

# TROUBLESHOOTING

## 1. DIAGNOSIS FUNCTION

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

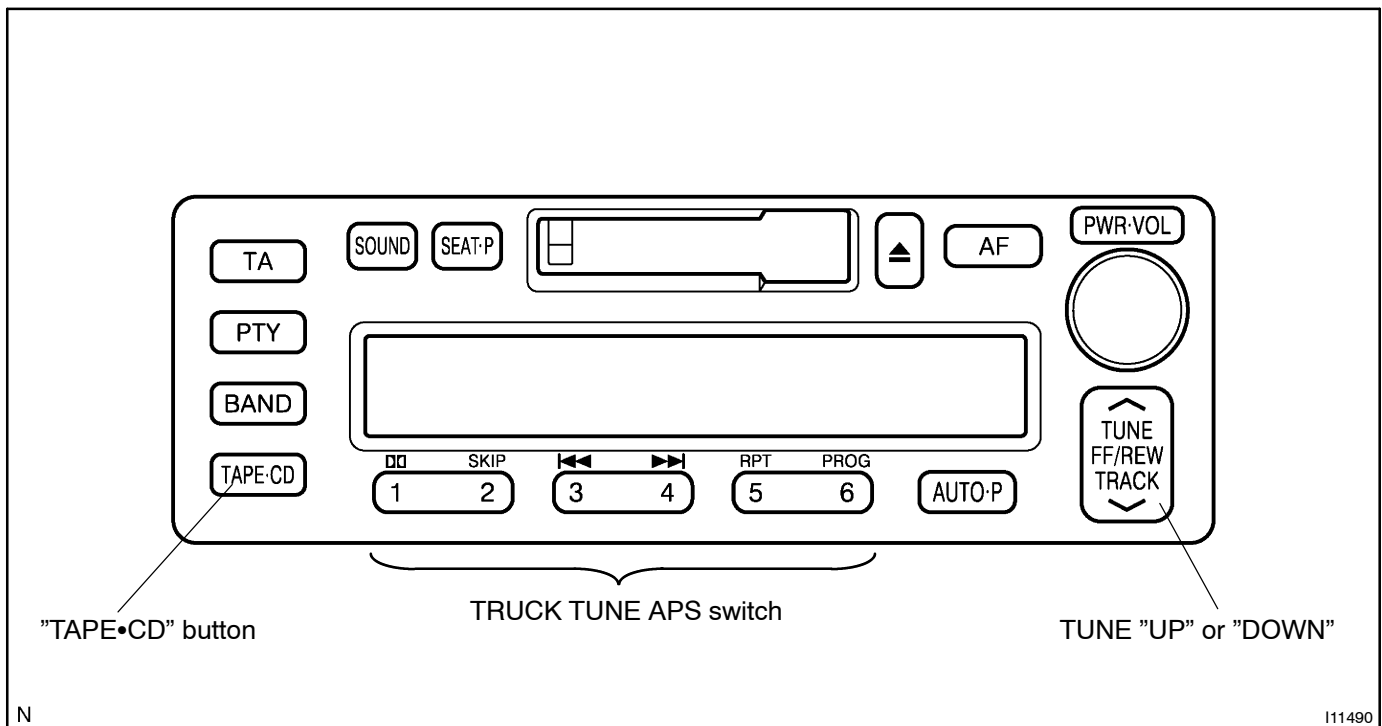
### (a) Diagnosis start-up

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

To exit from diagnosis mode, press "TAPE•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 TRUCK TUNE APS 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)
1c0	Rear controller
360	CD changer (in center console and glove compartment box)
440	Power amplifier

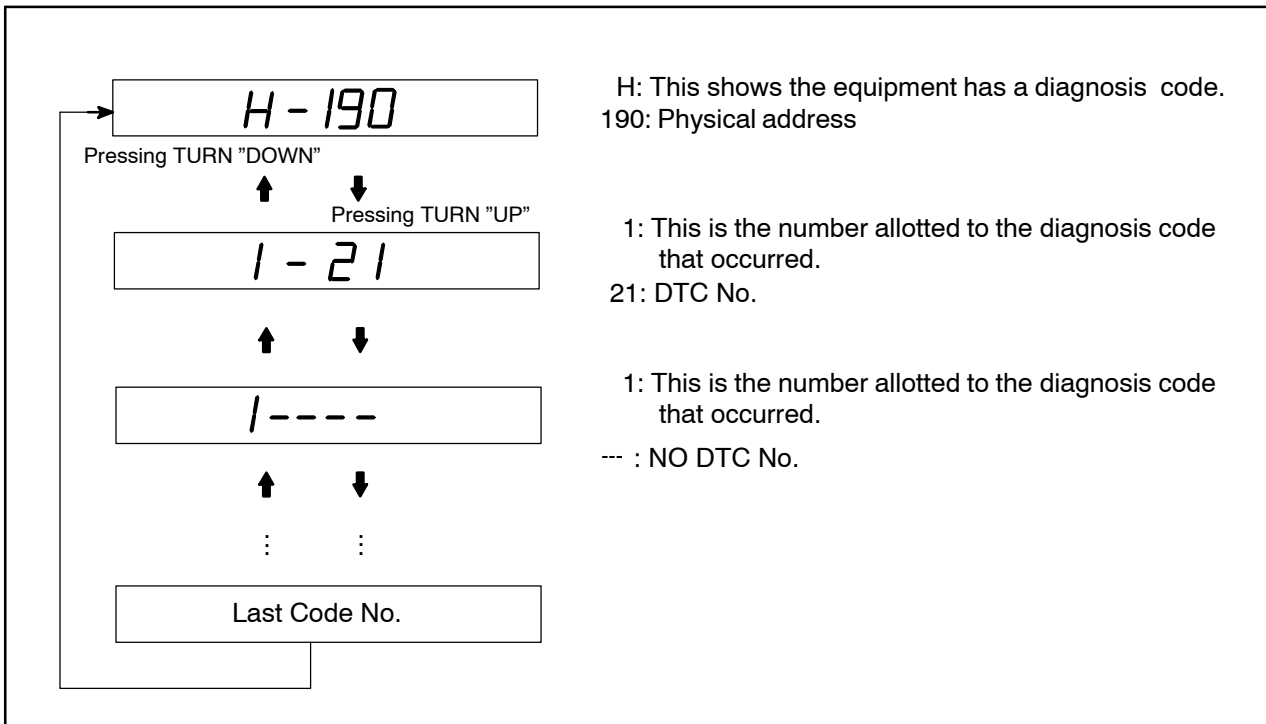
(c) System check

When pressing "1" of TRUCK TUNE APS 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 TRUCK TUNE APS switch the mode returns to LAN check mode.



## (d) Diagnosis memory

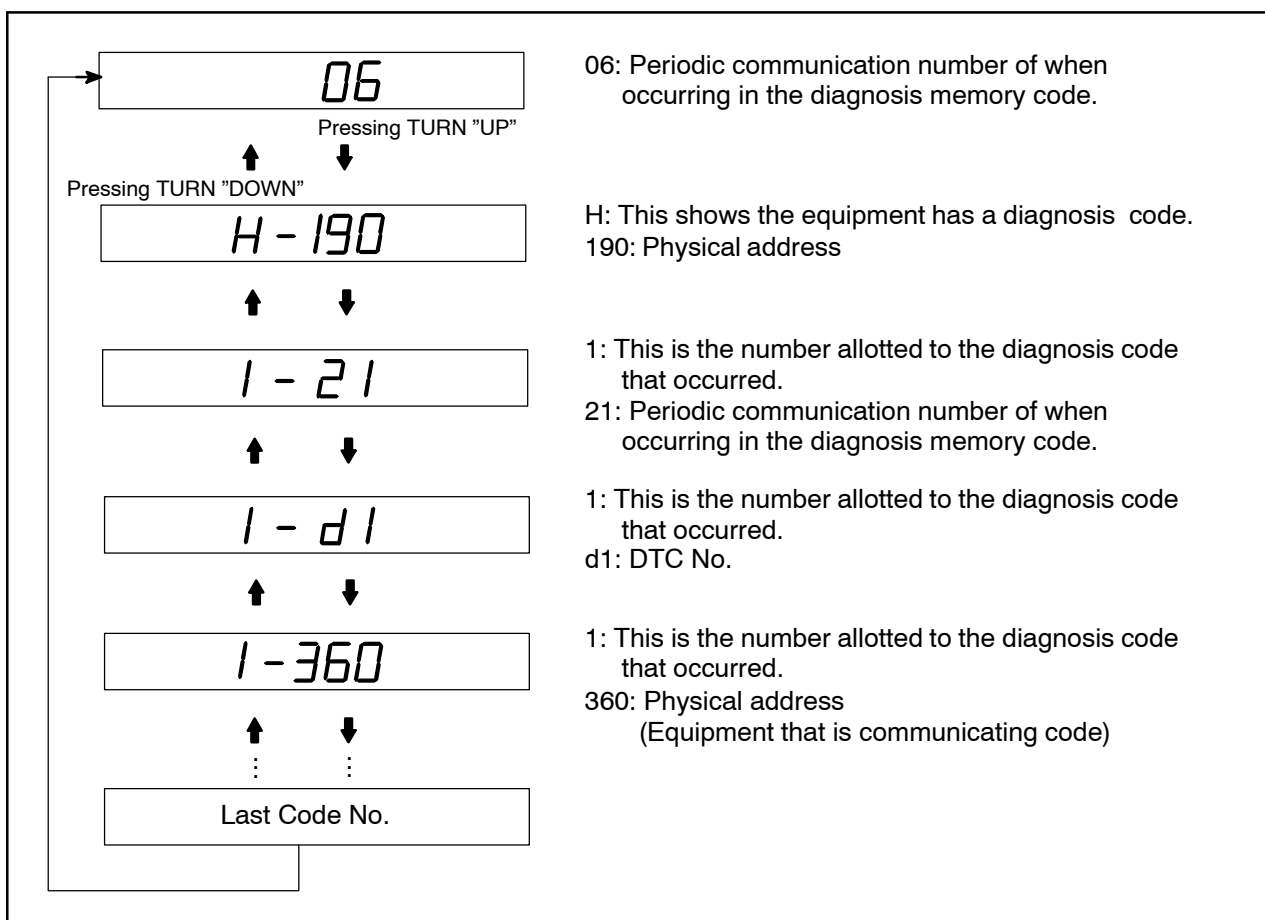
- (1) In LAN check mode, when pressing "2" of TRUCK TUNE APS switch the mode turns to the diagnosis memory mode. ("CODE" is displayed.)

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 TRUCK TUNE APS 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 function switch "5" for 2 secs. (CLr is displayed.)
- (3) Press the function switch "2" and transfer to the diagnosis memory mode and check that the normal code (00) is output.

## 2. 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)	21	ROM error	There is an error on internal ROM.	Radio receiver check.	○	X
	22	RAM error	There is an error on internal RAM.		○	X
	41	AM tuner error	There is an error in AM tuner.		X	○
	42	FM tuner error	There is an error in FM tuner.		X	○
	43	SW tuner error	There is an error in SW tuner.		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
CD (360)	21	ROM error	There is an error on internal ROM.	CD changer check.	○	X
	22	RAM error	There is an error on internal RAM.		○	X
	60	CD error	Error codes other than 61-69 are detected.		X	○
	61	EJECT error	CD is not ejected.	CD changer check. Magazine check.	X	○
	62	DISC inside out/flaw	CD is inserted inside out or it has a flaw.	CD check.	X	○
	63	Pickup temperature detection	High temperature of CD changer is detected.	CD changer check.	X	○
	64	Excessive current detection	Excessive current to CD changer is detected.		X	○
	67	Tray insertion/ discharging error	An error occurs in insertion and discharging operation of CD changer tray.	CD changer check. Magazine check.	X	○

Parts Name	DTC	Diagnosis item	Diagnosis content	Countermeasure and inspected parts	System Check	Diagnosis memory
CD (360)	68	Elevator error	An error occurs in elevator of CD changer elevator.	CD changer check.	X	○
	69	Clamp error	An error occurs in CD changer clamp.		X	○
	D1	Transmitter error	Communication with the equipment that is communicating has failed successively.		○	○
	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.	CD changer check.	○	X
AMP (440)	D1	Transmitter error	Communication with the equipment that is communicating has failed successively.	Stereo component amplifier 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.	Stereo component amplifier check.	○	X
Rear Control (1c4)	D1	Transmitter error	Communication with the equipment that is communicating has failed successively.	Rear controller check	○	○
	D4	Periodic communication error	Connection confirmation has not come from the equipment that is communicating	● Radio receiver check. ● Wire harness check.	X	○

**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:**

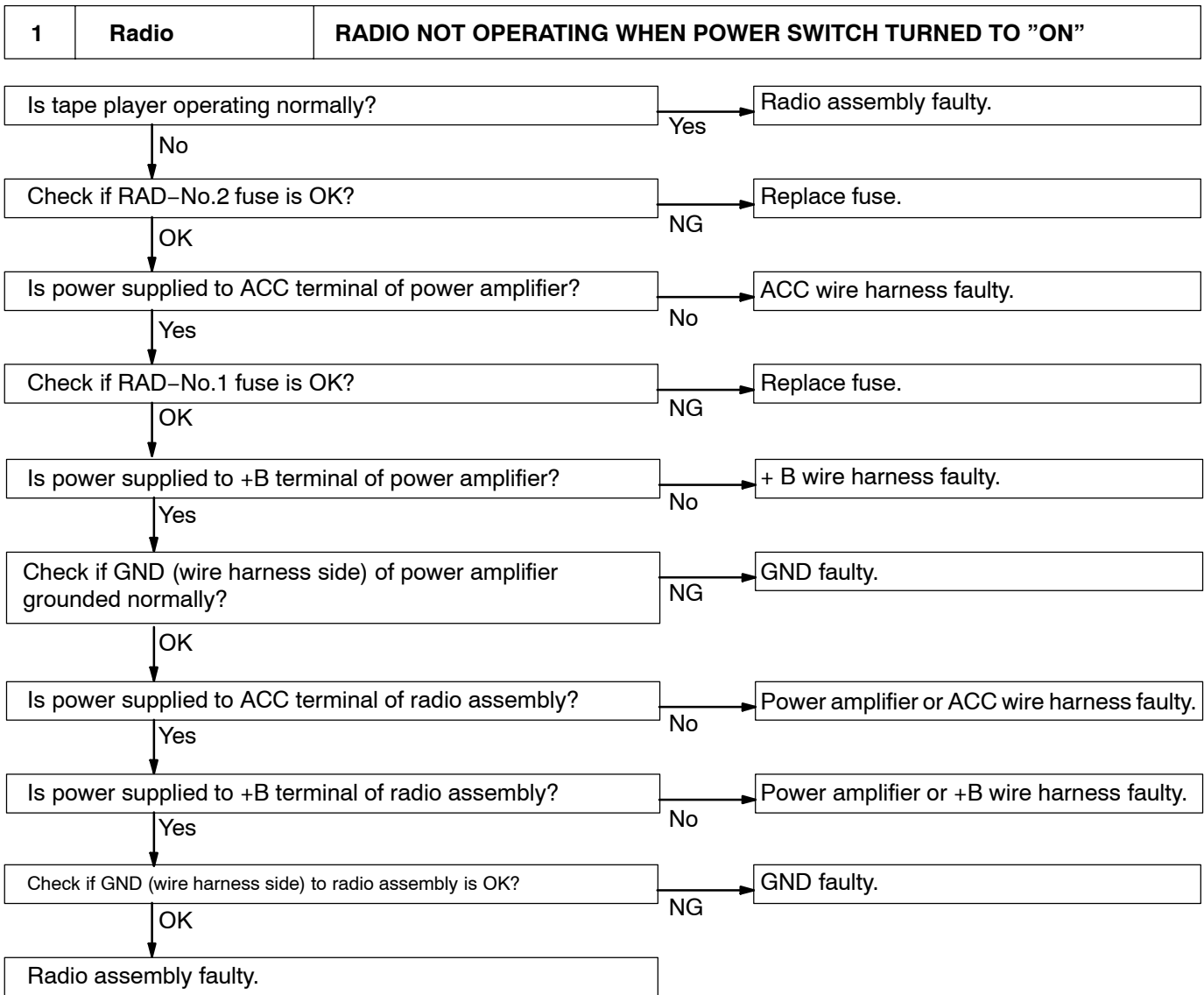
This inspection procedure is a simple troubleshooting which should be carried out on the vehicle during system operation and was prepared on the assumption of system component troubles (except for the wires and connectors, etc.).

Always inspect the trouble taking the following items into consideration.

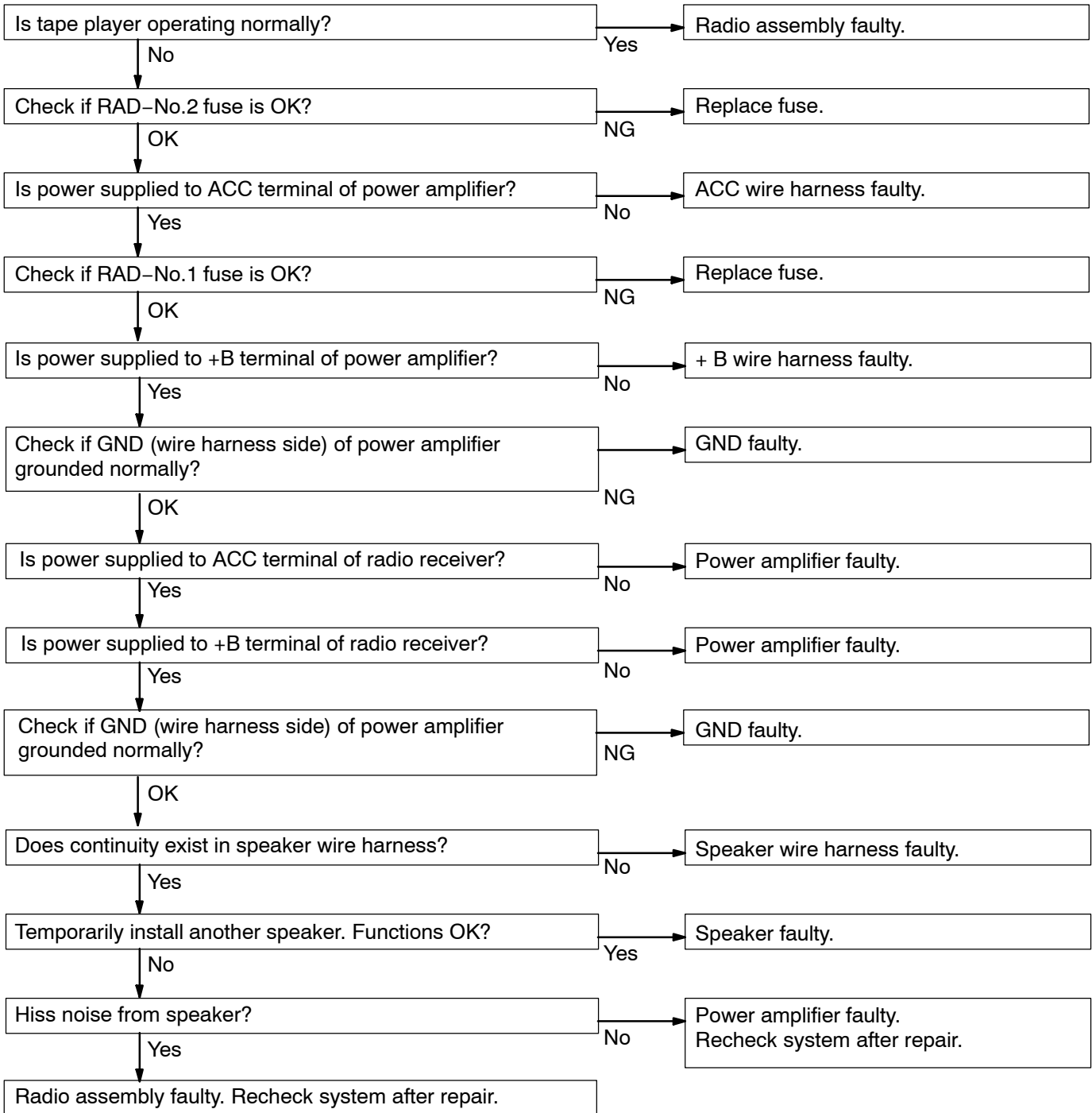
- Open or short circuit of the wire harness
- Connector or terminal connection fault
- For audio systems with anti-theft system, troubleshooting items marked ( \* ) indicate that "Troubleshooting for ANTI-THEFT SYSTEM" should be carried out first.

	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
	Preset memory disappears.	8
Tape Player	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.

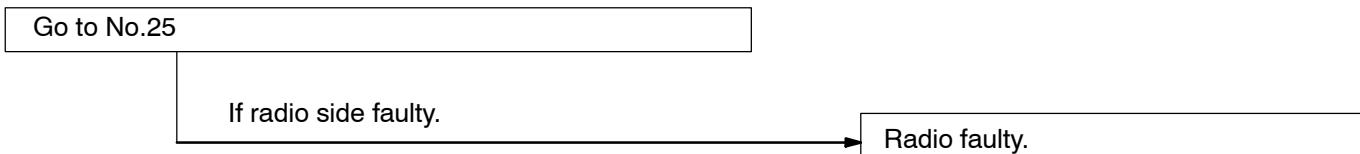


2	Radio	<b>DISPLAY INDICATES WHEN POWER SWITCH TURNED TO "ON", BUT NO SOUND (INCLUDING "NOISE") IS PRODUCED</b>
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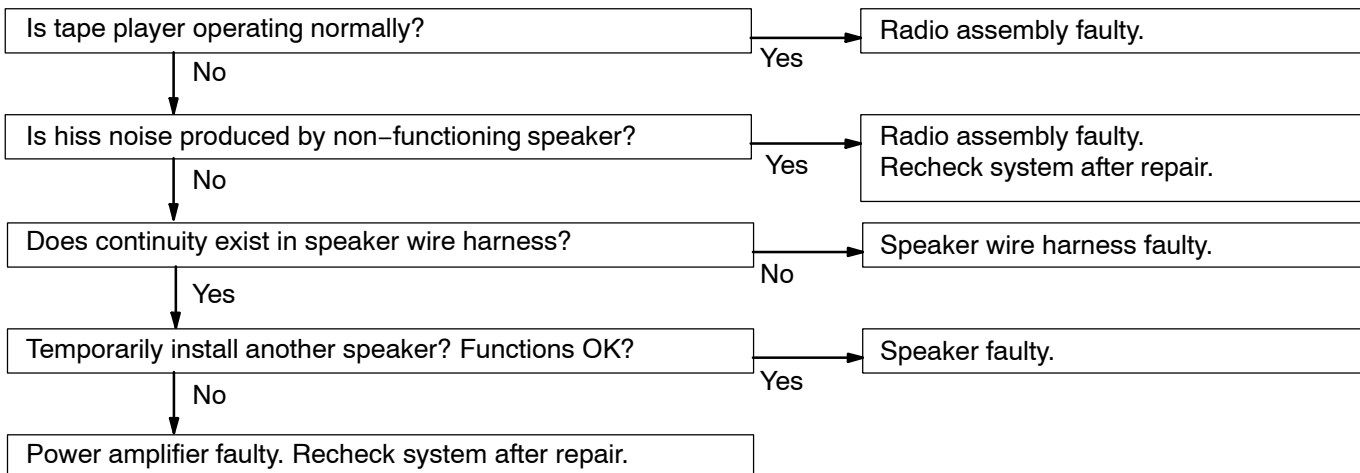




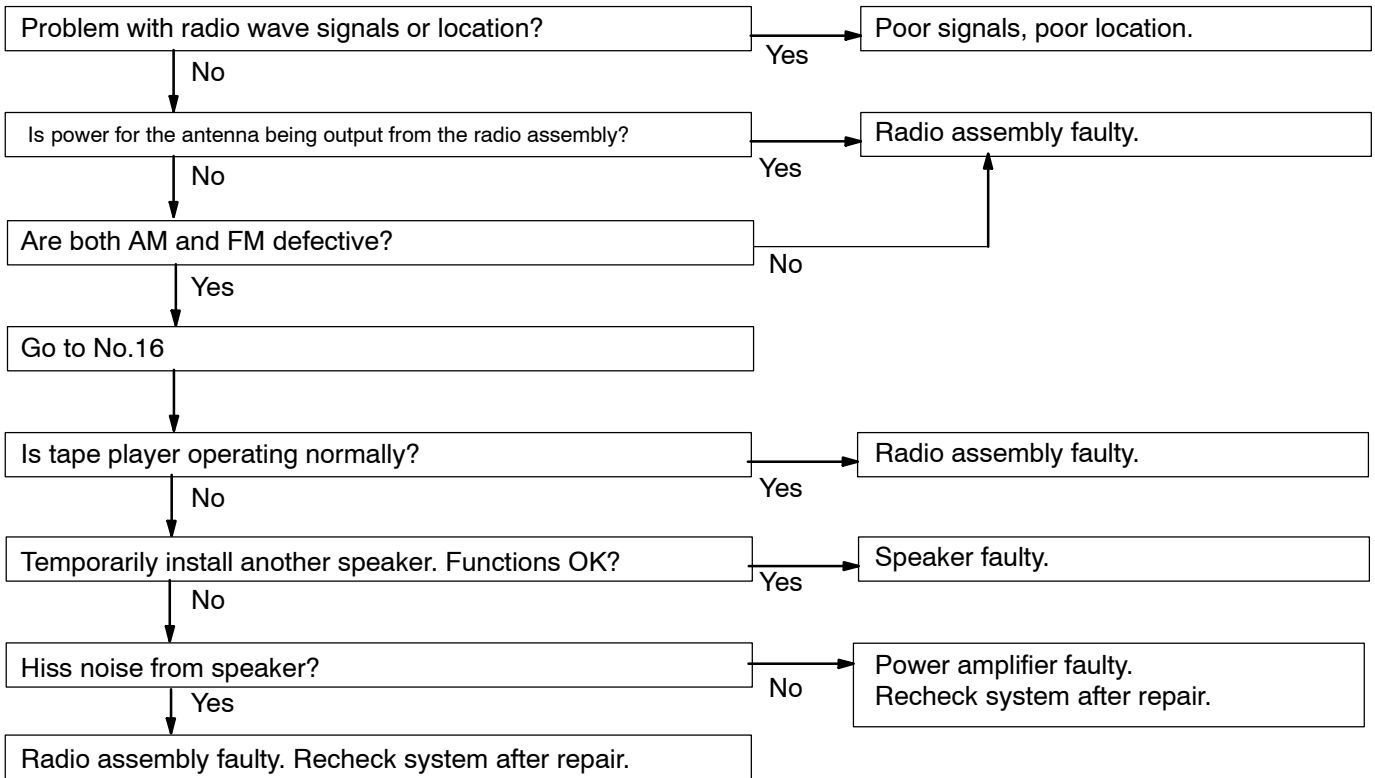
<b>3</b>	<b>Radio</b>	<b>NOISE PRESENT, BUT AM-FM NOT OPERATING</b>
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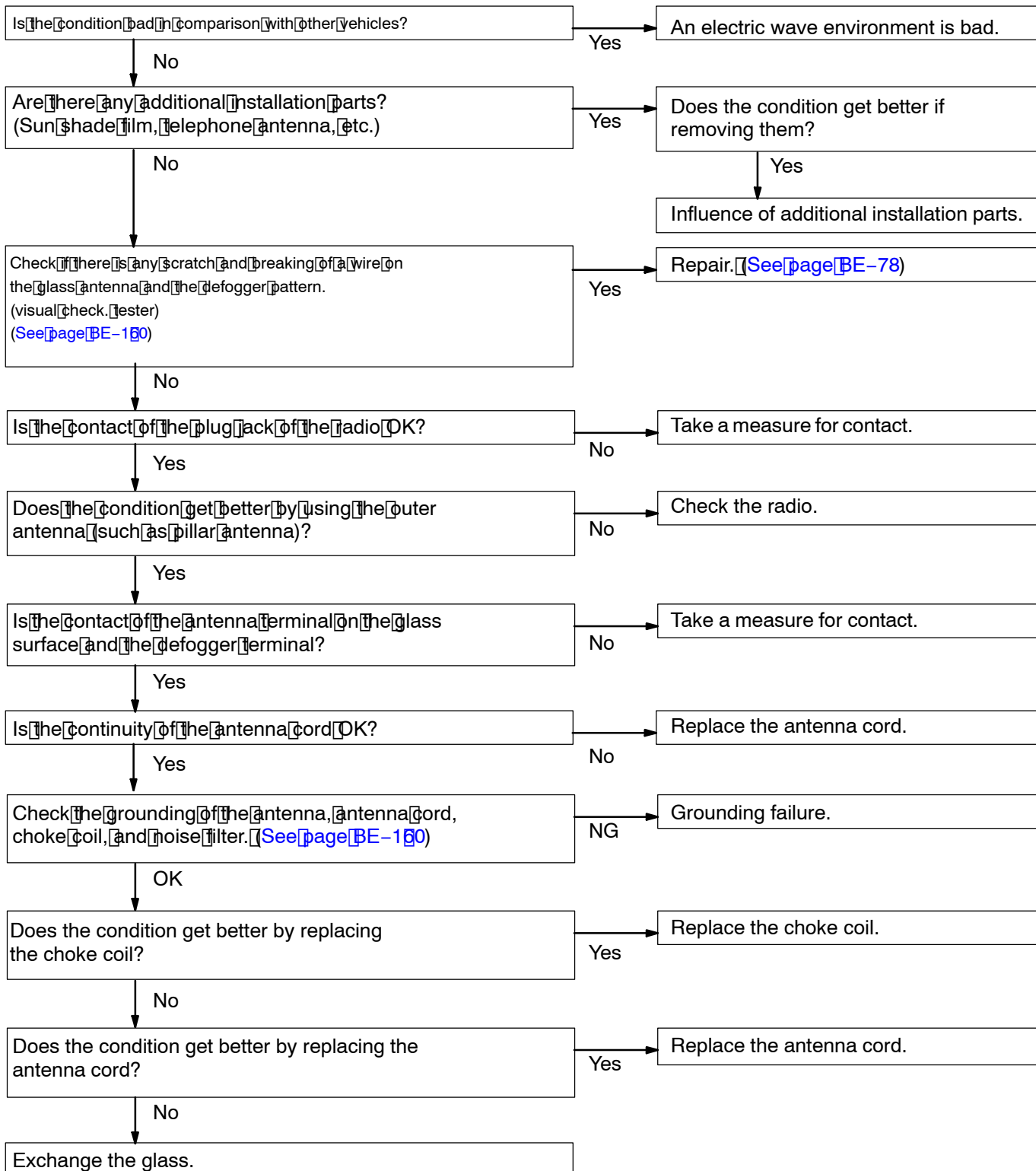
<b>4</b>	<b>Radio</b>	<b>ANY SPEAKER DOSE NOT WORK</b>
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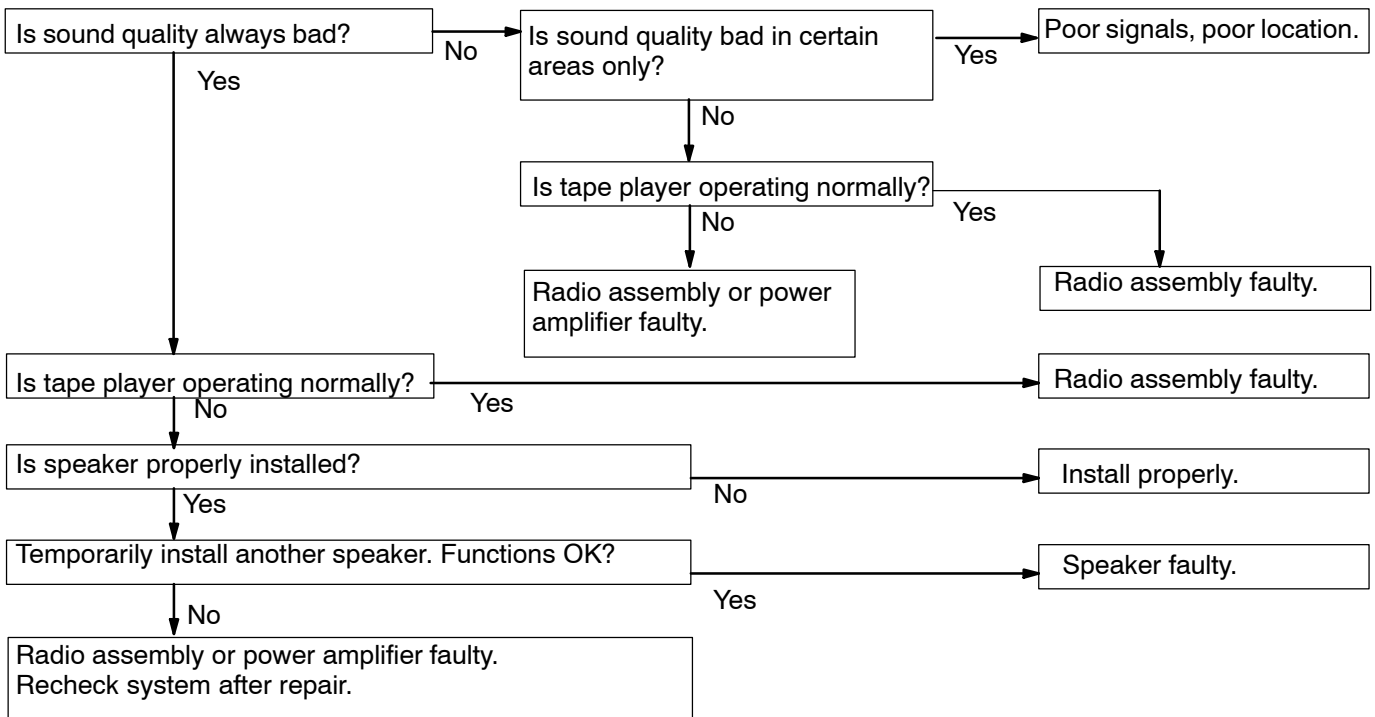
<b>5</b>	<b>Radio</b>	<b>ANY AM OR FM DOES NOT WORK FEW PRESET TUNING BANDS</b>
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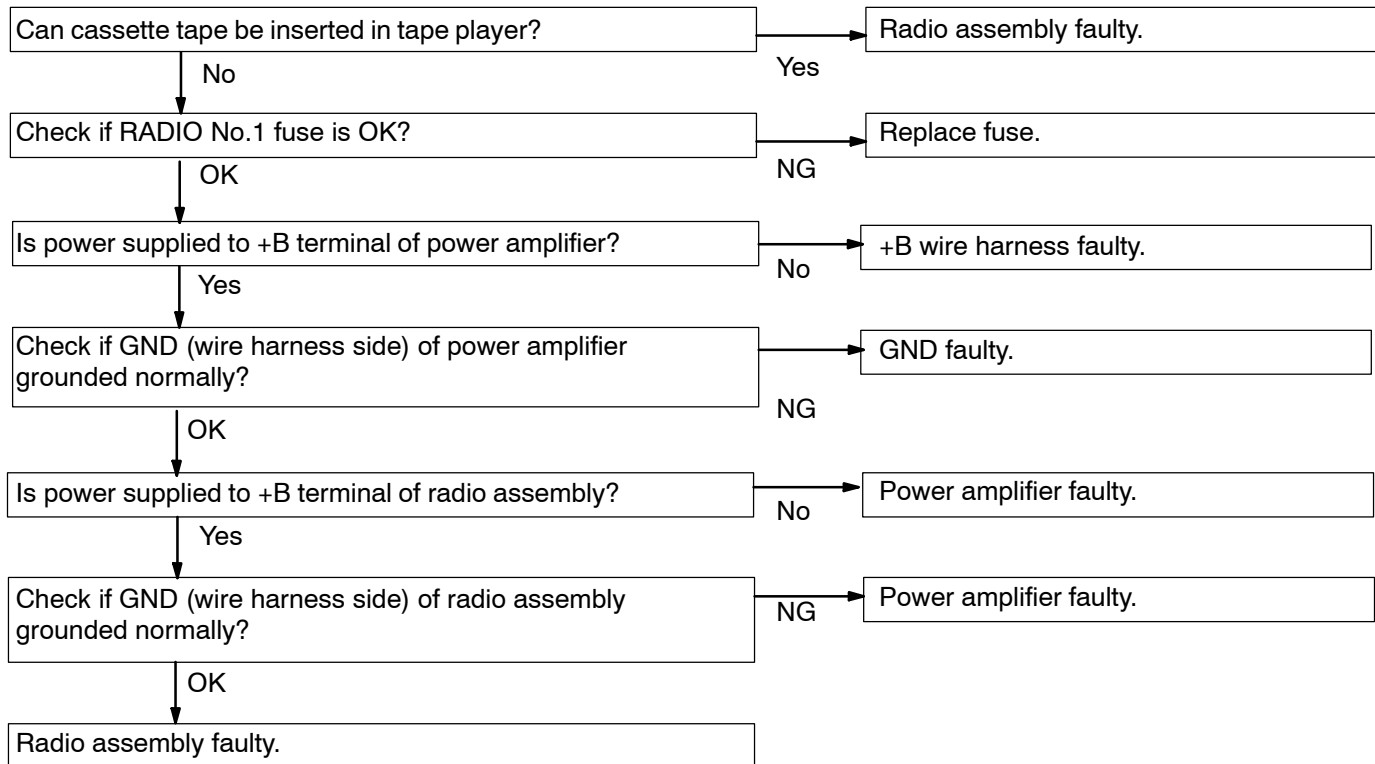
6	<b>Radio</b>	<b>POOR RECEPTION</b>
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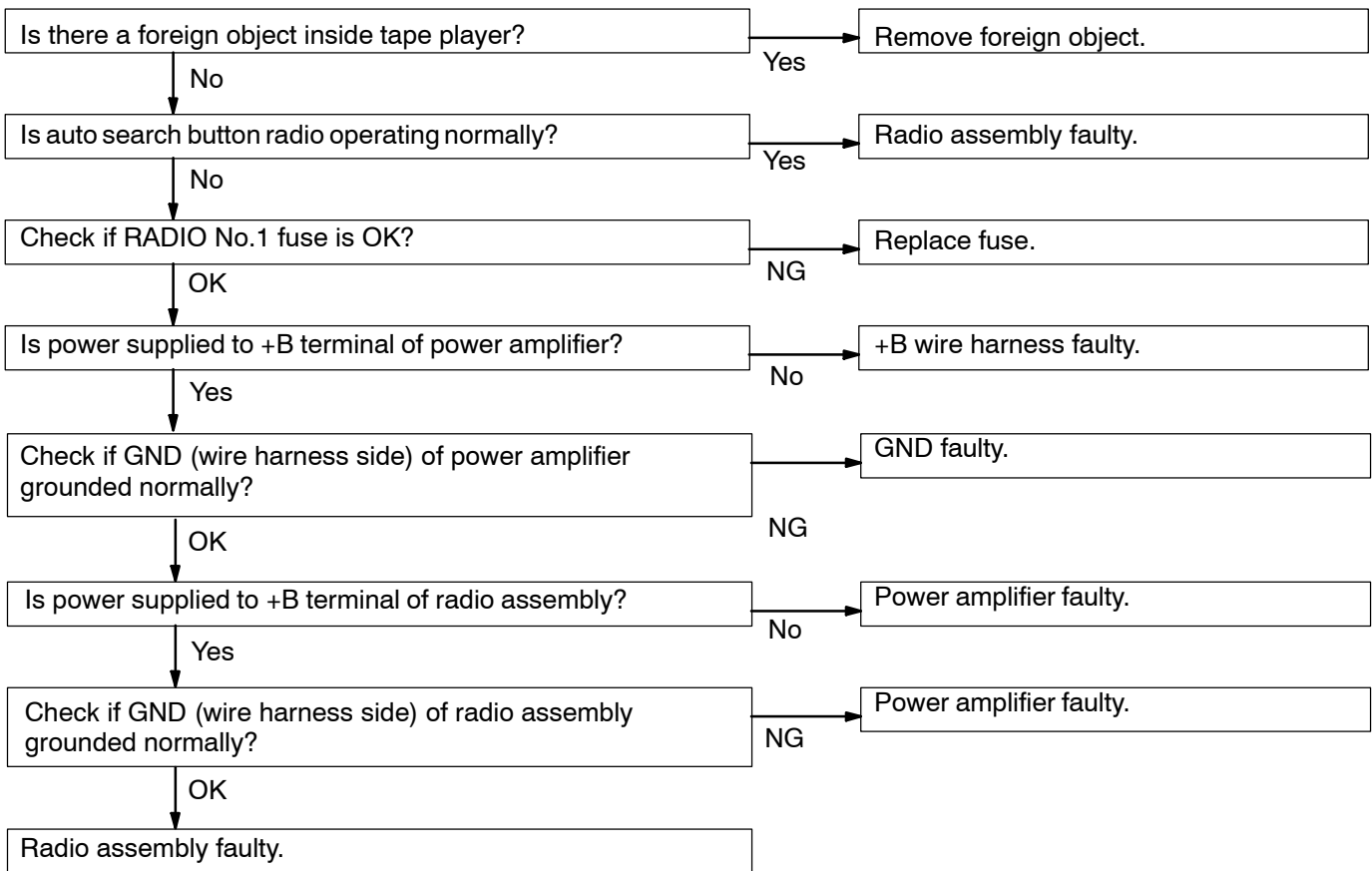
<b>7</b>	<b>Radio</b>	<b>SOUND QUALITY POOR</b>
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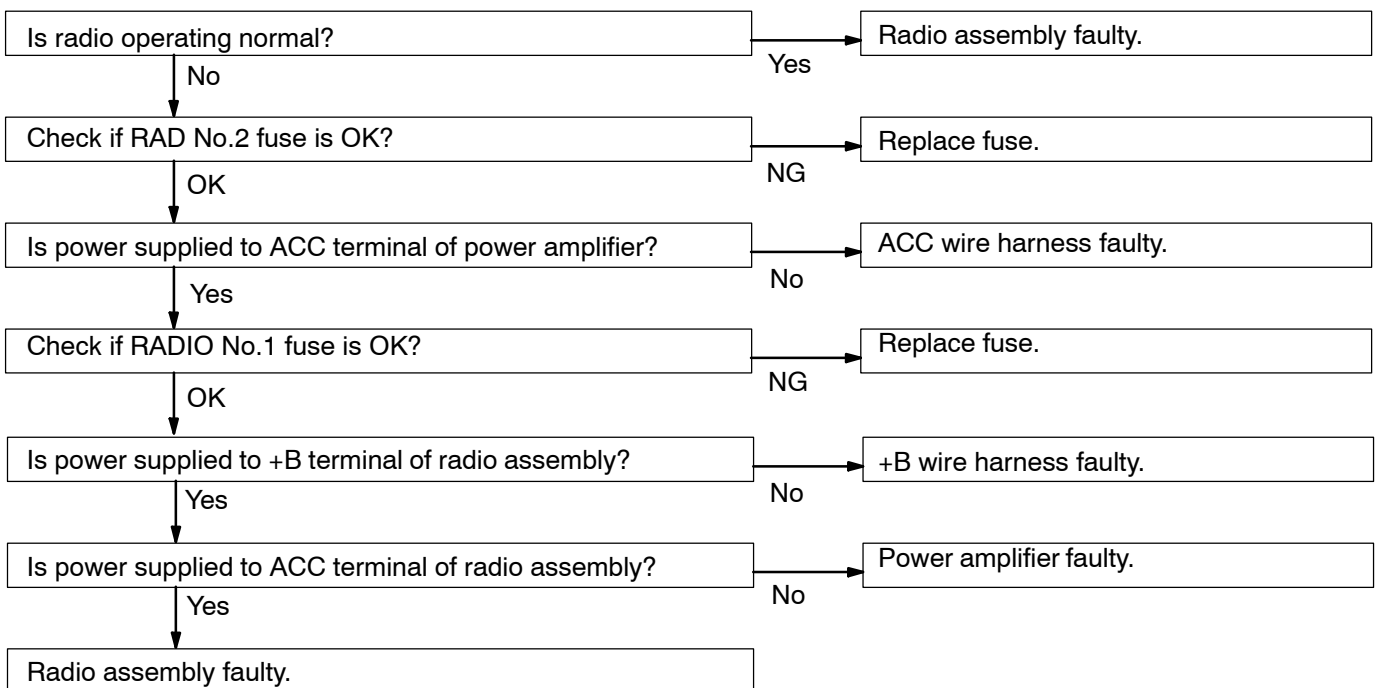
<b>8</b>	<b>Radio</b>	<b>PRESET MEMORY DISAPPEARS</b>
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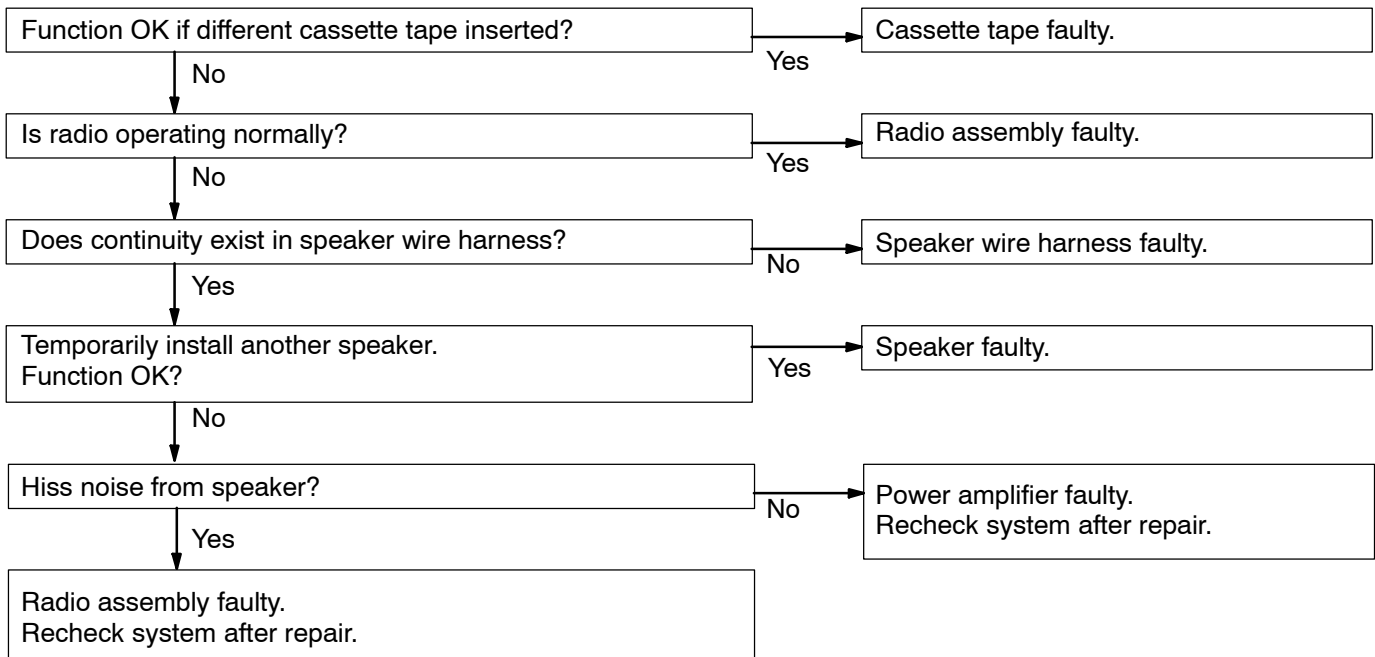
<b>9</b>	<b>Tape Player</b>	<b>CASSETTE TAPE CANNOT BE INSERTED</b>
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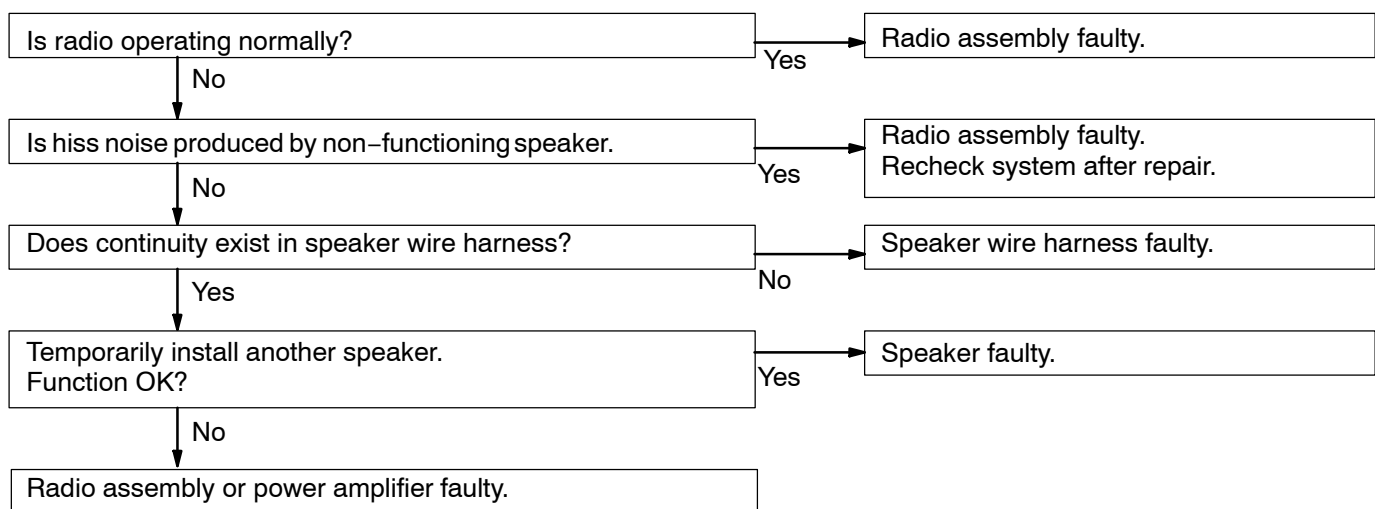
<b>10</b>	<b>Tape Player</b>	<b>CASSETTE TAPE INSERTED, BUT NO POWER</b>
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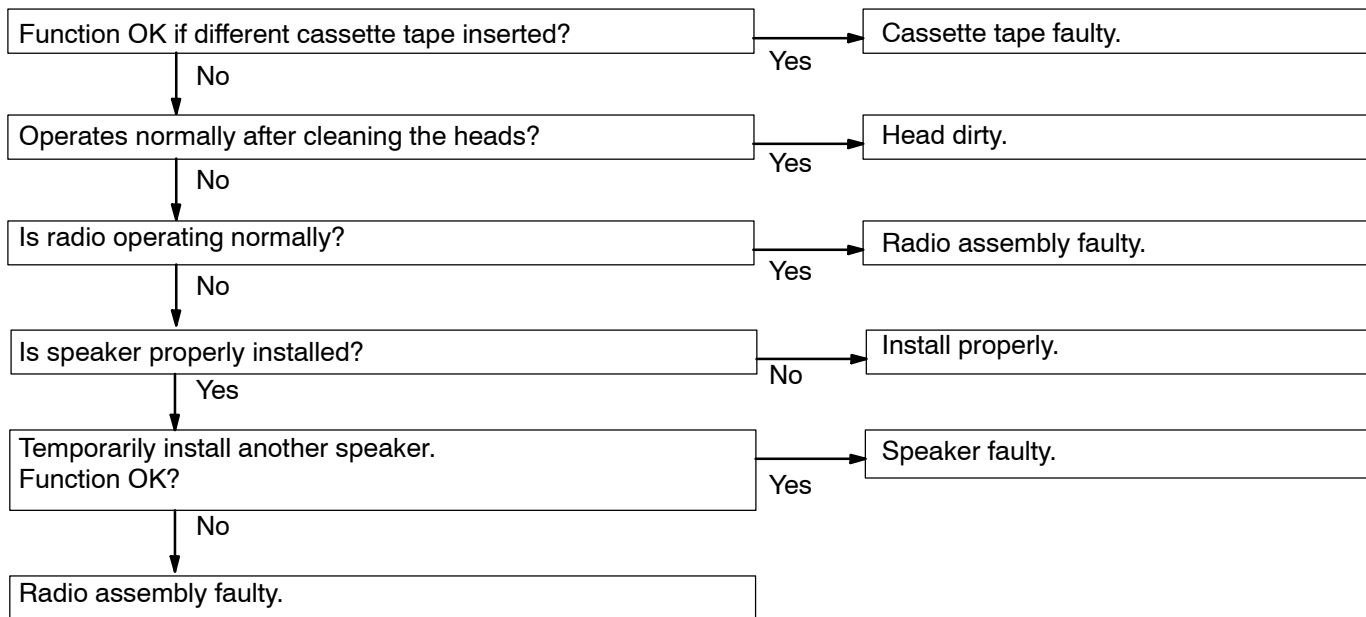
<b>11</b>	<b>Tape Player</b>	<b>POWER COMING IN, BUT TAPE PLAYER NOT OPERATING</b>
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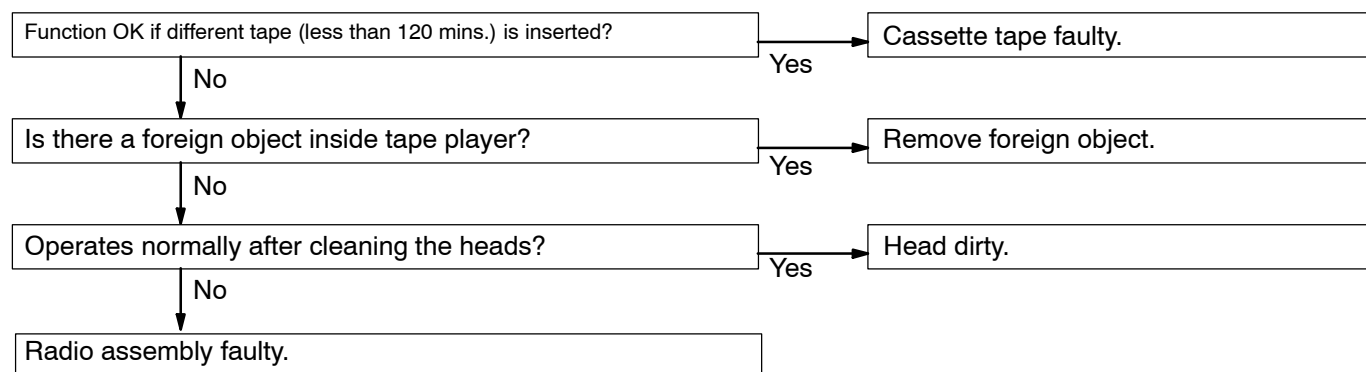
<b>12</b>	<b>Tape Player</b>	<b>ANY SPEAKER DOES NOT WORK</b>
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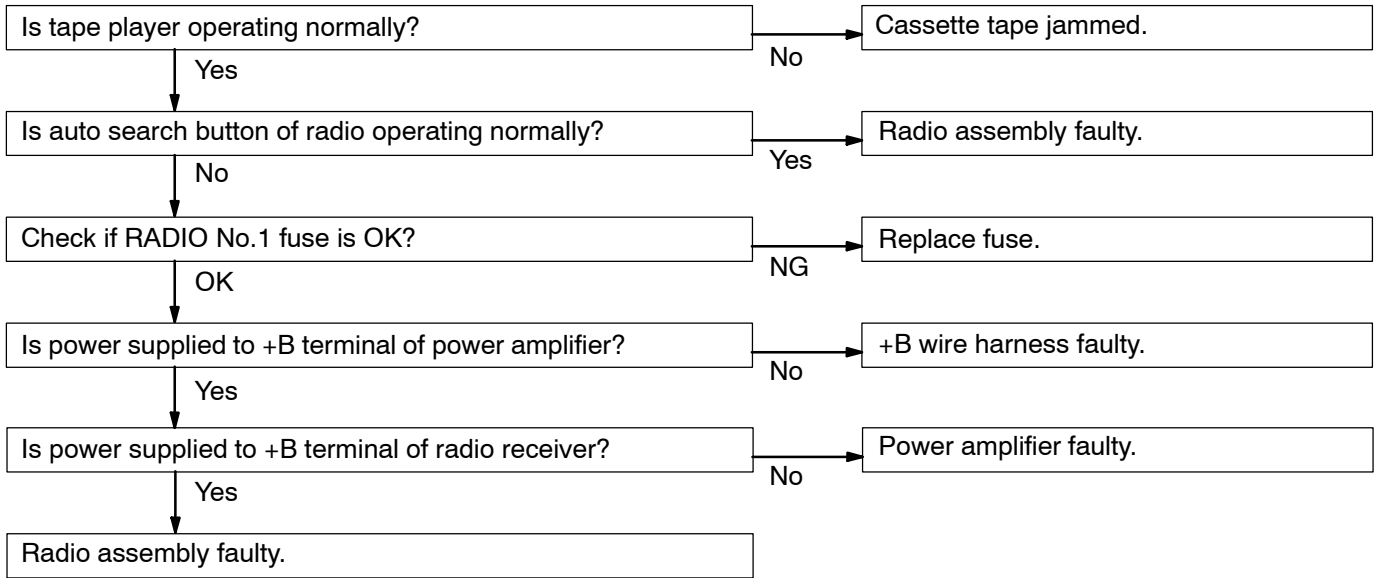
<b>13</b>	<b>Tape Player</b>	<b>SOUND QUALITY POOR (VOLUME FAINT)</b>
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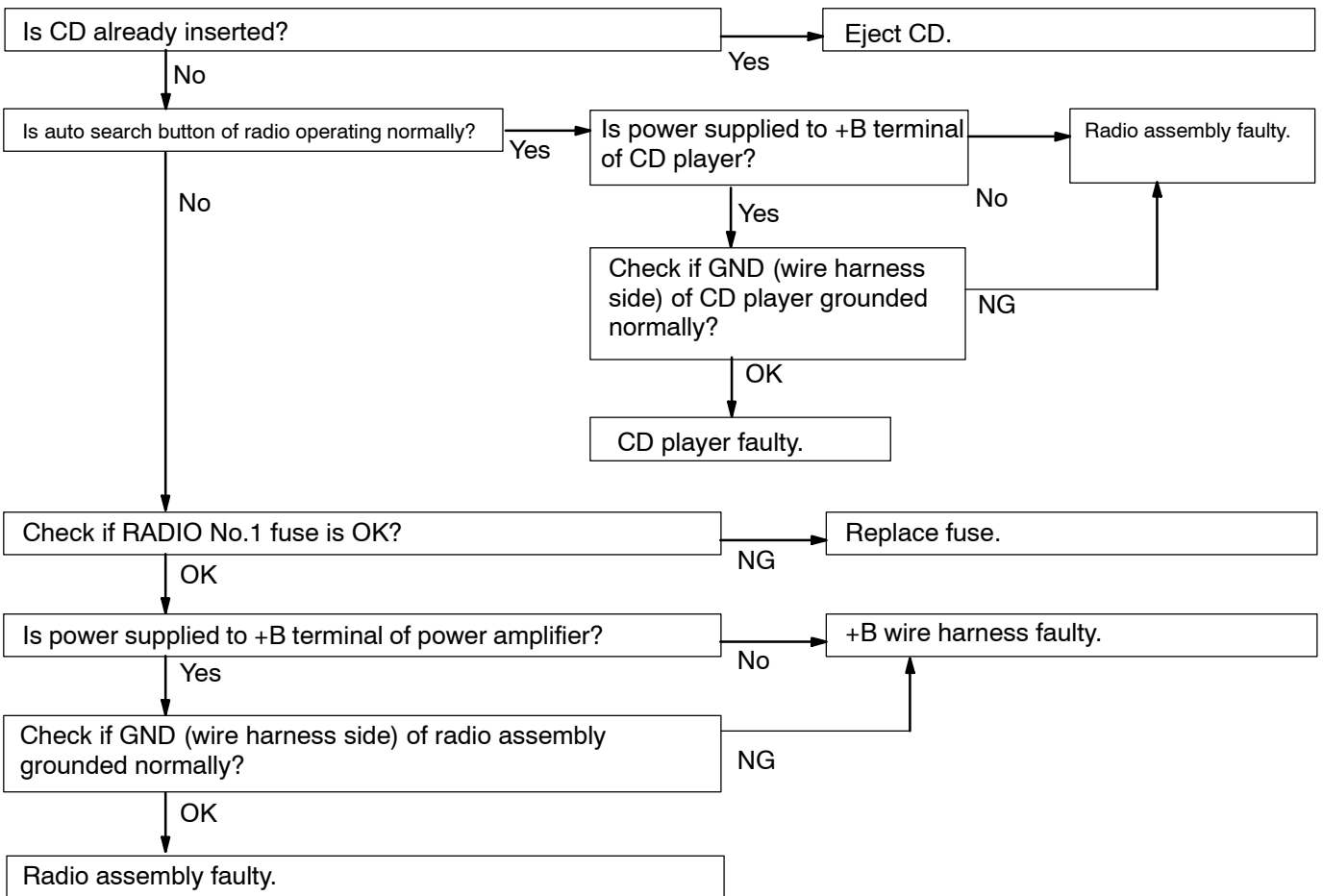
<b>14</b>	<b>Tape Player</b>	<b>TAPE JAMMED MALFUNCTION WITH TAPE SPEED OR AUTO-REVERSE</b>
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<b>15</b>	<b>Tape Player</b>	<b>CASSETTE TAPE WILL NOT BE EJECTED</b>
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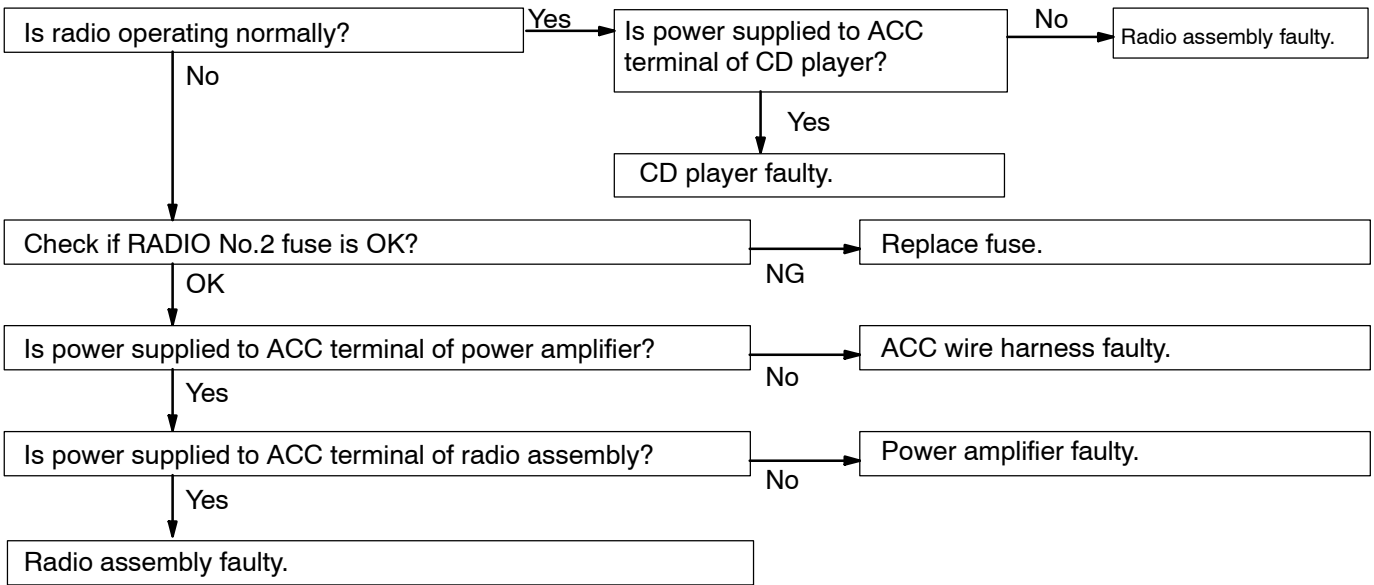


<b>16</b>	<b>CD Player</b>	<b>CD CANNOT BE INSERTED</b>
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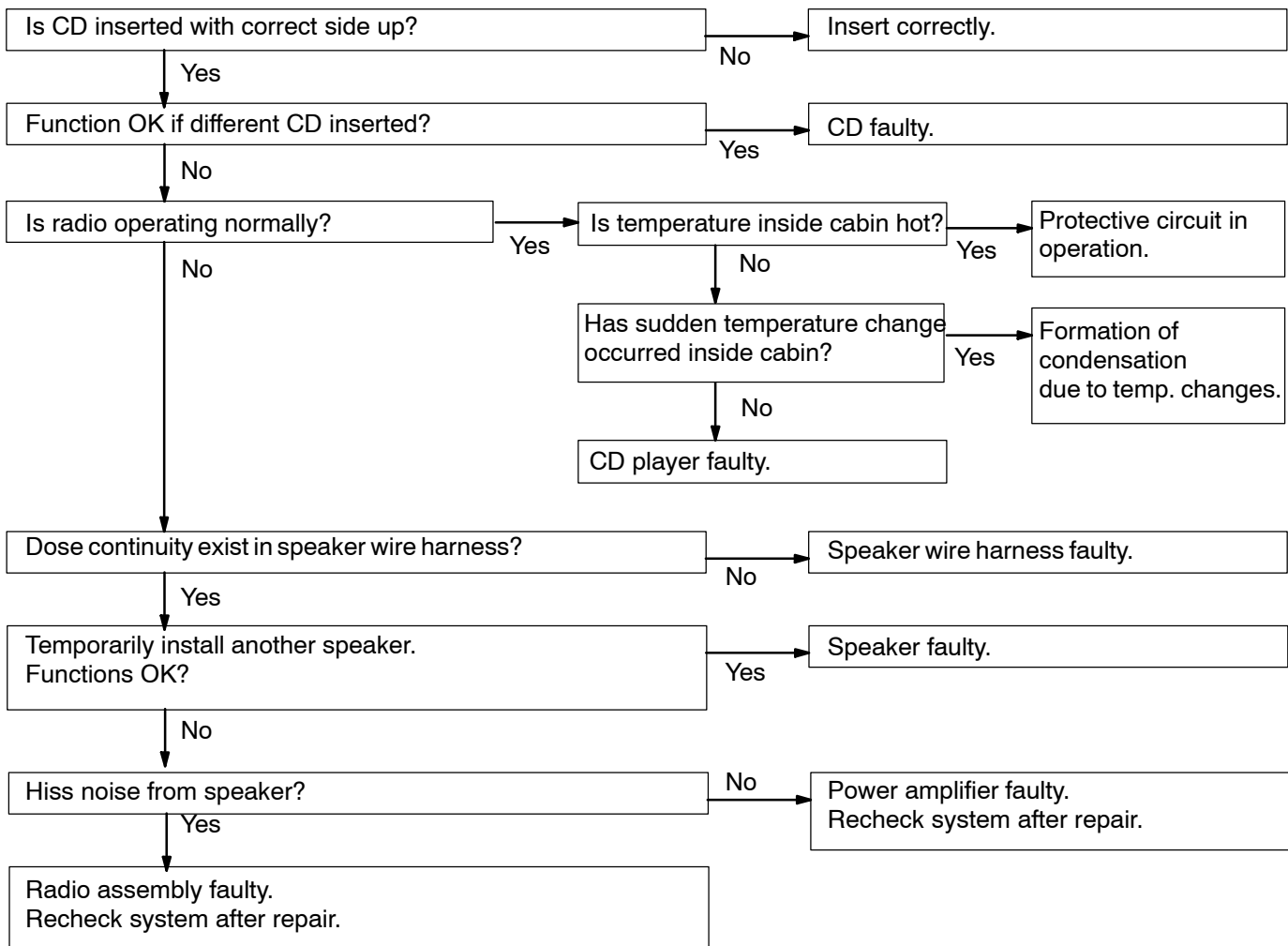




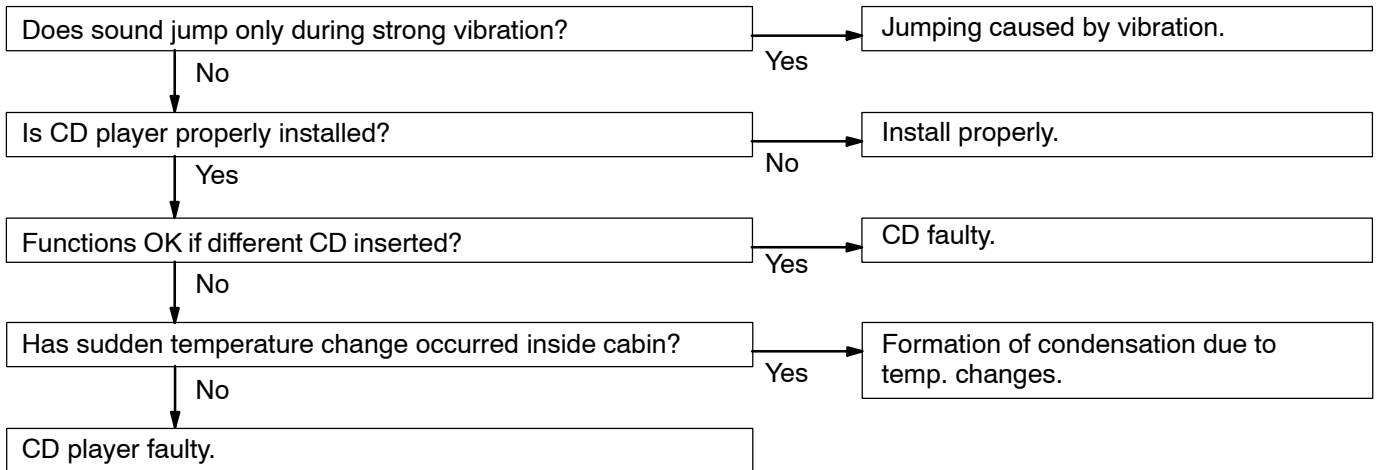
<b>17</b>	<b>CD Player</b>	<b>CD INSERTED, BUT NO POWER</b>
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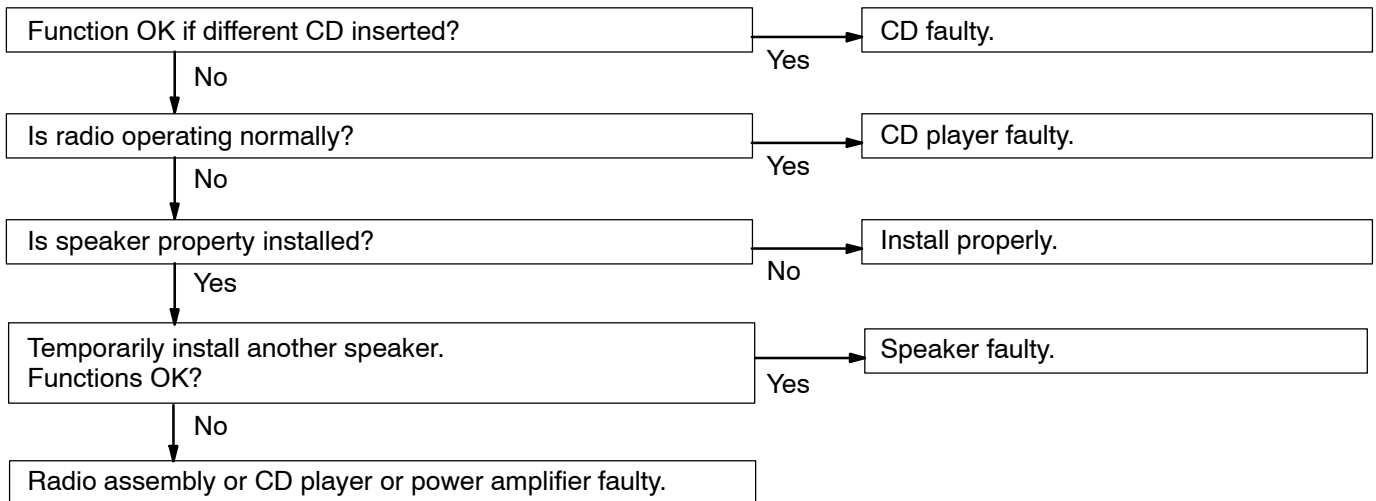
<b>18</b>	<b>CD Player</b>	<b>POWER COMING IN, BUT CD PLAYER NOT OPERATING</b>
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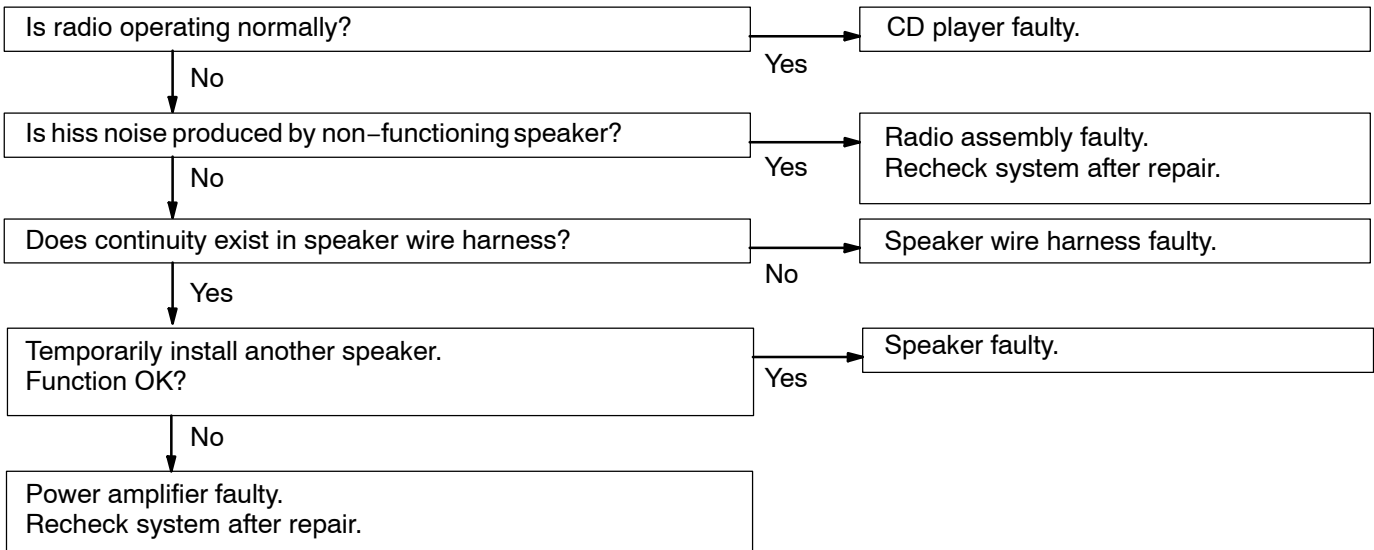
<b>19</b>	<b>CD Player</b>	<b>SOUND JUMPS</b>
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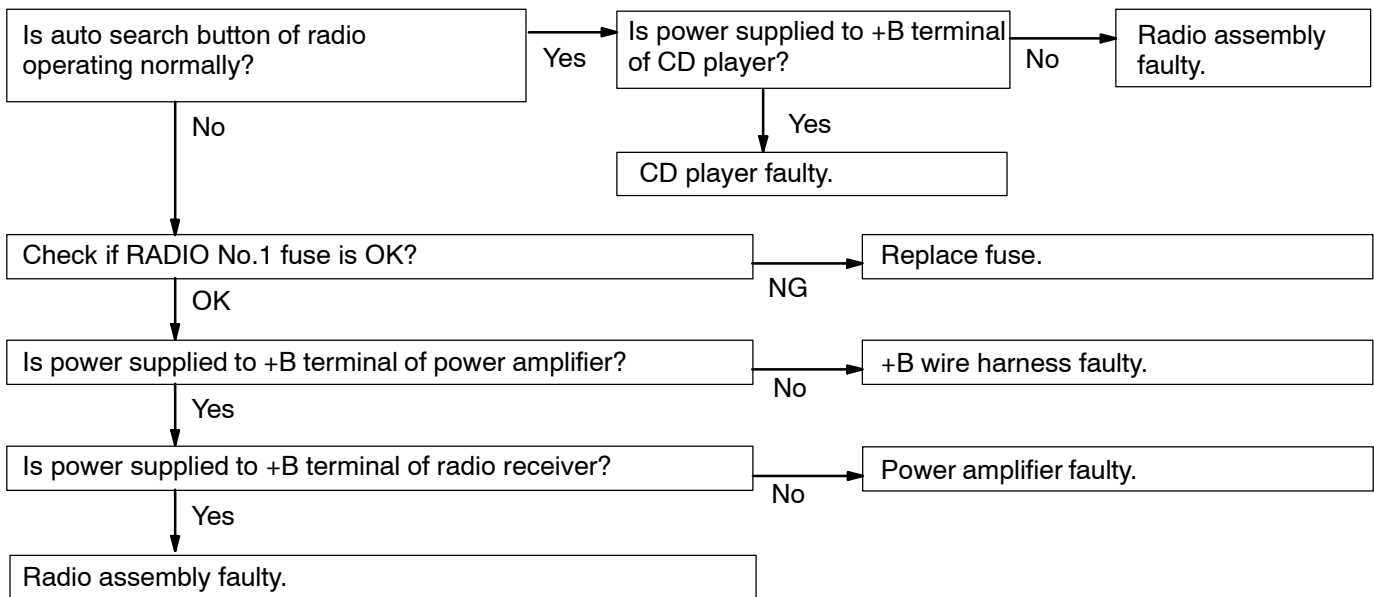
<b>20</b>	<b>CD Player</b>	<b>SOUND QUALITY POOR (VOLUME FAINT)</b>
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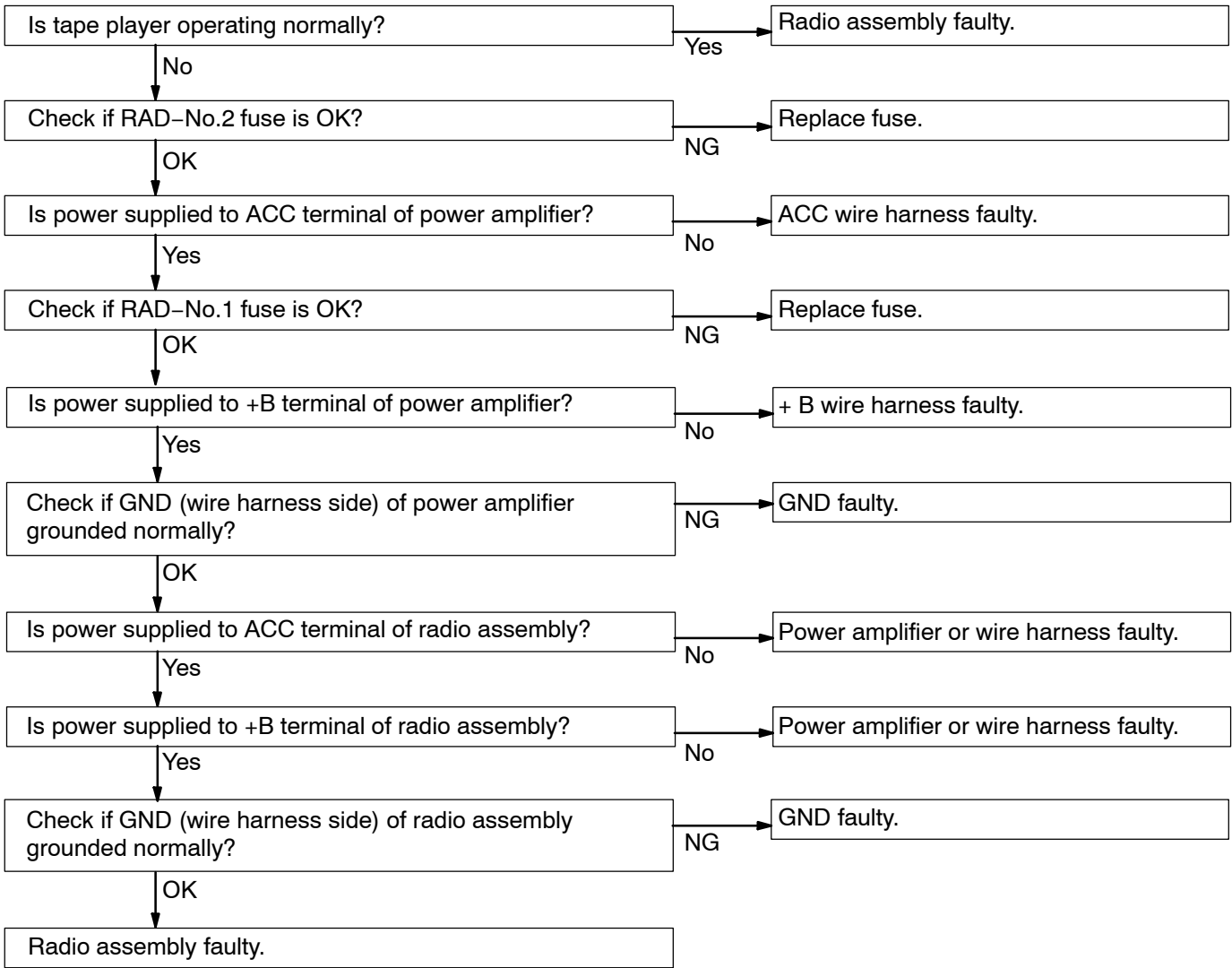
<b>21</b>	<b>CD Player</b>	<b>ANY SPEAKER DOES NOT WORK</b>
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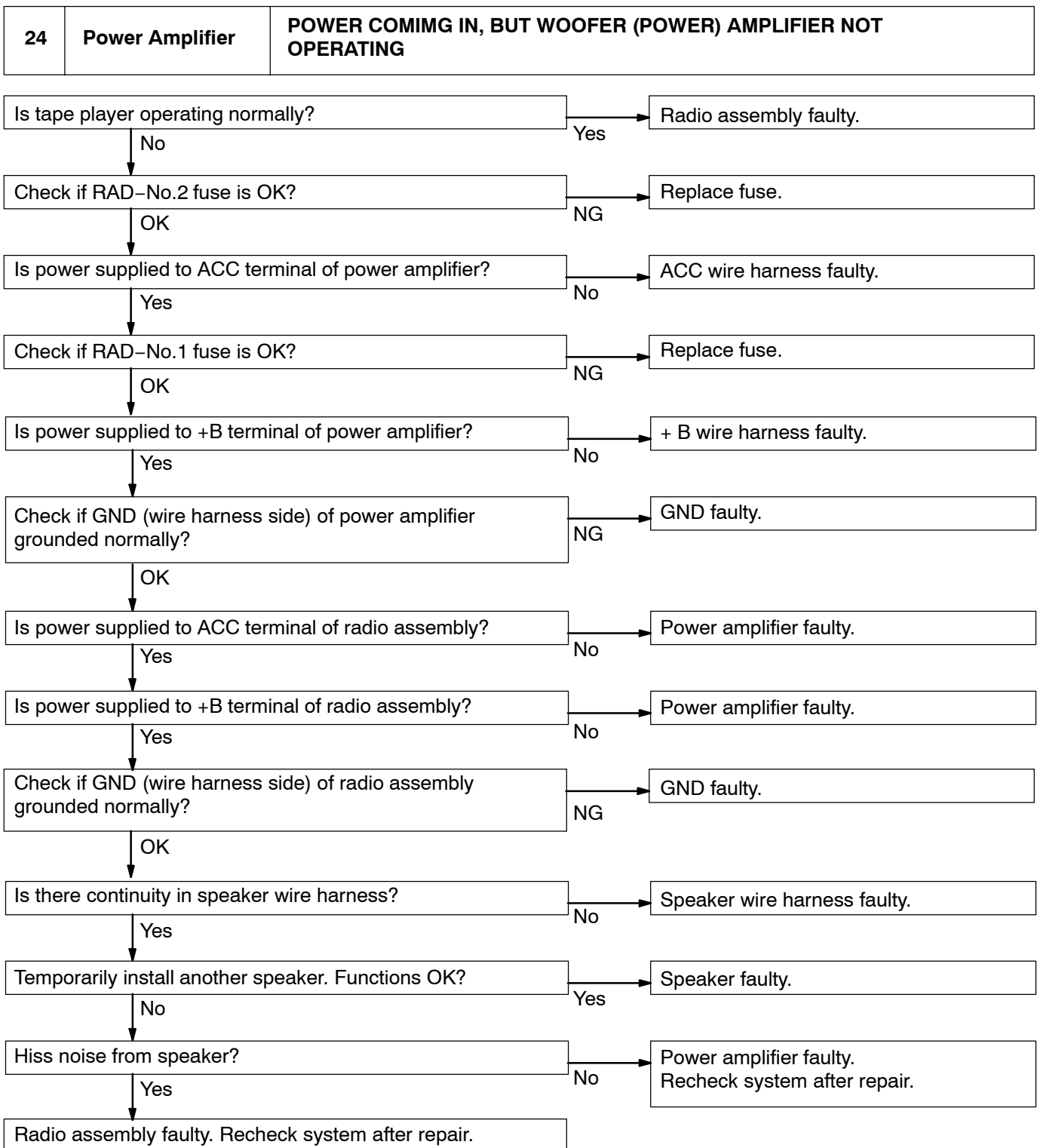


<b>22</b>	<b>CD Player</b>	<b>CD WILL NOT BE EJECTED</b>
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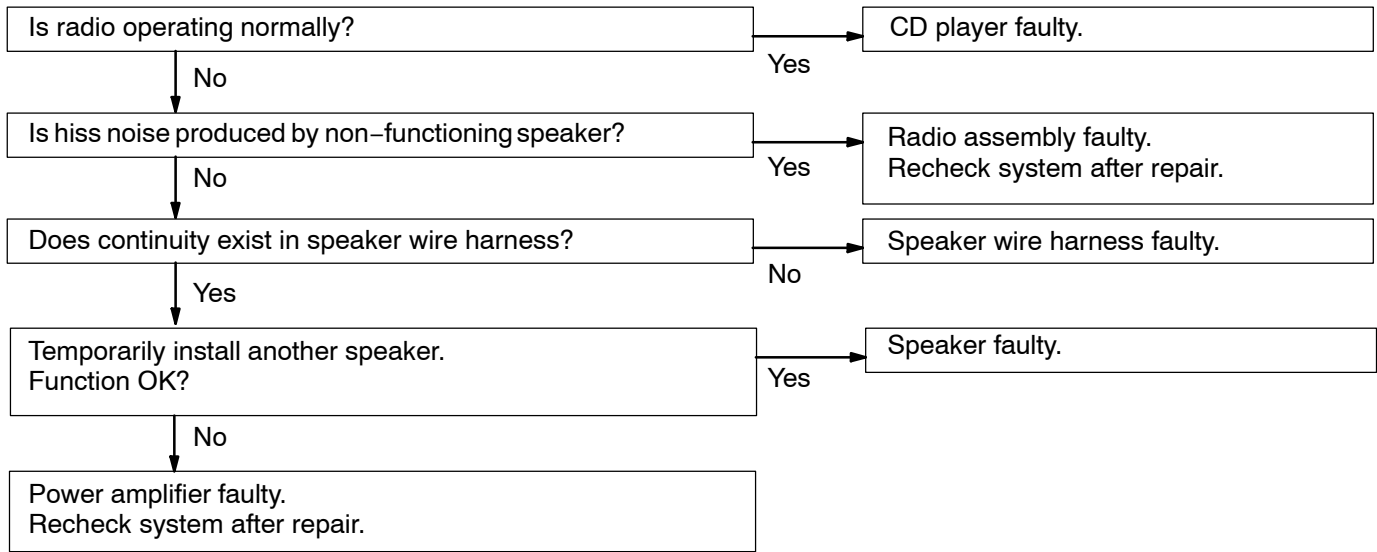


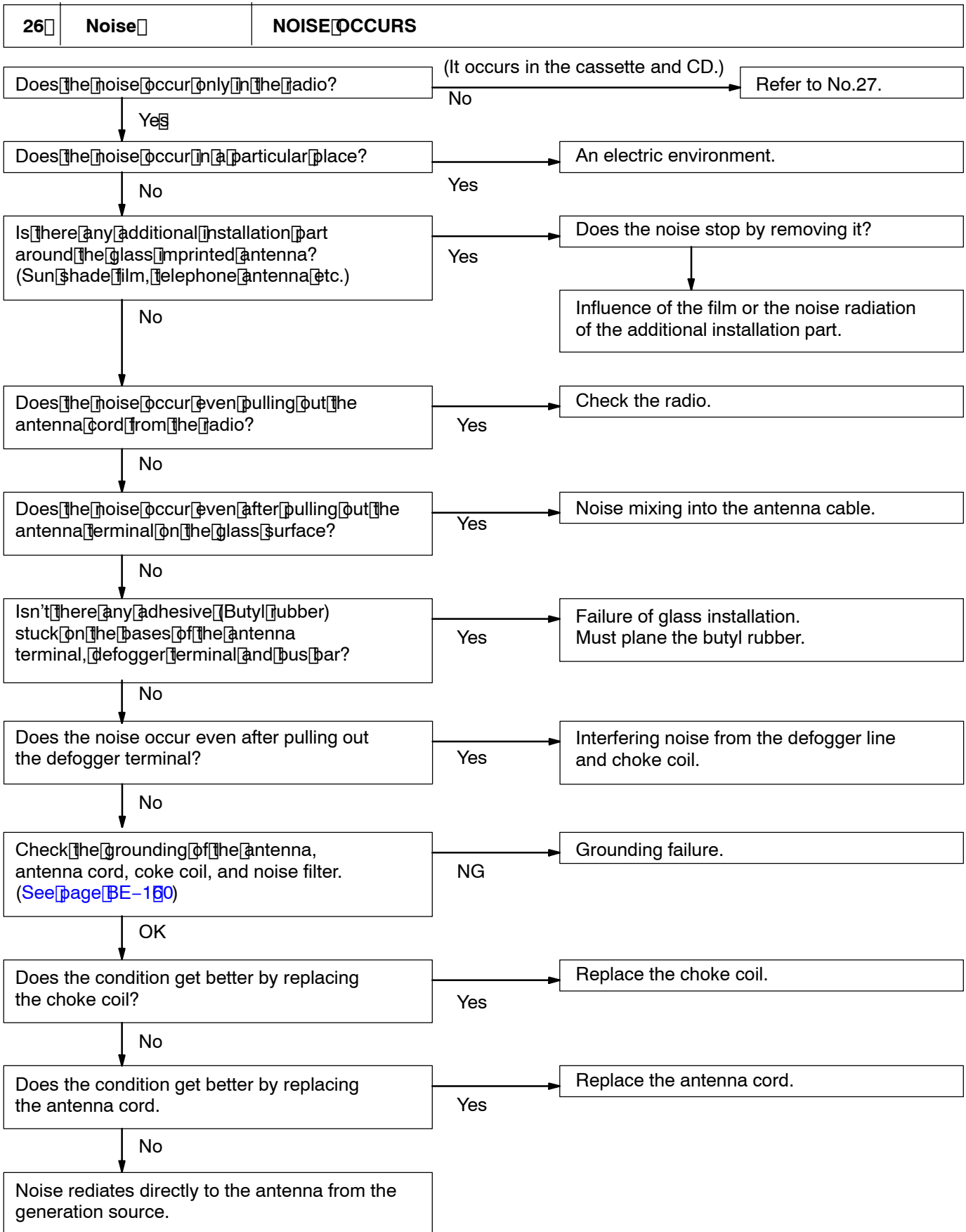
<b>23</b>	<b>Power Amplifier</b>	<b>NO POWER COMING IN</b>
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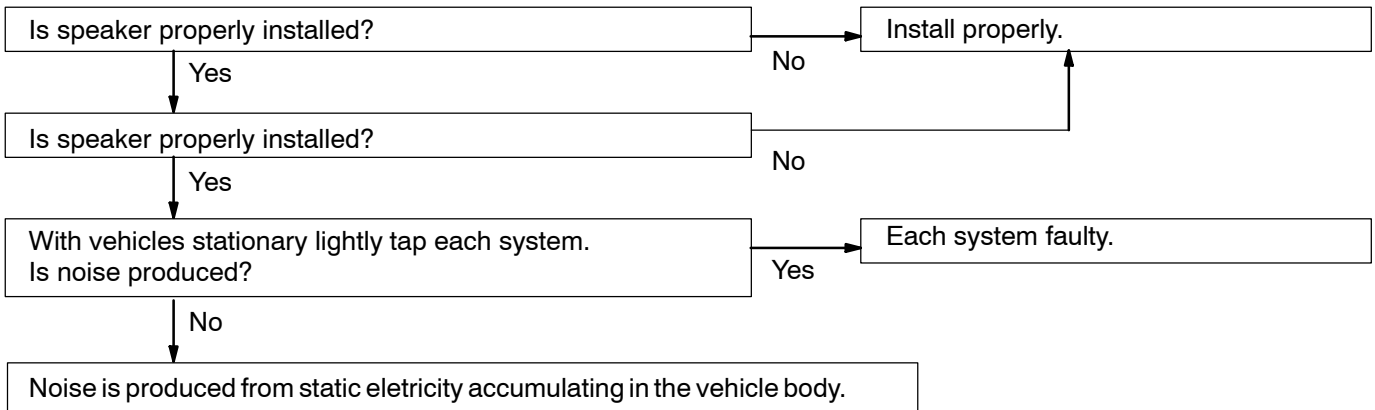


<b>25</b>	<b>Power Amplifier</b>	<b>ANY SPEAKER DOES NOT WORK</b>
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<b>27</b>	<b>Noise</b>	<b>NOISE PRODUCED BY VIBRATION OR SHOCK WHILE DRIVING</b>
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<b>28</b>	<b>Noise</b>	<b>NOISE PRODUCED WHEN ENGINE STARTS</b>
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