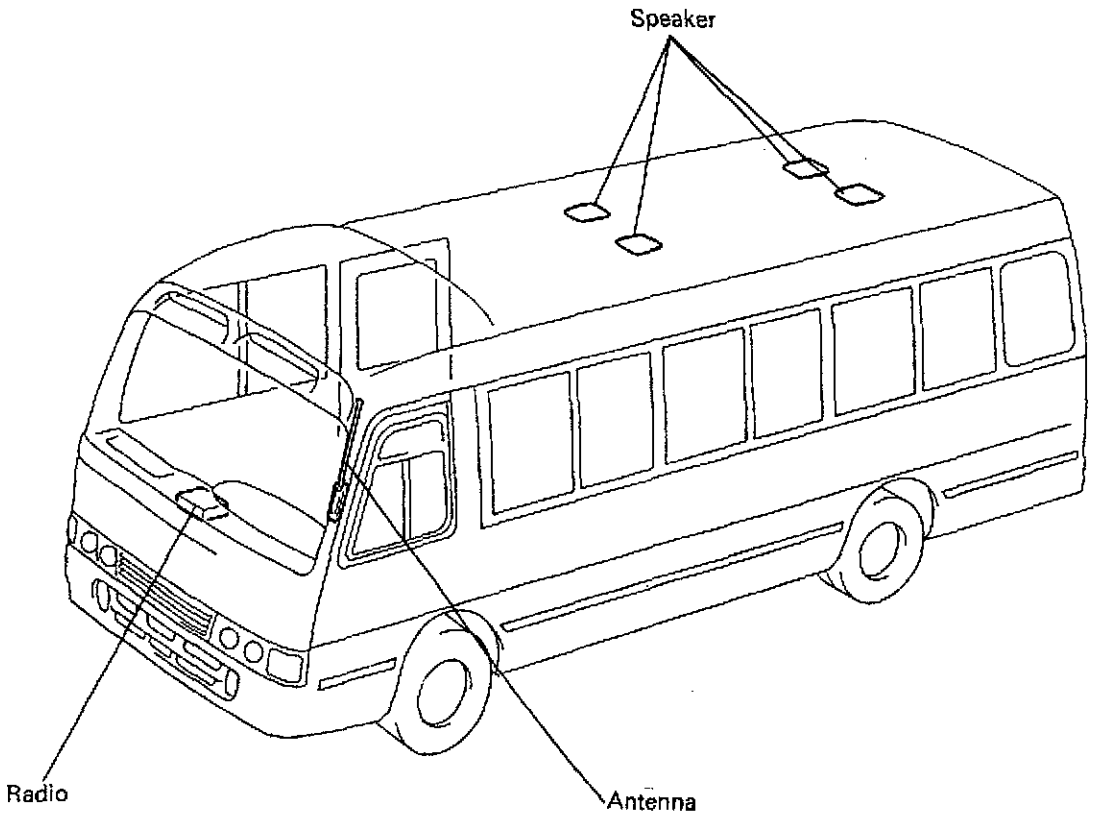
AUDIO SYSTEM
PARTS LOCATION

BE02Q-02



N08045

BE0ZM-01

SYSTEM DESCRIPTION

RADIO WAVE BAND

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

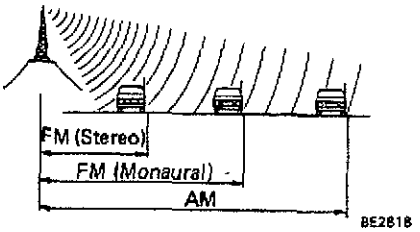
Frequency 30kHz	300kHz	3MHz	30MHz	300MHz
Designation	LF	MF	HF	VHF
Radio wave	LW	AM (MW)	SW	FM (UKW)
Modulation method	Amplitude modulation			Frequency modulation

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

HINT: In this section, the term "AM" includes LW, MW and SW, and the term "FM" includes UKW.

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.



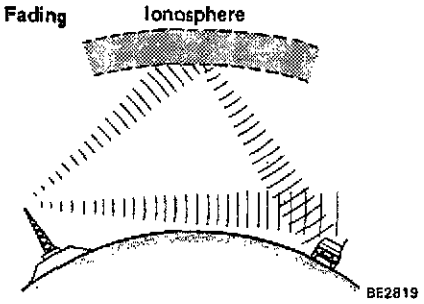
BE2818

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

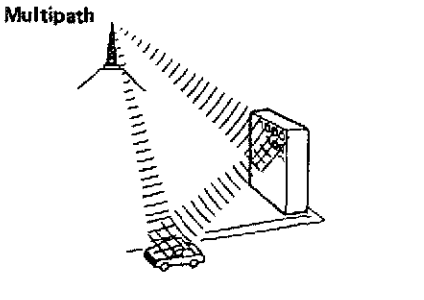
Besides electrical interference, AM broadcasts are also susceptible to other types of interference, especially at night. This is because AM radio waves bounce off the ionosphere at night. These radio waves then interfere with the signals from the same transmitter that reach the vehicle's antenna directly.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



BE2819

Multipath

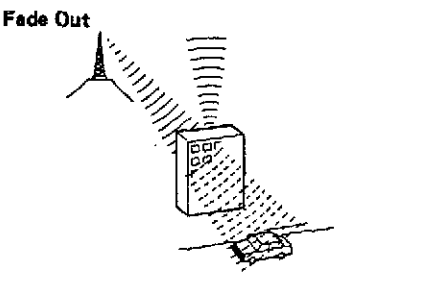
One type of interference caused by the bouncing of radio waves off of obstructions is called "multipath". Multipath occurs when a signal from the broadcast transmitter antenna bounces off of buildings and mountains and interferes with the signal that is received directly.



BE2820

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".



BE2821

BE

MAINTENANCE

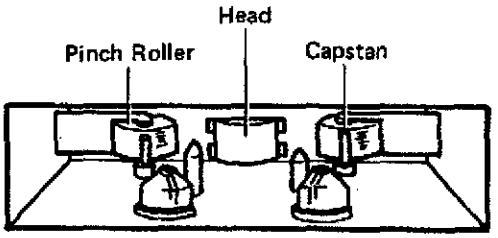
(Tape Player)

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:



C00912

BE02N-02

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).

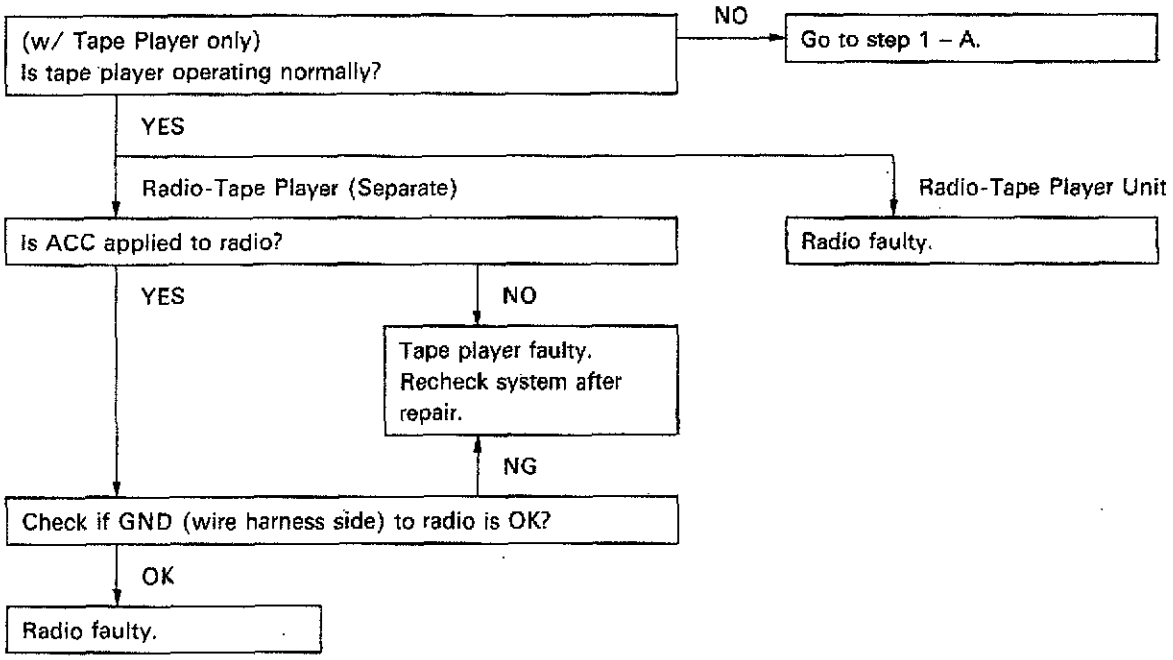
HINT: This inspection procedure is a simple troubleshooting which should be carried out on the vehicle during system operation and was prepared on the assumption of system component troubles (except for the wires and connectors, etc.).

Always inspect the trouble taking the following items into consideration.

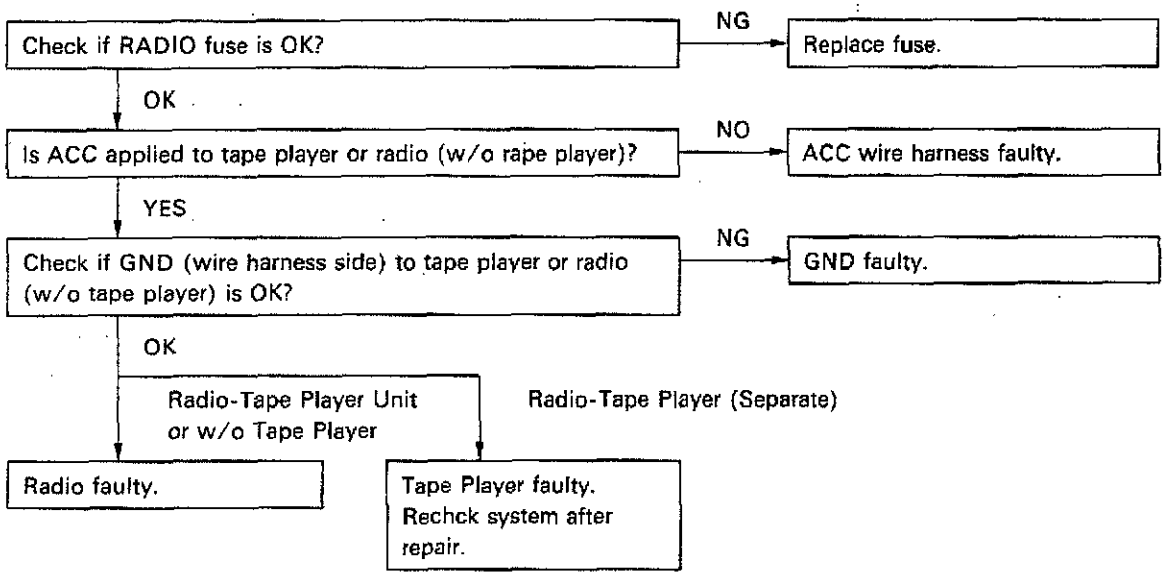
- Open or short circuit of the wire harness
- Connector or terminal connection fault

	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
	Cassette tape will not eject.	14
Noise	Noise produced by vibration or shock while driving.	15
	Noise produced when engine starts.	16
Antenna	*Antenna – related.*	17

1	RADIO	NO POWER COMING IN



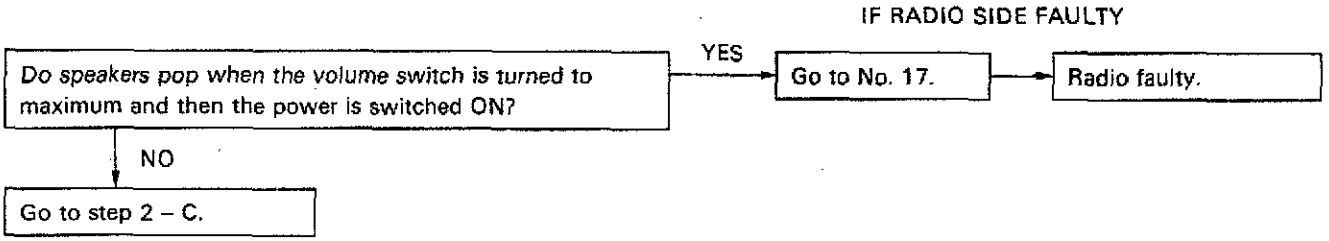
1 – A.



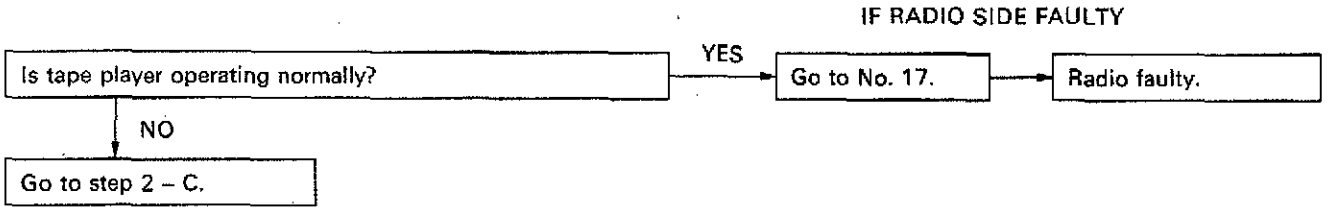
V02853

2	RADIO	POWER COMING IN, BUT RADIO NOT OPERATING

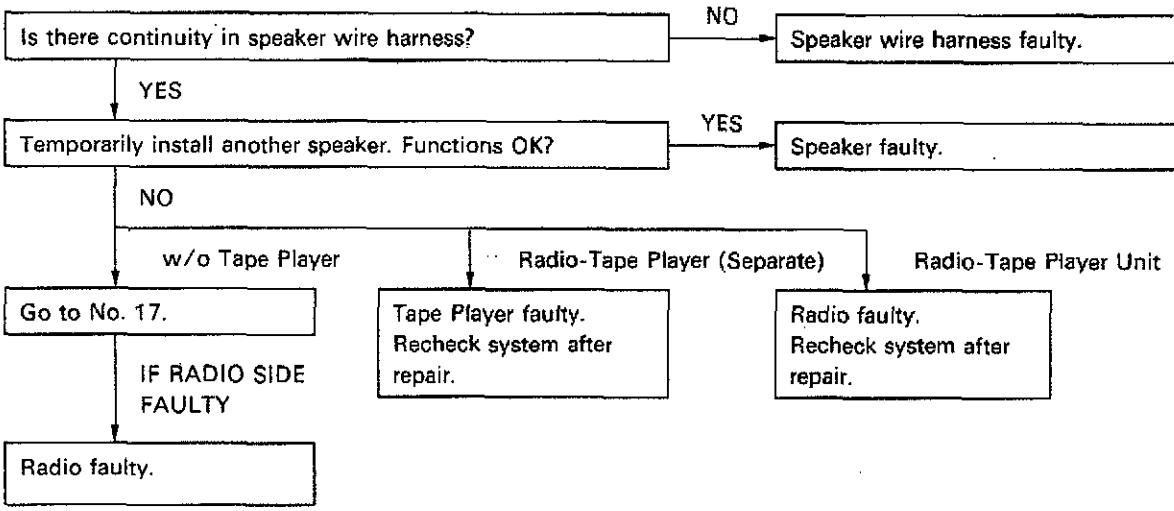
2 – A. w/o Tape Player



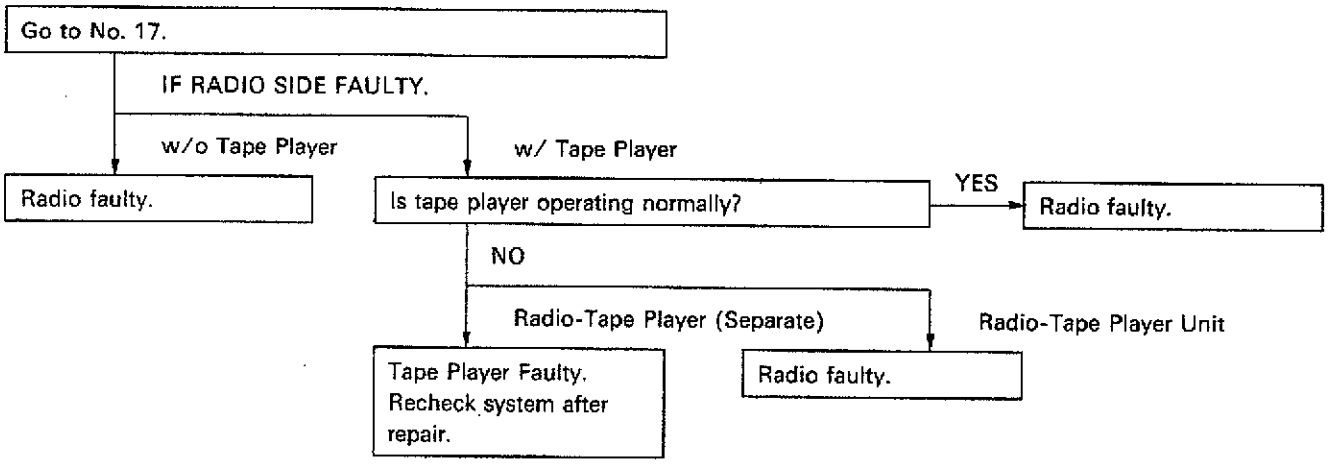
2 – B. w/ Tape Player



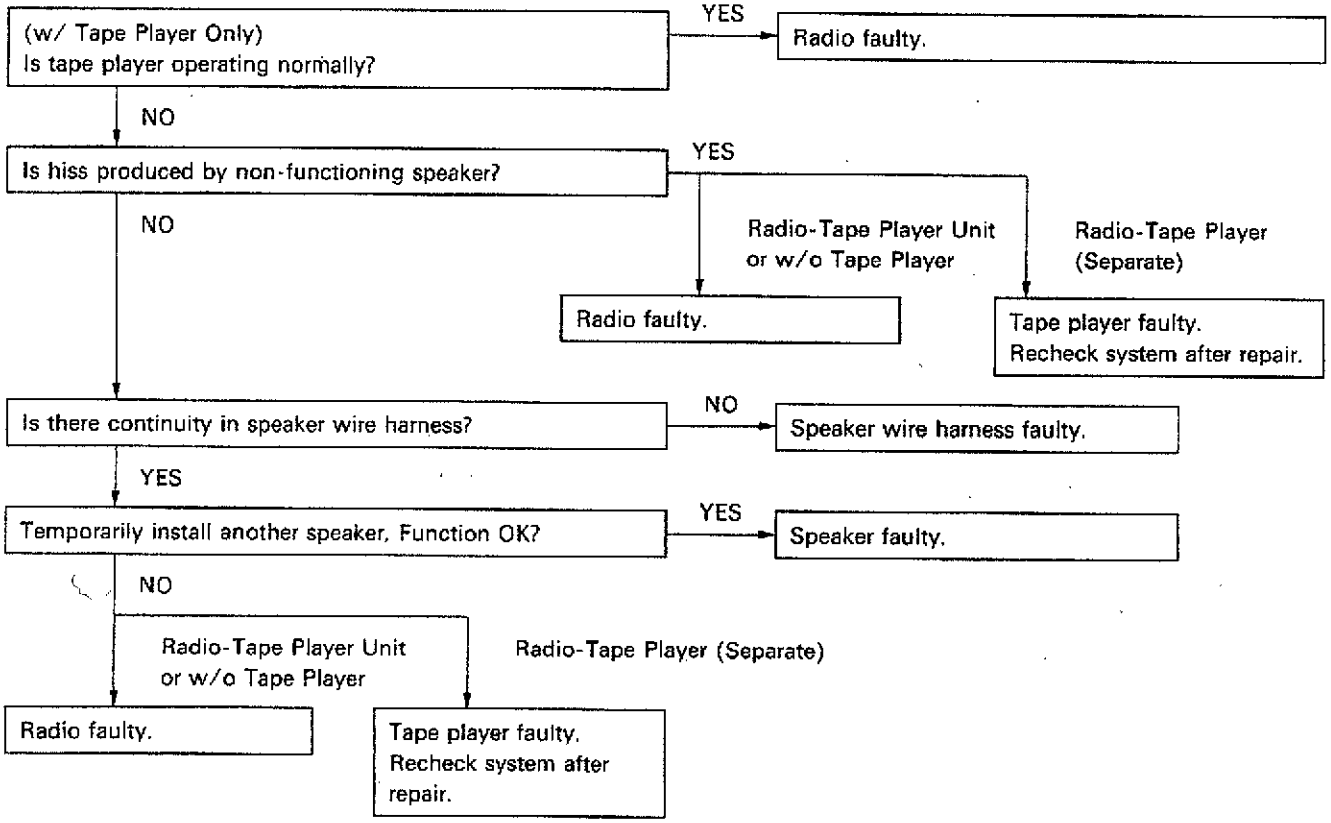
2 – C.



3 RADIO — NOISE PRESENT, BUT AM-FM NOT OPERATING



4 RADIO — EITHER SPEAKER DOES NOT WORK



5 RADIO — EITHER AM OR FM DOES NOT WORK, RECEPTION POOR (VOLUME FAINT), FEW PRESET TUNING BAND

Problem with radio wave signals or location? — YES → Poor signals, poor location.

NO

Are both AM and FM defective? — NO → Go to step 5 – A.

YES

Go to No. 19.

IF RADIO SIDE FAULTY

(w/ Tape Player Only)
Is tape player operating normally? — YES → Radio faulty.

NO

Temporarily install another speaker. Functions OK? — YES → Speaker faulty.

NO

Radio-Tape Player Unit or w/o Tape Player → Radio faulty.

Radio-Tape Player (Separate) → Tape Player faulty. Recheck system after repair.

5 – A.

Which band is poor? — FM → Radio faulty.

AM

Electronic Tuning Radio type? — YES → Radio faulty.

NO

Adjust antenna trimmer.

6 RADIO — SOUND QUALITY POOR

Is sound quality always bad? — NO → Go to step 6 – A.

YES

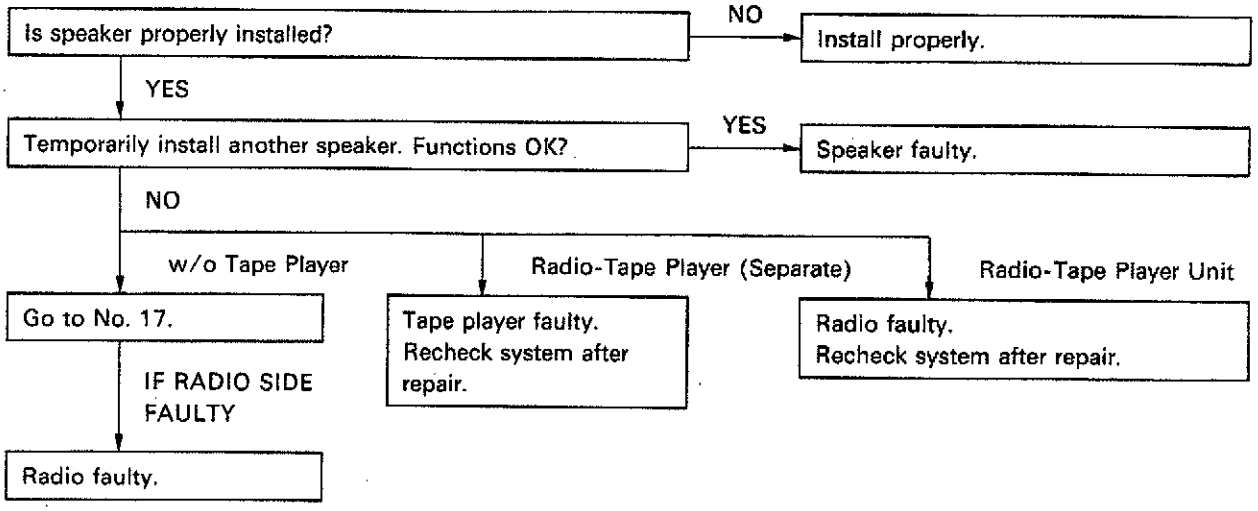
IF RADIO SIDE FAULTY

(w/ Tape Only)
Is tape player operating normally? — YES → Go to No. 17. → Radio faulty.

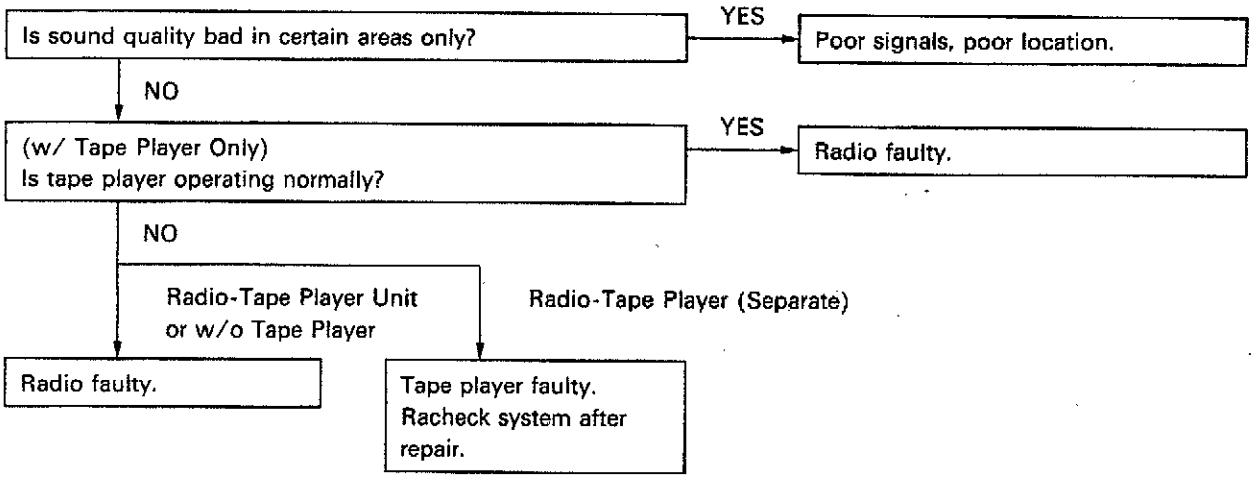
NO

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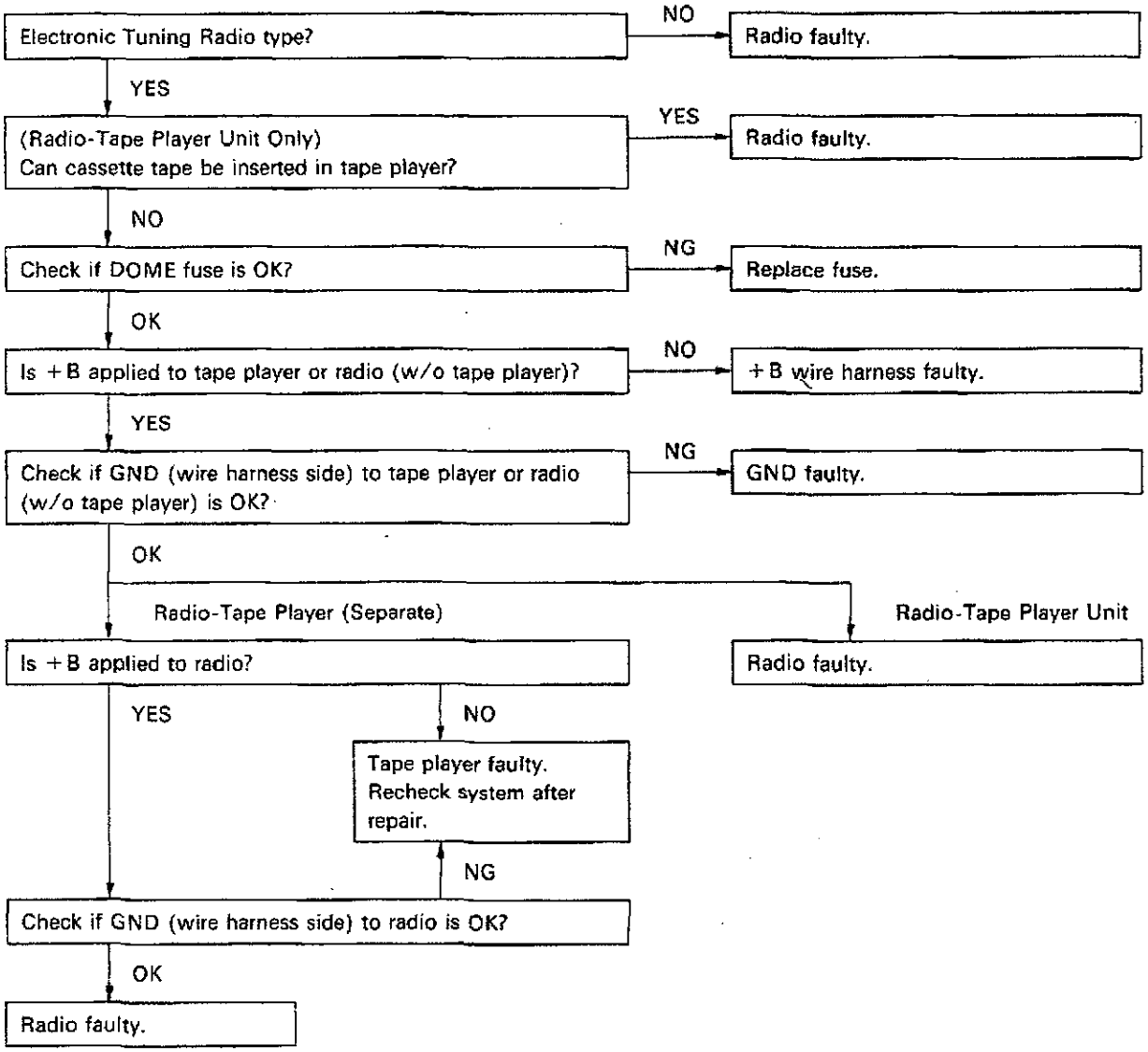
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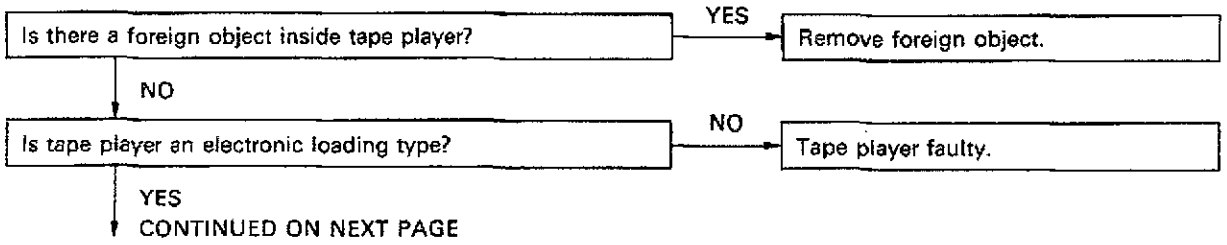
6 – A.



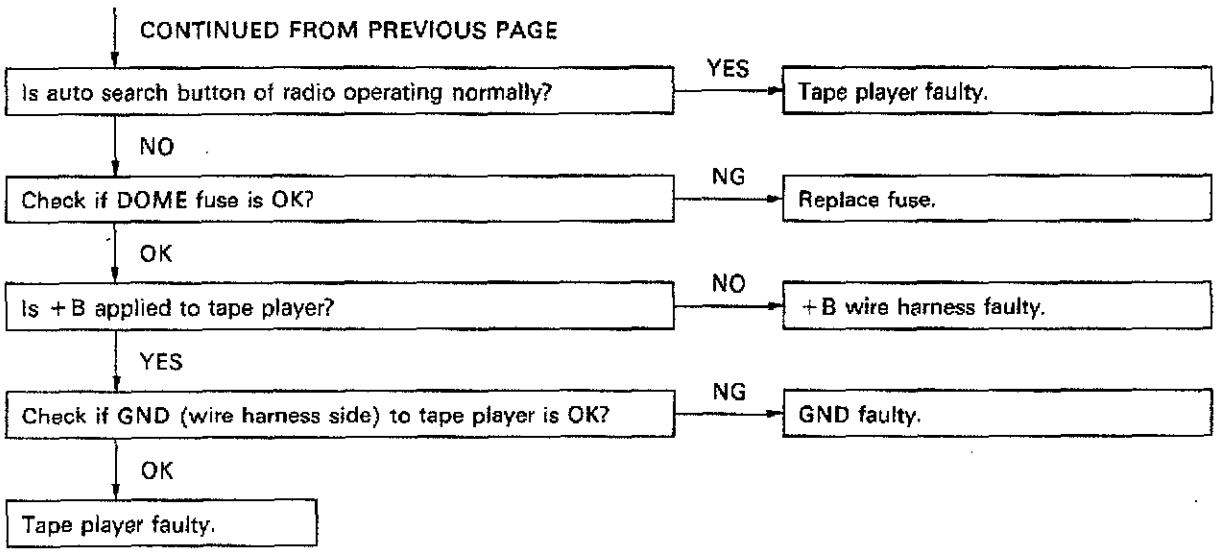
7 RADIO — CANNOT SET STATION SELECT BUTTON, PRESET MEMORY DISAPPEARS



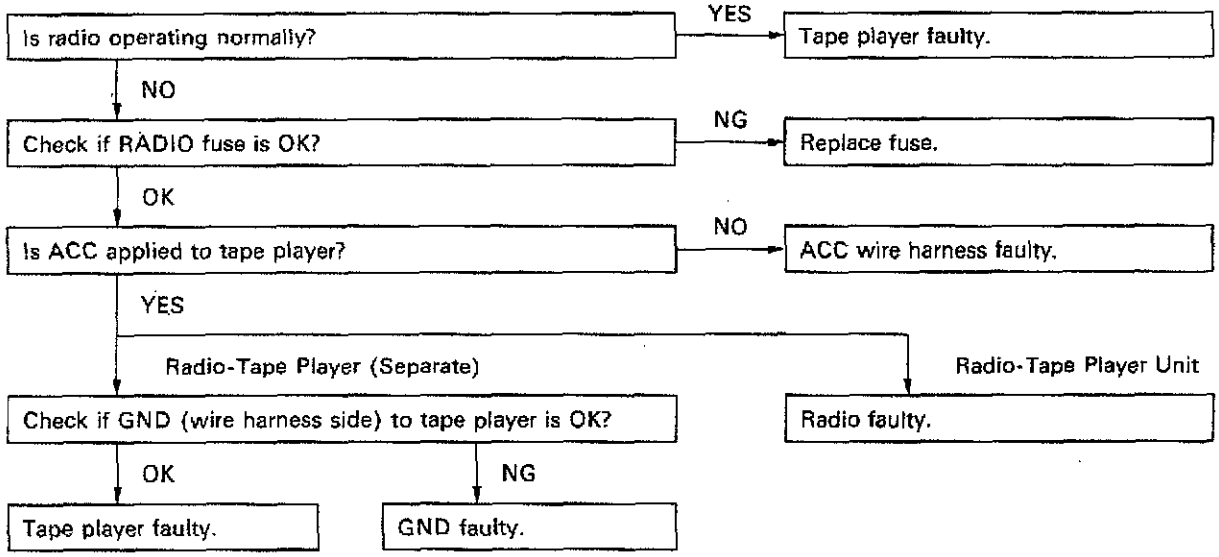
8 TAPE PLAYER — CASSETTE TAPE CANNOT BE INSERTED



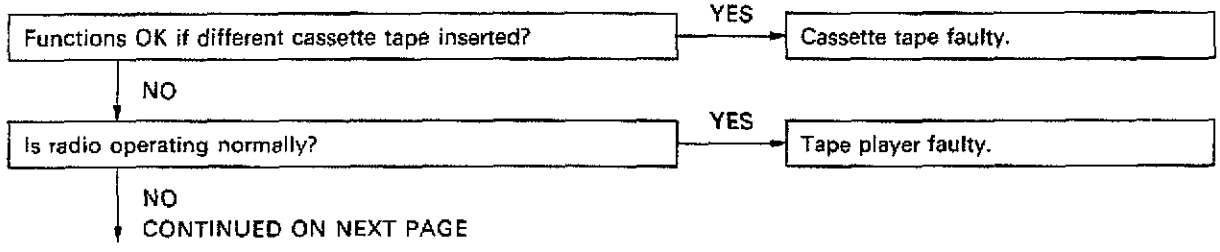
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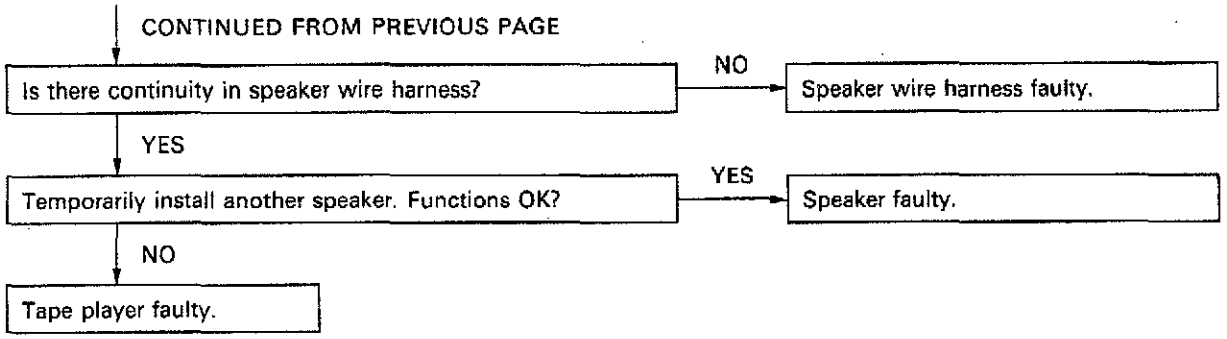
9 TAPE PLAYER CASSETTE TAPE INSERTS, BUT NO POWER



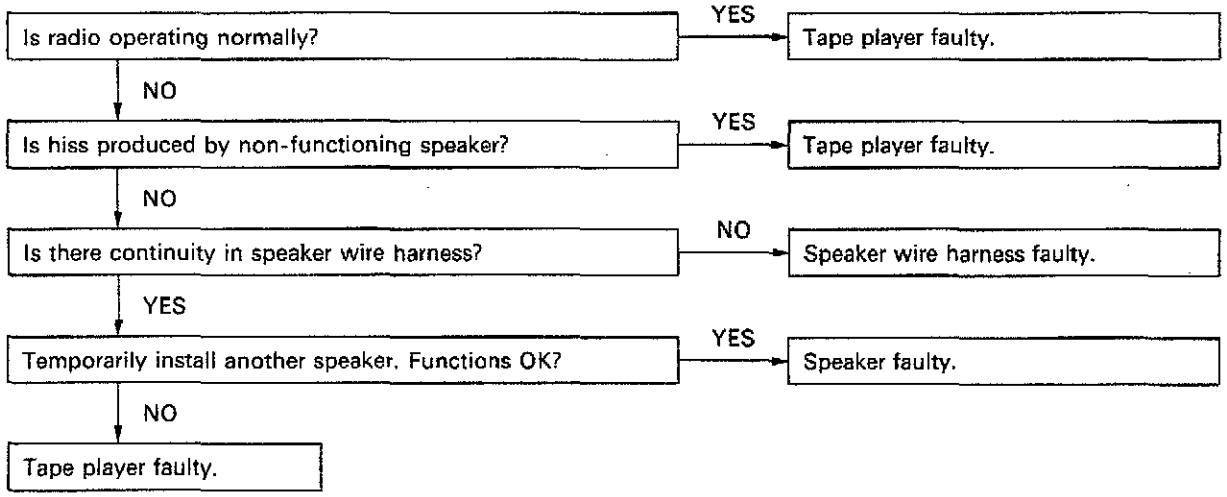
10 TAPE PLAYER POWER COMING IN, BUT TAPE PLAYER NOT OPERATING



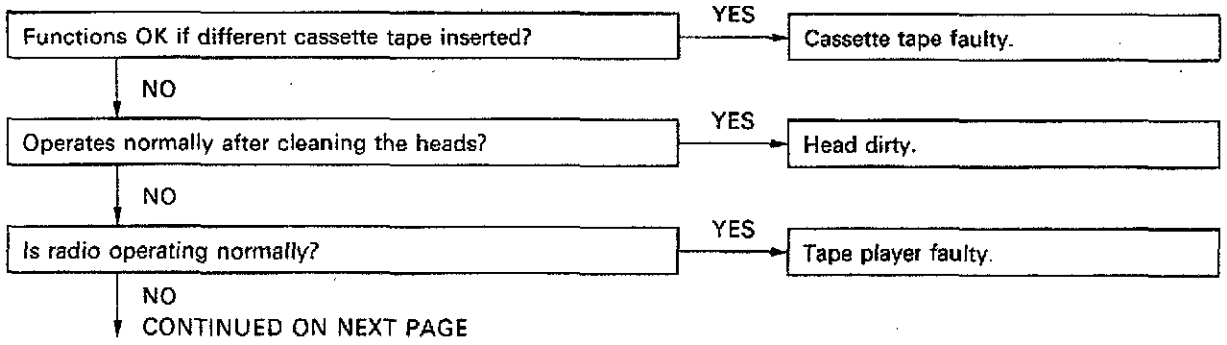
V02859

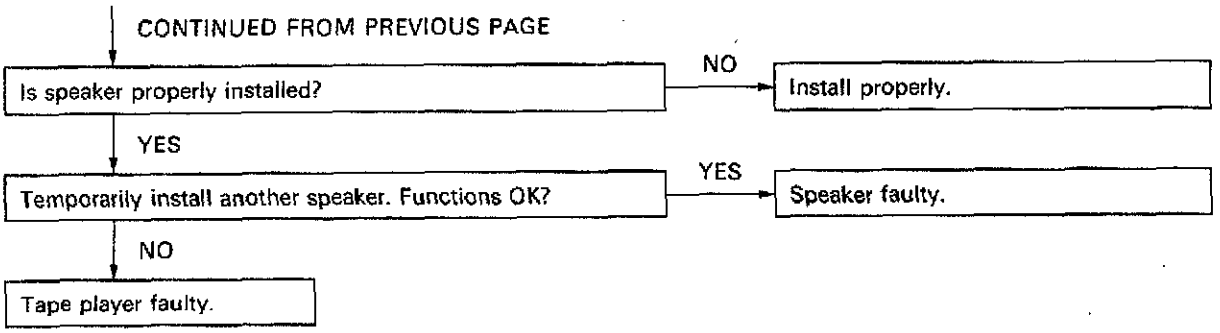


11 TAPE PLAYER EITHER SPEAKER DOES NOT WORK

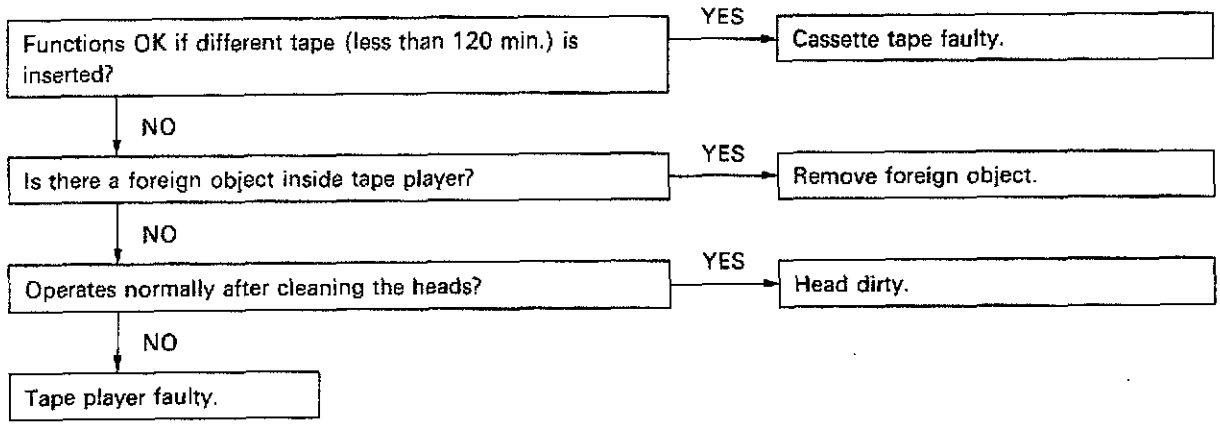


12 TAPE PLAYER SOUND QUALITY POOR (VOLUME FAINT)



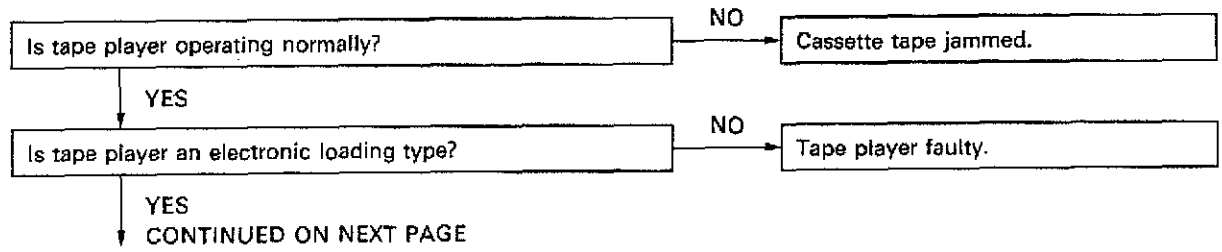


13 TAPE PLAYER TAPE JAMMED, MALFUNCTION WITH TAPE SPEED OR AUTO-REVERSE



BE

14 TAPE PLAYER CASSETTE TAPE WILL NOT EJECT



CONTINUED FROM PREVIOUS PAGE

Is auto search button of radio operating normally?
- YES → Tape player faulty.
- NO →

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

Is +B applied to tape player?
- NO → +B wire harness faulty.
- YES →

Tape player faulty.

15	NOISE	NOISE PRODUCED BY VIBRATION OR SHOCK WHILE DRIVING

Is speaker properly installed?
- NO → Install properly.
- YES →

Is each system correctly installed?
- NO → Install properly.
- YES →

With vehicle stopped, lightly tap each system. Is noise produced?
- YES → Each system faulty.
- NO →

Noise produced by static electricity accumulating in the vehicle body.

16	NOISE	NOISE PRODUCED WHEN ENGINE STARTS

Whistling noise which becomes high-pitched when accelerator strongly depressed, disappears shortly after engine stops.
YES → Alternator noise.
NO ↓

Whining noise occurs when A/C is operating.
YES → A/C noise.
NO ↓

Scratching noise occurs during sudden acceleration, driving on rough roads or when ignition switch is turned on.
YES → Fuel gauge noise.
NO ↓

Clicking sound heard when horn button is pressed, then released. Whirring/grating sound when pushed continuously.
YES → Horn noise.
NO ↓

Murmuring sound, stops when engine stops.
YES → Ignition noise.
NO ↓

Tick-tock noise, occurs in co-ordination with blinking of flasher.
YES → Turn signal noise.
NO ↓

Noise occurs during window washer operation.
YES → Washer noise.
NO ↓

Scratching noise occurs while engine is running, continues a while even after engine stops.
YES → Water temp. gauge noise.
NO ↓

Scraping noise in time with wiper beat.
YES → Wiper noise.
NO ↓

Other type of noise.

17	ANTENNA	ANTENNA-RELATED

