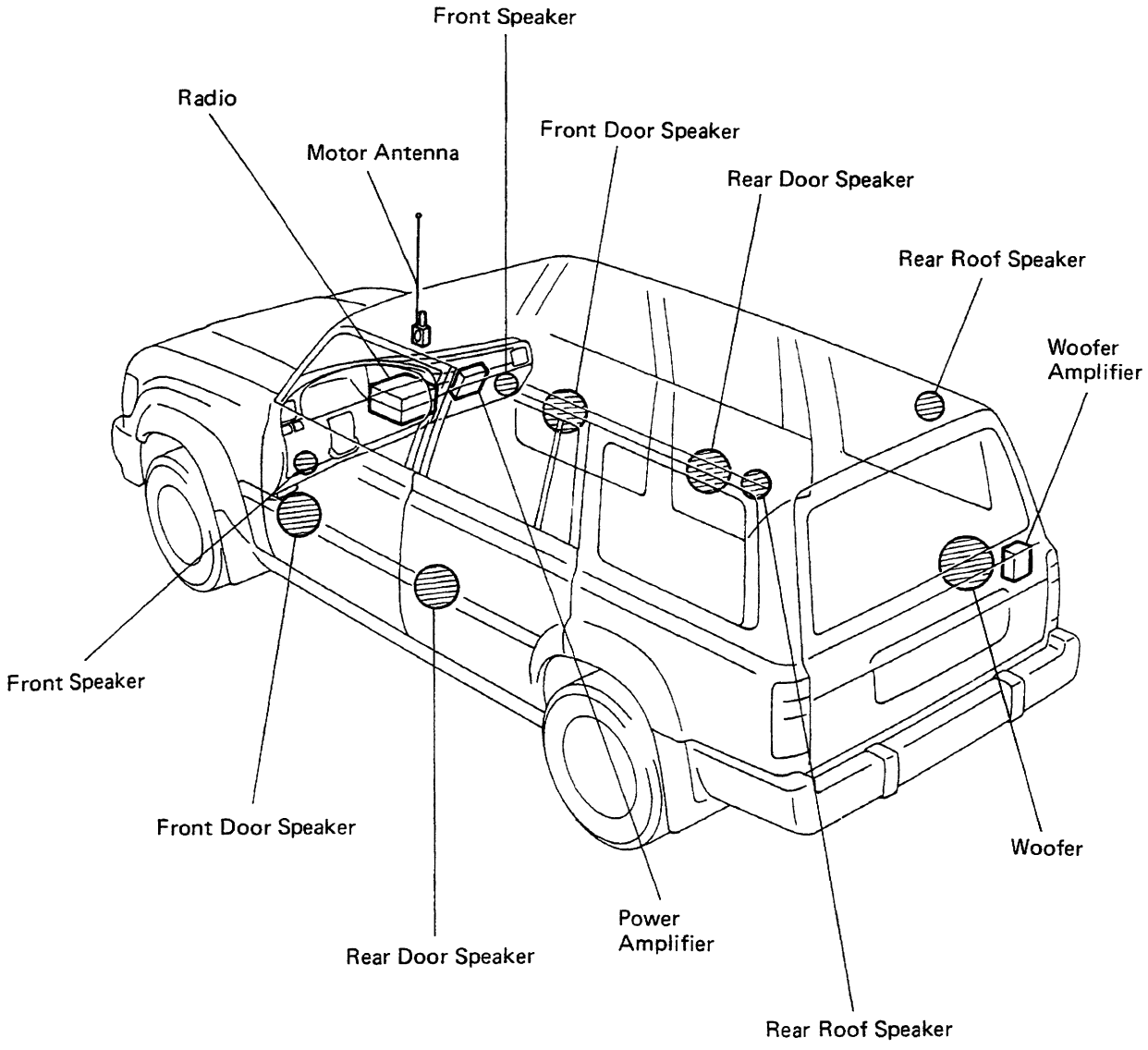
AUDIO SYSTEM

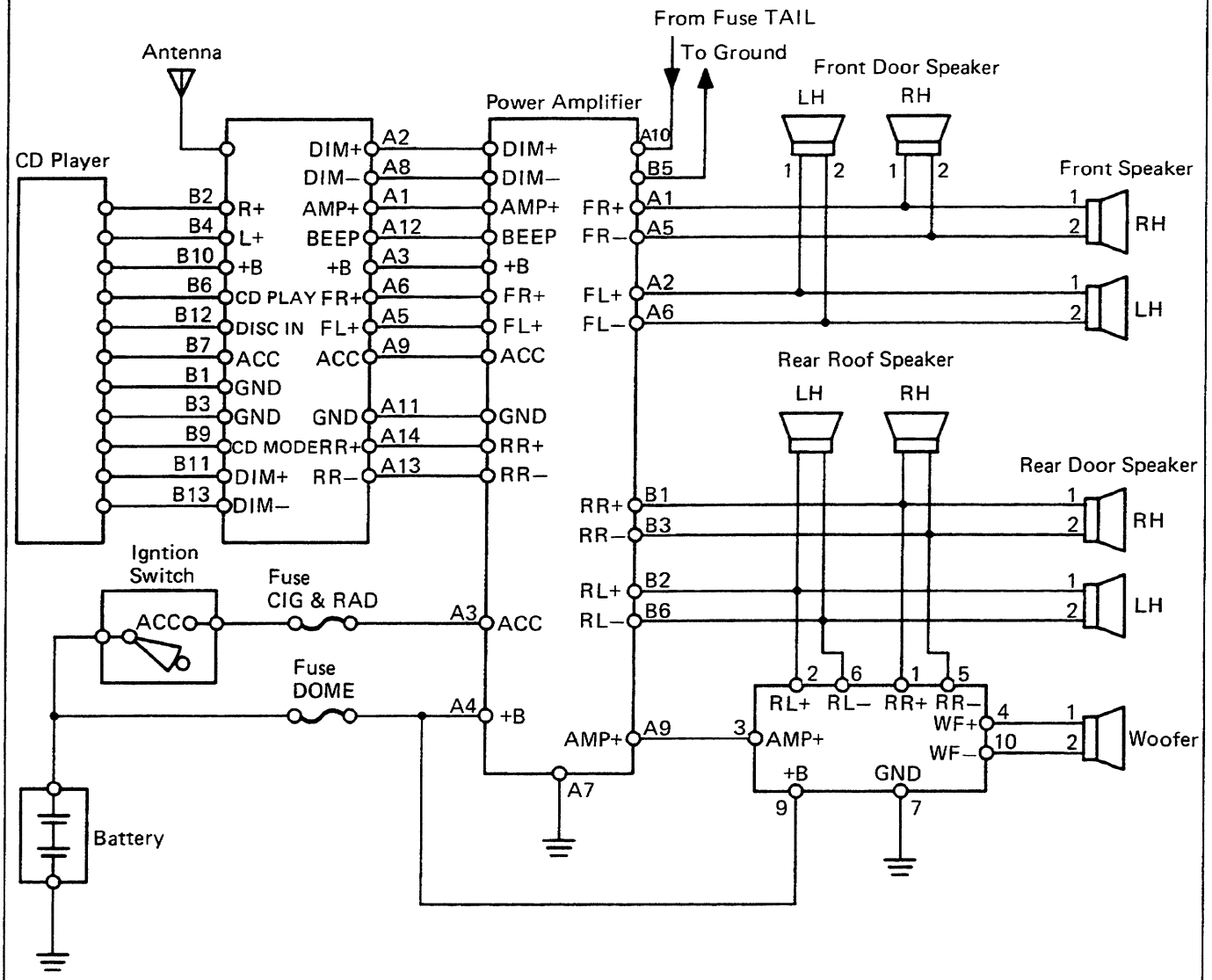
Parts Location



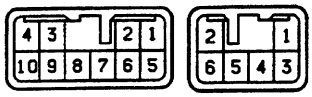
BE5048

Wiring and Connector Diagrams

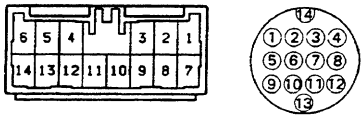
Radio – Tape Player, 9 Speaker
Radio – Tape Player, 9 Speaker + CD Player **Symbol P**



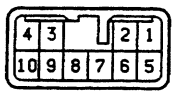
Power Amplifier
Connector "A" Connector "B"



Radio Assembly
Connector "A" Connector "B"



Woofer Amplifier



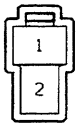
Front Speaker

Front Door Speaker

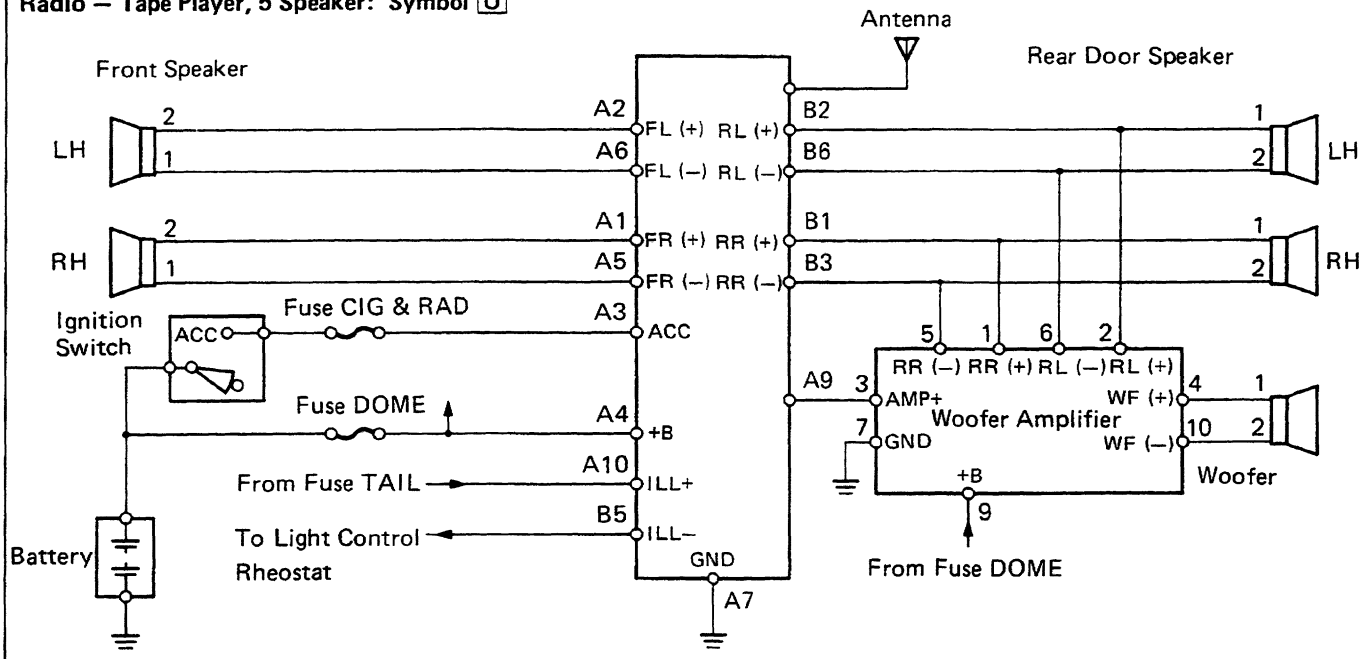
Rear Door Speaker

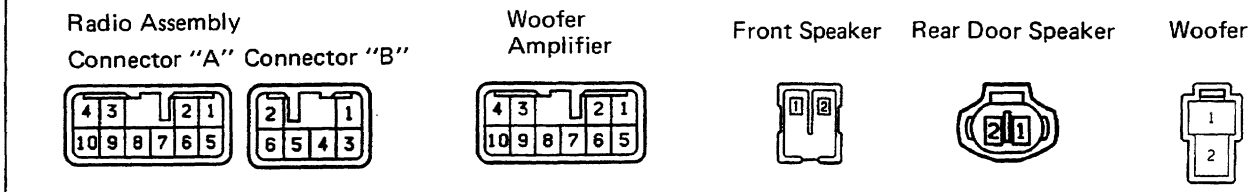
Rear Roof Speaker

Woofer

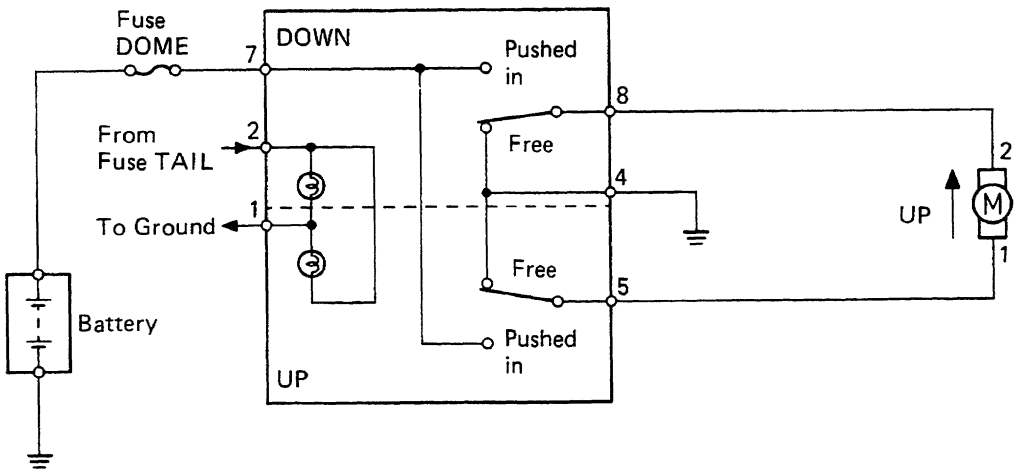


Radio, 5 Speaker: Symbol [R]
Radio – Tape Player, 5 Speaker: Symbol [U]





Motor Antenna



BE5069
S-10-2-A S-6-2-E S-10-2-A T-2-2 IS-2-2-B H-2-2
BE5074
S-8-2 H-2-2

System Description

RADIO WAVE BAND

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

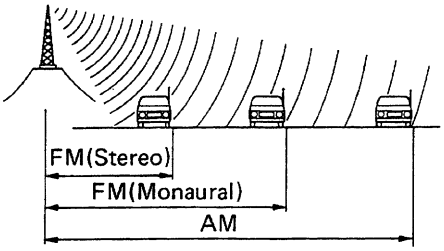
Frequency	30 kHz	300 kHz	3 MHz	30 MHz	300 MHz
Designation	LF	MF	HF	VHF	
Radio wave	LW ←→	AM(MW) ←→	SW ←→	FM(UKW) ←→	
Modulation method	Amplitude modulation			Frequency modulation	

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

SERVICE AREA

There is great difference in the size of the service area for AM, FM monaural, and FM stereo broadcasting. Thus it may happen that FM broadcast cannot be received even though AM comes in very clearly.

Not only does FM stereo have the smallest service area, but it also picks up static and other types of interference (”noise”) the most easily.

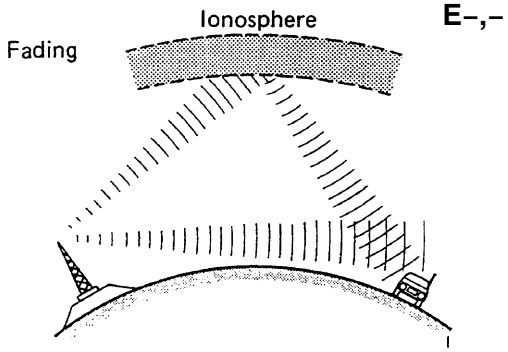


RECEPTION PROBLEMS

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.

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”.

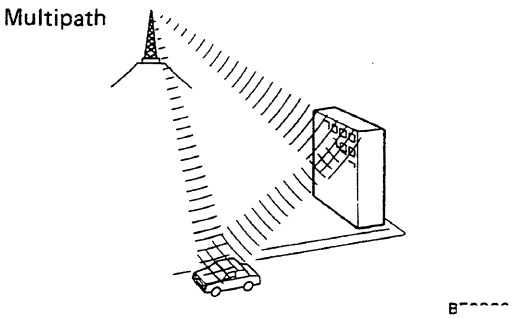


E–,–

Multipath

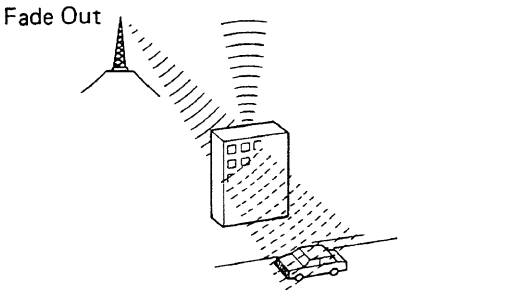
One type of interference caused by the bouncing of radio waves off of obstructions is called ”muitipath”.

Multipath occurs when a signal from the broadcast transmitter antenna bounces off of buildings and mountains and interferes with the signal that is received directly.



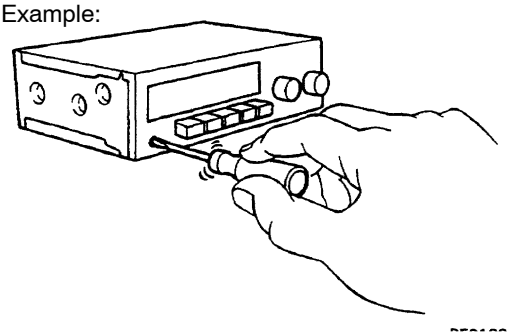
Fade Out

Because FM radio waves are of higher frequencies than AM radio waves, they bounce off of 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”.



ADJUST ANTENNA TRIMMER (EX. Electronic Tuning Radio)

Example:



(a) Fully lengthen antenna.
(b) with volume and tone at maximum, turn the dial to around 1,400 kHz where there is no reception.
(c) Adjust the trimmer to where static is loudest.

HINT: The position of the antenna trimmer may very according to the type of radio, but is always on the front side

COMPACT DISC PLAYER

Compact Disc (hereafter called "CD") players use a laser beam pick–up to read the digital signals recorded on the CD and reproduce analog signals of the music, etc. There are 4.7 in. (12 cm) and 3.2 in. (8 cm) CD available.

HINT: Never attempt to disassemble or oil any part of the player unit. Do not insert any object other than a disc into the slot.

NOTICE: CD players use invisible laser beam which could cause hazardous radiation exposure if directed. Be sure to operate the player correctly as instructed.

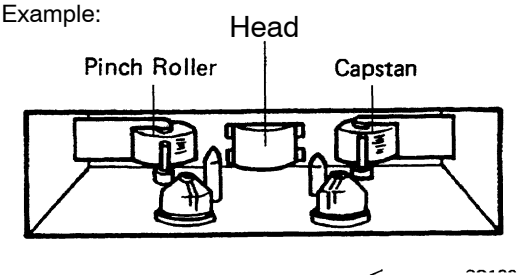
MAINTENANCE

(Tape Player)

Head Cleaning

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

Example:

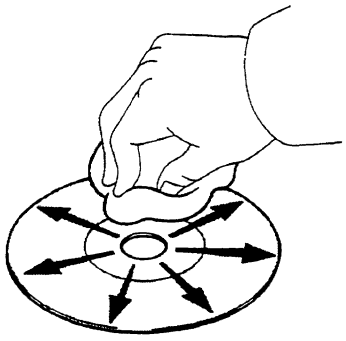


(CD Player)

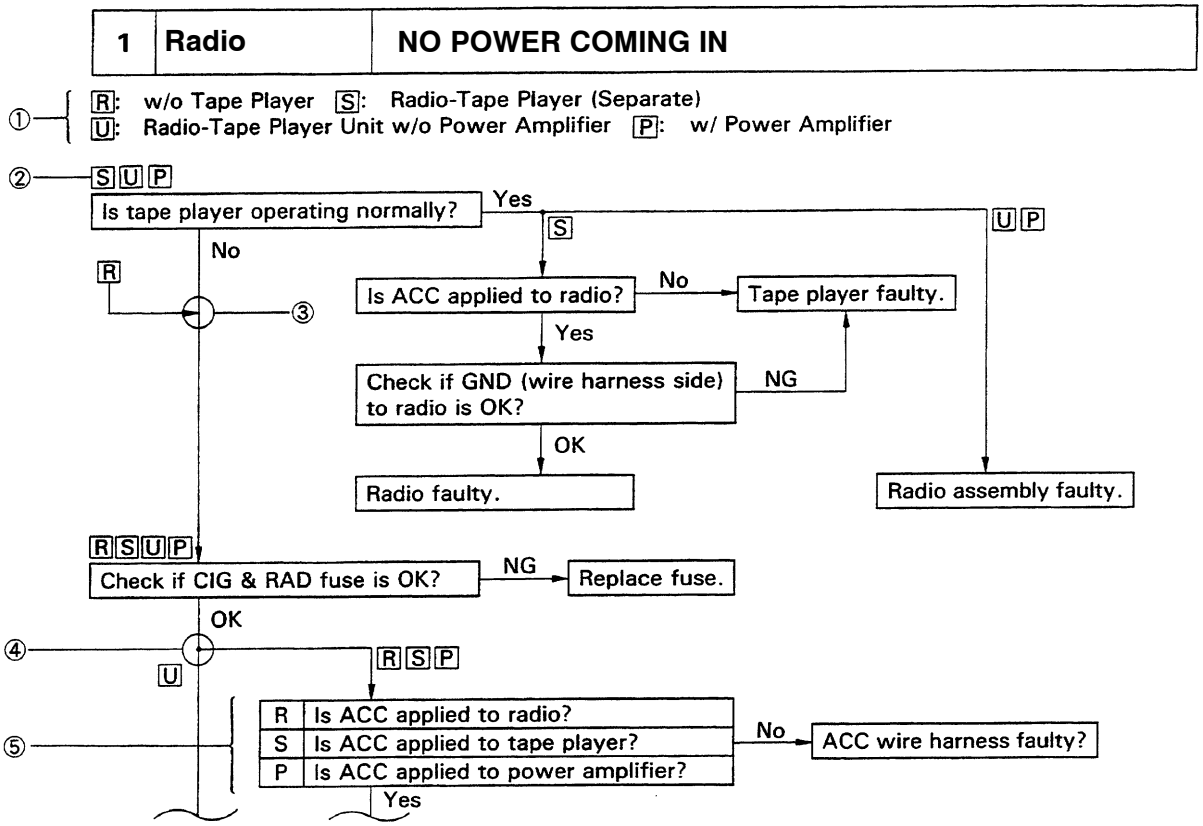
Disc Cleaning

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

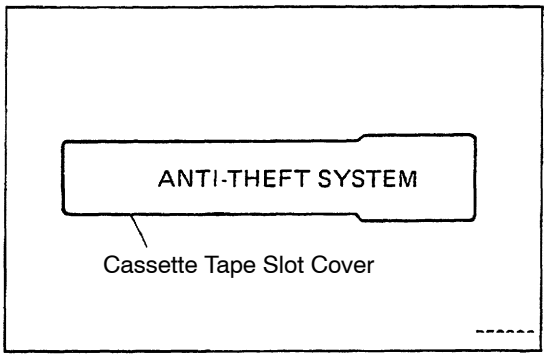
NOTICE: Do not use a conventional record cleaner or anti–static record preservative.



HOW TO USE DIAGNOSTIC CHART



(1) Audio system type and symbol used.
HINT: Confirm the applicable type of audio system.
(2) Symbol for type of audio system the question applies to.
HINT: If the audio system type is not applicable, proceed to next question below.
(3) Junction without black circle.
HINT: Proceed to next question below.
(4) Junction with black circle.
HINT: Proceed to question for applicable audio system type.
(5) HINT: Select question for applicable audio system type.



ANTI–THEFT SYSTEM

The anti–theft system is only provided for audio systems equipped with an Acoustic Flavor function.
HINT: The words “ANTI–THEFT SYSTEM” are displayed on the cassette tape slot cover.
For operation instructions for the anti–theft system, please consult the audio system section in the Owner’s Manual.

1. SETTING SYSTEM

The system is in operation once the customer has pushed the required buttons and entered the customer–selected 3–digit ID number.
(Refer to the Owner’s Manual “SETTING THE ANTI–THEFT SYSTEM”).
HINT:

- When the audio system is shipped the ID number has not been input, so the anti–theft system is not in operation.
- If the ID number has not been input, the audio system remains the same as a normal audio system.

2. ANTI–THEFT SYSTEM OPERATION

If the normal electrical power source (connector or battery terminal) is cut off, the audio system becomes inoperable, even if the power supply resumes.

3. CANCELLING SYSTEM

The ID number chosen by the customer is input to cancel the anti–theft system.
(Refer to the Owner’s Manual, ”IF THE SYSTEM IS ACTIVATED”)
HINT: To change or cancel the ID number, please refer to the Owner’s Manual, ”CANCELLING THE SYSTEM”.

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).

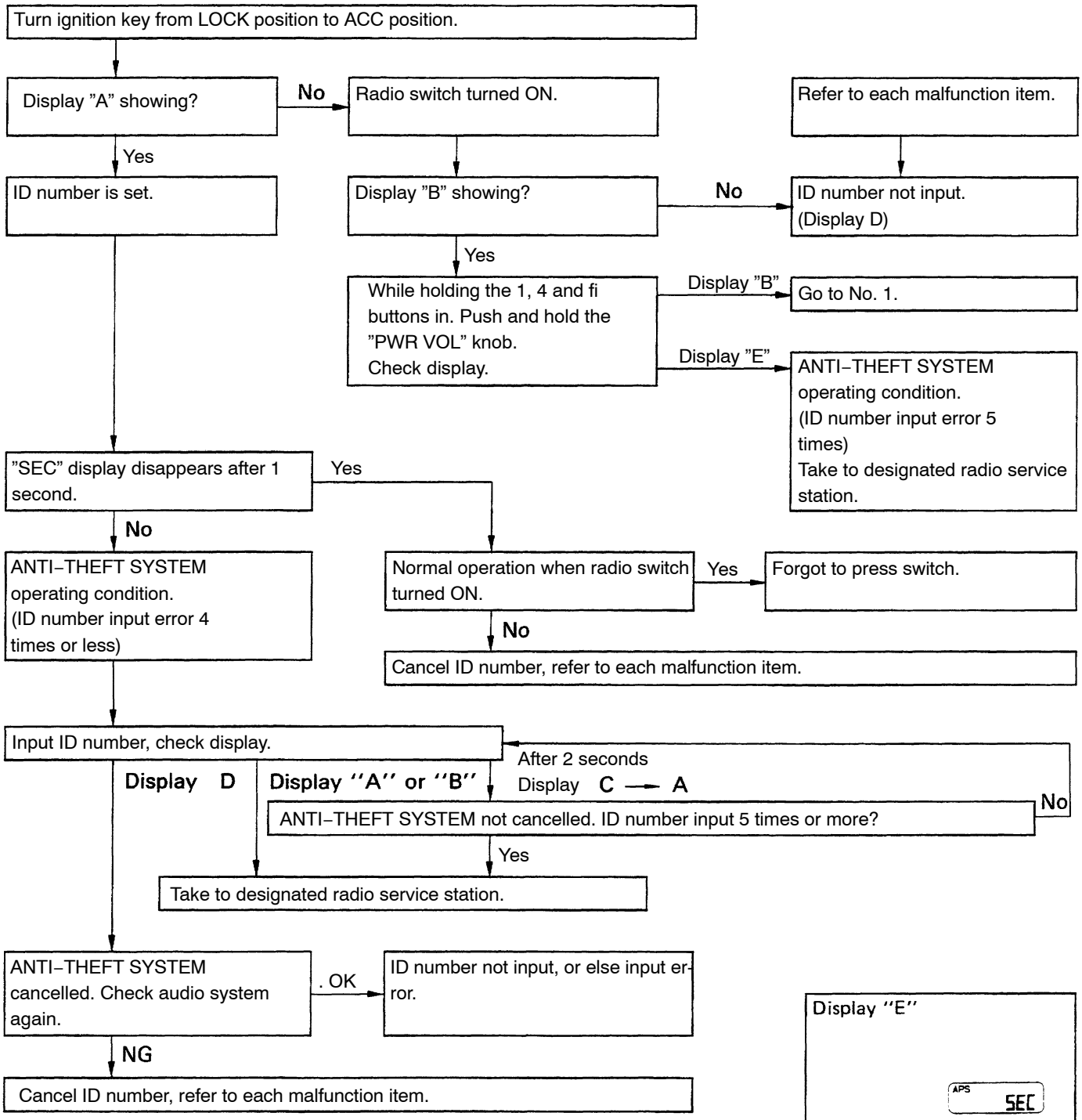
HINT: This inspection procedure is a simple troubleshooting which should be carried out on the vehicle during system operation and was prepared on the assumption of system component troubles (except for the wires and connectors, etc.).

Always inspect the trouble taking the following items into consideration.

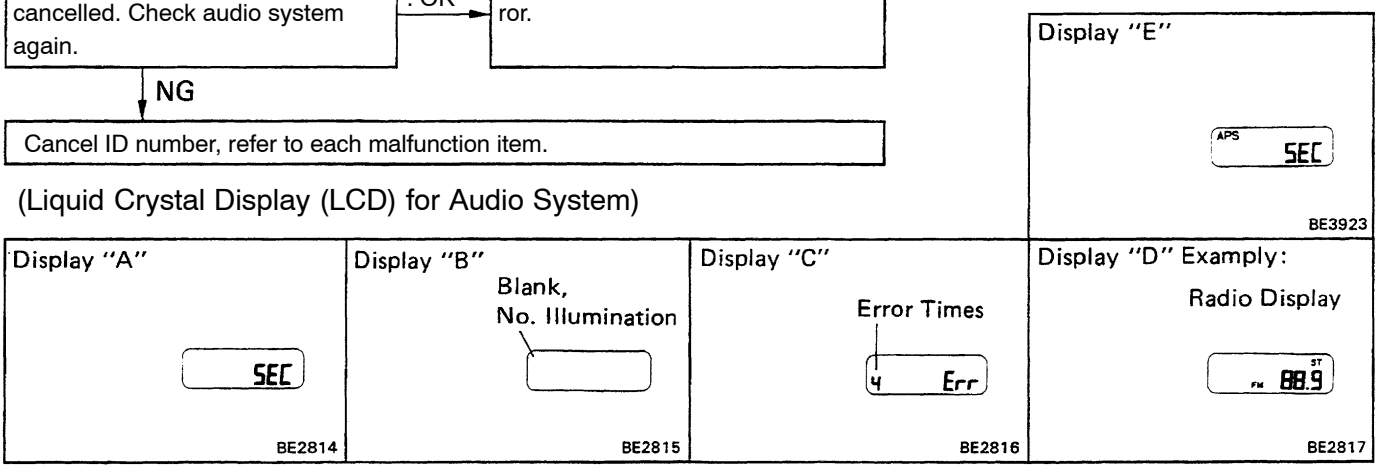
- Open or short circuit of the wire harness
- Connector or terminal connection fault
- For audio systems with anti–theft system, troubleshooting items marked (*) indicate that "Troubleshooting for ANTI–THEFT SYSTEM" should be carried out first.

Problem		No.
Radio	No power coming in.	*1
	Power coming in, but radio not operating.	*2
	Noise present, but AM – FM not operating.	3
	Either speaker does not work.	4
	Either AM or FM does not work.	5
	Reception poor (Volume faint).	5
	Few preset tuning bands.	5
	Sound quality poor.	6
	Cannot set station select button.	7
	Preset memory disappears.	7
Tape Player–	Cassette tape cannot be inserted.	8
	Cassette tape inserts, but no power.	*9
	Power coming in, but tape player not operating.	10
	Either speaker does not work.	11
	Sound quality poor (Volume faint).	12
	Tape jammed, malfunction with tape speed or auto–reverse.	13
	APS, SKIP, RPT buttons not operating.	14
	Cassette tape will not eject.	*15
CD Player	CD cannot be inserted.	16
	CD inserts but no power.	17
	Power corning in, but CD player not operating.	18
	Sound jumps.	19
	Sound quality poor (Volume faint).	20
	Either speaker does not work.	21
	CD will not eject.	22
Antenna	Antenna –related.	23
Noise	Noise produced by vibration or shock while driving.	24
	Noise produced when engine starts.	25

Troubleshooting for ANTI–THEFT SYSTEM



(Liquid Crystal Display (LCD) for Audio System)

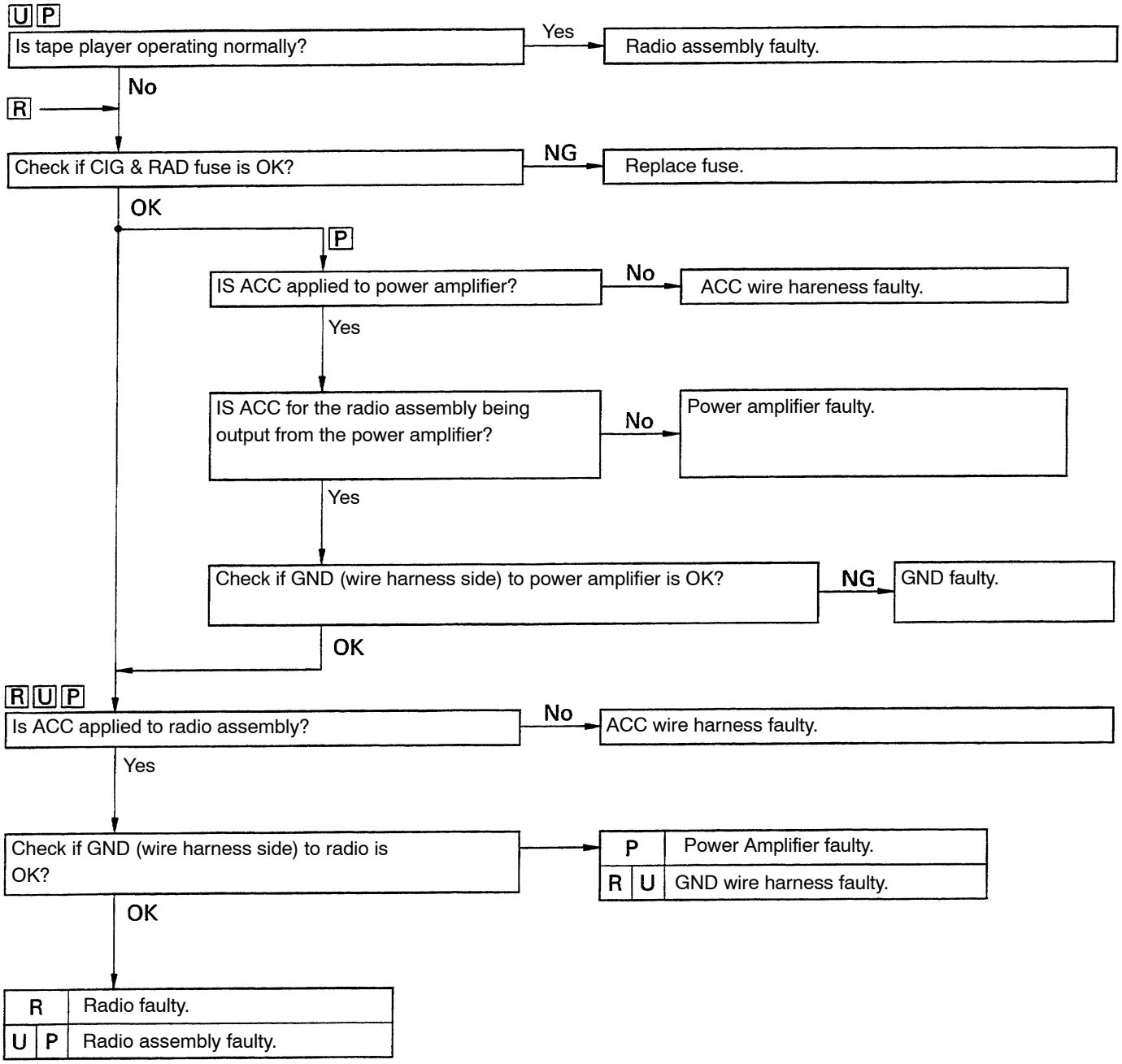


HINT:

- 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.

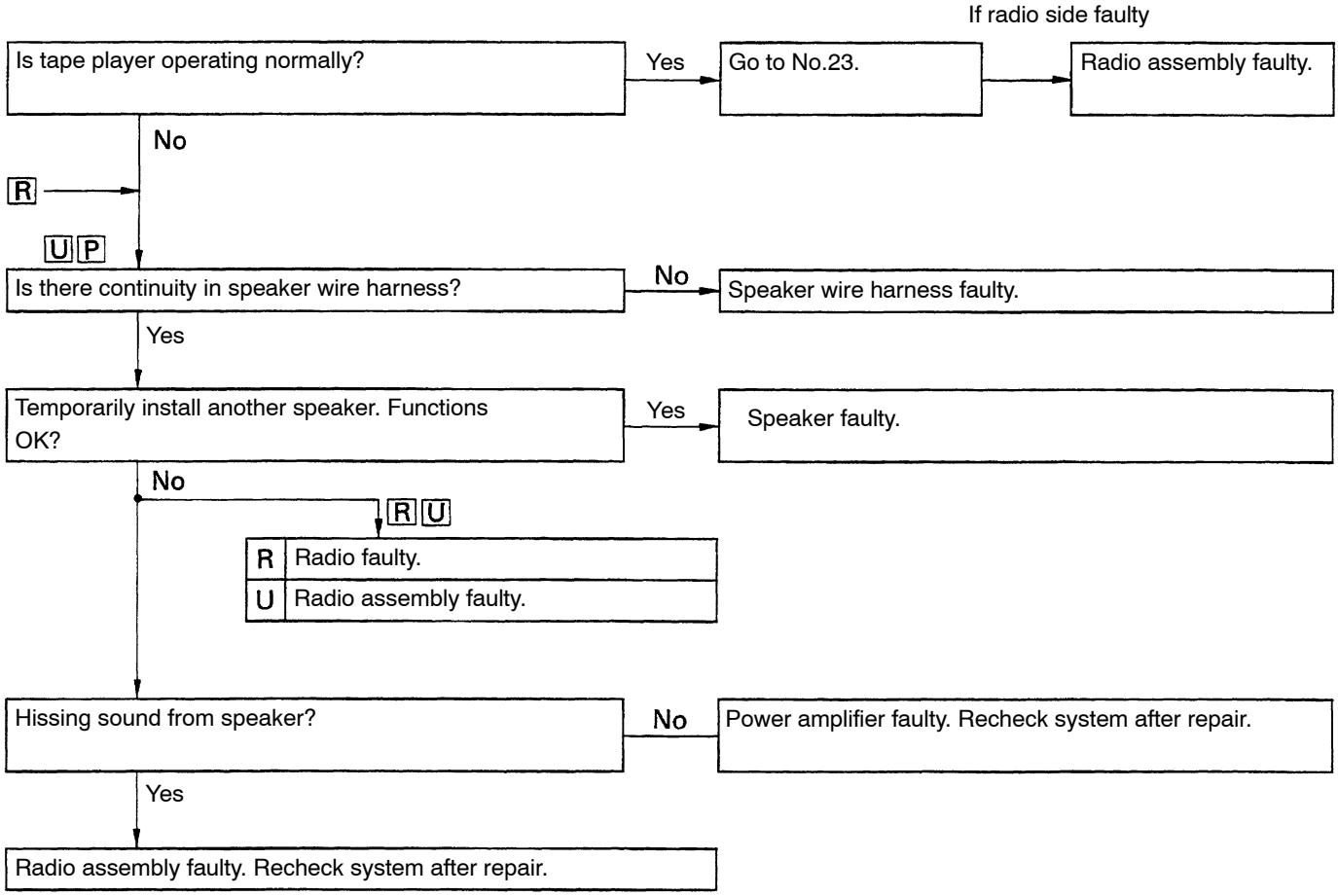
1 Radio NO POWER COMING IN

[R] : Radio, 5 Speaker
[U] : Radio–Tape Player, 5 Speaker
[P] : Radio–Tape Player, 9 Speaker



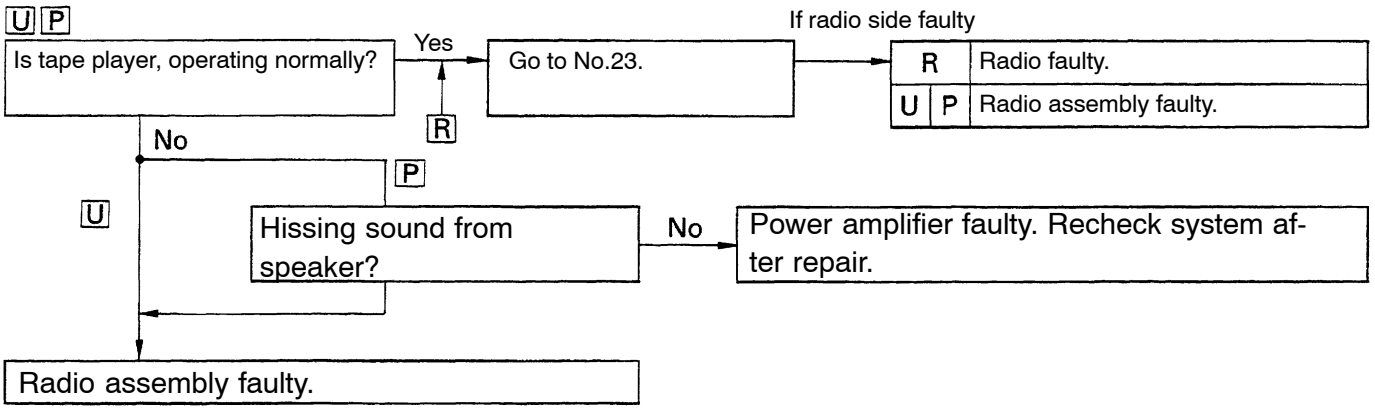
2 Radio — POWER COMING IN, BUT RADIO NOT OPERATING

[R]: Radio, 5 Speaker [U] : Radio–Tape Player, 5 Speaker
[P]: Radio–Tape Player, 9 Speaker



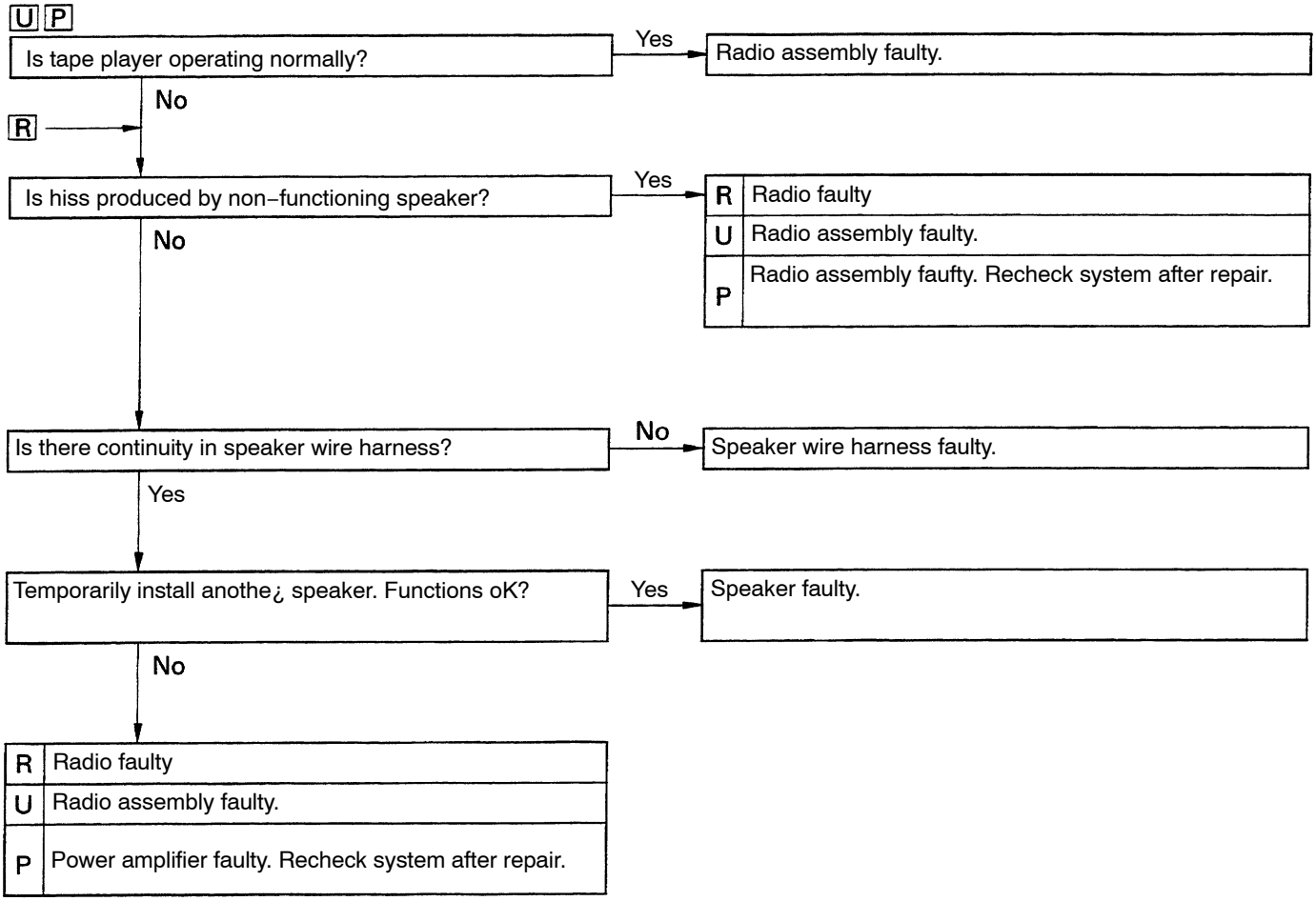
3 Radio — NOISE PRESENT, BUT AM–FM NOT OPERATING

[R] : Radio, 5 Speaker [U] : Radio–Tape Player, 5 Speaker
[P] : Radio–Tape Player, 9 Speaker



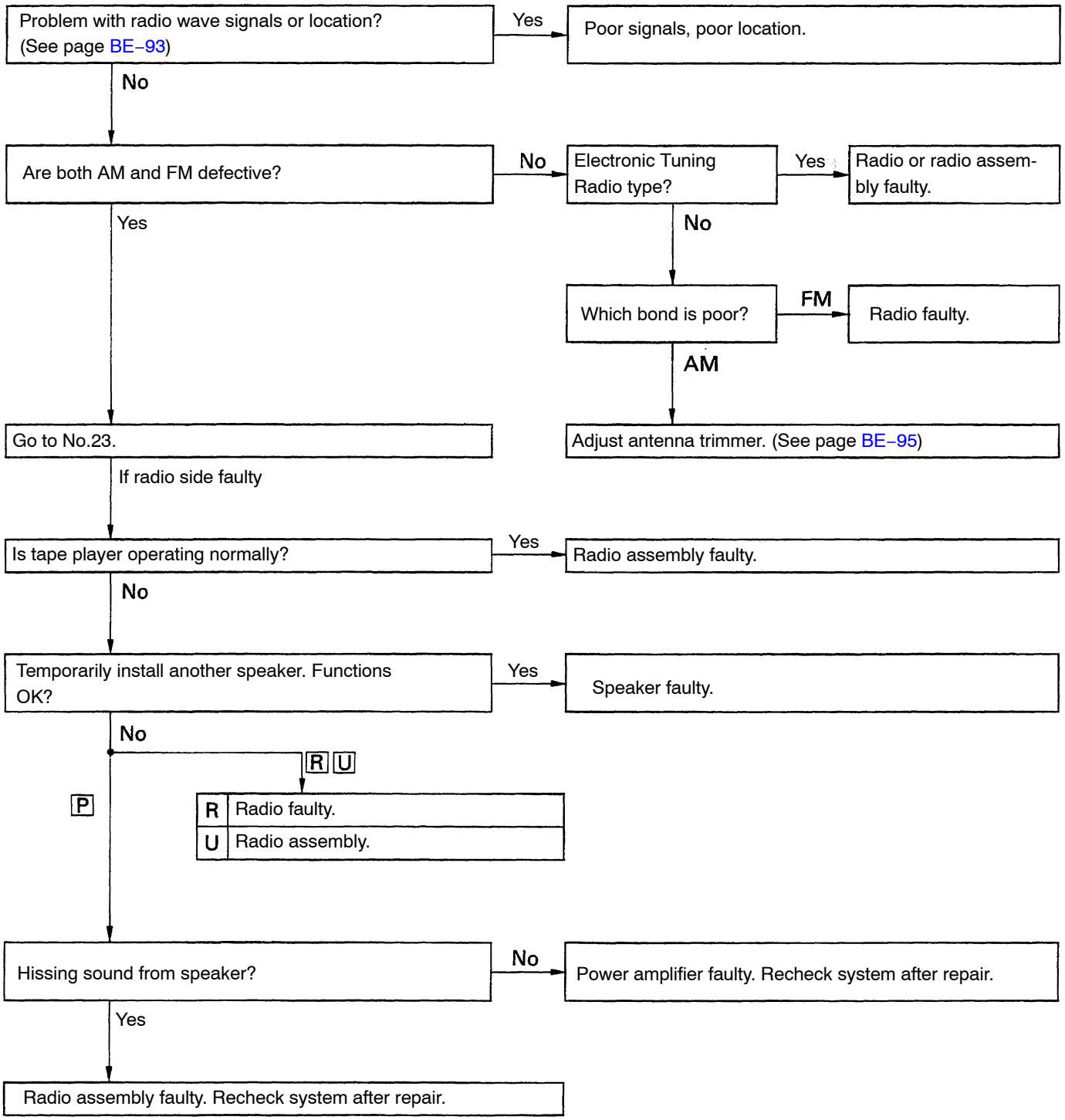
4 Radio — EITHER SPEAKER DOES NOT WORK

[R] : Radio, 5 Speaker U : Radio–Tape Player, 5 Speaker
[P] Radio–Tape Player, 9 Speaker



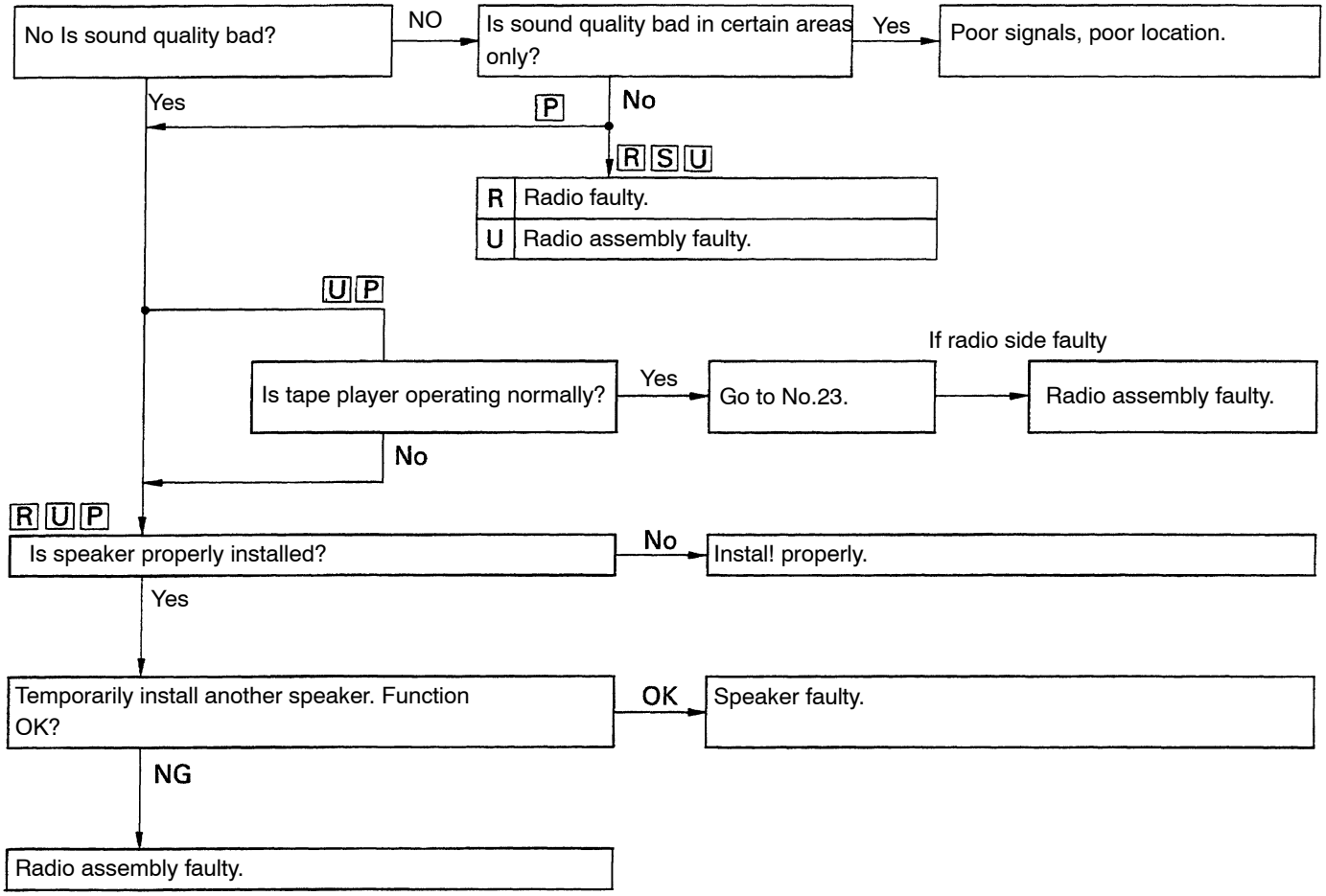
5	Radio	EITHER AM OR FM DOES NOT WORK, RECEPTION POOR (VOLUME FAINT), FEW PRESET TUNING BANDS

[R] : Radio, 5 Speaker [U] : Radio–Tape Player, 5 Speaker
[P] : Radio–Tape Player, 9 Speaker



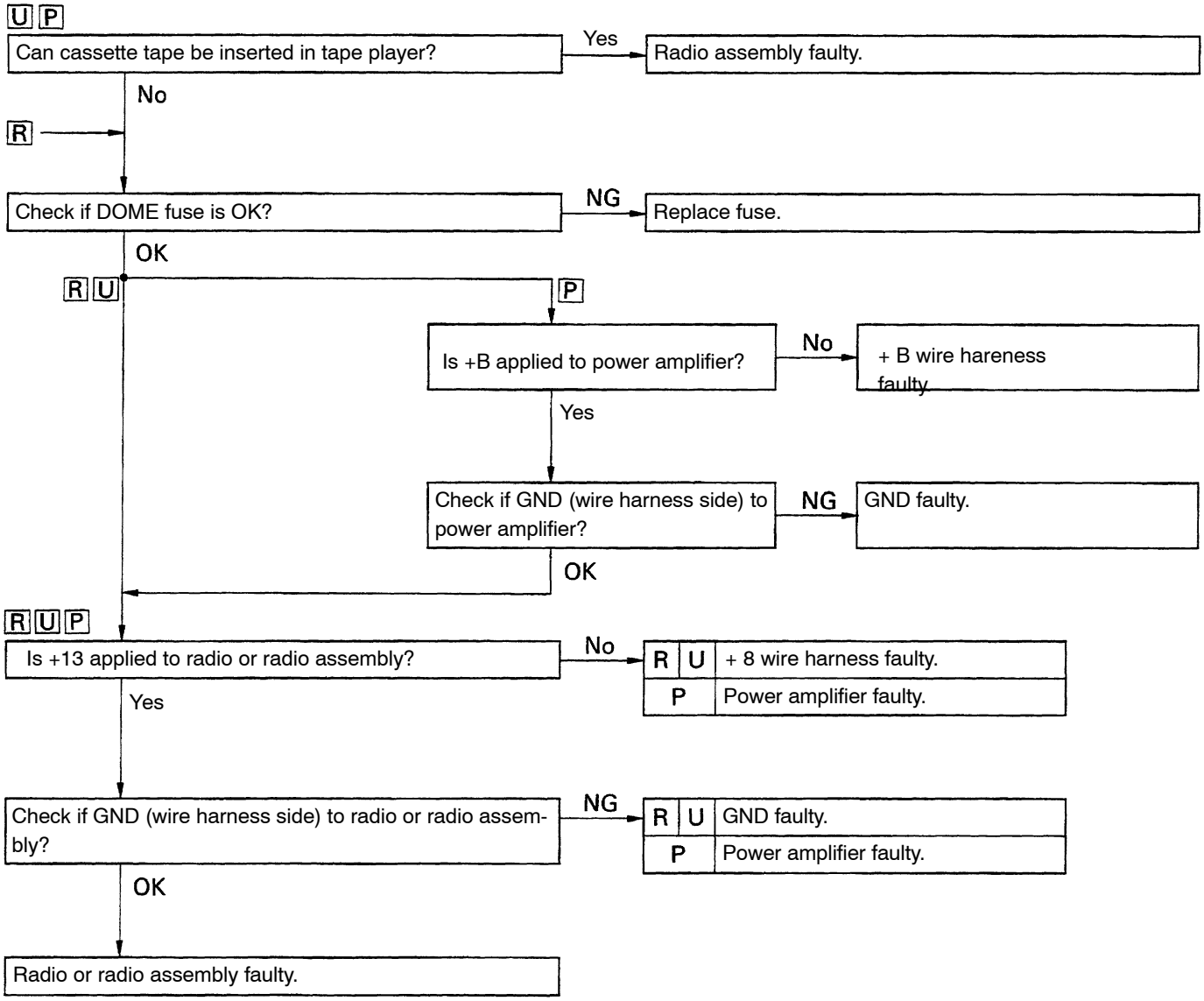
6 Radio — SOUND QUALITY POOR

[R] : Radio, 5 Speaker
[U] : Radio–Tape Player, 5 Speaker
[P] : Radio–Tape Player, 9 Speaker



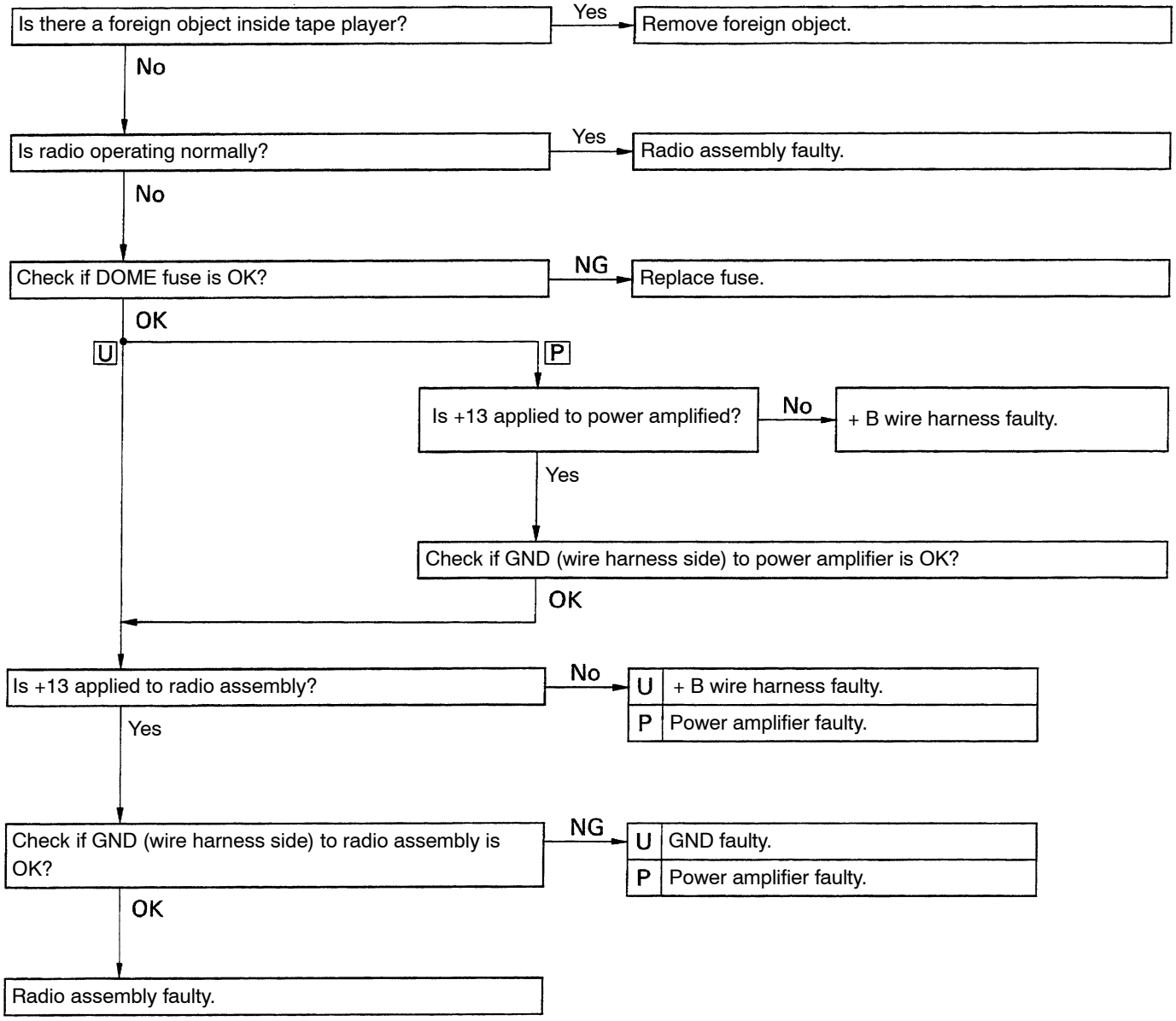
7 Radio — CANNOT SET STATION SELECT BUTTON, PRESET MEMORY DISAPPEARS

[R] : Radio, 5 Speaker
[U] : Radio–Tape Player, 5 Speaker
[P] : Radio–Tape Player, 9 Speaker



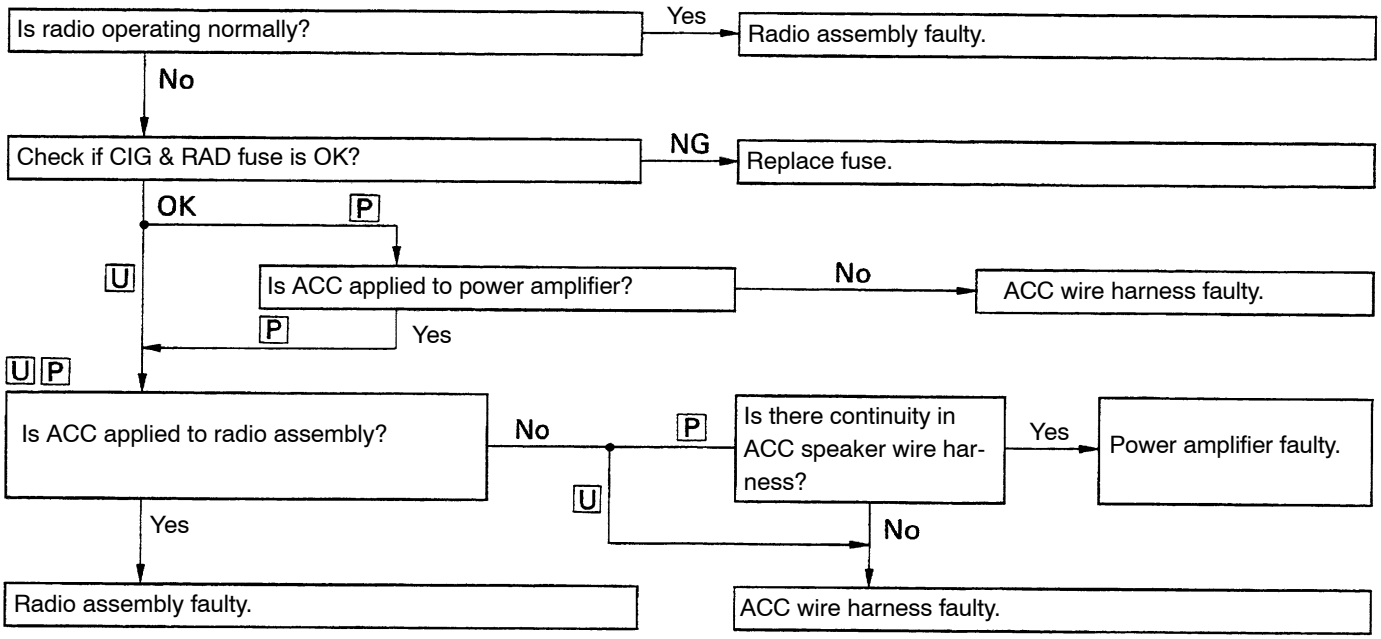
8 Tape Player CASSETTE TAPE CANNOT BE INSERTED

U : Radio–Tape Player, 5 Speaker
P : Radio–Tape Player, 9 Speaker



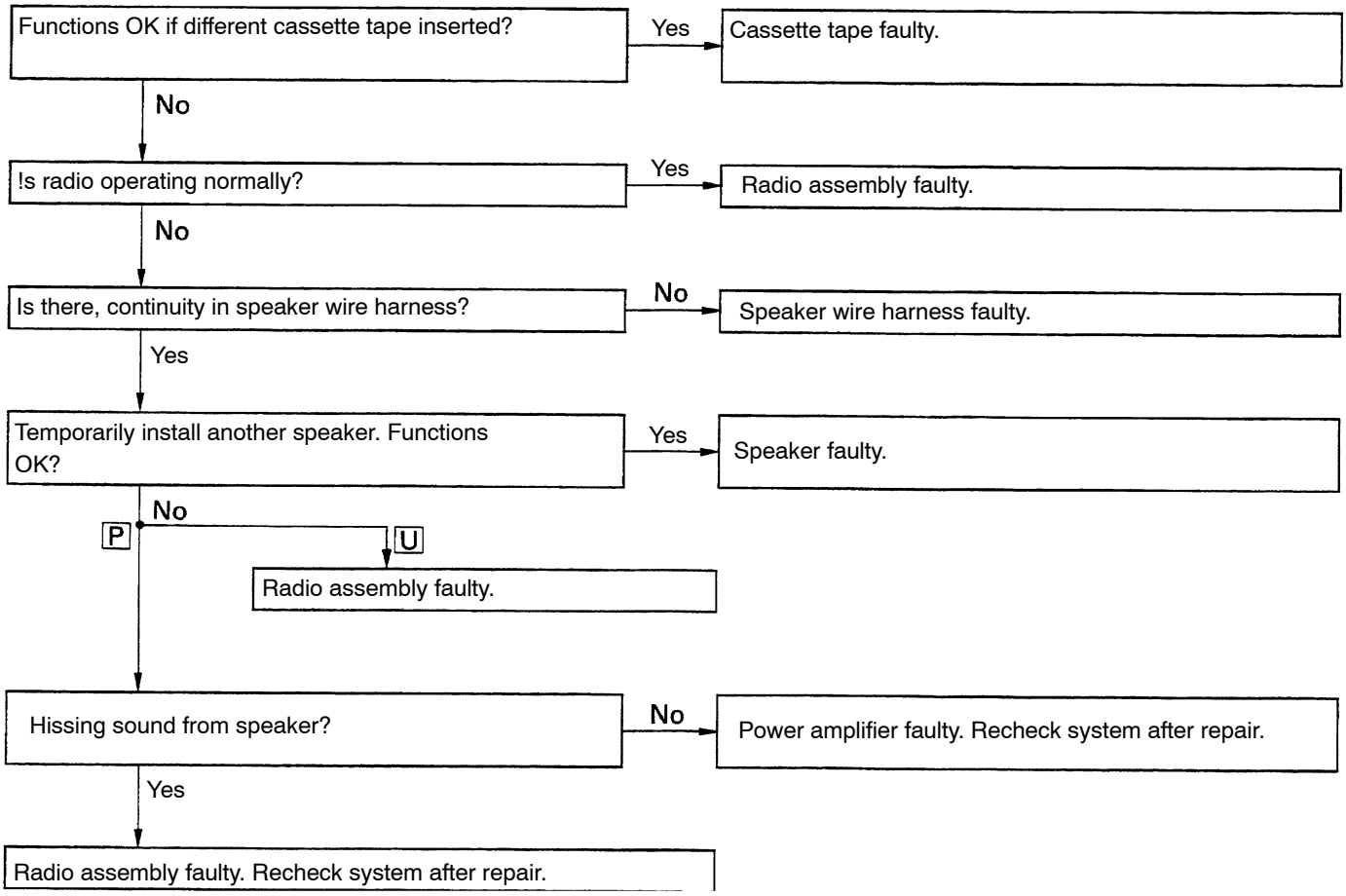
9 Tape Player CASSETTE TAPE INSERTS, BUT NO POWER

U : Radio –Tape Player, 5 Speaker
P : Radio–Tape Player, 9 Speaker



10 Tape Player POWER COMING IN, BUT TAPE PLAYER NOT OPERATING

U Radio–Tape Player, 5 Speaker
P Radio–Tape Player, 9 Speaker



11 Tape Player — EITHER SPEAKER DOES NOT WORK

U : Radio –Tape Player, 5 Speaker
P : Radio –Tape Player, 9 Speaker

- Is radio operating normally?
  - Yes → Radio assembly faulty.
  - No ↓
- Is hiss produced by non–functioning Speaker?
  - Yes →
    - U: Radio assembly faulty.
    - P: Radio assembly faulty. Recheck system after repair.
  - No ↓
- Is there continuity in speaker wire harness?
  - No → Speaker wire harness faulty.
  - Yes ↓
- Temporarily install another speaker. Functions OK?
  - OK → Speaker faulty.
  - NG ↓

U	Radio assembly faulty.
P	Radio assembly faulty. Recheck system after repair.

12 Tape Player — SOUND QUALITY POOR (VOLUME FAINT)

U : Radio–Tape Player, 5 Speaker
P : Radio–Tape Player, 9 Speaker

- Functions OK if different cassette tape inserted?
  - Yes → Cassette tape faulty.
  - No ↓
- Operates normally after cleaning the heads? (See page BE–94)
  - Yes → Head dirty.
  - No ↓
- Is radio operating normally?
  - Yes → Radio assembly faulty.
  - No ↓
- Is speaker properly installed?
  - No → Install properly.
  - Yes ↓
- Temporarily install another speaker. Functions OK?
  - Yes → Speaker faulty.
  - No ↓

U	Radio assembly faulty.
P	Radio assembly faulty. Recheck system after repair.

13 Tape Player — TAPE JAMMED, MALFUNCTION WITH TAPE SPEED OR AUTO–REVERSE

Functions OK if different tape (less than 120 mins.) is inserted?
- Yes → Cassette tape faulty.
- No →

Is there a foreigh object, inside tape player?
- Yes → Remove foreign object.
- No →

Operates normally after cleaning the heads? (See page 8E–94)
- Yes → Head dirty.
- No →

Radio assmbly faulty.

14 Tape Player — APS, SKIP, RPT BUTTONS NOT OPERATING

Functions OK if differet cassette tape inserted?
- No → Radio assembly faulty.
- Yes →

Cassette tape faulty. (Less than 3 secs. of silence between songs (APS, RPT). Less than 15 secs. of silence (SKIP).)

15 Tape Player — CASSETTE TAPE WILL NOT EJECT

[R] : Radio, 5 Speaker [U] : Radio–Tape Player, 5 Speaker
[P] : Radio–Tape Player, 9 Speaker

Is tape player operating normally?
- No → Cassette tape jammed.
- Yes →

Is radio operating normally?
- Yes → Radio assembly faulty.
- No →

Check if DOME fuse is OK?
- NG → Replace fuse.
- OK →

[U] →

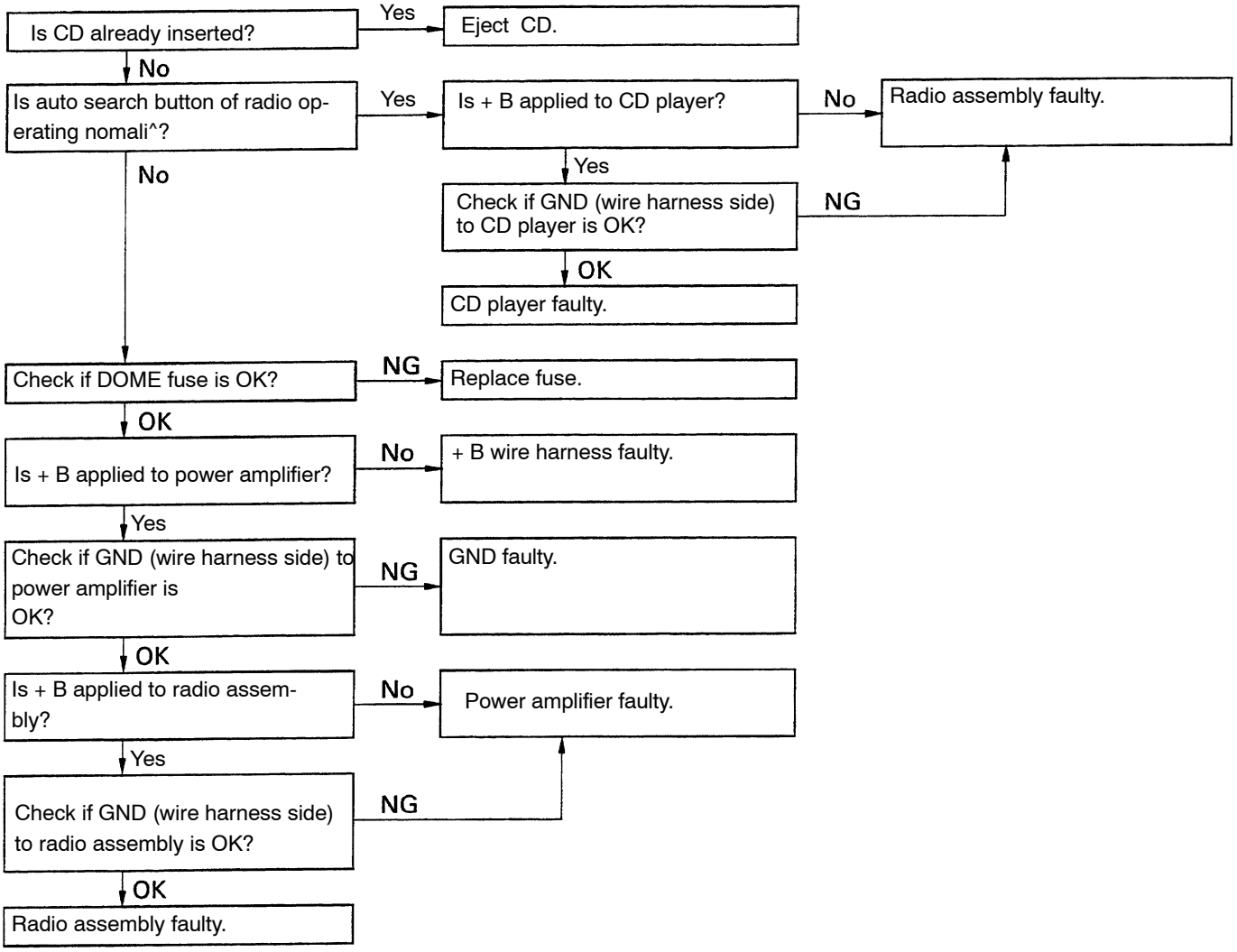
[P] Is +B applied to power amplifier?
- No → + B wire harness faulty.
- Yes →

Is +B applied to radio assembly?
- Yes → Radio assembly faulty.
- No →

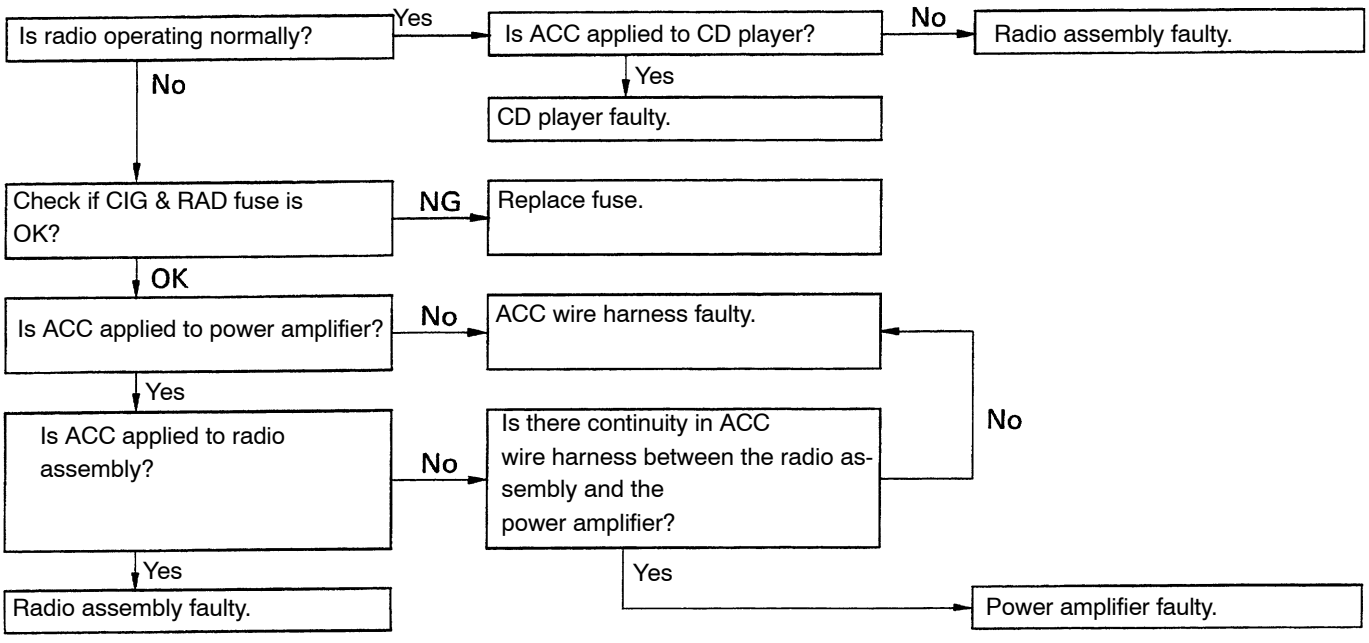
[P] Is there continuity in +B wire harness between power amplifier and radio assembly.
- Yes → Power amplifier faulty.
- No →

[U] → +B wire harness faulty.

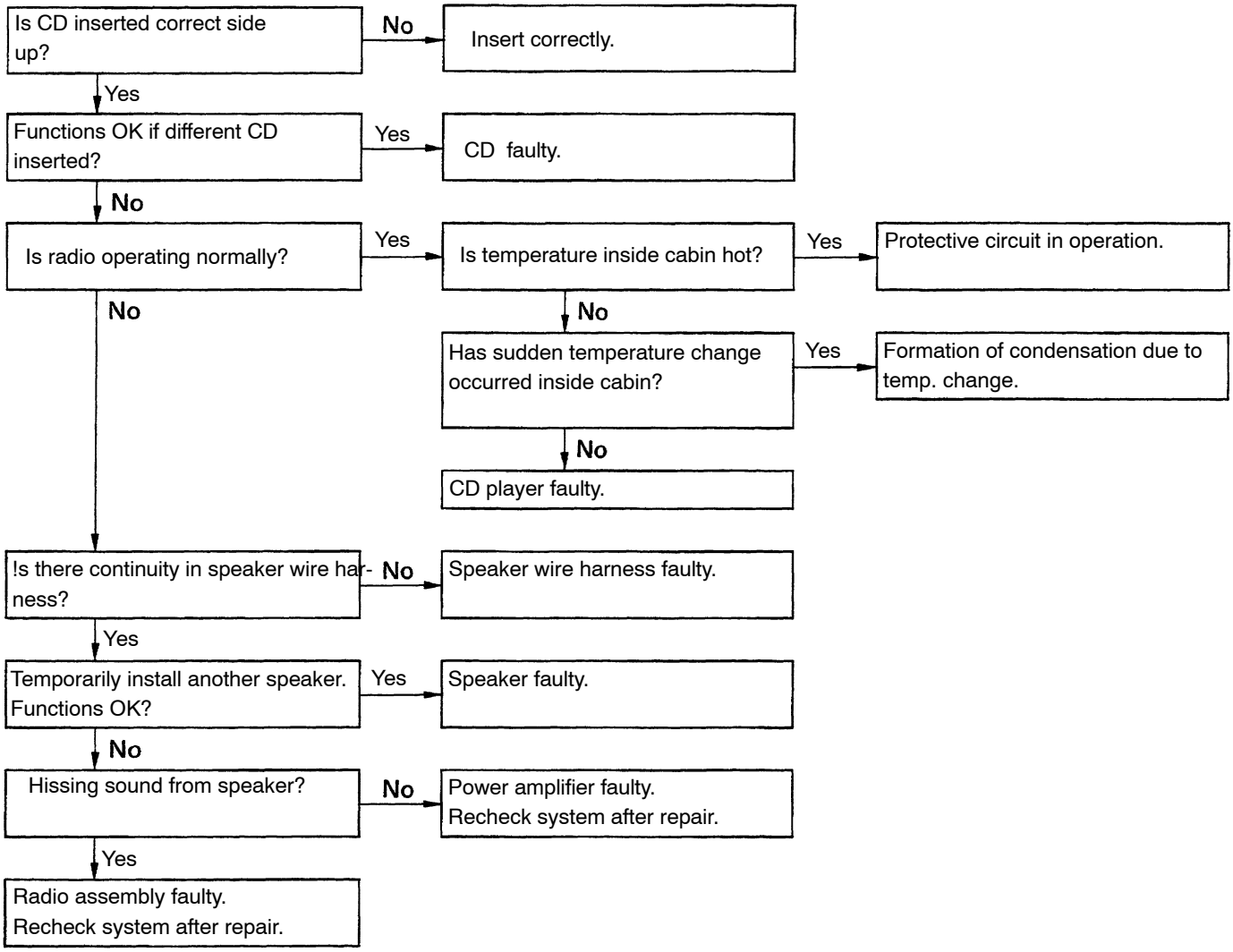
16 CD Player — CD CANNOT BE INSERTED



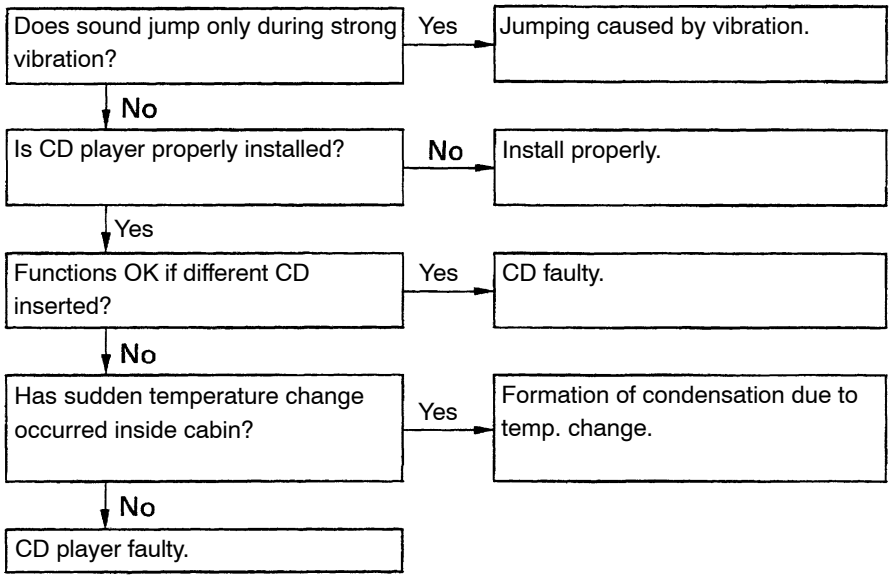
17 CD Player — CD INSERTS, BUT NO POWER



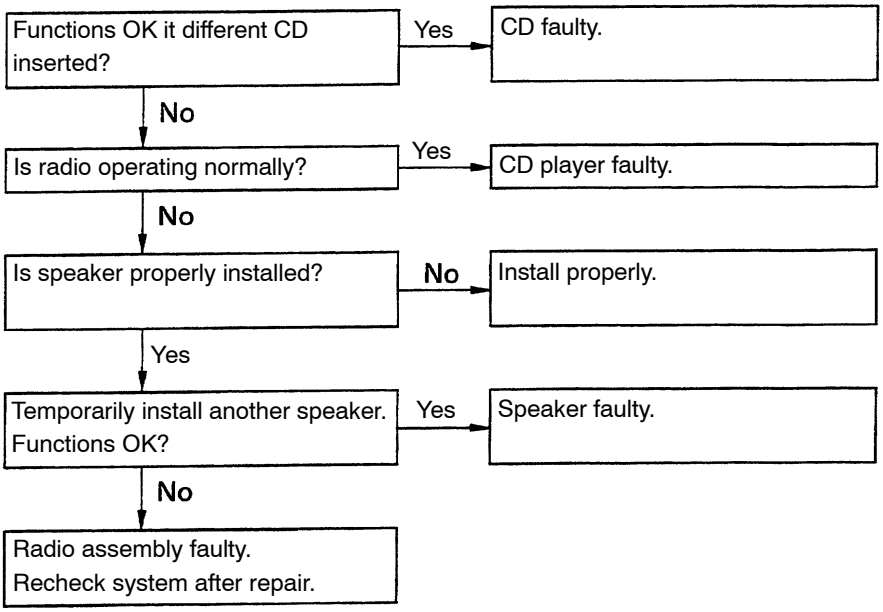
18 CD Player — POWER COMING IN, BUT CD PLAYER NOT OPERATING



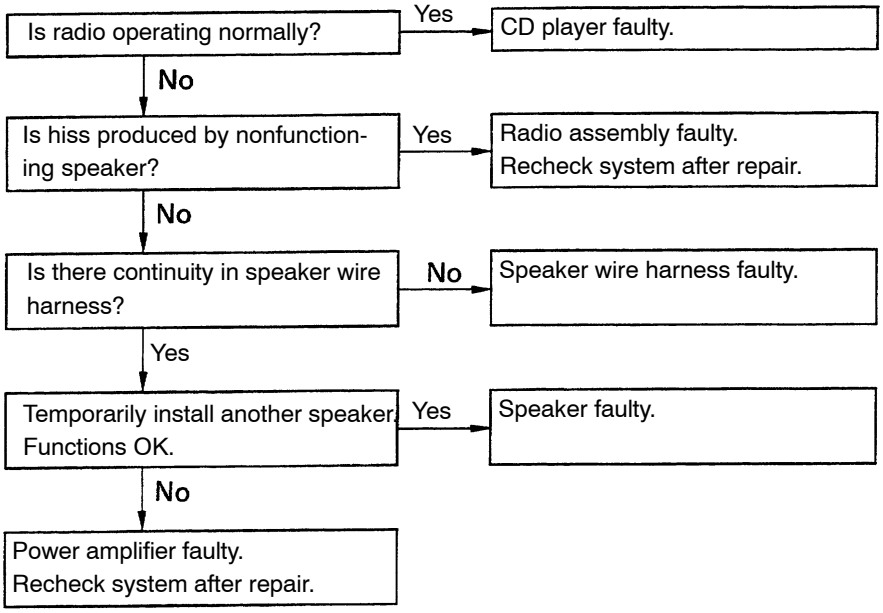
19 CD Player — SOUND JUMPS



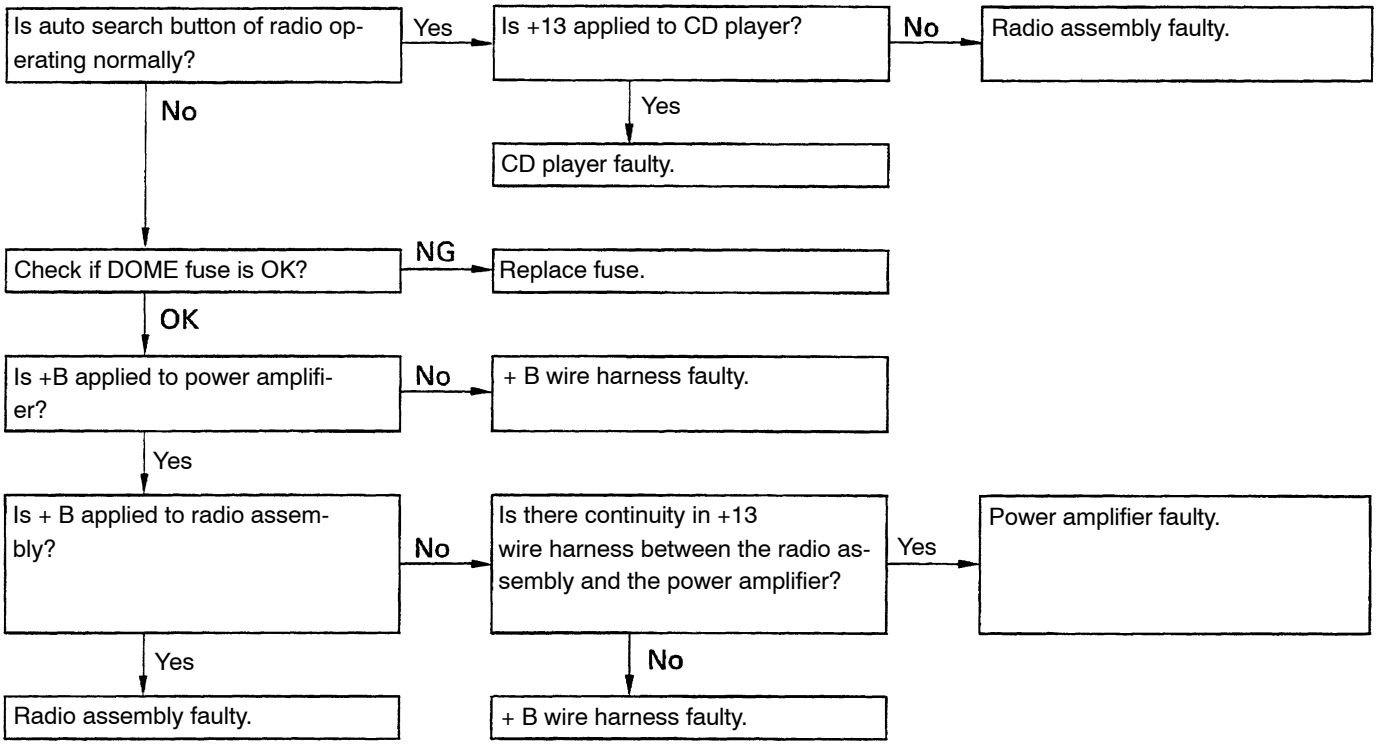
20 CD Player — SOUND QUALITY POOR (VOLUME FAINT)



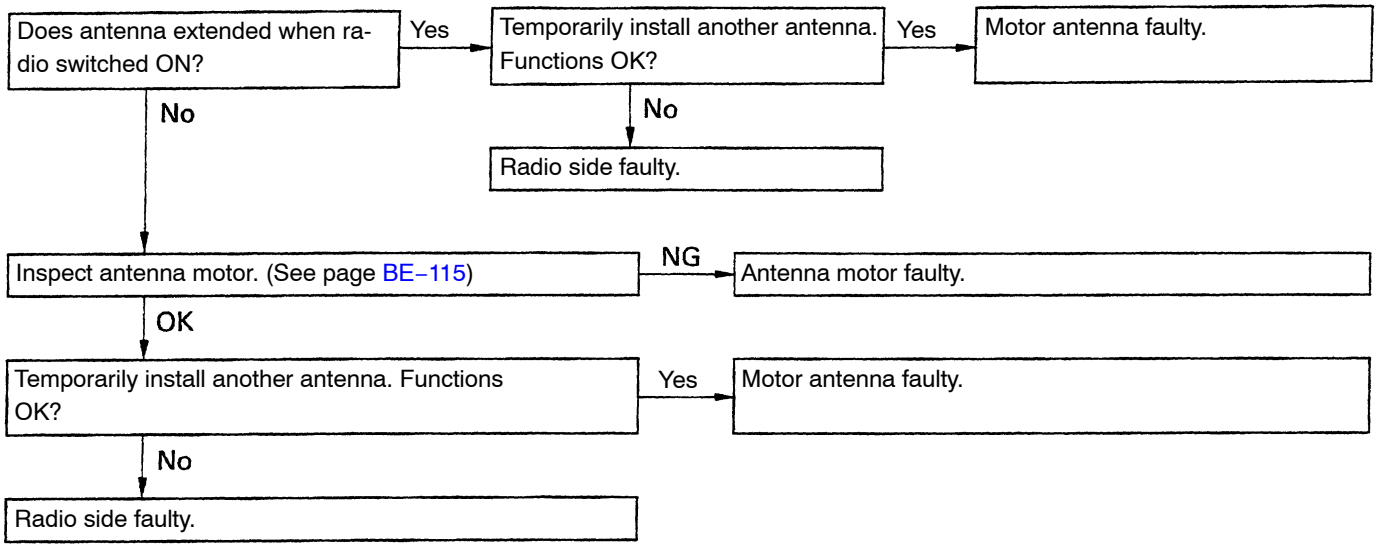
21 CD Player — EITHER SPEAKER DOES NOT WORK



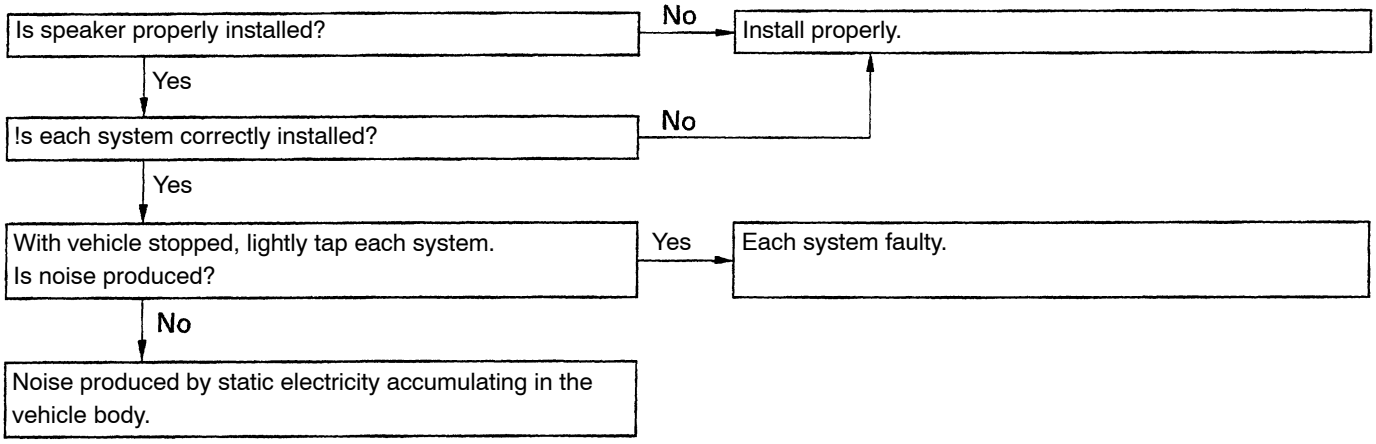
22 CD Player — CD WILL NOT EJECT



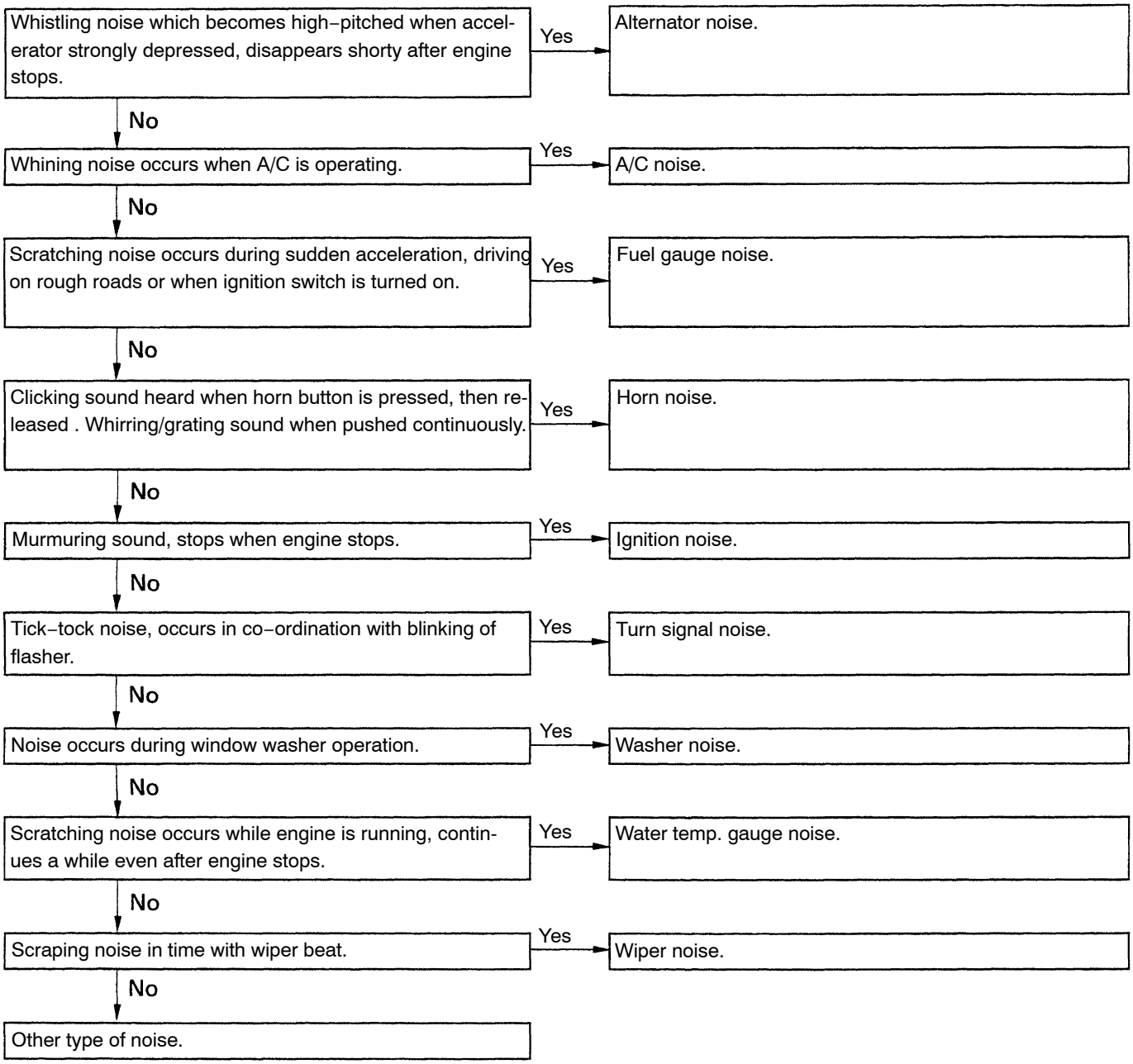
23 Antenna — ANTENNA–RELATED



24 Noise — NOISE PRODUCED BY VIBRATION OR SHOCK WHILE DRIVING



25	Noise	NOISE PRODUCED WHEN ENGINE STARTS

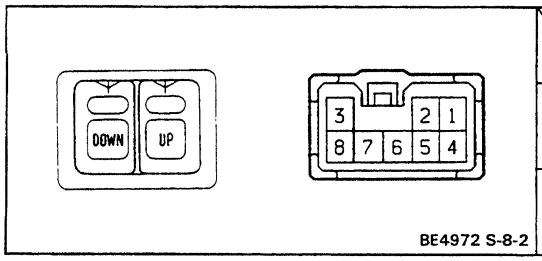


Parts Inspection

(with Motor Antenna)

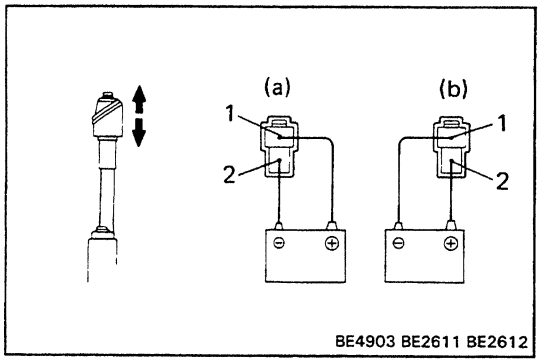
1. INSPECT ANTENNA SWITCH

(Except Radio–Linked Type/Continuity)



Terminal / Switch position		4	5	7	8	Illumination 1	Illumination 2
UP Button	Free	○——	——○			○—◎—○	
	Pushed in		○——	——○			
DOWN Button	Free	○——		———	——○	○—◎—○	
	Pushed in			○——	——○		

If continuity is not as specified, replace the switch.



2. INSPECT ANTENNA MOTOR

(a) Connect the positive (+) lead from the battery to terminal 1 and the negative (–) lead to terminal 2, check that the motor turns (moves upward.)

(b) Then, reverse the polarity, check that the motor turns the opposite way (moves downward.)

If operation is not as specified, replace the motor.