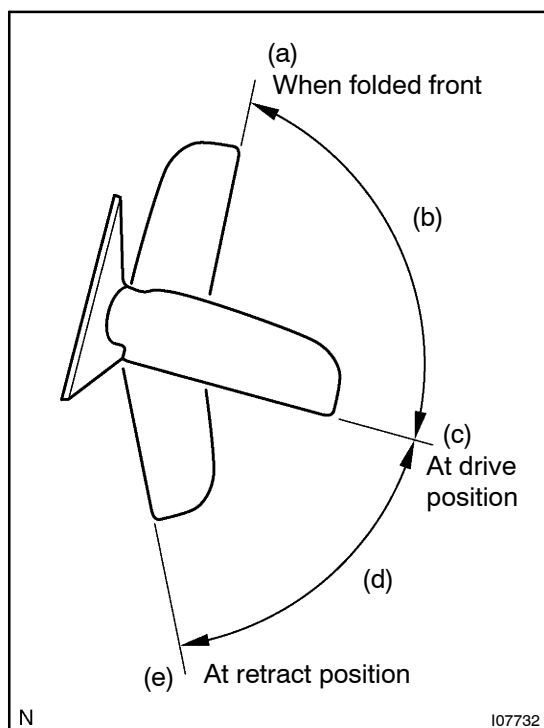
- (b) Between folded front position and driving position:
 - (1) Connect the positive (+) lead from the battery to terminal 1 and negative (-) lead to terminal 2, check that the mirror operates at retract position.
 - (2) Reverse the polarity, check that the mirror operate at folded front position.

If operation is not as specified, replace the mirror assembly.

- (c) When driving position:
 - (1) Connect the positive (+) lead from the battery to terminal 1 and negative (-) lead to terminal 2, check that the mirror operates at retract position.
 - (2) Reverse the polarity, check that the mirror does not operate.

If operation is not as specified, replace the mirror assembly.

- (d) Between driving position and retract position:
 - (1) Connect the positive (+) lead from the battery to terminal 1 and negative (-) lead to terminal 2, check that the mirror operates at retract position.
 - (2) Reverse the polarity, check that the mirror operate at return position (Stopping at driving position).



N

I07732

If operation is not as specified, replace the mirror assembly.

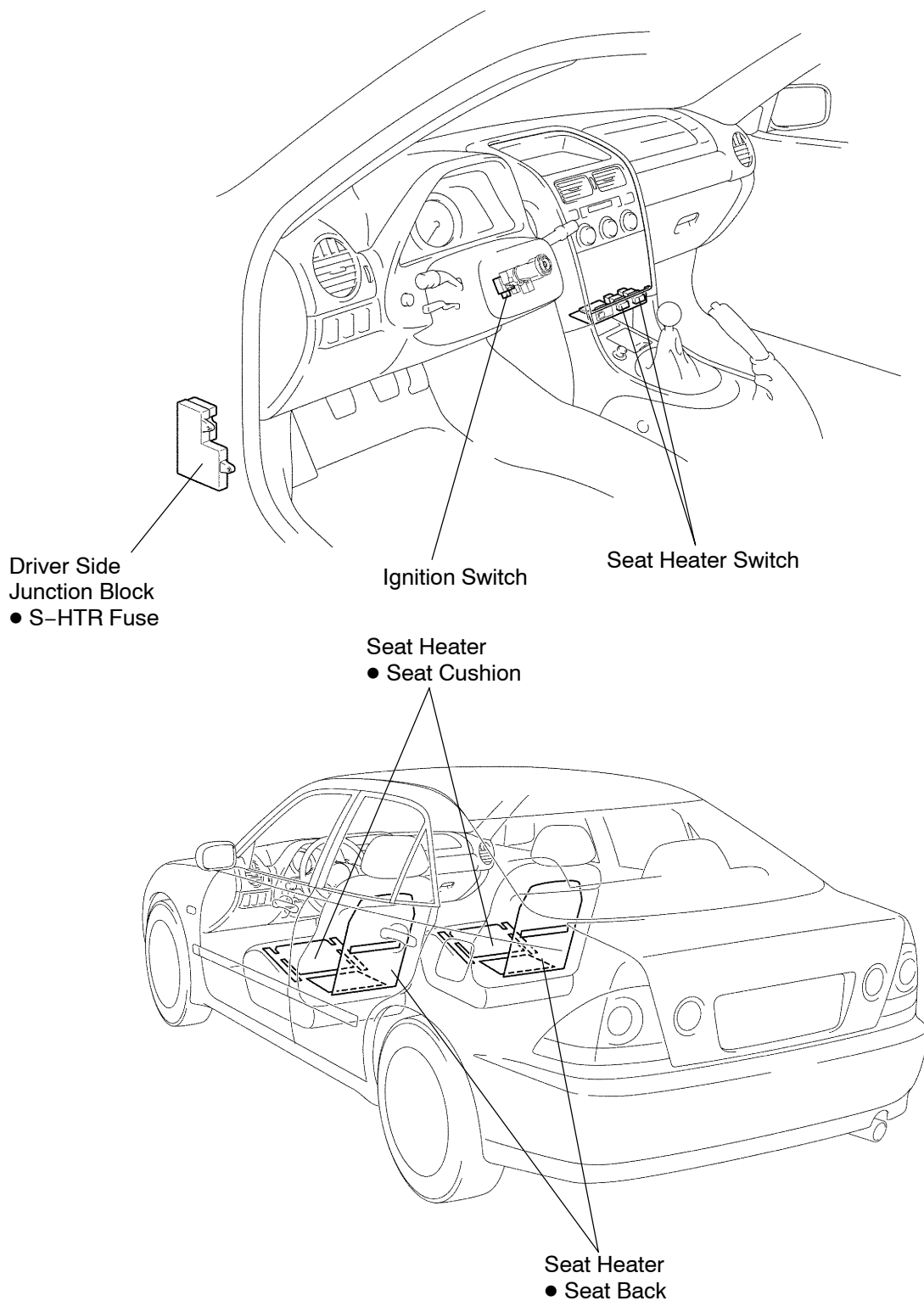
(e) When retract position:

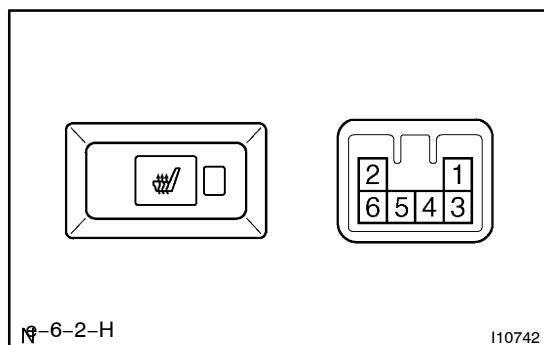
- (1) Connect the positive (+) lead from the battery to terminal 1 and negative (–) lead to terminal 2, check that the mirror does not operate.
- (2) Reverse the polarity, check that the mirror operate at return position (Stopping at driving position).

If operation is not as specified, replace the mirror assembly.

SEAT HEATER SYSTEM LOCATION

BEOGH-09



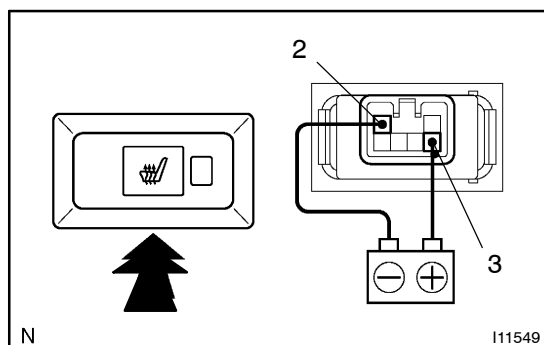


INSPECTION

1. INSPECT SEAT HEATER SWITCH CONTINUITY

Switch position	Tester connection	Specified condition
ON	2 - 4 - 6	Continuity
OFF	-	No continuity
Illumination circuit	1 - 3	Continuity

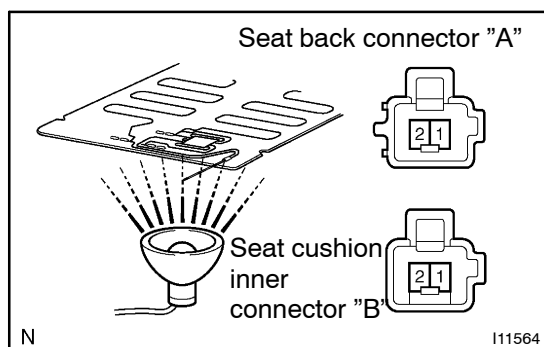
If continuity is not as specified, replace the switch.



2. INSPECT SEAT HEATER INDICATOR LIGHT OPERATION

- Connect the positive (+) lead from the battery to terminal 3 and the negative (-) lead to terminal 2.
- Push the seat heater switch ON that the indicator light lights up.

If operation is not as specified, replace the switch and inspect the circuits connected to other parts.

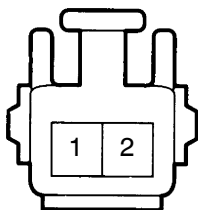


3. INSPECT SEAT HEATER CUSHION CONTINUITY

- Heat the thermostat with a light.
- Inspect the seat heater cushion continuity between terminals, as shown.

Tester connection	Condition	Specified condition
A2 - B1	Constant	Continuity
A1 - A2	Seat heater temperature below 25 °C (77 °F)	Continuity
B1 - B2	Seat heater temperature above 45 °C (113 °F)	No continuity

If continuity is not as specified, replace the seat cushion pad.

Wire Harness Side

e-2-1

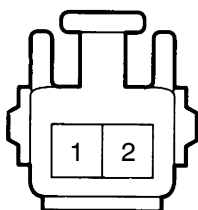
I01824

4. INSPECT SEAT HEATER CUSHION CONTINUITY

Inspect the seat heater inner cushion and front cushion continuity between terminals, as shown.

Tester connection	Condition	Specified condition
1 – Body ground	Seat heater switch ON	Battery voltage

If continuity is not as specified, replace the seat back pad.

Wire Harness Side

e-2-1

I01824

5. INSPECT SEAT BACK CONTINUITY

Inspect the seat back continuity between terminals, as shown.

Tester connection	Condition	Specified condition
2 – Body ground	Constant	Continuity

If continuity is not as specified, replace the seat back pad.

AUDIO SYSTEM
DESCRIPTION

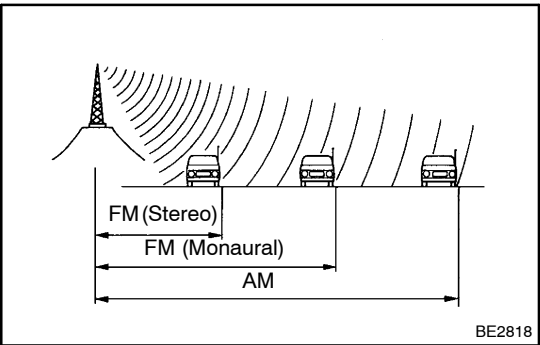
BE10X-02

1. RADIO WAVE BAND

The radio wave bands used in radio broadcasting are as follows:

Frequency	30 kHz	300 kHz	3 MHz	30 MHz	300 MHz
Designation	LF	MF	HF	VHF	
Radio wave	LW	AM (MW)	SW	FM (UKW)	
Modulation	Amplitude modulation			Frequency modulation	

LF: Low Frequency
MF: Medium Frequency
HF: High Frequency
VHF: Very High Frequency



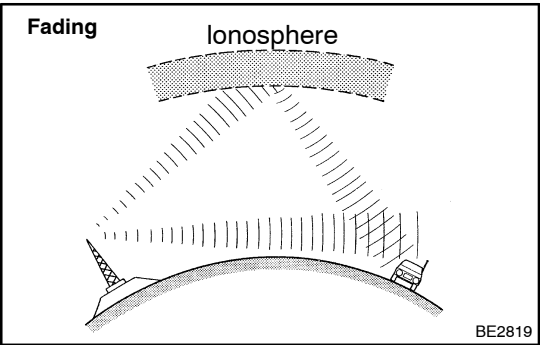
BE2818

2. SERVICE AREA

There are great differences in the size of the service area for AM and FM monaural. Sometimes FM stereo broadcasts cannot be received even though AM can be received very clearly. Not only does FM stereo have the smallest service area, but it also picks up static and other types of interference ("noise") easily.

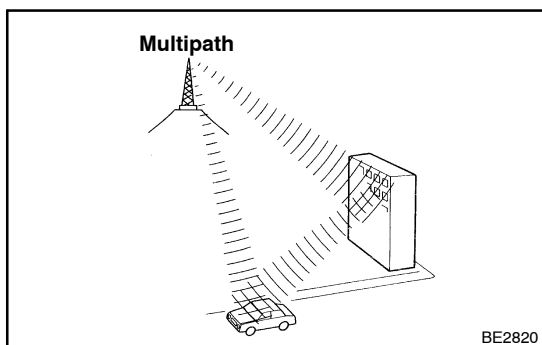
3. RECEPTION PROBLEMS

Besides the problem of static, there are also the problems called "fading", "multipath" and "fade out". These problems are caused not by electrical noise but by the nature of the radio waves themselves.

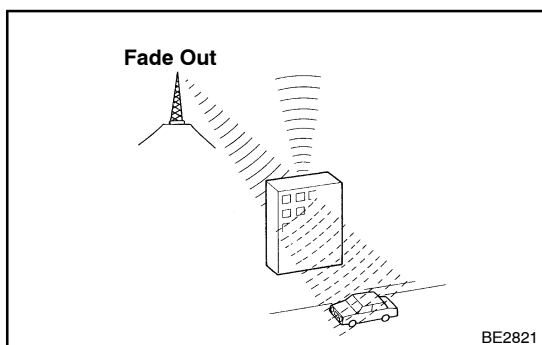


BE2819

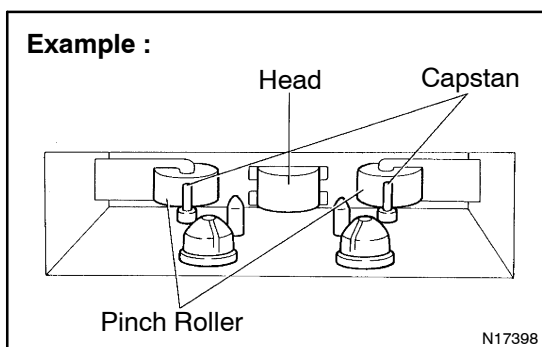
- Fading
Besides electrical interference, AM broadcasts are also susceptible to other types of interference, especially at night. This is because AM radio waves bounce off the ionosphere at night. These radio waves then interfere with the signals from the same transmitter that reach the vehicle's antenna directly. This type of interference is called "fading".



- **Multipath**
One type of interference caused by the bounce of radio waves off of obstructions is called "multipath". Multipath occurs when a signal from the broadcast transmitter antenna bounces off buildings and mountains and interferes with the signal that is received directly.

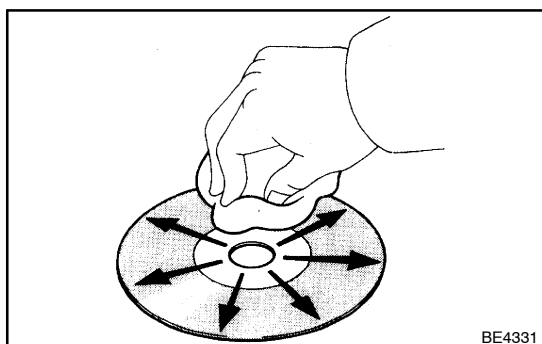


- **Fade Out**
Because FM radio waves are of higher frequencies than AM radio waves, they bounce off buildings, mountains, and other obstructions. For this reason, FM signals often seem to gradually disappear or fade away as the vehicle goes behind a building or other obstruction. This is called "fade out".



4. **Tape Player/Head Cleaning:** **MAINTENANCE**

- (a) Raise the cassette door with your finger. Next, using a pencil or similar object, push in the guide.
- (b) Using a cleaning pen or cotton applicator soaked in cleaner, clean the head surface, pinch rollers and capstans.



5. **CD Player/Disc Cleaning:** **MAINTENANCE**

If the disc gets dirty, clean the disc by wiping the surface from the center to outside in the radial directions with a soft cloth.

NOTICE:

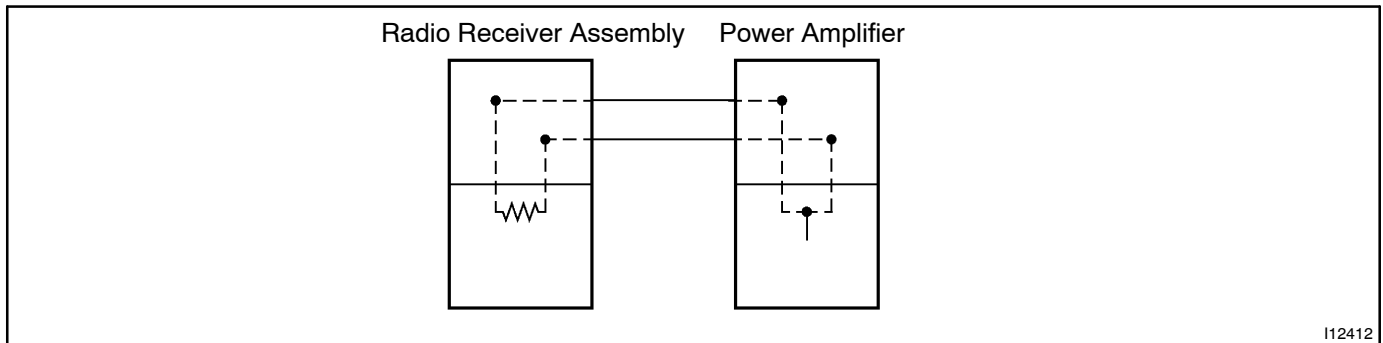
Do not use a conventional record cleaner or anti-static preservative.

6. OUTLINE OF AVC-LAN

(a) What is AVC-LAN?

AVC-LAN is the abbreviation, which stands for Audio Visual Communication-Local Area Network. This is a unified standard co-developed by 6 audio manufactures associated with Toyota Motor Corporation.

The Unified standard covers signals, such as audio signal, visual signal, signal for switch indication and communication signal.



(b) Objectives

Recently the car audio system has been rapidly developed and functions have been changed drastically. The conventional system has been switched to the multi-media type such as a navigation system. At the same time the level of customers needs to audio system has been upgraded. This lies behind this standardization.

The concrete objectives are explained below.

- (1) When products by different manufactures were combined together, there used to be a case that malfunction occurred such as sound did not come out. This problem has been resolved by standardization of signals.
- (2) Various types of after market products have been able to add or replace freely.
- (3) Because of the above (2), each manufacture has become able to concentrate on developing products in their strongest field. This has enabled many types of products provided inexpensively.
- (4) Conventionally, a new product developed by a manufacture could not be used due to a lack of compatibility with other manufactures products. Because of this new standard, users can enjoy compatible products provided for them timely.

The above descriptions are the objectives to introduce AVC-LAN. By this standardization, development of new products will no longer cause systematic errors. Thus, this is very effective standard for a product in the future.

HINT:

- When +B short or GND short is detected in AVC-LAN circuit, communication stops. Accordingly the audio system does not function normally.
- When audio system is not equipped with a navigation system, audio head unit is the master unit. (When audio system is equipped with a navigation system, navigation ECU is the master unit.)
- The car audio system using AVC-LAN circuit has a diagnosis function.
- Each product has its own specified numbers called physical address. Numbers are also allotted to each function in one product, which are called logical address.

7. DIAGNOSIS FUNCTION

Error codes over tuner and connected equipment are displayed on the screen of tuner.

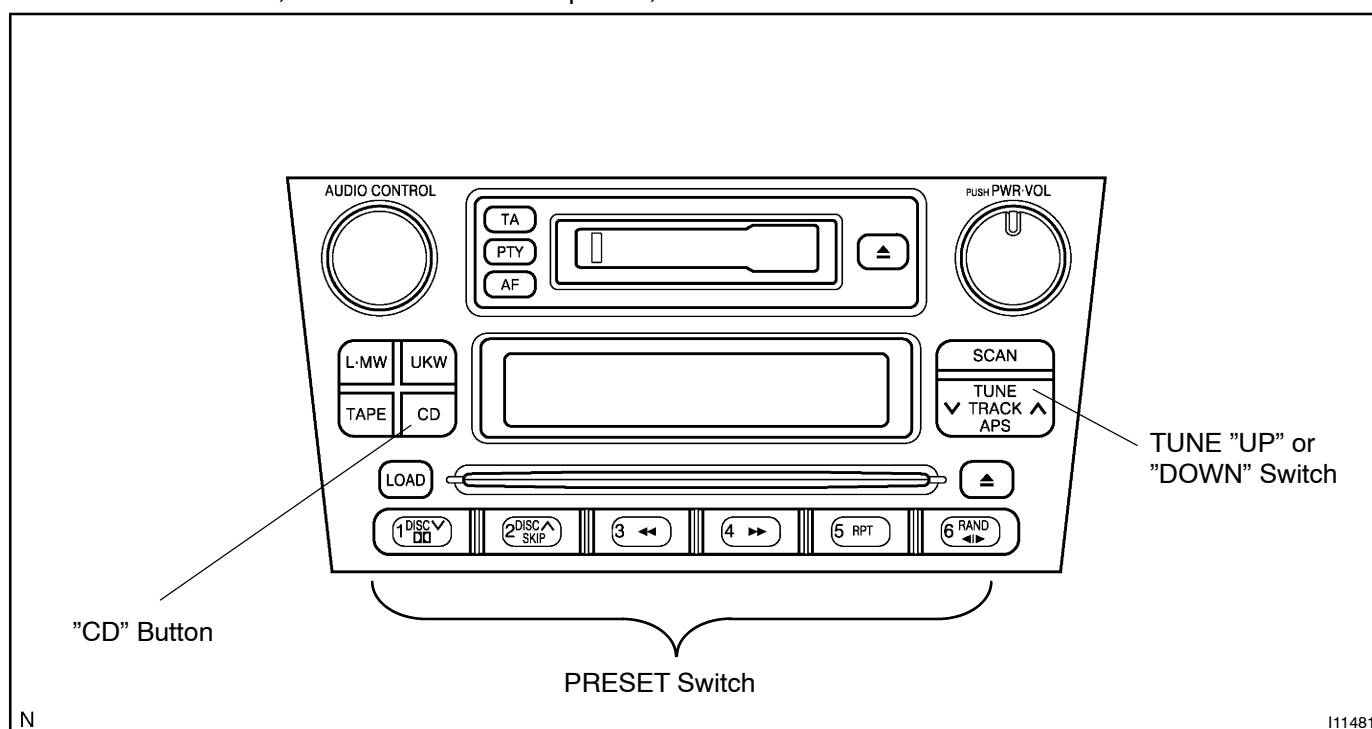
(a) Diagnosis start-up

For shifting to diagnosis mode, push "CD" switch 3 times with pressing "1" and "6" of PRESET switch at the same time while the audio power is OFF and ACC is ON.

To exit from diagnosis mode, press "CD" switch for 2 seconds or turn the ignition key OFF.
(When "1-190" is displayed, the mode is transferred to LAN check mode.)

(b) LAN check

When starting up the diagnosis mode, the mode turns to LAN check mode, the screen displays the code numbers (physical address) of tuner and connected equipment. Smaller codes are displayed in order, displayed code numbers are switched by operating TUNE "UP" or "DOWN" switch. In LAN check mode, by pressing "5" of PRESET switch for more than 2 secs., diagnosis memory of each equipment can be deleted, when deletion is completed, the mode returns to LAN check mode.



Code No. (physical address) List

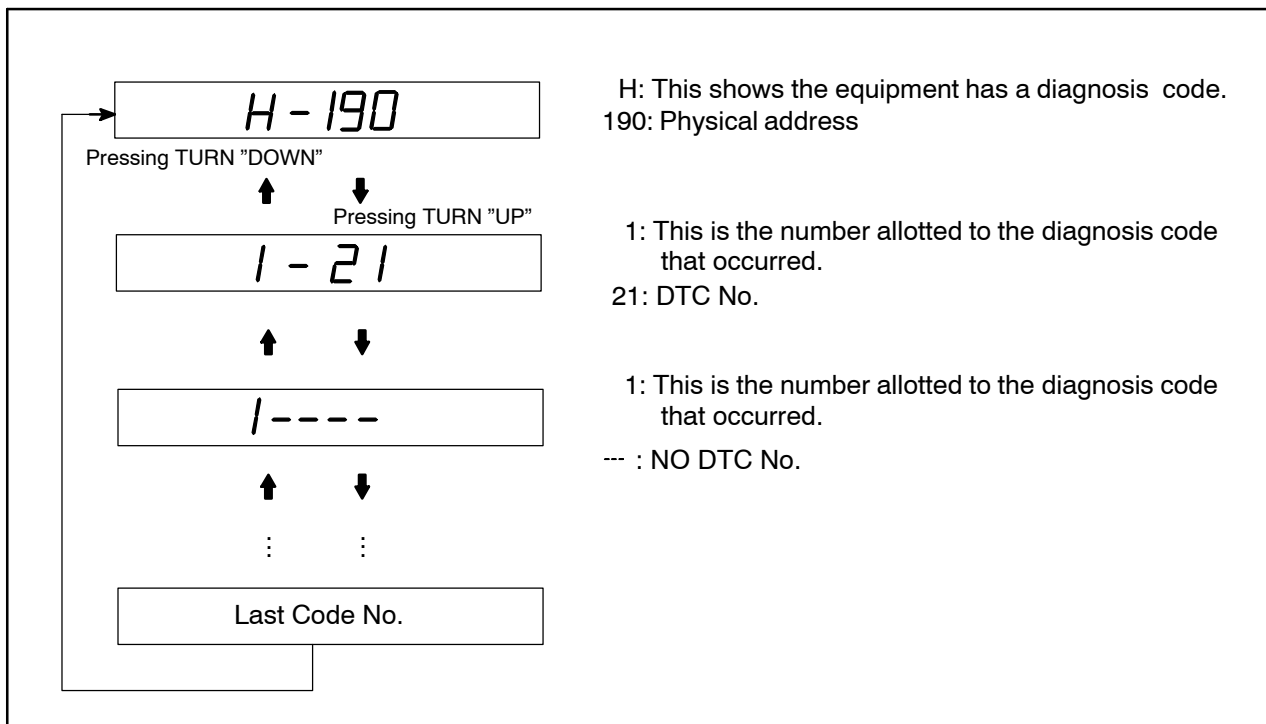
Code No. (physical address)	Equipment name
190	Radio receiver assembly (Audio head unit)
440	Power amplifier

(c) System check

- When pressing "1" of PRESET switch in LAN check mode, the mode turns to the system check mode, the system performs self diagnosis of connected equipment and displays the results. ("SYS" (showing the system is under detection) is displayed.)
- Perform the operation shown in the following illustration, then read the result of the inspection.

HINT:

- It sometimes takes approx. 40 secs. till the system inspection is completed.
- The chart below is an example of when diagnosis code "21" appears on the physical address (190) equipment. (ROM error occurs on the radio receiver.)
- The smaller code numbers (physical address) are displayed in order (code No., diagnosis code, support code of diagnosis code (object equipment)).
- When no error is detected in the system, "00" is displayed.
- When an error code is detected, up to 6 codes per one system are displayed. Pressing TUNE "UP" or "DOWN" switches the display.
- In the system check mode, when pressing "6" of PRESET switch the mode returns to LAN check mode.

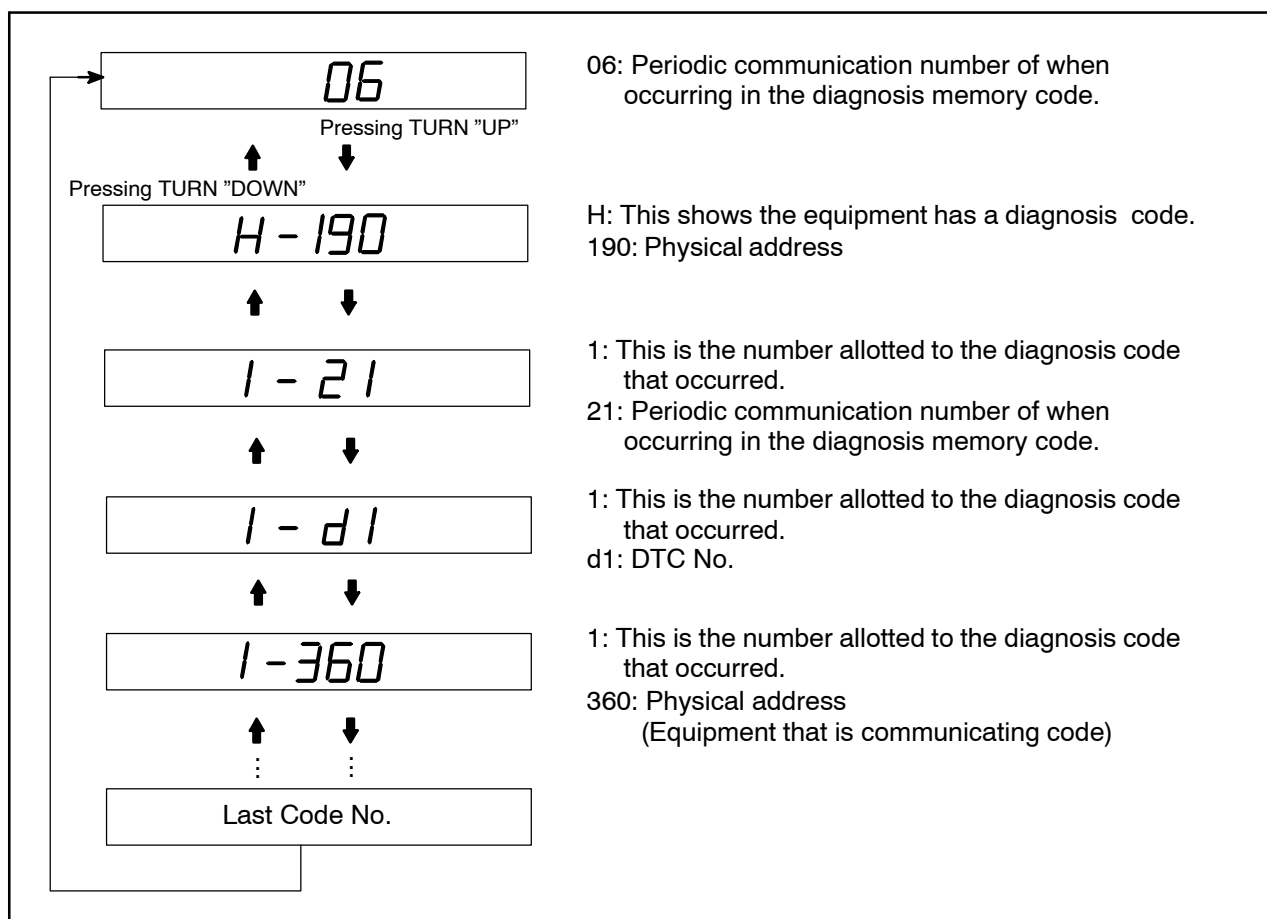


(d) Diagnosis memory

- (1) In LAN check mode, when pressing "2" of PRESET switch the mode turns to the diagnosis memory mode. ("CODE" is displayed.)
The results of self diagnosis performed over tuner and connected equipment are memorized and displayed.
- (2) Perform the operation shown in the following illustration, then read the result of the inspection.

HINT:

- The smaller code numbers (physical address) are displayed in order (code No. , periodic communication number when error occurs, diagnosis code, and support code of diagnosis code (object equipment)).
- When no error is detected in the system, "00" is displayed. When an error code is detected, up to 6 codes per one system are displayed. Pressing TUNE "UP" or "DOWN" switches the display. Each diagnosis code is same as code in the system check mode.
- When pressing "6" of PRESET switch, the mode returns to LAN check mode.
- The following illustration below is an example of when diagnosis code "D1" appears on the code (190) and (240 or 360) equipment. (Communication error occurs between the radio receiver and CD changer.)



(e) Diagnosis memory clear

- (1) After error is fixed, start up the diagnosis mode.
- (2) Continue pressing preset switch "5" for 2 secs. (CLr is displayed.)
- (3) Press the preset switch "2" and transfer to the diagnosis memory mode and check that the normal code (00) is output.

8. DIAGNOSIS CODE LIST

- If there is "O" in the column of system check, an error can be detected when the mode is switched to the system check mode.
- If there is "O" in the column of diagnosis mode, each unit is monitoring whether or not it has failure. In case of detecting failure, it memorizes DTC.

Parts Name	DTC	Diagnosis item	Diagnosis content	Countermeasure and inspected parts	System Check	Diagnosis memory
Head Unit (190)	42	FM tuner error	There is an error in FM tuner.	Radio receiver check.	X	○
	50	Cassette error	There is an error in cassette deck.		X	○
	51	Cassette eject error	Cassette can not be ejected from Head Unit.		X	○
	D1	Transmitter error	Communication with the equipment that is communicating has failed successively.	Radio receiver check. Wire harness and connector check.	○	○
	D2	Periodic communication no response	Error in periodic communication.	● Wire harness and connector	X	○
	FF	Diagnosis no response	Result of diagnosis is not issued from start to finish.	Radio receiver check.	○	X
AMP (440)	D1	Transmitter error	Communication with the equipment that is communicating has failed successively.	Stereo component amplifier check.	○	○
	D4	Periodic communication error	Connection confirmation has not come from the equipment that is communicating	● Radio receiver check. ● Wire harness check.	X	○

TROUBLESHOOTING

NOTICE:

When replacing the internal mechanism (computer part) of the audio system, be careful that no part of your body or clothing comes in contact with the terminals of the leads from the IC, etc. of the replacement part (spare part).

HINT:

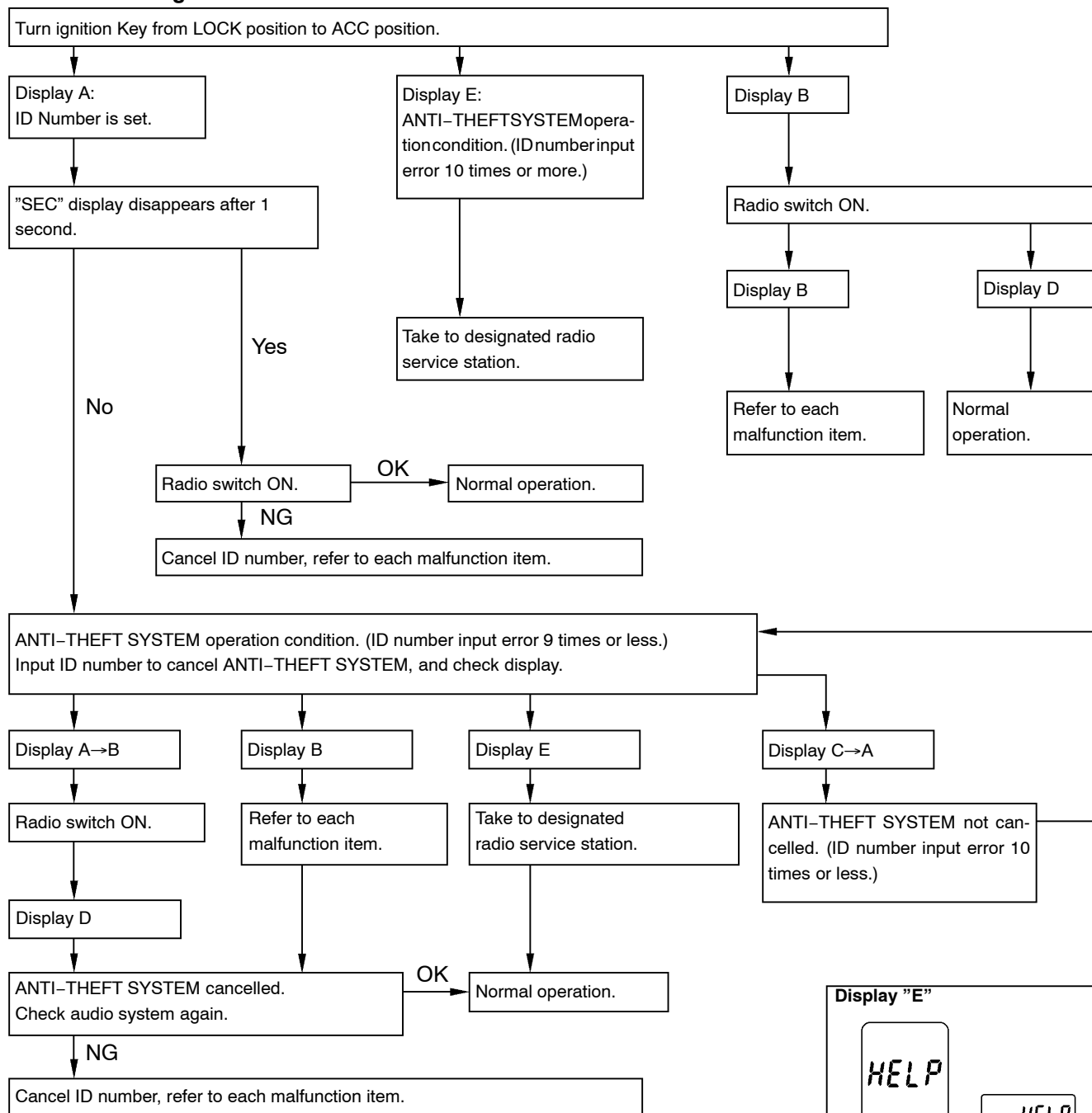
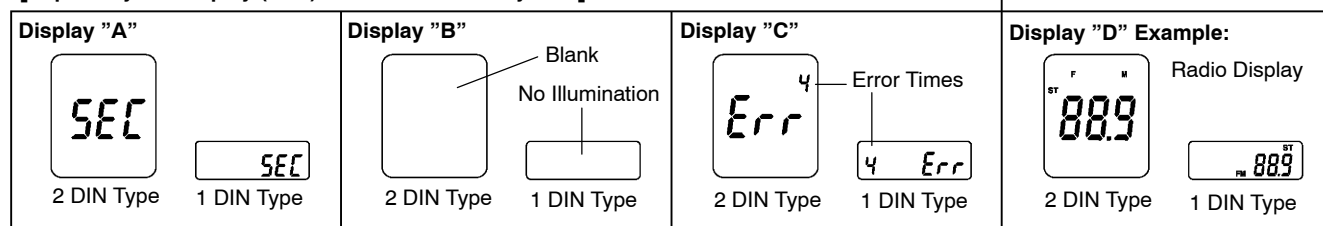
This inspection procedure is a simple troubleshooting which should be carried out on the vehicle during system operation and was prepared on the assumption of system component troubles (except for the wires and connectors, etc.).

Always inspect the trouble taking the following items into consideration.

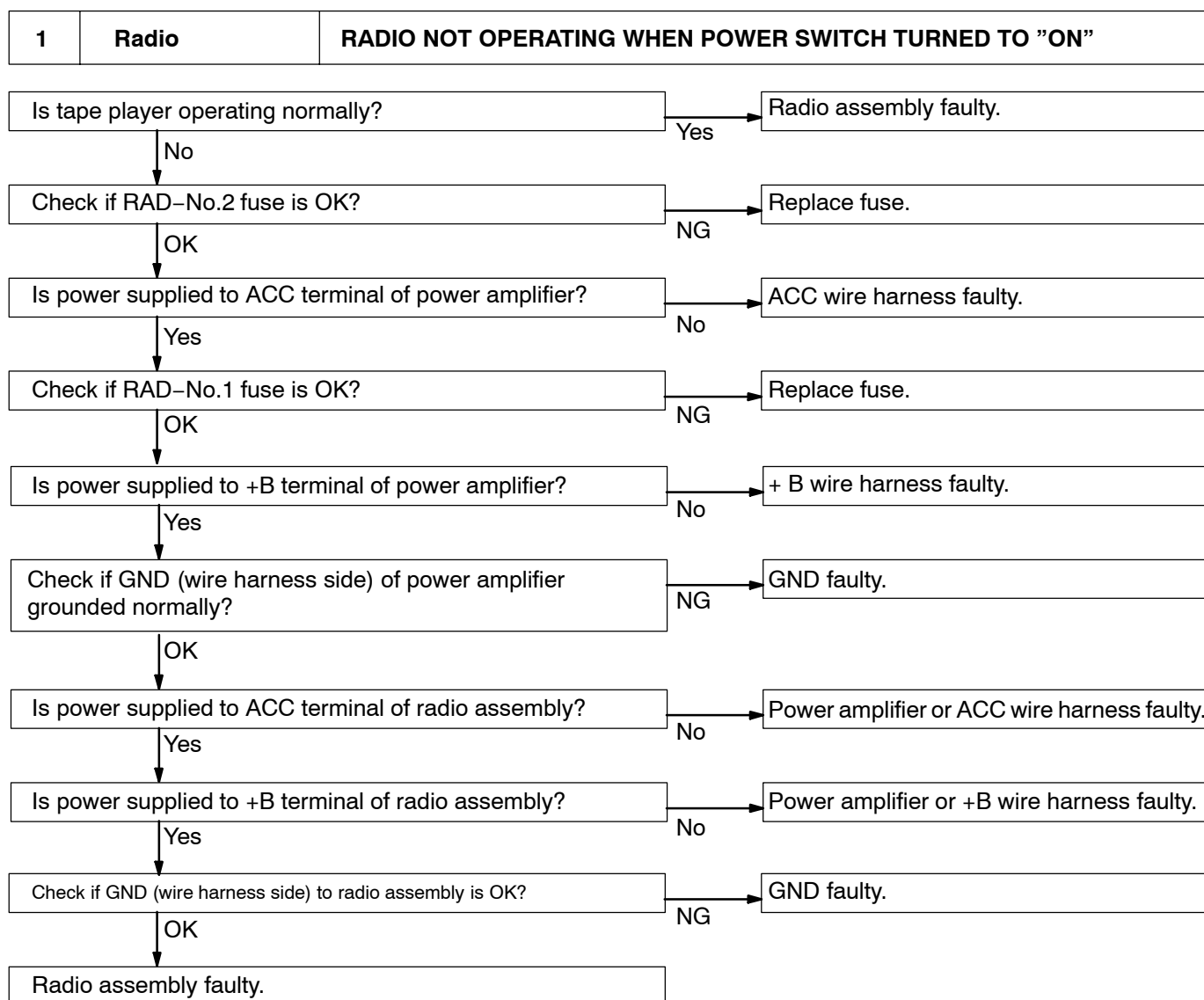
- Open or short circuit of the wire harness
- Connector or terminal connection fault
- For audio systems with anti-theft system, troubleshooting items marked (*) indicate that "Troubleshooting for ANTI-THEFT SYSTEM" should be carried out first.

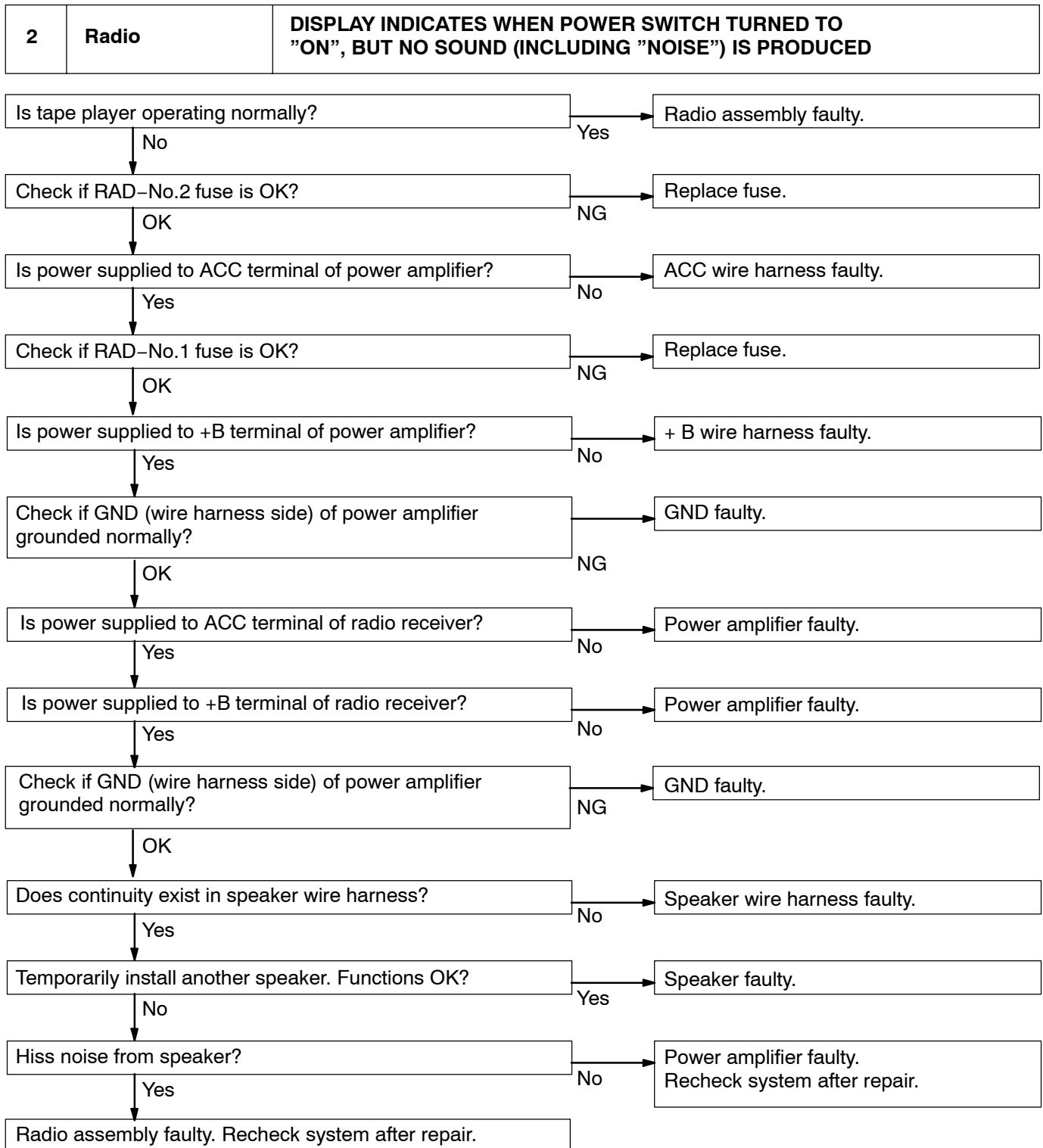
	Problem	No.
Radio	Radio not operating when power switch turned to 'ON'.	1
	Display indicates when power switch turned to 'ON', but no sound (including 'noise') is produced.	2
	Noise present, but AM – FM not operating.	3
	Any speaker does not work.	4
	Any AM or FM does not work.	5
	Few preset turning bands.	5
	Reception poor.	6
	Sound quality poor.	7
Tape Player	Preset memory disappears.	8
	Cassette tape cannot be inserted.	9
	Cassette tape inserted, but no power.	10
	Power coming in, but tape player not operating.	11
	Any speaker does not work.	12
	Sound quality poor.	13
	Tape jammed, malfunction with tape speed or auto-reverse.	14
	Cassette tape will not eject.	15
CD Player	CD cannot be inserted.	16
	CD inserted, but no power.	17
	Power coming in, but CD player not operating.	18
	Sound jumps.	19
	Sound quality poor (Volume faint).	20
	Any speaker does not work.	21
	CD will not be ejected.	22
Power Amplifier	No power coming in.	23
	Power coming in, but power amplifier not operating.	24
	Any speaker does not work.	25
Noise	Noise occurs	26
	Noise produced by vibration or shock while driving.	27
	Noise produced when engine starts.	28

The term "AM" includes LW,MW and SW, and the term "FW" includes UKW.

Troubleshooting for ANTI-THEFT SYSTEM**[Liquid Crystal Display (LCD) or VFD for Audio System]****HINT:**

- Refer to Owner's Manual for operation details of ANTI-THEFT SYSTEM.
- When the ID number has been cancelled, reset the same number after completing the operation, or inform the customer that it has been cancelled.





3	Radio	NOISE PRESENT, BUT AM-FM NOT OPERATING
----------	--------------	---

Go to No.25

If radio side faulty.

Radio faulty.

4	Radio	ANY SPEAKER DOES NOT WORK
----------	--------------	----------------------------------

Is tape player operating normally?

Yes

Radio assembly faulty.

No

Is hiss noise produced by non-functioning speaker?

Yes

Radio assembly faulty.
Recheck system after repair.

No

Does continuity exist in speaker wire harness?

No

Speaker wire harness faulty.

Yes

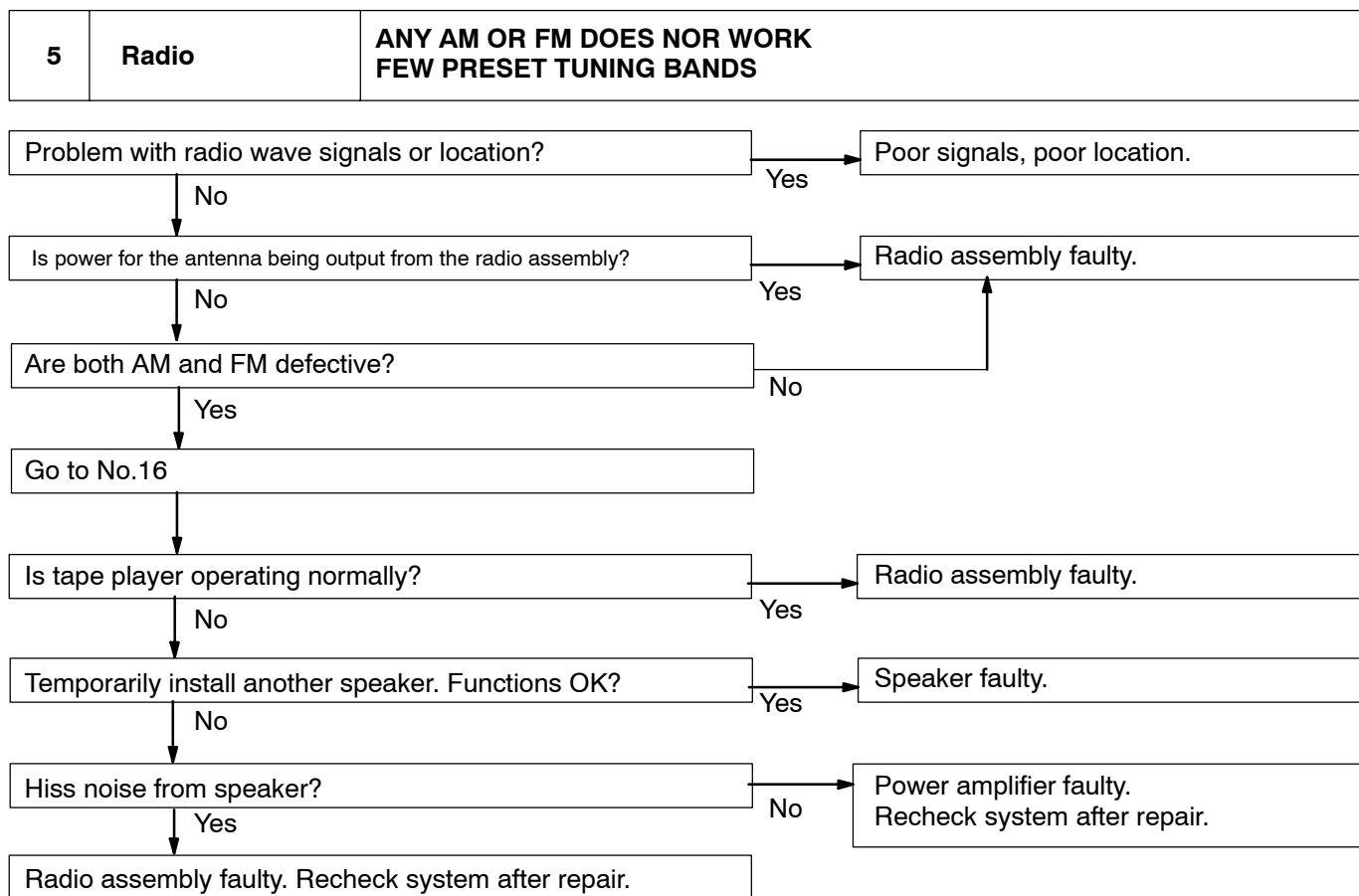
Temporarily install another speaker? Functions OK?

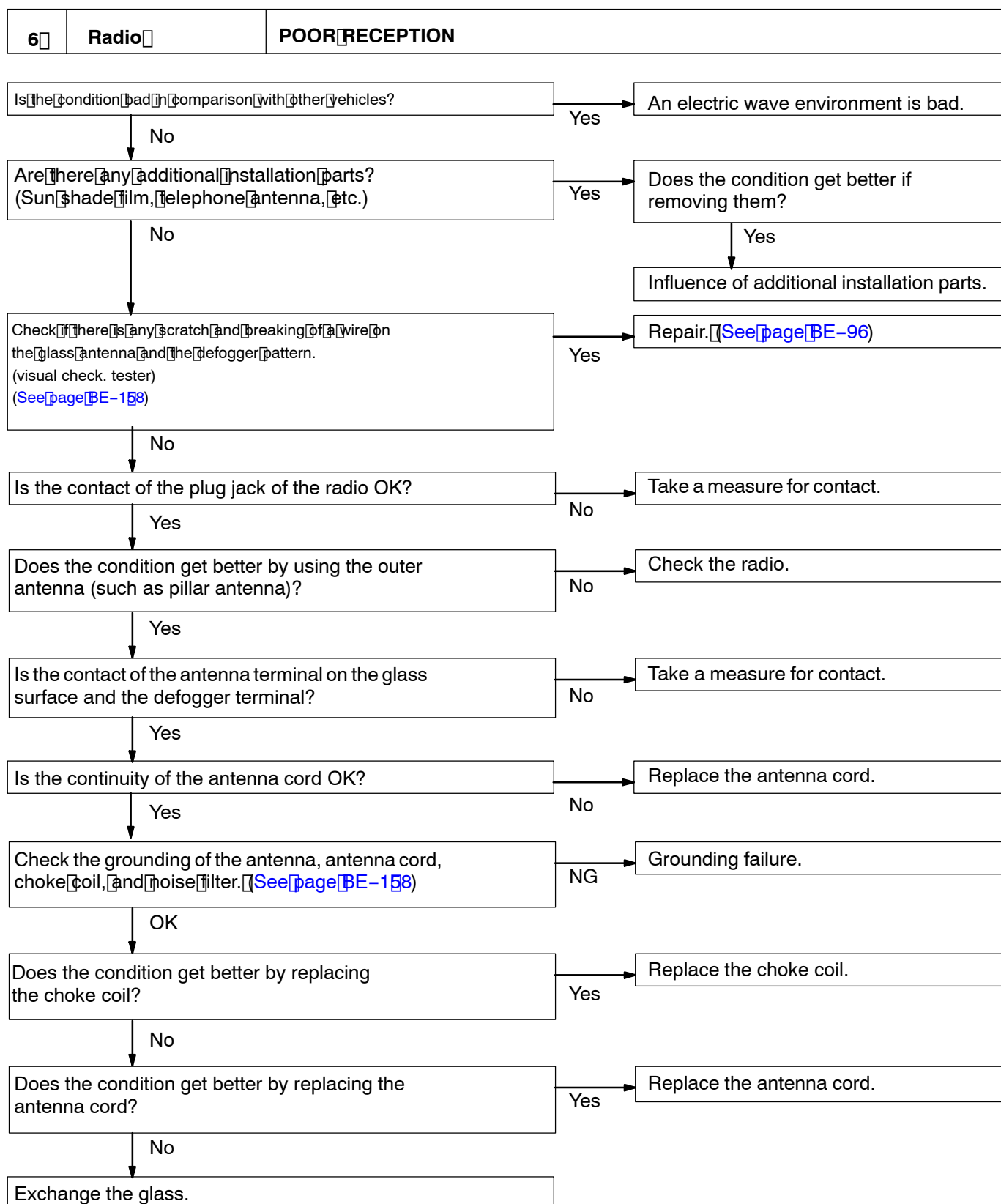
Yes

Speaker faulty.

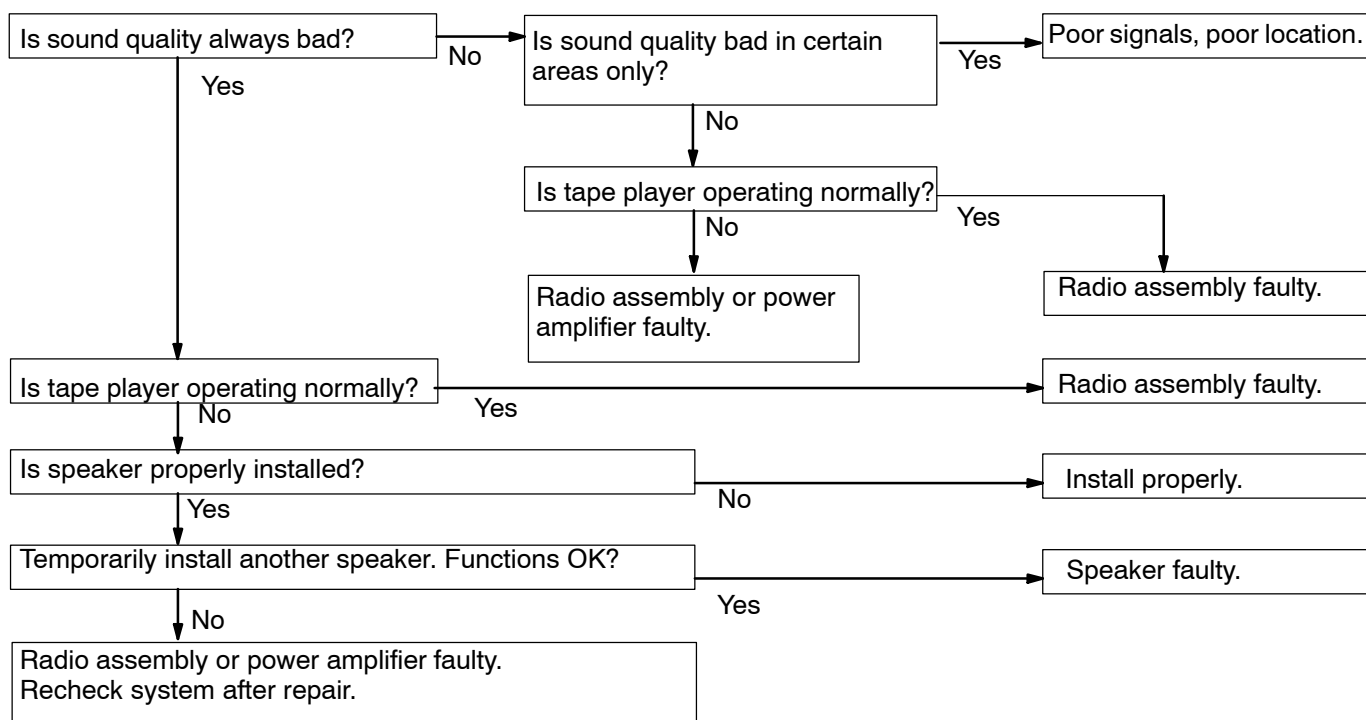
No

Power amplifier faulty. Recheck system after repair.

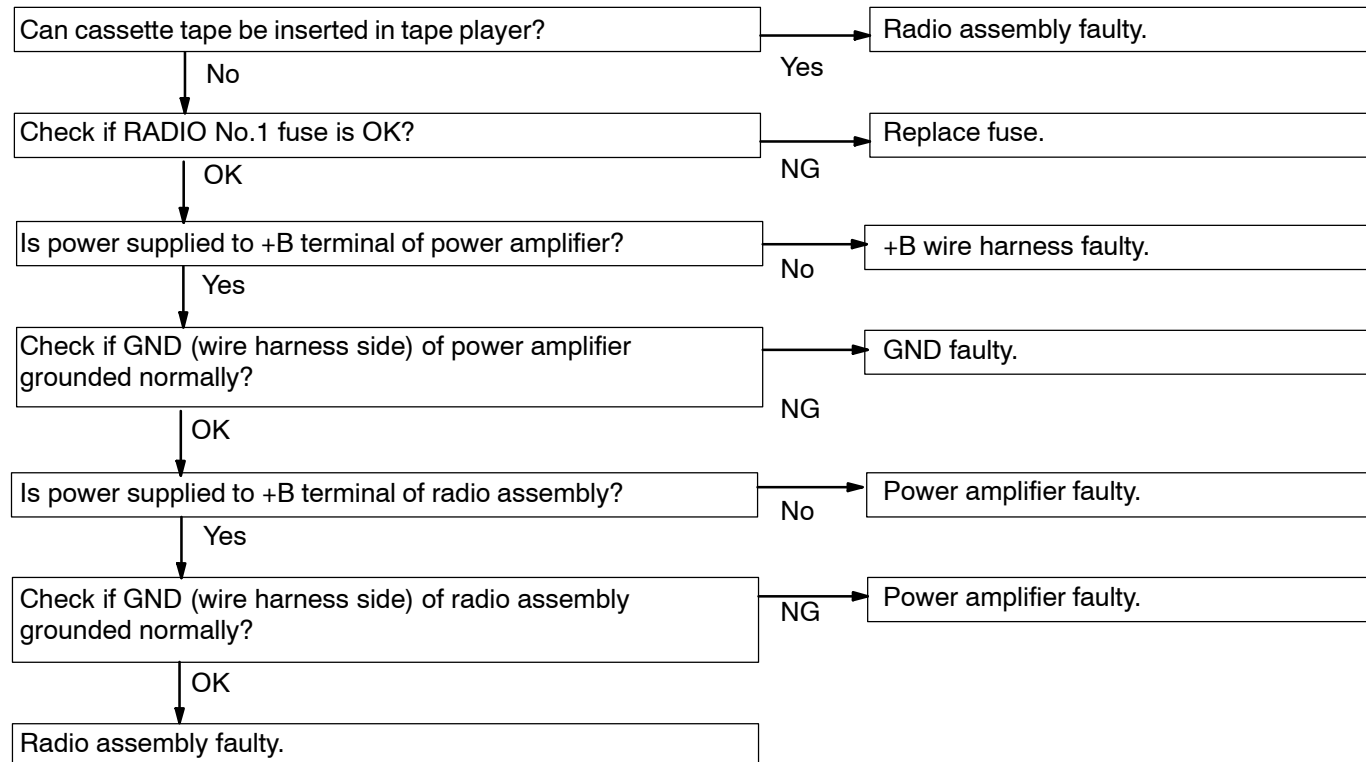




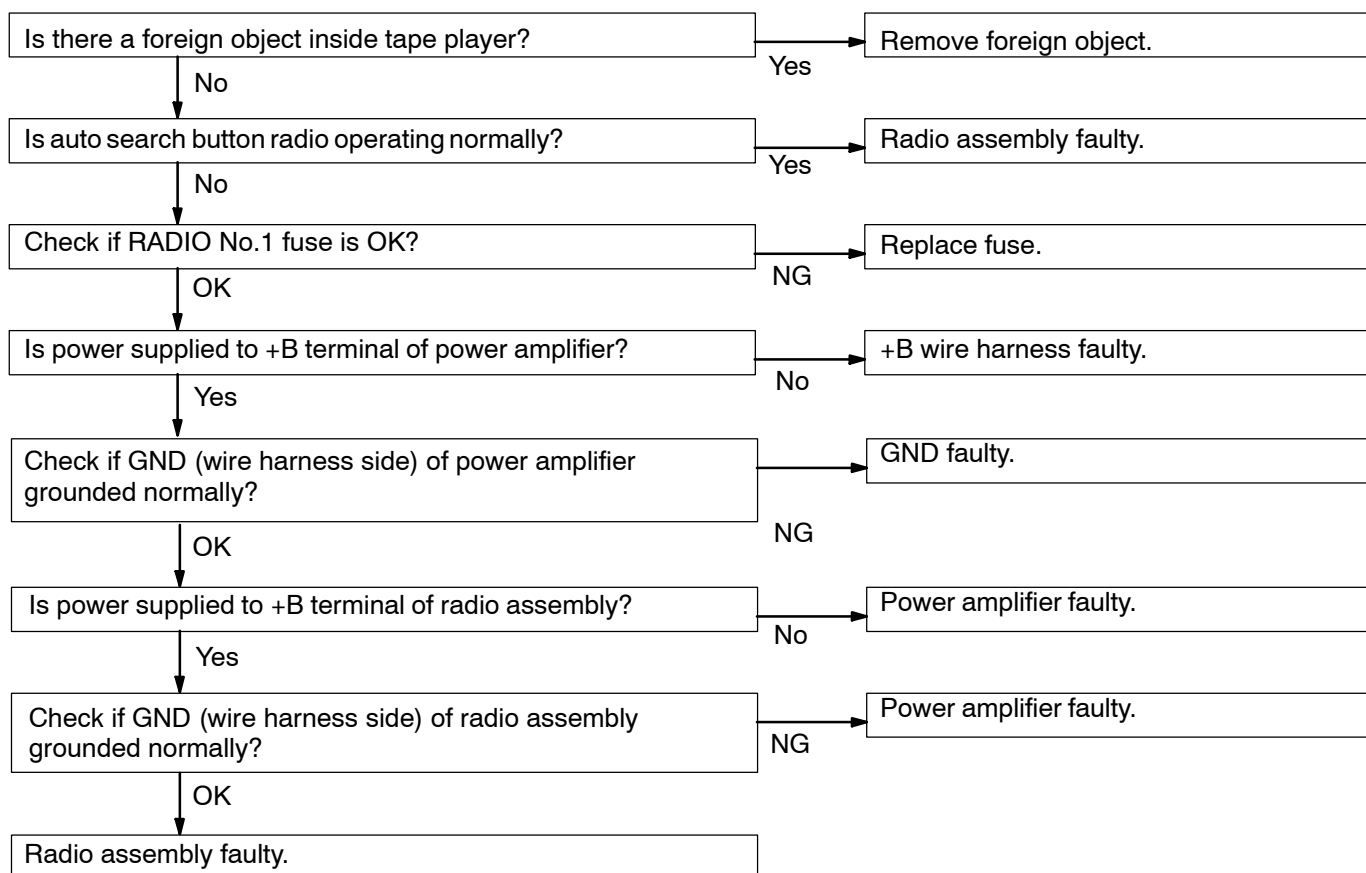
7	Radio	SOUND QUALITY POOR
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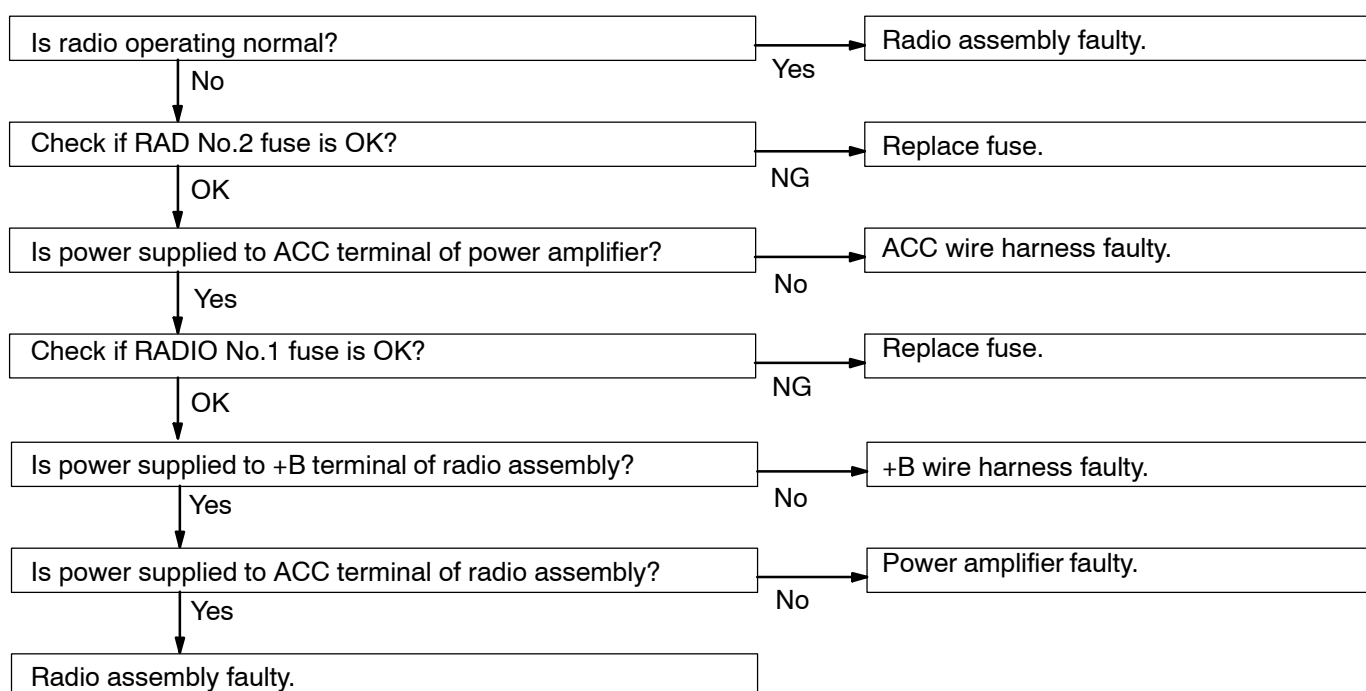
8	Radio	PRESET MEMORY DISAPPEARS
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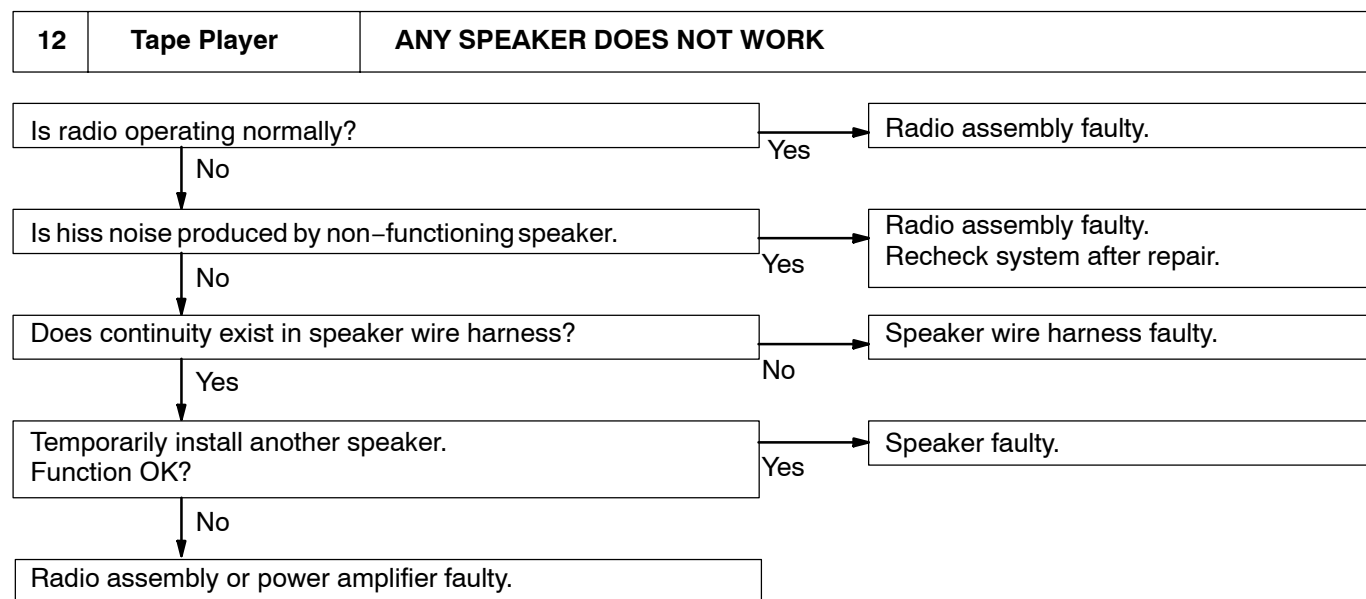
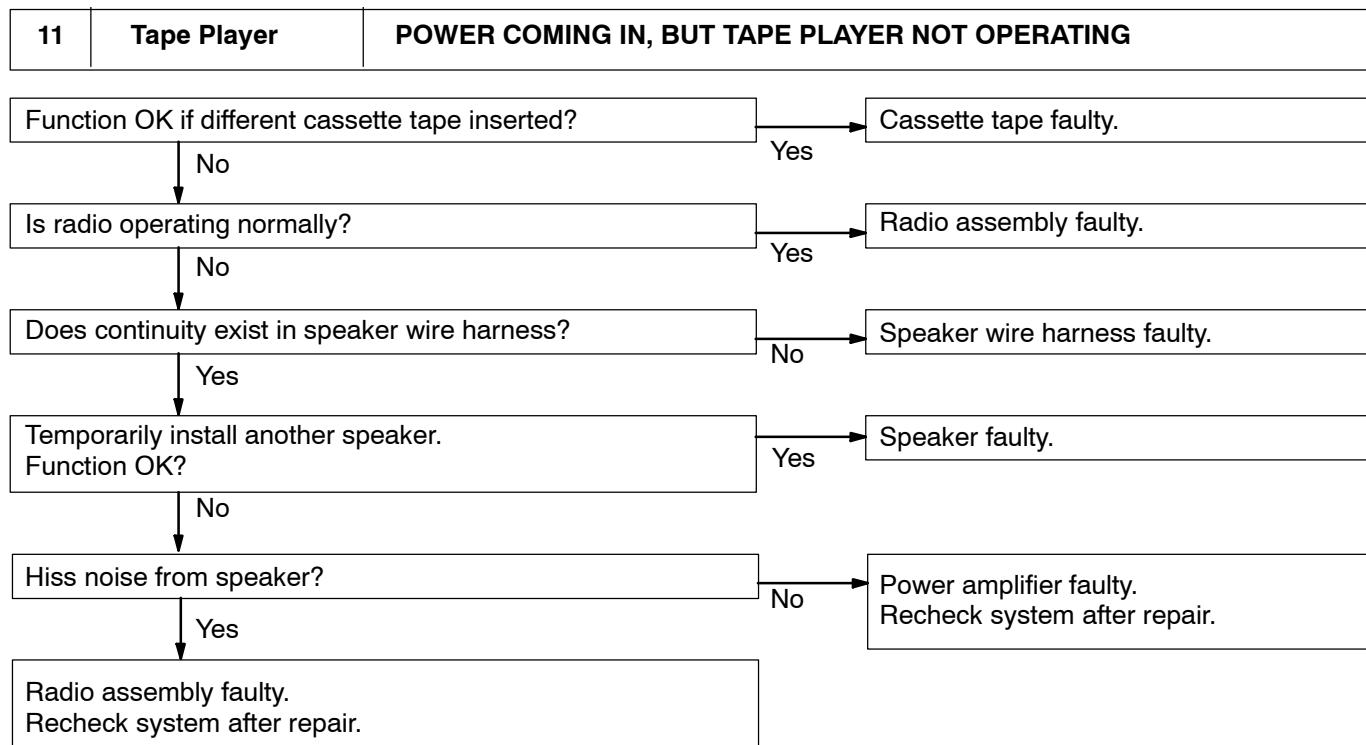


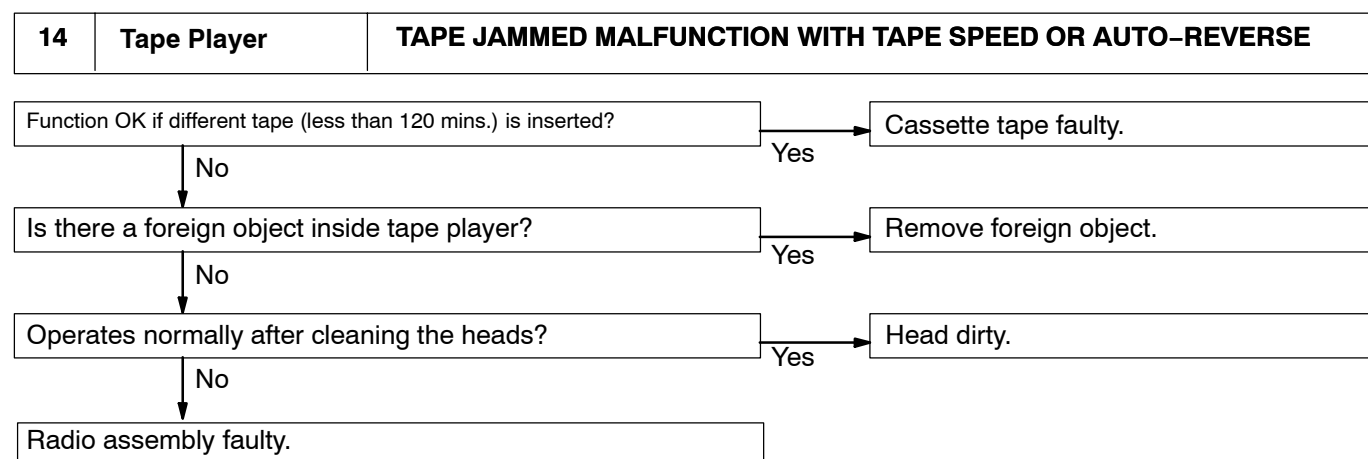
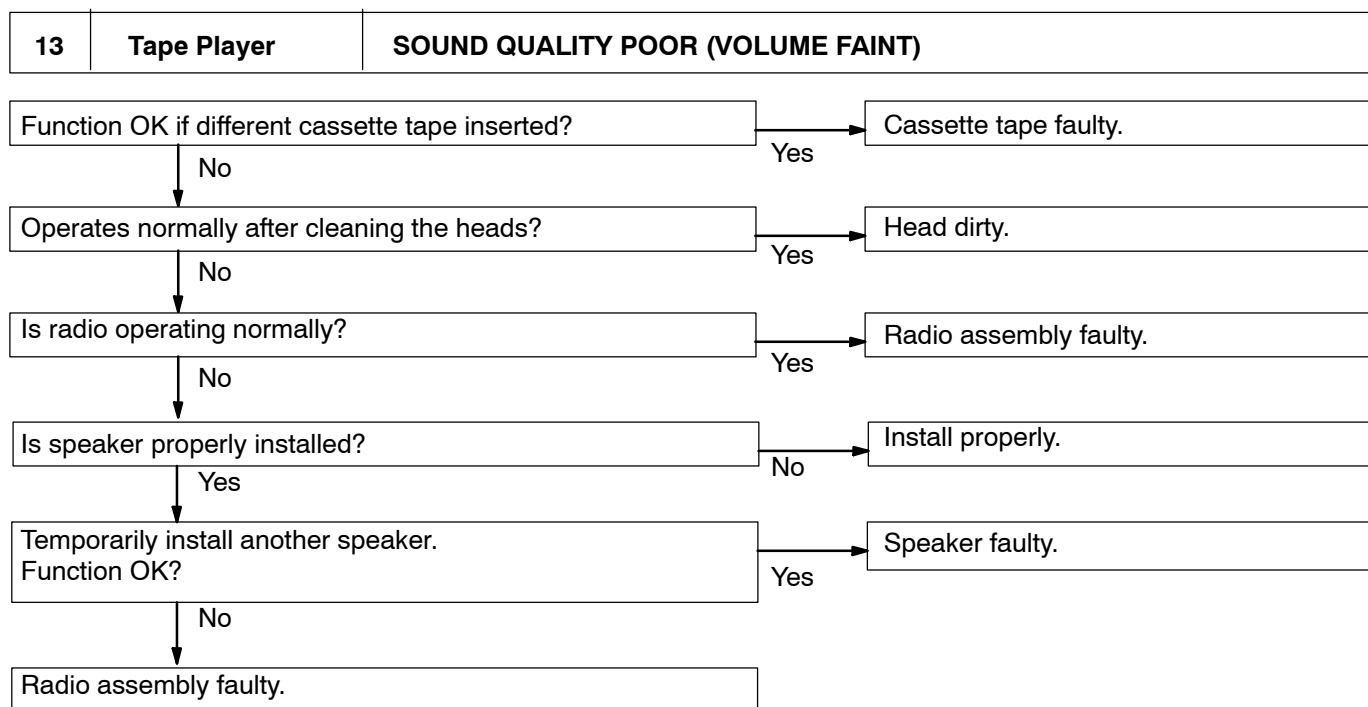
9	Tape Player	CASSETTE TAPE CANNOT BE INSERTED
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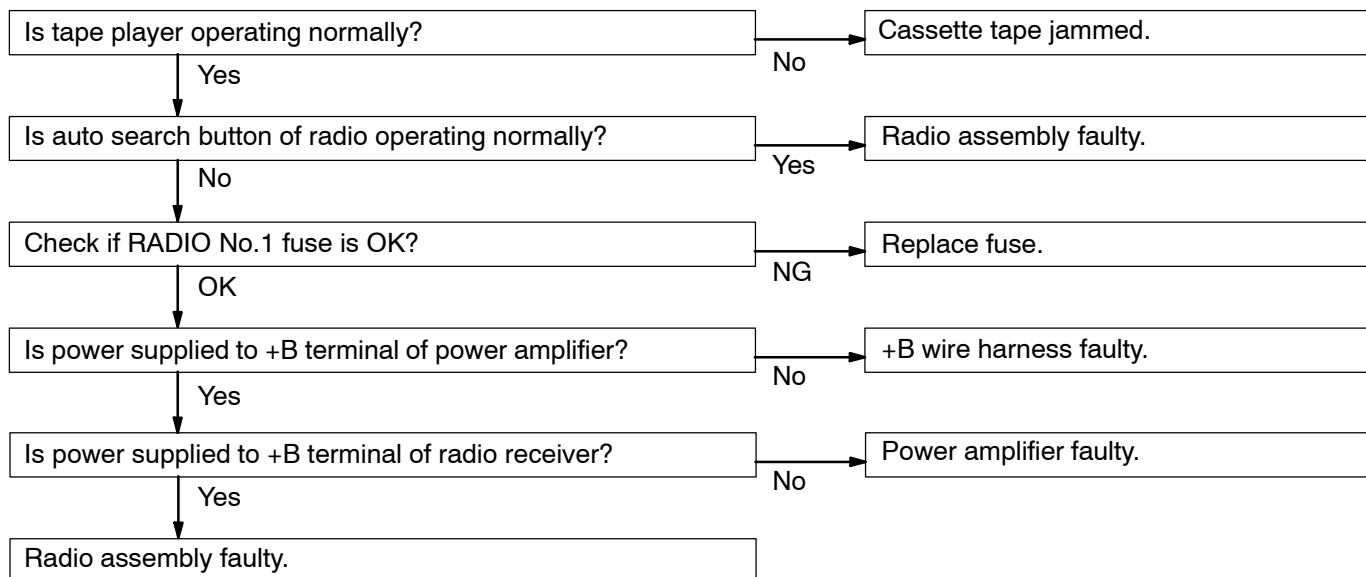
10	Tape Player	CASSETTE TAPE INSERTED, BUT NO POWER
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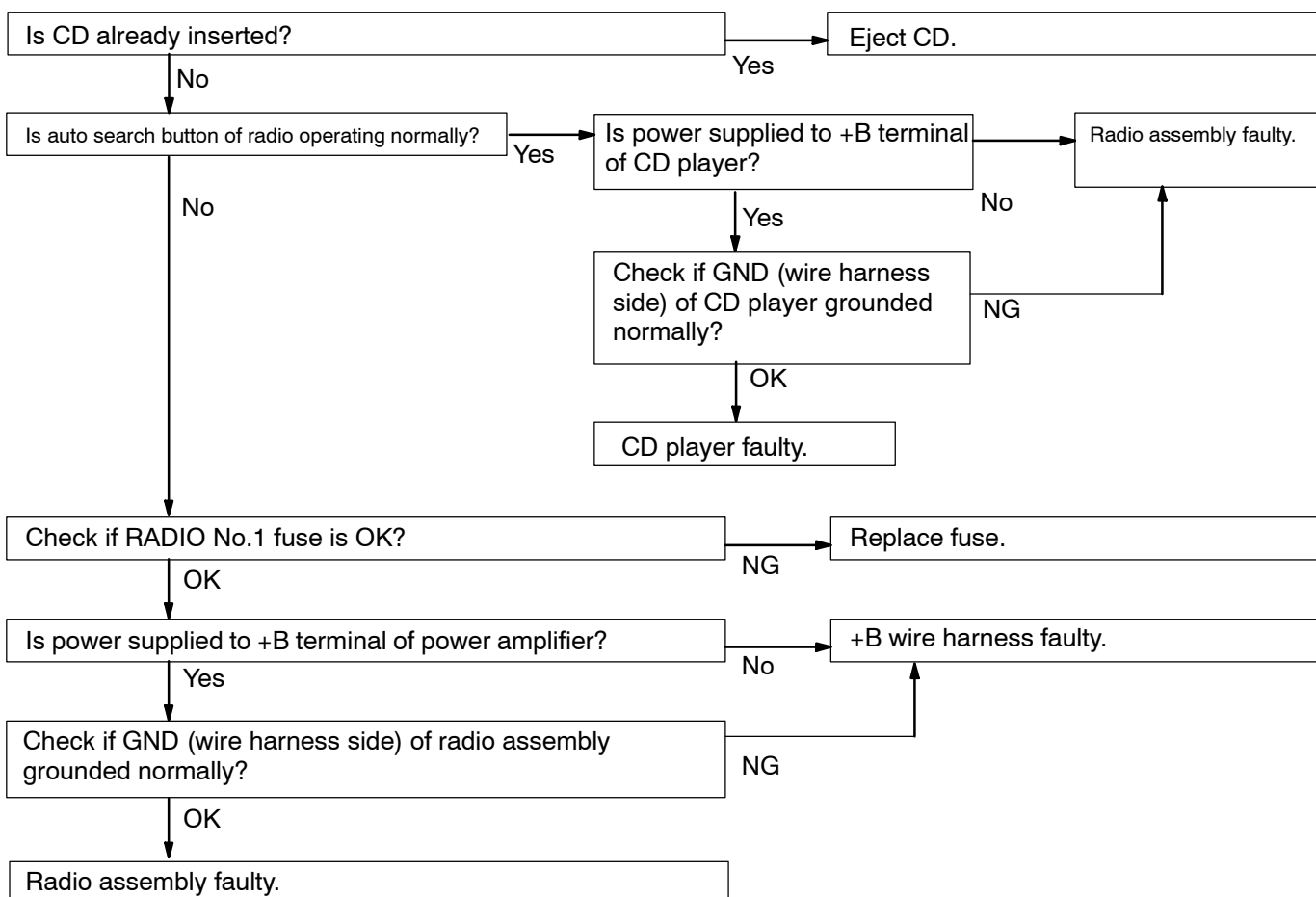




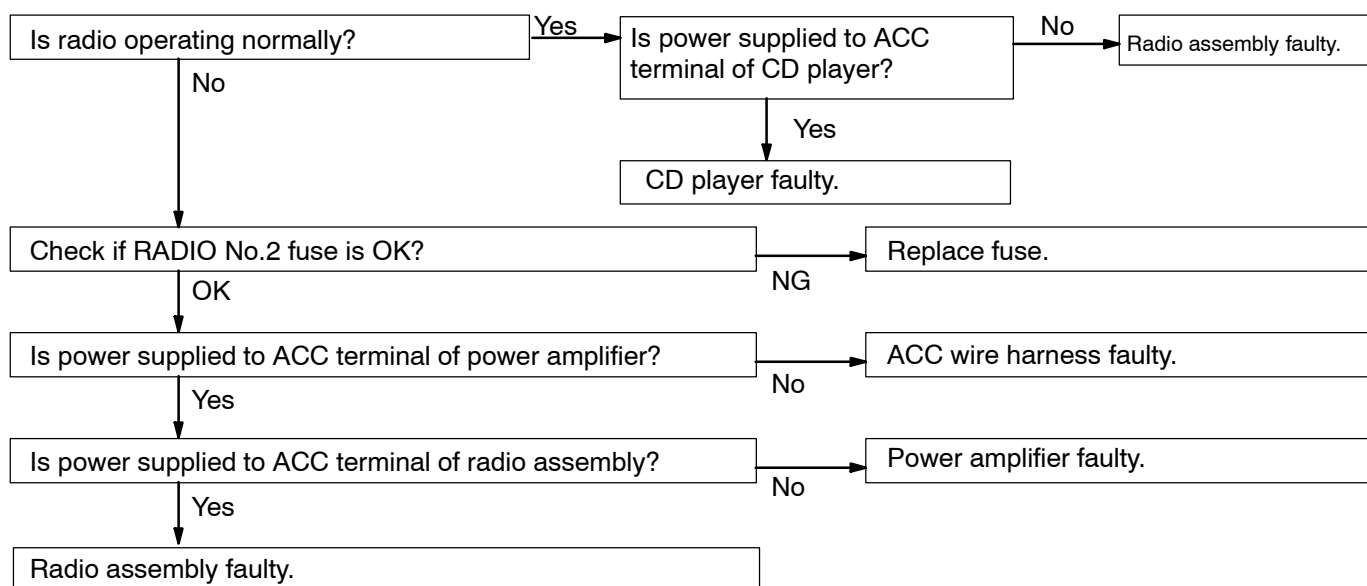
15	Tape Player	CASSETTE TAPE WILL NOT BE EJECTED
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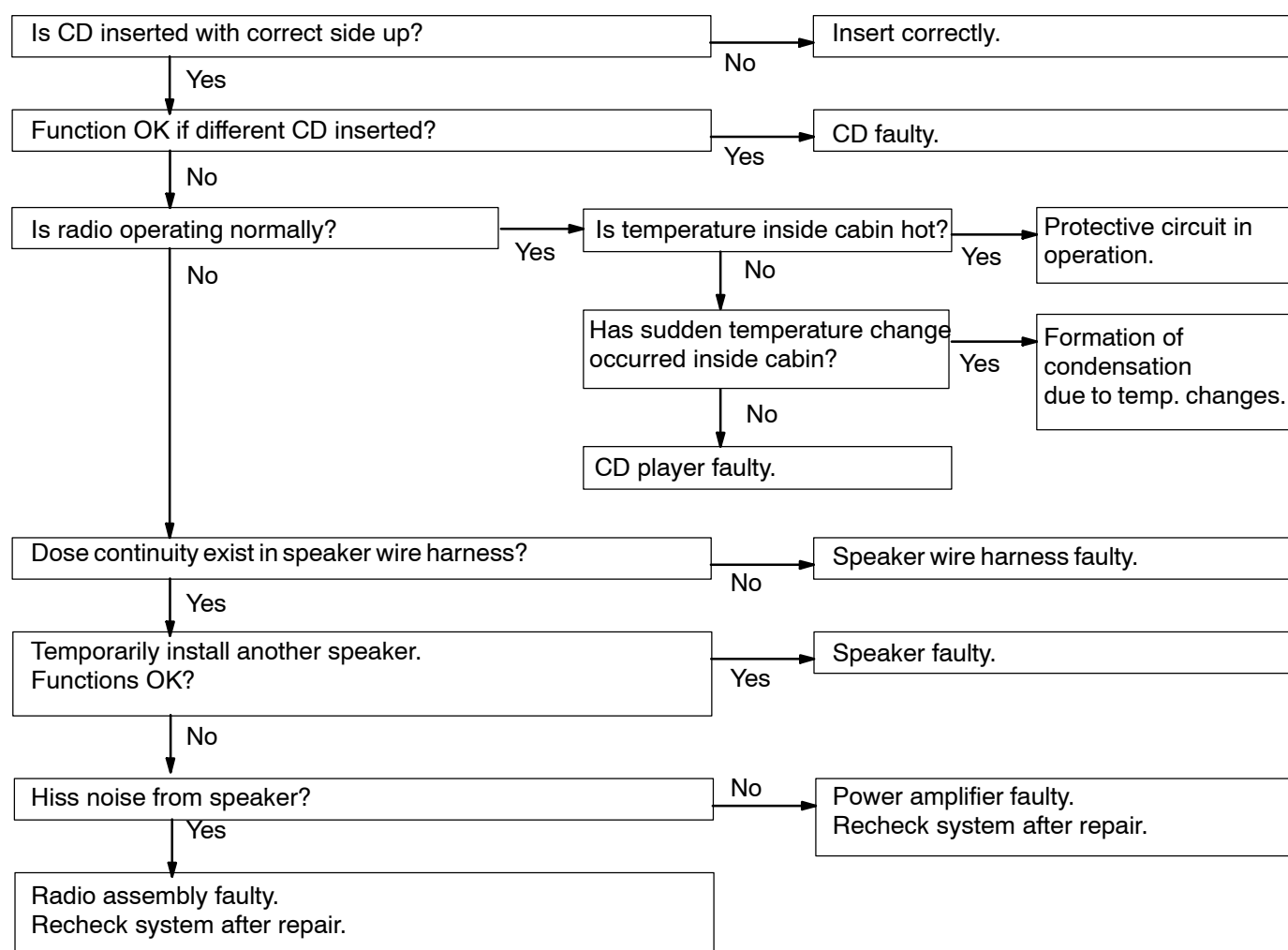
16	CD Player	CD CANNOT BE INSERTED
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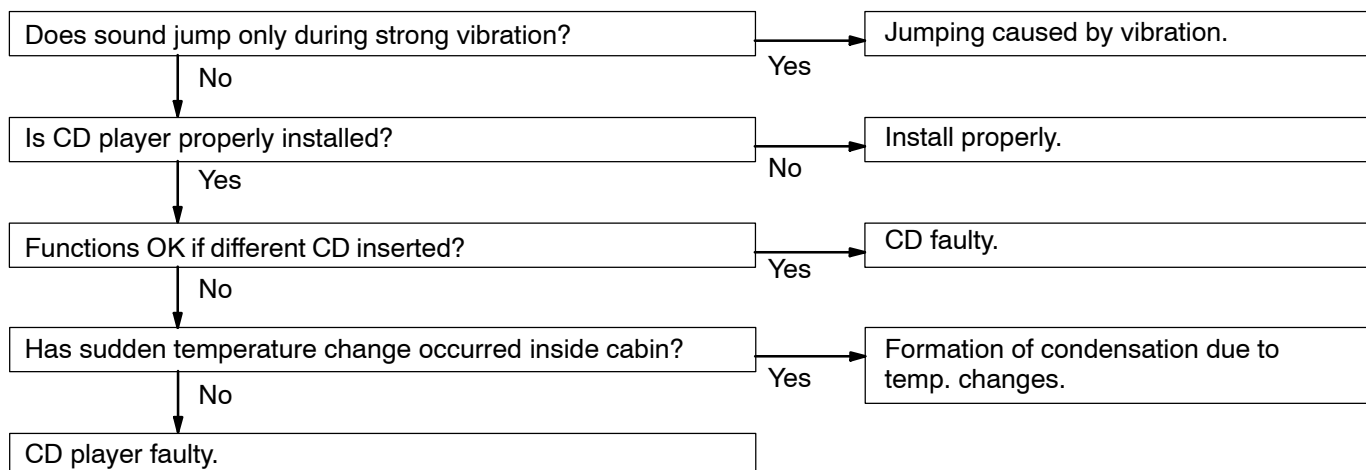
17	CD Player	CD INSERTED, BUT NO POWER
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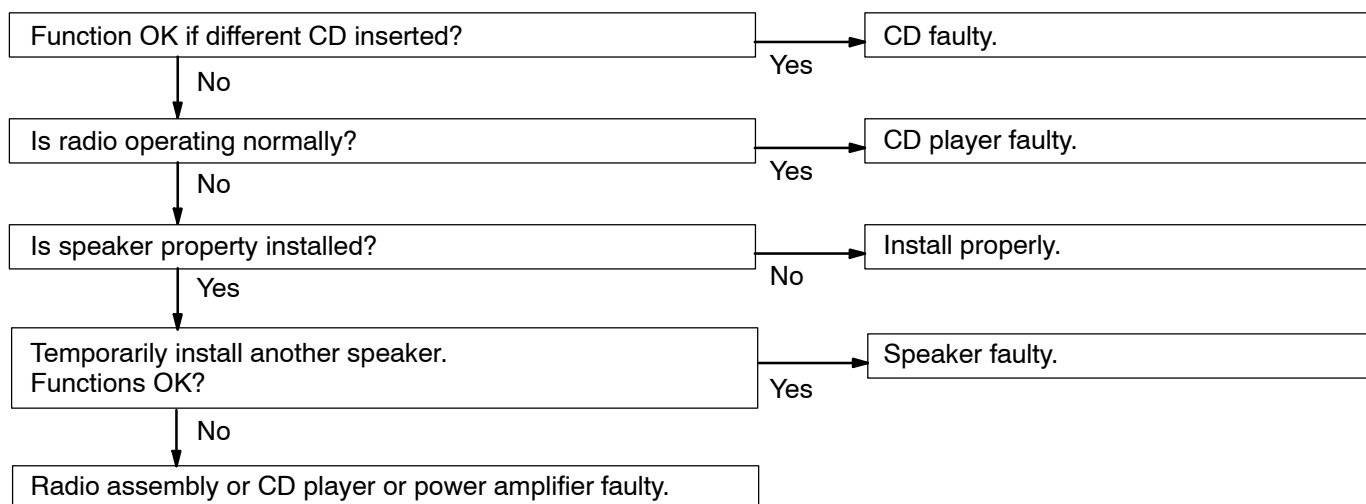
18	CD Player	POWER COMING IN, BUT CD PLAYER NOT OPERATING
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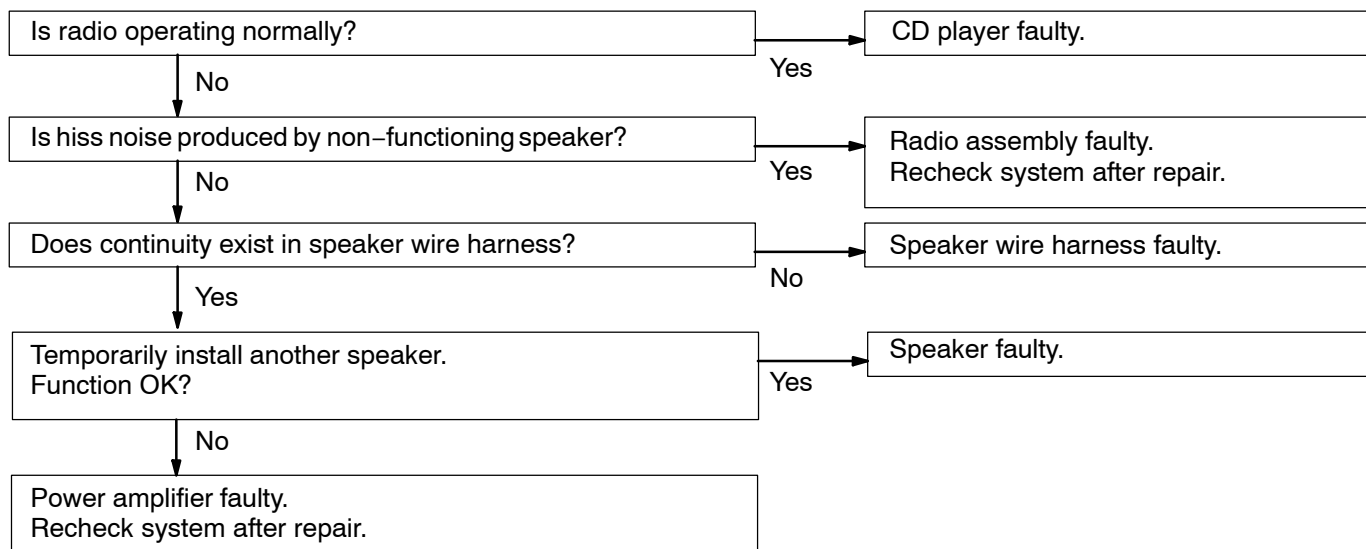
19	CD Player	SOUND JUMPS
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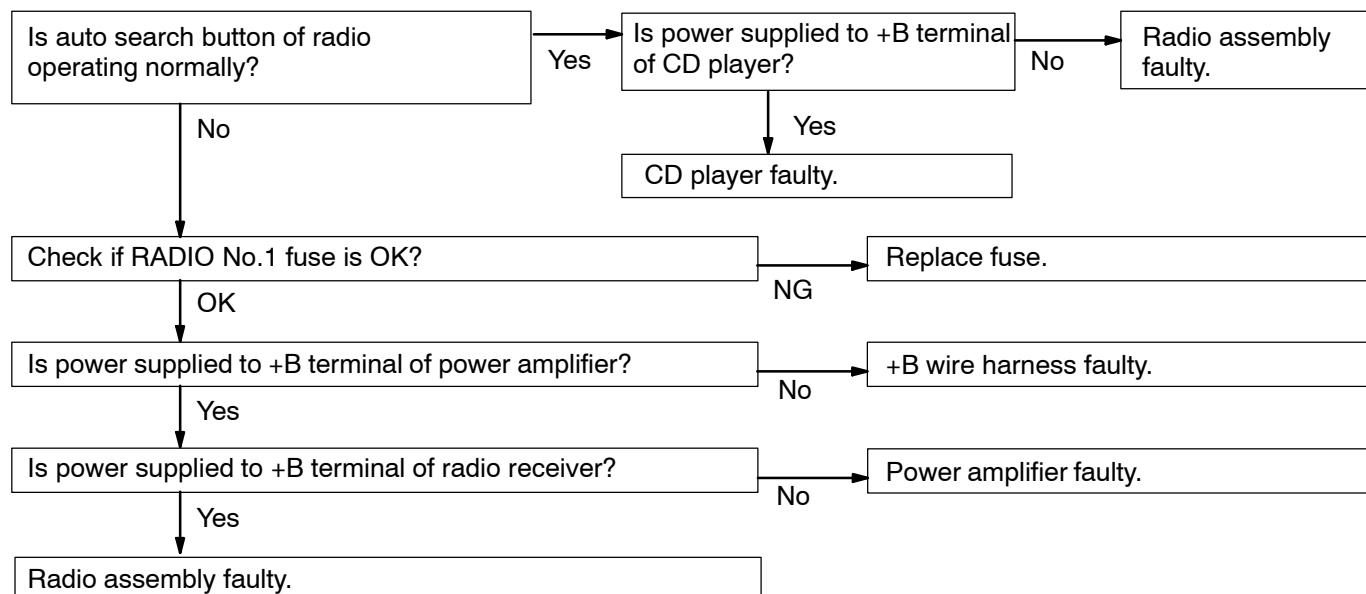
20	CD Player	SOUND QUALITY POOR (VOLUME FAINT)
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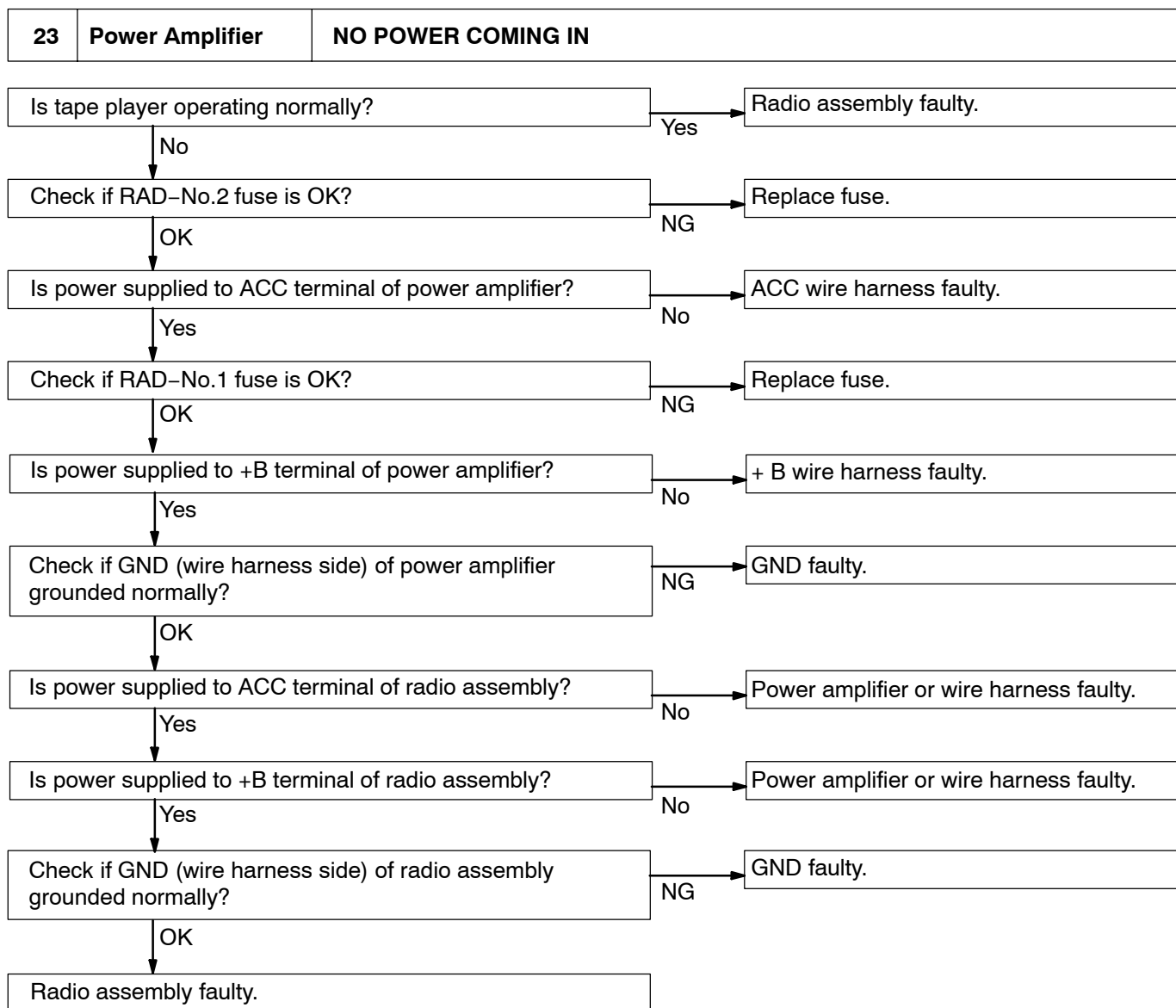


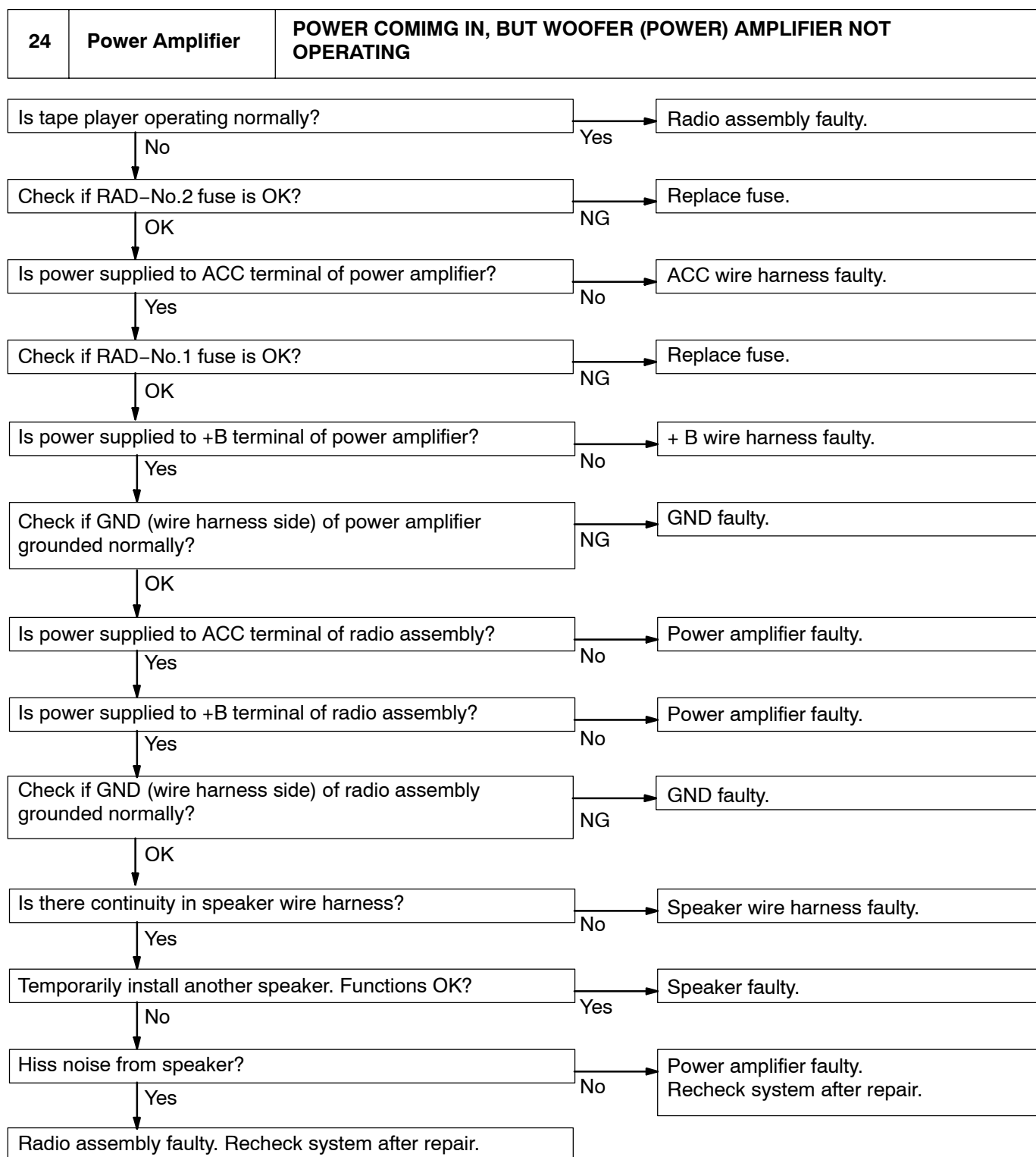
21	CD Player	ANY SPEAKER DOES NOT WORK
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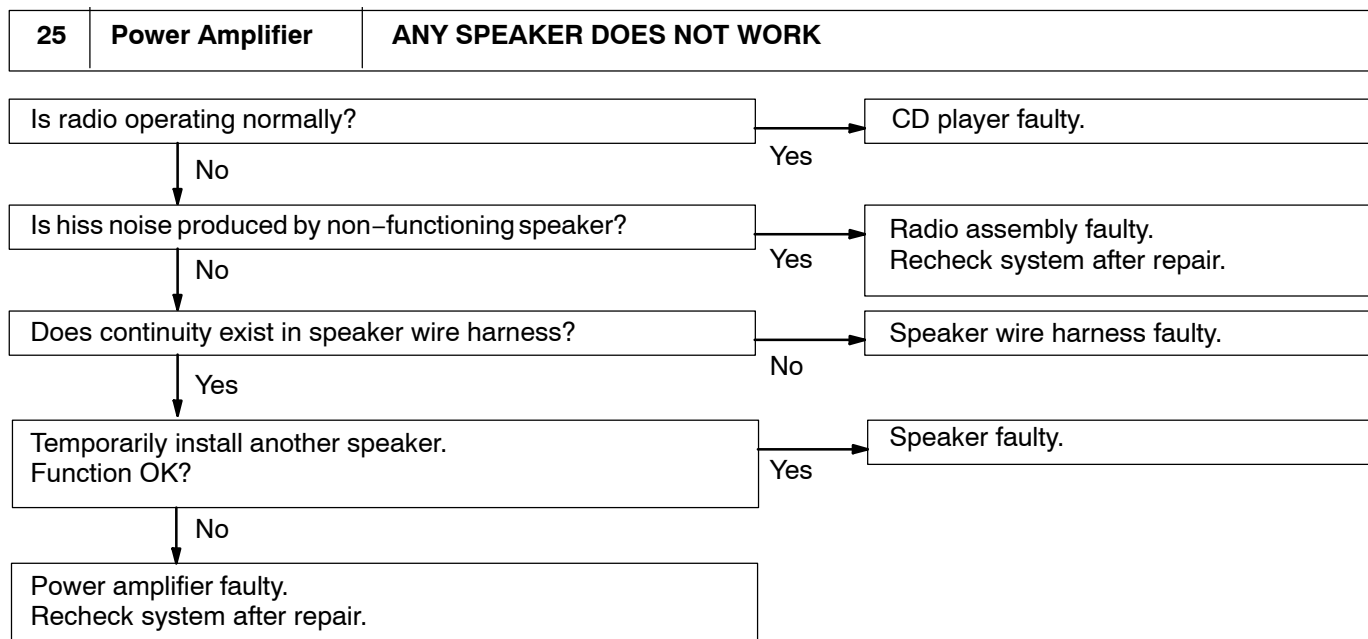


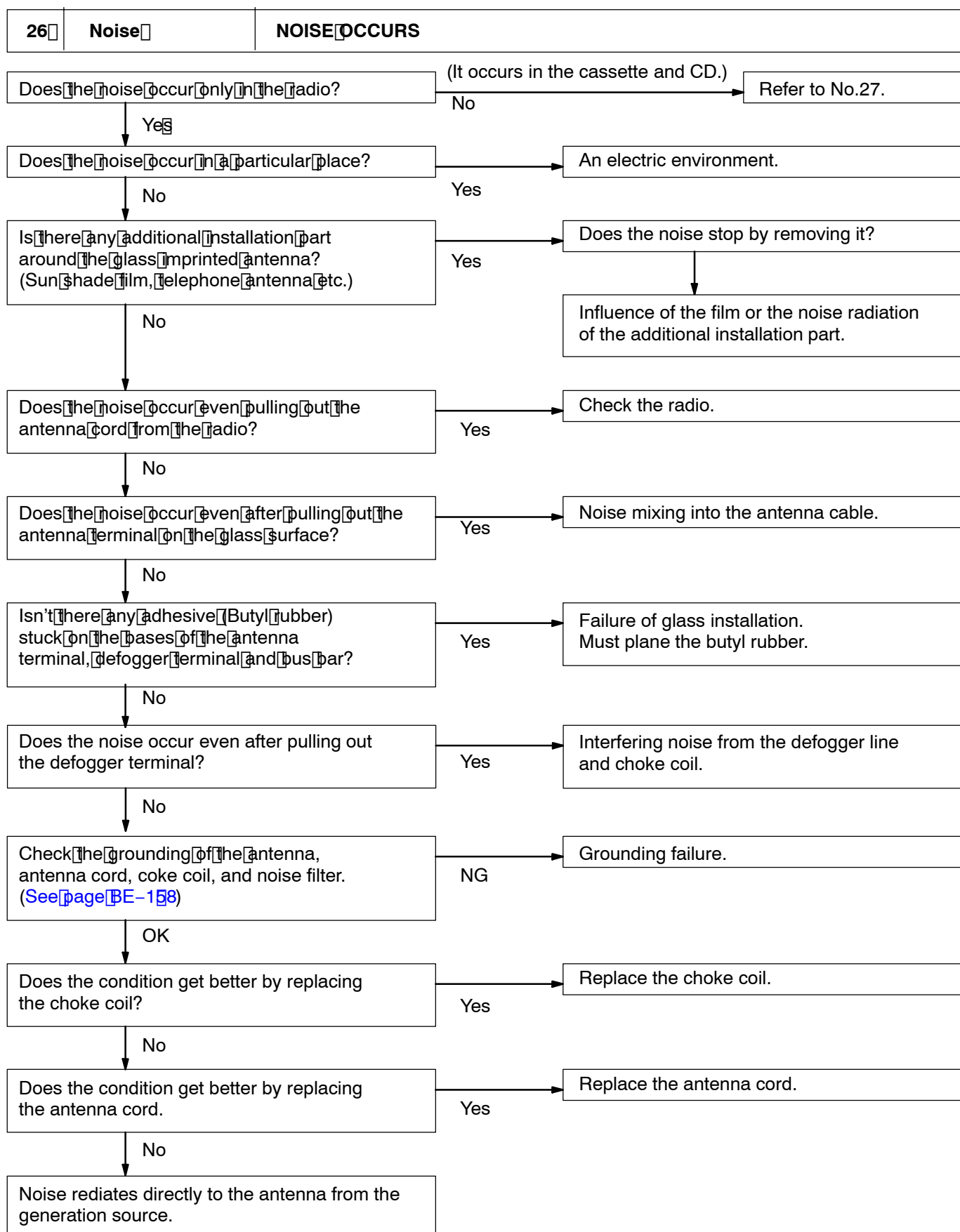
22	CD Player	CD WILL NOT BE EJECTED
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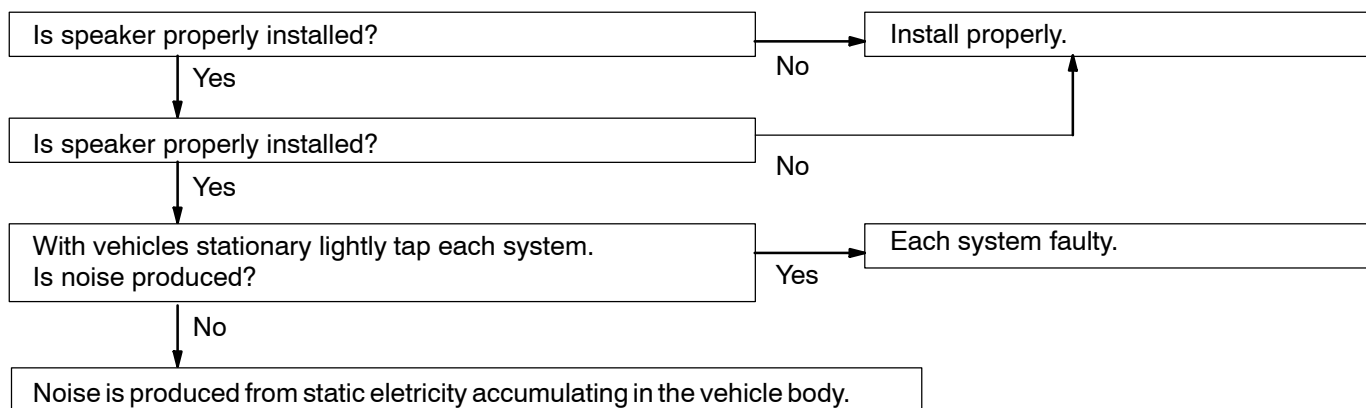




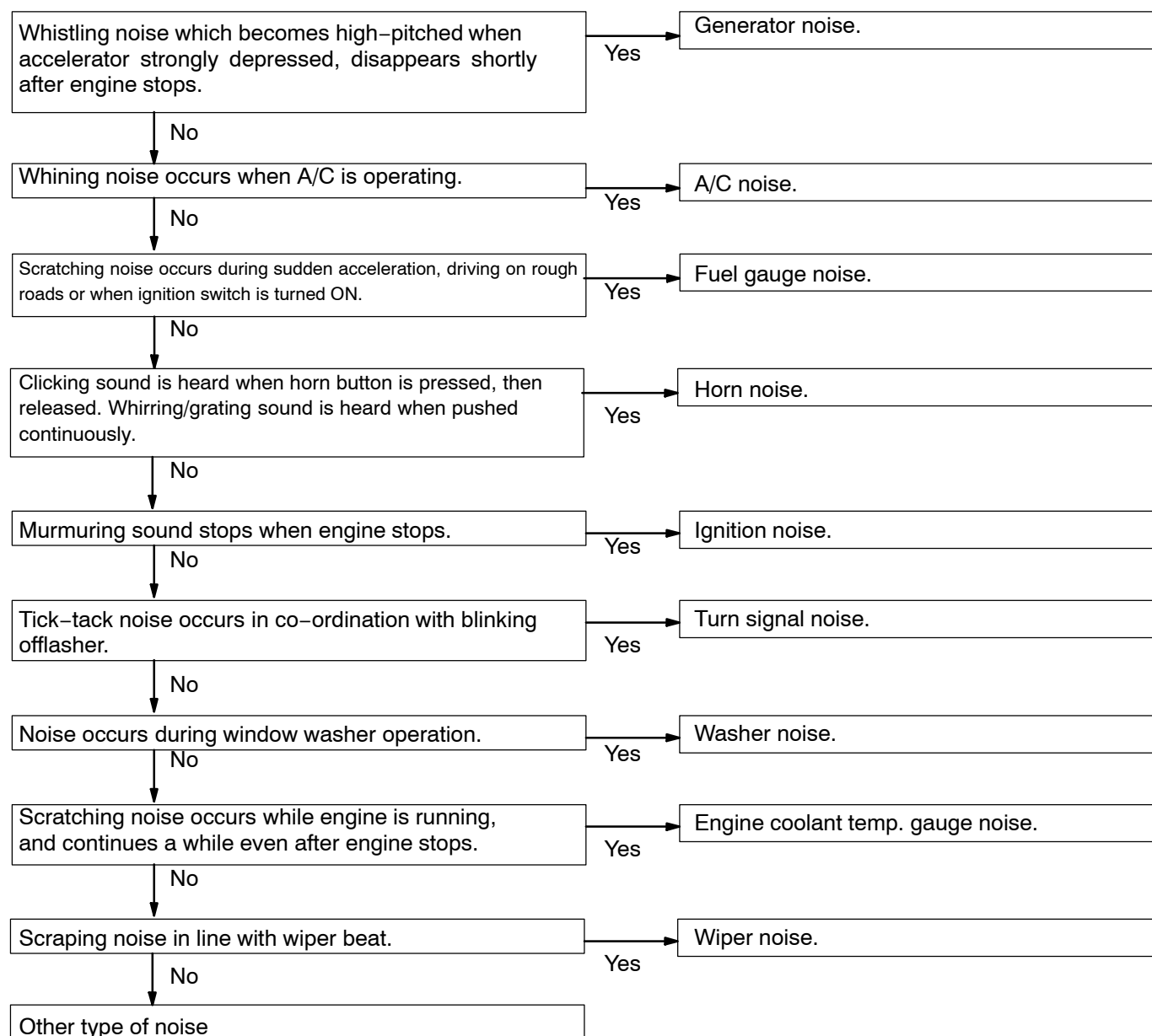




27	Noise	NOISE PRODUCED BY VIBRATION OR SHOCK WHILE DRIVING
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28	Noise	NOISE PRODUCED WHEN ENGINE STARTS
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LOCATION

Engine Room Junction Block

- RADIO No.1 Fuse

Tweeter

Power Amplifier

Radio Assembly

Driver Side Junction Block

- RADIO No.2 Fuse

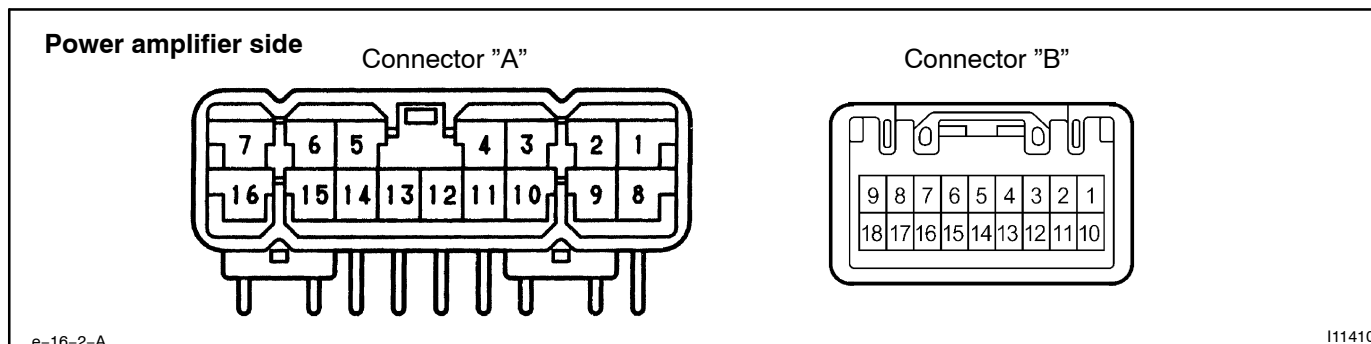
Rear Speakers

Front Speakers

INSPECTION

1. INSPECT POWER AMPLIFIER CIRCUIT

Connect the connector from power amplifier and inspect the connector on the wire harness side.



Tester connection	Condition	Specified condition
A1 – Ground (FL+)	Audio sounding	5 – 7 V
A2 – Ground (FR+)	Audio sounding	5 – 7 V
A3 – Ground (RL+)	Audio sounding	5 – 7 V
A4 – Ground (WL+)	Audio sounding	5 – 7 V
A5 – Ground (RR+)	Audio sounding	5 – 7 V
A6 – Ground (WR+)	Audio sounding	5 – 7 V
A7 – Ground (BU+)	Audio sounding	Battery voltage
A8 – Ground (FL–)	Audio sounding	5 – 7 V
A9 – Ground (FR–)	Audio sounding	5 – 7 V
A10 – Ground (RL–)	Audio sounding	5 – 7 V
A11 – Ground (WL–)	Audio sounding	5 – 7 V
A12 – Ground (GND)	Constant	Continuity
A13 – Ground (N–MUTE)	Audio sounding	Battery voltage
A14 – Ground (RR–)	Audio sounding	5 – 7 V
A15 – Ground (WR–)	Audio sounding	5 – 7 V
A16 – Ground (ACC)	Ignition switch ACC	Battery voltage
B1 – Ground (+B)	Constant	Battery voltage

BODY ELECTRICAL – AUDIO SYSTEM

B3 – Ground (AMP+)	Radio power switch ON	Battery voltage
B5 – Ground (GND)	Constant	Continuity
B7 – Ground (MUTE)	Audio sounding	1 V or below
B8 – Ground (FL)	Audio sounding	1 V or below
B9 – Ground (FR)	Audio sounding	1 V or below
B10 – Ground (ACC)	Ignition switch ACC	Battery voltage
B14 – Ground (GND)	Constant	Continuity
B16 – Ground (BEEP)	Audio sounding	–
B17 – Ground (RL)	Audio sounding	1 V or below
B18 – Ground (RR)	Audio sounding	1 V or below

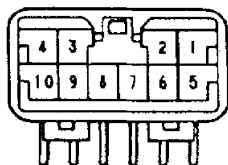
If the circuit is not as specified, inspect the circuits connected to other parts.

2. INSPECT RADIO RECEIVER ASSEMBLY CIRCUIT

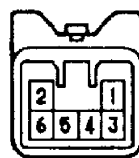
Connect the connectors from the radio receiver assembly, and inspect the connector on the wire harness side.

Radio Receiver Side

Connector "A"



Connector "B"



I12416

Tester connection	Condition	Specified condition
A1 – Ground (FR+)	Audio sounding	5 – 7 V
A2 – Ground (FL+)	Audio sounding	5 – 7 V
A3 – Ground (ACC, +B)	Ignition switch ACC	Battery voltage
A4 – Ground (BU +B)	Constant	Battery voltage
A5 – Ground (FR–)	Audio sounding	5 – 7 V
A6 – Ground (FL–)	Audio sounding	5 – 7 V
A7 – Ground (GND)	Constant	Continuity
A8 – Ground (ANT +B)	Radio power switch ON	Battery voltage
A10 – Ground (ILL+)	Headlight dimmer switch ON	Battery voltage
B1 – Ground (RR+)	Audio sounding	5 – 7 V
B2 – Ground (RL+)	Audio sounding	5 – 7 V
B3 – Ground (RR–)	Audio sounding	5 – 7 V
B4 – Ground (RL–)	Audio sounding	5 – 7 V

*: w/ LEXUS navigation system

If the circuit is not as specified, inspect the circuits connected to other parts.

HINT:

Check the wire harness between radio receiver assembly and the CD auto changer, between radio receiver assembly and power amplifier.

3. INSPECT GLASS IMPRINTED ANTENNA

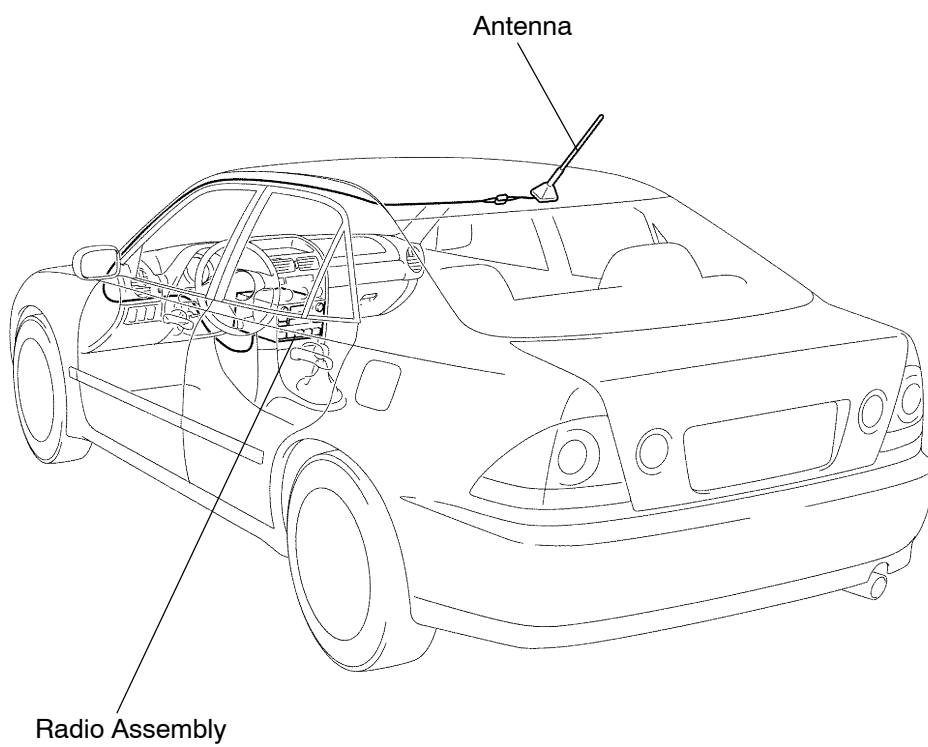
Use same procedure as for "INSPECT DEFOGGER WIRES" on [page BE-96](#).

4. REPAIR GLASS IMPRINTED ANTENNA

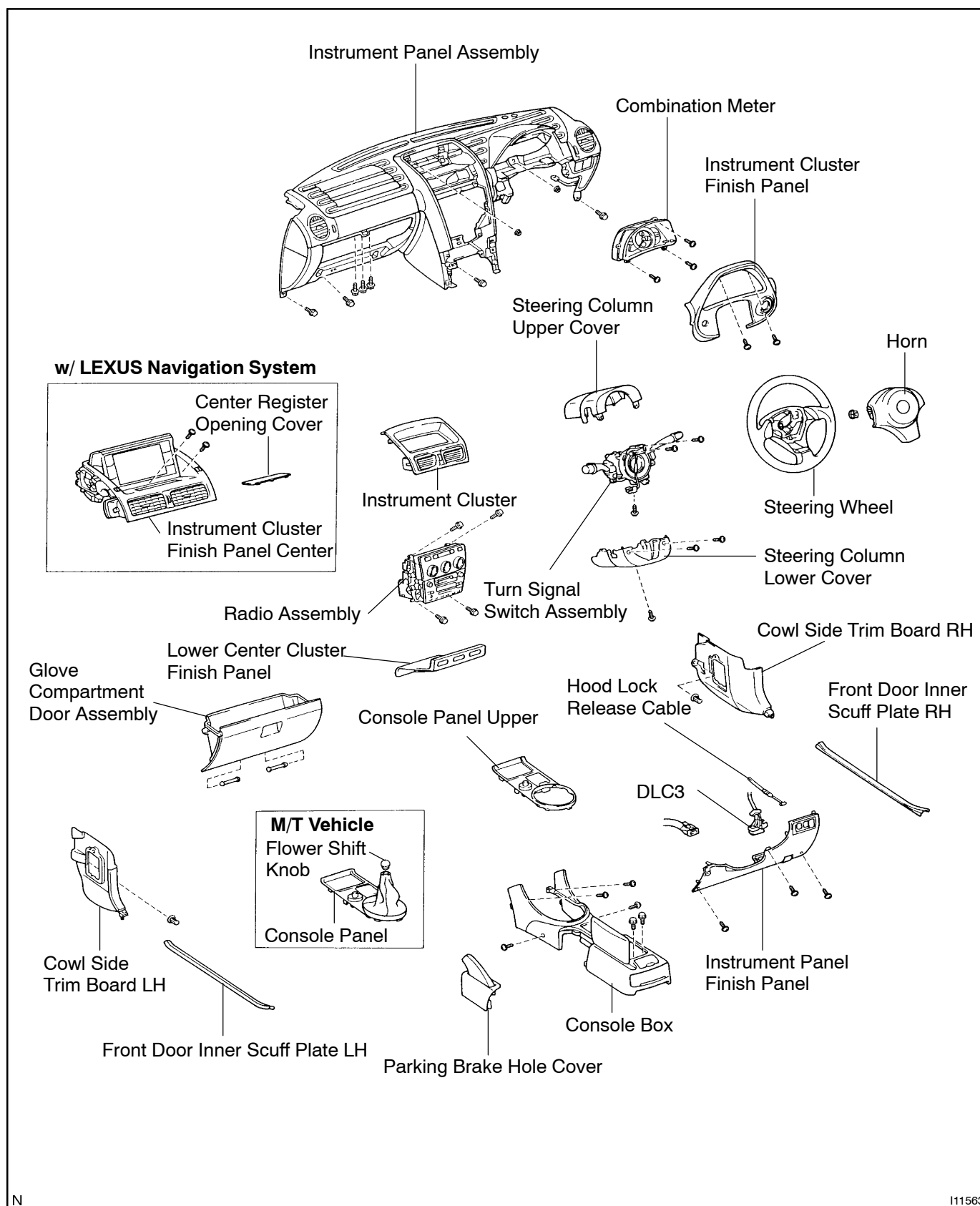
Use same procedure as for "REPAIR DEFOGGER WIRES" on [page BE-96](#).

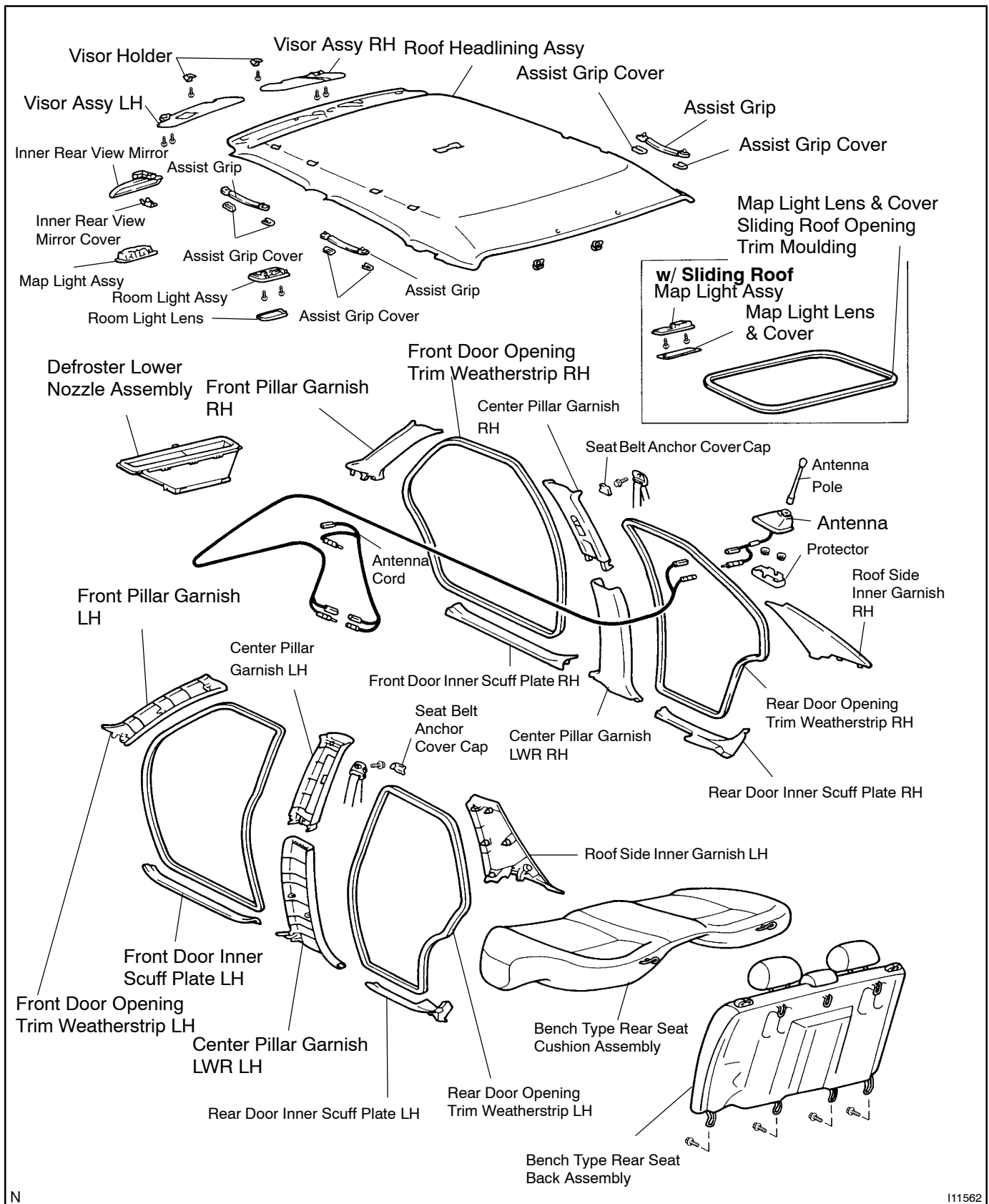
ANTENNA LOCATION

BE16N-01



COMPONENTS



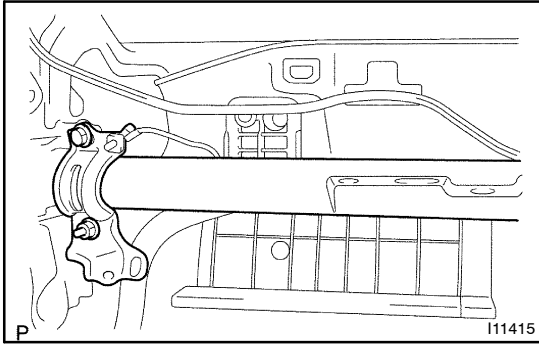


REMOVAL

HINT:

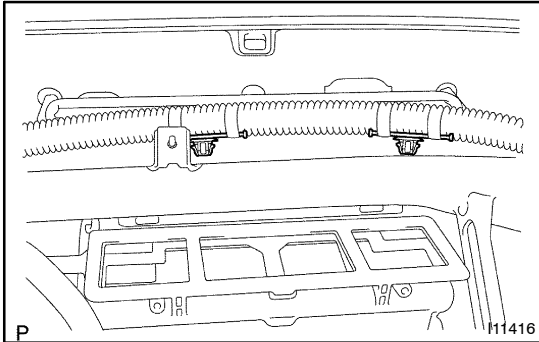
Installation is in the reverse order of removal.

1. **w/o LEXUS Navigation System:**
REMOVE INSTRUMENT CLUSTER FINISH PANEL CENTER
2. **w/ LEXUS Navigation System:**
REMOVE CENTER CLUSTER OPENING COVER
3. **w/ LEXUS Navigation System:**
REMOVE INSTRUMENT CLUSTER FINISH PANEL CENTER
4. **REMOVE INSTRUMENT CLUSTER FINISH PANEL CENTER LOWER**
5. **REMOVE AIR CONDITIONER ASSEMBLY**
6. **M/T Vehicle:**
REMOVE FLOWER SHIFT LEVER KNOB
7. **REMOVE CONSOLE PANEL UPPER**
8. **REMOVE PARKING BRAKE HOLE COVER**
9. **REMOVE CONSOLE BOX**
10. **REMOVE GLOVE COMPARTMENT DOOR ASSEMBLY**
11. **REMOVE HORN BUTTON**
12. **REMOVE STEERING WHEEL**
13. **REMOVE STEERING COLUMN LOWER COVER**
14. **REMOVE STEERING COLUMN UPPER COVER**
15. **REMOVE TURN SIGNAL SWITCH ASSEMBLY**
16. **REMOVE INSTRUMENT PANEL FINISH PANEL LOWER**
17. **REMOVE INSTRUMENT CLUSTER FINISH PANEL**
18. **REMOVE COMBINATION METER**
19. **REMOVE FRONT DOOR INNER SCUFF PLATE RH**
20. **REMOVE FRONT DOOR INNER SCUFF PLATE LH**
21. **REMOVE COWL SIDE TRIM BOARD RH**
22. **REMOVE COWL SIDE TRIM BOARD LH**
23. **REMOVE FRONT DOOR OPENING TRIM WEATHERSTRIP RH**
24. **REMOVE FRONT DOOR OPENING TRIM WEATHERSTRIP LH**
25. **REMOVE FRONT PILLAR GARNISH RH**
26. **REMOVE FRONT PILLAR GARNISH LH**
27. **DISCONNECT PASSENGER AIRBAG CONNECTOR**
28. **REMOVE INSTRUMENT PANEL ASSEMBLY**



29. REMOVE INSTRUMENT PANEL REINFORCEMENT BRACKET

Remove the bolt and nut and pull instrument panel reinforcement.



30. REMOVE A PART OF INSTRUMENT PANEL WIRE

Remove the 2 clips and a part of instrument panel wire.

31. REMOVE DEFROSTER LOWER NOZZLE

32. REMOVE BENCH TYPE REAR SEAT CUSHION ASSEMBLY

33. REMOVE BENCH TYPE REAR SEAT BACK ASSEMBLY

34. REMOVE REAR DOOR INNER SCUFF PLATE RH

35. REMOVE REAR DOOR INNER SCUFF PLATE LH

36. REMOVE REAR DOOR OPENING TRIM WEATHER STRIP RH

37. REMOVE REAR DOOR OPENING TRIM WEATHER STRIP LH

38. REMOVE CENTER PILLAR GARNISH LOWER RH

39. REMOVE CENTER PILLAR GARNISH LOWER LH

40. REMOVE SEAT BELT ANCHOR COVER CAP

41. REMOVE FRONT SEAT OUTER BELT ASSEMBLY RH

42. REMOVE FRONT SEAT OUTER BELT ASSEMBLY LH

43. REMOVE CENTER PILLAR GARNISH RH

44. REMOVE CENTER PILLAR GARNISH LH

45. REMOVE ROOF SIDE INNER GARNISH RH

46. REMOVE ROOF SIDE INNER GARNISH LH

47. REMOVE ASSIST GRIP COVER

48. REMOVE ASSIST GRIP

49. REMOVE VISOR ASSEMBLY RH

50. REMOVE VISOR ASSEMBLY LH

51. REMOVE INNER REAR VIEW MIRROR STAY HOLDER COVER

52. REMOVE INNER REAR VIEW MIRROR

53. REMOVE MAP LIGHT ASSEMBLY

54. REMOVE ROOM LIGHT ASSEMBLY

55. w/ Sliding Roof:

REMOVE SLIDING ROOF OPENING TRIM MOULDING

56. REMOVE VISOR HOLDER

57. REMOVE ROOF HEADLINING ASSEMBLY

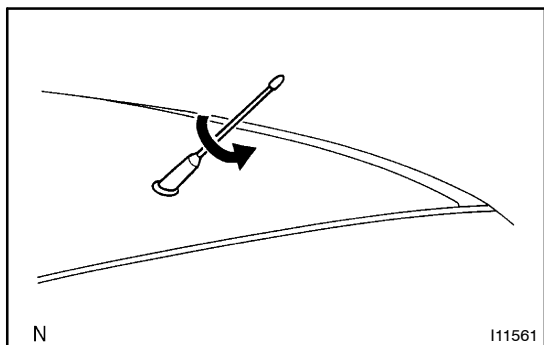
58. REMOVE ANTENNA ASSEMBLY

(a) Remove the 2 nuts and disconnect the connector.

(b) Remove the antenna assembly.

59. REMOVE ANTENNA COED

Remove the clamp and the antenna cord.

**60. REMOVE ANTENNA POLE**

Turn the antenna pole counterclockwise to remove.

CLOCK
TROUBLESHOOTING

BE0G0-04

HINT:
Troubleshoot the clock according to the table below.

Troubleshooting	No.
Passenger seat belt warning light does not light up.	1
Clock will not operate	1
Clock loses or gains time	2

± 1.5 seconds/day

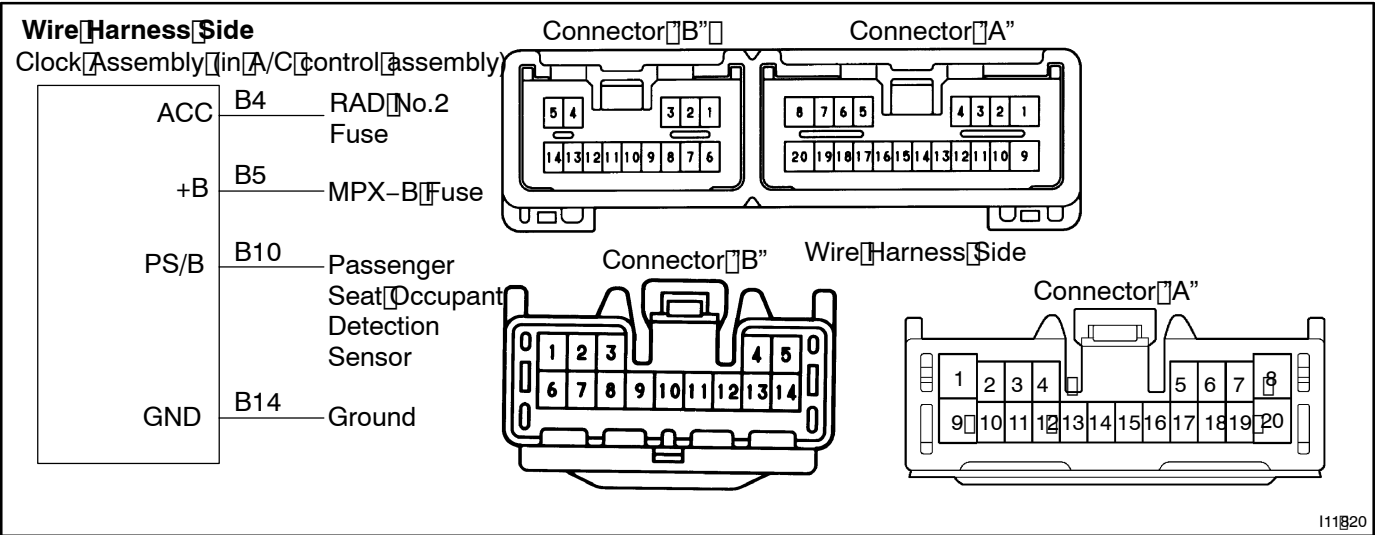
INSPECT CLOCK CIRCUIT
(See page DI-667)

TROUBLESHOOTING NO.1

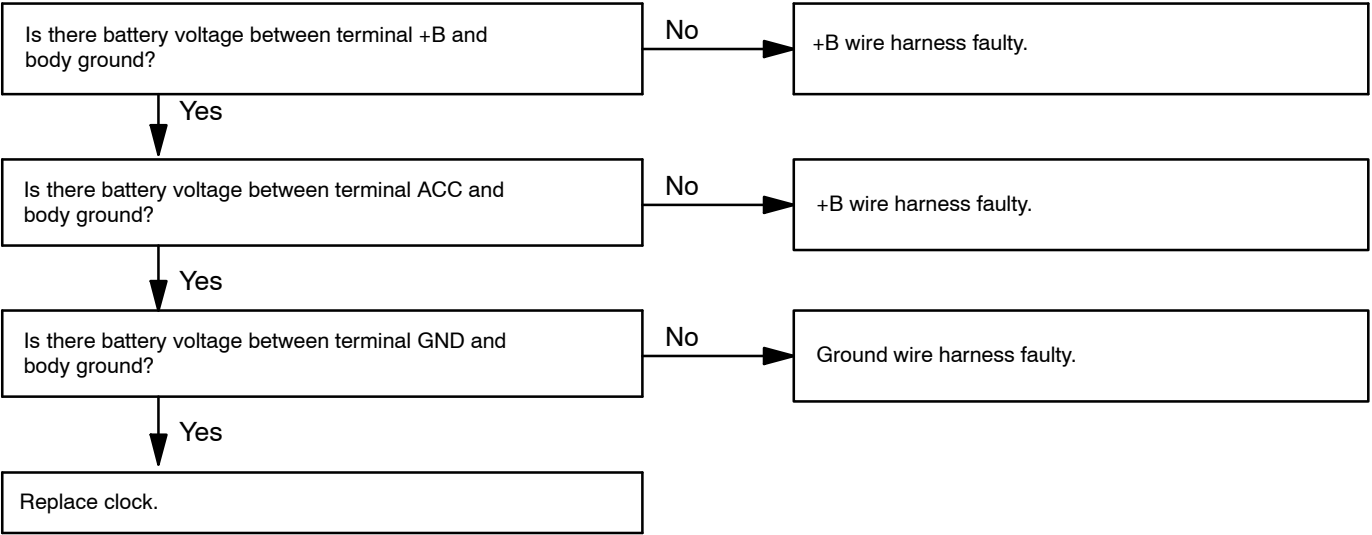
1	PASSENGER SEAT BELT WARNING LIGHT DOES NOT OPERATE
	CLOCK WILL NOT OPERATE

- (a) Check that the battery voltage is 10 – 16 V.
If voltage is not as specified, replace the battery.
- (b) Check that the MPX-B and RAD No.2 fuses are not blown.
If the fuse is blown, replace the fuse and check for short.
- (c) Troubleshoot the clock as follows.

HINT:
Inspect the connector on the wire harness side.



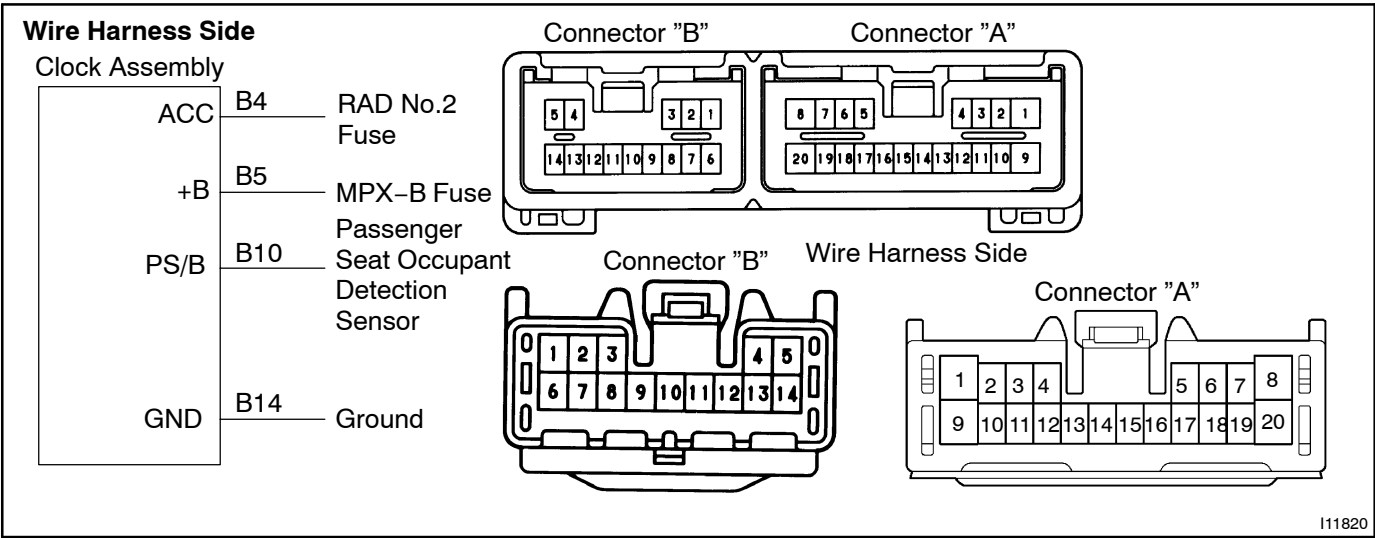
BODY ELECTRICAL - CLOCK

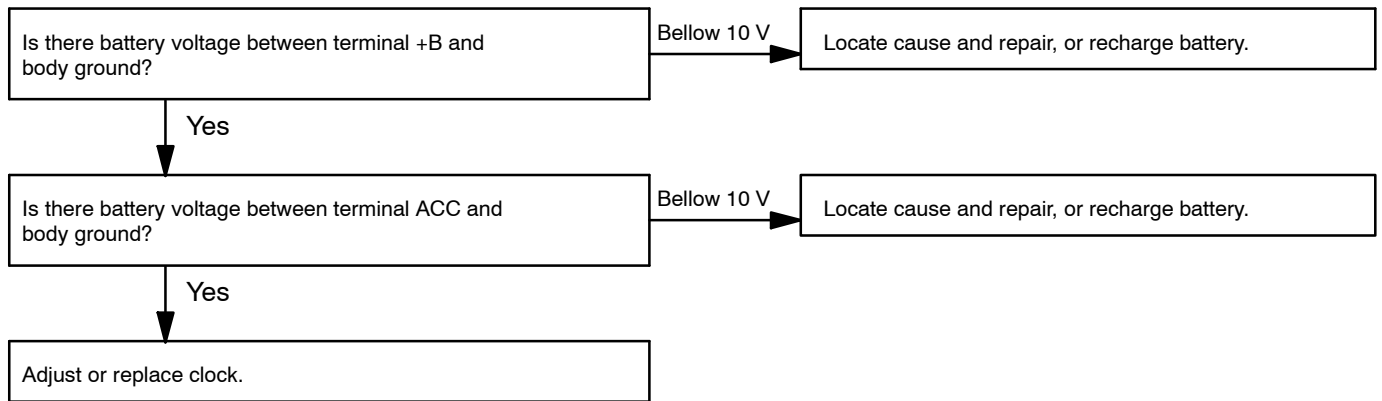


TROUBLESHOOTING NO.2

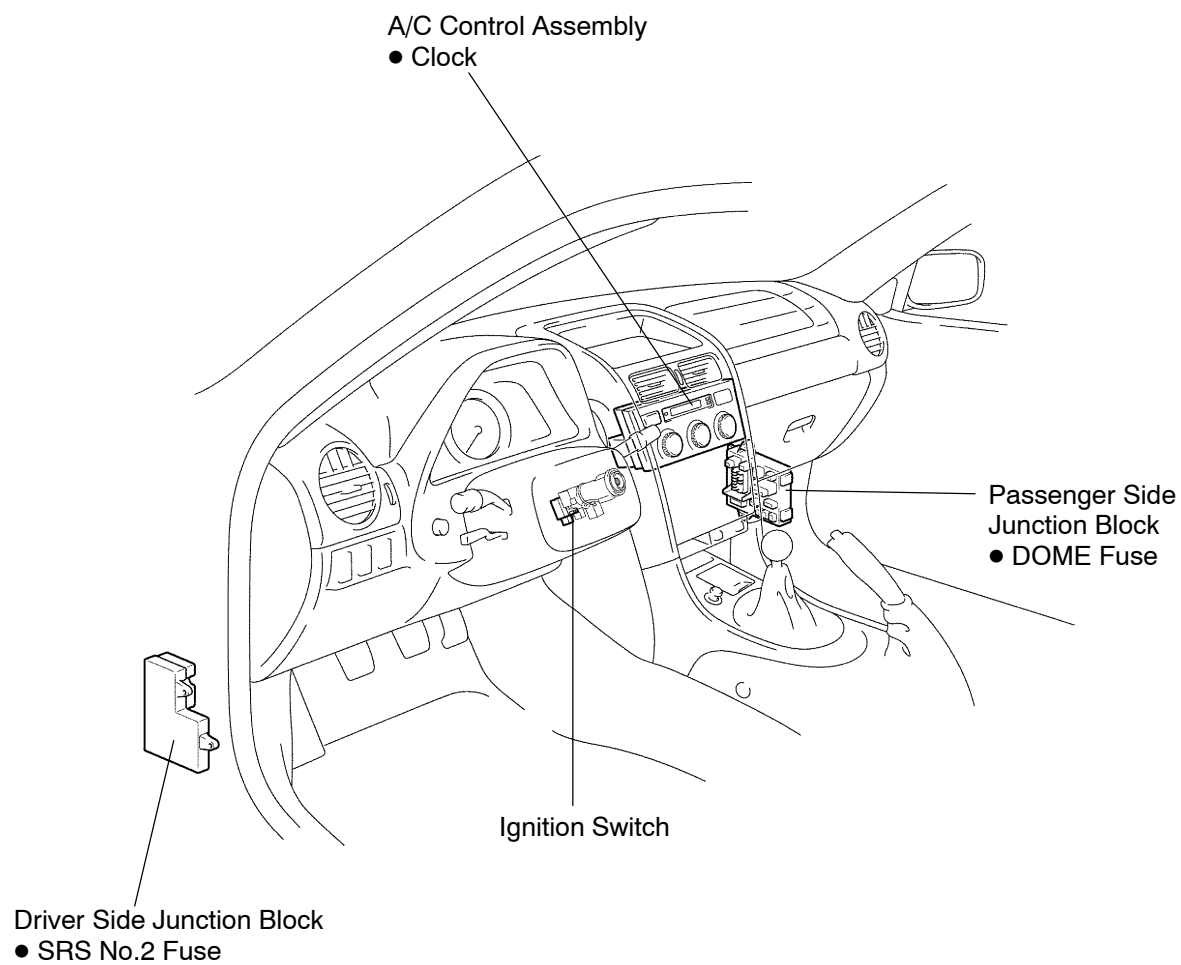
2	CLOCK LOSES OR GAINS TIME
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- (a) Check that the battery voltage is 10 – 16 V.
If voltage is not as specified, replace the battery.
- (b) Inspect the error of the clock.
- Allowable error (per day): ± 1.5 seconds**
- If the error exceeds the allowable error, replace the clock.
- (c) Check that the clock adjusting button is sticking in position and has failed to return.
If the error exceeds the allowable error, replace the clock.
- (d) Troubleshoot the clock as follows.
- HINT:
Inspect the connector on the wire harness side.



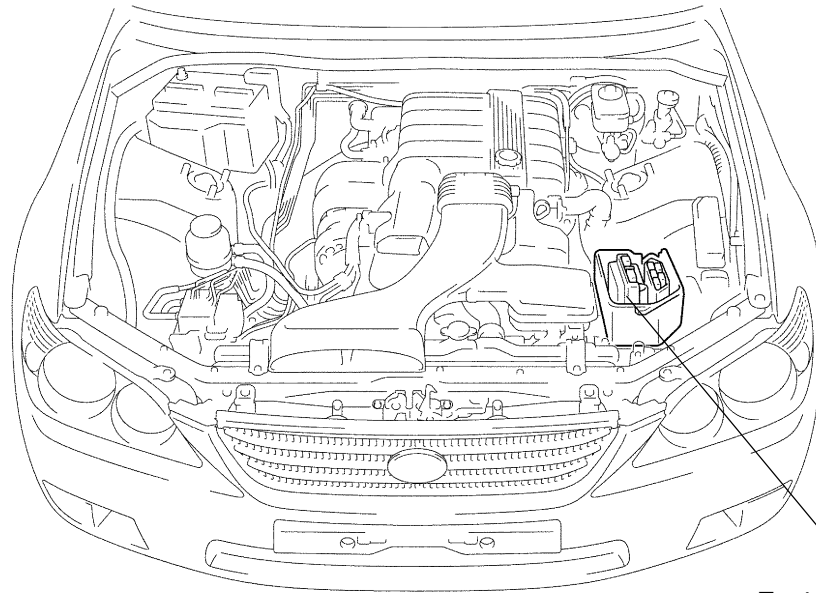


LOCATION

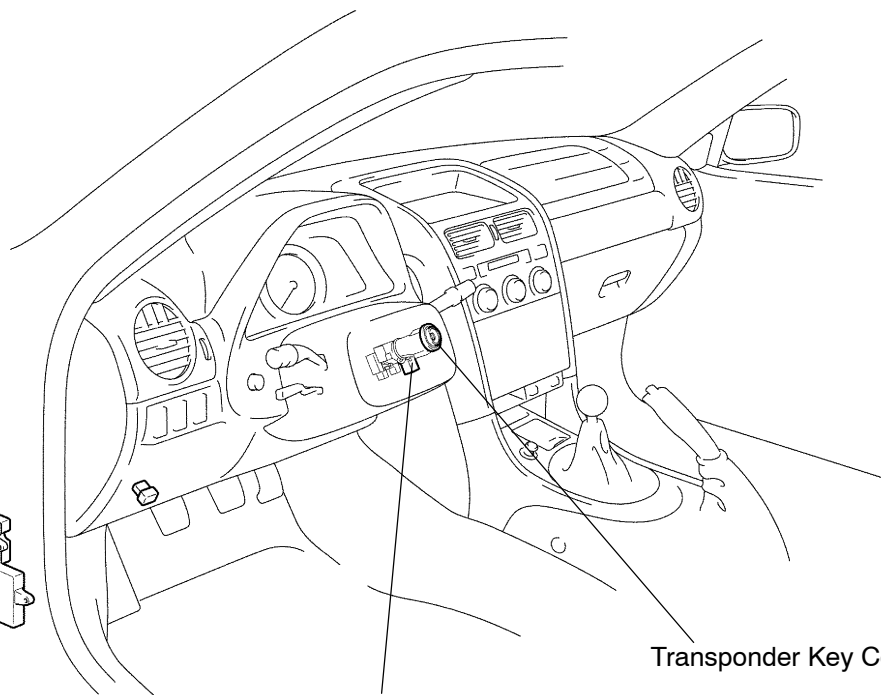


ENGINE IMMOBILISER SYSTEM LOCATION

BE02Q-14



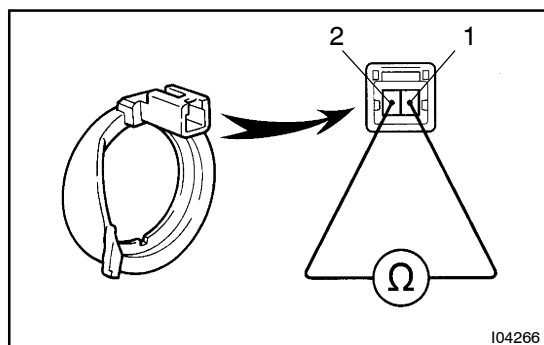
Engine and ECT ECU



Driver Side
Junction Block
● IGN Fuse

Transponder Key Amplifier

Transponder Key Coil



INSPECTION

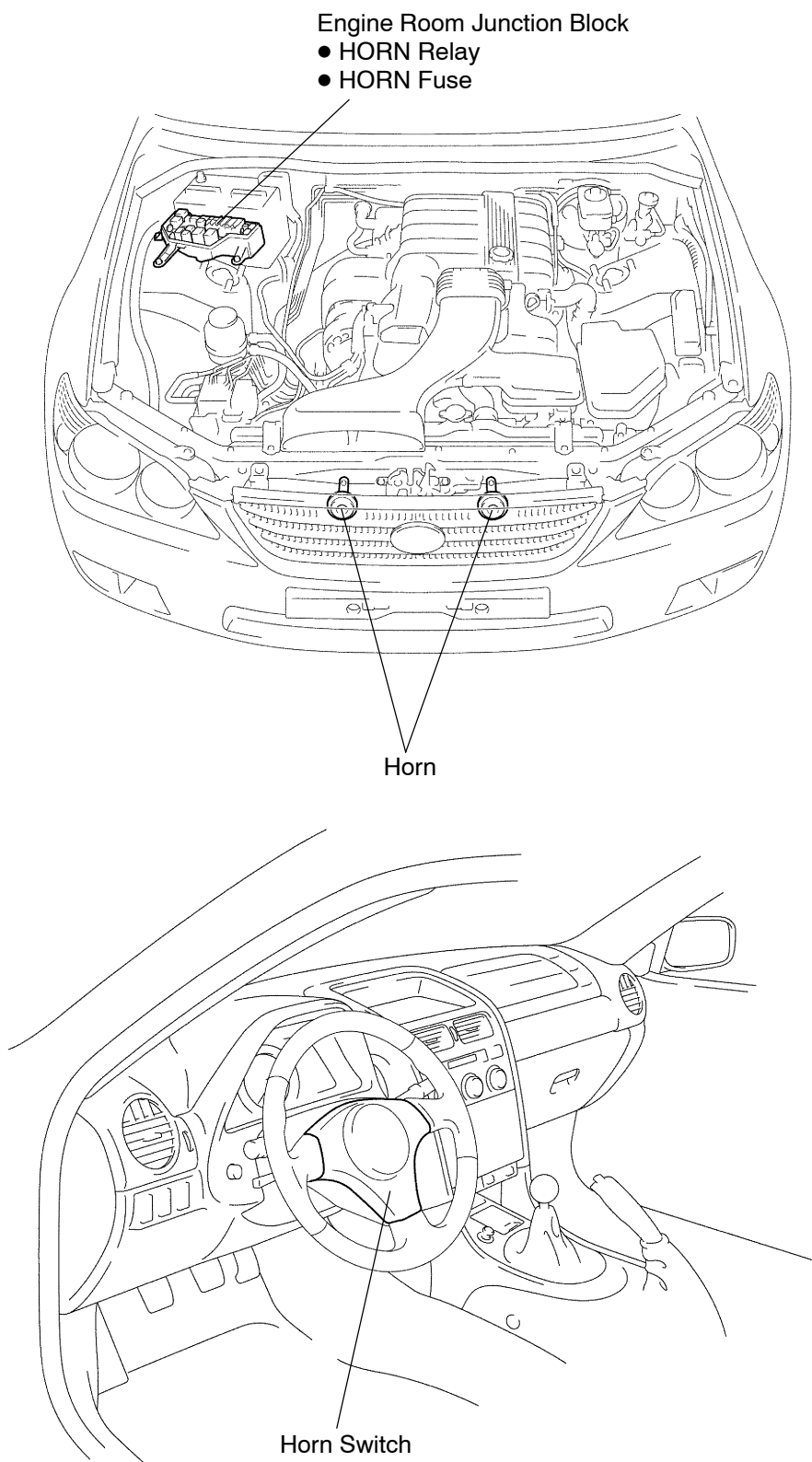
INSPECTION TRANSPONDER KEY COIL CONTINUITY

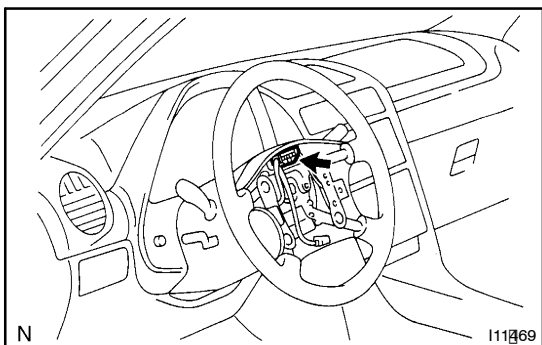
Check that continuity exists between terminals 1 and 2.

If continuity is not as specified, replace the coil.

HORN SYSTEM LOCATION

BE0FY-08





INSPECTION

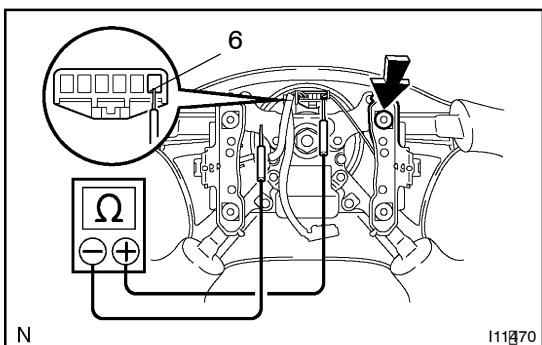
1. INSPECT HORN SWITCH

- Disconnect the negative (-) terminal from the battery.
- Remove the left and right covers from the steering wheel.
- Using a torx socket wrench, loosen the 2 bolts.
- Pull up the horn pad and place it on the steering column, as shown.

HINT:

Do not disconnect the connector from the horn pad.

- Disconnect the connector from the slip ring.



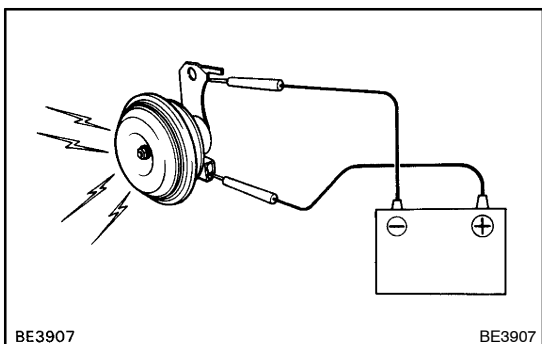
- Check that no continuity exists between terminal 6 of the connector and body ground.
- Check that continuity exists between terminal 6 of the connector and body ground when the horn contact plate is pressed against the steering spoke assembly.

If continuity is not as specified, repair or replace the steering wheel or wire harness as necessary.

- Install the horn pad in place and using a torx socket wrench, torque the 2 bolts.

Torque: 7.1 N·m (72 kgf·cm, 62 in·lbf)

- Install the left and right covers.
- Connect the negative (-) terminal to the battery.



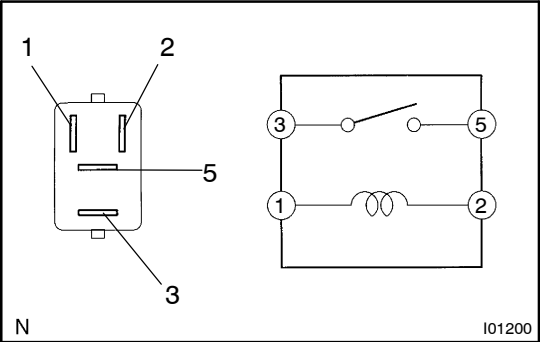
2. INSPECT HORN OPERATION

Connect the positive (+) lead from the battery to the terminal and negative (-) lead to the horn body and check that the horn blows.

If operation is not as specified, replace the horn.

3. INSPECT HORN SWITCH CIRCUIT

(See page DI-451)



4. INSPECT HORN RELAY CONTINUITY

Condition	Tester connection	Specified condition
Constant	1 – 2	Continuity
Apply B+ between terminals 1 and 2.	3 – 5	Continuity

If continuity is not as specified, replace the relay.

5. INSPECT HORN RELAY CIRCUIT
(See page DI-451)