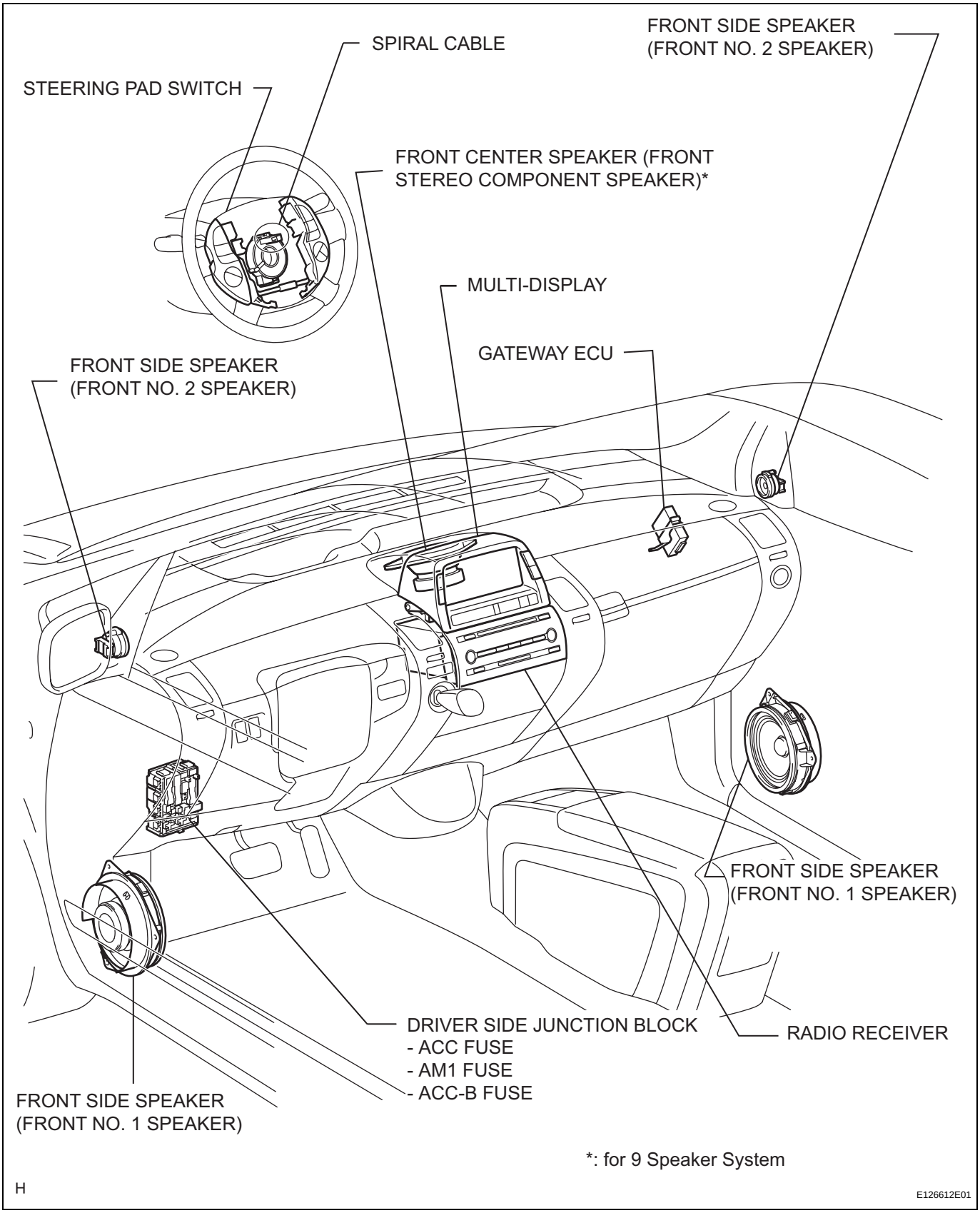
AUDIO AND VISUAL SYSTEM

PRECAUTION

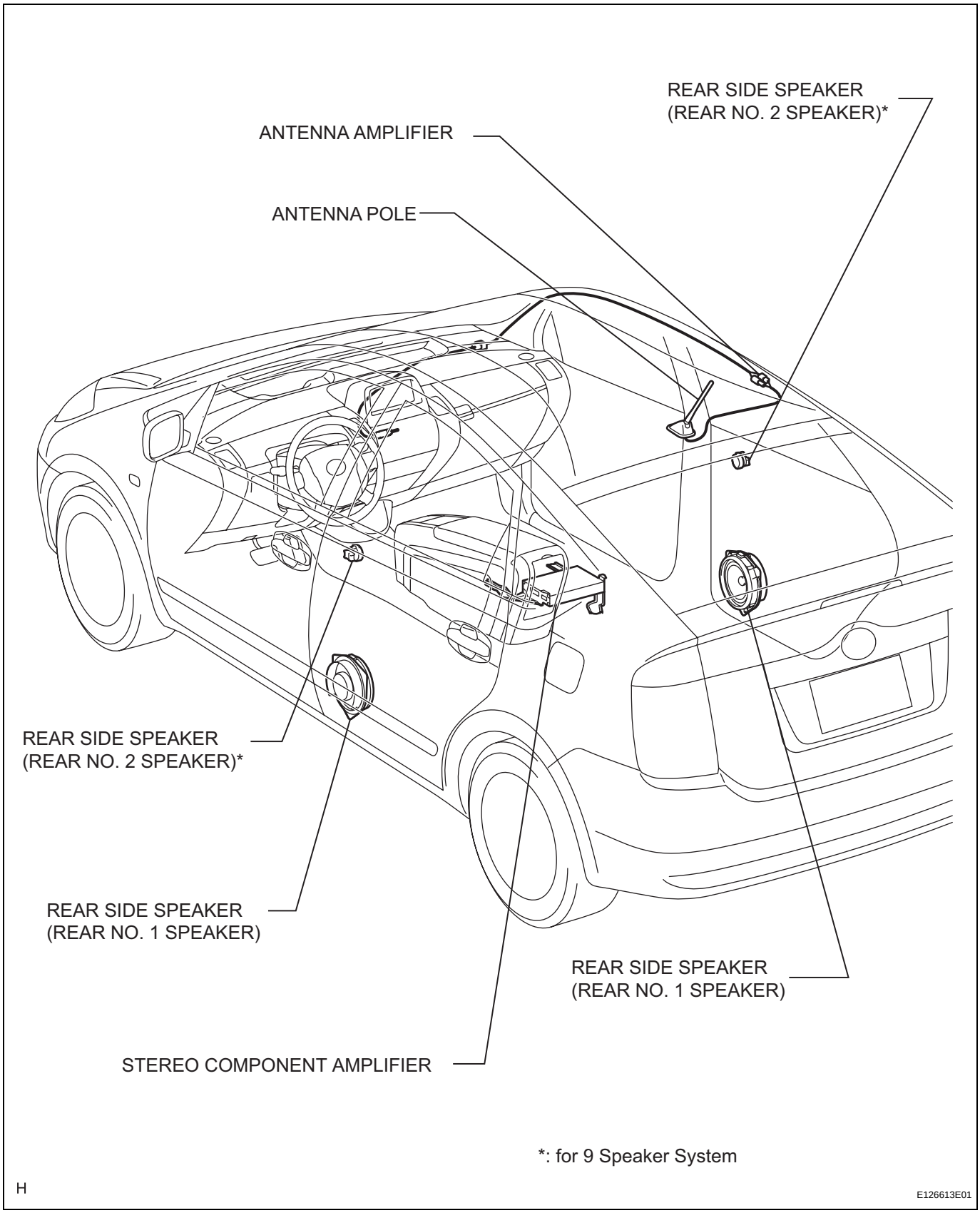
NOTICE:
When disconnecting the cable from the negative (-) battery terminal, initialize the following systems after the cable is reconnected.

System name	See procedure
Power Window Control System	IN-32

PARTS LOCATION



AV


REAR SIDE SPEAKER
(REAR NO. 2 SPEAKER)*
ANTENNA AMPLIFIER
ANTENNA POLE
REAR SIDE SPEAKER
(REAR NO. 2 SPEAKER)*
REAR SIDE SPEAKER
(REAR NO. 1 SPEAKER)
REAR SIDE SPEAKER
(REAR NO. 1 SPEAKER)
STEREO COMPONENT AMPLIFIER
*: for 9 Speaker System
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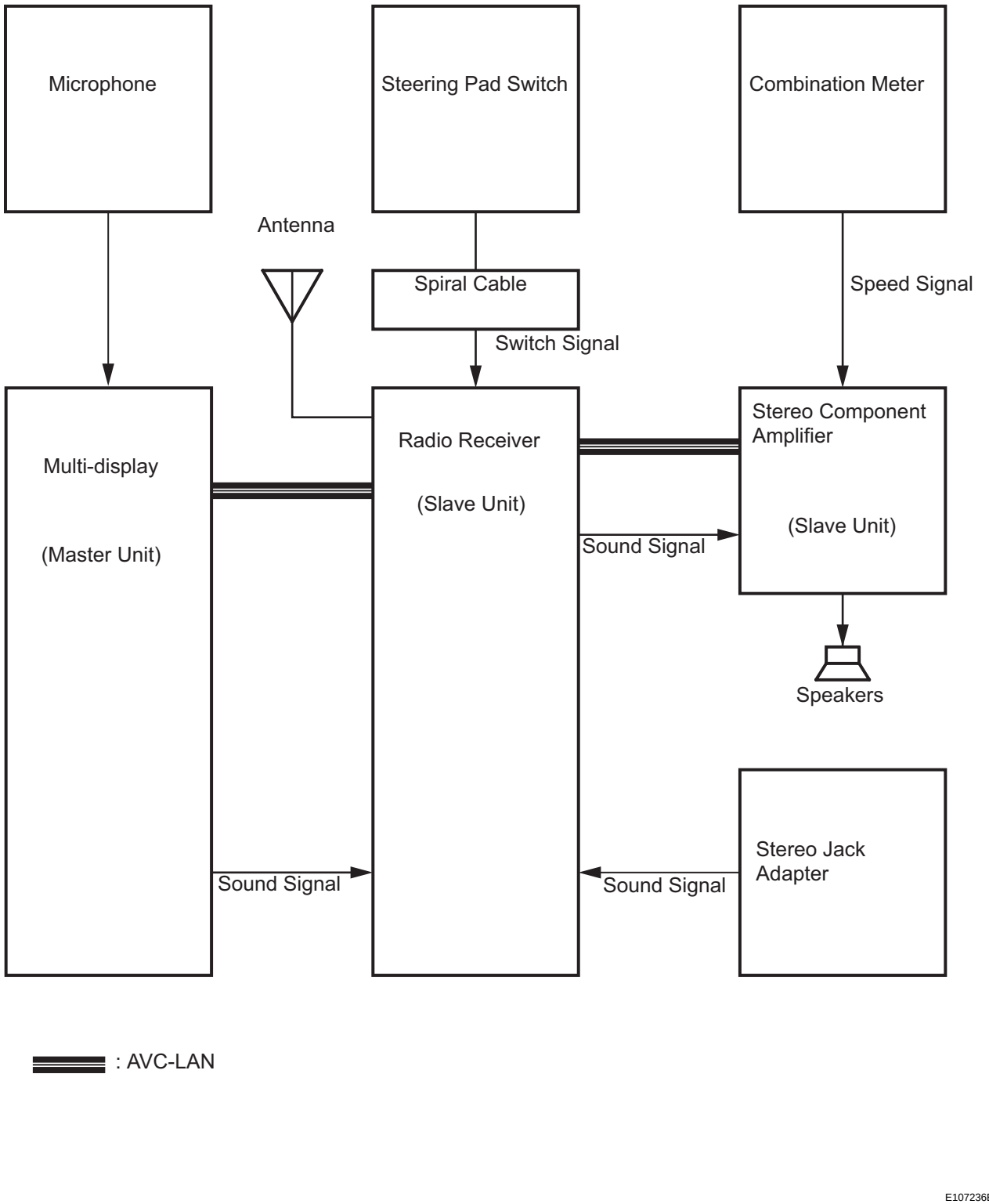
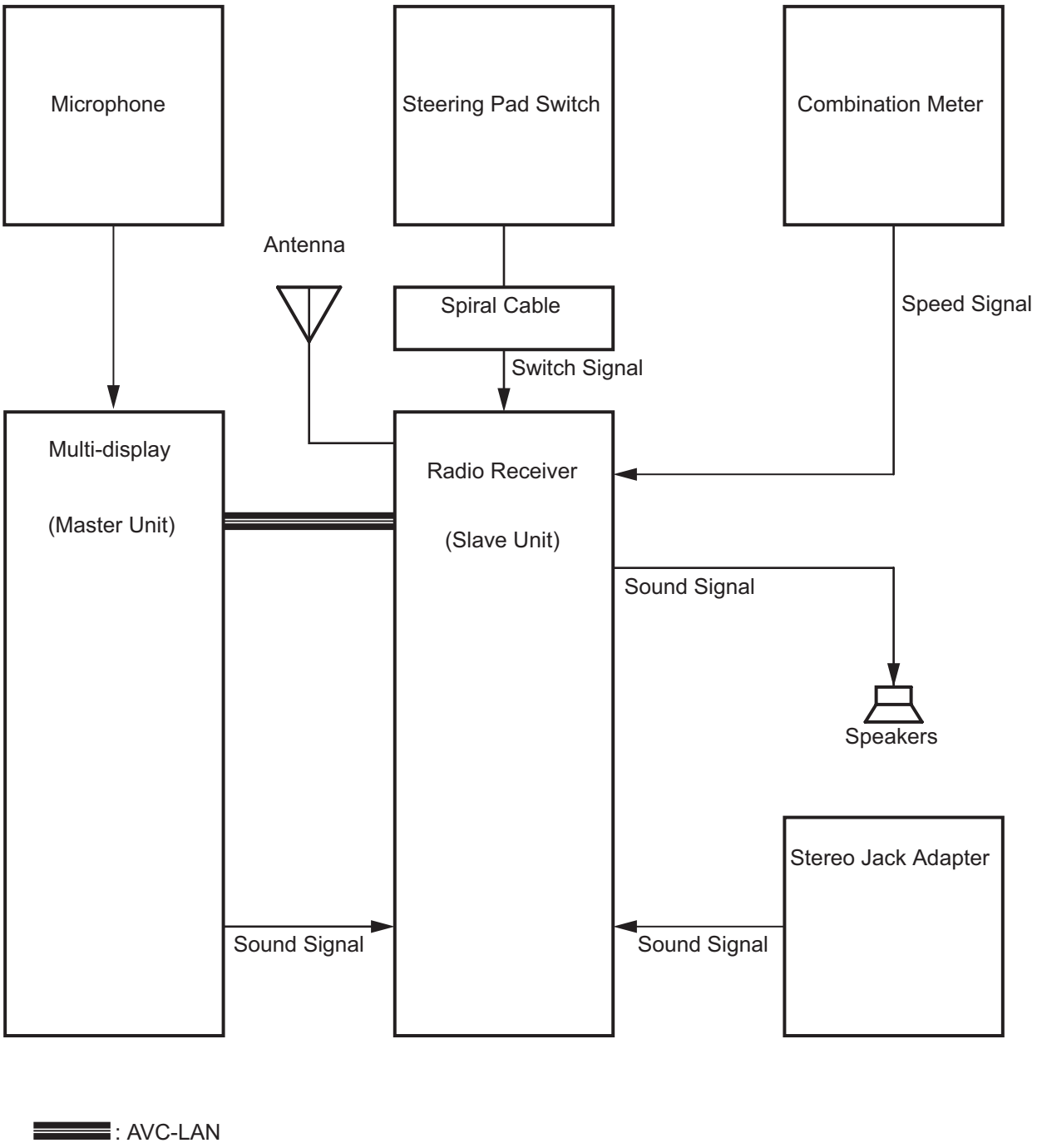
AV

SYSTEM DIAGRAM

for 9 Speaker System



for 6 Speaker System



AV

SYSTEM DESCRIPTION

1. DISC PLAYER OUTLINE

(a) A CD player uses a laser pickup to read digital signals recorded on CDs. By converting the digital signals to analog, music and other content can be played.

CAUTION:

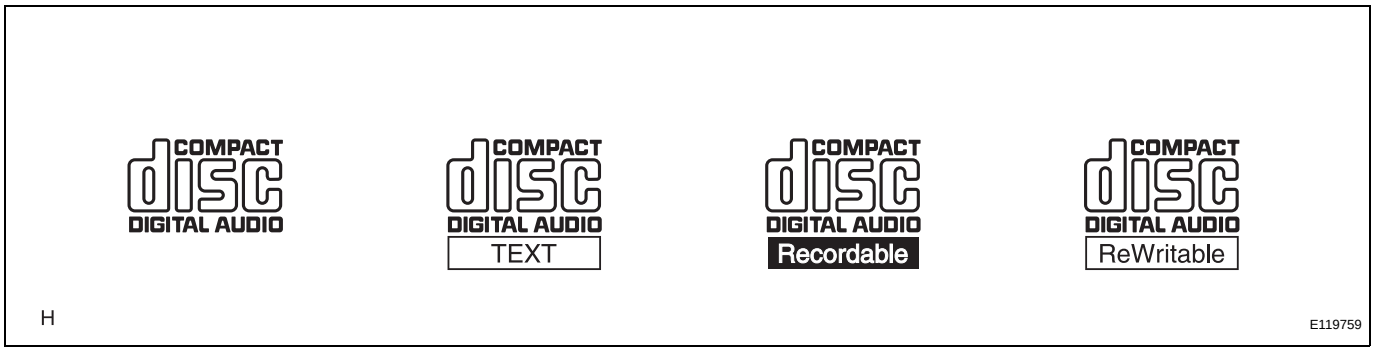
Do not look directly at the laser pickup because the CD player uses an invisible laser beam. Be sure to operate the player only as instructed.

NOTICE:

- **Do not disassemble any part of the CD player.**
- **Do not apply oil to the CD player.**
- **Do not insert anything but a CD into the CD player.**

(b) Usable discs

(1) CD player



(c) Precautions for handling disc

NOTICE:

- **Copy-controlled CDs cannot be used.**
- **Some CD-Rs and CD-RWs are not playable as a result of: 1) the type of recording method used, 2) the type of disc, 3) scratches, 4) contamination, or 5) the disc being in the vehicle for an extended amount of time, leading to deterioration.**
- **CD-Rs and CD-RWs that have not been finalized cannot be played.**
- **PAL or SECAM color television standard discs cannot be played. Only NTSC discs can be played.**
- **Dual layered discs that mate DVD recorded material on one side with CD digital audio material on the other cannot be played.**
- **When handling a disc, be careful not to put fingerprints, stains or scratches on the disc.**
- **When holding a disc, pinch the center hole and edge of the disc with your fingers. Face the printed side upward.**
- **If a disc is ejected by pressing the eject button and left partially ejected for an extended period of time, the disc may become deformed and unusable.**

- **A disc may not be able to be ejected or the player may become damaged if: 1) cellophane tape, stickers, CD-R labels or rental CD labels are attached; or 2) residue from removed tape, stickers or labels remain.**
- **Avoid direct sunlight when storing discs as they may become deformed and unusable.**
- **Do not use uniquely-shaped discs as they may damage the player.**
- **Do not use discs where part of the recording surface is transparent or translucent. If used, the disc may become unable to be inserted, ejected and played normally.**

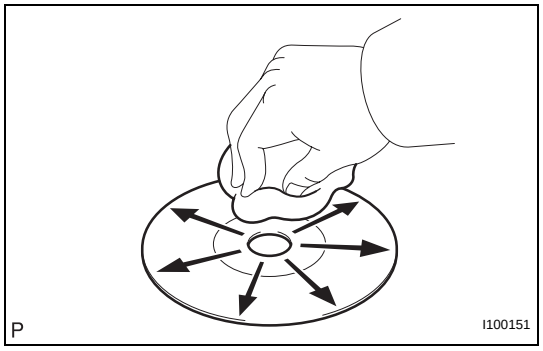
HINT:

- Just as condensation fogs the vehicle's windows during wet or cold weather, condensation may also form inside the player. If condensation forms, CD skipping or playback stoppage may occur. Ventilate or dehumidify the vehicle for a while before using the player.
- If the player vibrates severely due to driving on a rough road, the CD may skip.

(d) Cleaning

NOTICE:

Do not use lens cleaner when cleaning the player, as it may damage the player's pickup part.



(1) To clean dirty discs, use a dry, soft cloth such as those used for glasses with plastic lenses. Lightly wipe radially from the center of the disc.

NOTICE:

- **Pressing the disc roughly with your hand or scrubbing with a hard cloth may scratch the disc surface.**
- **Using record spray, anti-static agents, alcohol, benzene, thinner or other solvents, and chemical cloths on a disc will damage the disc and may make the disc unusable.**

2. MP3/WMA OUTLINE

HINT:

Some vehicle's audio and visual systems do not support the WMA format.

(a) Playable MP3 file standards

Compatible standard	MP3 (MPEG1 LAYER3, MPEG2 LSF LAYER3)
Compatible sampling frequency	• MPEG1 LAYER3: 32, 44.1, 48 (kHz) • MPEG2 LSF LAYER3: 16, 22.05, 24 (kHz)
Compatible bit rate	• MPEG1 LAYER3: 64, 80, 96, 112, 128, 160, 192, 224, 256, 320 (kbps) • MPEG2 LSF LAYER3: 64, 80, 96, 112, 128, 144, 160 (kbps) • Compatible with VBR
Compatible channel mode	Stereo, joint stereo, dual channel, monaural

AV

(b) Playable WMA file standards

Compatible standard	WMA Ver. 7, 8, and 9
Compatible sampling frequency	32, 44.1, 48 (kHz)
Compatible bit rate	• Ver. 7, 8: CBR48, 64, 80, 96, 128, 160, 192 (kbps) • Ver. 9: CBR48, 64, 80, 96, 128, 160, 192, 256, 320 (kbps) • Compatible with playback of channel 2 only

(c) ID3 tag and WMA tag

(1) Additional textual information called ID3 tags can be input to MP3 files. Information such as song titles and artist names can be stored.
HINT:
This player is compatible with the ID3 tags of ID3 Ver. 1.0 and 1.1, and ID3 Ver. 2.2 and 2.3. (Number of characters complies with ID3 Ver. 1.0 and 1.1.)

(2) Additional textual information called WMA tags can be input to WMA files. Information such as song titles and artist names can be stored.

(d) Usable media

(1) Only CD-ROMs, CD-Rs (CD-Recordable), and CD-RWs (CD-ReWritable) can be used to play MP3/WMA files.
NOTICE:
- **CD-Rs and CD-RWs are more easily affected by a hot and humid environment than discs used for normal audio CDs. For this reason, some CD-Rs and CD-RWs may not be playable.**
- **If there are fingerprints or scratches on the disc, the disc may not be playable or the CD may skip.**
- **Some CD-Rs and CD-RWs deteriorate if they are left in the cabin for a long time.**
- **Keep CD-Rs and CD-RWs in a storage case that is non-transparent.**

(e) Usable media format

(1) Usable media format

Disc format	CD-ROM Mode 1, CD-ROM XA Mode 2 Form1
File format	ISO9660 Level 1 and Level 2 (Joliet, Romeo)

HINT:
- As for MP3/WMA files written in any format other than those above, the contents of the files may not be playable or the file names or folder names may not be displayed correctly.
- This player is compatible with multi-session discs and can play CD-Rs and CD-RWs on which MP3/WMA files are added. However, only the first session can be played.
- Discs whose first session includes both music data and MP3 or WMA format data cannot be played.

(2) Standards and restrictions

Maximum directory levels	8 levels

AV

Maximum number of characters for a folder name/file name	32 characters
Maximum number of folders	192 (Including empty folders, root folders, and folders that do not contain MP3/WMA files)
Maximum number of files in a disc	255 (Including non-MP3/WMA files)

(f) File names

(1) Only files with an extension of ".mp3" or ".wma" can be recognized and played as MP3 or WMA files.

(2) Save MP3 or WMA files with an extension of ".mp3" or ".wma".

NOTICE:

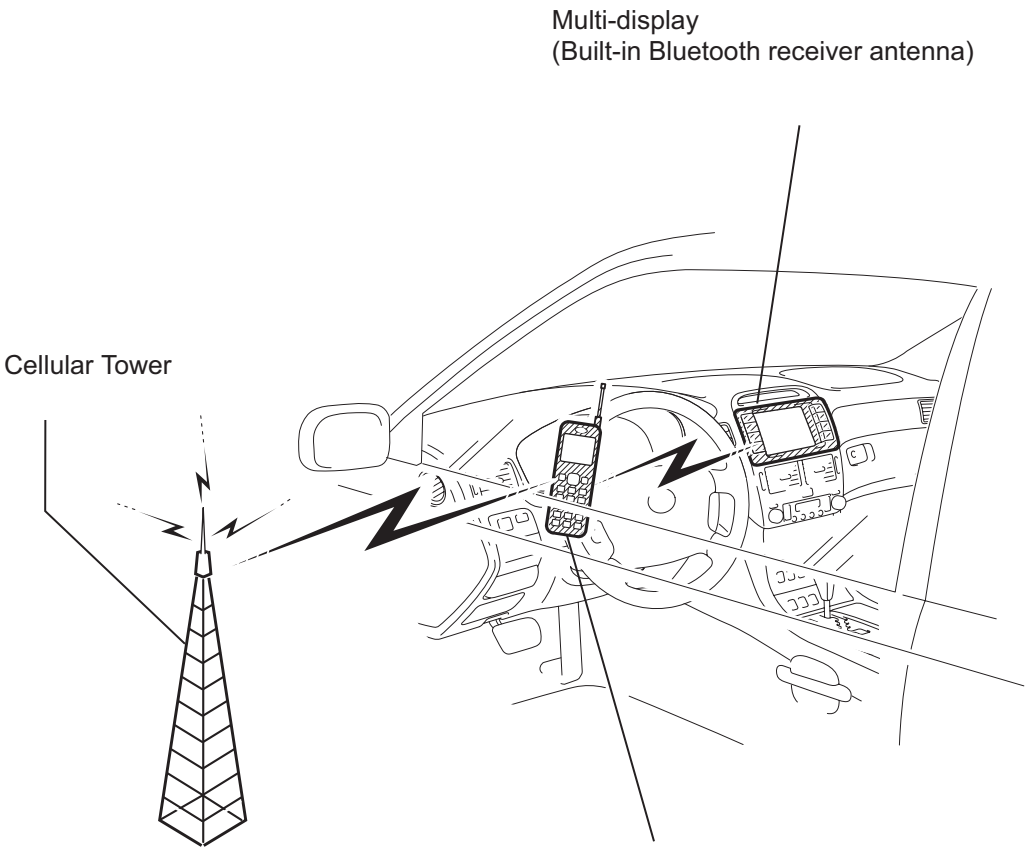
If saving non-MP3 or non-WMA files with an extension of ".mp3" or ".wma", those files are wrongly recognized as MP3 or WMA files and played. A loud noise may occur and damage to the speaker may result.

3. BLUETOOTH OUTLINE

(a) Bluetooth is a new wireless connection technology that uses the 2.4 GHz frequency band. This makes it possible to connect a cellular phone (Bluetooth capable phone*) to the multi-display (Bluetooth system is built-in), and use a handsfree function with the cellular phone in a pocket or bag. As a result, it is not necessary to use a connector for the cellular phone.

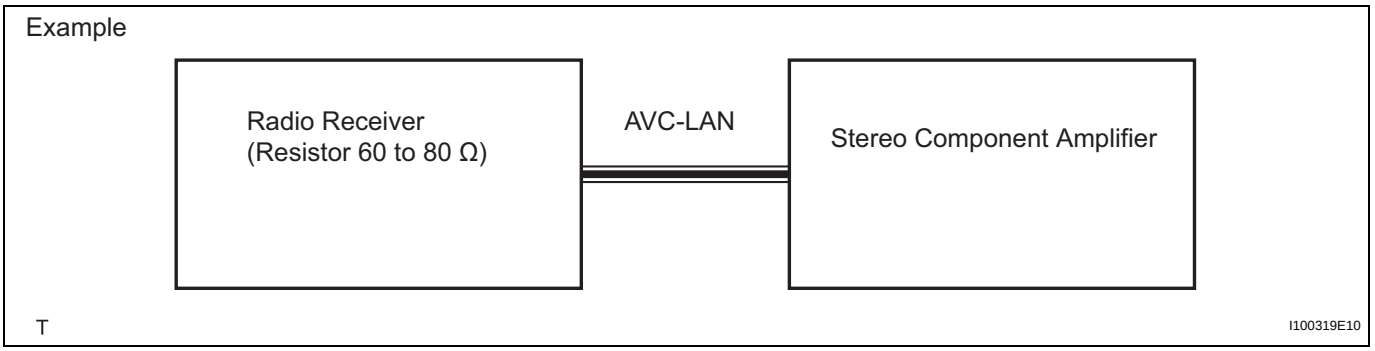
HINT:

*: The communication performance of Bluetooth may vary depending on the Bluetooth version, obstructions or radio wave conditions between communication devices, electromagnetic radiation, communication device sensitivity, or antenna capacity.



4. AVC-LAN DESCRIPTION

(a) What is AVC-LAN?



AVC-LAN, an abbreviation for "Audio Visual Communication Local Area Network", is a united standard developed by the manufacturers in affiliation with Toyota Motor Corporation. This standard pertains to audio and visual signals as well as switch and communication signals.

(b) Purpose:
Recently, car audio systems have rapidly developed and the functions have vastly changed. The conventional car audio system is being integrated with multimedia interfaces similar to those in navigation systems. At the same time, customers are demanding higher quality from their audio systems. This is an overview of the standardization background. The specific purposes are as follows:
(1) To solve sound problems, etc. caused by using components of different manufacturers through signal standardization.
(2) To allow each manufacturer to concentrate on developing products they do best. From this, reasonably priced products can be produced.
HINT:
- If a short to +B or short to ground is detected in the AVC-LAN circuit, communication is interrupted and the audio system will stop functioning.
- If an audio system is equipped with a navigation system, the multi-display unit acts as the master unit. If the navigation system is not equipped, the audio head unit acts as the master unit instead. If the radio and navigation assembly is equipped, it is the master unit.
- The radio receiver contains a resistor that is necessary to enable communication on the different AVC-LAN circuits.
- The car audio system with an AVC-LAN circuit has a diagnostic function.
- Each component has a specified number (3-digit) called a physical address. Each function has a number (2-digit) called a logical address.

5. COMMUNICATION SYSTEM OUTLINE

(a) Components of the audio system communicate with each other via the AVC-LAN.
(b) The master component of the AVC-LAN is a radio receiver with a 60 to 80 Ω resistor. This is essential for communication.
(c) If a short circuit or open circuit occurs in the AVC-LAN circuit, communication is interrupted and the audio system will stop functioning.

6. DIAGNOSTIC FUNCTION OUTLINE

(a) The audio system has a diagnostic function (the result is indicated on the master unit).
(b) A 3-digit hexadecimal component code (physical address) is allocated to each component on the AVC-LAN. Using this code, the component in the diagnostic function can be displayed.

HOW TO PROCEED WITH TROUBLESHOOTING

HINT:

- Use these procedures to troubleshoot the audio and visual system.
- *: Use the intelligent tester.

1	**VEHICLE BROUGHT TO WORKSHOP**

NEXT

2	**INSPECT BATTERY VOLTAGE**

Standard voltage:
11 to 14 V
If the voltage is below 11 V, recharge or replace the battery before proceeding.

NEXT

3	**INSPECT COMMUNICATION FUNCTION OF MULTIPLEX COMMUNICATION SYSTEM (BEAN)***

(a) Using the intelligent tester, check if the Multiplex Communication System (MPX) is functioning normally.
Result

Result	Proceed to
MPX DTC is not output	A
MPX DTC is output	B

B → **Go to MULTIPLEX COMMUNICATION SYSTEM**

A

4	**BASIC INSPECTION**

(a) Turn the power switch ON (ACC).
(b) Check whether or not the radio receiver turns on.
Result

Result	Proceed to
Radio receiver turns on	A
Radio receiver does not turn on	B

B → **Go to step 6**

A

5	CHECK FOR DTC

(a) Check for DTCs and note any codes that are output (see page AV-37).
(b) Delete the DTCs.
(c) Recheck by simulating the operation indicated by the DTC.
HINT:
- If the system cannot enter the diagnosis mode, inspect each AVC-LAN communication signal and repair or replace the problem parts.
- Even if the malfunction symptom is not confirmed, check the DTCs. This is because the system stores past DTCs.
- Check and clear past DTCs. Then check for DTCs.

Result

Result	Proceed to
DTC is output again	A
DTC is not output	B

B → **Go to step 7**

A

6	DIAGNOSTIC TROUBLE CODE CHART

(a) Find the output code on the diagnostic trouble code chart (see page AV-41).

NEXT

Go to step 9

7	PROBLEM SYMPTOMS TABLE

(a) Refer to the problem symptoms table (see page AV-29).

Result

Result	Proceed to
Fault is not listed in problem symptoms table	A
Fault is listed in problem symptoms table	B

B → **Go to step 9**

A

8	OVERALL ANALYSIS AND TROUBLESHOOTING

(a) Terminals of ECU (see page AV-31).

AV

NEXT

9	**REPAIR OR REPLACE**

NEXT

10	**CONFIRMATION TEST**

NEXT

END

IDENTIFICATION OF NOISE SOURCE

1. RADIO DESCRIPTION

(a) Radio frequency band

(1) Radio broadcasts use the radio frequency bands shown in the table below.

Frequency	30 kHz	300 kHz	30 MHz	30 MHz	300 MHz
Designation	LF	MF	HF	VHF	
Radio Wave		AM ⟷		FM ⟷	
Modulation	Amplitude modulation			Frequency modulation	

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

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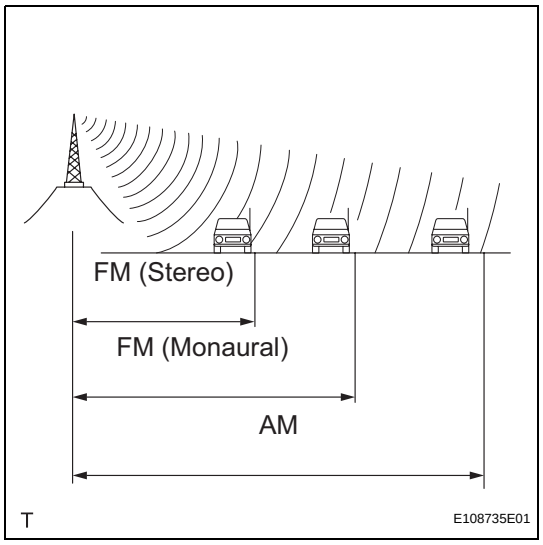


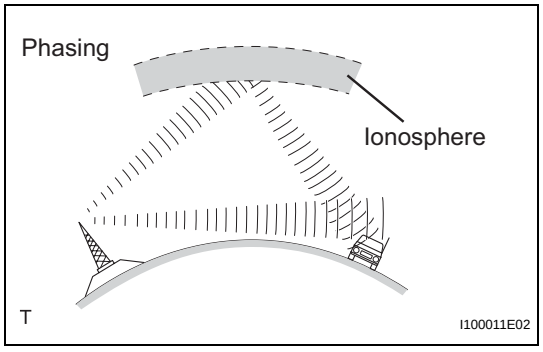
(b) Service area

(1) The service areas of AM and FM broadcasts are vastly different. Sometimes an AM broadcast can be received very clearly but an FM stereo cannot. FM stereo has the smallest service area, and is prone to pick up static and other types of interference such as noise.

(c) Radio reception problems

HINT:

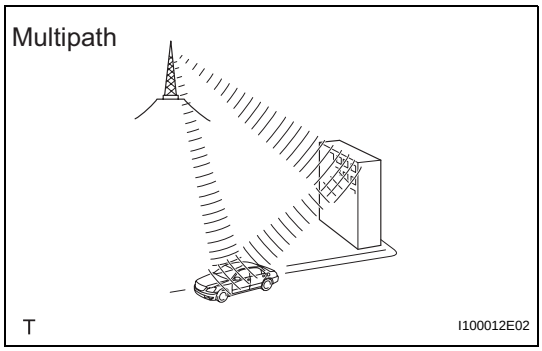
In addition to static, other problems such as "phasing", "multipath", and "fade out" exist. These problems are not caused by electrical noise, but by the radio signal propagation method itself.



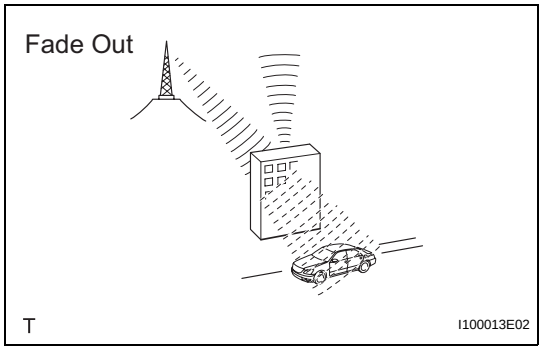
(1) Phasing

AM broadcasts are susceptible to electrical interference and another kind of interference called phasing. Occurring only at night, phasing is the interference created when a vehicle receives 2 radio wave signals from the same transmitter. One signal is reflected off the ionosphere and the other signal is received directly from the transmitter.

AV



(2) Multipath
Multipath is a type of interference created when a vehicle receives 2 radio wave signals from the same transmitter. One signal is reflected off buildings or mountains and the other signal is received directly from the transmitter.



(3) Fade out
Fade out is caused by objects (buildings, mountains, and other such large obstacles) that deflect away part of a signal, resulting in a weaker signal when the object is between the transmitter and vehicle. High frequency radio waves, such as FM broadcasts, are easily deflected by obstructions. Low frequency radio waves, such as AM broadcasts, are much more difficult to deflect.

(d) Noise problem
Technicians must have a clear understanding about each customer's noise complaint. Use the following table to diagnose noise problems.

Radio Frequency	Noise Occurrence Condition	Presumable Cause
AM	Noise occurs in a specified area	Foreign noise
AM	Noise occurs when listening to an intermittent broadcast	Same program transmitted from multiple towers can cause noise where the signals overlap
AM	Noise occurs only at night	Music beats from a distant broadcast
FM	Noise occurs while driving in a specified area	Multipath or phasing noise resulting from a change in FM frequency

HINT:
If the noise does not match the examples above, refer to the descriptions about phasing and multipath.

AV

DISPLAY CHECK MODE

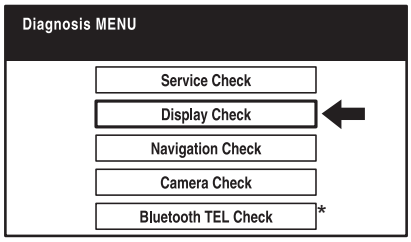
HINT:

- This mode checks the color display on the multi-display.
- Illustrations may differ from the actual vehicle depending on the device settings and options. Therefore, some detailed areas may not be exactly the same as on the actual vehicle.

1. ENTER DIAGNOSTIC MODE (see page AV-37)

2. DISPLAY CHECK

(a) Select "Display Check" from the "Diagnosis MENU" screen.



*: If this switch is gray, the Bluetooth TEL Check inspection cannot be performed.

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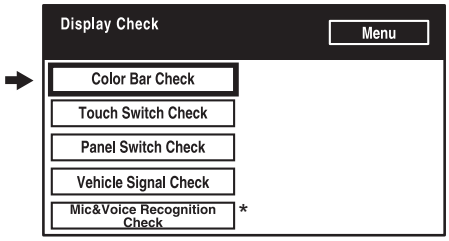
3. COLOR BAR CHECK

(a) Select "Color Bar Check" from the "Display Check" screen.



*: Depending on the type of audio system, this switch may not be present.

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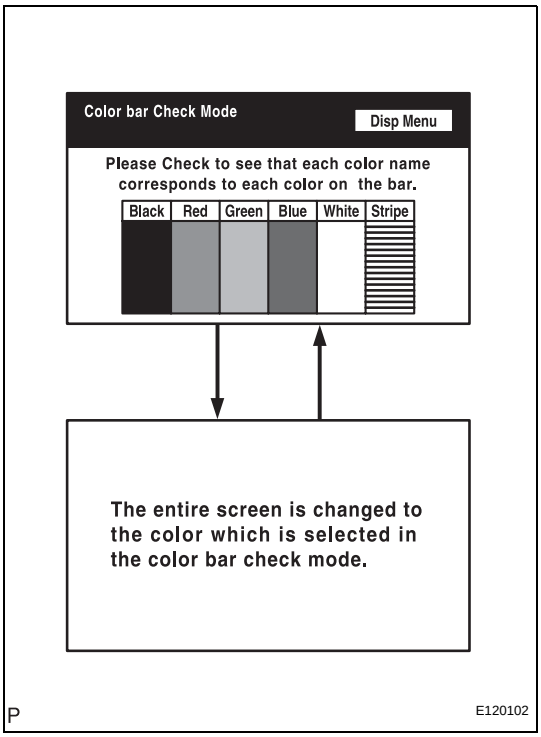
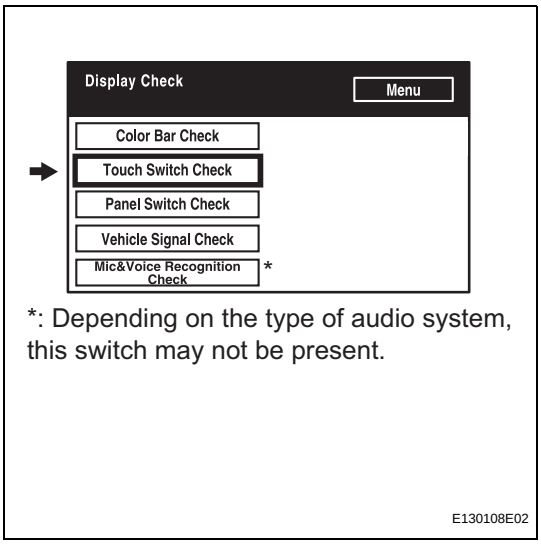


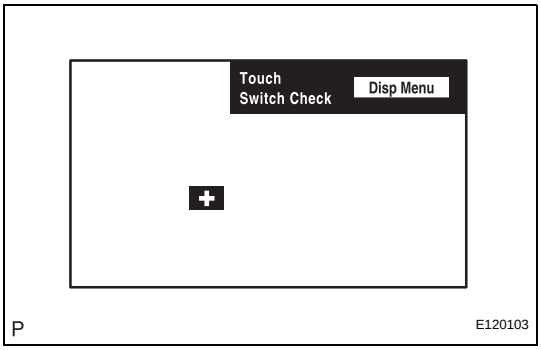
(b) Select a color bar from the "Color Bar Check Mode" screen.
(c) Check the display color.
HINT:
- The entire screen turns to the color or stripe selected.
- Touch the display to the "Color Bar Check" screen.

AV

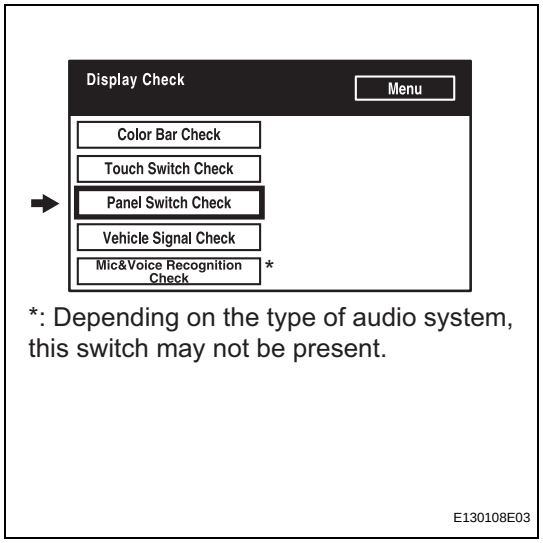


4. TOUCH SWITCH CHECK

(a) Select "Touch Switch Check" from the "Display Check" screen.

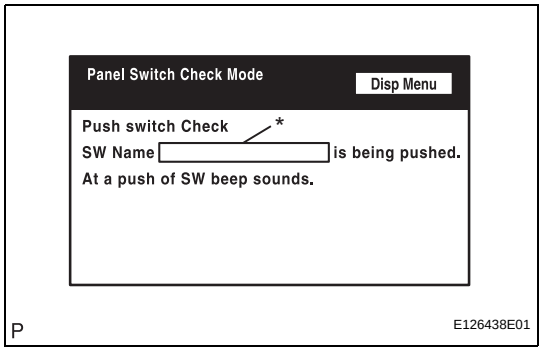


(b) Touch the display anywhere in the open area to perform the check when the "Touch Switch Check" screen is displayed.
HINT:
A "+" mark is displayed where the display is touched.



5. PANEL SWITCH CHECK

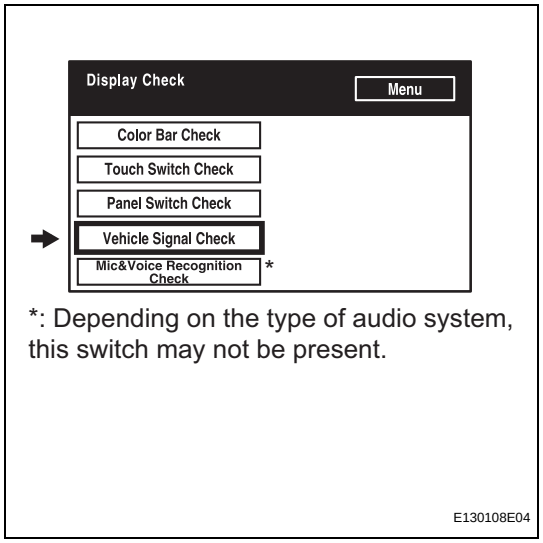
(a) Select "Panel Switch Check" from the "Display Check" screen.



(b) Operate each switch and check that the switch name and condition are correctly displayed.

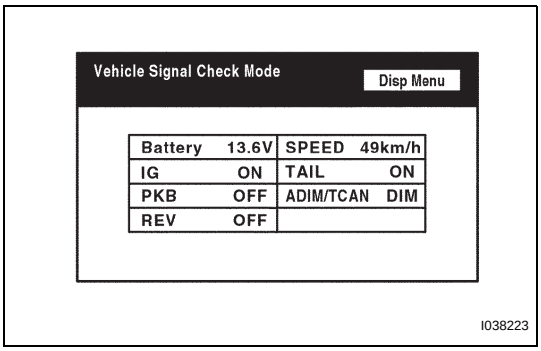
AV

Display	Contents
Pressed switch name/*	• Name of the pressed switch is displayed. • If more than one switch is pressed, "MULTIPLE" is displayed.



6. VEHICLE SIGNAL CHECK

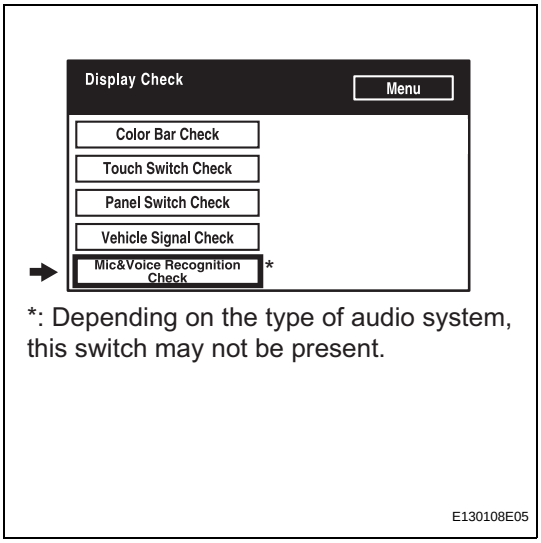
(a) Select "Vehicle Signal Check" from the "Display Check" screen.

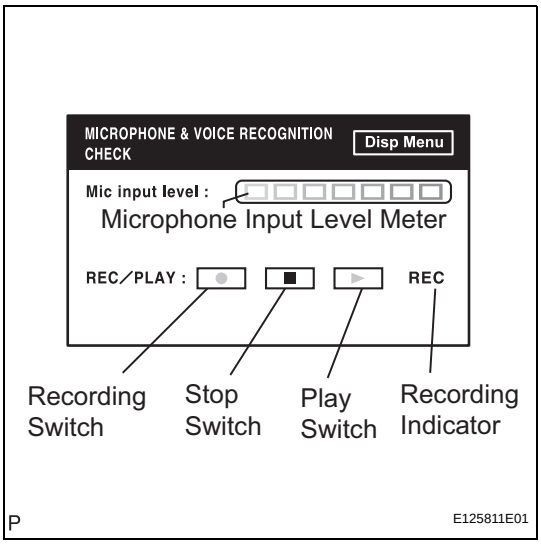


(b) When the "Vehicle Signal Check Mode" screen is displayed, check all the vehicle signal conditions.
HINT:
- Only conditions having inputs are displayed.
- This screen is updated once per second when input signals to the vehicle are changed.
- For details of this function, refer to DIAGNOSIS DISPLAY DETAILED DESCRIPTION (see page AV-22).

7. MIC & VOICE RECOGNITION CHECK

(a) Select "Mic & Voice Recognition Check" on the "Display Check" screen to display the "MICROPHONE & VOICE RECOGNITION CHECK" screen.





(b) When a voice is input into the microphone, check that the microphone input level meter changes according to the input voice.

(c) Push the recording switch and perform voice recording.

(d) Check that the recording indicator remains on while recording and that the recorded voice is played normally.
HINT:
For details of this function, refer to DIAGNOSIS DISPLAY DETAILED DESCRIPTION (see page AV-22).

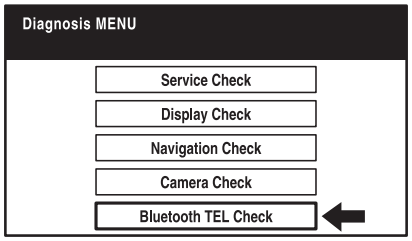
AV

BLUETOOTH TEL CHECK MODE

HINT:
Illustrations may differ from the actual vehicle depending on the device settings and options. Therefore, some detailed area may not be exactly the same as on the actual vehicle.

1. **ENTER DIAGNOSTIC MODE (see page AV-37)**

2. **BLUETOOTH TEL CHECK**
   (a) Select "Bluetooth TEL Check" from the "Diagnosis MENU" screen.



If this switch is gray, the Bluetooth TEL Check inspection cannot be performed.

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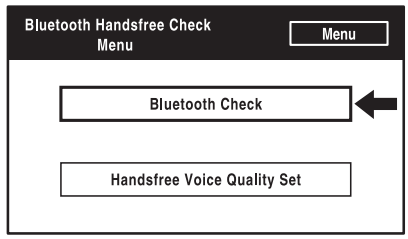
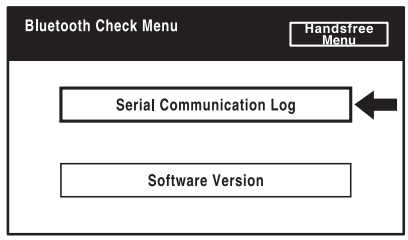
3. **BLUETOOTH CHECK**
   (a) Select "Bluetooth Check" from the "Bluetooth Handsfree Check Menu" screen.



P E120063

   (b) Select "Serial Communication Log" from the "Bluetooth Check Menu" screen.



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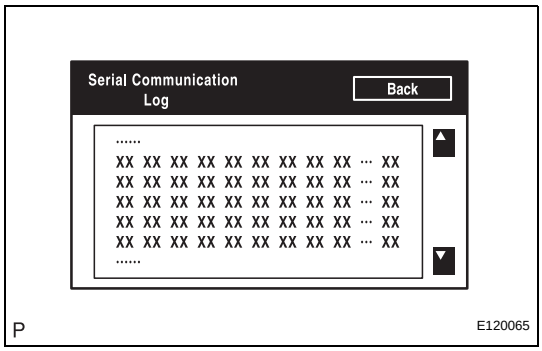
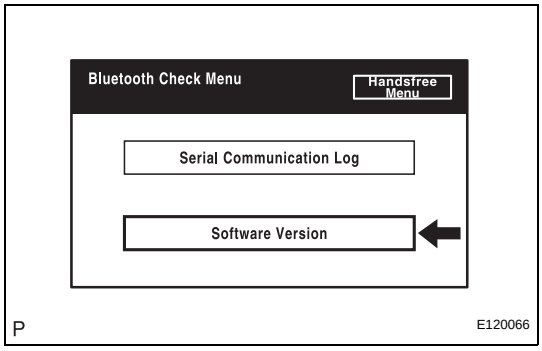
AV

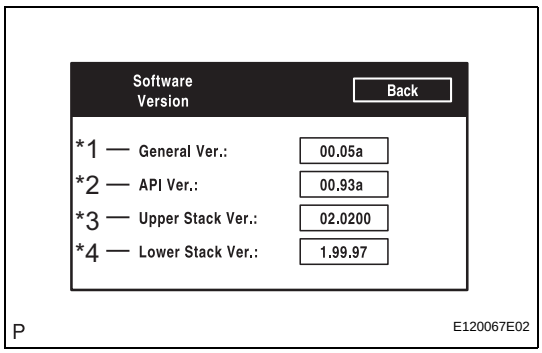


(1) The communication log data in the multi-display is displayed on this screen.
HINT:
The displayed data can be used as a reference.



(c) Select "Software Version" from the "Bluetooth Check Menu" screen.

AV

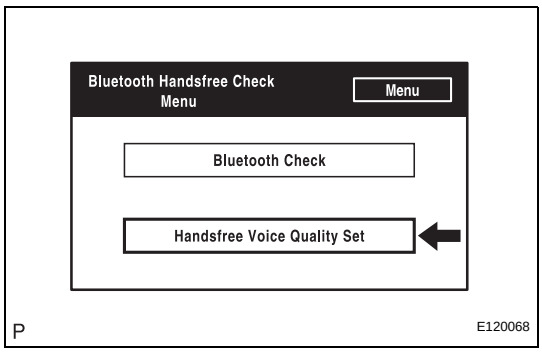


(1) Check the software version of the Bluetooth module.

Screen description:

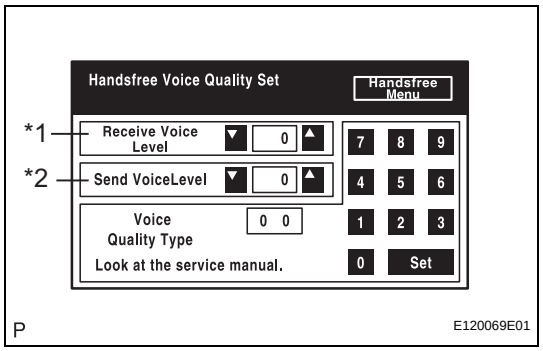
Display	Contents
General Version/*1	• Overall software version of Bluetooth module • If any of the API version, upper stack version, and low stack version is updated, the general version is upgraded.
API Version/*2	API software version is displayed.
Upper Stack Version/*3	Upper Stack version is displayed.
Lower Stack Version/*4	Lower Stack version is displayed.

HINT:
This function is controlled by the multi-display.



4. HANDSFREE VOICE QUALITY SET

(a) Select "Handsfree Voice Quality Set" from the "Bluetooth Handsfree Check Menu" screen.



(b) Check the handsfree voice level.

Screen description:

Display	Contents
Received voice level adjustment/*1	Setting possible for the voice level received from Bluetooth compatible phones.
Sent voice level adjustment/*2	Setting possible for the voice sent to Bluetooth compatible phones.

HINT:
This function is controlled by the multi-display.
NOTICE:
"Voice Quality Type" should not be changed.

AV

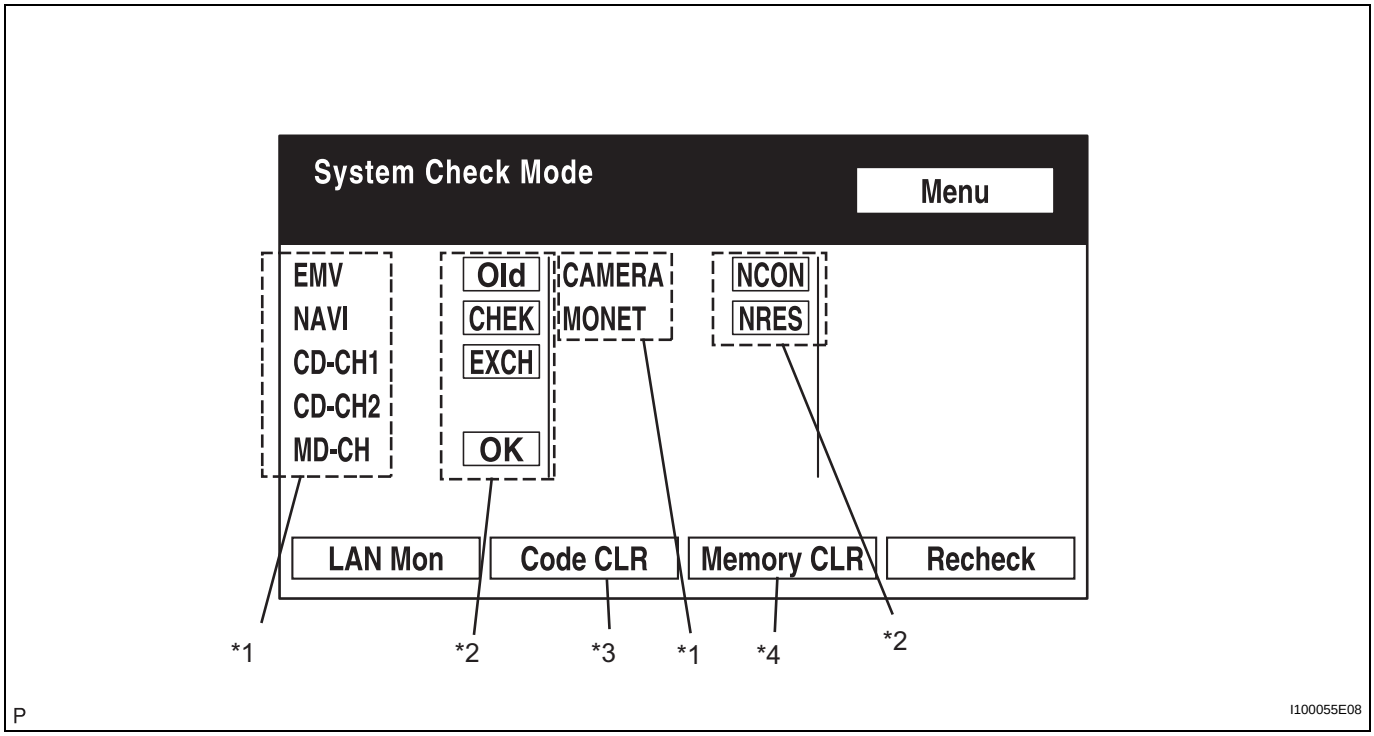
DIAGNOSIS DISPLAY DETAILED DESCRIPTION

HINT:

- This section contains a detailed description of displays within diagnostic mode.
- Illustrations may differ from the actual vehicle depending on the device settings and options. Therefore, some detailed areas may not be exactly the same as on the actual vehicle.

1. SYSTEM CHECK

(a) System Check Mode Screen



(1) Device Names and Hardware Address/*1

HINT:

- Registered device names are displayed.
- If a device name is unknown to the system, its physical address is shown instead.

Address No.	Name	Address No.	Name
110	EMV	120	AVX
128	1DIN TV	140	AVN
144	G-BOOK	178	NAVI
17C	MONET	190	AUDIO H/U
1AC	CAMERA-C	1B0	Rr-TV
1C0	Rr-CONT	19D	BT-HF
1C4	PANEL	1C6	G/W
1C8	FM-M-LCD	1D8	CONT-SW
1EC	Body	118	EMVN
1F1	XM	1F2	SIRIUS
230	TV-TUNER	240	CD-CH2
250	DVD-CH	280	CAMERA
360	CD-CH1	3A0	MD-CH

Address No.	Name	Address No.	Name
17D	TEL	440	DSP-AMP
530	ETC	1F6	RSE
1A0	DVD-P	1D6	CLOCK
238	DTV	480	AMP

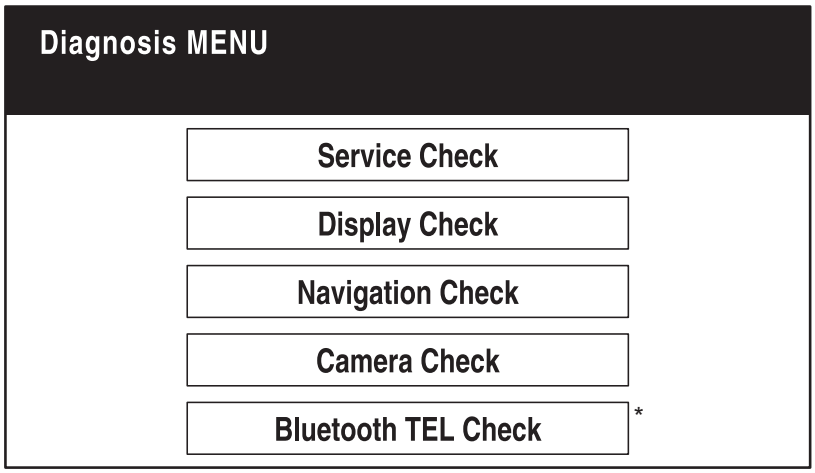
(2) Check Result/*2
HINT:
Result codes for all devices are displayed.

Result	Meaning	Action
OK	Device did not respond with DTC (excluding communication DTCs from AVC-LAN).	-
EXCH	Device responds with "replace" type DTC.	Look up DTC in "Unit Check Mode" and replace device.
CHEK	Device responds with "check" type DTC.	Look up DTC in "Unit Check Mode".
NCON	Device was previously present, but does not respond in diagnostic mode.	1. Check power supply wire harness of device. 2. Check AVC-LAN of device.
Old	Device responds with "old" type DTC.	Look up DTC in "Unit Check Mode".
NRES	Device responds in diagnostic mode, but gives no DTC information.	1. Check power supply wire harness of device. 2. Check AVC-LAN of device.

(3) Code Clear/*3
- Present DTCs are cleared.
- Press the "Code CLR" switch for 3 seconds.

(4) Memory Clear/*4
- Present and past DTCs and registered connected device names are cleared.
- Press the "Memory CLR" switch for 3 seconds.

(b) Diagnosis MENU Screen



*: If this switch is gray, the Bluetooth TEL Check inspection cannot be performed.

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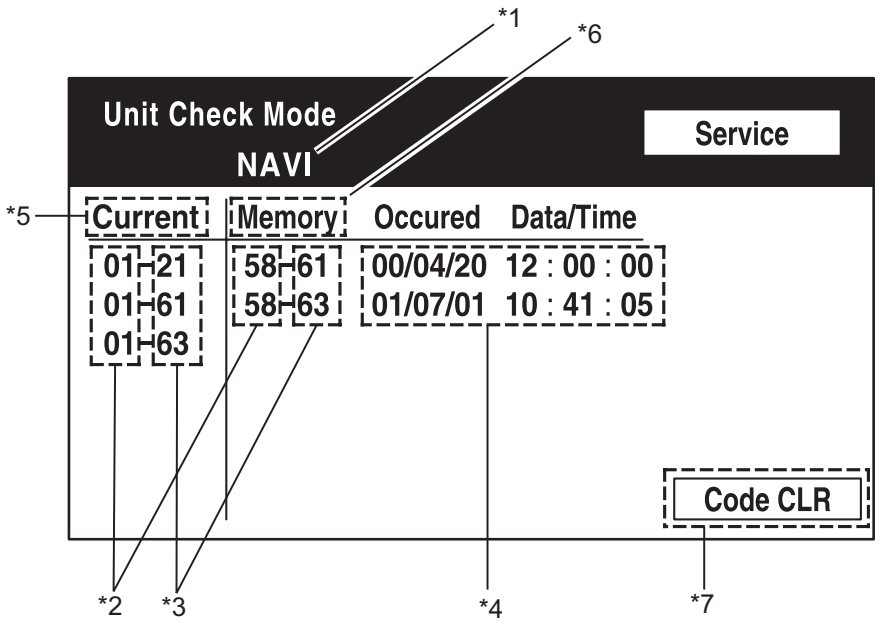
E120070E02

AV

HINT:
Each item is grayed out or not displayed based on the device settings.

(c) Unit Check Mode Screen



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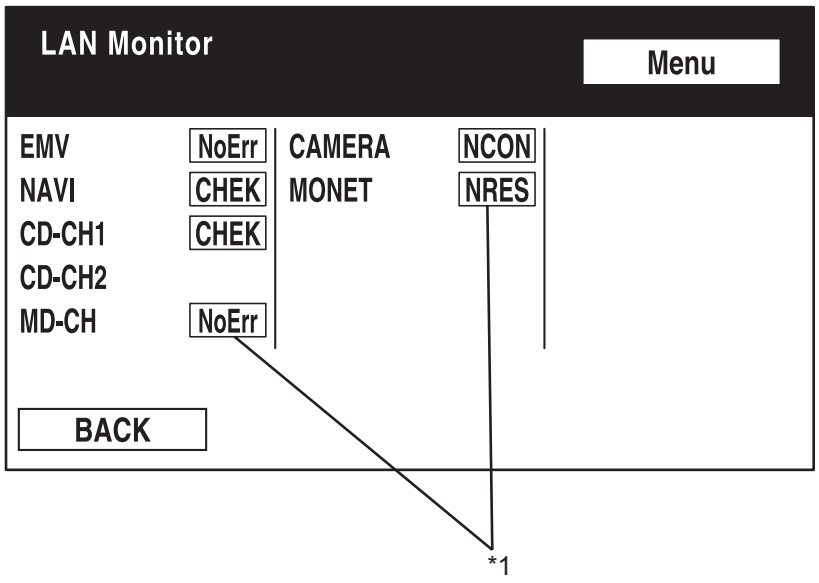
E120071E02

Screen description:

Display	Contents
Device name/*1	Target device
Segment/*2	Target device logical address
DTC/*3	DTC (Diagnostic Trouble Code)
Timestamp/*4	Time and date of past DTCs are displayed (Year is displayed in 2-digit format).
Present Code/*5	DTCs output at service check are displayed.
Past Code/*6	Diagnostic memory results and recorded DTCs are displayed.
Diagnosis Clear Switch/*7	Pushing this switch for 3 seconds clears diagnostic memory data of target device (both response to diagnostic system check result and displayed data are cleared).

AV

(d) LAN Monitor (Original) Screen



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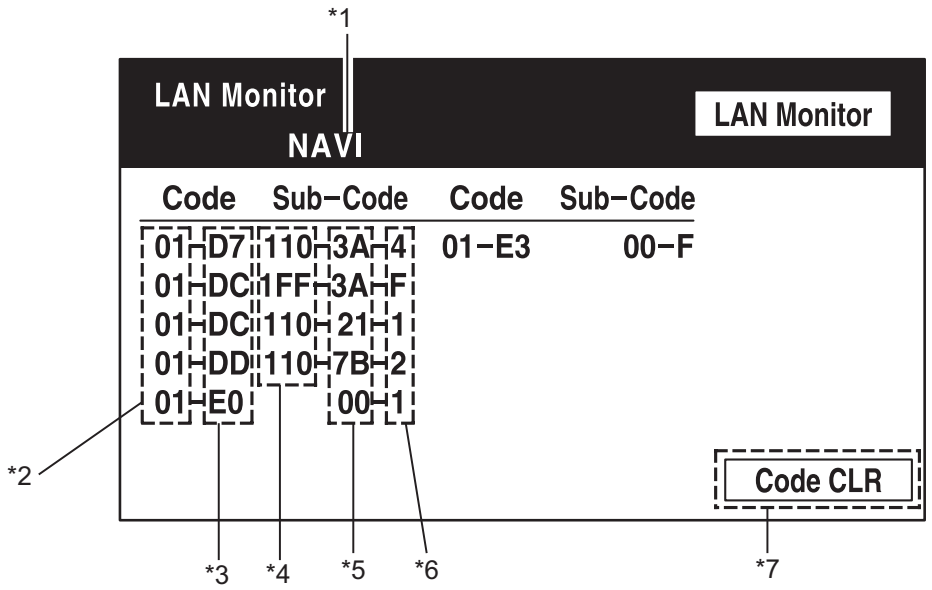
I100058E04

AV

(1) Check Result/*1
HINT:
The check results of all the devices are displayed.

Result	Meaning	Action
No Err (OK)	There are no communication DTCs.	-
CHEK	Device responds with "check" type DTC.	Look up DTC in "Unit Check Mode".
NCON	Device was previously present, but does not respond in diagnostic mode.	1. Check power supply wire harness of device. 2. Check AVC-LAN of device.
Old	Device responds with "old" type DTC.	Look up DTC in "Unit Check Mode".
NRES	Device responds in diagnostic mode, but gives no DTC information.	1. Check power supply wire harness of device. 2. Check AVC-LAN of device.

(e) LAN Monitor (Individual) Screen



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E120072E01

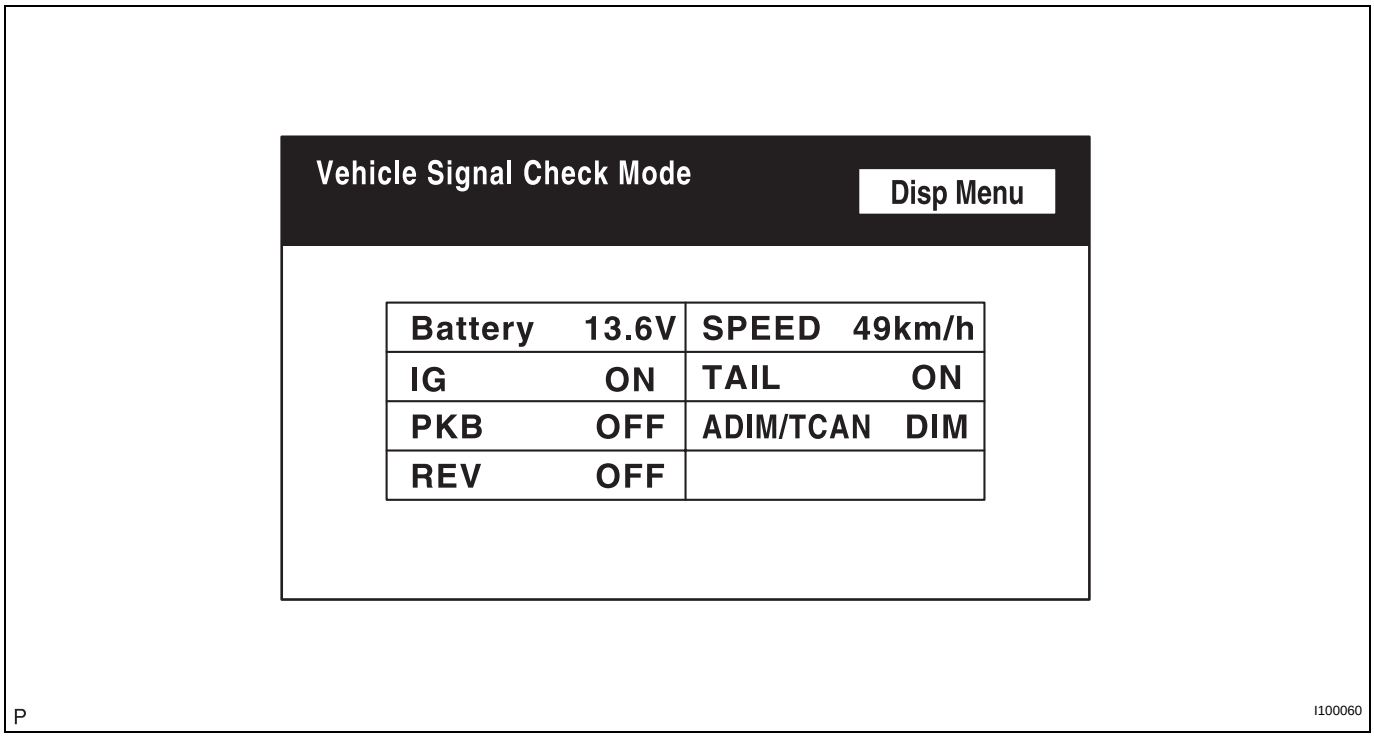
AV

Screen description:

Display	Contents
Device name/*1	Target device
Segment/*2	Target logical address
DTC/*3	DTC (Diagnostic Trouble Code)
Sub-code (device address)/*4	Physical address stored with DTC (If there is no address, nothing is displayed).
Connection check No./*5	Connection check number stored with DTC
DTC occurrence/*6	Number of times same DTC has been recorded
Diagnosis Clear Switch/*7	Pushing this switch for 3 seconds clears diagnostic memory data of target device (both response to diagnostic system check result and displayed data are cleared).

2. DISPLAY CHECK

(a) Vehicle Signal Check Mode Screen



Screen description:

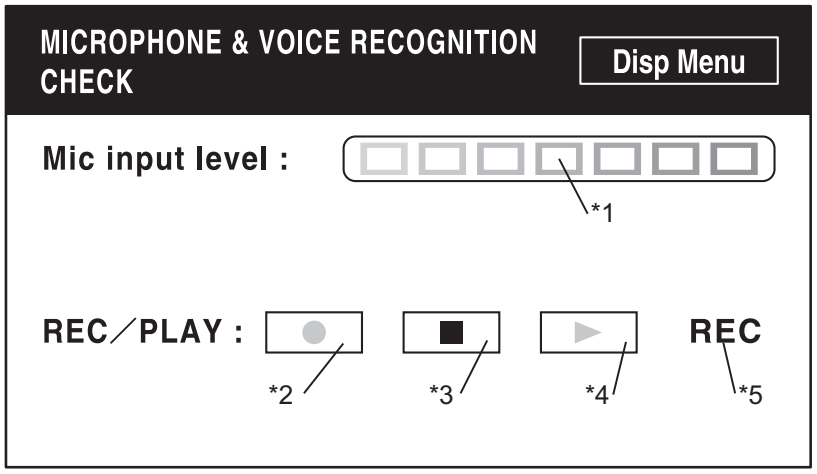
Name	Contents
Battery	Battery voltage is displayed.
PKB	Parking brake ON / OFF state is displayed.
REV	Reverse signal ON / OFF state is displayed.
IG	Power switch ON / OFF state is displayed.
ADIM/TCAN	Brightness state DIM (with) / BRIGHT (without) is displayed.
TAIL	TAIL signal (Light control switch) ON / OFF state is displayed.
SPEED	Vehicle speed is displayed in km/h.

HINT:

- Only items sending a vehicle signal will be displayed.
- This screen is updated once per second when input signals to the vehicle are changed.

AV

(b) Microphone & Voice Recognition Check Screen



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E125091E01

HINT:
Depending on the type of audio system, this menu may not be present.

Screen description:

Name	Contents
Microphone input level meter/*1	Monitors microphone input level every 100 ms and displays results in 8 different levels.
Recording switch/*2	Starts recording.
Stop switch/*3	Stops recording.
Play switch/*4	Plays recorded voice.
Recording indicator/*5	Comes on while recording.

HINT:
- The microphone input function is on at all times when this screen is displayed.
- While recording or playing, the switches other than the stop switch cannot be pushed.
- When no voice is recorded, the play switch cannot be pushed.
- Recording will stop after 5 seconds or by pushing the stop switch.

PROBLEM SYMPTOMS TABLE

HINT:

- Use the table below to help determine the cause of the problem symptom. The potential causes of the symptoms are listed in order of probability in the "Suspected area" column of the table. Check each symptom by checking the suspected areas in the order they are listed. Replace parts as necessary.
- Inspect the fuses and relays related to this system before inspecting the suspected areas below.

Audio function

Symptom	Suspected area	See page
Pressing power switch does not turn on system.	1. Proceed to "Pressing Power Switch does not Turn on System"	AV-96
	2. Radio receiver power source circuit	AV-171
	3. Multi-display power source circuit	AV-175
	4. AVC-LAN circuit	AV-148
	5. Radio receiver	AV-31
	6. Multi-display	AV-31
Panel switch does not function.	1. Steering pad switch circuit	AV-119
	2. AVC-LAN circuit	AV-148
	3. Radio receiver	AV-31
No sound can be heard from speakers (audio is mute).	1. AVC-LAN circuit	AV-148
	2. Radio receiver power source circuit	AV-171
	3. Multi-display power source circuit	AV-175
	4. Proceed to "No Sound can be Heard from Speakers"	AV-97
	5. Stereo component amplifier power source circuit	AV-173
	6. Proceed to "Sound Signal Circuit between Radio Receiver and Stereo Component Amplifier"	AV-142
	7. Speaker circuit	AV-130
	8. Proceed to "Mute Signal Circuit between Radio Receiver and Stereo Component Amplifier"	AV-146
	9. Stereo component amplifier	AV-31
	10. Radio receiver	AV-31
	11. Multi-display	AV-31
Sound quality is bad in all modes (Volume is too low).	1. Proceed to "Poor Sound Quality in All Models (Low Volume)"	AV-107
	2. Speaker circuit	AV-130
	3. Proceed to !Sound Signal Circuit between Radio Receiver and Stereo Component Amplifier"	AV-142
	4. Proceed to "Mute Signal Circuit between Radio Receiver and Stereo Component Amplifier"	AV-146
Auto sound levelizer does not function (9 speaker system).	Proceed to "Vehicle Speed Signal Circuit between Stereo Component Amplifier and Combination Meter"	AV-150
Auto sound levelizer does not function (6 speaker system).	Proceed to "Vehicle Speed Signal Circuit between Radio Receiver and Combination Meter"	AV-116
External device sound cannot be heard or sound quality is bad (Stereo jack is used).	1. Radio receiver power source circuit	AV-171
	2. Proceed to "Sound Signal Circuit between Radio Receiver and Stereo Jack Adapter"	AV-144
	3. Stereo jack adapter	-
	4. Radio receiver	AV-31

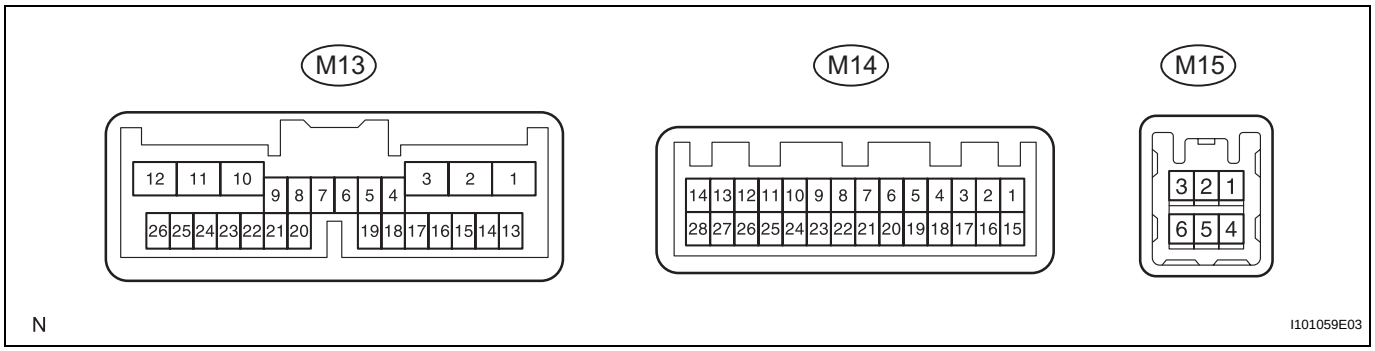
Symptom	Suspected area	See page
Abnormal noise occurs.	1. Proceed to "Noise occurs"	AV-94
	2. Stereo component amplifier	AV-31
	3. Radio receiver	AV-31
Radio broadcast cannot be received or poor reception.	Proceed to "Radio Broadcast cannot be Received or Poor Reception"	AV-104
CD cannot be inserted/played or CD is ejected right after insertion.	1. Radio receiver power source circuit	AV-171
	2. Proceed to "CD cannot be Inserted/Played or CD is Ejected Right After Insertion"	AV-100
CD cannot be ejected.	1. Radio receiver power source circuit	AV-171
	2. Proceed to "CD cannot be Ejected"	AV-99
Sound quality is bad only when CD is played.	Proceed to "Sound Quality is Bad Only when CD is Played (Volume is Too Low)"	AV-98
CD sounds skips.	Proceed to "CD Sound Skips"	AV-102
Radio receiver or multi-display cannot be illuminated at night.	Illumination circuit	AV-123

Steering pad switch function

Symptom	Suspected area	See page
Audio system cannot be operated with steering pad switch.	1. Steering pad switch circuit	AV-119
	2. Radio receiver	AV-31
Steering pad switch cannot be illuminated at night.	Illumination circuit	AV-123
Cellular phone registration failure, phone directory transfer failure.	Proceed to "Cellular Phone Registration Failure, Phone Directory Transfer Failure"	AV-108
Cellular phone cannot send / receive.	1. Proceed to Cellular Phone cannot Send / Receive	AV-110
	2. Steering pad switch circuit	AV-119
	3. Multi-display	AV-31
Cannot call in a certain place.	Proceed to "Cannot call in a Certain Place"	AV-112
The other caller's voice cannot be heard, is too quiet, or distorted.	1. Proceed to "The Other Caller's Voice cannot be Heard, is too Quiet, or Distorted"	AV-113
	2. Multi-display	AV-31
The other caller cannot hear your voice, or your voice is too quiet or distorted.	1. Proceed to "The Other Caller cannot Hear Your Voice, or Your Voice is too Quiet or Distorted"	AV-114
	2. Microphone circuit between overhead J/B and multi-display	AV-153
	3. Microphone	-
	4. Microphone amplifier	-
	5. Multi-display	AV-31

TERMINALS OF ECU

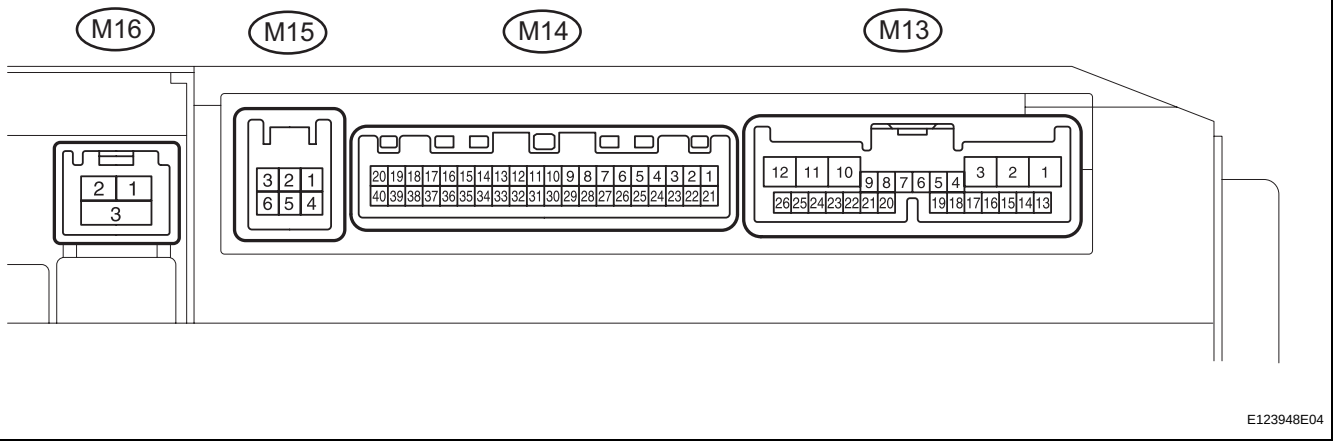
1. CHECK MULTI-DISPLAY (for 3 Connector Type)



Symbols (Terminal No.)	Wiring Color	Terminal Description	Condition	Specified Condition
ILL+ (M13-1) - GND1 (M13-3)	G - BR	Illumination (rheostat) signal	Power switch OFF	Below 1 V
			Power switch ON (IG)	10 to 14 V
GND1 (M13-3) - Body ground	BR - Body ground	Ground	Always	Below 1 Ω
TX1+ (M13-4) - GND1 (M13-3)	B - BR	AVC-LAN communication signal	Power switch ON (IG)	2 to 3 V
TX1- (M13-5) - GND1 (M13-3)	W - BR	AVC-LAN communication signal	Power switch ON (IG)	2 to 3 V
TC (M13-7) - GND1 (M13-3)	P - BR	Diagnosis ON signal	Power switch OFF	Below 1 V
			Power switch ON (IG)	10 to 14 V
IG (M13-10) - GND1 (M13-3)	B - BR	Power switch IG	Power switch OFF	Below 1 V
			Power switch ON (IG)	10 to 14 V
ACC (M13-11) - GND1 (M13-3)	GR - BR	Power switch ACC	Power switch OFF	Below 1 V
			Power switch ON (IG)	10 to 14 V
B1 (M13-12) - GND1 (M13-3)	Y - BR	Battery	Always	10 to 14 V
ILL- (M13-2) - GND1 (M13-3)	W-B - BR	Illumination (rheostat) signal	Power switch OFF	Below 1 V
			Power switch ON (IG)	10 to 14 V
DR (M13-17) - GND1 (M13-3)	B - BR	Dimmer signal	Light control switch OFF	Below 1 V
			Light control switch TAIL or HEAD	10 to 14 V
TX2+ (M13-18) - GND1 (M13-3)	P - BR	AVC-LAN communication signal	Power switch ON (IG)	2 to 3 V
TX2- (M13-19) - GND1 (M13-3)	W - BR	AVC-LAN communication signal	Power switch ON (IG)	2 to 3 V
SPD (M13-25) - GND1 (M13-3)	V - BR	Speed signal from combination meter	See "vehicle signal check mode"	-

AV

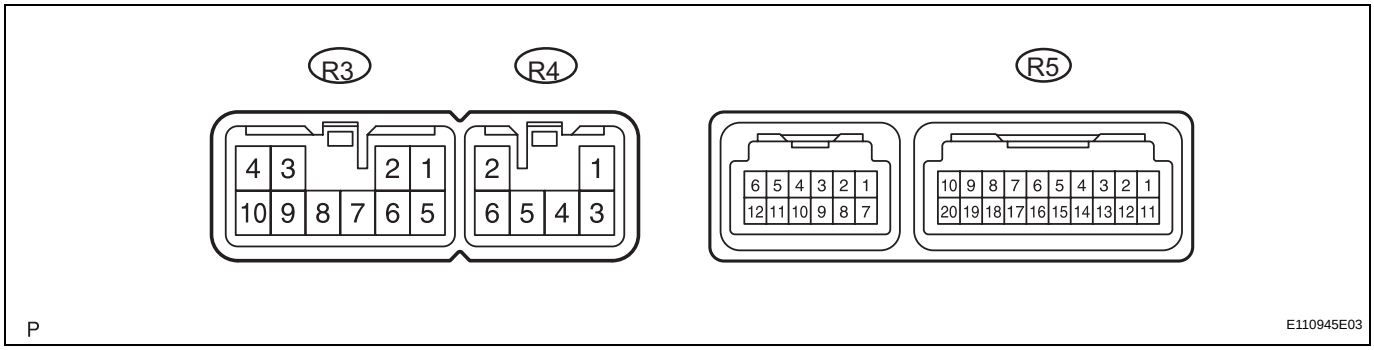
2. CHECK MULTI-DISPLAY (for 4 Connector Type)



Symbols (Terminal No.)	Wiring Color	Terminal Description	Condition	Specified Condition
ILL+ (M13-12) - GND (M13-1)	G - BR	Illumination (rheostat) signal	Power switch OFF	Below 1 V
			Power switch ON (IG)	10 to 14 V
GND (M13-1) - Body ground	BR - Body ground	Ground	Always	Below 1 Ω
TX1+ (M13-4) - GND (M13-1)	B - BR	AVC-LAN communication signal	Power switch ON (IG)	2 to 3 V
TX1- (M13-5) - GND (M13-1)	W - BR	AVC-LAN communication signal	Power switch ON (IG)	2 to 3 V
TC (M13-7) - GND (M13-1)	P - BR	Diagnosis ON signal	Power switch OFF	Below 1 V
			Power switch ON (IG)	10 to 14 V
IG (M13-10) - GND (M13-1)	B - BR	Power switch IG	Power switch OFF	Below 1 V
			Power switch ON (IG)	10 to 14 V
ACC (M13-2) - GND (M13-1)	GR - BR	Power switch ACC	Power switch OFF	Below 1 V
			Power switch ON (IG)	10 to 14 V
+B1 (M13-3) - GND (M13-1)	Y - BR	Battery	Always	10 to 14 V
ILL- (M13-11) - GND (M13-1)	W-B - BR	Illumination (rheostat) signal	Power switch OFF	Below 1 V
			Power switch ON (IG)	10 to 14 V
DR (M13-17) - GND (M13-1)	B - BR	Dimmer signal	Light control switch OFF	Below 1 V
			Light control switch TAIL or HEAD	10 to 14 V
TX2+ (M13-18) - GND (M13-1)	P - BR	AVC-LAN communication signal	Power switch ON (IG)	2 to 3 V
TX2- (M13-19) - GND (M13-1)	W - BR	AVC-LAN communication signal	Power switch ON (IG)	2 to 3 V
SPD (M13-20) - GND (M13-1)	V - BR	Speed signal from combination meter	See "vehicle signal check mode"	-
MIN+ (M14-2) - Body ground	G - Body ground	Microphone voice signal	See "Microphone & Voice Recognition Check" mode	-
MIN- (M14-3) - Body ground	R - Body ground	Microphone voice signal	See "Microphone & Voice Recognition Check" mode	-
MACC (M14-4) - Body ground	BR - Body ground	Microphone amplifier power supply	Power switch ON (IG)	5 V

AV

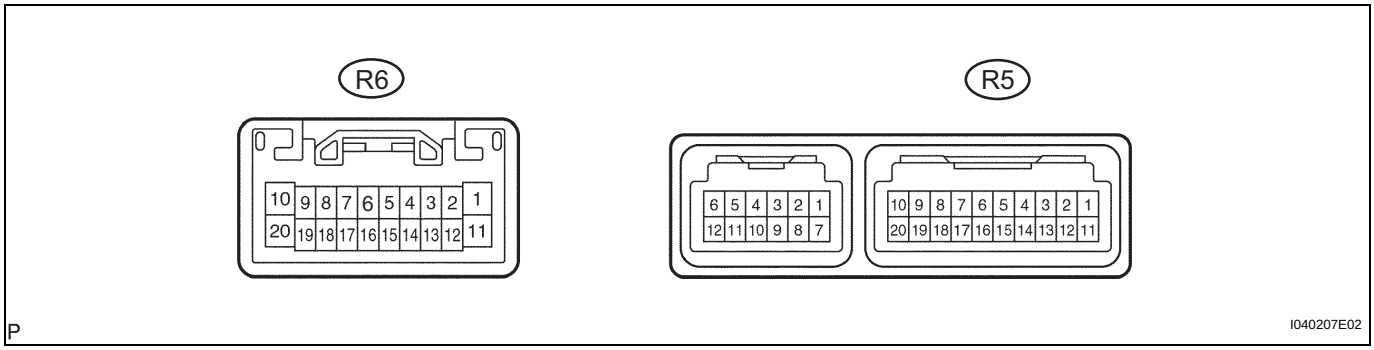
3. CHECK RADIO RECEIVER (for 6 Speaker System)



Symbols (Terminal No.)	Wiring Color	Terminal Description	Condition	Specified Condition
RR+ (R4-1) - GND (R3-7)	R - BR	Sound signal (Rear Right)	Audio system is sounding	-
RL+ (R4-2) - GND (R3-7)	B - BR	Sound signal (Rear Left)	Audio system is sounding	-
RR- (R4-3) - GND (R3-7)	W - BR	Sound signal (Rear Right)	Audio system is sounding	-
RL- (R4-6) - GND (R3-7)	Y - BR	Sound signal (Rear Left)	Audio system is sounding	-
FR+ (R3-1) - GND (R3-7)	LG - BR	Sound signal (Front Right)	Audio system is sounding	-
FL+ (R3-2) - GND (R3-7)	P - BR	Sound signal (Front Left)	Audio system is sounding	-
ACC (R3-3) - GND (R3-7)	GR - BR	Accessory (ON)	Turn power switch OFF	Below 1 V
			Turn power switch ON (ACC)	10 to 14 V
+B (R3-4) - GND (R3-7)	SB - BR	Battery	Always	10 to 14 V
FR- (R3-5) - GND (R3-7)	L - BR	Sound signal (Front Right)	Audio system is sounding	-
FL- (R3-6) - GND (R3-7)	V - BR	Sound signal (Front Left)	Audio system is sounding	-
GND (R3-7) - Body ground	BR - Body ground	Ground	Always	Below 1 Ω
ANT+ (R3-8) - GND (R3-7)	O - BR	Power source of antenna	Radio switch ON	10 to 14 V
ILL+ (R3-10) - GND (R3-7)	G - BR	Illumination signal	Turn light control switch OFF	Below 1 V
			Turn light control switch TAIL or HEAD (Light intensity is max.)	10 to 14 V
TX1+ (R5-9) - GND (R3-7)	P - BR	AVC-LAN communication signal	Turn power switch ON (ACC)	2 to 3 V
TX1- (R5-10) - GND (R3-7)	W - BR	AVC-LAN communication signal	Turn power switch ON (ACC)	2 to 3 V
SWG (R5-6) - GND (R3-7)	R - BR	Steering pad switch ground	Always	Below 1 Ω
SW1 (R5-7) - GND (R3-7)	B - BR	Steering pad switch signal	Steering pad switch not operated	4 V or more
			SEEK+ switch pushed	Approx. 0.5 V
			SEEK- switch pushed	Approx. 0.9 V
			VOL+ switch pushed	Approx. 2.0 V
			VOL- switch pushed	Approx. 3.4 V
SW2 (R5-8) - GND (R3-7)	W - BR	Steering pad switch signal	Steering pad switch not operated	4 V or more
			MODE switch pushed	Below 2.5 V
ILL- (R4-5) - GND (R3-7)	W-B - BR	Illumination signal	Turn light control switch OFF	Below 1 V
			Turn light control switch TAIL or HEAD (Light intensity is max.)	10 to 14 V

AV

4. CHECK RADIO RECEIVER (for 9 Speaker System)

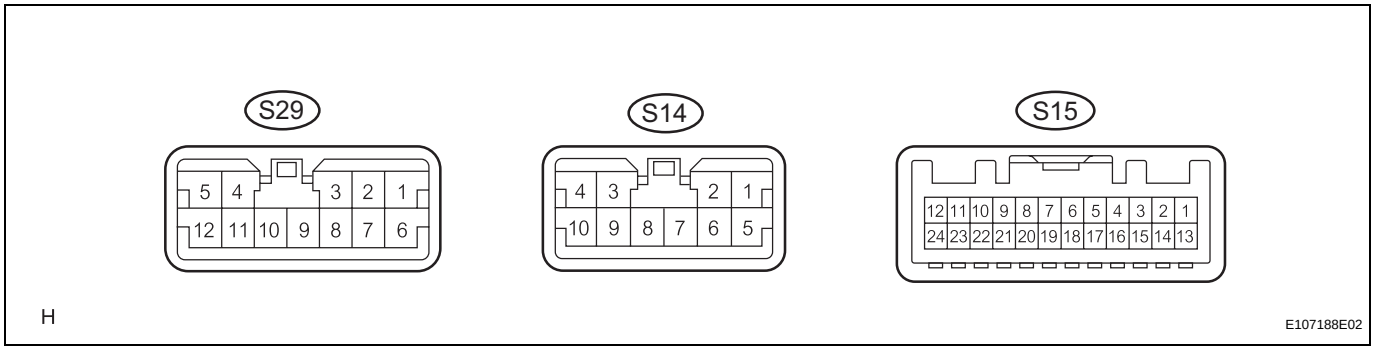


Symbols (Terminal No.)	Wiring Color	Terminal Description	Condition	Specified Condition
+B (R6-1) - GND (R6-20)	SB - BR	Battery	Always	10 to 14 V
ILL+ (R6-2) - GND (R6-20)	G - BR	Illumination signal	Turn light control switch OFF	Below 1 V
			Turn light control switch TAIL or HEAD (Light intensity is max.)	10 to 14 V
MUTE (R6-7) - GND (R6-20)	W - BR	MUTE signal	Audio system is sounding	Above 3.5 V
			Audio system is changing mode	Below 1 V
R+ (R6-8) - GND (R6-20)	R - BR	Sound signal (Right)	Audio system is sounding	-
L+ (R6-9) - GND (R6-20)	W - BR	Sound signal (Left)	Audio system is sounding	-
SLD (R6-10) - Body ground	Shielded - Body ground	Shield ground	Always	Below 1 Ω
ACC (R6-11) - GND (R6-20)	GR - BR	Accessory	Turn power switch OFF	Below 1 V
			Turn power switch ON (ACC)	10 to 14 V
ANT+ (R6-13) - GND (R6-20)	O - BR	Power source of antenna	Radio switch ON	10 to 14 V
R- (R6-18) - GND (R6-20)	G - BR	Sound signal (Right)	Audio system is sounding	-
L- (R6-19) - GND (R6-20)	B - BR	Sound signal (Left)	Audio system is sounding	-
GND (R6-20) - Body ground	BR - Body ground	Ground	Always	Below 1 Ω
TX+ (R6-5) - GND (R6-20)	P - BR	AVC-LAN communication signal	Turn power switch ON (ACC)	2 to 3 V
TX- (R6-15) - GND (R6-20)	O - BR	AVC-LAN communication signal	Turn power switch ON (ACC)	2 to 3 V
SWG (R5-6) - GND (R6-20)	R - BR	Steering pad switch ground	Always	Below 1 Ω
SW1 (R5-7) - GND (R6-20)	B - BR	Steering pad switch signal	Steering pad switch not operated	4 V or more
			SEEK+ switch pushed	Approx. 0.5 V
			SEEK- switch pushed	Approx. 0.9 V
			VOL+ switch pushed	Approx. 2.0 V
			VOL- switch pushed	Approx. 3.4 V
ILL- (R6-12) - GND (R6-20)	W-B - BR	Illumination signal	Turn light control switch OFF	Below 1 V
			Turn light control switch TAIL or HEAD (Light intensity is max.)	10 to 14 V
SW2 (R5-8) - GND (R6-20)	W - BR	Steering pad switch signal	Steering pad switch not operated	4 V or more
			MODE switch pushed	Below 2.5 V

AV

Symbols (Terminal No.)	Wiring Color	Terminal Description	Condition	Specified Condition
TX+ (R5-9) - GND (R6-20)	P - BR	AVC-LAN communication signal	Turn power switch ON (ACC)	2 to 3 V
TX- (R5-10) - GND (R6-20)	W - BR	AVC-LAN communication signal	Turn power switch ON (ACC)	2 to 3 V
ARI (R5-15) - GND (R6-20)	G - BR	Sound signal (Right)	External device is playing (When stereo jack is used)	A waveform synchronized with sounds is output
ASGN (R5-16) - GND (R6-20)	Shielded - Body ground	Shield ground	Always	Below 1 Ω
ALI (R5-17) - GND (R6-20)	R - BR	Sound signal (Left)	External device is playing (When stereo jack is used)	A waveform synchronized with sounds is output
AUXI (R5-19) - GND (R6-20)	W - BR	External device connection detection signal	External device is connection	Below 1 Ω

5. CHECK STEREO COMPONENT AMPLIFIER (for 9 Speaker System)



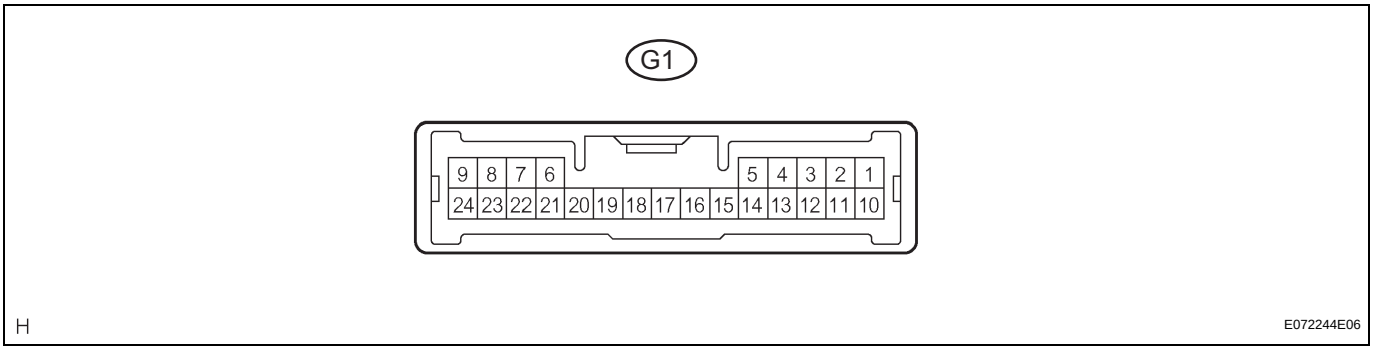
Symbols (Terminal No.)	Wiring Color	Terminal Description	Condition	Specified Condition
+B (S14-1) - GND (S29-6)	SB - W-B	Battery	Always	10 to 14 V
CTR+ (S29-4) - GND (S29-6)	R - W-B	Sound Signal (Center)	Audio system playing	A waveform synchronized with sounds is output
RL+ (S14-3) - GND (S29-6)	B - W-B	Sound Signal (Left)	Audio system is playing	A waveform synchronized with sounds is output
RR+ (S14-10) - GND (S29-6)	R - W-B	Sound signal (Right)	Audio system is playing	A waveform synchronized with sounds is output
FL+ (S14-8) - GND (S29-6)	P - W-B	Sound signal (Left)	Audio system is playing	A waveform synchronized with sounds is output
FR+ (S14-2) - GND (S29-6)	LG - W-B	Sound signal (Right)	Audio system is playing	A waveform synchronized with sounds is output
WFL+ (S29-2) - GND (S29-6)	P - W-B	Sound signal (Left)	Audio system is playing	A waveform synchronized with sounds is output
WFR+ (S29-9) - GND (S29-6)	LG - W-B	Sound signal (Right)	Audio system is playing	A waveform synchronized with sounds is output
+B2 (S14-5) - GND (S29-6)	SB - W-B	Battery	Always	10 to 14 V
CTR- (S29-10) - GND (S29-6)	W - W-B	Sound signal (Center)	Audio system is playing	A waveform synchronized with sounds is output
RL- (S14-9) - GND (S29-6)	Y - W-B	Sound signal (Left)	Audio system is playing	A waveform synchronized with sounds is output
RR- (S14-4) - GND (S29-6)	W - W-B	Sound signal (Right)	Audio system is playing	A waveform synchronized with sounds is output
GND2 (S29-7) - Body ground	W-B - Body ground	Ground	Always	Below 1 Ω
GND (S29-6) - Body ground	W-B - Body ground	Ground	Always	Below 1 Ω
SPD (S15-11) - GND (S29-6)	V - W-B	Speed signal from combination meter	See "vehicle signal check mode"	-

AV

Symbols (Terminal No.)	Wiring Color	Terminal Description	Condition	Specified Condition
FL- (S14-7) - GND (S29-6)	V - W-B	Sound signal (Left)	Audio system is playing	A waveform synchronized with sounds is output
FR- (S14-6) - GND (S29-6)	L - W-B	Sound signal (Right)	Audio system is playing	A waveform synchronized with sounds is output
WFL- (S29-1) - GND (S29-6)	V - W-B	Sound signal (Left)	Audio system is playing	A waveform synchronized with sounds is output
WFR- (S29-3) - GND (S29-6)	L - W-B	Sound signal (Right)	Audio system is playing	A waveform synchronized with sounds is output
MUTE (S15-1) - GND (S29-6)	W - W-B	Mute signal	Audio system is playing	Above 3.5 V
			Audio system is changing mode	Below 1 V
L- (S15-2) - GND (S29-6)	B - W-B	Sound signal (Left)	Audio system is playing	A waveform synchronized with sounds is output
L+ (S15-3) - GND (S29-6)	W - W-B	Sound signal (Left)	Audio system is playing	A waveform synchronized with sounds is output
R- (S15-4) - GND (S29-6)	G - W-B	Sound signal (Right)	Audio system is playing	A waveform synchronized with sounds is output
R+ (S15-5) - GND (S29-6)	R - W-B	Sound signal (Right)	Audio system is playing	A waveform synchronized with sounds is output
TX- (S15-7) - GND (S29-6)	O - W-B	AVC-LAN communication signal	Power switch ON (IG)	2 to 3 V
TX+ (S15-8) - GND (S29-6)	P - W-B	AVC-LAN communication signal	Power switch ON (IG)	2 to 3 V
ACC (S15-12) - GND (S29-6)	GR - W-B	Power switch ACC	Power switch OFF	Below 1 V
			Power switch ON (ACC)	10 to 14 V

AV

6. CHECK NETWORK GATEWAY ECU



Symbols (Terminal No.)	Wiring Color	Terminal Description	Condition	Specified Condition
GND (G1-24) - Body ground	W-B - Body ground	Ground	Always	Below 1 Ω
BATT (G1-10) - Body ground	Y - Body ground	Battery power supply	Always	10 to 14 V
IG (G1-1) - Body ground	B - Body ground	Ignition power supply	Power switch ON (IG)	10 to 14 V
ACC (G1-2) - Body ground	P - Body ground	ACC power supply	Power switch ON (IG)	10 to 14 V
GTX+ (G1-6) - Body ground	B - Body ground	AVC-LAN communication signal	Power switch ON (ACC)	2 to 3 V
GTX- (G1-21) - Body ground	W - Body ground	AVC-LAN communication signal	Power switch ON (ACC)	2 to 3 V

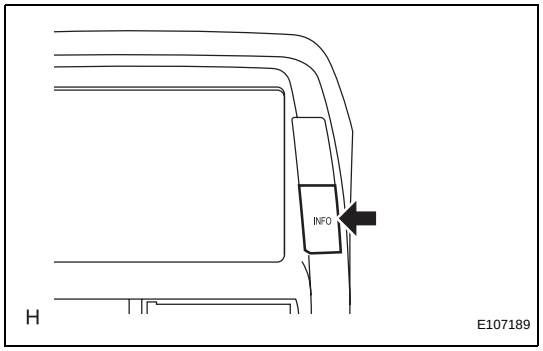
DTC CHECK / CLEAR

1. START DIAGNOSTIC MODE

HINT:

- The illustrations may differ depending on the device settings (options, etc.). Therefore, some detailed areas may not be exactly the same as on the actual vehicle.
- After the power switch is turned ON (ACC), check that the map is displayed before starting the diagnostic mode. Otherwise, some items cannot be checked.

(a) There are 2 methods to start diagnostic mode. Start the mode by using one of them.

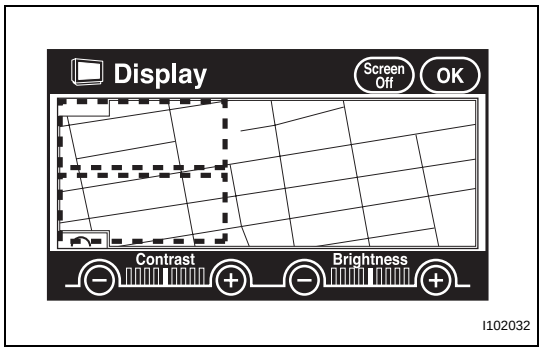


(b) Method 1

(1) Start the hybrid system.

(2) While pressing and holding the "INFO" switch, operate the light control switch OFF → TAIL → OFF → TAIL → OFF → TAIL → OFF.

(3) The diagnostic mode starts and the "Service Check" screen will be displayed. The service inspection starts automatically and the result will be displayed.



(c) Method 2

(1) Start the hybrid system.

(2) Press the "Display" switch.

(3) On the display adjustment screen, touch the corners of the screen in the following order: upper left → lower left → upper left → lower left → upper left → lower left.

(4) The diagnostic mode starts and the "Service Check" screen will be displayed. The service inspection starts automatically and the result will be displayed.

(d) Diagnosis MENU

Press the menu switch on the service check screen. The diagnostic window will be displayed.

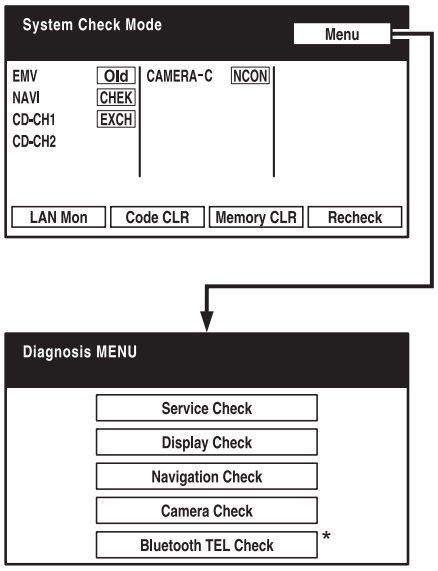
2. FINISH DIAGNOSTIC MODE

(a) Use one of the following 2 methods to finish the diagnostic mode.

(1) Turn the power switch OFF.

(2) Press the "Display" switch for 3 seconds.

AV



*: If this switch is gray, the Bluetooth TEL Check inspection cannot be performed.

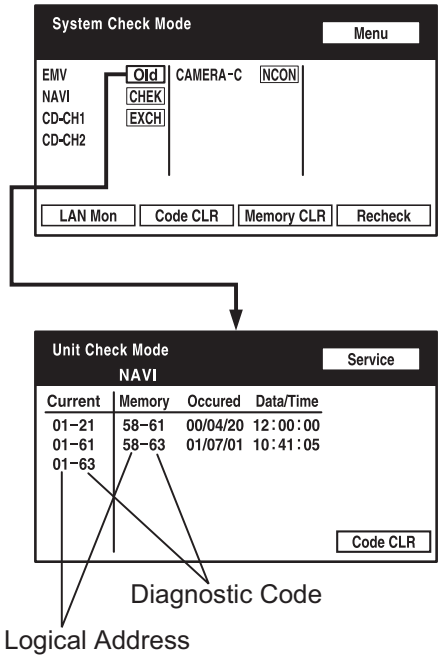
E130106E01

3. SYSTEM CHECK MODE (DTC CHECK)

HINT:

The illustrations may differ depending on the device settings (options, etc.). Therefore, some detailed areas may not be exactly the same as on the actual vehicle.

(a) Start the diagnostic mode.



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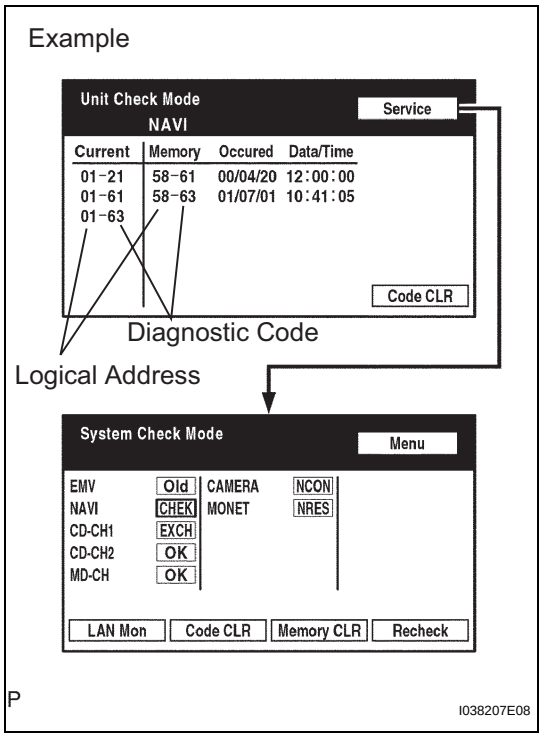
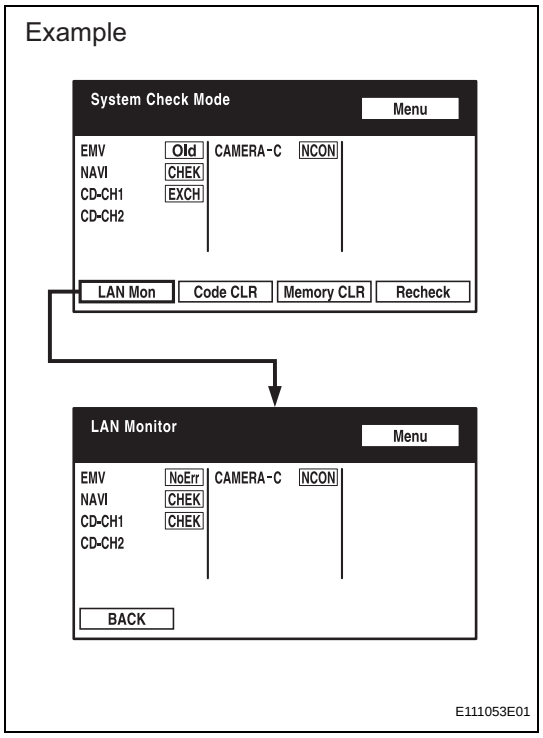
(b) Read the service check result.
If all the devices report as "EXCH", "CHEK" or "Old", touch the display to check the contents in the "Unit Check Mode" screen and write them into the customer problem analysis check sheet.

AV



HINT:

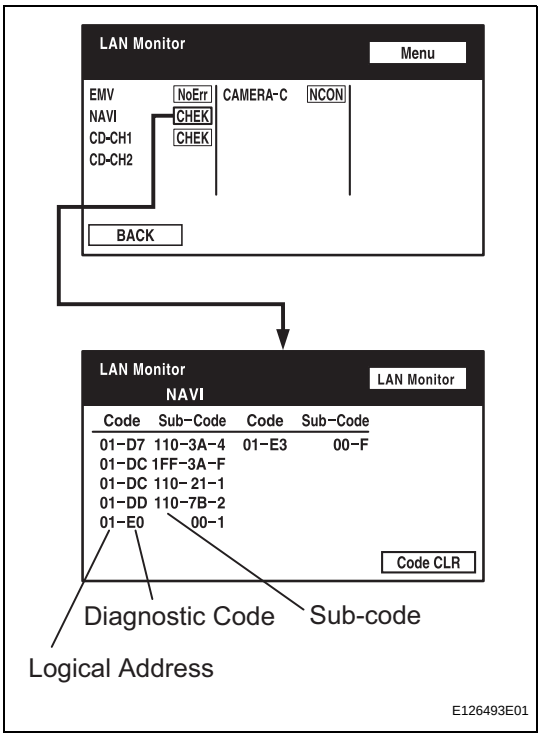
- If all the check results are "OK", go to the communication DTC check.
- If a device name is not known, its physical address is displayed.
- If "EXCH", "CHEK" and "Old" as well as "OK" are shown, press the service switch to return to the "System Check Mode". Then, check the "Unit Check Mode" screen and fill them in on the customer problem analysis check sheet.



(c) Read the communication diagnostic check result.

(1) Return to the "System Check Mode", and press "LAN Mon" switch to enter the LAN monitor window.

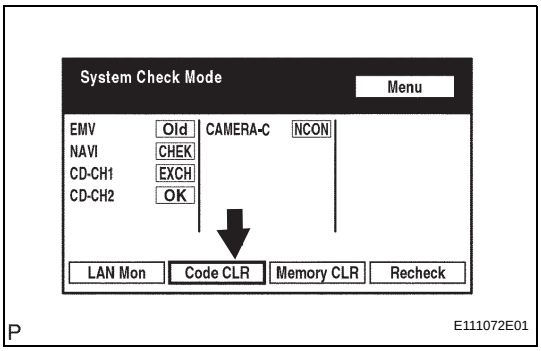
AV



(2) If the result is "CHEK" or "Old", touch this display to check the contents on the "Unit Check Mode" screen and write them into the customer problem analysis check sheet.
HINT:
- If all check results are "No Err", the system judges that no DTC exists.
- The sub-code (relevant device) will be indicated by its physical address.
- If a check result is "CHEK", press the "Service" switch to return to the "LAN Monitor" screen. Then, check the individual communication diagnostic screen for the next device and fill out the result on the customer problem analysis check sheet.

4. SERVICE CHECK MODE (DTC CLEAR/RECHECK)
HINT:
The illustrations may differ from the actual vehicle depending on the device settings and options.

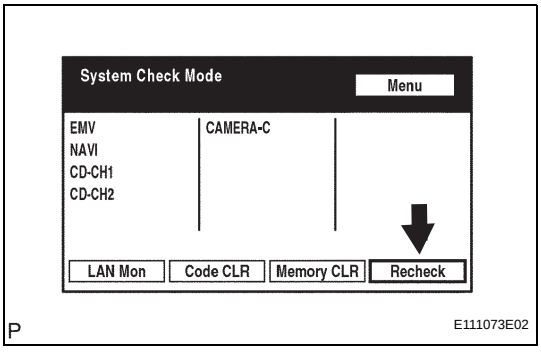
AV



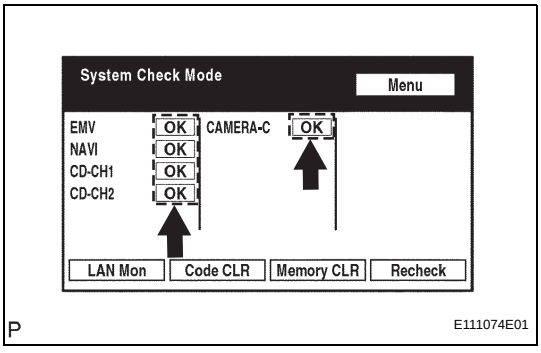
(a) Clear DTC
(1) Press the "Code CLR" switch for 3 seconds.

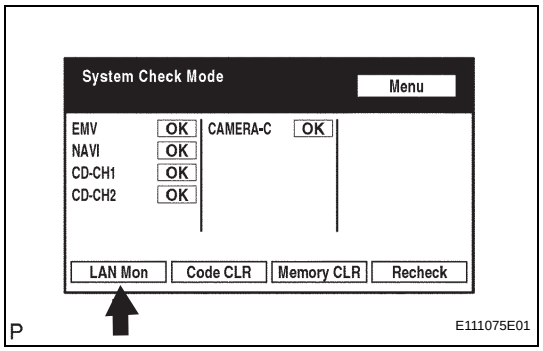
(2) Check result is cleared.

(b) Recheck
(1) Press the "Recheck" switch.

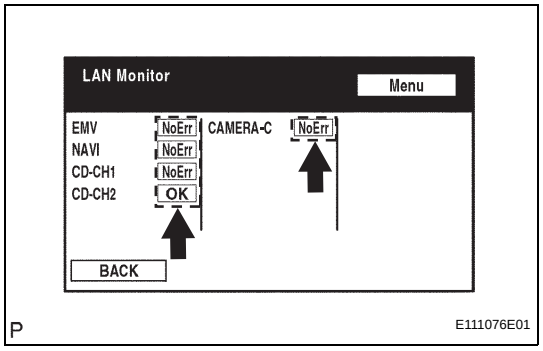


(2) Confirm that all diagnostic codes are "OK" when the check results are displayed.
If a code other than "OK" is displayed, troubleshoot again.





(3) Press "LAN Mon" to switch to "LAN Monitor" mode.



(4) Confirm that all diagnostic codes are "No Err". If a code other than "No Err" is displayed, troubleshoot again.

AV

DIAGNOSTIC TROUBLE CODE CHART

Communication diagnosis

DTC No.	Detection Item	Trouble Area	See page
01-21	ROM Error	Multi-display	AV-46
01-22	RAM Error	Multi-display	AV-46
01-D5	Absence of Registration Unit	1. Power source circuit of component shown by sub-code 2. AVC-LAN circuit between multi-display and component shown by sub-code 3. Component shown by sub-code	AV-47
01-D6	No Master	1. Multi-display power source circuit 2. Power source circuit of component which has stored this code 3. AVC-LAN circuit between multi-display and component which has stored this code 4. Component which has stored this code 5. Multi-display	AV-49
01-D7	Connection Check Error	1. Multi-display power source circuit 2. Power source circuit of component which has stored this code 3. AVC-LAN circuit between multi-display and component which has stored this code 4. Component which has stored this code 5. Multi-display	AV-49
01-D8	No Response for Connection Check	1. Power source circuit of component shown by sub-code 2. AVC-LAN circuit between multi-display and component shown by sub-code 3. Component shown by sub-code	AV-47
01-D9	Last Mode Error	1. Power source circuit of component shown by sub-code 2. AVC-LAN circuit between multi-display and component shown by sub-code 3. Component shown by sub-code	AV-47
01-DA	No Response Against ON / OFF Command	1. Power source circuit of component shown by sub-code 2. AVC-LAN circuit between multi-display and component shown by sub-code 3. Component shown by sub-code	AV-47
01-DB	Mode Status Error	1. Power source circuit of component shown by sub-code 2. AVC-LAN circuit between multi-display and component shown by sub-code 3. Component shown by sub-code	AV-47

DTC No.	Detection Item	Trouble Area	See page
01-DC	Transmission Error	If same sub-code is recorded in other components, check harness for power supply and communication system of all components shown by sub-code	AV-53
01-DD	Master Reset	1. Multi-display power source circuit 2. AVC-LAN circuit between multi-display and component which has stored this code 3. Multi-display 4. Component which has stored this code	AV-56
01-DE	Slave Reset	1. Power source circuit of component shown by sub-code 2. AVC-LAN circuit between multi-display and component shown by sub-code 3. Component shown by sub-code	AV-47
01-DF	Master Error	1. Multi-display power source circuit 2. AVC-LAN circuit between multi-display and component which has stored this code 3. Multi-display 4. Component which has stored this code	AV-60
01-E0	Registration Complete Indication Error	-	AV-64
01-E1	Voice Processing Device ON Error	1. Multi-display power source circuit 2. AVC-LAN circuit between multi-display and component which has stored this code 3. Multi-display 4. Component which has stored this code	AV-56
01-E2	ON / OFF Indication Parameter Error	Multi-display	AV-65
01-E3	Registration Demand Transmission	-	AV-64
01-E4	Multiple Frame Incomplete	-	AV-64

Bluetooth

DTC No.	Detection Item	Trouble Area	See page
57-47	Bluetooth Module Initialization Failed	-	AV-66

Radio unit

DTC No.	Detection Item	Trouble Area	See page
60-10	AM Tuner PLL does not Lock Error	Radio receiver	AV-67
60-11	FM Tuner PLL does not Lock Error	Radio receiver	AV-67
60-42	Tuner Power Source Error	Radio receiver	AV-68
60-43	AM Tuner Error	Radio receiver	AV-68
60-44	FM Tuner Error	Radio receiver	AV-68
60-50	Malfunction in Internal IC	Radio receiver	AV-68

CD player

DTC No.	Detection Item	Trouble Area	See page
62-10	CD Player Mechanical Error	Radio receiver	AV-69
62-11	CD Insertion and Eject Error	Radio receiver	AV-69
62-12	CD Reading Abnormal	Radio receiver	AV-69
62-40	No Disc	1. CD 2. Radio receiver	AV-70
62-41	Wrong Disc	1. CD 2. Radio receiver	AV-71
62-42	Disc cannot be Read	1. CD 2. Radio receiver	AV-71
62-43	CD-ROM Abnormal	1. CD 2. Radio receiver 1. CD 2. Radio receiver	AV-73
62-44	CD Abnormal	Radio receiver	AV-75
62-45	Eject Error	Radio receiver	AV-76
62-46	Scratched / Reversed Disc	1. CD 2. Radio receiver	AV-77
62-47	High Temperature	Radio receiver	AV-79
62-48	Excess Current	Radio receiver	AV-75
62-50	Tray Insertion / Ejection Error	Radio receiver	AV-75
62-51	Elevator Error	Radio receiver	AV-76
62-52	Clamp Error	Radio receiver	AV-76
62-78	DSP Error	Radio receiver	AV-80
62-7D	Disc cannot be Played	1. CD 2. Radio receiver	AV-81
62-7E	No Playable Files	1. CD 2. Radio receiver	AV-81
62-7F	Copyright Protection Error	1. CD 2. Radio receiver	AV-81

In-dash CD changer

DTC No.	Detection Item	Trouble Area	See page
63-10	CD Changer Mechanical Error	Radio receiver	AV-69
63-11	CD Insertion and Eject Error	Radio receiver	AV-69
63-12	CD Reading Abnormal	Radio receiver	AV-69
63-40	No Disc	1. CD 2. Radio receiver	AV-70
63-41	Wrong Disc	1. CD 2. Radio receiver	AV-71
63-42	Disc cannot be Read	1. CD 2. Radio receiver	AV-71
63-43	CD-ROM Abnormal	1. CD 2. Radio receiver	AV-73
63-44	CD Abnormal	Radio receiver	AV-75
63-45	Eject Error	Radio receiver	AV-76
63-46	Scratched / Reversed Disc	1. CD 2. Radio receiver	AV-77
63-47	High Temperature	Radio receiver	AV-79
63-48	Excess Current	Radio receiver	AV-75
63-50	Tray Insertion / Ejection Error	Radio receiver	AV-75
63-51	Elevator Error	Radio receiver	AV-76
63-52	Clamp Error	Radio receiver	AV-76
63-78	DSP Error	Radio receiver	AV-80

DTC No.	Detection Item	Trouble Area	See page
63-7D	Disc cannot be Played	1. CD 2. Radio receiver	AV-81
63-7E	No Playable Files	1. CD 2. Radio receiver	AV-81
63-7F	Copyright Protection Error	1. CD 2. Radio receiver	AV-81

Speaker

DTC No.	Detection Item	Trouble Area	See page
74-40	Short in Speaker Circuit	1. Wire harness 2. Speaker 3. Stereo component amplifier	AV-82

DTC	01-21	ROM Error

DTC	01-22	RAM Error

DESCRIPTION

DTC No.	DTC Detection Condition	Trouble Area
01-21	A malfunction exists in ROM.	Multi-display
01-22	A malfunction exists in RAM.	

INSPECTION PROCEDURE

HINT:
After the inspection is completed, clear the DTCs.

1	REPLACE MULTI-DISPLAY

NEXT

AV

END

DTC	01-D5	Absence of Registration Unit

DTC	01-D8	No Response for Connection Check

DTC	01-D9	Last Mode Error

DTC	01-DA	No Response Against ON / OFF Command

DTC	01-DB	Mode Status Error

DTC	01-DE	Slave Reset

DESCRIPTION

DTC No.	DTC Detection Condition	Trouble Area
01-D5 *1, *3	Device that the sub-code shows is (was) disconnected from system when turning power switch ON (ACC or IG). Communication condition with the device that the code shows cannot be obtained when the hybrid system starts.	• Power source circuit of component shown by sub-code • AVC-LAN circuit between multi-display and component shown by sub-code • Component shown by sub-code
01-D8 *2, *3	The device indicated by sub-code is (was) disconnected from the system after the hybrid system starts.	
01-D9 *1, *3	Device that had functioned before engine stopped is (was) disconnected from system when the power switch is (was) ON (ACC or IG).	
01-DA *3	No response is identified when changing mode. Sound and image do not change by switch operation.	
01-DB *1, *3	Dual alarm is detected.	
01-DE *3	Slave device has been disconnected after the hybrid system starts.	

HINT:

- *1: Even if no fault is present, this trouble code may be stored depending on the battery condition or hybrid system start voltage.
- *2: If the power connector is disconnected after the hybrid system starts, this code is stored after 180 seconds.
- *3: If the device is reported as not existing during verification, check the power source circuit and AVC-LAN circuit for the device.

NOTICE:

- **Before starting troubleshooting, be sure to clear DTCs to erase codes stored due to the reasons described in the HINT above. Then, check for DTCs and troubleshoot according to the output DTCs.**
- **The multi-display is the master unit.**
- **Be sure to clear and recheck DTCs after the inspection is completed to confirm that no DTCs are output.**

INSPECTION PROCEDURE

NOTICE:

Be sure to read DESCRIPTION before performing the following procedures.

1	**CHECK "MULTI-DISPLAY COMMUNICATION ERROR" IN FLOWCHART**

(a) Refer to the multi-display communication error (see page AV-167).

NEXT

END

DTC	01-D6	No Master

DTC	01-D7	Connection Check Error

DESCRIPTION

DTC No.	DTC Detection Condition	Trouble Area
01-D6 *1	When either of following conditions is met: • Device that stores (stored) code has (had) been disconnected when power switch is ON (ACC or IG) • Master device has (had) been disconnected when this code is stored	• Multi-display power source circuit • Power source circuit of component which has stored this code • AVC-LAN circuit between multi-display and component which has stored this code • Component which has stored this code • Multi-display
01-D7 *2	When either of following conditions is met: • Device that stored code has (had) been disconnected after hybrid system starts (started) • Master device has (had) been disconnected when this code is (was) stored	

HINT:
- *1: Even if no fault is present, this trouble code may be stored depending on the battery condition or hybrid system start voltage.
- *2: When 210 seconds have elapsed after disconnecting the power supply connector of the master component with the power switch ON (ACC or IG), this code is stored.

NOTICE:
- **Before starting troubleshooting, be sure to clear DTCs to erase codes stored due to the reasons described in the HINT above. Then, check for DTCs and troubleshoot according to the output DTCs.**
- **The multi-display is the master unit.**
- **Be sure to clear and recheck DTCs after the inspection is completed to confirm that no DTCs are output.**

INSPECTION PROCEDURE

NOTICE:
Be sure to read DESCRIPTION before performing the following procedures.

1	CHECK MULTI-DISPLAY POWER SOURCE CIRCUIT

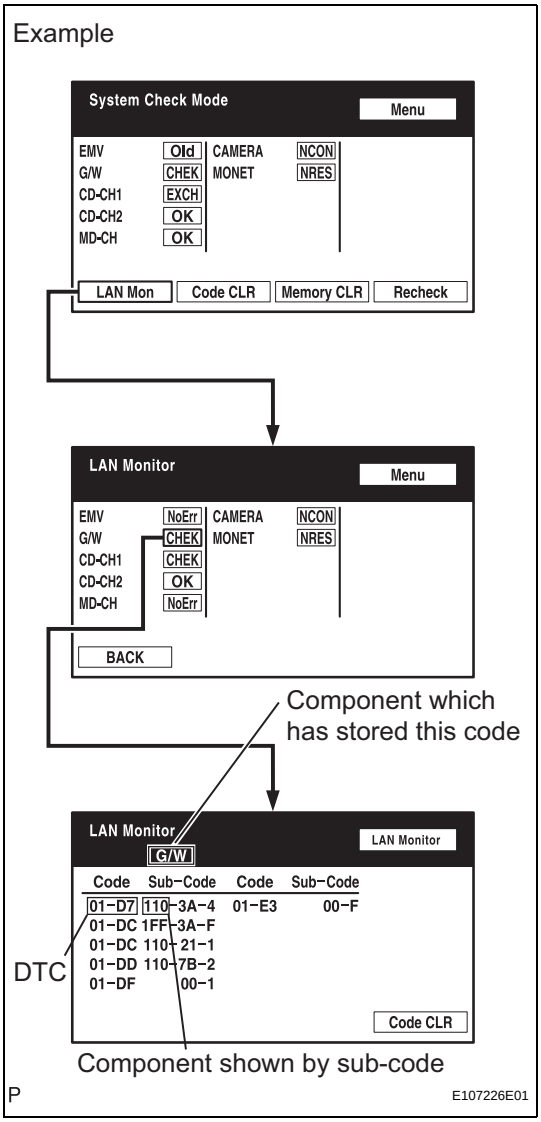
(a) Refer to the multi-display power source circuit (see page AV-175).

If the power source circuit is operating normally, proceed to the next step.

NEXT

AV

2 IDENTIFY COMPONENT WHICH HAS STORED THIS CODE



(a) Enter the diagnostic mode.
(b) Press the "LAN Mon" switch to change to "LAN Monitor" mode.
(c) Identify the component which has stored this code.

Component table:

Display	Component
G/W	Gateway ECU
DSP-AMP	Stereo component amplifier
AUDIO H/U	Radio receiver

HINT:
"G/W" is the component which has stored this code in the example shown in the illustration.

NEXT

3 CHECK POWER SOURCE CIRCUIT OF COMPONENT WHICH HAS STORED THIS CODE

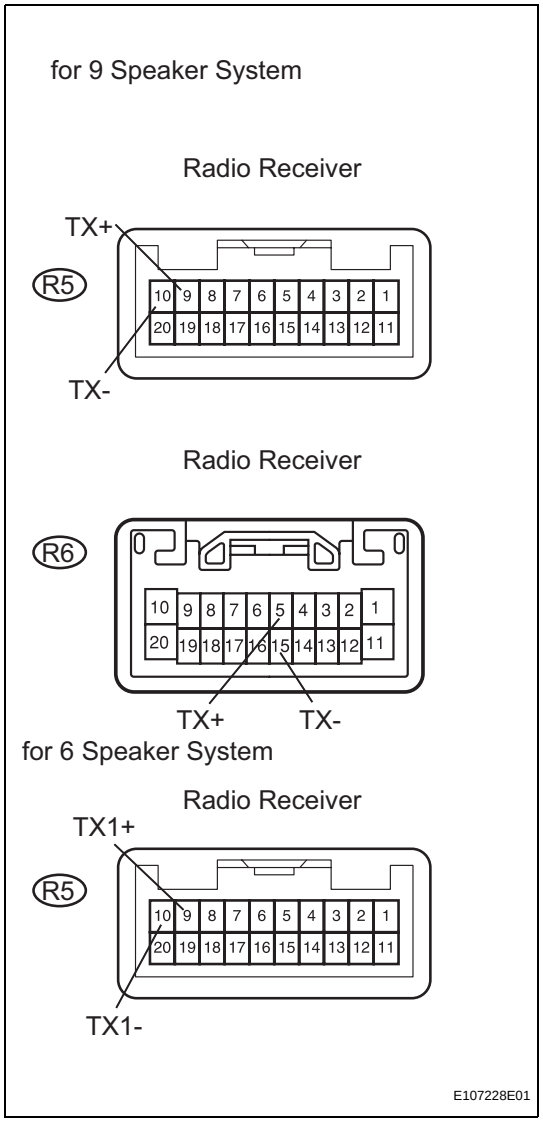
(a) Inspect the power source circuit of the component which has stored this code.
If the power source circuit is operating normally, proceed to the next step.

Component table:

Component	Proceed to
Gateway ECU (G//W)	Gateway ECU power source circuit (see page AV-177)
Stereo component amplifier (DSP-AMP)	Stereo component amplifier power source circuit (see page AV-173)
Radio receiver (AUDIO H/U)	Radio receive power source circuit (see page AV-171)

NEXT

4	INSPECT RADIO RECEIVER



(a) for 9 Speaker System:
Disconnect the R5 and R6 receiver connectors.

(b) for 6 Speaker System:
Disconnect the R5 receiver connector.

(c) Measure the resistance of the receiver.
Standard resistance

Tester Connection	Specified Condition
R5-9 (TX1+) - R5-10 (TX1-)*1	60 to 80 Ω
R5-9 (TX+) - R5-10 (TX-)*2	60 to 80 Ω
R6-5 (TX+) - R6-15 (TX-)*2	60 to 80 Ω

HINT:
- *1: for 6 speaker system
- *2: for 9 speaker system

NG → **REPLACE RADIO RECEIVER**

OK

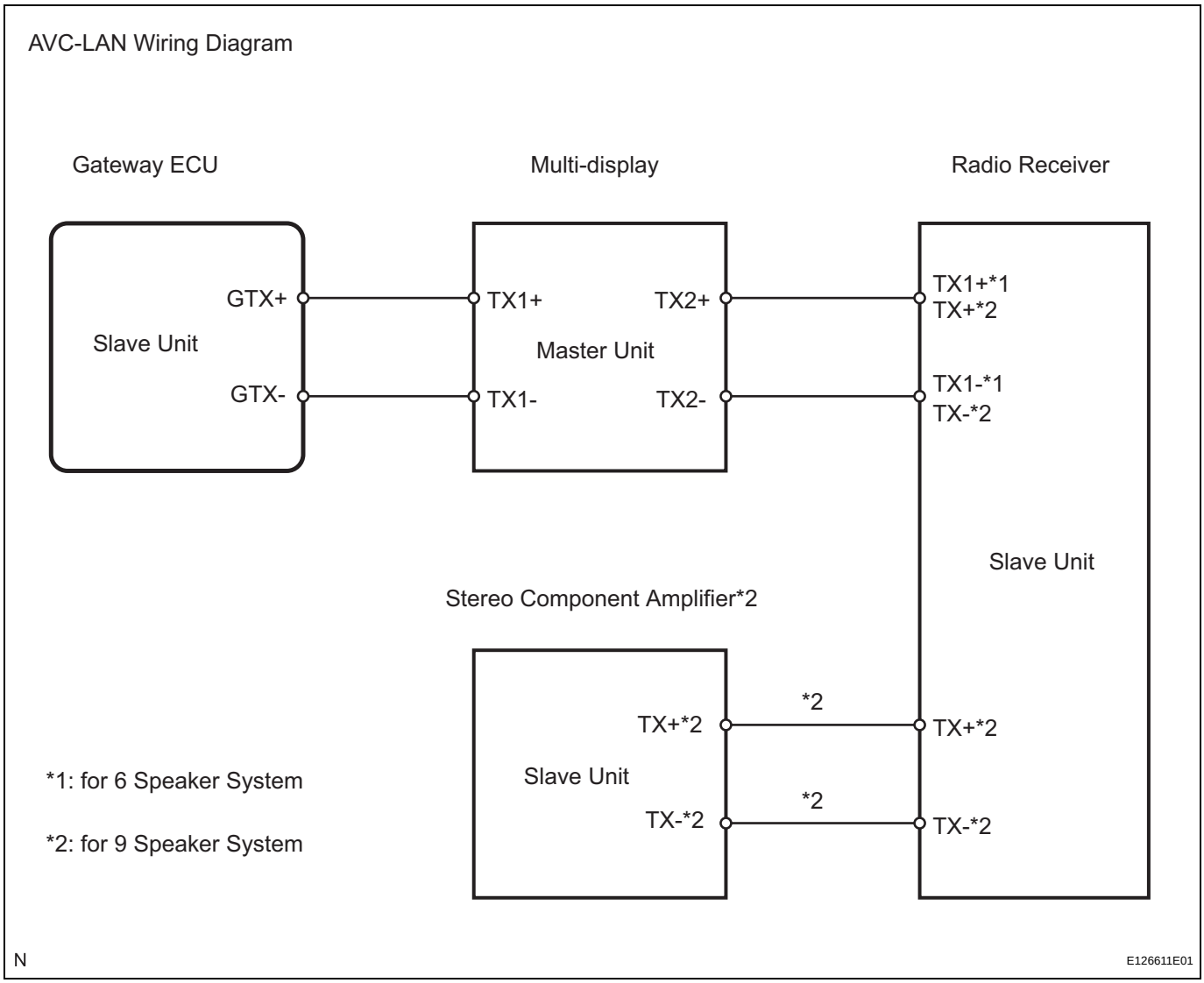
5	CHECK WIRE HARNESS (MULTI-DISPLAY - COMPONENT WHICH HAS STORED THIS CODE)

HINT:
For details of the connectors, refer to the "TERMINALS OF ECU" (see page AV-31).

(a) Referring to the AVC-LAN wiring diagram below, check the AVC-LAN circuit between the multi-display and the component which has stored this code.
  (1) Disconnect all connectors between the multi-display and the component which has stored this code.
  (2) Check for an open or short in the AVC-LAN circuit between the multi-display and the component which has stored this code.

AV

OK:
There is no open or short circuit.



AV

NG → **REPAIR OR REPLACE HARNESS AND CONNECTOR**

OK

6	REPLACE COMPONENT WHICH HAS STORED THIS CODE

(a) Replace the component which has stored this code with a normal one and check if the same problem occurs again.
OK:
Same problem does not occur.

NG → **REPLACE MULTI-DISPLAY**

OK

END

DTC 01-DC Transmission Error

DESCRIPTION

DTC No.	DTC Detection Condition	Trouble Area
01-DC	Transmission to component shown by sub-code is failed (Detecting this DTC does not always mean actual failure)	If same sub-code is recorded in other components, check harness for power supply and communication system of all components shown by code

NOTICE:
- **The multi-display is the master unit.**
- **Be sure to clear and recheck DTCs after the inspection is completed to confirm that no DTCs are output.**

INSPECTION PROCEDURE

NOTICE:
Be sure to read DESCRIPTION before performing the following procedures.

1 CHECK FOR DTC OF OTHER COMPONENTS

(a) Check if the component shown by the sub-code is displayed in the check result of the other components.
   (1) Check if "01-DC" is output for the other components.
   (2) If "01-DC" is output for any other components, check if the same physical address is displayed.

Result

Result	Proceed to
"01-DC" is output and same physical address is displayed	A
"01-DC" is not output or same physical address is not displayed	B

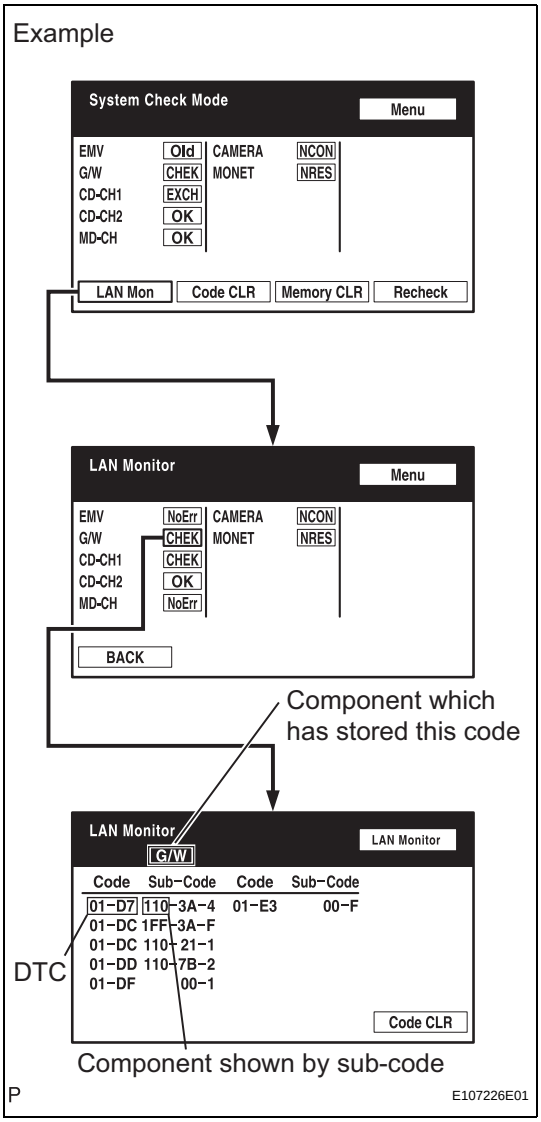
HINT:
For the list of the components shown by sub-codes, refer to the table in the step below.

B → **Go to step 4**

A

AV

2 IDENTIFY COMPONENT WHICH HAS STORED THIS CODE



(a) Enter the diagnostic mode.
(b) Press the "LAN Mon" switch to change to "LAN Monitor" mode.
(c) Identify the component which has stored this code.

Component table:

Display	Component
G/W	Gateway ECU
DSP-AMP	Stereo component amplifier
EMV	Multi-display
AUDIO H/U	Radio receiver

HINT:
"G/W" is the component which has stored this code in the example shown in the illustration.

NEXT

3 CHECK COMPONENT WHICH HAS STORED THIS CODE

(a) Select the component which has stored this code.

Component table:

Component	Proceed to
Gateway ECU (G/W)	Gateway ECU communication error (see page AV-155)
Stereo component amplifier (DSP-AMP)	Stereo component amplifier communication error (see page AV-163)
Multi-display (EMV)	Multi-display communication error (see page AV-167)
Radio receiver (AUDIO H/U)	Radio receiver communication error (see page AV-159)

NEXT

END

4	CLEAR DTC

(a) Clear the DTCs (see page AV-37).
HINT:
If "01-DC" is output for only one component, this may not indicate a malfunction.

NEXT

5	RECHECK DTC

(a) Recheck for DTCs and check if the same trouble code occurs again.
OK:
Malfunction disappears.

NG → **Go to step 3**

OK

END

DTC	01-DD	Master Reset

DTC	01-E1	Voice Processing Device ON Error

DESCRIPTION

DTC No.	DTC Detection Condition	Trouble Area
01-DD	Device that should be master has been disconnected after hybrid system start	• Multi-display power source circuit • AVC-LAN circuit between multi-display and component which has stored this code • Multi-display • Component which has stored this code
01-E1 *	AMP device records that AMP output does not function even while source device operates	

HINT:
*: Even if no fault is present, this trouble code may be stored depending on the battery condition or hybrid system start voltage.

NOTICE:

- **Before starting troubleshooting, be sure to clear DTCs to erase codes stored due to the reasons described in the HINT above. Then, check for DTCs and troubleshoot according to the output DTCs.**
- **The multi-display is the master unit.**
- **Be sure to clear and recheck DTCs after the inspection is completed to confirm that no DTCs are output.**

AV

INSPECTION PROCEDURE

NOTICE:

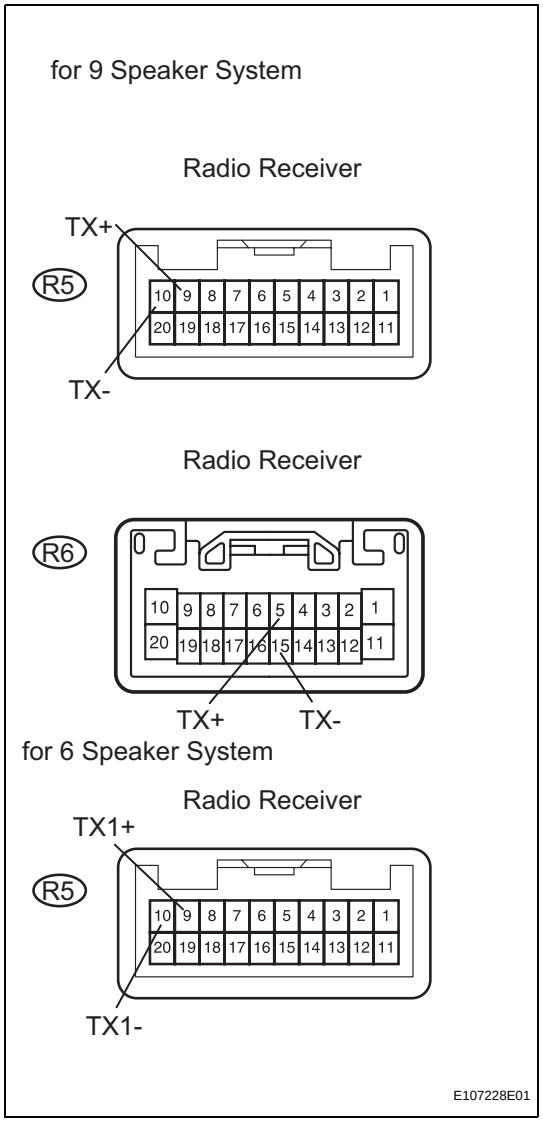
Be sure to read DESCRIPTION before performing the following procedures.

1	CHECK MULTI-DISPLAY POWER SOURCE CIRCUIT

(a) Refer to the multi-display power source circuit (see page AV-175).
If the power source circuit is operating normally, proceed to the next step.

NEXT

2	**INSPECT RADIO RECEIVER**



(a) for 9 Speaker System:
Disconnect the R5 and R6 receiver connectors.

(b) for 6 Speaker System:
Disconnect the R5 receiver connector.

(c) Measure the resistance of the receiver.
Standard resistance

Tester Connection	Specified Condition
R5-9 (TX1+) - R5-10 (TX1-)*1	**60 to 80 Ω**
R5-9 (TX+) - R5-10 (TX-)*2	**60 to 80 Ω**
R6-5 (TX+) - R6-15 (TX-)*2	**60 to 80 Ω**

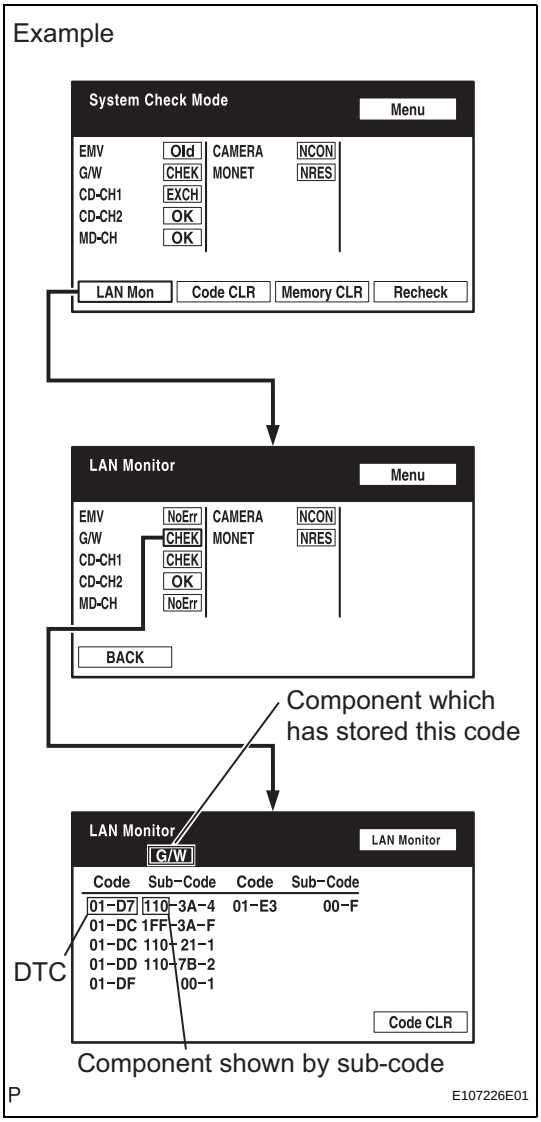
HINT:
- *1: for 6 speaker system
- *2: for 9 speaker system

NG → **REPLACE RADIO RECEIVER**

OK

AV

3 IDENTIFY COMPONENT WHICH HAS STORED THIS CODE



(a) Enter the diagnostic mode.
(b) Press the "LAN Mon" switch to change to "LAN Monitor" Mode.
(c) Identify the component which has stored this code.

Component table

Display	Component
G/W	Gateway ECU
DSP-AMP	Stereo component amplifier
AUDIO H/U	Radio Receiver

HINT:
"G/W" is the component which has stored this code in the example shown in the illustration.

NEXT

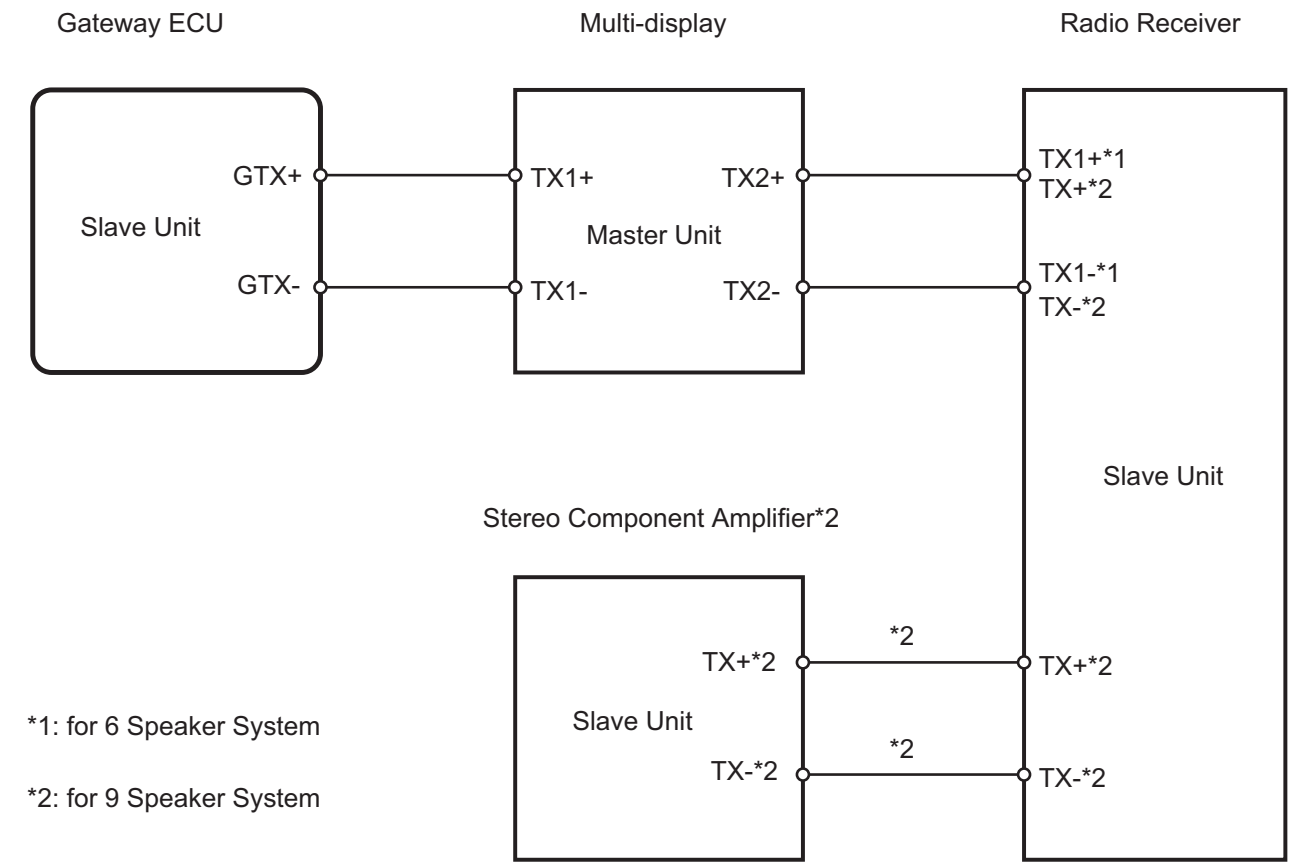
4 CHECK WIRE HARNESS (MULTI-DISPLAY - COMPONENT WHICH HAS STORED THIS CODE)

HINT:
For details of the connectors, refer to the "TERMINALS OF ECU" (see page AV-31).

(a) Referring to the AVC-LAN wiring diagram below, check the AVC-LAN circuit between the multi-display and the component which has stored this code.
  (1) Disconnect all connectors between the multi-display and the component which has stored this code.
  (2) Check for an open or short in the AVC-LAN circuit between the multi-display and the component which has stored this code.

OK:
There is no open or short circuit.

AVC-LAN Wiring Diagram



N E126611E01

AV

NG → **REPAIR OR REPLACE HARNESS AND CONNECTOR**

OK

5	REPLACE MULTI-DISPLAY

(a) Replace the multi-display with a normal one and check if the same problem occurs again.
OK:
Same problem does not occur.

NG → **REPLACE COMPONENT WHICH HAS STORED THIS CODE**

OK

END

DTC	01-DF	Master Error

DESCRIPTION

DTC No.	DTC Detection Condition	Trouble Area
01-DF *	Device with display fails and master is switched to audio device. Also when communication error between sub-master (audio) and master occurs, this code is stored.	• Multi-display power source circuit • AVC-LAN circuit between multi-display and component which has stored this code • Multi-display • Component which has stored this code

HINT:
*: When 210 seconds have elapsed after disconnecting the power supply connector of the master component with the power switch ON (ACC or IG), this code is stored.
NOTICE:
- **Before starting troubleshooting, be sure to clear DTCs to erase codes stored due to the reasons described in the HINT above. Then, check for DTCs and troubleshoot according to the output DTCs.**
- **The multi-display is the master unit.**
- **Be sure to clear and recheck DTCs after the inspection is completed to confirm that no DTCs are output.**

AV

INSPECTION PROCEDURE

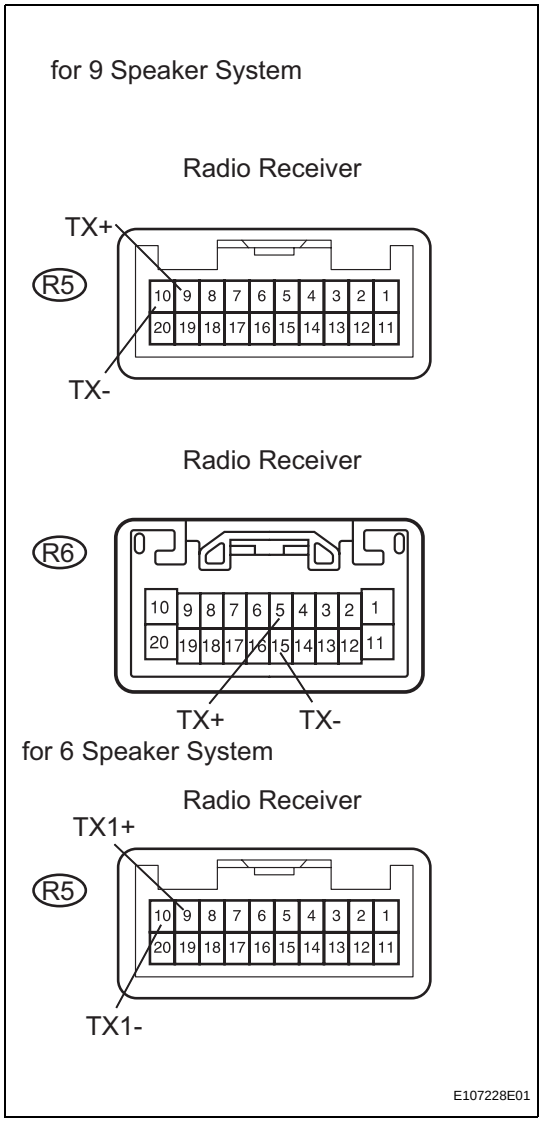
NOTICE:
Be sure to read DESCRIPTION before performing the following procedures.

1	CHECK MULTI-DISPLAY POWER SOURCE CIRCUIT

(a) Refer to the multi-display power source circuit (see page AV-175).
If the power source circuit is operating normally, proceed to the next step.

NEXT

2	**INSPECT RADIO RECEIVER**



(a) for 9 Speaker System:
Disconnect the R5 and R6 receiver connectors.

(b) for 6 Speaker System:
Disconnect the R5 receiver connector.

(c) Measure the resistance of the receiver.
Standard resistance

Tester Connection	Specified Condition
R5-9 (TX1+) - R5-10 (TX1-)*1	**60 to 80 Ω**
R5-9 (TX+) - R5-10 (TX-)*2	**60 to 80 Ω**
R6-5 (TX+) - R6-15 (TX-)*2	**60 to 80 Ω**

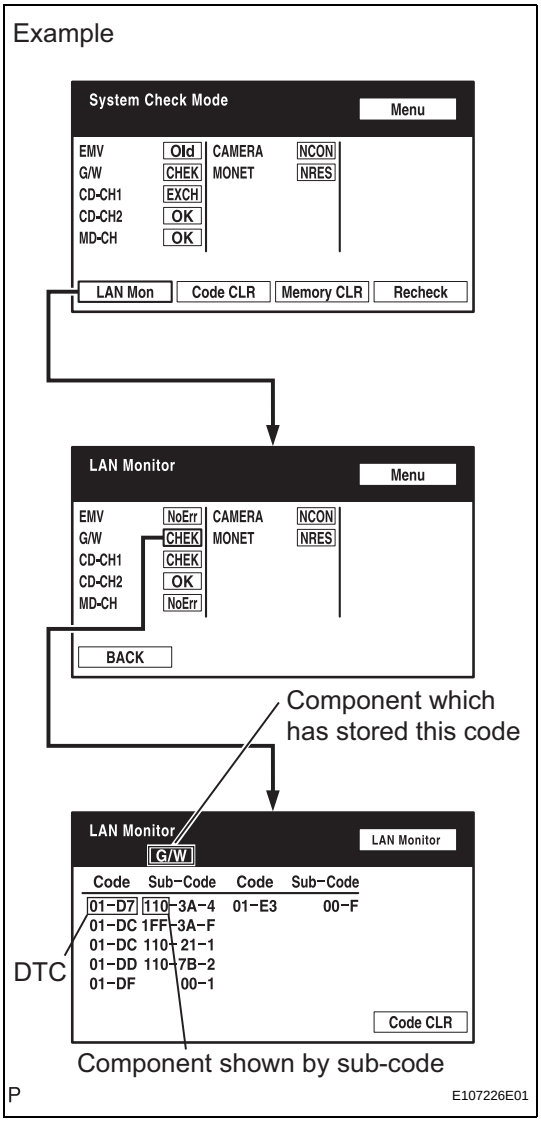
HINT:
- *1: for 6 speaker system
- *2: for 9 speaker system

NG → **REPLACE RADIO RECEIVER**

OK

AV

3 IDENTIFY COMPONENT WHICH HAS STORED THIS CODE



(a) Enter the diagnostic mode.
(b) Press the "LAN Mon" switch to change to "LAN Monitor" mode.
(c) Identify the component which has stored this code.

Component table:

Display	Component
G/W	Gateway ECU
DSP-AMP	Stereo component amplifier
AUDIO H/U	Radio Receiver

HINT:
"G/W" is the component which has stored this code in the example shown in the illustration.

NEXT

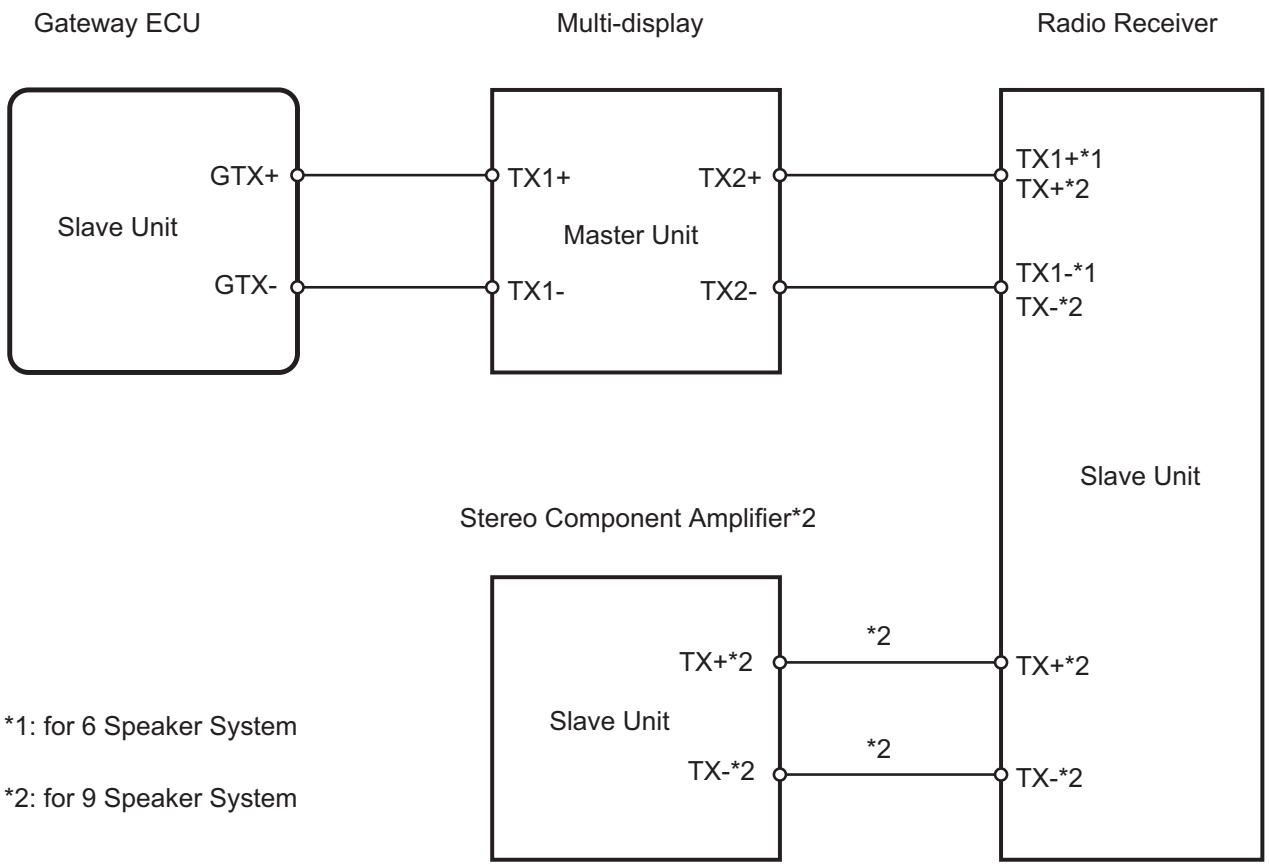
4 CHECK WIRE HARNESS (MULTI-DISPLAY - COMPONENT WHICH HAS STORED THIS CODE)

HINT:
For details of the connectors, refer to the "TERMINALS OF ECU" (see page AV-31).

(a) Referring to the AVC-LAN wiring diagram below, check the AVC-LAN circuit between the multi-display and the component which has stored this code.
  (1) Disconnect all connectors between the multi-display and the component which has stored this code.
  (2) Check for an open or short in the AVC-LAN circuit between the multi-display and the component which has stored this code.

OK:
There is no open or short circuit.

AVC-LAN Wiring Diagram



AV

NG → **REPAIR OR REPLACE HARNESS AND CONNECTOR**

OK

5	**REPLACE MULTI-DISPLAY**

(a) Replace the multi-display with a normal one and check if the same problem occurs again.
OK:
Same problem does not occur.

NG → **REPLACE COMPONENT WHICH HAS STORED THIS CODE**

OK

END

DTC	01-E0	Registration Complete Indication Error

DTC	01-E3	Registration Demand Transmission

DTC	01-E4	Multiple Frame Incomplete

DESCRIPTION

DTC No.	DTC Detection Condition	Trouble Area
01-E0	"Registration complete" signal from master device cannot be received.	-
01-E3	Registration demand signal from slave device is output. Or registration demand signal is output by receiving connection confirmation signal from sub-master device.	-
01-E4	Multiple frame transmission is incomplete.	-

HINT:
Even if no fault is present, these trouble codes may be stored depending on the battery condition or hybrid system start voltage.

INSPECTION PROCEDURE

HINT:
After the inspection is completed, clear the DTCs. These DTCs do not indicate a malfunction.

DTC	01-E2	ON / OFF Indication Parameter Error

DESCRIPTION

DTC No.	DTC Detection Condition	Trouble Area
01-E2	Command for ON / OFF control from master device has problem.	Multi-display

INSPECTION PROCEDURE

HINT:
After the inspection is completed, clear the DTCs.

1	REPLACE MULTI-DISPLAY

NEXT

END

DTC	57-47	Bluetooth Module Initialization Failed

DESCRIPTION

DTC No.	DTC Detection Condition	Trouble Area
57-47	When one of following conditions is met: • Bluetooth module is not installed • Problem with Bluetooth module • Problem in communication line to Bluetooth module	Multi-display

INSPECTION PROCEDURE

HINT:
After the inspection is completed, clear the DTCs.

1	REPLACE MULTI-DISPLAY

NEXT

END

DTC	60-10	AM Tuner PLL does not Lock Error

DTC	60-11	FM Tuner PLL does not Lock Error

DESCRIPTION

DTC No.	DTC Detection Condition	Trouble Area
60-10	AM tuner PLL (phase locked loop) synchronization is impossible.	Radio receiver
60-11	FM tuner PLL (phase locked loop) synchronization is impossible.	

INSPECTION PROCEDURE

HINT:
After the inspection is completed, clear the DTCs.

1	REPLACE RADIO RECEIVER

NEXT

AV

END

DTC	60-42	Tuner Power Source Error

DTC	60-43	AM Tuner Error

DTC	60-44	FM Tuner Error

DTC	60-50	Malfunction in Internal IC

DESCRIPTION

DTC No.	DTC Detection Condition	Trouble Area
60-42	Power source of tuner is abnormal.	Radio receiver
60-43	AM tuner is abnormal.	
60-44	FM tuner is abnormal.	
60-50	Problem occurs in IC inside tuner unit and radio reception is not normal.	

INSPECTION PROCEDURE

AV

HINT:
After the inspection is completed, clear the DTCs.

1	CLEAR DTC

(a) Clear the DTCs (see page AV-37).

NEXT

2	RECHECK DTC

(a) Recheck for DTCs and check if the same trouble occurs again.
HINT:
If DTCs are detected frequently, replace the radio receiver.
OK:
Malfunction disappears.

NG → **REPLACE RADIO RECEIVER**

OK

END

DTC	**62-10**	**CD Player Mechanical Error**
DTC	**62-11**	**CD Insertion and Eject Error**
DTC	**62-12**	**CD Reading Abnormal**
DTC	**63-10**	**CD Changer Mechanical Error**
DTC	**63-11**	**CD Insertion and Eject Error**
DTC	**63-12**	**CD Reading Abnormal**

DESCRIPTION

DTC No.	DTC Detection Condition	Trouble Area
62-10	Mechanical error in CD player is detected while CD is not being inserted or ejected.	Radio receiver
62-11	CD insertion or ejection is failed.	
62-12	CD read problem occurs.	
63-10	Mechanical error in CD changer is detected while CD is not being inserted or ejected.	
63-11	CD insertion or ejection is failed.	
63-12	CD read problem occurs.	

AV

INSPECTION PROCEDURE

HINT:
After the inspection is completed, clear the DTCs.

1	**REPLACE RADIO RECEIVER**

NEXT

END

DTC	62-40	No Disc

DTC	63-40	No Disc

DESCRIPTION

DTC No.	DTC Detection Condition	Trouble Area
62-40	No disc is inserted.	Radio receiver
63-40	No disc is inserted.	

INSPECTION PROCEDURE

HINT:
After the inspection is completed, clear the DTCs.

1	CHECK RADIO RECEIVER

(a) Check if a disc is inserted.
OK:
A disc is inserted.

AV

OK → **REPLACE RADIO RECEIVER**

NG

END

DTC	62-41	Wrong Disc

DTC	62-42	Disc cannot be Read

DTC	63-41	Wrong Disc

DTC	63-42	Disc cannot be Read

DESCRIPTION

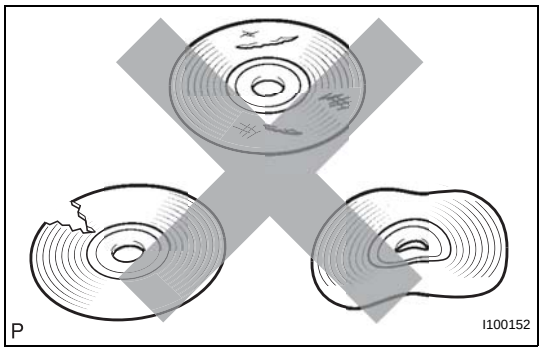
DTC No.	DTC Detection Condition	Trouble Area
62-41	Unsuitable disc is inserted.	• CD • Radio receiver
62-42	The disc cannot be read.	
63-41	Unsuitable disc is inserted.	
63-42	The disc cannot be read.	

INSPECTION PROCEDURE

HINT:
After the inspection is completed, clear the DTCs.

AV

1	CHECK DISC

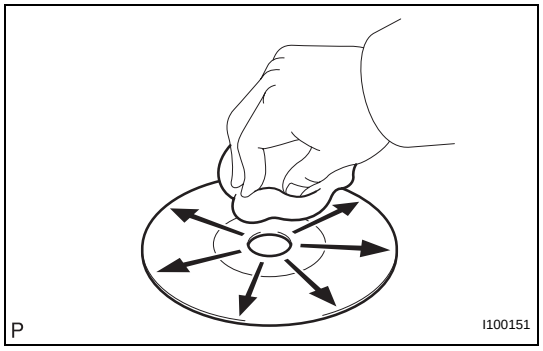


(a) Check that the disc is not deformed or cracked.
OK:
No deformation or cracks on the disc.

NG → **CHANGE DISC**

OK

2	CLEAN DISC



(a) If dirt is on the disc surface, wipe it clean with a soft cloth from the inside to the outside in a radial direction.
NOTICE:
Do not use a conventional record cleaner or anti-static preservative.

NEXT

3	CLEAR DTC

(a) Clear the DTCs (see page AV-37).

NEXT

4	RECHECK DTC

(a) Recheck for DTCs and check if the same trouble occurs again.
OK:
Malfunction disappears.

OK → **END**

NG

5	REPLACE DISC

(a) Replace the disc with another and recheck.
(1) Replace the disc with a normal one.
(2) Clear the DTCs (see page AV-37).
(3) Recheck for DTCs and check if the same trouble occurs again.
OK:
Malfunction disappears.

NG → **REPLACE RADIO RECEIVER**

OK

END

AV

DTC	62-43	CD-ROM Abnormal

DTC	63-43	CD-ROM Abnormal

DESCRIPTION

DTC No.	DTC Detection Condition	Trouble Area
62-43	CD-ROM operation is abnormal	• CD • Radio receiver
63-43	CD-ROM operation is abnormal	

INSPECTION PROCEDURE

HINT:
After the inspection is completed, clear the DTCs.

1	CHECK IF A PROPER CD IS INSERTED

(a) Make sure that the CD is an audio CD or a CD with an MP3 or WMA file, and that it is not deformed, flawed, stained, burred, or otherwise defective.
OK:
Normal CD
HINT:
- Translucent or uniquely-shaped CDs cannot be played.
- CDs with adhesive paper labels should not be played.
- Commercial audio CDs can be played.
- CD-DA files on CD-ROMs, CD-Rs, and CD-RWs can be played.
- MP3 and WMA files on CD-ROMs, CD-Rs, and CD-RWs can be played.
- For details on playable CDs, refer to the Owner's Manual.

NG → **CD IS FAULTY**

OK

2	REPLACE CD

(a) Replace the CD with another and recheck.
(1) Replace the CD with a normal one.
(2) Clear the DTCs (see page AV-37).
(3) Recheck for DTCs and check if the same trouble occurs again.
OK:
Malfunction disappears.

NG → **REPLACE RADIO RECEIVER**

AV

OK

END

DTC	62-44	CD Abnormal

DTC	62-48	Excess Current

DTC	62-50	Tray Insertion / Ejection Error

DTC	63-44	CD Abnormal

DTC	63-48	Excess Current

DTC	63-50	Tray Insertion / Ejection Error

DESCRIPTION

DTC No.	DTC Detection Condition	Trouble Area
62-44	Operation error in CD mechanism	Radio receiver
62-48	Excess current is present in CD player	
62-50	Malfunction in insertion / ejection system	
63-44	Operation error in CD mechanism	
63-48	Excess current is present in CD changer	
63-50	Malfunction in insertion / ejection system	

AV

INSPECTION PROCEDURE

HINT:
After the inspection is completed, clear the DTCs.

1	CLEAR DTC

(a) Clear the DTC (see page AV-37).

NEXT

2	RECHECK DTC

(a) Recheck DTCs and check if the same trouble occurs again.
HINT:
If DTCs are detected frequently, replace the radio receiver.
OK:
Malfunction disappears.

NG → **REPLACE RADIO RECEIVER**

OK

END

DTC	62-45	Eject Error

DTC	62-51	Elevator Error

DTC	62-52	Clamp Error

DTC	63-45	Eject Error

DTC	63-51	Elevator Error

DTC	63-52	Clamp Error

DESCRIPTION

DTC No.	DTC Detection Condition	Trouble Area
62-45	Disc cannot be ejected.	Radio receiver
62-51	Mechanical error occurs during elevator operation.	
62-52	Error occurs in CD player clamp.	
63-45	Magazine cannot be ejected.	
63-51	Mechanical error occurs during elevator operation.	
63-52	Error occurs in CD changer clamp.	

AV

INSPECTION PROCEDURE

HINT:
After the inspection is completed, clear the DTCs.

1	CHECK RADIO RECEIVER

(a) Check if a disc can be changed, inserted or ejected normally.
OK:
Malfunction disappears.

NG → **REPLACE RADIO RECEIVER**

OK

END

DTC	62-46	Scratched / Reversed Disc

DTC	63-46	Scratched / Reversed Disc

DESCRIPTION

DTC No.	DTC Detection Condition	Trouble Area
62-46	Scratches or dirt is found on CD surface or CD is inserted upside down.	• CD • Radio receiver
63-46	Scratches or dirt is found on CD surface or CD is inserted upside down.	

INSPECTION PROCEDURE

HINT:
After the inspection is completed, clear the DTCs.

1	CHECK THAT CD IS INSERTED PROPERLY

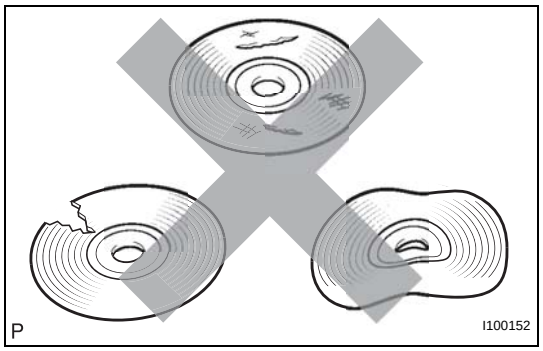
(a) Check that the CD is not inserted upside down.
OK:
CD is properly inserted.

AV

NG → **INSERT CD PROPERLY**

OK

2	CHECK DISC

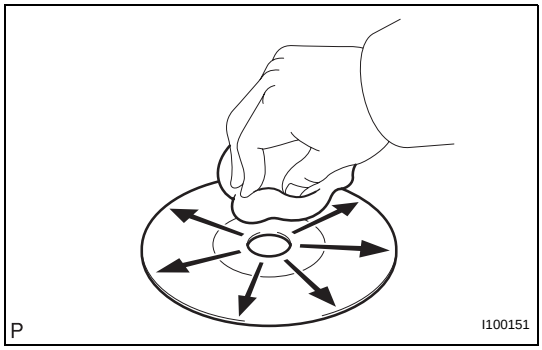


(a) Check that the disc is not deformed or cracked.
OK:
No deformation or cracks on the disc.

NG → **REPLACE DISC**

OK

3	CLEAN DISC



(a) If dirt is on the disc surface, wipe it clean with a soft cloth from the inside to the outside in a radial direction.
NOTICE:
Do not use a conventional record cleaner or anti-static preservative.

NEXT

4	CLEAR DISC

(a) Clear the DTCs (see page AV-37).

NEXT

5	RECHECK DTC

(a) Recheck for DTCs and check if the same trouble occurs again.
OK:
Malfunction disappears.

OK → END

NG

6	REPLACE DISC

(a) Replace the disc with another and recheck.
(1) Replace the disc with a normal one.
(2) Clear the DTCs (see page AV-37).
(3) Recheck for DTCs and check if the same trouble occurs again.
OK:
Malfunction disappears.

NG → REPLACE RADIO RECEIVER

OK

END

DTC	62-47	High Temperature

DTC	63-47	High Temperature

DESCRIPTION

DTC No.	DTC Detection Condition	Trouble Area
62-47	Sensor detects that CD unit temperature is high (Over 80°C (176.0°F))	Radio receiver
63-47	Sensor detects that CD unit temperature is high (Over 80°C (176.0°F))	

INSPECTION PROCEDURE

HINT:
After the inspection is completed, clear DTCs.

1	CHECK RADIO RECEIVER

(a) Park the vehicle in a cool place.
(b) Check that the temperature of the radio receiver becomes sufficiently low, then start the hybrid system.
(c) Clear DTC and recheck.
(d) Check if DTC 62-47 or 63-47 is output.
OK:
DTC 62-47 or 63-47 is not output.

NG → **REPLACE RADIO RECEIVER**

OK

END

AV

DTC	62-78	DSP Error

DTC	63-78	DSP Error

DESCRIPTION

DTC No.	DTC Detection Condition	Trouble Area
62-78	Error occurs during the decode process (MP3/WMA)	Radio receiver
63-78	Error occurs during the decode process (MP3/WMA)	

INSPECTION PROCEDURE

HINT:
After the inspection is completed, clear the DTCs.
NOTICE:
- **This code may be output even if there is no malfunction.**
- **If this code is output frequently, replace the radio receiver.**

1	CLEAR DTC

(a) Clear the DTCs (see page AV-37).

NEXT

2	RECHECK DTC

(a) Recheck for DTCs and check if the same trouble code occurs again.
OK:
Malfunction disappears.

NG → **REPLACE RADIO RECEIVER**

OK

END

DTC	62-7D	Disc cannot be Played

DTC	62-7E	No Playable Files

DTC	62-7F	Copyright Protection Error

DTC	63-7D	Disc cannot be Played

DTC	63-7E	No Playable Files

DTC	63-7F	Copyright Protection Error

DESCRIPTION

DTC No.	DTC Detection Condition	Trouble Area
62-7D	When either condition below is met: • Incompatible MP3/WMA file is used. • Although the file has an extension of ".mp3" or ".wma", the header information cannot be read.	• CD • Radio receiver
62-7E	When either condition below is met: • Disc with no music data is used. • Playable files are not on the disc (MP3/WMA).	
62-7F	A copy-protected file, which cannot be played, is used.	
63-7D	When either condition below is met: • Incompatible MP3/WMA file is used. • Although file has an extension of ".mp3" or ".wma", the header information cannot be read.	
63-7E	When either condition below is met: • Disc with no music data is used. • Playable files are not on the disc (MP3/WMA).	
63-7F	A copy-protected file, which cannot be played, is used.	

AV

INSPECTION PROCEDURE

HINT:
After the inspection is completed, clear the DTCs.

1	CHANGE DISC

(a) Insert a disc with a playable file and check if the disc can be played correctly.
HINT:
For details on playable files and discs, refer to the Owner's Manual.
OK:
The disc can be played correctly.

NG → **REPLACE RADIO RECEIVER**

OK

DISC IS FAULTY

DTC	74-40	Short in Speaker Circuit

DESCRIPTION

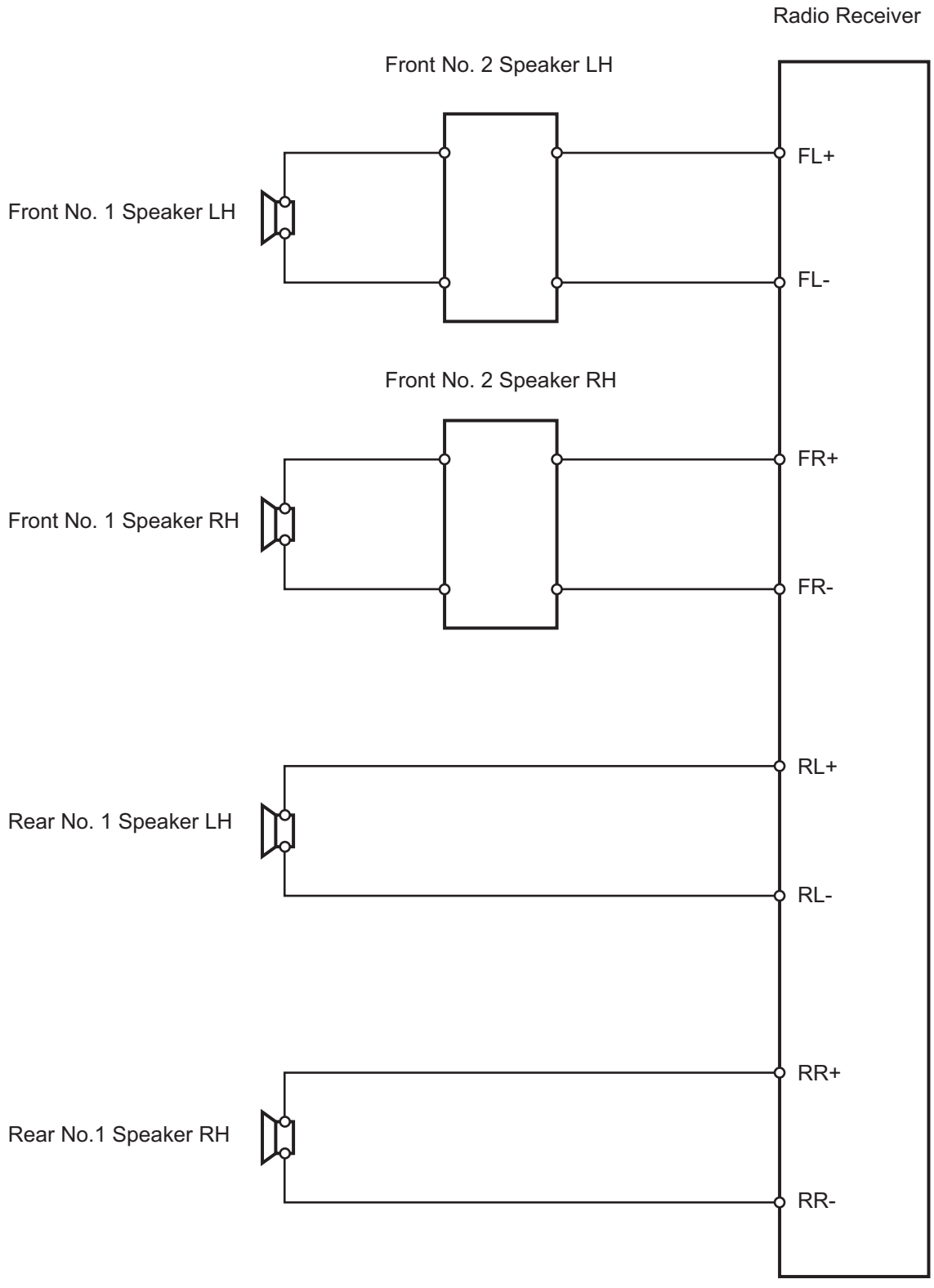
DTC No.	DTC Detection Condition	Trouble Area
74-40	Short is detected in speaker output circuit.	• Wire harness • Speaker • Stereo component amplifier

This circuit has a fail-safe function.

- When a short in the speaker circuit is detected, all sound outputs are stopped.

WIRING DIAGRAM

for 6 Speaker System



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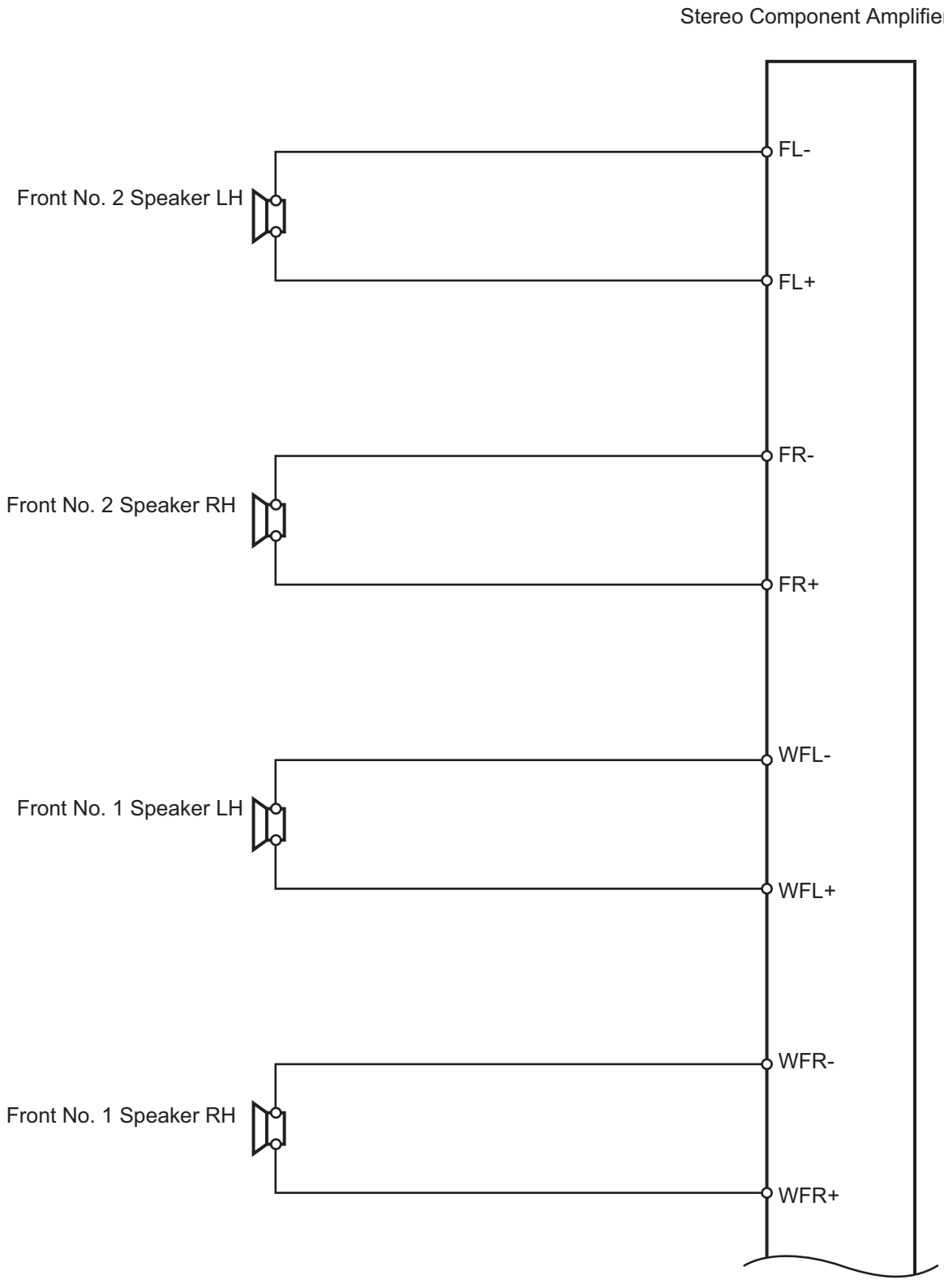
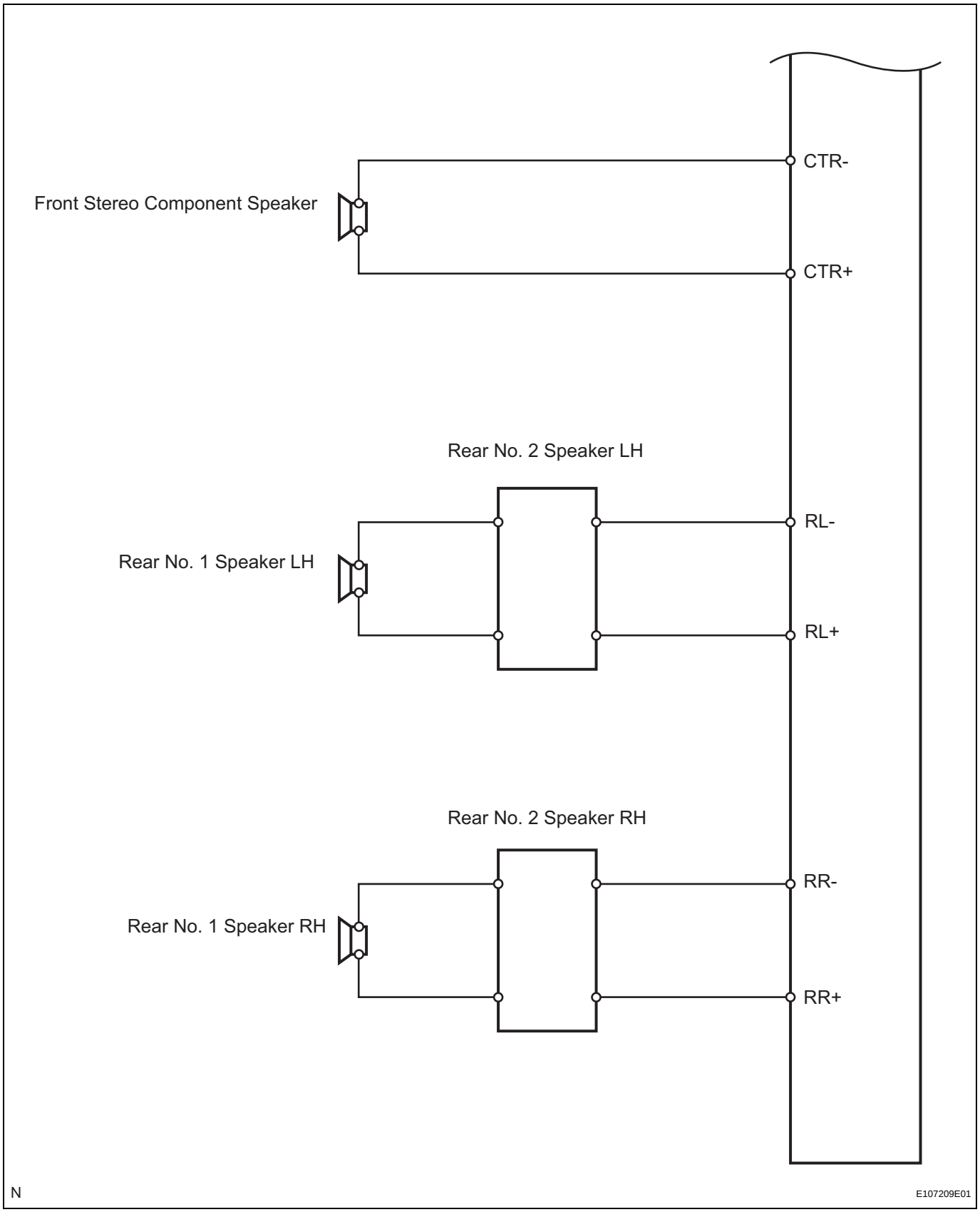
for 9 Speaker System





INSPECTION PROCEDURE

HINT:

After the inspection is completed, clear the DTCs.

1	CHECK VEHICLE EQUIPMENT

Vehicle equipment

Vehicle equipment	Proceed to
6 speaker system	A
9 speaker system	B

B → Go to step 9

A

2	INSPECT RADIO RECEIVER

(a) Disconnect the R3 and R4 receiver connectors.
(b) Clear DTC and recheck.
(c) Check if DTC 74-40 is output.
OK:
DTC 74-40 is not output.

NG → REPLACE RADIO RECEIVER

OK

3	CHECK OPERATION

(a) Reconnect the R3 and R4 receiver connectors.
(b) Check if DTC 74-40 is output.
OK:
DTC 74-40 is not output.

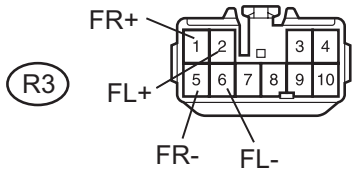
OK → END

NG

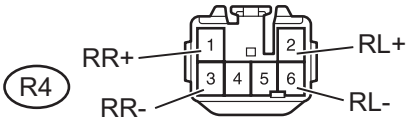
4 CHECK WIRE HARNESS (RADIO RECEIVER - SPEAKER)

Wire Harness Side

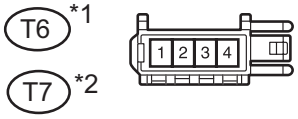
Radio Receiver



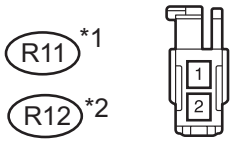
Radio Receiver



Front No. 2 Speaker LH*1, RH*2



Rear No. 1 Speaker LH*1, RH*2



*1: for LH

*2: for RH

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(a) Disconnect the R3 and R4 receiver connectors.
(b) Disconnect the T6, T7, R11 and R12 speaker connectors.
(c) Measure the resistance of the wire harness side connectors.

Standard resistance

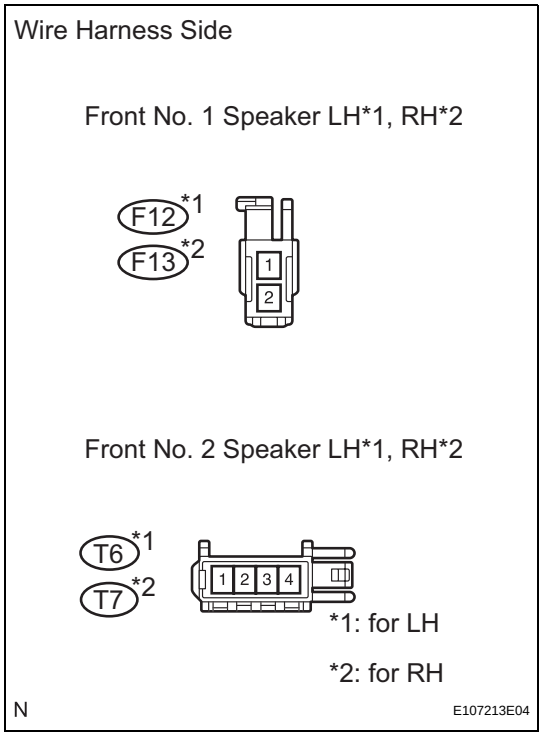
Tester Connection	Specified Condition
R3-2 (FL+) - T6-4	Below 1 Ω
R3-6 (FL-) - T6-2	Below 1 Ω
R3-1 (FR+) - T7-4	Below 1 Ω
R3-5 (FR-) - T7-2	Below 1 Ω
R4-2 (RL+) - R11-1	Below 1 Ω
R4-6 (RL-) - R11-2	Below 1 Ω
R4-1 (RR+) - R12-1	Below 1 Ω
R4-3 (RR-) - R12-2	Below 1 Ω

NG → **REPAIR OR REPLACE HARNESS AND CONNECTOR**

OK

AV

5 CHECK WIRE HARNESS (FRONT NO. 1 SPEAKER - FRONT NO. 2 SPEAKER)



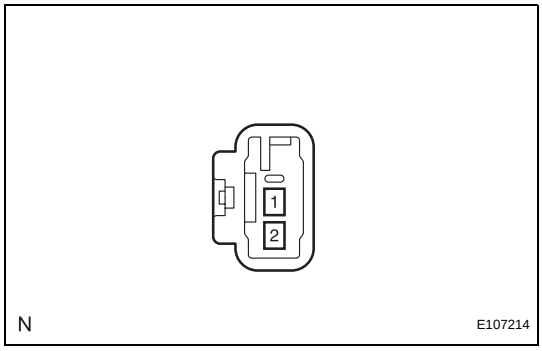
(a) Disconnect the F12, F13, T6 and T7 speaker connectors.
(b) Measure the resistance of the wire harness side connectors.
Standard resistance

Tester Connection	Specified Condition
F12-1 - T6-3	Below 1 Ω
F12-2 - T6-1	Below 1 Ω
F13-1 - T7-3	Below 1 Ω
F13-2 - T7-1	Below 1 Ω

NG → **REPAIR OR REPLACE HARNESS AND CONNECTOR**

OK

6 INSPECT FRONT NO. 1 SPEAKER



(a) Disconnect the F12 and F13 speaker connectors.
(b) Measure the resistance of the speaker.
Standard resistance

Tester Connection	Specified Condition
1 - 2	Approximately 4 Ω

NG → **REPLACE FRONT NO. 1 SPEAKER**

OK

7 INSPECT FRONT NO. 2 SPEAKER

(a) Check that the malfunction disappears when the speaker is replaced with a normal one.
OK:
Malfunction disappears.
HINT:
- Connect all the connectors to the front No. 2 speakers.

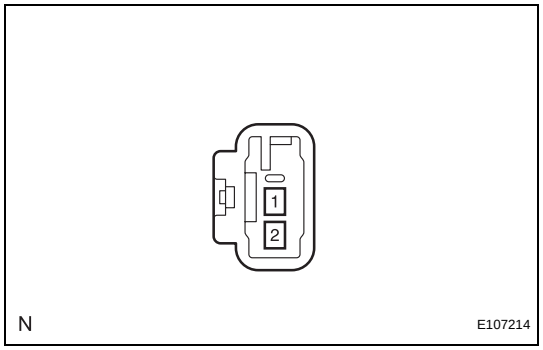
AV

- When there is a possibility that either the right or left front speaker is defective, inspect by interchanging the right one with the left one.
- Perform the inspection above on both LH and RH sides.

NG → **REPLACE FRONT NO. 2 SPEAKER**

OK

8 INSPECT REAR NO. 1 SPEAKER



(a) Disconnect the R11 and R12 speaker connectors.
(b) Measure the resistance of the speaker.
Standard resistance

Tester Connection	Specified Condition
1 - 2	Approximately 4 Ω

NG → **REPLACE REAR NO. 1 SPEAKER**

OK

REPLACE RADIO RECEIVER

9 INSPECT STEREO COMPONENT AMPLIFIER

(a) Disconnect the S14 and S29 amplifier connectors.
(b) Clear DTC and recheck.
(c) Check if DTC 70-40 is output.
OK:
DTC 74-40 is not output.

NG → **REPLACE STEREO COMPONENT AMPLIFIER**

OK

10 CHECK OPERATION

(a) Reconnect the S14 and S29 amplifier connectors.
(b) Check that audio can be heard from the speaker.
OK:
Audio can be heard.

OK → **END**

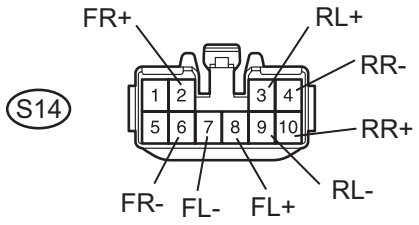
NG

AV

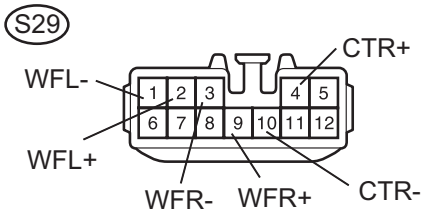
11	CHECK WIRE HARNESS (STEREO COMPONENT AMPLIFIER - SPEAKER)

Wire Harness Side

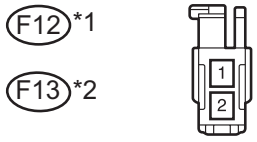
Stereo Component Amplifier



Stereo Component Amplifier

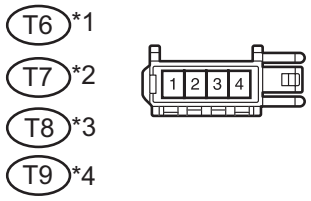


Front No. 1 Speaker LH*1, RH*2



Front No. 2 Speaker LH*1, RH*2

Rear No. 2 Speaker LH*3, RH*4



Front Stereo Component Speaker

N

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(a) Disconnect the S14 and S29 amplifier connectors.
(b) Disconnect the C8, F12, F13, T6, T7, T8 and T9 speaker connectors.
(c) Measure the resistance of the wire harness side connectors.

Standard resistance

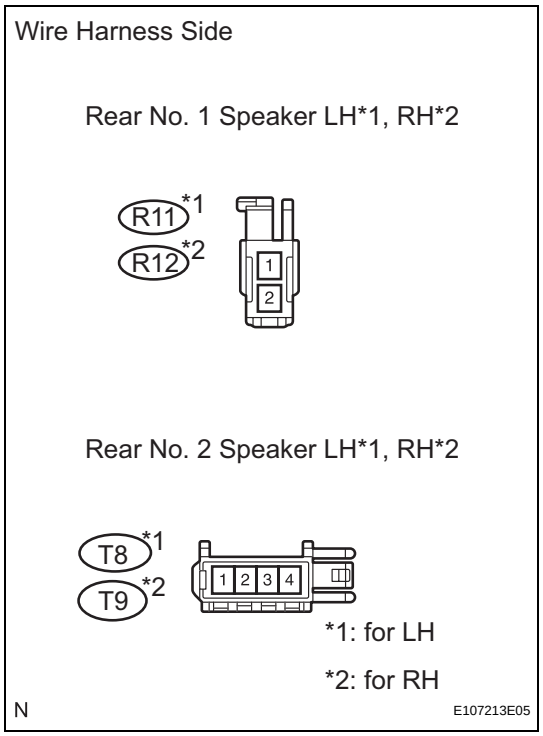
Tester Connection	Specified Condition
S29-2 (WFL+) - F12-1	Below 1 Ω
S29-1 (WFL-) - F12-2	Below 1 Ω
S29-9 (WFR+) - F13-1	Below 1 Ω
S29-3 (WFR-) - F13-2	Below 1 Ω
S14-8 (FL+) - T6-4	Below 1 Ω
S14-7 (FL-) - T6-2	Below 1 Ω
S14-2 (FR+) - T7-4	Below 1 Ω
S14-6 (FR-) - T7-2	Below 1 Ω
S14-3 (RL+) - T8-4	Below 1 Ω
S14-9 (RL-) - T8-2	Below 1 Ω
S14-10 (RR+) - T9-4	Below 1 Ω
S14-4 (RR-) - T9-2	Below 1 Ω
S29-4 (CTR+) - C8-2	Below 1 Ω
S29-10 (CTR-) - C8-1	Below 1 Ω

NG → **REPAIR OR REPLACE HARNESS AND CONNECTOR**

AV

OK

12 CHECK WIRE HARNESS (REAR NO. 1 SPEAKER - REAR NO. 2 SPEAKER)



(a) Disconnect the R11, R12, T8 and T9 speaker connectors.
(b) Measure the resistance of the wire harness side connectors.
Standard resistance

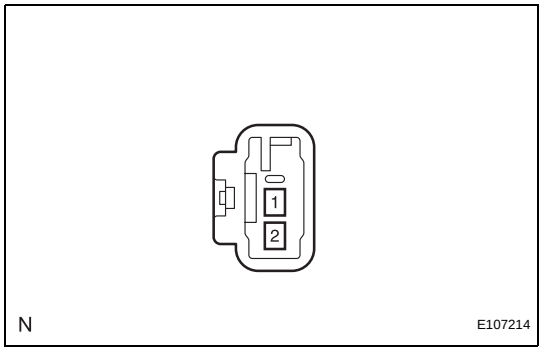
Tester Connection	Specified Condition
R11-1 - T8-3	Below 1 Ω
R11-2 - T8-1	Below 1 Ω
R12-1 - T9-3	Below 1 Ω
R12-2 - T9-1	Below 1 Ω

NG → **REPAIR OR REPLACE HARNESS AND CONNECTOR**

AV

OK

13 INSPECT FRONT NO. 1 SPEAKER



(a) Disconnect the F12 and F13 speaker connectors.
(b) Measure the resistance of the speaker.
Standard resistance

Tester Connection	Specified Condition
1 - 2	Approximately 4 Ω

NG → **REPLACE FRONT NO. 1 SPEAKER**

OK

14 INSPECT FRONT NO. 2 SPEAKER

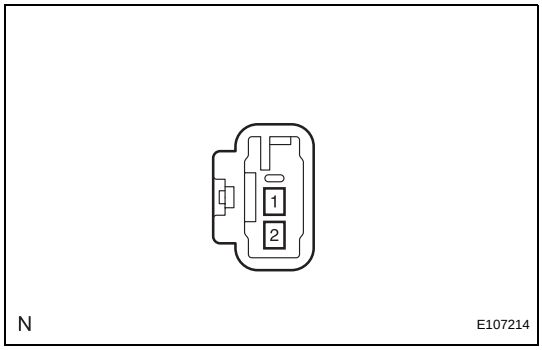
(a) Check that the malfunction disappears when the speaker is replaced with a normal one.
OK:
Malfunction disappears.
HINT:
- Connect all the connectors to the front No. 2 speakers.

- When there is a possibility that either the right or left front speaker is defective, inspect by interchanging the right one with the left one.
- Perform the inspection above on both LH and RH sides.

NG → **REPLACE FRONT NO. 2 SPEAKER**

OK

15 INSPECT REAR NO. 1 SPEAKER



(a) Disconnect the R11 and R12 speaker connectors.
(b) Measure the resistance of the speaker.
Standard resistance

Tester Connection	Specified Condition
1 - 2	Approximately 4 Ω

NG → **REPLACE REAR NO. 1 SPEAKER**

AV

OK

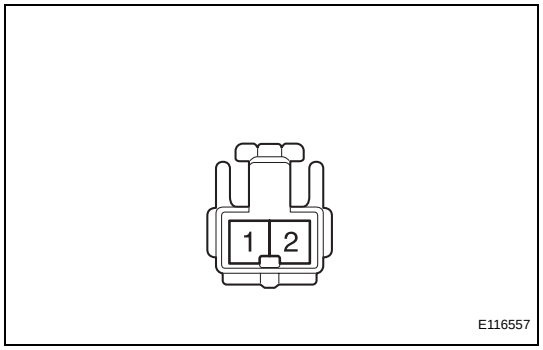
16 INSPECT REAR NO. 2 SPEAKER

(a) Check that the malfunction disappears when the speaker is replaced with a normal one.
OK: :
Malfunction disappears.
HINT:
- Connect all the connectors to the rear No. 2 speakers.
- When there is a possibility that either the right or left rear speaker is defective, inspect by interchanging the right one with the left one.
- Perform the inspection above on both LH and RH sides.

NG → **REPLACE REAR NO. 2 SPEAKER**

OK

17	INSPECT FRONT STEREO COMPONENT SPEAKER



(a) Disconnect the C8 speaker connector.
(b) Measure the resistance of the speaker.
Standard resistance

Tester Connection	Specified Condition
1 - 2	1.2 to 2.2 Ω

NG → **REPLACE FRONT STEREO COMPONENT SPEAKER**

OK

PROCEED TO NEXT CIRCUIT INSPECTION SHOWN IN PROBLEM SYMPTOMS TABLE

Noise Occurs

INSPECTION PROCEDURE

1	NOISE CONDITION

(a) Check in which direction the noise comes from (front left or right, or rear left or right).
OK:
The location of the noise source can be determined.

NG → **Go to step 3**

OK

2	CHECK SPEAKER

(a) Check the installation conditions of the speaker units that are located near the noise source and that there are no cracks, scratches, deformation, or other failures.

AV

Result

Condition	Proceed to
Speaker is installed incorrectly	A
Foreign objects are in speaker	B
Speaker cone paper is broken	C
No malfunction is found	D

A → **REINSTALL SPEAKER**

B → **REMOVE FOREIGN OBJECT**

C → **REPLACE SPEAKER**

D

3	CHECK NOISE CONDITIONS

(a) Check the noise condition.
HINT:
The radio has a noise prevention function to reduce noise when listening to the radio. If a loud noise occurs, check whether the ground at the antenna mounting base and the noise prevention unit are installed and wired correctly.

Conditions under which noise occurs	Noise Source
Noise increases when the accelerator pedal is depressed, but stops when the hybrid system is stopped.	Generator
Noise occurs during A/C or heater operation.	Blower motor
Noise occurs when the vehicle accelerates rapidly on an unpaved road or after the power switch is turned ON (IG).	Fuel pump

Conditions under which noise occurs	Noise Source
Noise occurs when the horn switch is pressed and released or when pressed and held.	Horn
Noise occurs synchronously with the blink of the turn signal.	Flasher
Noise occurs during window washer operation.	Washer
Noise occurs while the hybrid system is running, and continues even after the hybrid system is stopped.	Water temperature sensor
Noise occurs during wiper operation.	Wiper
Noise occurs when the brake pedal is depressed.	Stop light switch
Other	Static electricity

HINT:

- In the chart's left column, find the situation that matches the customer's complaint. Then, in the right column, find the part that is causing the noise. Check the noise filter on or for the part.
- To save time and avoid a misdiagnosis, first make sure that the noise is not coming from outside the vehicle.
- Noise should be removed in descending order of loudness.
- Setting the radio to a frequency where no signal is received may make recognition of the noise problem easier.

OK:

The noise source can be determined.

NG → **REPAIR OR REPLACE NOISE SOURCE**

OK

PROCEED TO NEXT CIRCUIT INSPECTION SHOWN IN PROBLEM SYMPTOMS TABLE

Pressing Power Switch does not Turn on System

INSPECTION PROCEDURE

1	CHECK VEHICLE CONDITION

(a) Check that conditions in the cabin are not likely to cause condensation.
HINT:
This problem occurs when the cabin is humid and the temperature changes rapidly. This may produce condensation, resulting in a short circuit.
OK:
Condensation is not likely to be produced.

NG → **DRY OUT CABIN**

OK

PROCEED TO NEXT CIRCUIT INSPECTION SHOWN IN PROBLEM SYMPTOMS TABLE

No Sound can be Heard from Speakers

INSPECTION PROCEDURE

1	CHECK RADIO RECEIVER

(a) Check the radio receiver setting.
  (1) Check that the volume is not set to "0".
  (2) Check that "MUTE" is off.
  OK:
  The volume is not set to "0" and "MUTE" is off.

NG → **TURN "MUTE" OFF OR RAISE VOLUME ABOVE 0**

OK

PROCEED TO NEXT CIRCUIT INSPECTION SHOWN IN PROBLEM SYMPTOMS TABLE

Sound Quality is Bad Only when CD is Played (Volume is Too Low)

INSPECTION PROCEDURE

1	**REPLACE CD**

(a) Replace the CD with another one and recheck.
(1) Check if the problem recurs using another CD.
OK:
Malfunction disappears.

NG → **REPLACE RADIO RECEIVER**

OK

END

CD cannot be Ejected

INSPECTION PROCEDURE

1 **CHECK OPERATION**

(a) Press the CD EJECT switch of the radio receiver for 2 seconds or more and check that the CD is ejected.
OK:
CD is ejected.

NG → **REPLACE RADIO RECEIVER**

OK

2 **REPLACE CD**

(a) Insert another CD and check if it is ejected.
OK:
CD is ejected.

NG → **REPLACE RADIO RECEIVER**

OK

END

CD cannot be Inserted / Played or CD is Ejected Right After Insertion

INSPECTION PROCEDURE

1	CHECK IF PROPER CD IS INSERTED

(a) Make sure that the CD is an audio CD or a CD with an MP3 or WMA file, and that it is not deformed, flawed, stained, burred, or otherwise defective.
OK:
Normal CD.
HINT:
- Translucent or uniquely-shaped CDs cannot be played.
- CDs with adhesive paper labels should not be played.
- Commercial audio CDs can be played.
- CD-DA files on CD-ROMs, CD-Rs, and CD-RWs can be played.
- MP3 and WMA files on CD-ROMs, CD-Rs, and CD-RWs can be played.
- For details on playable CDs, refer to the Owner's Manual.

NG → **REPLACE CD**

OK

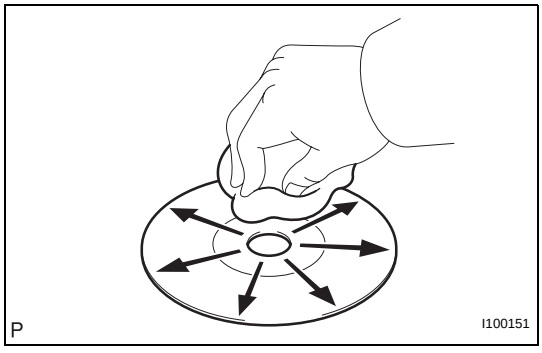
2	CHECK THAT CD IS INSERTED PROPERLY

(a) Check whether or not the CD is inserted upside down.
OK:
CD is properly inserted.

NG → **INSERT CD PROPERLY**

OK

3	CLEAN CD



(a) Clean the disc by wiping it with a soft cloth from the inside to the outside in a radial direction.
OK:
Malfunction disappears.
NOTICE:
Do not use a conventional record cleaner or anti-static preservative.

OK → **END**

NG

AV

4	**REPLACE CD**

(a) Replace the CD with a normal one and check that the malfunction disappears.
OK:
Malfunction disappears.

NG → **REPLACE RADIO RECEIVER**

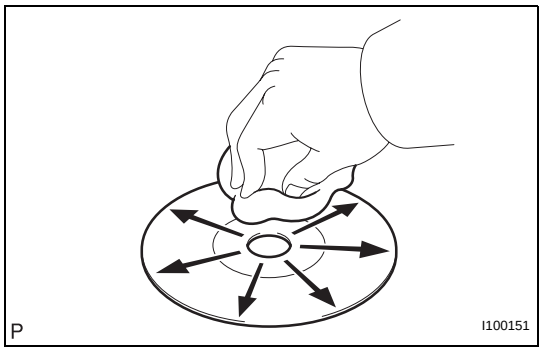
OK

END

CD Sound Skips

INSPECTION PROCEDURE

1 CHECK CD



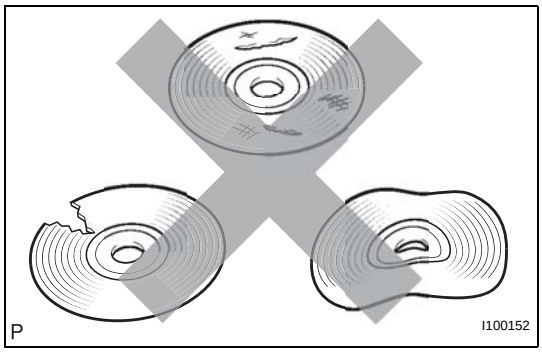
(a) Check the CD.
OK:
The CD is clean.
HINT:
If dirt is on the CD surface, wipe it clean with a soft cloth from the inside to the outside in a radial direction.
NOTICE:
Do not use a conventional record cleaner or anti-static preservative.

NG → **CLEAN CD**

OK

AV

2 CHECK CD



(a) Check that the CD is not deformed or cracked.
OK:
No deformation or cracks on the CD.

NG → **REPLACE CD**

OK

3 CHECK OPERATION

(a) Check using another CD.
(1) Check if the problem recurs using another CD.
OK:
The problem does not occur.

OK → **END**

NG

4 CHECK RADIO RECEIVER

(a) Check the radio receiver installation condition.
(1) Check that the radio receiver is properly installed.
OK:
Radio receiver is properly installed.

NG → **REINSTALL RADIO RECEIVER PROPERLY**

OK

REPLACE RADIO RECEIVER

Radio Broadcast cannot be Received or Poor Reception

INSPECTION PROCEDURE

1	CHECK RADIO RECEIVER

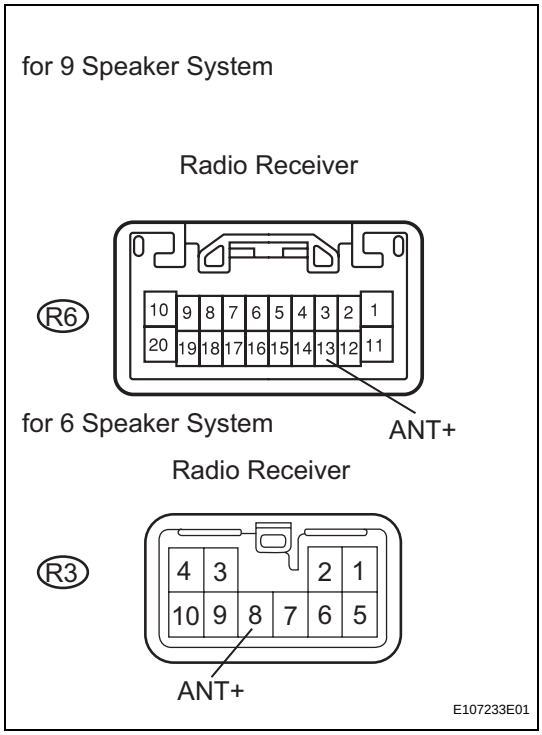
(a) Check the radio's automatic station search function.
  (1) Move the vehicle to a location where radio wave reception is possible.
  (2) Check the radio's automatic station search function by activating it.
  OK:
  The radio's automatic station search function works properly.

OK → REPLACE RADIO RECEIVER

NG

AV

2	CHECK RADIO RECEIVER



(a) Disconnect the R3*1 or R6*2 receiver connector.
(b) Measure the voltage of the receiver.
  Standard voltage

Tester Connection	Condition	Specified Condition
R3-8 (ANT+) - Body ground*1	Power switch ON (IG), Radio switch ON	10 to 14 V
R6-13 (ANT+) - Body ground*2		

HINT:
- *1: for 6 speaker system
- *2: for 9 speaker system

NG → REPLACE RADIO RECEIVER

OK

3	CHECK OPTIONAL COMPONENTS

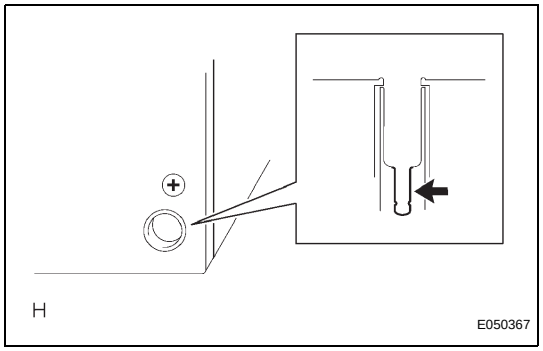
(a) Check optional components (sunshade film, telephone antenna, etc.).
  (1) Check if any optional components, such as sunshade film or telephone antenna, that may decrease reception capacity are installed.

OK:
Optional components are installed.
NOTICE:
Do not remove any optional components installed by the customer without consent.

OK → **REMOVE OPTIONAL COMPONENTS AND CHECK AGAIN (SEE NOTICE ABOVE)**

NG

4 CHECK RADIO RECEIVER



(a) Preparation for check
  (1) Remove the antenna plug from the radio receiver.
(b) Check for noise
  (1) Turn the power switch ON (ACC) with the radio receiver connector connected.
  (2) Turn the radio on and change to AM mode.
  (3) Place a screwdriver, thin wire, or other metal object on the radio receiver's antenna jack and check that noise can be heard from the speaker.

OK:
Noise occurs.

NG → **REPLACE RADIO RECEIVER**

OK

5 CHECK ANTENNA CORD

(a) Remove the antenna plug of the radio receiver and antenna.
(b) Measure the resistance between the antenna cord's inner conductor and radio receiver to check for an open circuit in the antenna cord.
Standard resistance:
Below 1 Ω
(c) Measure the resistance between the antenna cord's inner conductor and body ground to check for a short circuit in the antenna cord.
Standard resistance:
10 kΩ or higher

NG → **REPLACE ANTENNA CORD**

OK

6 REPLACE AMPLIFIER ANTENNA

(a) Replace the amplifier antenna and check if radio broadcasts can be received normally.
OK:
Radio broadcasts can be received.

AV

OK → **END**

NG

REPLACE RADIO RECEIVER

Poor Sound Quality in All Modes (Low Volume)

INSPECTION PROCEDURE

1	CHECK AUDIO SETTINGS

(a) Set "BASS", "MID", and "TREB" to the initial values and check that sound is normal.
OK:
Malfunction disappears.

OK → END

NG

2	COMPARE WITH ANOTHER VEHICLE OF SAME MODEL

(a) Compare with another vehicle of the same model which does not have trouble to see if there is any difference in the sound quality.
OK:
No difference is found.

OK → END

NG

PROCEED TO NEXT CIRCUIT INSPECTION SHOWN IN PROBLEM SYMPTOMS TABLE

Cellular Phone Registration Failure, Phone Directory Transfer Failure

INSPECTION PROCEDURE

1	CHECK CURRENT CONDITION

(a) Check for Bluetooth capable cellular phones and vehicles in the area.

Result:

Conditions	Proceed to
Another Bluetooth compatible cellular phone is present	A
Another Bluetooth compatible vehicle is present	B
None of the above	C

B → **Go to step 3**

C → **Go to step 4**

A

2	CHECK USING ANOTHER CELLULAR PHONE

(a) Check if the system functions using another Bluetooth compatible cellular phone.
HINT:
- Confirm that either the same or a different version of another Bluetooth compatible cellular phone complies with the system.
- Depending on the version, some Bluetooth compatible cellular phones cannot be used.

OK:

System functions.

NG → **REPLACE MULTI-DISPLAY**

OK

USE BLUETOOTH COMPATIBLE CELLULAR PHONE (DEPENDING ON THE VERSION)

3	CHECK USING ANOTHER BLUETOOTH CAPABLE VEHICLE

(a) Register the cellular phone with another vehicle and check if the system functions normally.
HINT:
Depending on the version, some Bluetooth compatible cellular phones cannot be used.

OK:

System functions.

OK → **REPLACE MULTI-DISPLAY**

NG

USE BLUETOOTH COMPATIBLE CELLULAR PHONE

4	CHECK CELLULAR PHONE

(a) Check if the cellular phone is Bluetooth compatible.
HINT:
Some versions of Bluetooth compatible cellular phones may not function.
OK:
The phone is Bluetooth compatible.

NG → **USE BLUETOOTH COMPATIBLE CELLULAR PHONE**

OK

5	CHECK CELLULAR PHONE

(a) Check if a call can be made from the cellular phone.
HINT:
When the battery is low, registration or directory transfer cannot be done.
OK:
A call can be made from the cellular phone.

NG → **REPLACE CELLULAR PHONE**

OK

REPLACE MULTI-DISPLAY

Cellular Phone cannot Send / Receive

INSPECTION PROCEDURE

1	CHECK BLUETOOTH SETTING

(a) Check if the Bluetooth settings are correct.
OK:
Bluetooth settings are correct.

NG → **SET SETTINGS CORRECTLY**

OK ↓

2	CHECK CELLULAR PHONE

(a) Check if the cellular phone is Bluetooth compatible.
HINT:
Some versions of Bluetooth compatible cellular phones may not function.
OK:
Phone is Bluetooth compatible.

NG → **END (ONLY A BLUETOOTH COMPATIBLE CELLULAR PHONE CAN BE USED)**

OK ↓

3	CHECK SETTING

(a) Check if the cellular phone functions.
HINT:
The cellular phone is unable to call under any of the following conditions.
- The cellular phone is locked.
- The directory is being transferred.
- The line is crossed.
- Transmission is regulated.
- The power is OFF.
- The cellular phone is not connected to Bluetooth ("Bluetooth mark" is displayed while connected).

OK:
Above conditions do not exist.

NG → **SET CORRECTLY**

OK ↓

4	CHECK CELLULAR PHONE

(a) Check if the cellular phone can call.

AV

HINT:
When the battery is low, calls cannot be made or received.
OK:
Cellular phone can call.

NG → **REPLACE CELLULAR PHONE**

OK

5	**CHECK RECEPTION**

(a) Set the cellular phone so that it can receive calls.
(b) Place the cellular phone close to the multi-display.
(c) Check if the cellular phone has reception according to the multi-display.
OK:
Cellular phone has reception.

NG → **REPLACE MULTI-DISPLAY**

OK

PROCEED TO NEXT INSPECTION PROCEDURE SHOWN IN PROBLEM SYMPTOMS TABLE

Cannot Call in a Certain Place

INSPECTION PROCEDURE

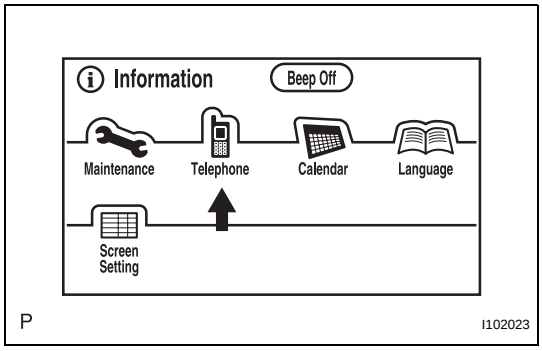
1	CHECK SURROUNDING CONDITION

(a) Check if the cellular phone can make calls in a certain location.
OK:
It can make calls.

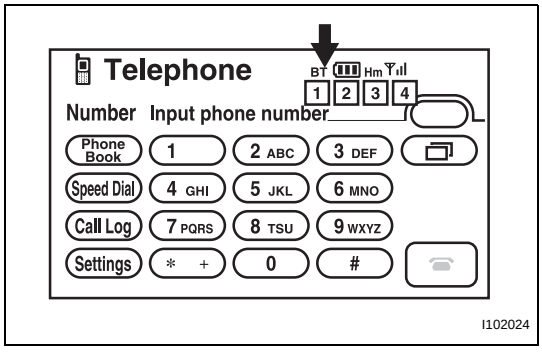
NG → **END (CELLULAR PHONES CAN ONLY FUNCTION IN CELLULAR SERVICE AREAS)**

OK

2	CHECK RECEPTION



(a) Enter the "Information" screen by pressing the "INFO" switch.
(b) Select "Telephone".



(c) Check the "BT" mark.
Result

Condition	Proceed to
Yellow color	A
Blue color	B
No connection mark is displayed	C

B → **REPLACE MULTI-DISPLAY**

C → **SELECT REGISTERED CELLULAR PHONE OR REGISTER BLUETOOTH COMPATIBLE PHONE**

A

BRING CELLULAR PHONE TO LOCATION WHERE BT MARK TURNS BLUE

The Other Caller's Voice cannot be Heard, is too Quiet, or Distorted

INSPECTION PROCEDURE

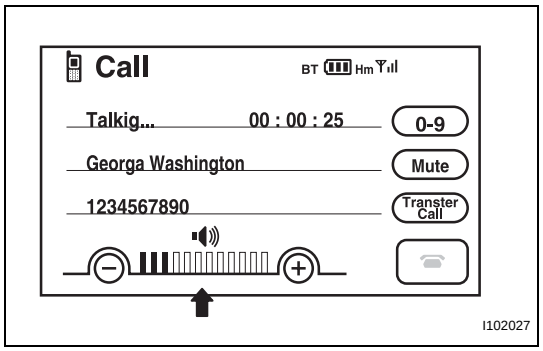
1 CHECK CELLULAR PHONE

(a) Check if the voice on the other side can be heard using a cellular phone.
OK:
Voice can be heard.

NG → **REPAIR OR REPLACE CELLULAR PHONE**

OK

2 CHECK SETTINGS

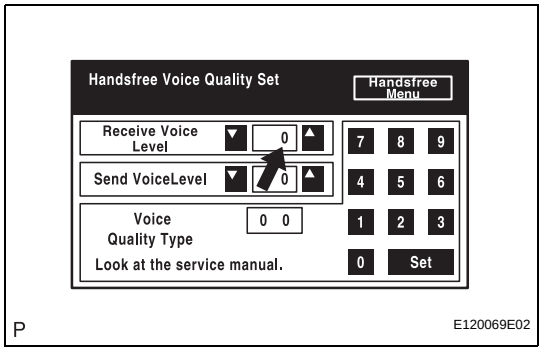


(a) Check if the volume level is low on the CALL screen.
OK:
The level is not low.

NG → **SET VOLUME TO HIGH**

OK

3 CHECK SETTINGS



(a) Enter the "Handsfree Voice Quality Set" mode (see page AV-19).
(b) Check if the Receive Voice Level is set to "0".
HINT:
The Receive Voice Level can be set to 11 different levels, -5 to +5, with a 3 dB difference.
(c) Check if the Receive Voice Level is set to the minimum or maximum level.
HINT:
When the Receive Voice Level is set to the minimum or maximum level, the sound may be distorted.
OK:
The Receive Voice Level is set to "0".

NG → **SET RECEIVE VOICE LEVEL TO "0"**

OK

PROCEED TO NEXT INSPECTION PROCEDURE SHOWN IN PROBLEM SYMPTOMS TABLE

AV

The Other Caller cannot Hear Your Voice, or Your Voice is too Quiet or Distorted

INSPECTION PROCEDURE

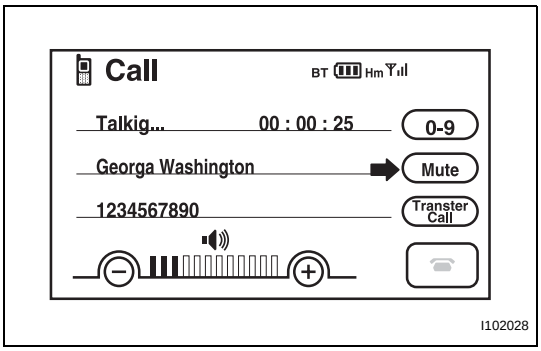
1	CHECK CELLULAR PHONE

(a) Check if the other side can hear your voice properly.
OK:
Your voice can be heard correctly.

NG → **REPLACE CELLULAR PHONE**

OK

2	CHECK SETTINGS

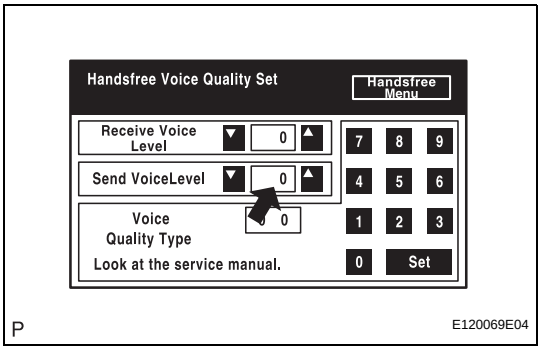


(a) Check if the mute switch is set to ON.
OK:
Mute switch is not set to ON.

NG → **TURN MUTE SWITCH OFF**

OK

3	CHECK SETTINGS

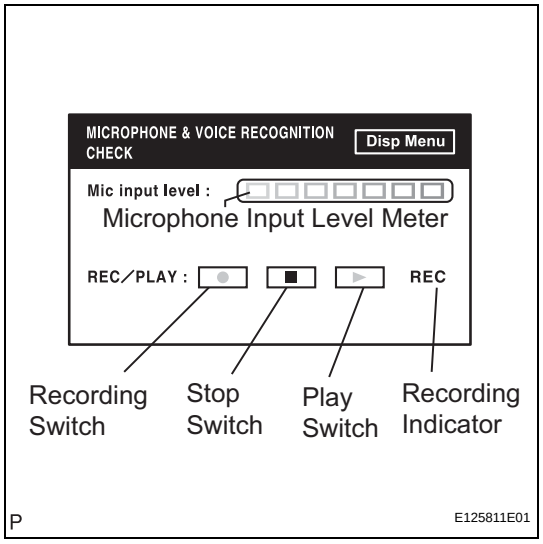


(a) Enter the "Handsfree Voice Quality Set" mode (see page AV-19).
(b) Check if the Send Voice Level is set to "0".
HINT:
The Send Voice Level can be set to 11 different levels, -5 to +5, with a 3 dB difference.
(c) Check if the Send Voice Level is set to the minimum or maximum level.
HINT:
When the Send Voice Level is set to the minimum or maximum level, the sound may be distorted.
OK:
The Send Voice Level is set to "0".

NG → **SET SEND VOICE LEVEL TO "0"**

OK

4	CHECK MICROPHONE (DISPLAY CHECK MODE)



(a) Enter the "MICROPHONE & VOICE RECOGNITION CHECK" mode (see page AV-16).

(b) When a voice is input into the microphone, check that the microphone input level meter changes according to the input voice.

(c) Push the recording switch and perform voice recording.
HINT:
The recording is limited to 5 seconds.

(d) Check that the recording indicator remains on while recording and that the recorded voice is played normally without noise or distortion.
OK:
All check results are normal.

NG → **PROCEED TO NEXT INSPECTION PROCEDURE SHOWN IN PROBLEM SYMPTOMS TABLE**

OK

REPLACE MULTI-DISPLAY

AV

Vehicle Speed Signal Circuit between Radio Receiver and Combination Meter

DESCRIPTION

This circuit is necessary for the ASL (Auto Sound Levelizer) built into the radio receiver. Speed signals are received from the combination meter and used for the ASL.
The ASL function automatically adjusts the sound data in order to enable hearing the clear audio even when vehicle noise increases (as vehicle noise increases, the volume is turned up, etc.).

WIRING DIAGRAM

AV

INSPECTION PROCEDURE

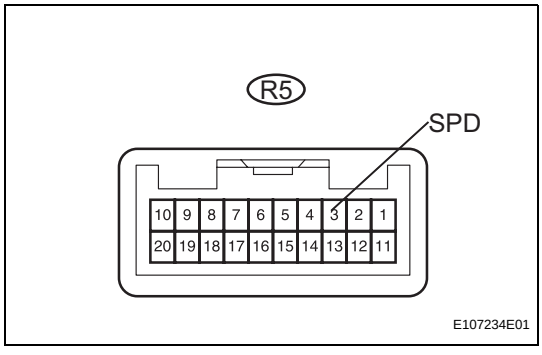
1	OPERATION OF SPEEDOMETER

(a) Drive the vehicle and check if the function of the speedometer on the combination meter is normal.
OK:
Actual vehicle speed and the speed indicated on the speedometer are the same.
HINT:
The vehicle speed sensor is functioning normally when the indication on the speedometer is normal.

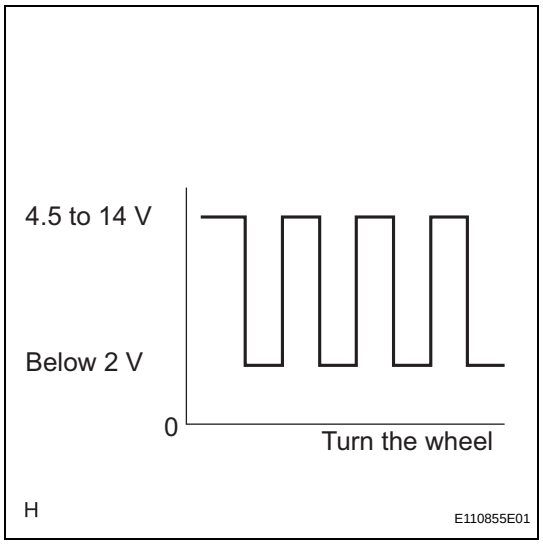
NG → **GO TO METER / GAUGE SYSTEM**

OK

2	CHECK RADIO RECEIVER (SPD VOLTAGE)



(a) Disconnect the R5 receiver connector.
(b) Measure the voltage.
(1) Jack up either one of the drive wheels.
(2) Move the shift lever to the neutral position.
(3) Turn the power switch ON (IG).

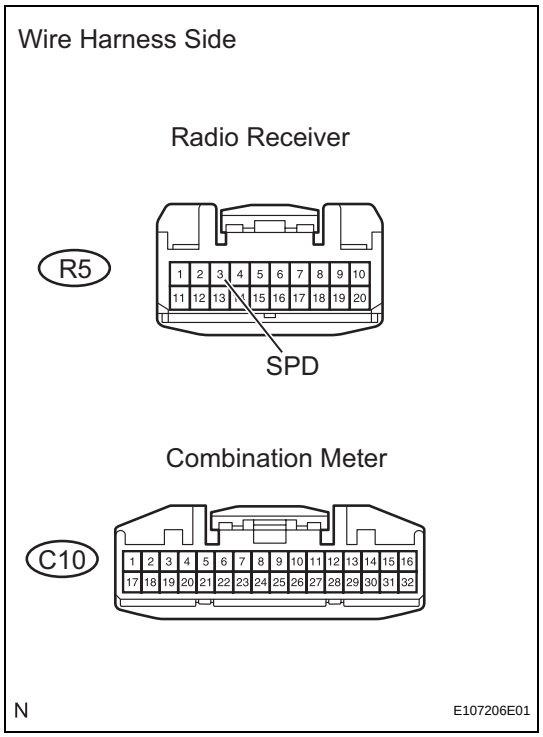


(4) Measure the voltage between terminal SPD of the radio receiver and body ground when the drive wheels are turned slowly.
OK:
Voltage pulses as shown in the illustration.

OK → **REPLACE RADIO RECEIVER**

NG

3 CHECK WIRE HARNESS (COMBINATION METER - RADIO RECEIVER)



(a) Disconnect the R5 receiver connector.
(b) Disconnect the C10 meter connector.
(c) Measure the resistance of the wire harness side connectors.
Standard resistance

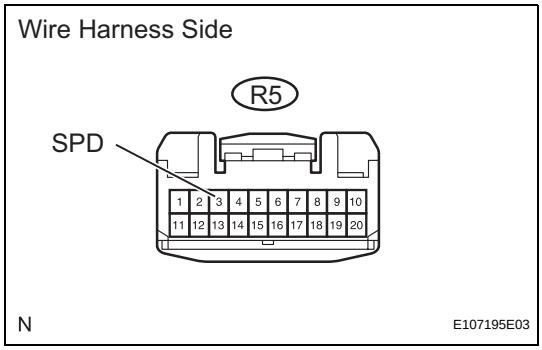
Tester Connection	Specified Condition
R5-3 (SPD) - C10-13	Below 1 Ω

NG → **REPAIR OR REPLACE HARNESS AND CONNECTOR**

OK

AV

4	CHECK WIRE HARNESS (RADIO RECEIVER - BODY GROUND)



(a) Disconnect the R5 receiver connector.
(b) Measure the resistance of the wire harness side connector.

Standard resistance

Tester Connection	Specified Condition
R5-3 (SPD) - Body ground	10 kΩ or higher

HINT:
If the resistance between terminal SPD and body ground is less than 10 kΩ, there may be a short in a wire harness, connector, or an ECU that is connected to the SPD signal wire.

NG → **REPAIR OR REPLACE HARNESS AND CONNECTOR**

OK

AV

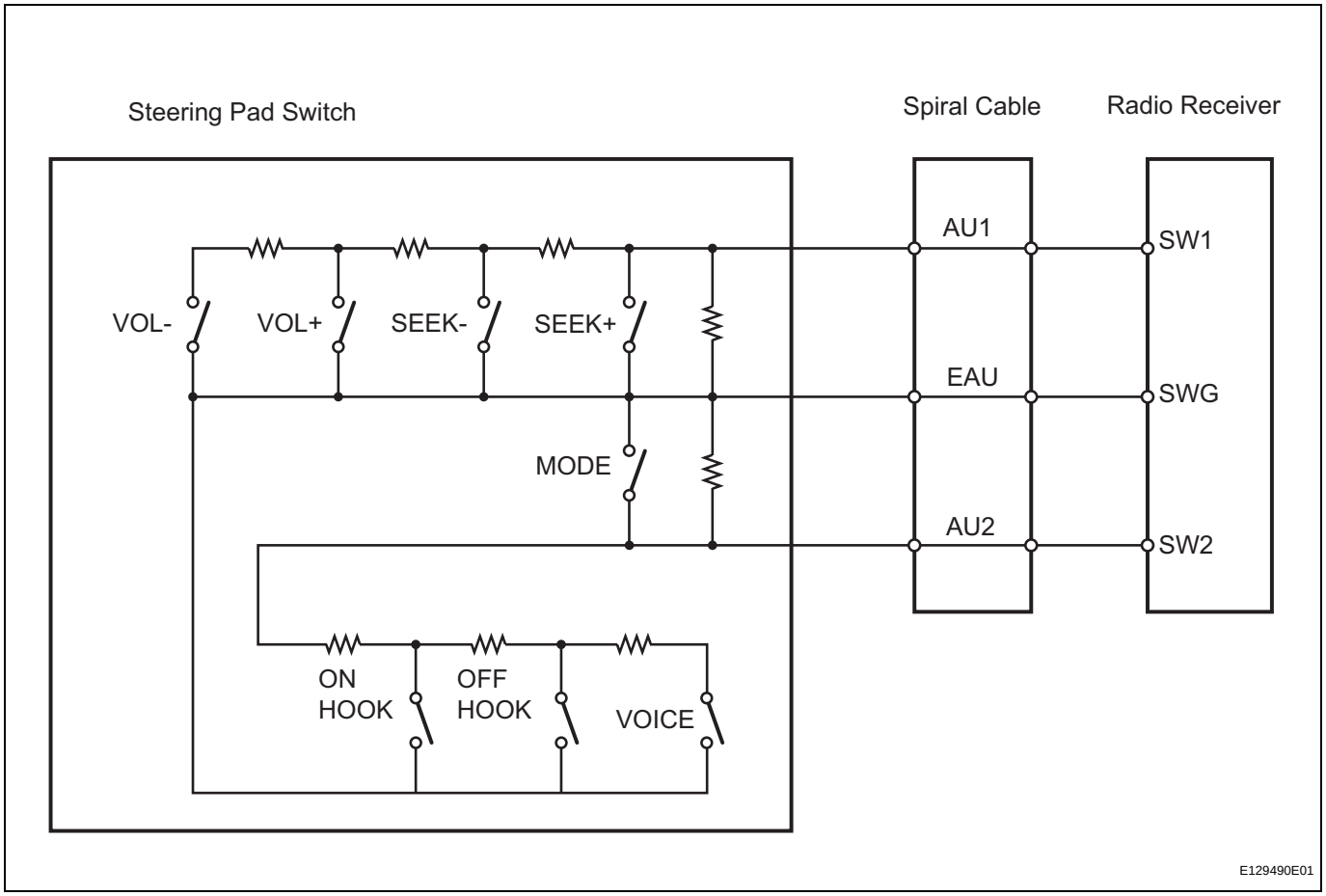
REPLACE RADIO RECEIVER

Steering Pad Switch Circuit

DESCRIPTION

This circuit sends an operation signal from the steering pad switch to the radio receiver.
If there is an open in the circuit, the audio system cannot be operated using the steering pad switch.
If there is a short in the circuit, the same condition as when the switch is continuously depressed occurs. As a result, the radio receiver cannot be operated using the steering pad switch, and also the radio receiver itself cannot function.

WIRING DIAGRAM

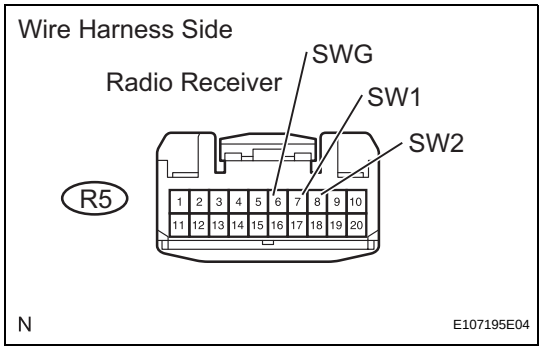


INSPECTION PROCEDURE

NOTICE:

The vehicle is equipped with an SRS (Supplemental Restraint System) which includes components such as airbags. Before servicing (including removal or installation of parts), be sure to read the precautionary notice for the Supplemental Restraint System.

1 CHECK STEERING PAD SWITCH CIRCUIT



(a) Disconnect the R5 receiver connector.
(b) Measure the resistance of the wire harness side connector.

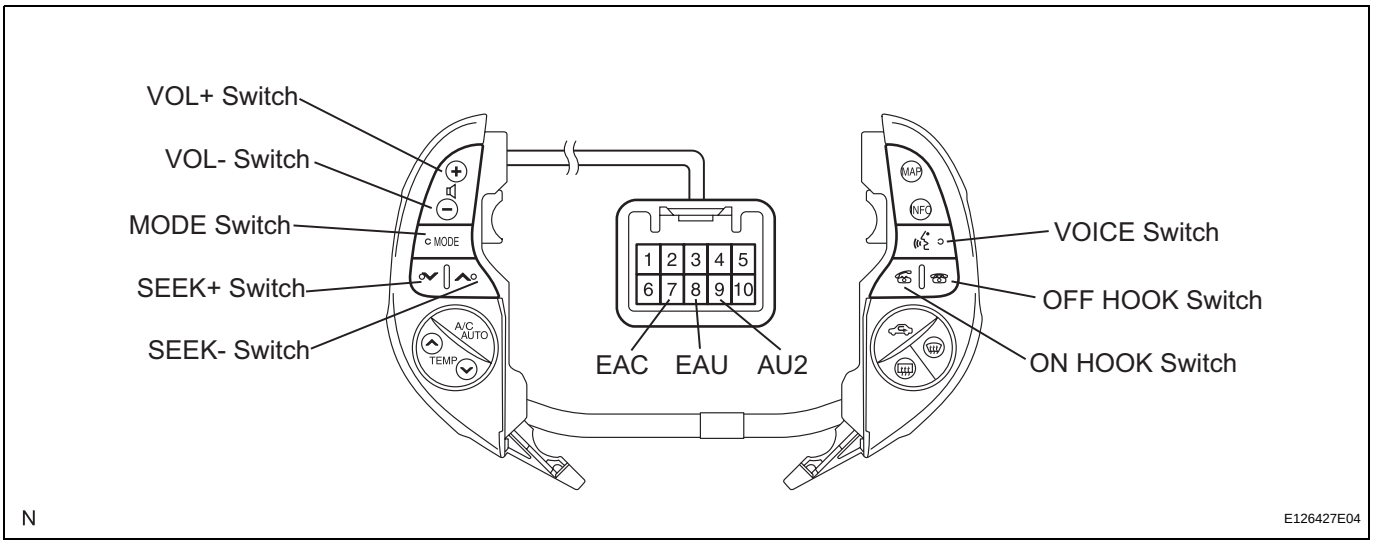
Standard resistance

Tester Connection	Condition	Specified Condition
R5-7 (SW1) - R5-6 (SWG)	No switch is pushed	Approx. 100 kΩ
R5-7 (SW1) - R5-6 (SWG)	SEEK+ switch is pushed	Below 2.5 Ω
R5-7 (SW1) - R5-6 (SWG)	SEEK- switch is pushed	Approx. 320 Ω
R5-7 (SW1) - R5-6 (SWG)	VOL+ switch is pushed	Approx. 1 kΩ
R5-7 (SW1) - R5-6 (SWG)	VOL- switch is pushed	Approx. 3.2 kΩ
R5-8 (SW2) - R5-6 (SWG)	No switch is pushed	Approx. 100 kΩ
R5-8 (SW2) - R5-6 (SWG)	MODE switch is pushed	Below 2.5 Ω
R5-8 (SW2) - R5-6 (SWG)	VOICE switch is pushed	3,110 Ω
R5-8 (SW2) - R5-6 (SWG)	ON HOOK switch is pushed	329 Ω
R5-8 (SW2) - R5-6 (SWG)	OFF HOOK switch is pushed	1,000 Ω

OK → **PROCEED TO NEXT CIRCUIT INSPECTION SHOWN IN PROBLEM SYMPTOMS TABLE**

NG

2 INSPECT STEERING PAD SWITCH



(a) Disconnect the steering pad switch connector.

(b) Measure the resistance of the wire harness side connector.

Standard resistance

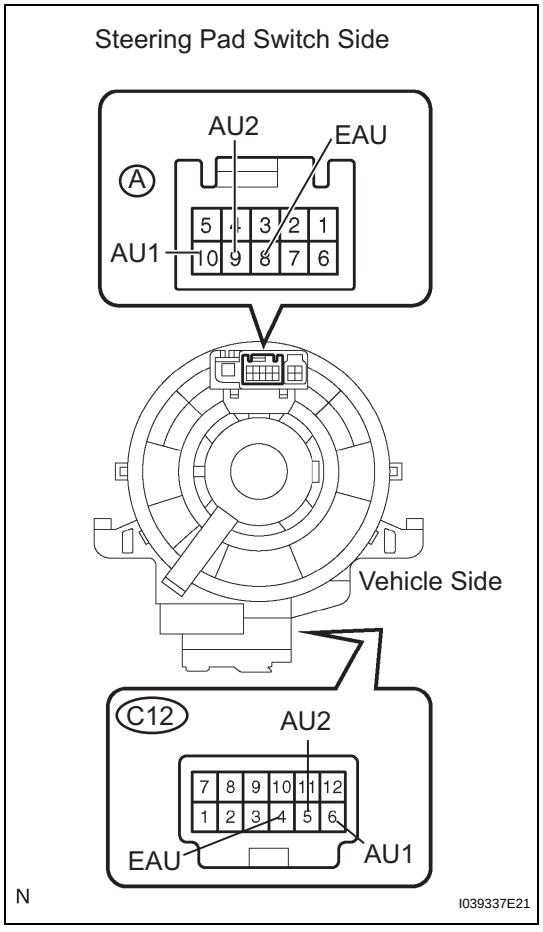
Tester Connection	Condition	Specified Condition
10 (AU1) - 8 (EAU)	No switch is pushed	Approx. 100 kΩ
10 (AU1) - 8 (EAU)	SEEK+ switch is pushed	Below 2.5 Ω
10 (AU1) - 8 (EAU)	SEEK- switch is pushed	Approx. 320 Ω
10 (AU1) - 8 (EAU)	VOL+ switch is pushed	Approx. 1 kΩ
10 (AU1) - 8 (EAU)	VOL- switch is pushed	Approx. 3.2 kΩ
9 (AU2) - 8 (EAU)	No switch is pushed	Approx. 100 kΩ
9 (AU2) - 8 (EAU)	MODE switch is pushed	Below 2.5 Ω
9 (AU2) - 8 (EAU)	VOICE switch is pushed	3,110 Ω
9 (AU2) - 8 (EAU)	ON HOOK switch is pushed	329 Ω
9 (AU2) - 8 (EAU)	OFF HOOK switch is pushed	1,000 Ω

NG → **REPLACE STEERING PAD SWITCH**

OK

AV

3 INSPECT SPIRAL CABLE



(a) Disconnect the steering pad switch connector.
(b) Disconnect the spiral cable connector.
(c) Measure the resistance of the cable.

Standard resistance

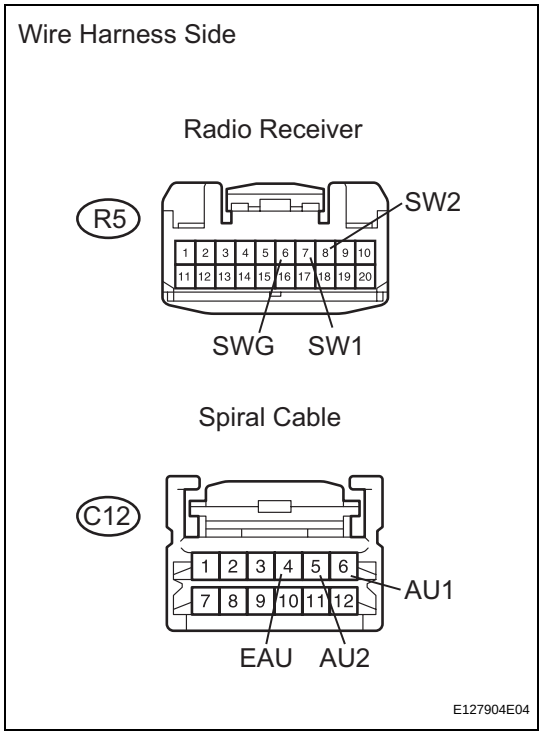
Tester connection	Spiral Cable Position	Specified condition
A-8 (EAU) - C12-4 (EAU)	Center	Below 1 Ω
	2.5 rotations to the left	
	2.5 rotations to the right	
A-10 (AU1) - C12-6 (AU1)	Center	Below 1 Ω
	2.5 rotations to the left	
	2.5 rotations to the right	
A-9 (AU2) - C12-5 (AU2)	Center	Below 1 Ω
	2.5 rotations to the left	
	2.5 rotations to the right	

NOTICE:
The spiral cable is an important part of the SRS. Incorrect removal or installation of the spiral cable may prevent the airbag from deploying. Be sure to read the SRS section's precaution.

NG → **REPLACE SPIRAL CABLE**

OK

4	CHECK WIRE HARNESS (SPIRAL CABLE - RADIO RECEIVER)



(a) Disconnect the R5 receiver connector.
(b) Disconnect the C12 cable connector.
(c) Measure the resistance of the wire harness side connectors.

Standard resistance

Tester Connection	Specified Condition
R5-7 (SW1) - C12-6 (AU1)	Below 1 Ω
R5-8 (SW2) - C12-5 (AU2)	Below 1 Ω
R5-6 (SWG) - C12-4 (EAU)	Below 1 Ω
R5-7 (SW1) - Body ground	10 kΩ or higher
R5-8 (SW2) - Body ground	10 kΩ or higher
R5-6 (SWG) - Body ground	10 kΩ or higher

NG → REPAIR OR REPLACE HARNESS AND CONNECTOR

OK

PROCEED TO NEXT CIRCUIT INSPECTION SHOWN IN PROBLEM SYMPTOMS TABLE

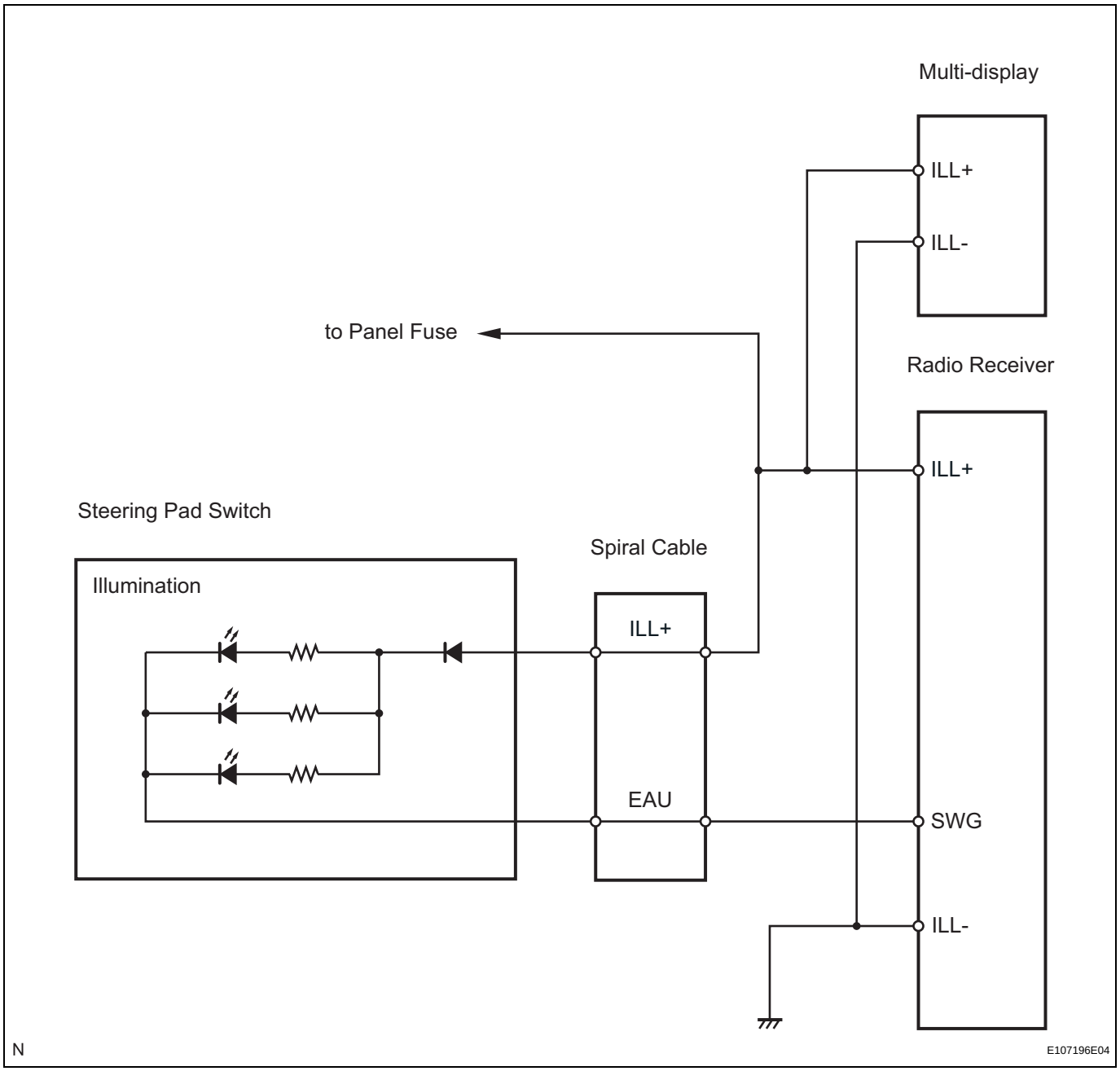
AV

Illumination Circuit

DESCRIPTION

Power is supplied to the radio receiver, multi-display and steering pad switch illumination when the light control switch is in the TAIL or HEAD position.

WIRING DIAGRAM



INSPECTION PROCEDURE

NOTICE:

The vehicle is equipped with an SRS (Supplemental Restraint System) which includes components such as airbags. Before servicing (including removal or installation of parts), be sure to read the precautionary notice for the supplemental restraint system.

1	CHECK ILLUMINATION

(a) Check if the illumination for the radio receiver, steering pad switch, multi-display and other illuminations (hazard switch, etc.) come on when the light control switch is turned to the HEAD or TAIL position.

Result

Result	Proceed to
Illumination comes on for all components except steering pad switch.	A
Illumination comes on for all components except radio receiver.	B
Illumination comes on for all components except multi-display.	C
No illumination comes on (radio receiver, hazard switch, multi-display, etc.).	D

B → **Go to step 6**

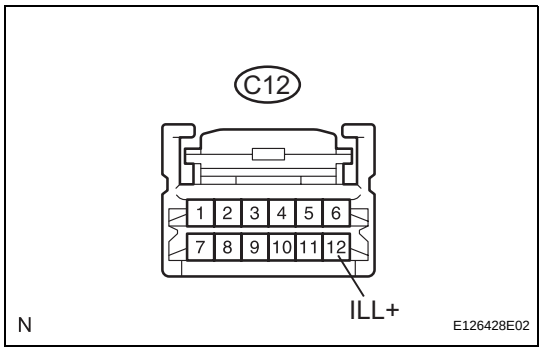
C → **Go to step 7**

D → **GO TO METER / GAUGE SYSTEM**

AV

A

2	CHECK WIRE HARNESS (BATTERY - SPIRAL CABLE)



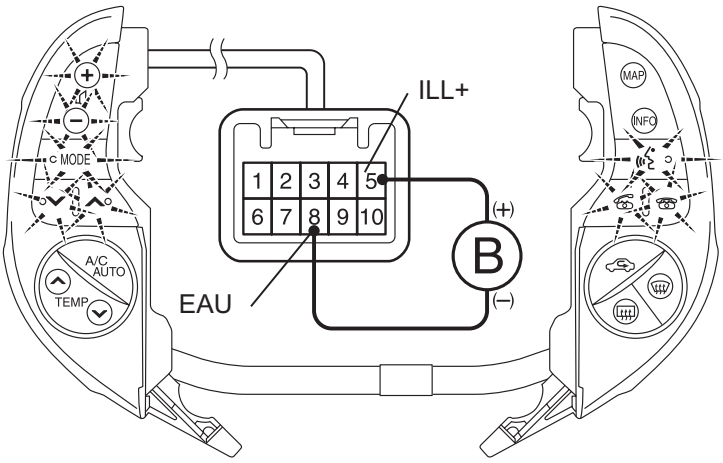
(a) Disconnect the C12 cable connector.
(b) Measure the voltage of the wire harness side connector.
Standard voltage

Tester Connection	Condition	Specified Condition
C12-12 (ILL+) - Body ground	Light control switch TAIL or HEAD	10 to 14 V

NG → **REPAIR OR REPLACE HARNESS AND CONNECTOR**

OK

3	**INSPECT STEERING PAD SWITCH**



E129483E01

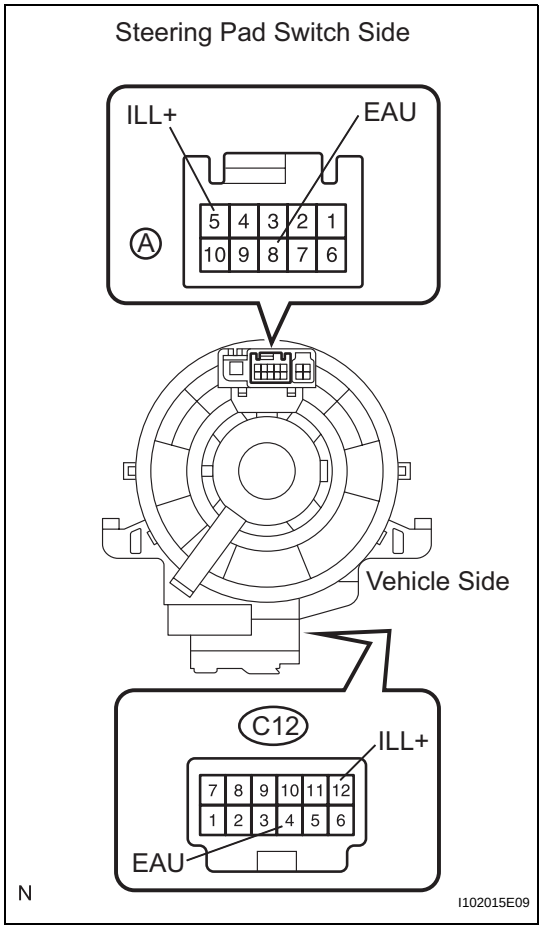
(a) Disconnect the steering pad switch connector.
(b) Connect the battery's positive (+) lead to terminal 5 (ILL+) and the negative (-) lead to terminal 8 (EAU) of the steering pad switch connector.
(c) Check if the illumination for the steering pad switch comes on.
OK:
Illumination for the steering pad switch comes on.

NG → **REPLACE STEERING PAD SWITCH**

OK

AV

4	**INSPECT SPIRAL CABLE**



(a) Disconnect the steering pad switch connector.
(b) Disconnect the spiral cable connector.
(c) Measure the resistance of the cable.

Standard resistance

Tester Connection	Spiral Cable Position	Specified Condition
C12-4 (EAU) - A-8 (EAU)	Center	Below 1 Ω
	2.5 rotations to the left	
	2.5 rotations to the right	
C12-12 (ILL+) - A-5 (ILL+)	Center	Below 1 Ω
	2.5 rotations to the left	
	2.5 rotations to the right	

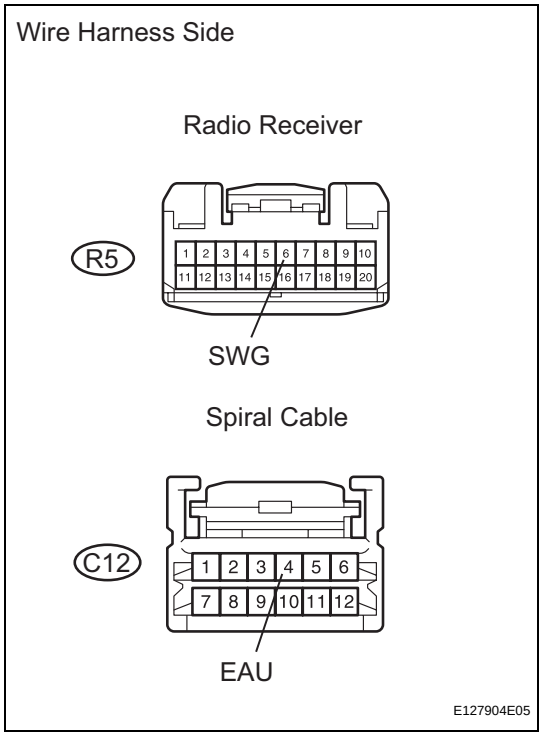
NOTICE:
The spiral cable is an important part of the SRS. Incorrect removal or installation of the spiral cable may prevent the airbag from deploying. Be sure to read the SRS section's precaution.

NG → **REPLACE SPIRAL CABLE**

OK

AV

5	CHECK WIRE HARNESS (SPIRAL CABLE - RADIO RECEIVER)



(a) Disconnect the R5 receiver connector.
(b) Disconnect the C12 cable connector.
(c) Measure the resistance of the wire harness side connectors.

Standard resistance

Tester Connection	Specified Condition
R5-6 (SWG) - C12-4 (EAU)	Below 1 Ω
R5-6 (SWG) - Body ground	10 kΩ or higher

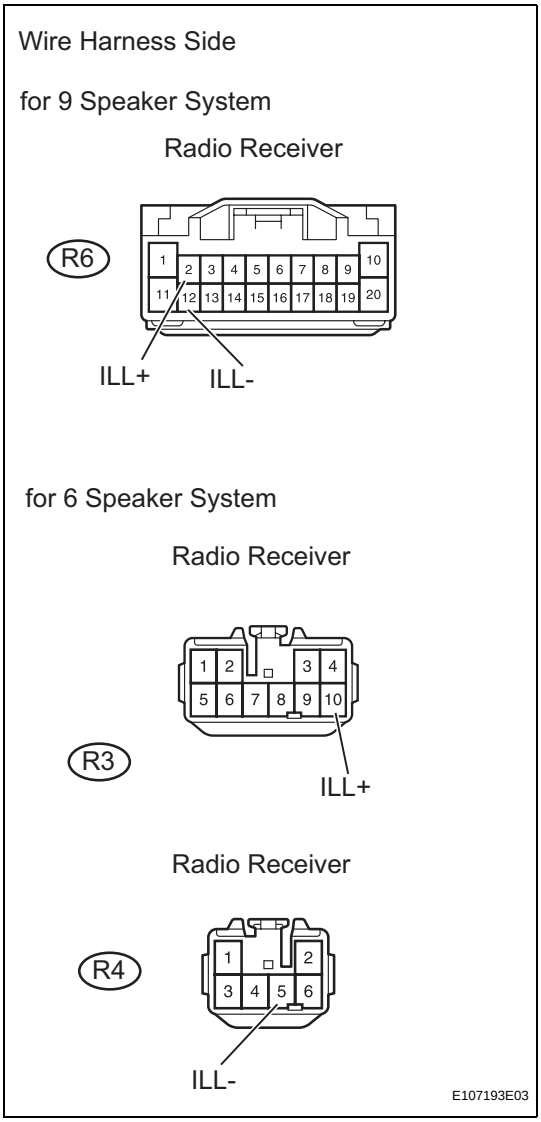
NG → **REPAIR OR REPLACE HARNESS AND CONNECTOR**

OK

REPLACE RADIO RECEIVER

AV

6	CHECK WIRE HARNESS (BATTERY - RADIO RECEIVER)



(a) Disconnect the R3*1 or R6*2 receiver connector.
(b) Measure the voltage of the wire harness side connector.
Standard voltage

Tester Connection	Condition	Specified Condition
R3-10 (ILL+) - Body ground*1	Light control switch TAIL or HEAD	10 to 14 V
R6-2 (ILL+) - B0dy ground*2	Light control switch TAIL or HEAD	10 to 14 V

(c) Measure the resistance of the wire harness side connectors.
Standard resistance

Tester Connection	Specified Condition
R4-5 (ILL-) - Body ground*1	Below 1 Ω
R6-12 (ILL-) - Body ground*2	Below 1 Ω

HINT:
- *1: for 6 speaker system
- *2: for 9 speaker system

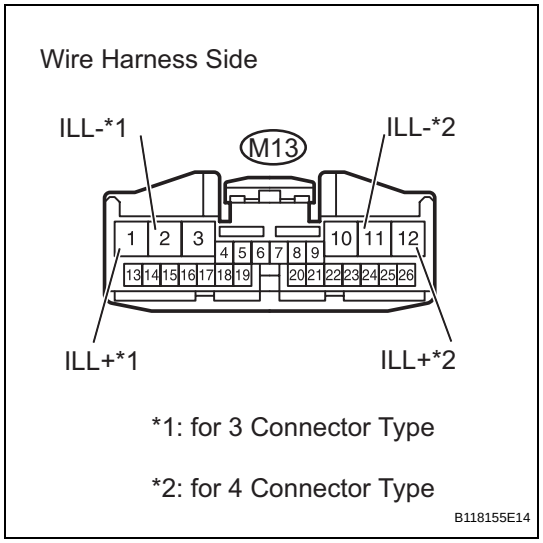
NG → **REPAIR OR REPLACE HARNESS AND CONNECTOR**

OK

REPLACE RADIO RECEIVER

AV

7 CHECK WIRE HARNESS (BATTERY - MULTI-DISPLAY)



(a) Disconnect the M13 display connector.
(b) Measure the voltage of the wire harness side connector.
Standard voltage

Tester Connection	Condition	Specified Condition
M13-1 (ILL+) - Body ground*1	Light control switch TAIL or HEAD	10 to 14 V
M13-12 (ILL+) - Body ground*2	Light control switch TAIL or HEAD	10 to 14 V

(c) Measure the resistance of the wire harness side connector.
Standard resistance

Tester Connection	Specified Condition
M13-2 (ILL-) - Body ground*1	Below 1 Ω
M13-11 (ILL-) - Body ground*2	Below 1 Ω

HINT:
- *1: for 3 connector type
- *2: for 4 connector type

NG → **REPAIR OR REPLACE HARNESS AND CONNECTOR**

OK

REPLACE MULTI-DISPLAY

AV

Speaker Circuit

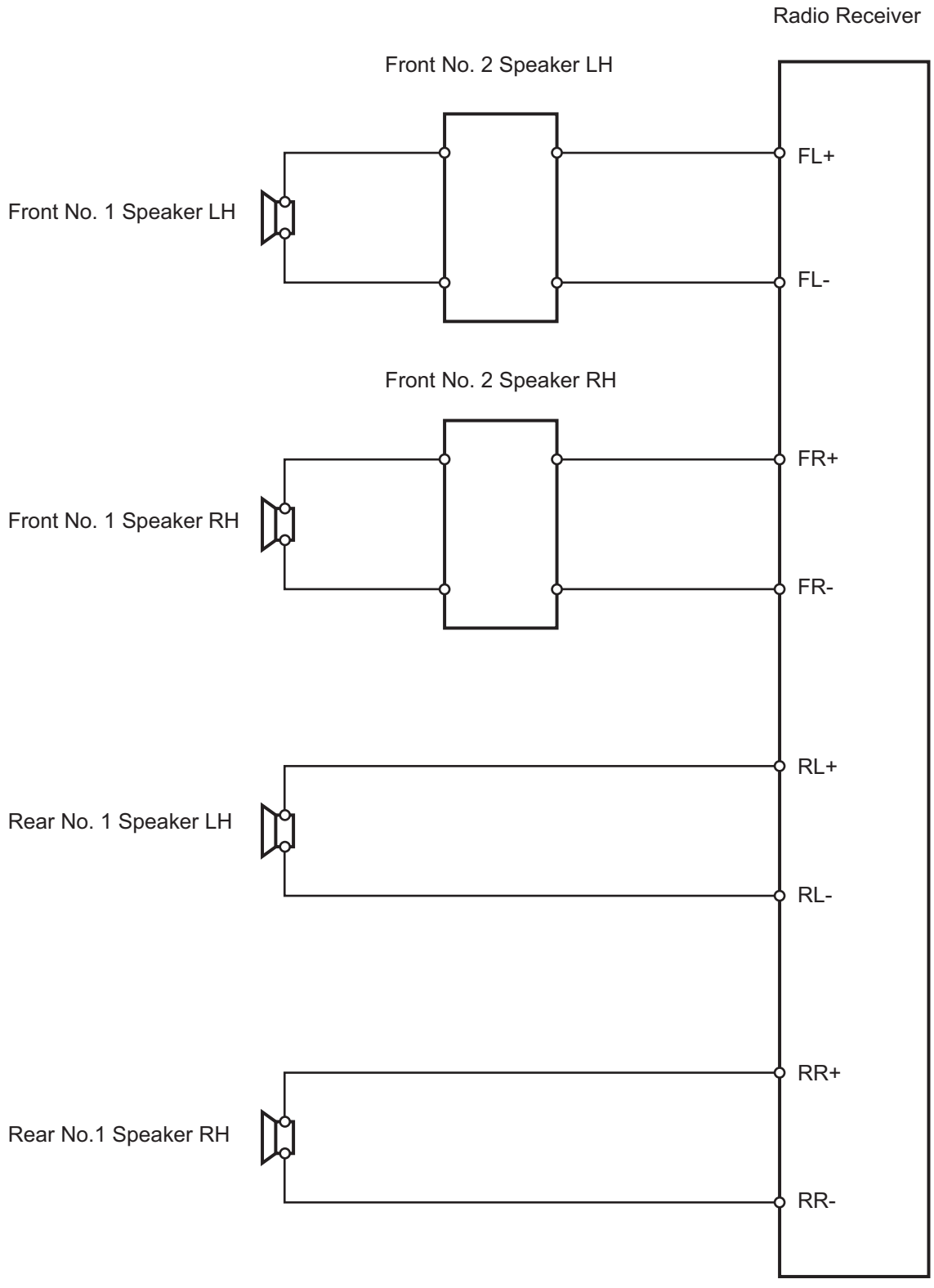
DESCRIPTION

- When the vehicle has a built-in type amplifier, a sound signal is sent from the radio receiver to the speakers via the "6 Speaker System" circuit.
- When the vehicle has a separate type amplifier, a sound signal from the radio receiver is amplified by the stereo component amplifier and then transmitted to the speaker via the "9 Speaker System".

If there is a short in this circuit, the stereo component amplifier detects it and stops output to the speakers. Thus, sound cannot be heard from the speakers even if there is no malfunction in the stereo component amplifier or speakers.

WIRING DIAGRAM

for 6 Speaker System



N

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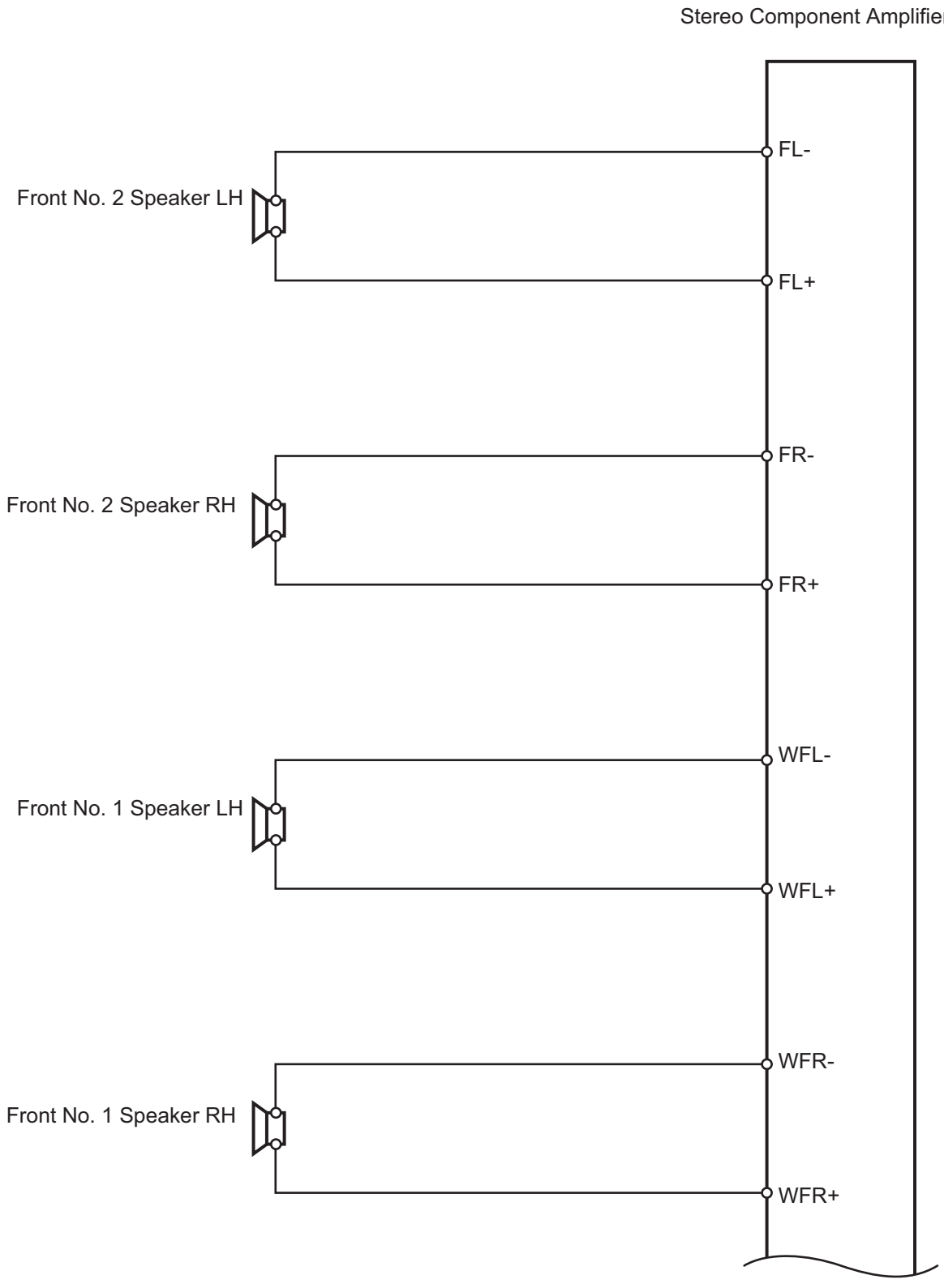
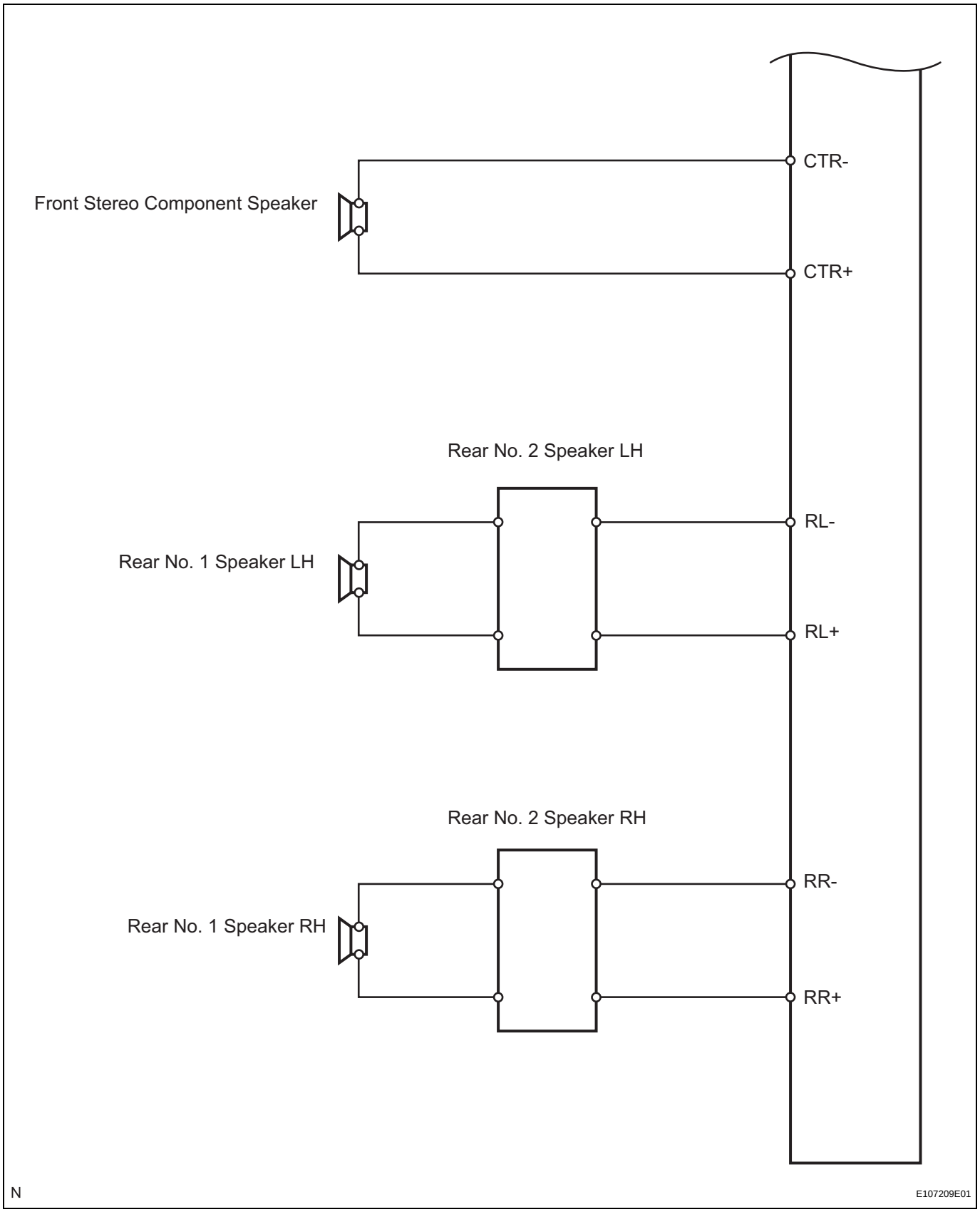
AV

for 9 Speaker System




CTR-
Front Stereo Component Speaker
CTR+
Rear No. 2 Speaker LH
RL-
Rear No. 1 Speaker LH
RL+
Rear No. 2 Speaker RH
RR-
Rear No. 1 Speaker RH
RR+
N
E107209E01

AV

INSPECTION PROCEDURE

1	CHECK VEHICLE EQUIPMENT

Vehicle equipment

Vehicle equipment	Proceed to
6 speaker system	A
9 speaker system	B

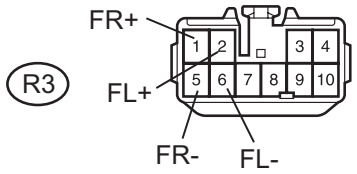
B → Go to step 7

A

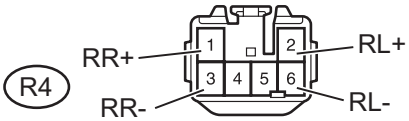
2 CHECK WIRE HARNESS (RADIO RECEIVER - SPEAKER)

Wire Harness Side

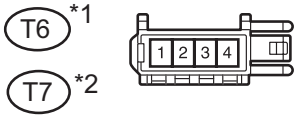
Radio Receiver



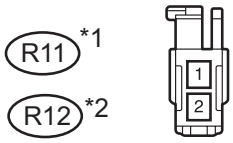
Radio Receiver



Front No. 2 Speaker LH*1, RH*2



Rear No. 1 Speaker LH*1, RH*2



*1: for LH

*2: for RH

N

E107212E03

(a) Disconnect the R3 and R4 receiver connectors.
(b) Disconnect the T6, T7, R11 and R12 speaker connectors.
(c) Measure the resistance of the wire harness side connectors.

Standard resistance

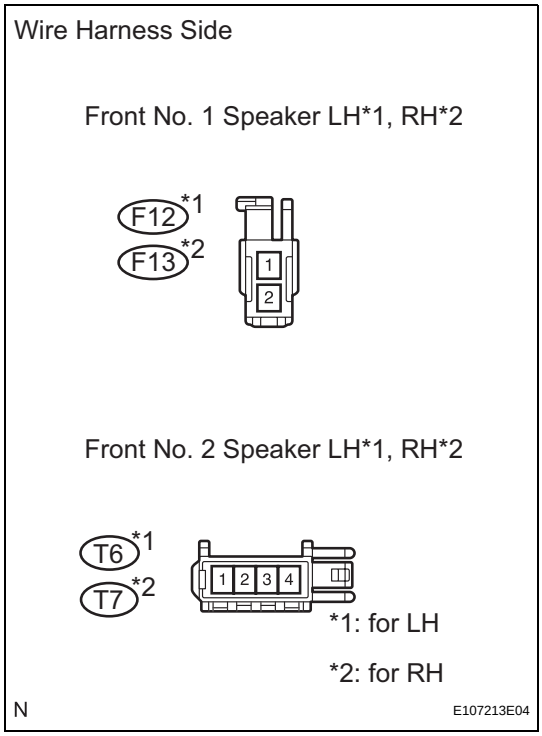
Tester Connection	Specified Condition
R3-2 (FL+) - T6-4	Below 1 Ω
R3-6 (FL-) - T6-2	Below 1 Ω
R3-1 (FR+) - T7-4	Below 1 Ω
R3-5 (FR-) - T7-2	Below 1 Ω
R4-2 (RL+) - R11-1	Below 1 Ω
R4-6 (RL-) - R11-2	Below 1 Ω
R4-1 (RR+) - R12-1	Below 1 Ω
R4-3 (RR-) - R12-2	Below 1 Ω

NG → **REPAIR OR REPLACE HARNESS AND CONNECTOR**

OK

AV

3 CHECK WIRE HARNESS (FRONT NO. 1 SPEAKER - FRONT NO. 2 SPEAKER)



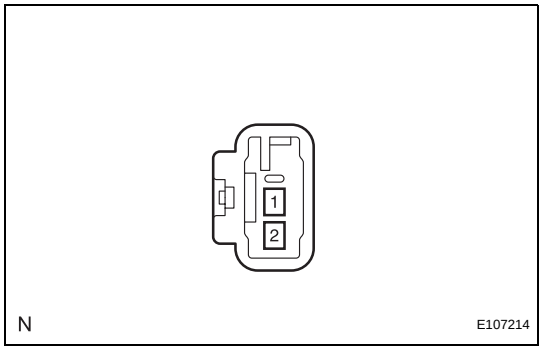
(a) Disconnect the F12, F13, T6 and T7 speaker connectors.
(b) Measure the resistance of the wire harness side connectors.
Standard resistance

Tester Connection	Specified Condition
F12-1 - T6-3	Below 1 Ω
F12-2 - T6-1	Below 1 Ω
F13-1 - T7-3	Below 1 Ω
F13-2 - T7-1	Below 1 Ω

NG → **REPAIR OR REPLACE HARNESS AND CONNECTOR**

OK

4 INSPECT FRONT NO. 1 SPEAKER



(a) Disconnect the F12 and F13 speaker connectors.
(b) Measure the resistance of the speaker.
Standard resistance

Tester Connection	Specified Condition
1 - 2	Approximately 4 Ω

NG → **REPLACE FRONT NO. 1 SPEAKER**

OK

5 INSPECT FRONT NO. 2 SPEAKER

(a) Check that the malfunction disappears when the speaker is replaced with a normal one.
OK:
Malfunction disappears.
HINT:
- Connect all the connectors to the front No. 2 speakers.

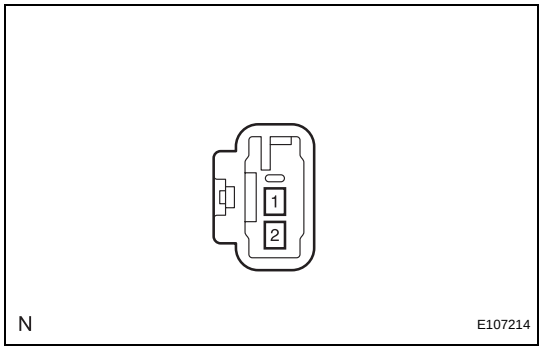
AV

- When there is a possibility that either the right or left front speaker is defective, inspect by interchanging the right one with the left one.
- Perform the inspection above on both LH and RH sides.

NG → **REPLACE FRONT NO. 2 SPEAKER**

OK

6 INSPECT REAR NO. 1 SPEAKER



(a) Disconnect the R11 and R12 speaker connectors.
(b) Measure the resistance of the speaker.
Standard resistance

Tester Connection	Specified Condition
1 - 2	Approximately 4 Ω

NG → **REPLACE REAR NO. 1 SPEAKER**

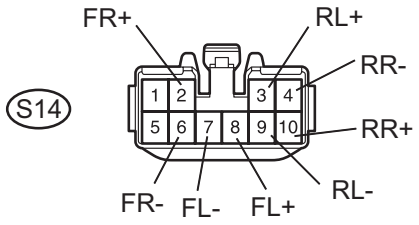
OK

REPLACE RADIO RECEIVER

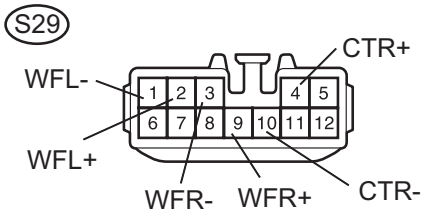
7	**CHECK WIRE HARNESS (STEREO COMPONENT AMPLIFIER - SPEAKER)**

Wire Harness Side

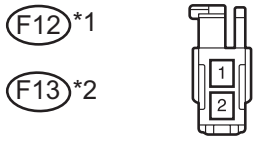
Stereo Component Amplifier



Stereo Component Amplifier

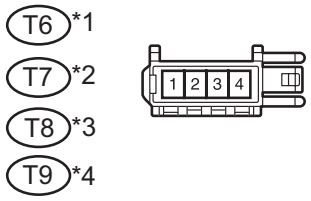


Front No. 1 Speaker LH*1, RH*2



Front No. 2 Speaker LH*1, RH*2

Rear No. 2 Speaker LH*3, RH*4



Front Stereo Component Speaker

N

E107215E03

(a) Disconnect the S14 and S29 amplifier connectors.
(b) Disconnect the C8, F12, F13, T6, T7, T8 and T9 speaker connectors.
(c) Measure the resistance of the wire harness side connectors.

Standard resistance

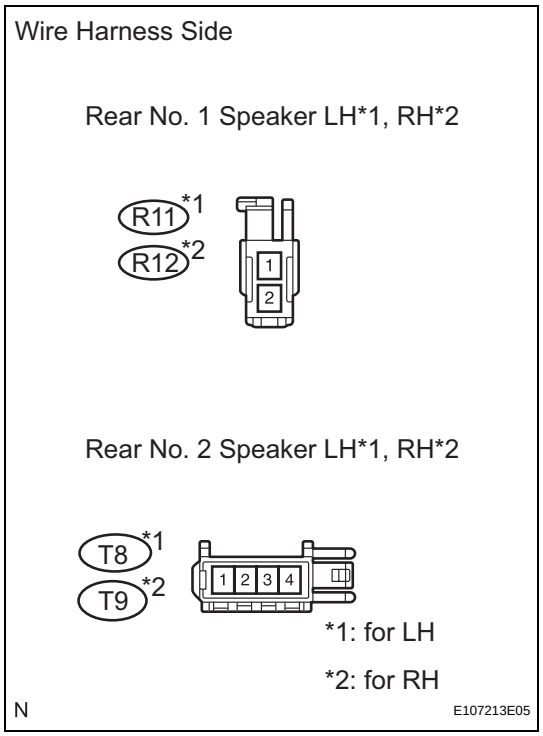
Tester Connection	Specified Condition
S29-2 (WFL+) - F12-1	Below 1 Ω
S29-1 (WFL-) - F12-2	Below 1 Ω
S29-9 (WFR+) - F13-1	Below 1 Ω
S29-3 (WFR-) - F13-2	Below 1 Ω
S14-8 (FL+) - T6-4	Below 1 Ω
S14-7 (FL-) - T6-2	Below 1 Ω
S14-2 (FR+) - T7-4	Below 1 Ω
S14-6 (FR-) - T7-2	Below 1 Ω
S14-3 (RL+) - T8-4	Below 1 Ω
S14-9 (RL-) - T8-2	Below 1 Ω
S14-10 (RR+) - T9-4	Below 1 Ω
S14-4 (RR-) - T9-2	Below 1 Ω
S29-4 (CTR+) - C8-2	Below 1 Ω
S29-10 (CTR-) - C8-1	Below 1 Ω

NG → **REPAIR OR REPLACE HARNESS AND CONNECTOR**

AV

OK

8	CHECK WIRE HARNESS (REAR NO. 1 SPEAKER - REAR NO. 2 SPEAKER)



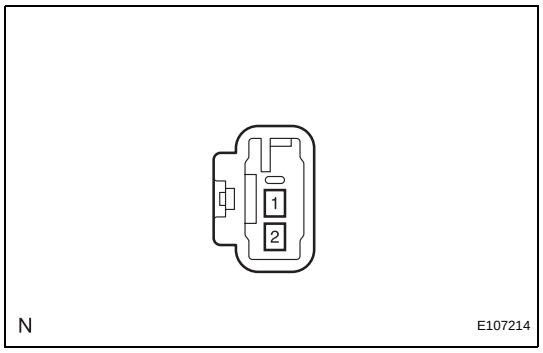
(a) Disconnect the R11, R12, T8 and T9 speaker connectors.
(b) Measure the resistance of the wire harness side connectors.
Standard resistance

Tester Connection	Specified Condition
R11-1 - T8-3	Below 1 Ω
R11-2 - T8-1	Below 1 Ω
R12-1 - T9-3	Below 1 Ω
R12-2 - T9-1	Below 1 Ω

NG → **REPAIR OR REPLACE HARNESS AND CONNECTOR**

OK

9	INSPECT FRONT NO. 1 SPEAKER



(a) Disconnect the F12 and F13 speaker connectors.
(b) Measure the resistance of the speaker.
Standard resistance

Tester Connection	Specified Condition
1 - 2	Approximately 4 Ω

NG → **REPLACE FRONT NO. 1 SPEAKER**

OK

10	INSPECT FRONT NO. 2 SPEAKER

(a) Check that the malfunction disappears when the speaker is replaced with a normal one.
OK :
Malfunction disappears
HINT:
- Connect all the connectors to the front No. 2 speakers.

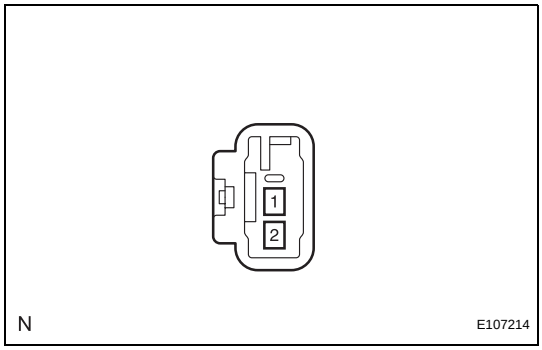
AV

- When there is a possibility that either the right or left front speaker is defective, inspect by interchanging the right one with the left one.
- Perform the inspection above on both LH and RH sides.

NG → **REPLACE FRONT NO. 2 SPEAKER**

OK

11 INSPECT REAR NO. 1 SPEAKER



(a) Disconnect the R11 and R12 speaker connectors.
(b) Measure the resistance of the speaker.
Standard resistance

Tester Connection	Specified Condition
1 - 2	Approximately 4 Ω

NG → **REPLACE REAR NO. 1 SPEAKER**

OK

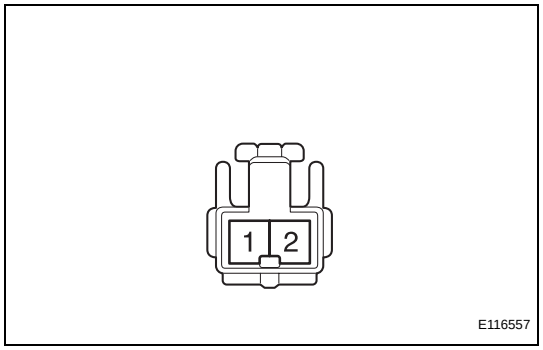
12 INSPECT REAR NO. 2 SPEAKER

(a) Check that the malfunction disappears when the speaker is replaced with a normal one.
OK:
Malfunction disappears.
HINT:
- Connect all the connectors to the rear No. 2 speakers.
- When there is a possibility that either the right or left rear speaker is defective, inspect by interchanging the right one with the left one.
- Perform the inspection above on both LH or RH sides.

NG → **REPLACE REAR NO. 2 SPEAKER**

OK

13	INSPECT FRONT STEREO COMPONENT SPEAKER



(a) Disconnect the C8 speaker connector.
(b) Measure the resistance of the speaker.
Standard resistance

Tester Connection	Specified Condition
1 - 2	1.2 to 2.2 Ω

NG → **REPLACE FRONT STEREO COMPONENT SPEAKER**

OK

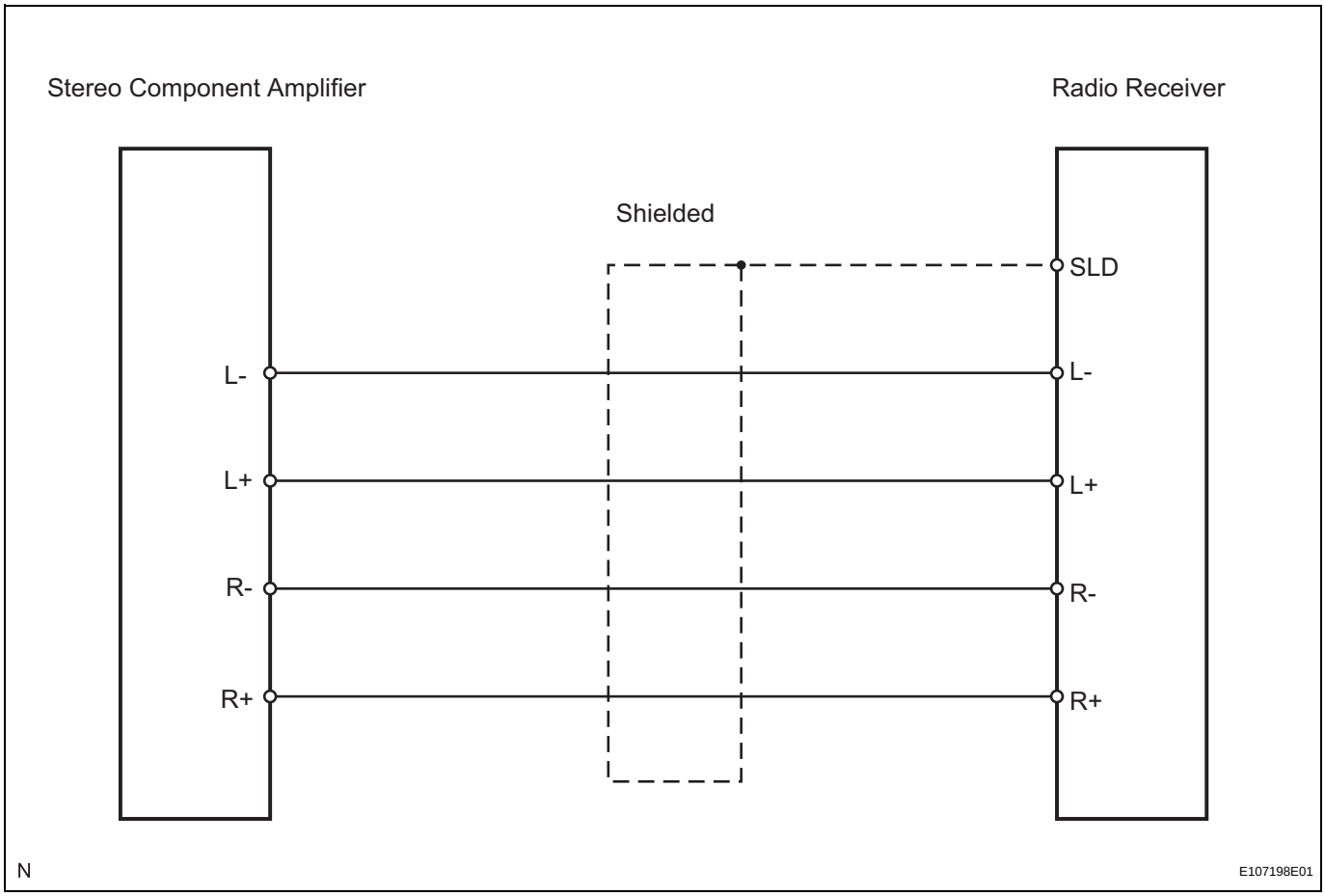
PROCEED TO NEXT CIRCUIT INSPECTION SHOWN IN PROBLEM SYMPTOMS TABLE

Sound Signal Circuit between Radio Receiver and Stereo Component Amplifier

DESCRIPTION

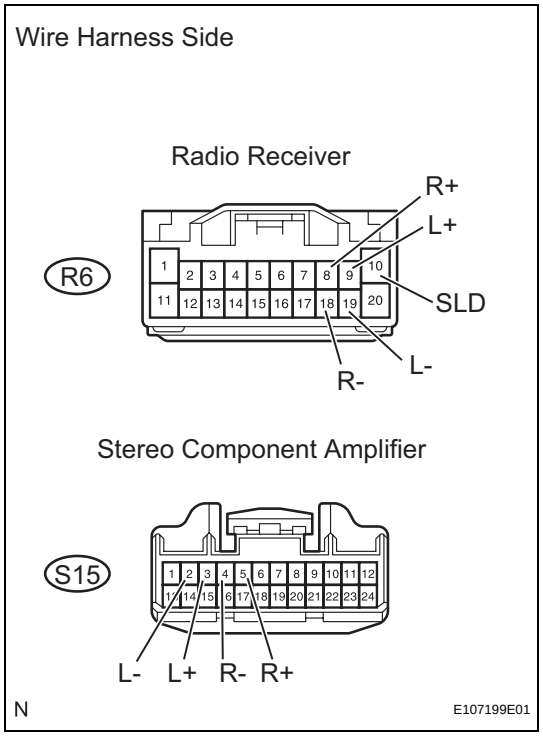
The radio receiver sends a sound signal to the stereo component amplifier through this circuit.
The sound signal that has been sent is amplified by the stereo component amplifier, and then is sent to the speakers.
If there is an open or short in the circuit, sound cannot be heard from the speakers even if there is no malfunction in the stereo component amplifier or speakers.

WIRING DIAGRAM



INSPECTION PROCEDURE

1	CHECK WIRE HARNESS (RADIO RECEIVER - STEREO COMPONENT AMPLIFIER)



(a) Disconnect the R6 receiver connector.
(b) Disconnect the S15 amplifier connector.
(c) Measure the resistance of the wire harness side connectors.

Standard resistance

Tester Connection	Specified Condition
R6-9 (L+) - S15-3 (L+)	Below 1 Ω
R6-19 (L-) - S15-2 (L-)	Below 1 Ω
R6-8 (R+) - S15-5 (R+)	Below 1 Ω
R6-18 (R-) - S15-4 (R-)	Below 1 Ω
R6-9 (L+) - Body ground	10 kΩ or higher
R6-19 (L-) - Body ground	10 kΩ or higher
R6-8 (R+) - Body ground	10 kΩ or higher
R6-18 (R-) - Body ground	10 kΩ or higher
R6-10 (SLD) - Body ground	10 kΩ or higher

NG → **REPAIR OR REPLACE HARNESS AND CONNECTOR**

OK

PROCEED TO NEXT CIRCUIT INSPECTION SHOWN IN PROBLEM SYMPTOMS TABLE

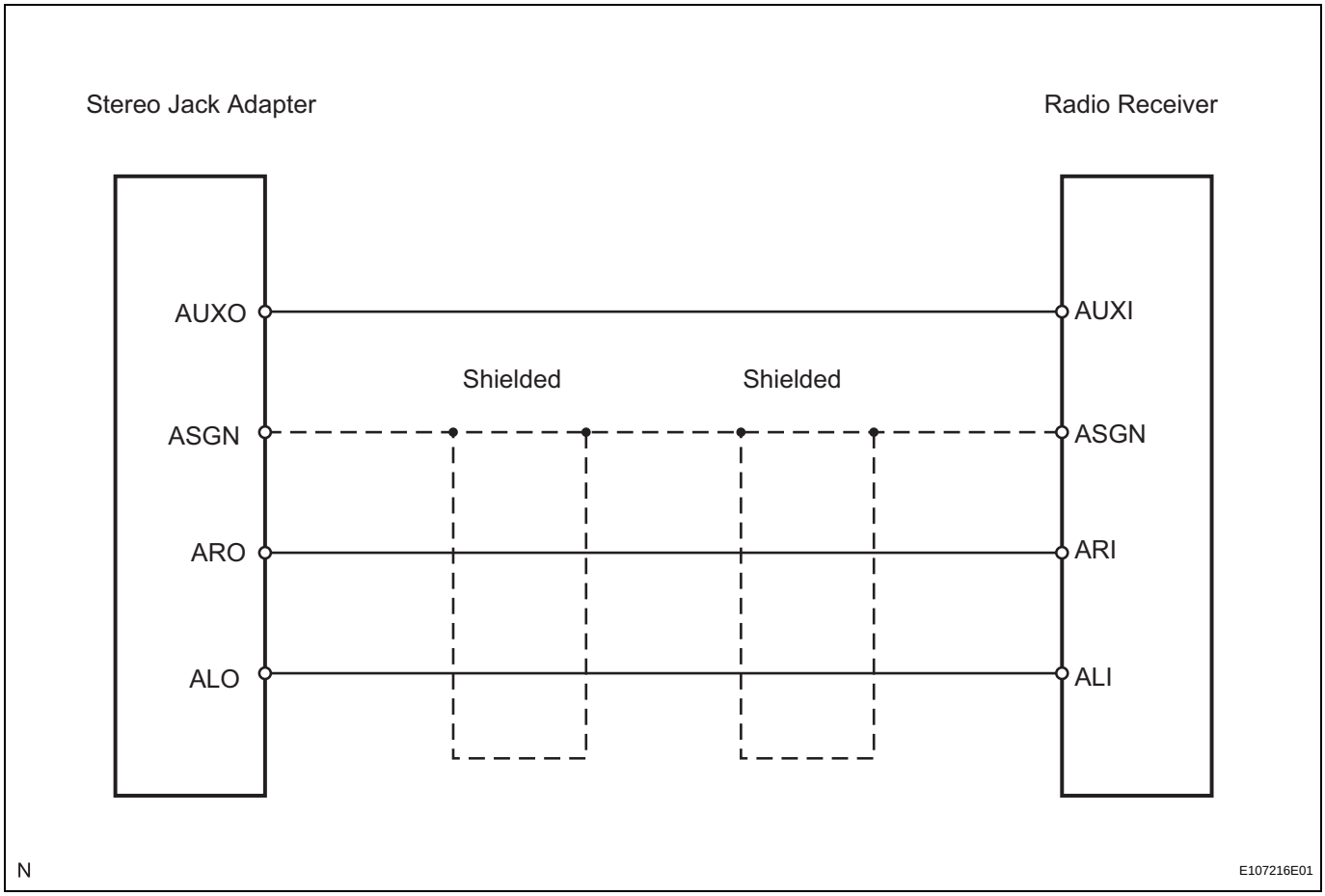
AV

Sound Signal Circuit between Radio Receiver and Stereo Jack Adapter

DESCRIPTION

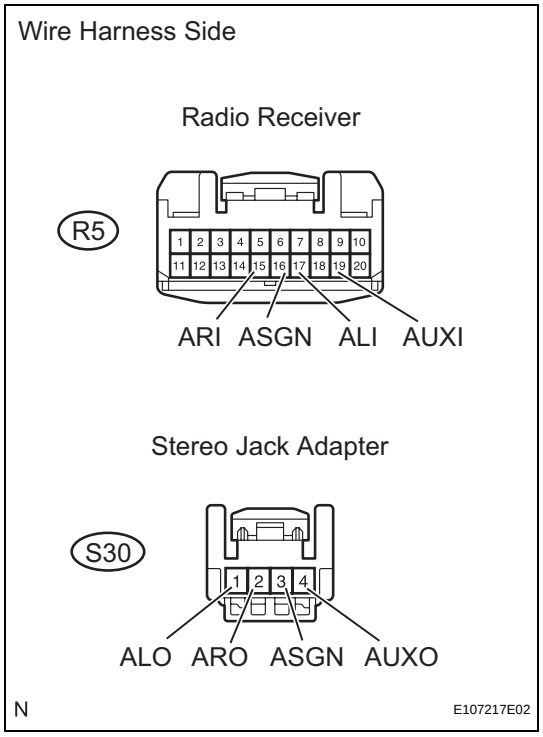
The stereo jack adapter sends an external device sound signal to the radio receiver through this circuit. The sound signal that has been sent is amplified by the stereo component amplifier, and then is sent to the speakers.
If there is an open or short in the circuit, sound cannot be heard from the speakers even if there is no malfunction in the stereo component amplifier, radio receiver, or speakers.

WIRING DIAGRAM



INSPECTION PROCEDURE

1	CHECK WIRE HARNESS (RADIO RECEIVER - STEREO JACK ADAPTER)



(a) Disconnect the R5 receiver connector.
(b) Disconnect the S30 adapter connector.
(c) Measure the resistance of the wire harness side connectors.

Standard resistance

Tester Connection	Specified Condition
S30-4 (AUXO) - R5-19 (AUXI)	Below 1 Ω
S30-3 (ASGN) - R5-16 (ASGN)	Below 1 Ω
S30-2 (ARO) - R5-15 (ARI)	Below 1 Ω
S30-1 (ALO) - R5-17 (ALI)	Below 1 Ω
S30-4 (AUXO) - Body ground	10 kΩ or higher
S30-3 (ASGN) - Body ground	10 kΩ or higher
S30-2 (ARO) - Body ground	10 kΩ or higher
S30-1 (ALO) - Body ground	10 kΩ or higher

NG → **REPAIR OR REPLACE HARNESS AND CONNECTOR**

OK

PROCEED TO NEXT CIRCUIT INSPECTION SHOWN IN PROBLEM SYMPTOMS TABLE

AV

Mute Signal Circuit between Radio Receiver and Stereo Component Amplifier

DESCRIPTION

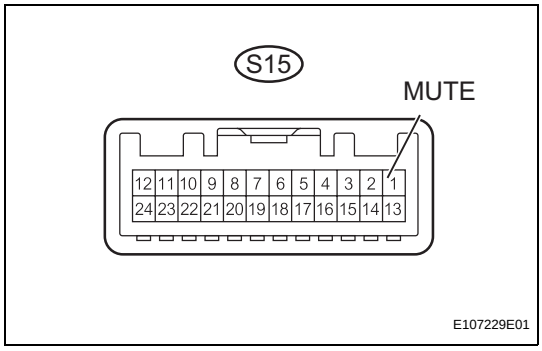
This circuit sends a signal to the stereo component amplifier to mute noise. As a reslut, the noise produced by changing the sound source ceases.
If there is an open in the circuit, noise can be heard from the speakers when changing the sound source.
If there is a short in the circuit, even though the stereo component amplifier is normal, no sound, or only an extremely small sound can be produced.

WIRING DIAGRAM

AV

INSPECTION PROCEDURE

1	CHECK STEREO COMPONENT AMPLIFIER (MUTE VOLTAGE)



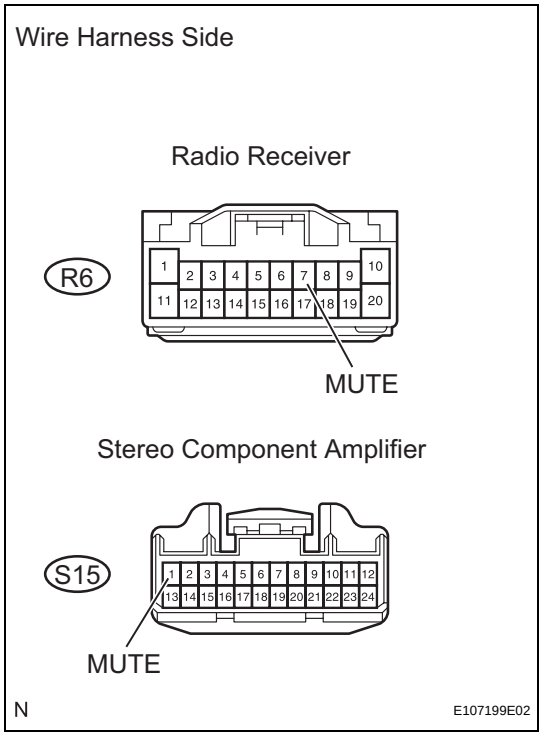
(a) Measure the voltage of the amplifier.
Standard voltage

Tester Connection	Condition	Specified Condition
S15-1 (MUTE) - Body ground	Turn power switch ON (ACC), Audio system is playing → Changing mode	Above 3.5 V → Below 1 V

OK → **PROCEED TO NEXT CIRCUIT INSPECTION SHOWN IN PROBLEM SYMPTOMS TABLE**

NG

2	CHECK WIRE HARNESS (RADIO RECEIVER - STEREO COMPONENT AMPLIFIER)



(a) Disconnect the R6 receiver connector.
(b) Disconnect the S15 amplifier connector.
(c) Measure the resistance of the wire harness side connectors.

Standard resistance

Tester Connection	Specified Condition
R6-7 (MUTE) - S15-1 (MUTE)	Below 1 Ω
R6-7 (MUTE) - Body ground	10 kΩ or higher

NG → **REPAIR OR REPLACE HARNESS AND CONNECTOR**

OK

3	REPLACE RADIO RECEIVER

(a) Replace the radio receiver with a normal one and check if it operates normally.

OK:

The radio receiver operates normally.

NG → **REPLACE STEREO COMPONENT AMPLIFIER**

OK

END

AV

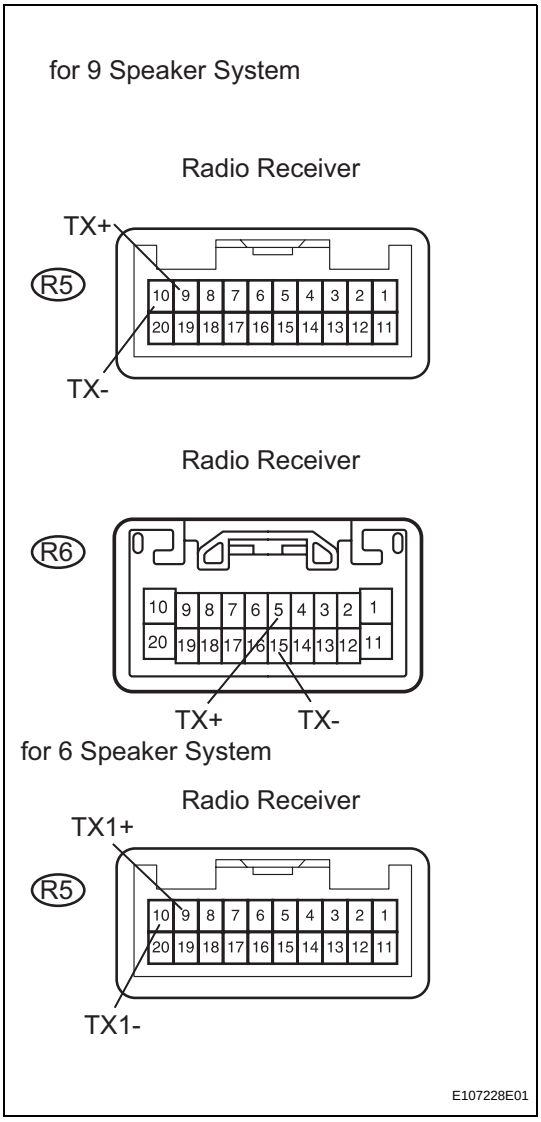
AVC-LAN Circuit

DESCRIPTION

Each unit of the audio system connected to the AVC-LAN (communication bus) transfers the signal of each switch by communication.
When a short to +B or short to ground occurs in this AVC-LAN, the audio system will not function normally as the communication is discontinued.

INSPECTION PROCEDURE

1	INSPECT RADIO RECEIVER



(a) for 9 Speaker System:
Disconnect the R5 and R6 receiver connectors.
(b) for 6 Speaker System:
Disconnect the R5 receiver connector.
(c) Measure the resistance of the receiver.
Standard resistance

Tester Connection	Specified Condition
R5-9 (TX1+) - R5-10 (TX1-)*1	60 to 80 Ω
R5-9 (TX+) - R5-10 (TX-)*2	60 to 80 Ω
R6-5 (TX+) - R6-15 (TX-)*2	60 to 80 Ω

HINT:
- *1: for 6 speaker system
- *2: for 9 speaker system

NG → REPLACE RADIO RECEIVER

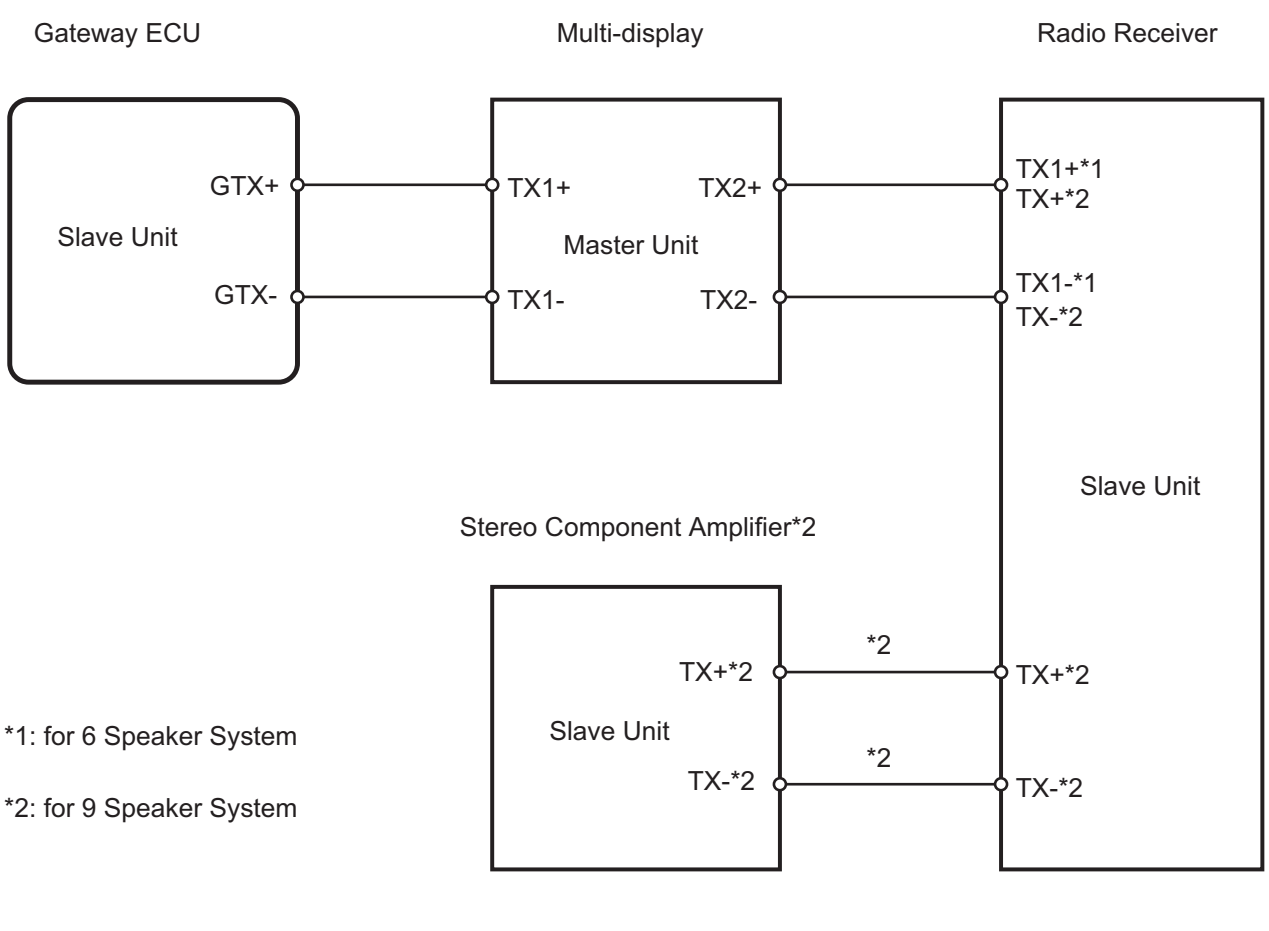
OK

2	CHECK WIRE HARNESS

HINT:
For details of the connectors, refer to the "TERMINALS OF ECU" (see page AV-31).

(a) Referring to the AVC-LAN wiring diagram below, check all AVC-LAN circuits.
  (1) Disconnect all connectors in all AVC-LAN circuits.
  (2) Check for an open or short in all AVC-LAN circuits.
  OK:
  There is no open or short circuit.

AVC-LAN Wiring Diagram



NG → **REPAIR OR REPLACE HARNESS AND CONNECTOR**

OK

PROCEED TO NEXT CIRCUIT INSPECTION SHOWN IN PROBLEM SYMPTOMS TABLE

AV

Vehicle Speed Signal Circuit between Stereo Component Amplifier and Combination Meter

DESCRIPTION

This circuit is necessary for the ASL (Auto Sound Levelizer) built into the stereo component amplifier. Speed signals are received from the combination meter and used for the ASL.
The ASL function automatically adjusts the sound data in order to enable hearing the clear audio even when vehicle noise increases (as vehicle noise increases, the volume is turned up, etc.).

WIRING DIAGRAM

AV

INSPECTION PROCEDURE

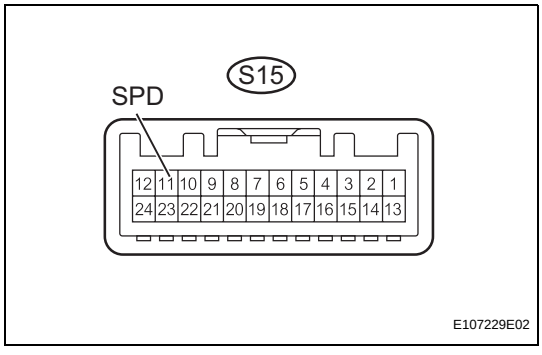
1	CHECK OPERATION OF SPEEDOMETER

(a) Drive the vehicle and check if the function of the speedometer on the combination meter is normal.
OK:
Actual vehicle speed and the speed indicated on the speedometer are the same.
HINT:
The vehicle speed sensor is functioning normally when the indication on the speedometer is normal.

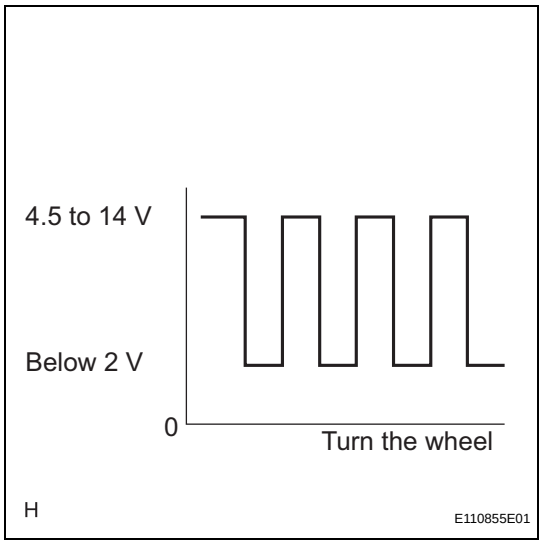
NG → **GO TO METER / GAUGE SYSTEM**

OK

2	CHECK STEREO COMPONENT AMPLIFIER



(a) Disconnect the S15 amplifier connector.
(b) Measure the voltage.
(1) Jack up either one of the drive wheels.
(2) Move the shift lever to the neutral position.
(3) Turn the power switch ON (IG).

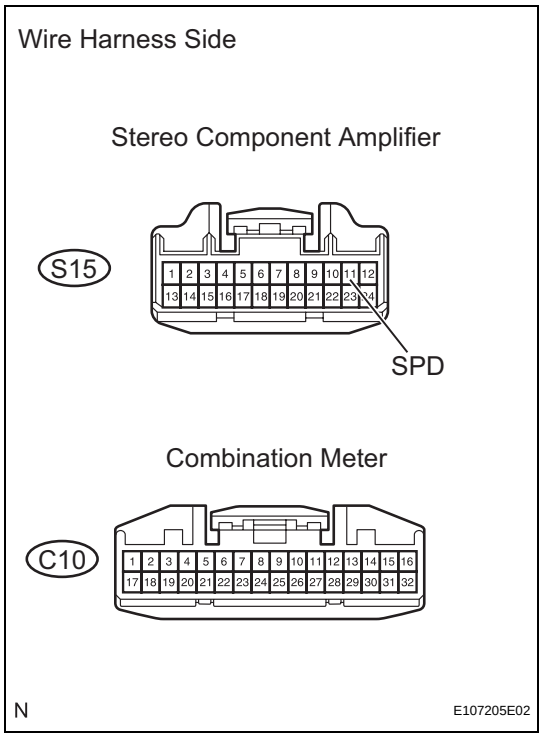


(4) Measure the voltage between terminal 11 (SPD) of the stereo component amplifier and body ground when the drive wheels are turned slowly.
OK:
Voltage pulses as shown in the illustration.

OK → **REPLACE STEREO COMPONENT AMPLIFIER**

NG

3	CHECK WIRE HARNESS (COMBINATION METER - STEREO COMPONENT AMPLIFIER)



(a) Disconnect the S15 amplifier connector.
(b) Disconnect the C10 meter connector.
(c) Measure the resistance of the wire harness side connectors.
Standard resistance

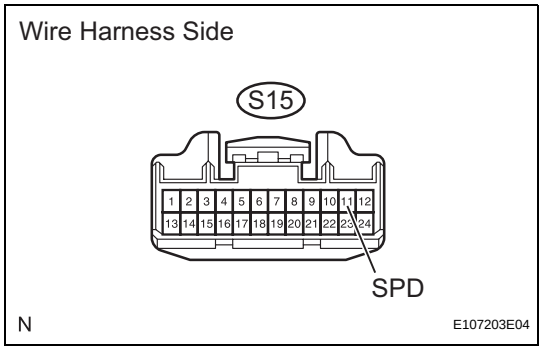
Tester Connection	Specified Condition
S15-11 (SPD) - C10-13	Below 1 Ω

NG → **REPAIR OR REPLACE HARNESS AND CONNECTOR**

OK

AV

4	CHECK WIRE HARNESS (STEREO COMPONENT AMPLIFIER - BODY GROUND)



(a) Disconnect the S15 amplifier connector.
(b) Measure the resistance of the wire harness side connector.

Standard resistance

Tester Connection	Specified Condition
S15-11 (SPD) - Body ground	10 kΩ or higher

HINT:
If the resistance between terminal 11 (SPD) and body ground is less than 10 kΩ, there may be a short in a wire harness, connector, or an ECU that is connected to the SPD signal wire.

NG → **REPAIR OR REPLACE HARNESS AND CONNECTOR**

OK

AV

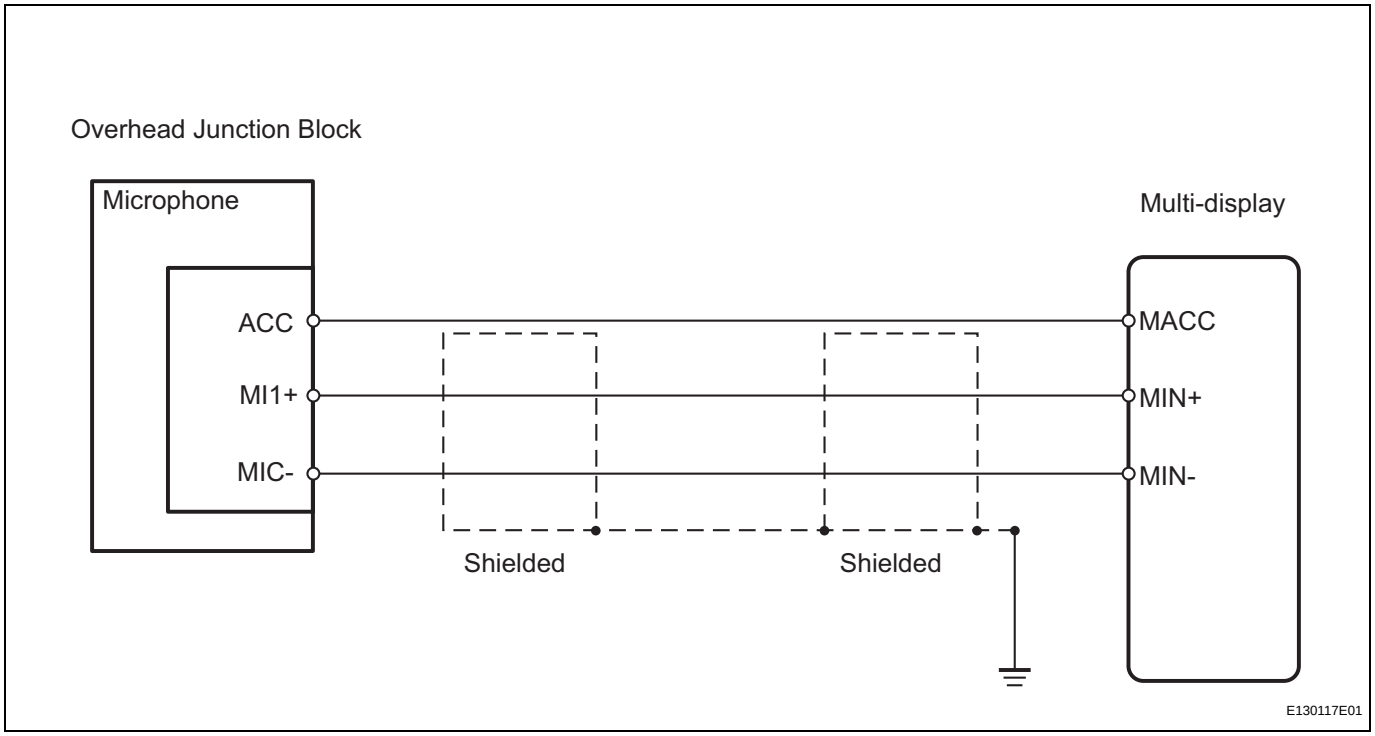
REPLACE STEREO COMPONENT AMPLIFIER

Microphone Circuit between Overhead J/B and Multi-display

DESCRIPTION

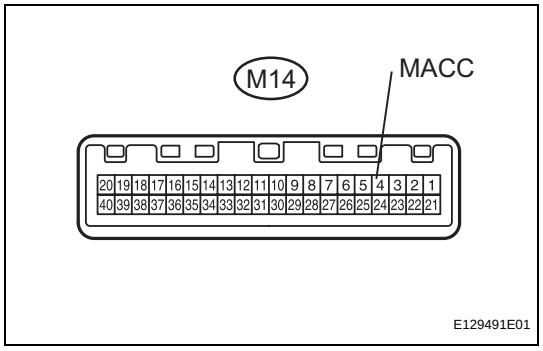
This circuit sends a microphone signal from the microphone to the multi-display. It also supplies power from multi-display to the microphone.

WIRING DIAGRAM



INSPECTION PROCEDURE

1	CHECK MULTI-DISPLAY (MACC VOLTAGE)



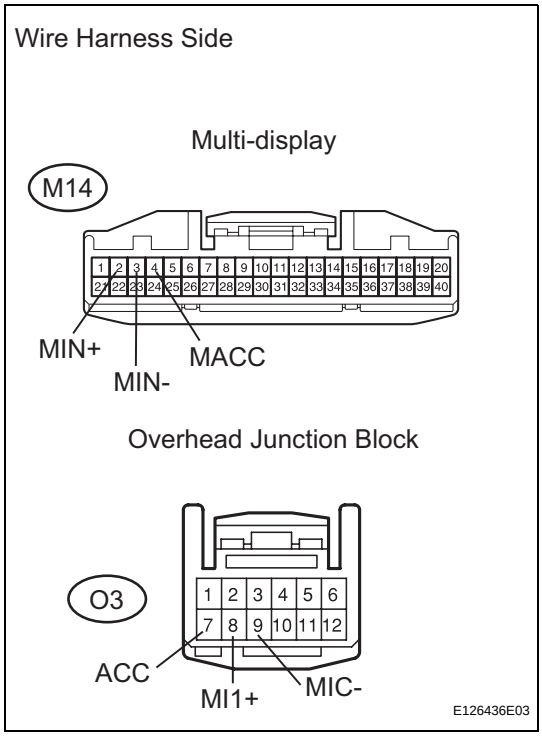
(a) Measure the voltage of the display.
Standard voltage

Tester Connection	Condition	Specified Condition
M14-4 (MACC) - Body ground	Power switch ON (ACC)	10 to 14 V

NG → **REPLACE MULTI-DISPLAY**

OK

2	CHECK WIRE HARNESS (MULTI-DISPLAY - OVERHEAD JUNCTION BLOCK)



(a) Disconnect the M14 display connector.
(b) Disconnect the O3 junction block connector.
(c) Measure the resistance of the wire harness side connectors.

Standard resistance

Tester Connection	Specified Condition
M14-4 (MACC) - O3-7 (ACC)	Below 1 Ω
M14-2 (MIN+) - O3-8 (MI1+)	Below 1 Ω
M14-3 (MIN-) - O3-9 (MIC-)	Below 1 Ω
M14-4 (MACC) - Body ground	10 kΩ or higher
M14-2 (MIN+) - Body ground	10 kΩ or higher
M14-3 (MIN-) - Body ground	10 kΩ or higher

NG → **REPAIR OR REPLACE HARNESS AND CONNECTOR**

OK

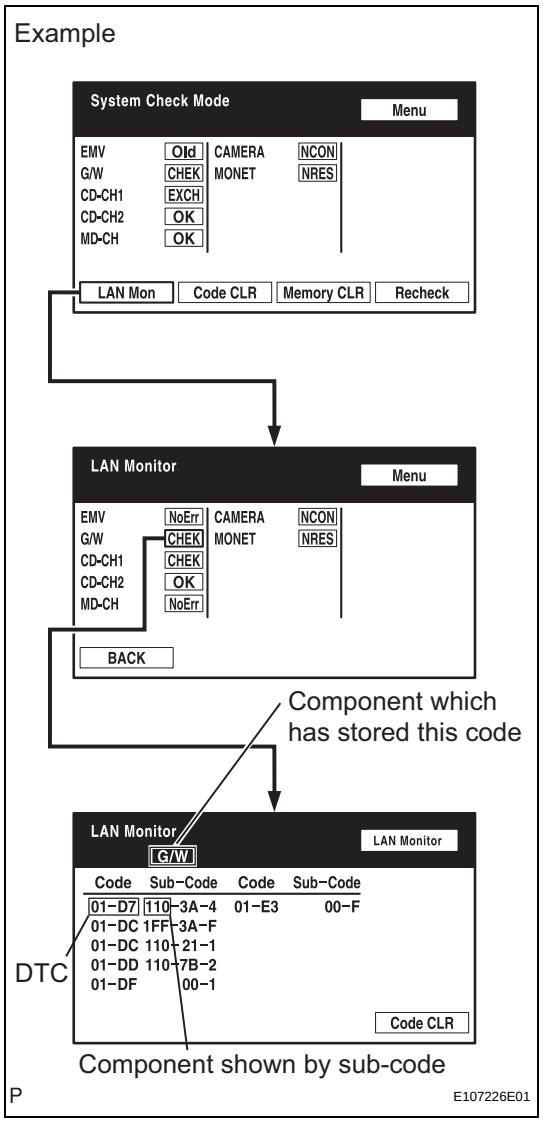
PROCEED TO NEXT INSPECTION PROCEDURE SHOWN IN PROBLEM SYMPTOMS TABLE

AV

Gateway ECU Communication Error

INSPECTION PROCEDURE

1 IDENTIFY COMPONENT SHOWN BY SUB-CODE



(a) Enter the diagnostic mode.
(b) Press the "LAN Mon" switch to change to "LAN Monitor" mode.
(c) Identify the component which has stored this code.
HINT:
- "110 (multi-display)" is the component shown by the sub-code in the example shown in the illustration.
- The sub-code will be indicated by its physical address.
- For details of the DTC display, refer to "DIAGNOSIS DISPLAY DETAILED DESCRIPTION" (see page AV-22).

NEXT

2 CHECK POWER SOURCE CIRCUIT OF COMPONENT SHOWN BY SUB-CODE

(a) Inspect the power source circuit of the component shown by the sub-code.
If the power source circuit is operating normally, proceed to the next step.

Component table:

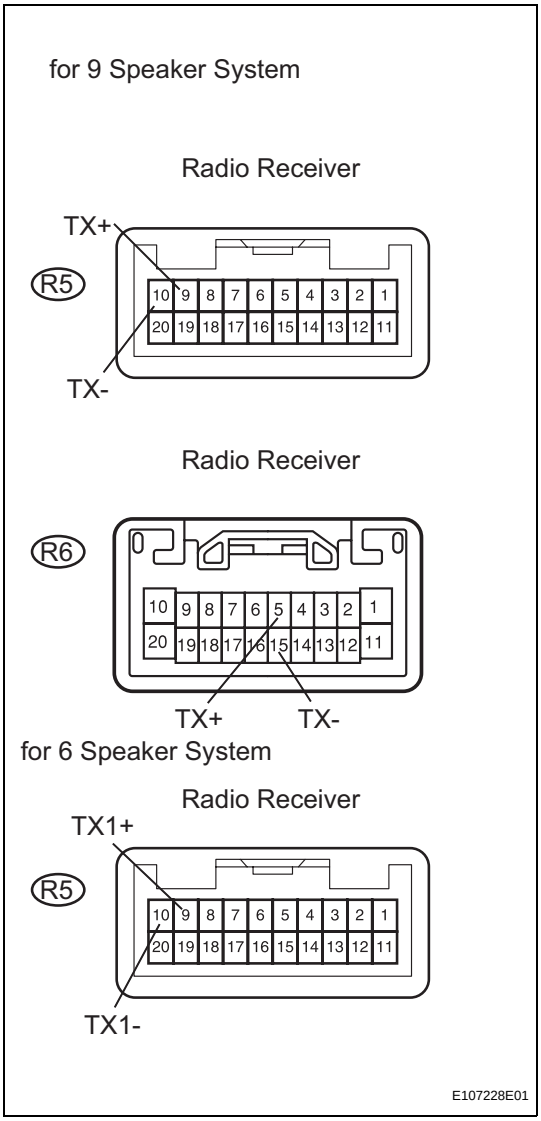
Component	Proceed to
Multi-display (110)	Multi-display power source circuit (see page AV-175)
Stereo component amplifier (440)	Stereo component amplifier power source circuit (see page AV-173)

AV

Component	Proceed to
Radio receiver (190)	Radio receiver power source circuit (see page AV-171)

NEXT

3 INSPECT RADIO RECEIVER



(a) for 9 Speaker System:
Disconnect the R5 and R6 receiver connectors.

(b) for 6 Speaker System:
Disconnect the R5 receiver connector.

(c) Measure the resistance of the receiver.

Standard resistance

Tester Connection	Specified Condition
R5-9 (TX1+) - R5-10 (TX1-)*1	60 to 80 Ω
R5-9 (TX+) - R5-10 (TX-)*2	60 to 80 Ω
R6-5 (TX+) - R6-15 (TX-)*2	60 to 80 Ω

HINT:
- *1: for 6 speaker system
- *2: for 9 speaker system

NG → REPLACE RADIO RECEIVER

OK

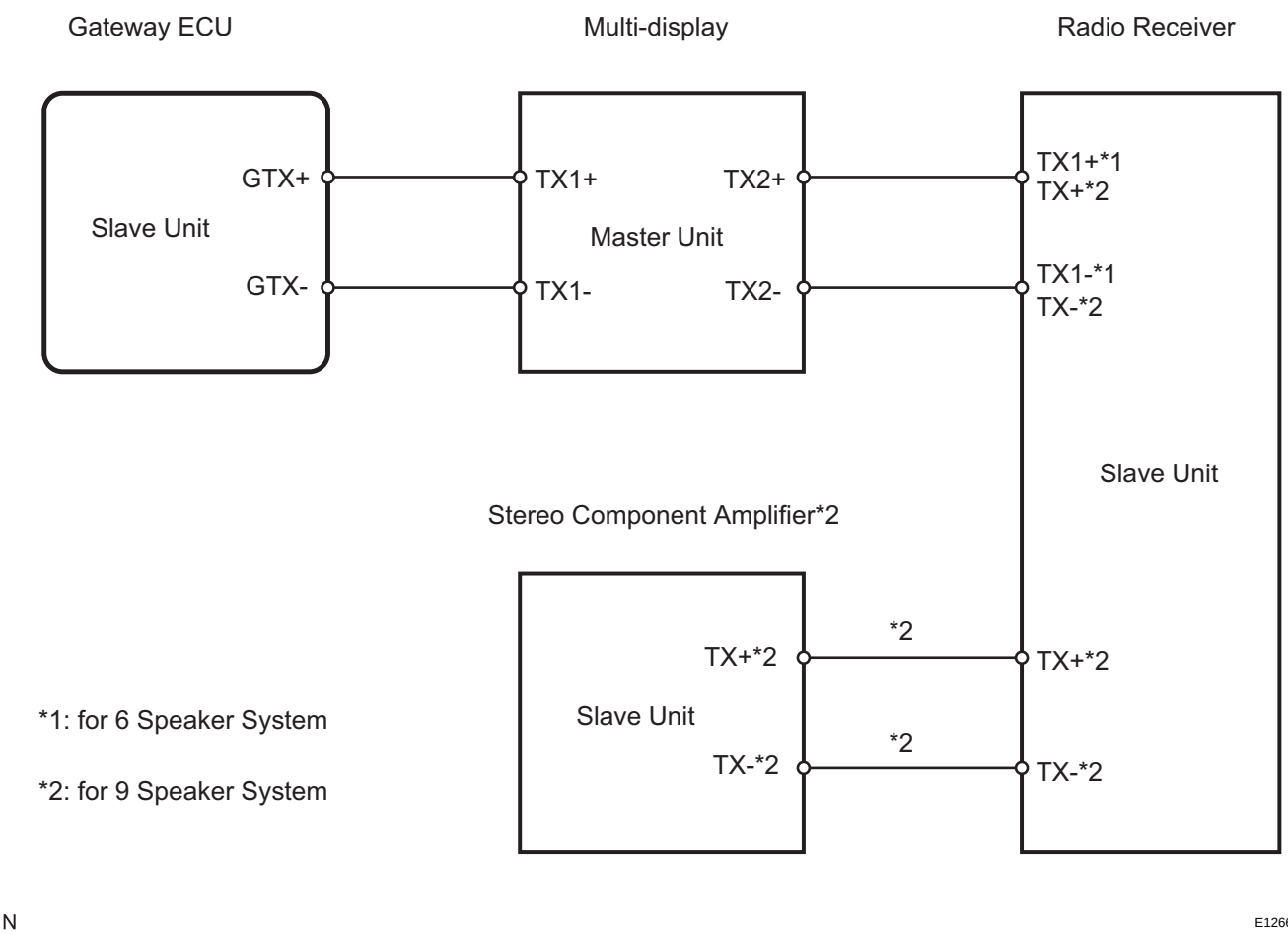
4 CHECK WIRE HARNESS (GATEWAY ECU - COMPONENT SHOWN BY SUB-CODE)

HINT:
- Start the check from the circuit that is near the component shown by the sub-code first.
- For details of the connectors, refer to the "TERMINALS OF ECU" (see page AV-31).

(a) Referring to the AVC-LAN wiring diagram below, check the AVC-LAN circuit between the gateway ECU and the component shown by the sub-code.

(1) Disconnect all connectors between the gateway ECU and the component shown by sub-code.
(2) Check for an open or short in the AVC-LAN circuit between the gateway ECU and the component shown by the sub-code.
OK:
There is no open or short circuit.

AVC-LAN Wiring Diagram



AV

NG → **REPAIR OR REPLACE HARNESS AND CONNECTOR**

OK

5	REPLACE COMPONENT SHOWN BY SUB-CODE

(a) Replace the component shown by the sub-code with a normal one and check if the same problem occurs again.
OK:
Same problem does not occur.

NG → **REPLACE GATEWAY ECU**

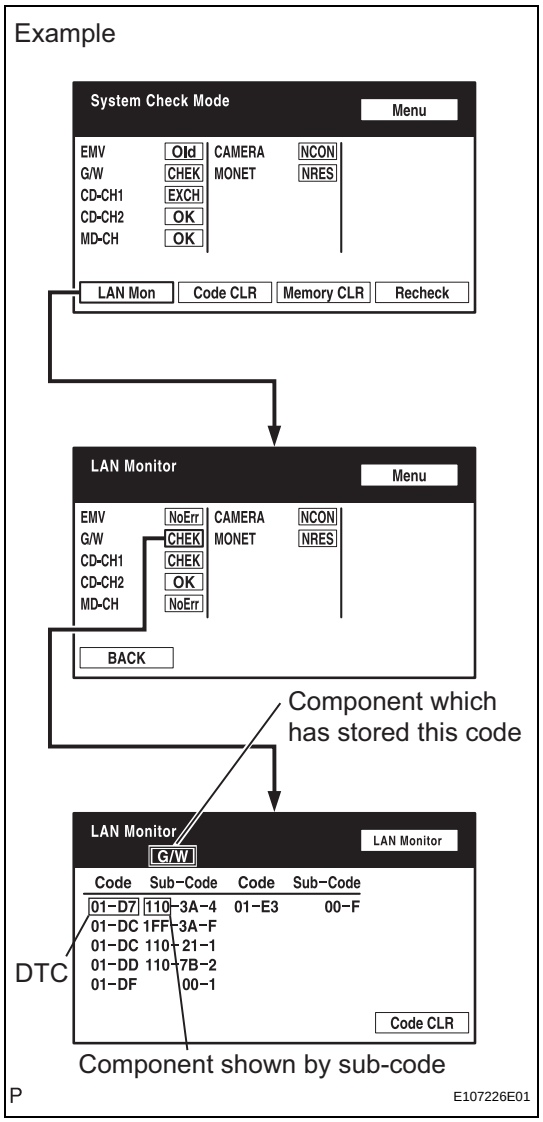
OK

END

Radio Receiver Communication Error

INSPECTION PROCEDURE

1 IDENTIFY COMPONENT SHOWN BY SUB-CODE



(a) Enter the diagnostic mode.
(b) Press the "LAN Mon" switch to change to "LAN Monitor" mode.
(c) Identify the component which has stored this code.
HINT:
- "110 (multi-display)" is the component shown by the sub-code in the example shown in the illustration.
- The sub-code will be indicated by its physical address.
- For details of the DTC display, refer to "DIAGNOSIS DISPLAY DETAILED DESCRIPTION" (see page AV-22).

NEXT

2 CHECK POWER SOURCE CIRCUIT OF COMPONENT SHOWN BY SUB-CODE

(a) Inspect the power source circuit of the component shown by the sub-code.
If the power source circuit is operating normally, proceed to the next step.

Component table:

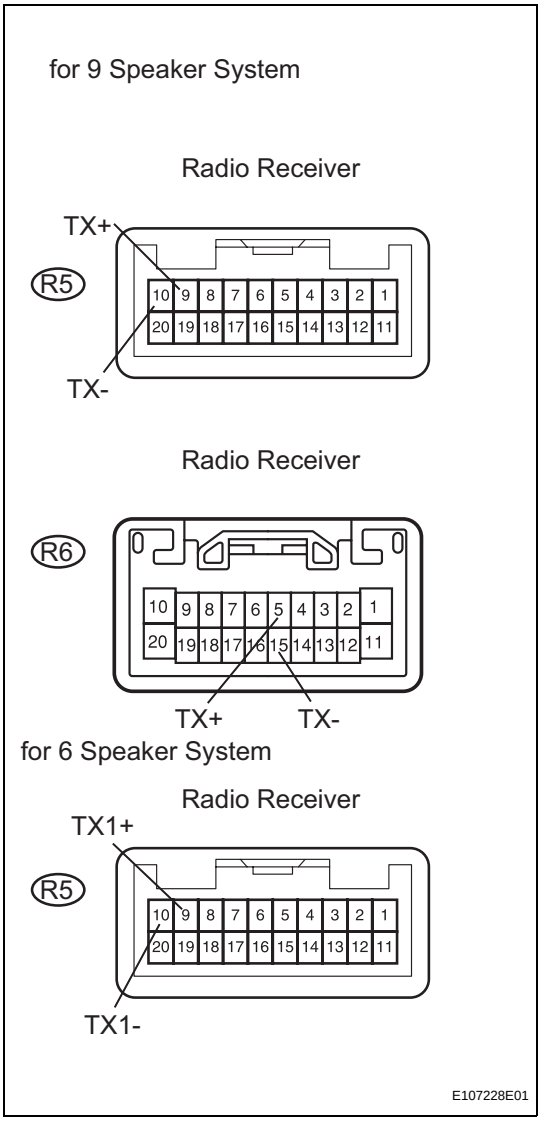
Component	Proceed to
Gateway ECU (1C6)	Gateway ECU power source circuit (see page AV-177)
Stereo component amplifier (440)	Stereo component amplifier power source circuit (see page AV-173)

AV

Component	Proceed to
Multi-display (110)	Multi-display power source circuit (see page AV-175)

NEXT

3 INSPECT RADIO RECEIVER



(a) for 9 Speaker System:
Disconnect the R5 and R6 receiver connectors.

(b) for 6 Speaker System:
Disconnect the R5 receiver connector.

(c) Measure the resistance of the receiver.

Standard resistance

Tester Connection	Specified Condition
R5-9 (TX1+) - R5-10 (TX1-)*1	60 to 80 Ω
R5-9 (TX+) - R5-10 (TX-)*2	60 to 80 Ω
R6-5 (TX+) - R6-15 (TX-)*2	60 to 80 Ω

HINT:
- *1: for 6 speaker system
- *2: for 9 speaker system

NG → **REPLACE RADIO RECEIVER**

OK

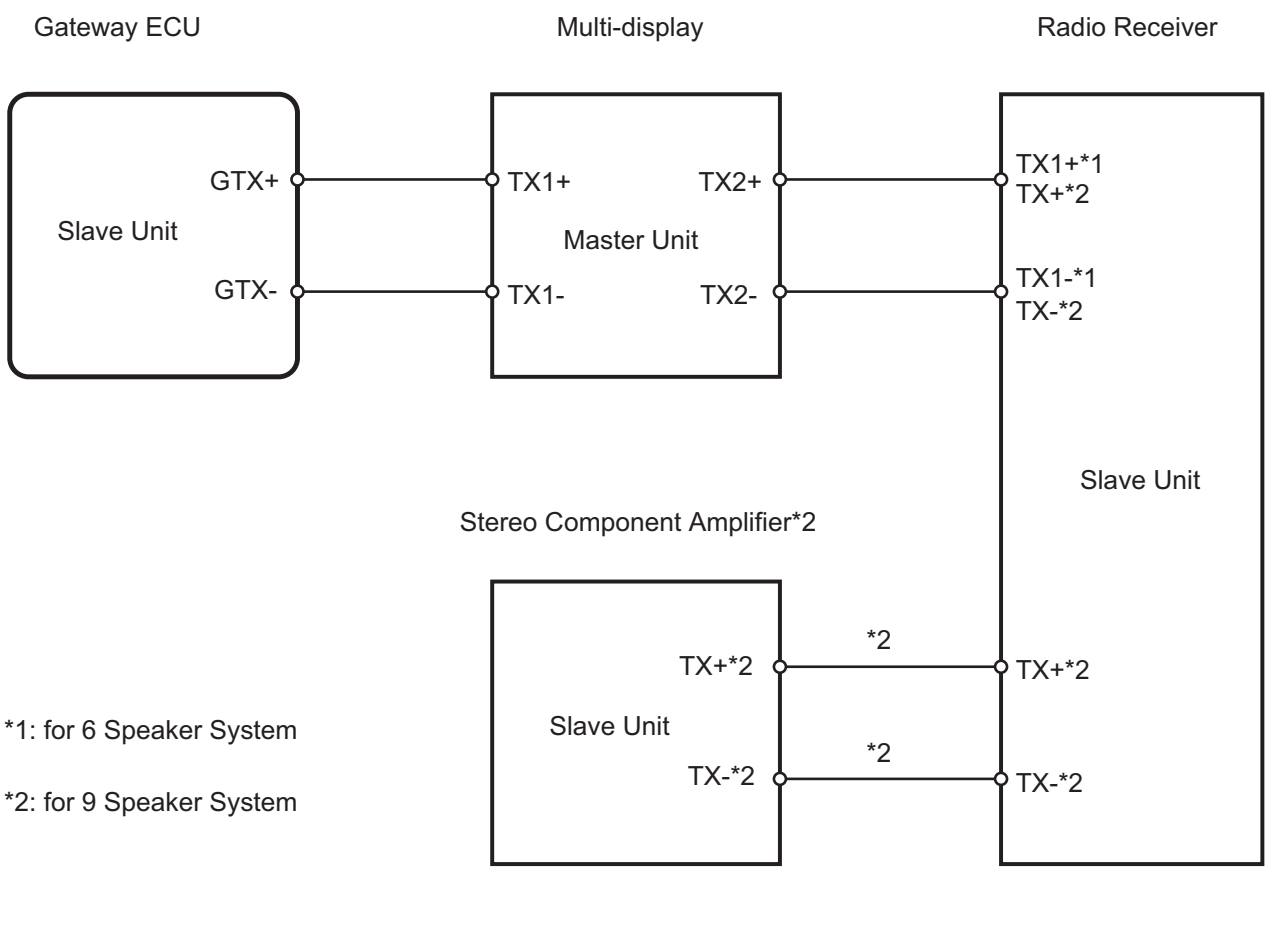
4 CHECK WIRE HARNESS (RADIO RECEIVER - COMPONENT SHOWN BY SUB-CODE)

HINT:
- Start the check from the circuit that is near the component shown by the sub-code first.
- For details of the connectors, refer to the "TERMINALS OF ECU" (see page AV-31).

(a) Referring to the AVC-LAN wiring diagram below, check the AVC-LAN circuit between the radio receiver and the component shown by the sub-code.

(1) Disconnect all connectors between the radio receiver and the component shown by sub-code.
(2) Check for an open or short in the AVC-LAN circuit between the radio receiver and the component shown by the sub-code.
OK:
There is no open or short circuit.

AVC-LAN Wiring Diagram



AV

NG → **REPAIR OR REPLACE HARNESS AND CONNECTOR**

OK

5	**REPLACE COMPONENT SHOWN BY SUB-CODE**

(a) Replace the component shown by the sub-code with a normal one and check if the same problem occurs again.
OK:
Same problem does not occur.

NG → **REPLACE RADIO RECEIVER**

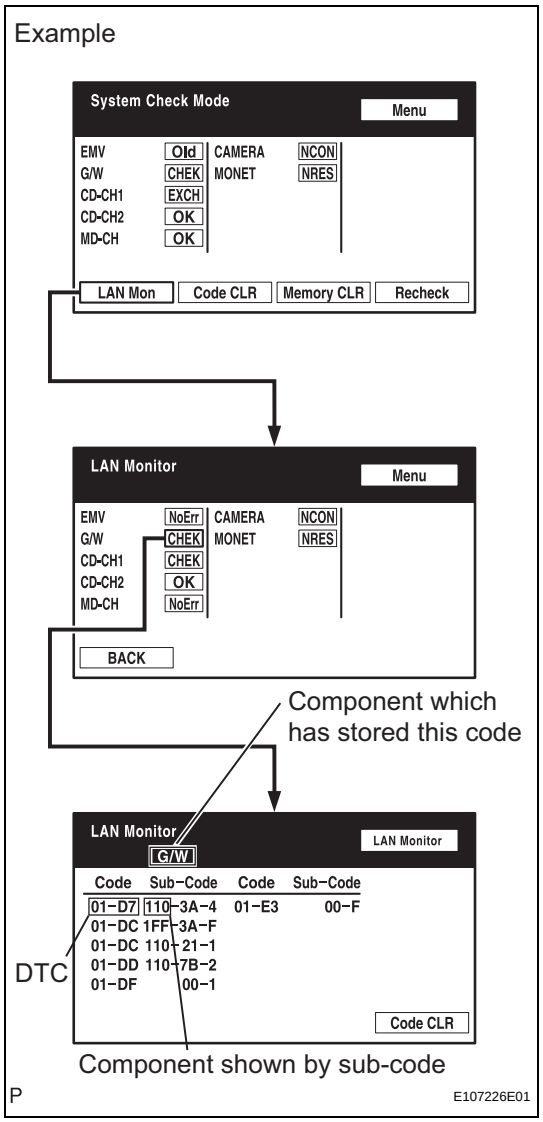
OK

END

Stereo Component Amplifier Communication Error

INSPECTION PROCEDURE

1 IDENTIFY COMPONENT SHOWN BY SUB-CODE



(a) Enter the diagnostic mode.
(b) Press the "LAN Mon" switch to change to "LAN Monitor" mode.
(c) Identify the component which has stored this code.
HINT:
- "110 (multi-display)" is the component shown by the sub-code in the example shown in the illustration.
- The sub-code will be indicated by its physical address.
- For details of the DTC display, refer to "DIAGNOSIS DISPLAY DETAILED DESCRIPTION" (see page AV-22).

NEXT

2 CHECK POWER SOURCE CIRCUIT OF COMPONENT SHOWN BY SUB-CODE

(a) Inspect the power source circuit of the component shown by the sub-code.
If the power source circuit is operating normally, proceed to the next step.

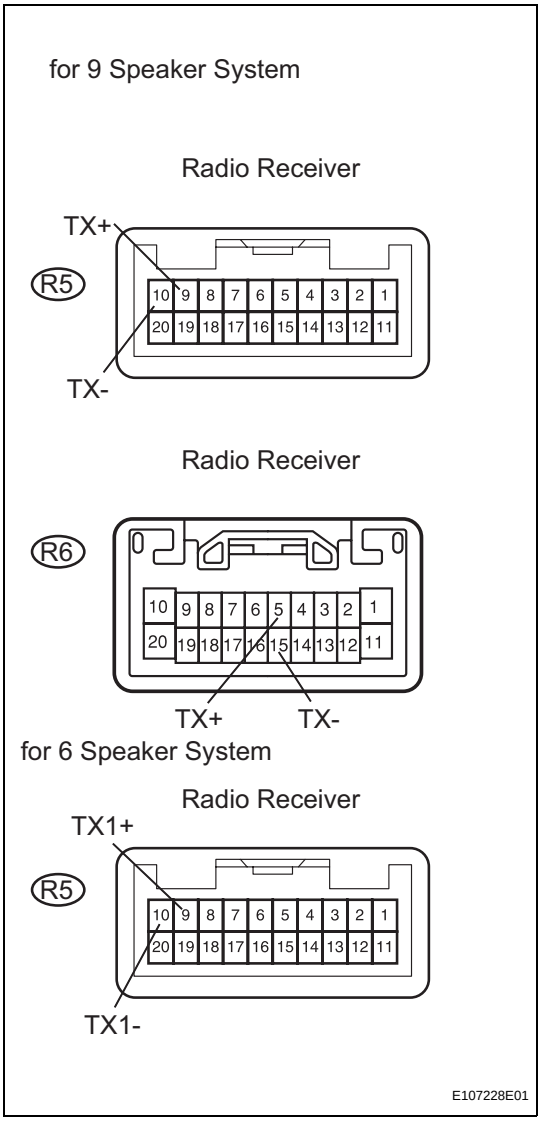
Component table:

Component	Proceed to
Gateway ECU (1C6)	Gateway ECU power source circuit (see page AV-177)
Multi-display (110)	Multi-display power source circuit (see page AV-175)

Component	Proceed to
Radio receiver (190)	Radio receiver power source circuit (see page AV-171)

NEXT

3 INSPECT RADIO RECEIVER



(a) for 9 Speaker System:
Disconnect the R5 and R6 receiver connectors.

(b) for 6 Speaker System:
Disconnect the R5 receiver connector.

(c) Measure the resistance of the receiver.

Standard resistance

Tester Connection	Specified Condition
R5-9 (TX1+) - R5-10 (TX1-)*1	60 to 80 Ω
R5-9 (TX+) - R5-10 (TX-)*2	60 to 80 Ω
R6-5 (TX+) - R6-15 (TX-)*2	60 to 80 Ω

HINT:
- *1: for 6 speaker system
- *2: for 9 speaker system

NG → REPLACE RADIO RECEIVER

OK

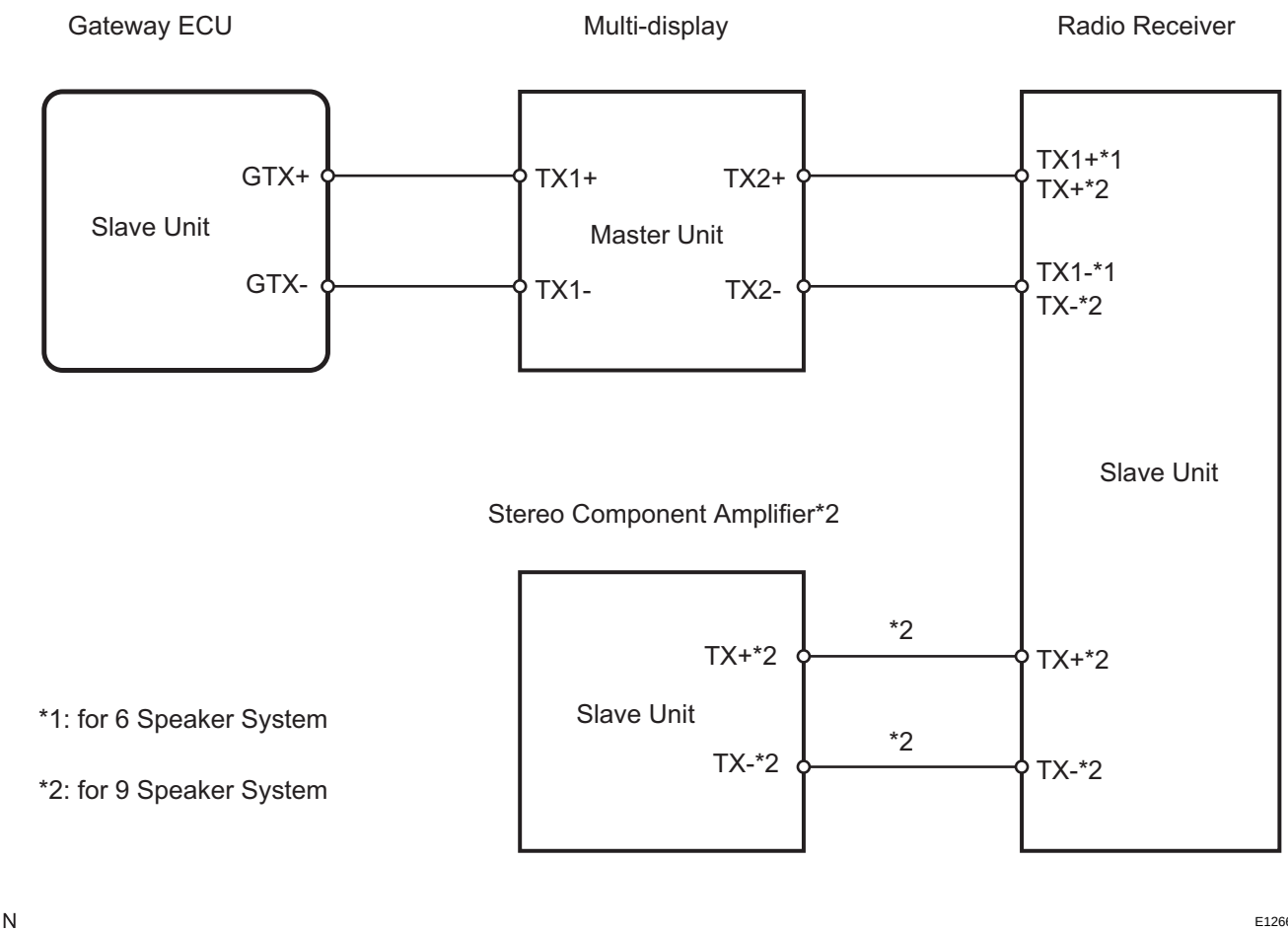
4 CHECK WIRE HARNESS (STEREO COMPONENT AMPLIFIER - COMPONENT SHOWN BY SUB-CODE)

HINT:
- Start the check from the circuit that is near the component shown by the sub-code first.
- For details of the connectors, refer to the "TERMINALS OF ECU" (see page AV-31).

(a) Referring to the AVC-LAN wiring diagram below, check the AVC-LAN circuit between the stereo component amplifier and the component shown by the sub-code.

(1) Disconnect all connectors between the stereo component amplifier and the component shown by sub-code.
(2) Check for an open or short in the AVC-LAN circuit between the stereo component amplifier and the component shown by the sub-code.
OK:
There is no open or short circuit.

AVC-LAN Wiring Diagram



NG → **REPAIR OR REPLACE HARNESS AND CONNECTOR**

OK

5	REPLACE COMPONENT SHOWN BY SUB-CODE

(a) Replace the component shown by the sub-code with a normal one and check if the same problem occurs again.
OK:
Same problem does not occur.

AV

NG → **REPLACE STEREO COMPONENT AMPLIFIER**

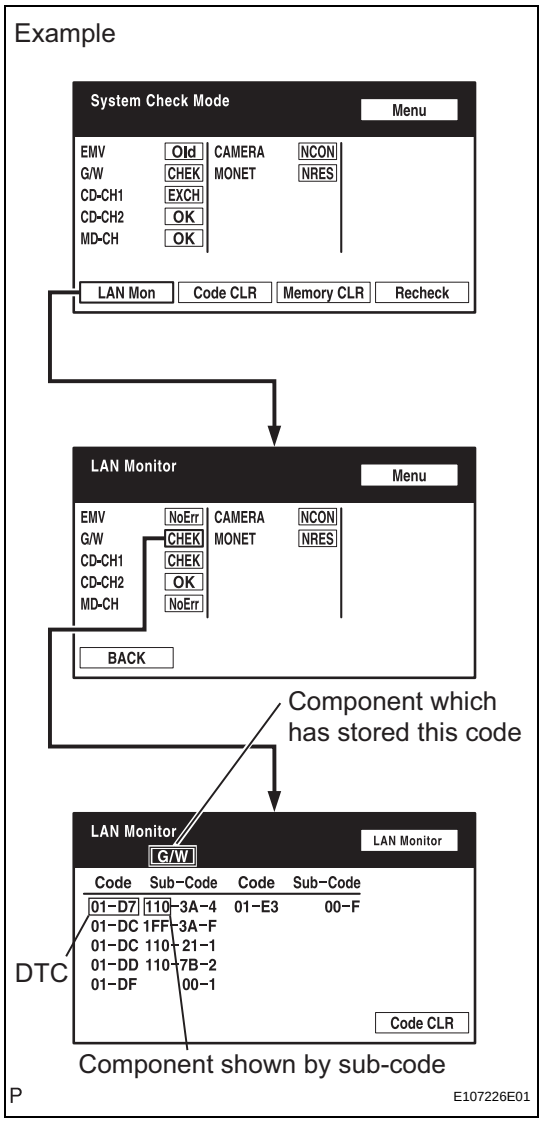
OK

END

Multi-display Communication Error

INSPECTION PROCEDURE

1 IDENTIFY COMPONENT SHOWN BY SUB-CODE



(a) Enter the diagnostic mode.
(b) Press the "LAN Mon" switch to change to "LAN Monitor" mode.
(c) Identify the component which has stored this code.
HINT:
- "110 (multi-display)" is the component shown by the sub-code in the example shown in the illustration.
- The sub-code will be indicated by its physical address.
- For details of the DTC display, refer to "DIAGNOSIS DISPLAY DETAILED DESCRIPTION" (see page AV-22).

NEXT

2 CHECK POWER SOURCE CIRCUIT OF COMPONENT SHOWN BY SUB-CODE

(a) Inspect the power source circuit of the component shown by the sub-code.
If the power source circuit is operating normally, proceed to the next step.

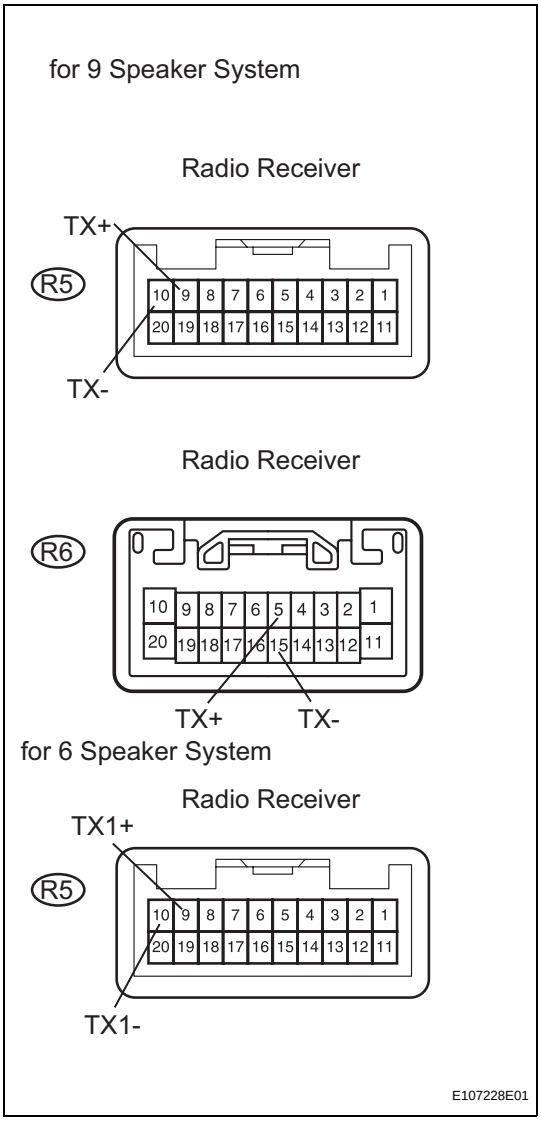
Component table:

Component	Proceed to
Gateway ECU (1C6)	Gateway ECU power source circuit (see page AV-177)
Stereo component amplifier (440)	Stereo component amplifier power source circuit (see page AV-173)

Component	Proceed to
Radio Receiver (190)	Radio receiver power source circuit (see page AV-171)

NEXT

3 INSPECT RADIO RECEIVER



(a) for 9 Speaker System:
Disconnect the R5 and R6 receiver connectors.
(b) for 6 Speaker System:
Disconnect the R5 receiver connector.
(c) Measure the resistance of the receiver.
Standard resistance

Tester Connection	Specified Condition
R5-9 (TX1+) - R5-10 (TX1-)*1	60 to 80 Ω
R5-9 (TX+) - R5-10 (TX-)*2	60 to 80 Ω
R6-5 (TX+) - R6-15 (TX-)*2	60 to 80 Ω

HINT:
- *1: for 6 speaker system
- *2: for 9 speaker system

NG → **REPLACE RADIO RECEIVER**

OK

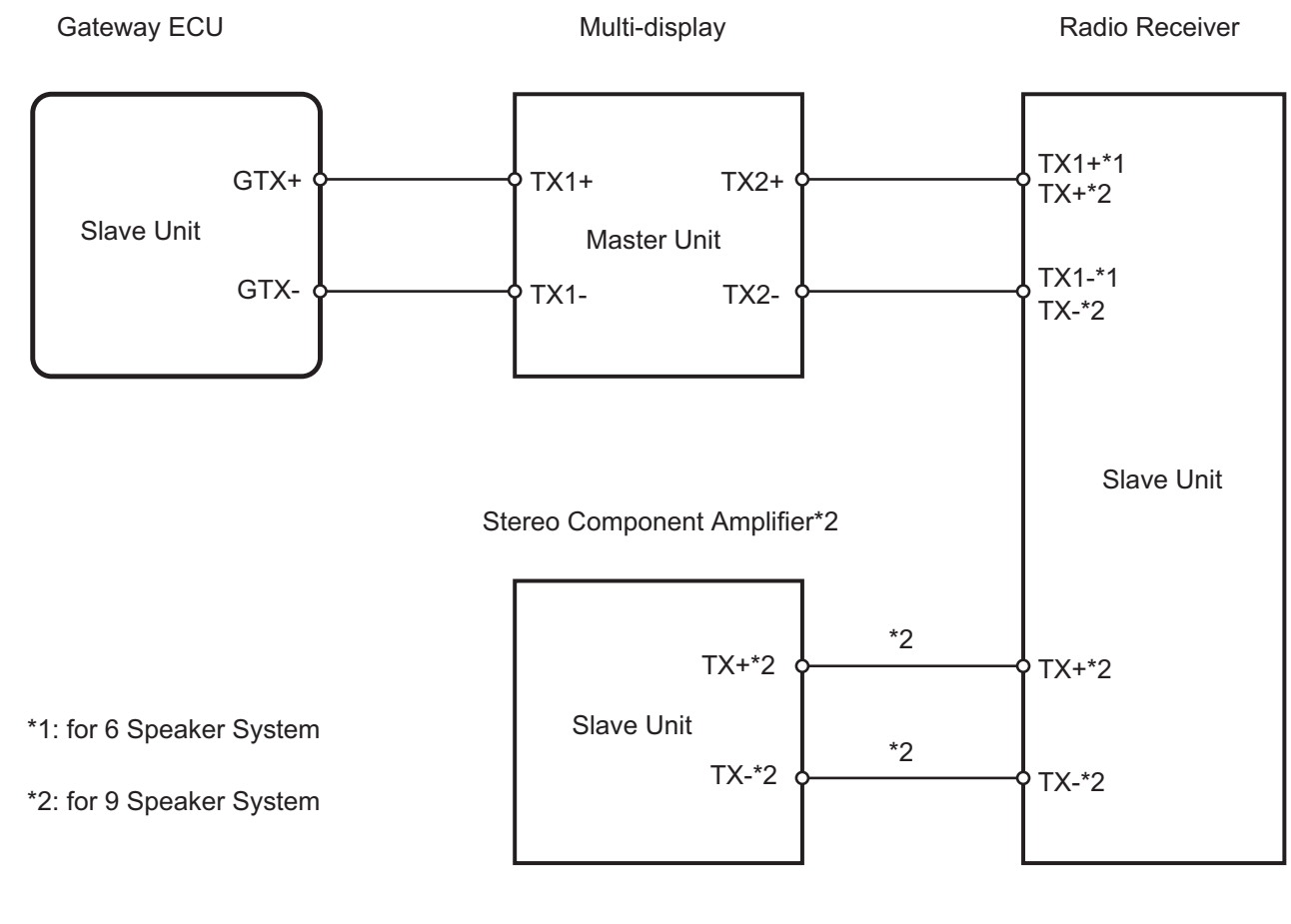
4 CHECK WIRE HARNESS (MULTI-DISPLAY - COMPONENT SHOWN BY SUB-CODE)

HINT:
- Start the check from the circuit that is near the component shown by the sub-code first.
- For details of the connectors, refer to the "TERMINALS OF ECU" (see page AV-31).

(a) Referring to the AVC-LAN wiring diagram below, check the AVC-LAN circuit between the multi-display and the component shown by the sub-code.

(1) Disconnect all connectors between the multi-display and the component shown by sub-code.
(2) Check for an open or short in the AVC-LAN circuit between the multi-display and the component shown by the sub-code.
OK:
There is no open or short circuit.

AVC-LAN Wiring Diagram



NG → **REPAIR OR REPLACE HARNESS AND CONNECTOR**

OK

5	REPLACE COMPONENT SHOWN BY SUB-CODE

(a) Replace the component shown by the sub-code with a normal one and check if the same problem occurs again.
OK:
Same problem does not occur.

NG → **REPLACE MULTI-DISPLAY**

AV

OK

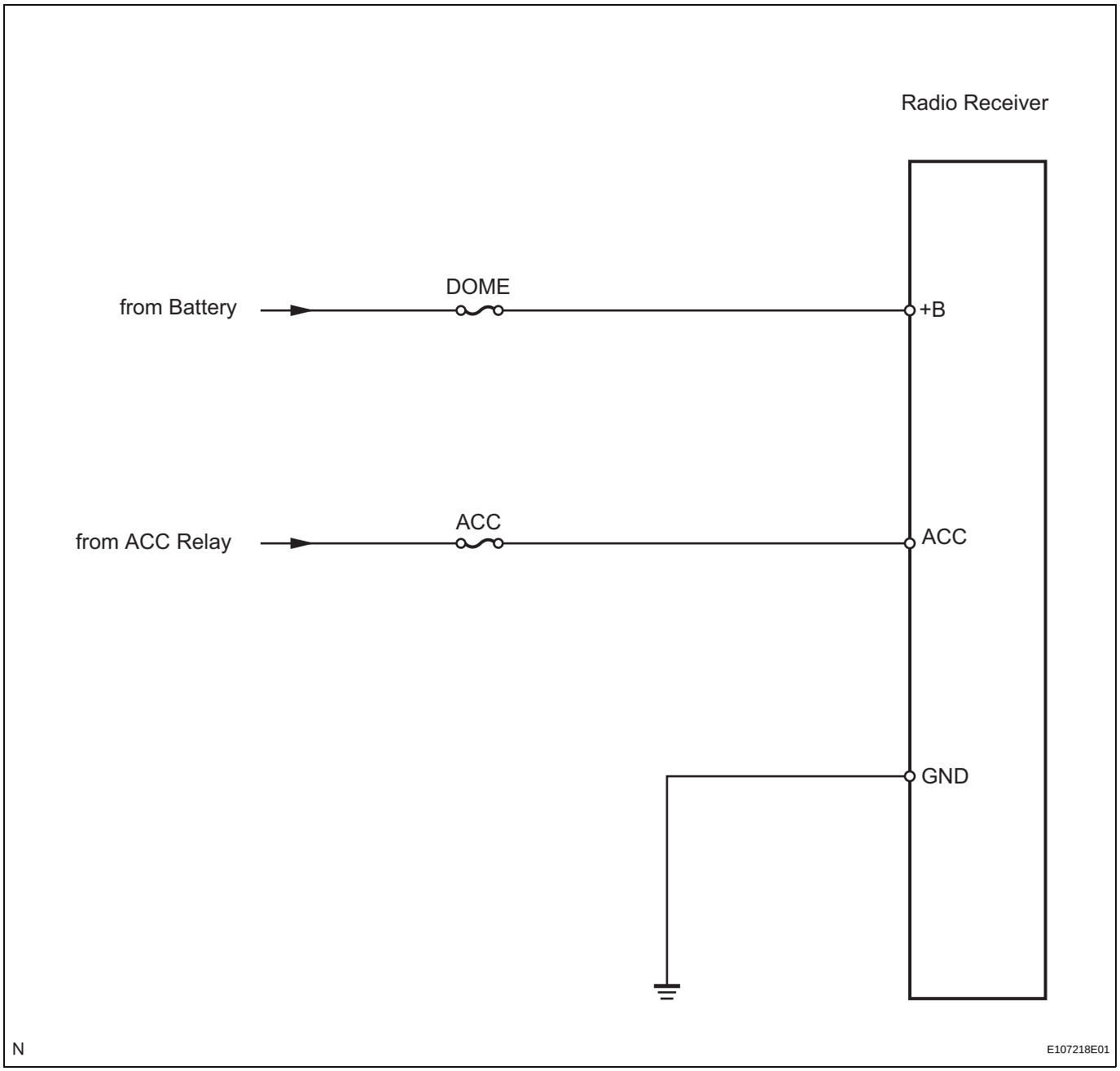
END

Radio Receiver Power Source Circuit

DESCRIPTION

This circuit provides power to the radio receiver.

WIRING DIAGRAM



INSPECTION PROCEDURE

1	**INSPECT FUSE (DOME, ACC)**

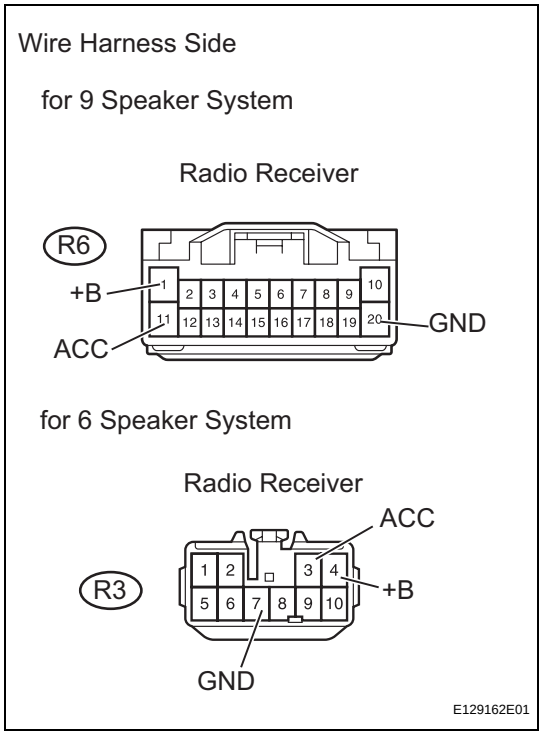
(a) Disconnect the DOME fuse from the engine room junction block.

(b) Disconnect the ACC fuse from the driver side junction block.
(c) Measure the resistance of the fuses.
Standard resistance:
Below 1 Ω

NG → **REPLACE FUSE**

OK

2 CHECK WIRE HARNESS (RECEIVER - BATTERY AND BODY GROUND)



(a) Disconnect the R3*1 or R6*2 receiver connector.
HINT:
- *1: for 6 speaker system
- *2: for 9 speaker system

(b) Measure the resistance of the wire harness side connector.
Standard resistance

Tester Connection	Specified Condition
R3-7 (GND) - Body ground*1	Below 1 Ω
R6-20 (GND) - Body ground*2	

(c) Measure the voltage of the wire harness side connector.
Standard voltage

Tester Connection	Condition	Specified Condition
R3-4 (+B) - R3-7 (GND)*1	Always	10 to 14 V
R6-1 (+B) - R6-20 (GND)*2		
R3-3 (ACC) - R3-7 (GND)*1	Power switch ON (ACC)	10 to 14 V
R6-11 (ACC) - R6-20 (GND)*2		

NG → **REPAIR OR REPLACE HARNESS AND CONNECTOR**

OK

PROCEED TO NEXT CIRCUIT INSPECTION SHOWN IN PROBLEM SYMPTOMS TABLE

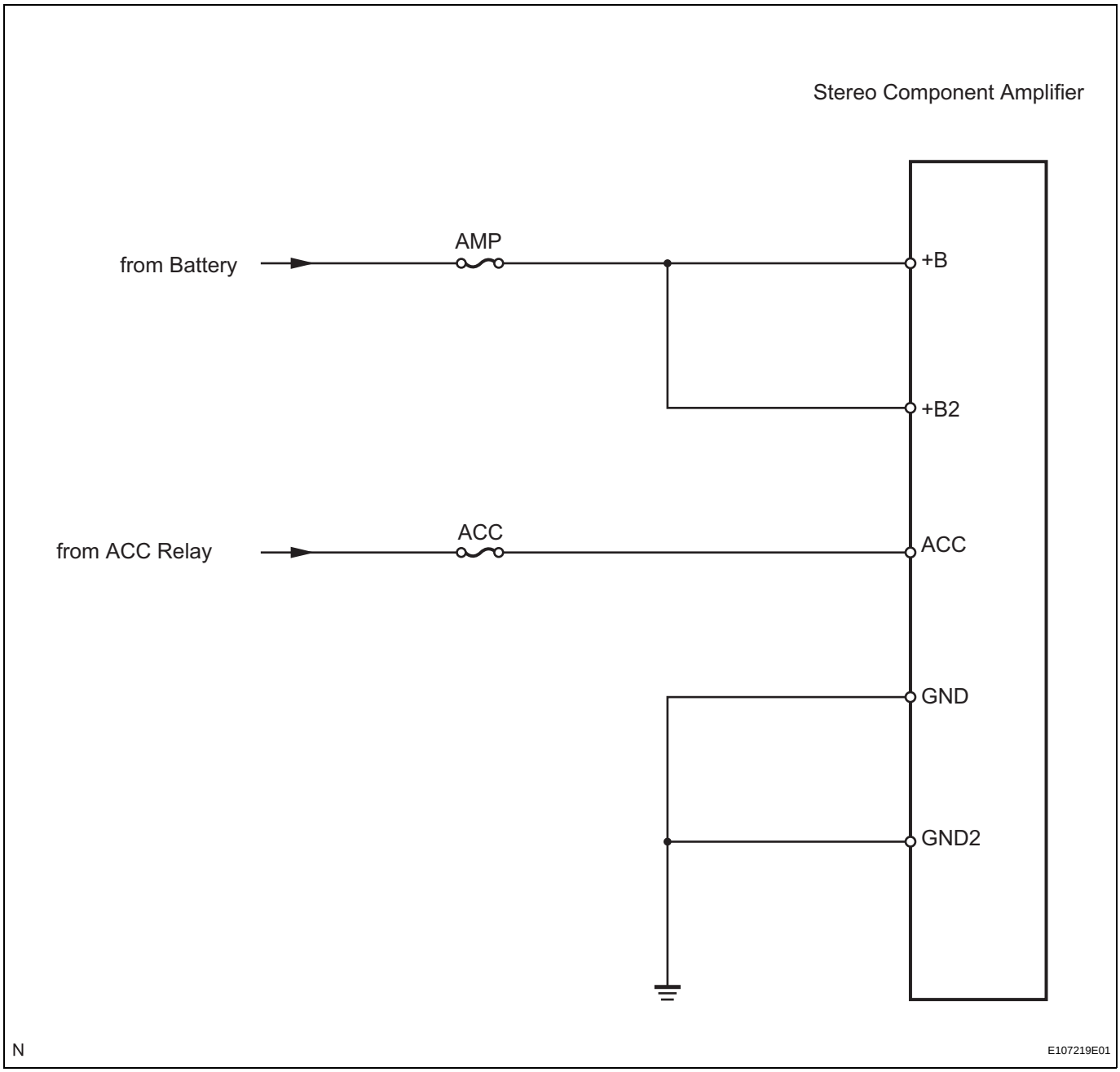
AV

Stereo Component Amplifier Power Source Circuit

DESCRIPTION

This circuit provides power to the stereo component amplifier.

WIRING DIAGRAM



INSPECTION PROCEDURE

1	**INSPECT FUSE (AMP, ACC)**

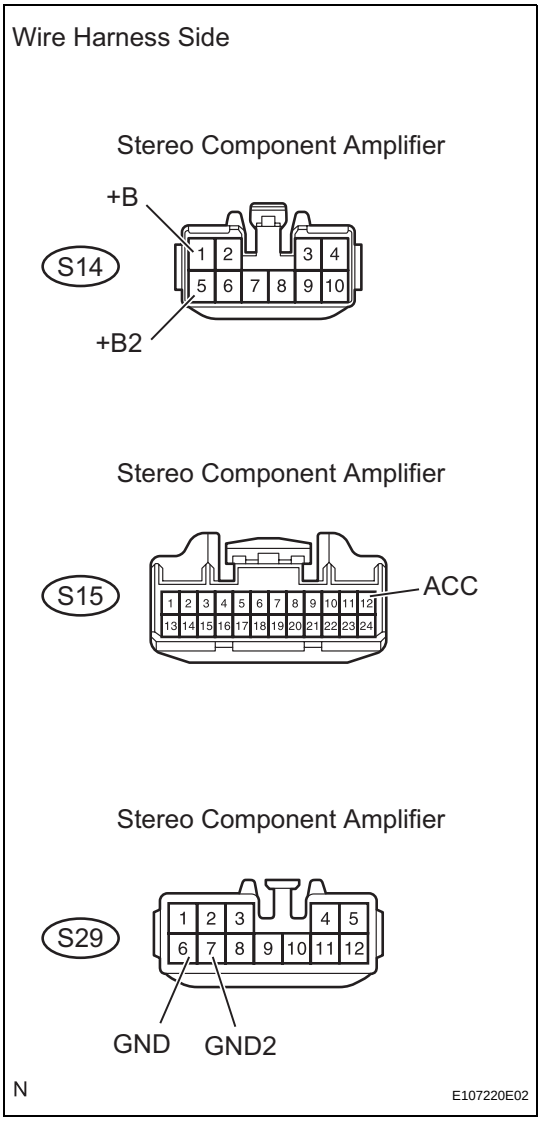
(a) Disconnect the AMP fuse from the engine room junction block.

(b) Disconnect the ACC fuse from the driver side junction block.
(c) Measure the resistance of the fuses.
Standard resistance:
Below 1 Ω

NG → **REPLACE FUSE**

OK

2 CHECK WIRE HARNESS (AMPLIFIER - BATTERY AND BODY GROUND)



(a) Disconnect the S14, S15 and S29 amplifier connectors.
(b) Measure the resistance of the wire harness side connector.
Standard resistance

Tester Connection	Specified Condition
S29-6 (GND) - Body ground	Below 1 Ω
S29-7 (GND2) - Body ground	Below 1 Ω

(c) Measure the voltage of the wire harness side connectors.
Standard voltage

Tester Connection	Condition	Specified Condition
S14-1 (+B) - S29-6 (GND)	Always	10 to 14 V
S14-5 (+B2) - S29-6 (GND)	Always	10 to 14 V
S15-12 (ACC) - S29-6 (GND)	Power switch ON (ACC)	10 to 14 V

NG → **REPAIR OR REPLACE HARNESS AND CONNECTOR**

OK

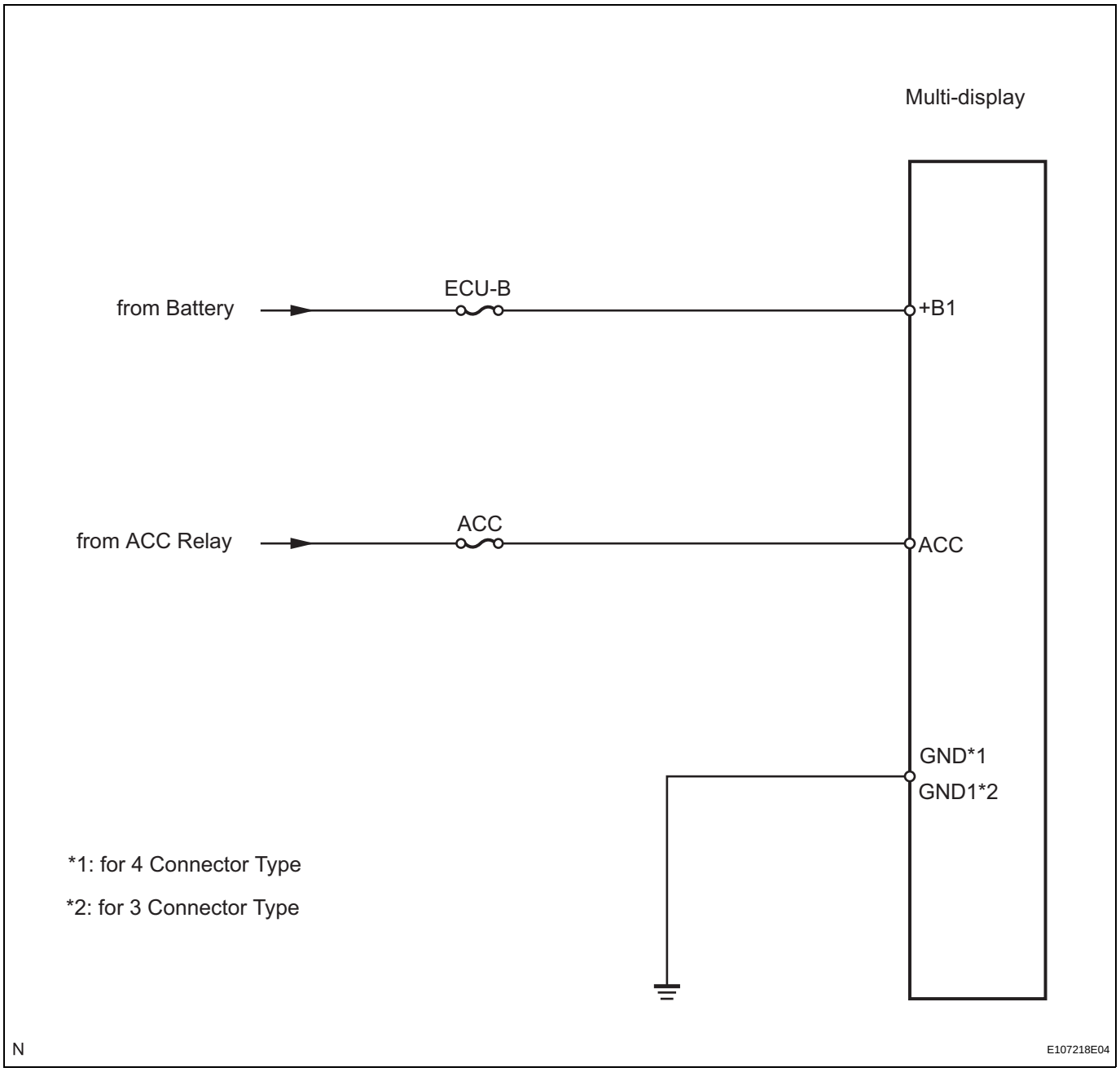
PROCEED TO NEXT CIRCUIT INSPECTION SHOWN IN PROBLEM SYMPTOMS TABLE

Multi-display Power Source Circuit

DESCRIPTION

This circuit provides power to the multi-display.

WIRING DIAGRAM



INSPECTION PROCEDURE

1	**INSPECT FUSE (ECU-B, ACC)**

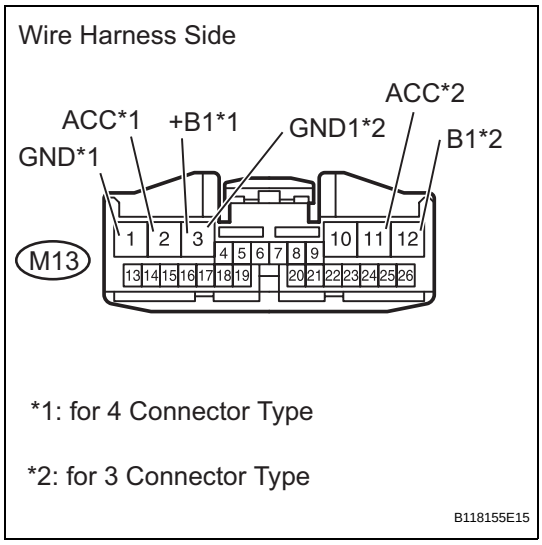
(a) Disconnect the ECU-B and ACC fuses from the driver side junction block.
(b) Measure the resistance of the fuses.

Standard resistance:
Below 1 Ω

NG → **REPLACE FUSE**

OK

2 CHECK WIRE HARNESS (MULTI-DISPLAY - BATTERY AND BODY GROUND)



(a) Disconnect the M13 connector.
(b) Measure the resistance of the wire harness side connector.
Standard resistance

Tester Connection	Specified Condition
M13-1 (GND) - Body ground*1	Below 1 Ω
M13-3 (GND1) - Body ground*2	Below 1 Ω

(c) Measure the voltage of the wire harness side connector.
Standard voltage

Tester Connection	Condition	Specified Condition
M13-2 (ACC) - Body ground*1	Power switch ON (ACC)	10 to 14 V
M13-3 (+B1) - Body ground*1	Always	10 to 14 V
M13-11 (ACC) - Body ground*2	Power switch ON (ACC)	10 to 14 V
M13-12 (B1) - Body ground*2	Always	10 to 14 V

HINT:
- *1: for 4 Connector type
- *2: for 3 Connector type

NG → **REPAIR OR REPLACE HARNESS AND CONNECTOR**

OK

PROCEED TO NEXT CIRCUIT INSPECTION SHOWN IN PROBLEM SYMPTOMS TABLE

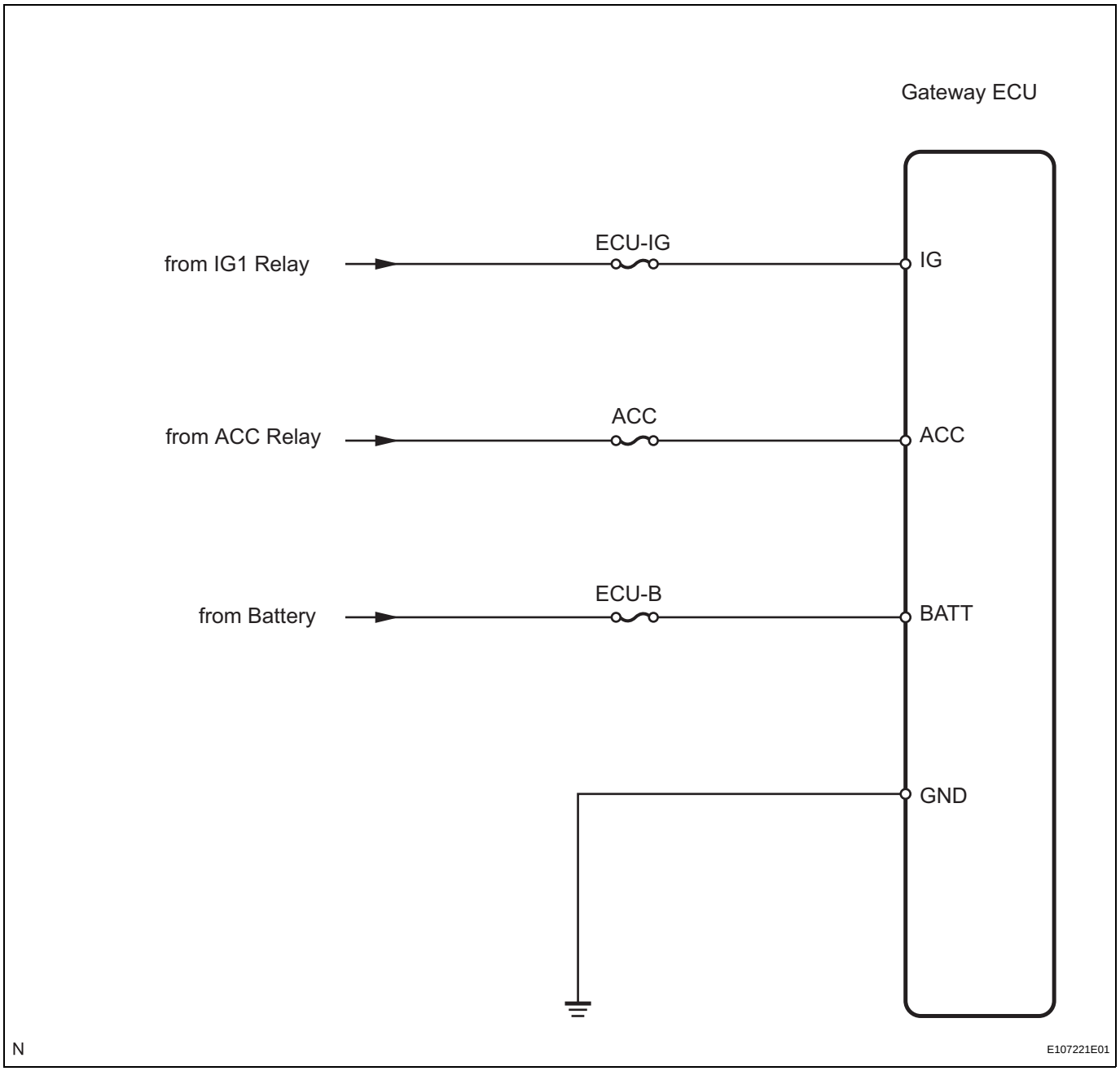
AV

Gateway ECU Power Source Circuit

DESCRIPTION

This is the power source circuit to operate the gateway ECU.

WIRING DIAGRAM



INSPECTION PROCEDURE

1	**INSPECT FUSE (ECU-IG, ACC, ECU-B)**

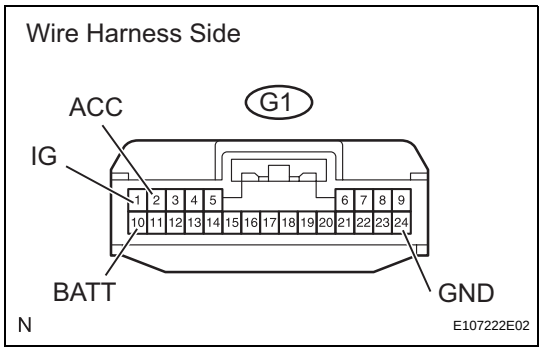
(a) Disconnect the ECU-IG, ECU-B and ACC fuses from the driver side junction block.
(b) Measure the resistance of the fuses.

Standard resistance:
Below 1 Ω

NG → **REPLACE FUSE**

OK

2 CHECK WIRE HARNESS (GATEWAY ECU - BATTERY AND BODY GROUND)



(a) Disconnect the G1 ECU connector.
(b) Measure the resistance of the wire harness side connector.
Standard resistance

Tester connection	Specified condition
G1-24 (GND) - Body ground	Below 1 Ω

(c) Measure the voltage of the wire harness side connector.
Standard voltage

Tester connection	Condition	Specified condition
G1-10 (BATT) - G1-24 (GND)	Always	10 to 14 V
G1-2 (ACC) - G1-24 (GND)	Power switch ON (ACC)	10 to 14 V
G1-1 (IG) - G1-24 (GND)	Power switch ON (IG)	10 to 14 V

NG → **REPAIR OR REPLACE HARNESS AND CONNECTOR**

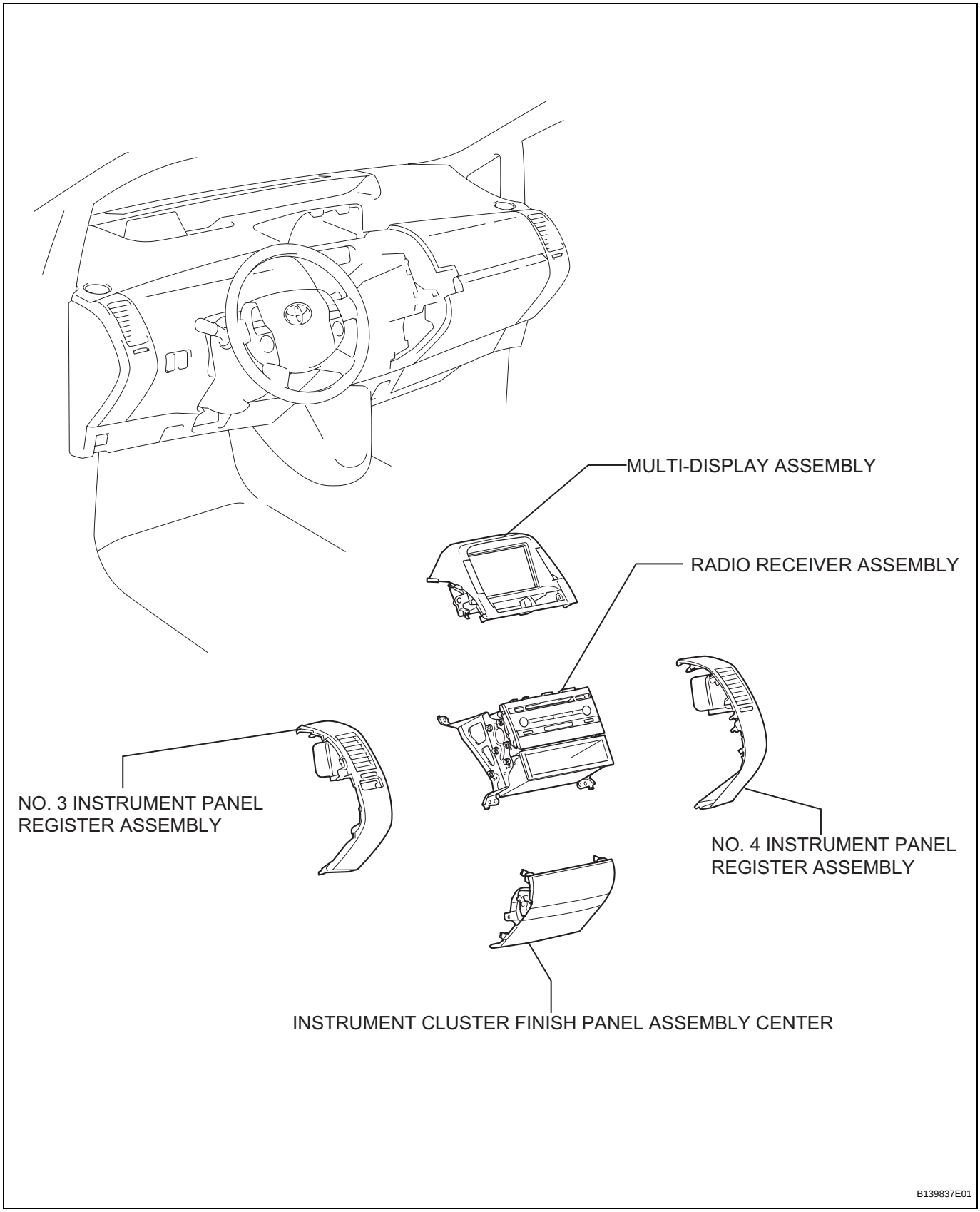
OK

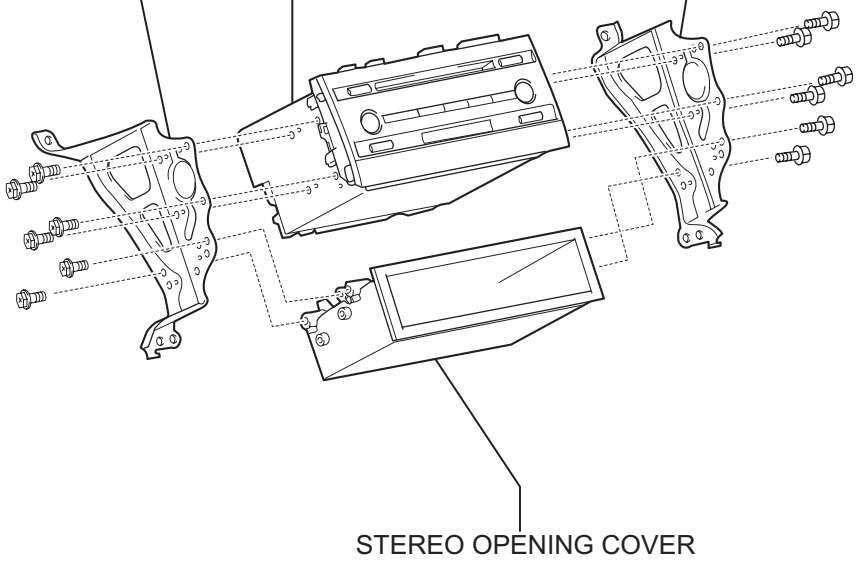
PROCEED TO NEXT CIRCUIT INSPECTION SHOWN IN PROBLEM SYMPTOMS TABLE

AV

RADIO RECEIVER

COMPONENTS





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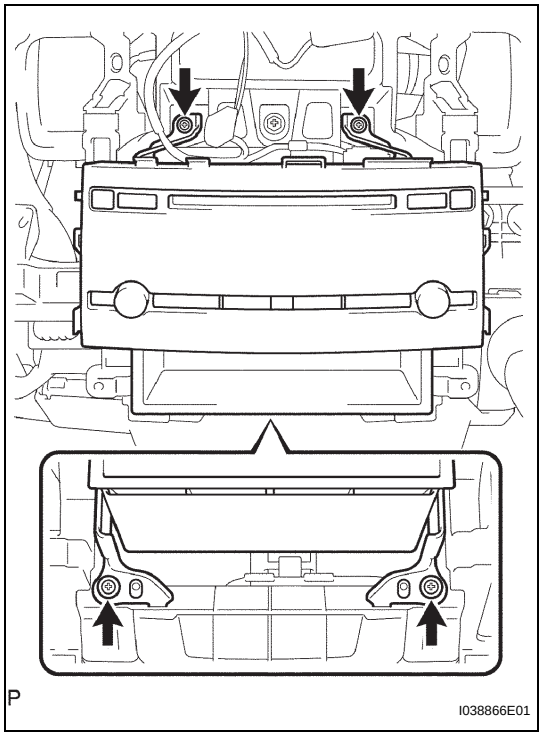
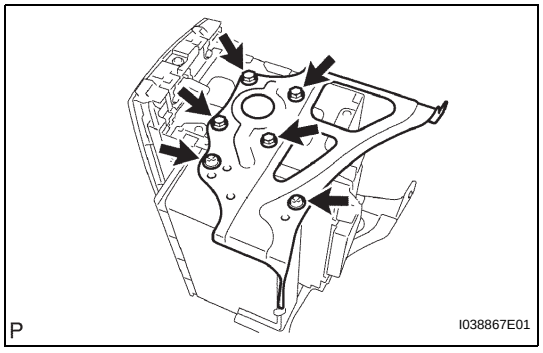
AV

REMOVAL

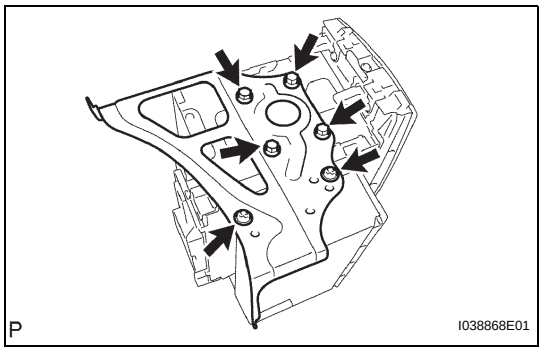
1. **DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL**
   CAUTION:
   Wait at least 90 seconds after disconnecting the cable from the negative (-) battery terminal to prevent airbag and seat belt pretensioner activation.
2. **REMOVE NO. 3 INSTRUMENT PANEL REGISTER ASSEMBLY (See page IP-6)**
3. **REMOVE NO. 4 INSTRUMENT PANEL REGISTER ASSEMBLY (See page IP-6)**
4. **REMOVE INSTRUMENT CLUSTER FINISH PANEL ASSEMBLY CENTER (See page IP-18)**
5. **REMOVE MULTI-DISPLAY ASSEMBLY (See page NS-172)**
6. **REMOVE RADIO RECEIVER WITH BRACKET**
   (a) Remove the 4 screws.
   (b) Disconnect the connector and remove the radio receiver w/ bracket.



7. **REMOVE NO. 1 RADIO BRACKET**
   (a) Remove the 6 screws and No. 1 radio bracket.



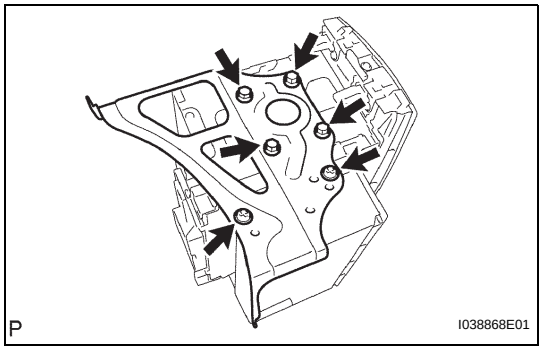
AV



8. REMOVE NO. 2 RADIO BRACKET

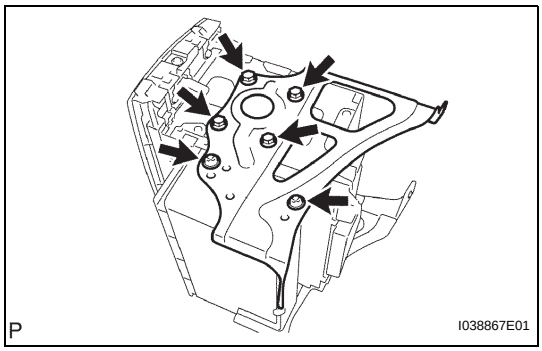
(a) Remove the 6 screws and No. 2 radio bracket.

INSTALLATION



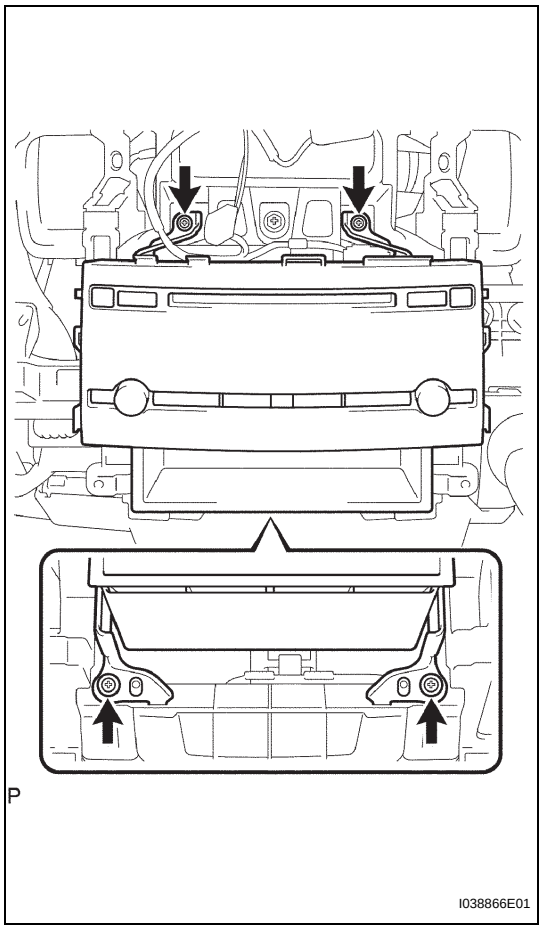
1. INSTALL NO. 2 RADIO BRACKET

(a) Install the No. 2 radio bracket to the radio receiver with the 6 screws.



2. INSTALL NO. 1 RADIO BRACKET

(a) Install the No. 1 radio bracket to the radio receiver with the 6 screws.



3. **INSTALL RADIO RECEIVER WITH BRACKET**
   (a) Connect all the connectors and install the radio receiver.
   (b) Install the 4 screws.

4. **INSTALL MULTI-DISPLAY ASSEMBLY (See page NS-172)**

5. **INSTALL INSTRUMENT CLUSTER FINISH PANEL ASSEMBLY CENTER (See page IP-22)**

6. **INSTALL NO. 4 INSTRUMENT PANEL REGISTER ASSEMBLY (See page IP-12)**

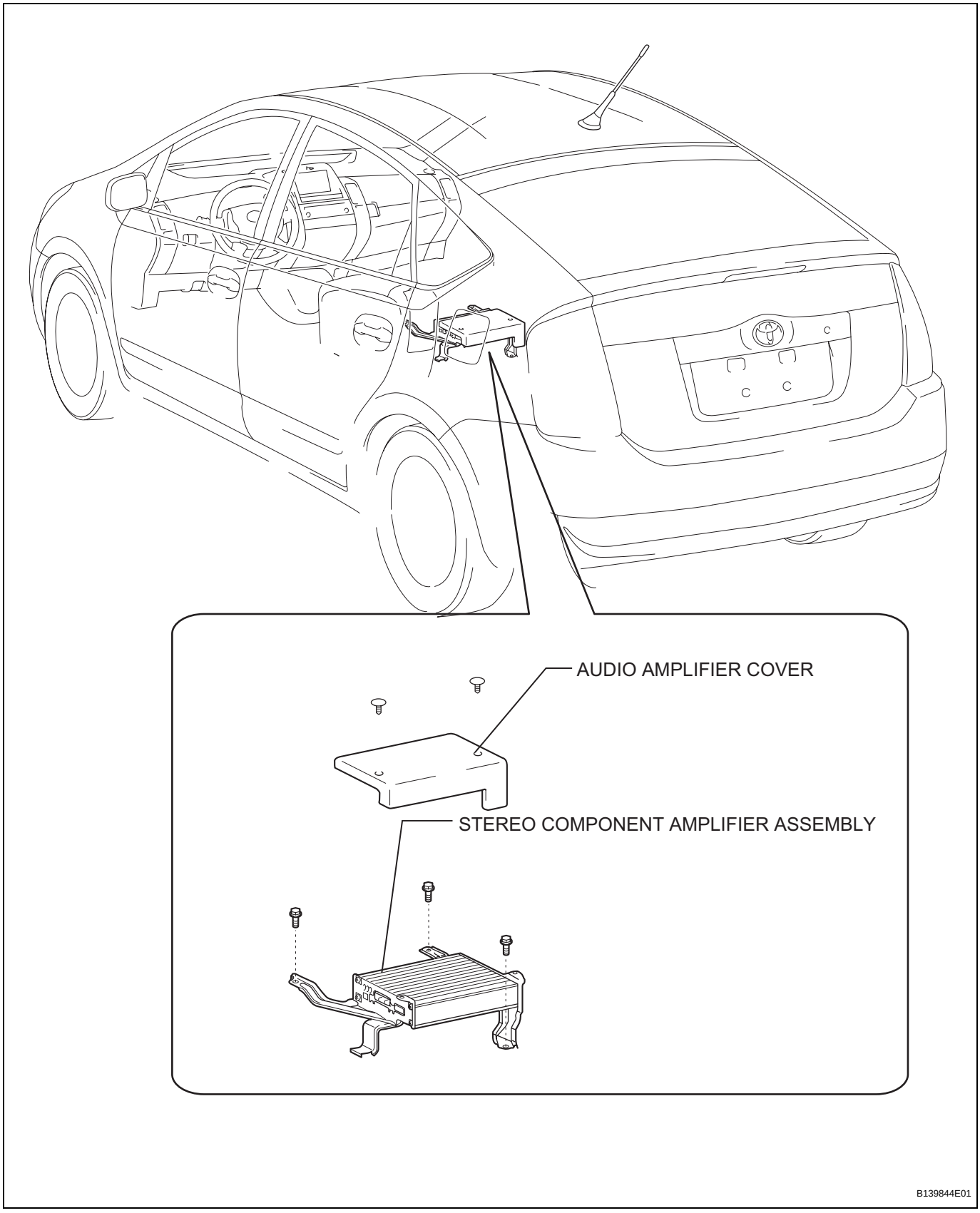
7. **INSTALL NO. 3 INSTRUMENT PANEL REGISTER ASSEMBLY (See page IP-13)**

8. **CONNECT CABLE TO NEGATIVE BATTERY TERMINAL**

9. **PERFORM INITIALIZATION**
   (a) Perform initialization (see page IN-32).
   NOTICE:
   Certain systems need to be initialized after disconnecting and reconnecting the cable from the negative (-) battery terminal.

STEREO COMPONENT AMPLIFIER

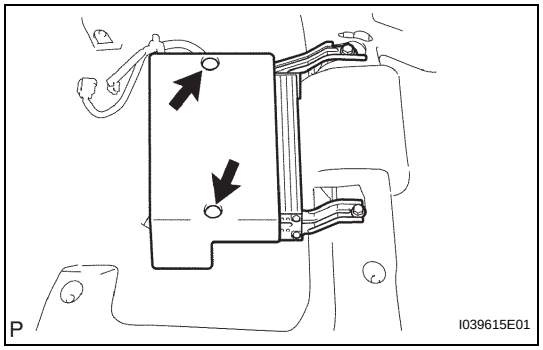
COMPONENTS



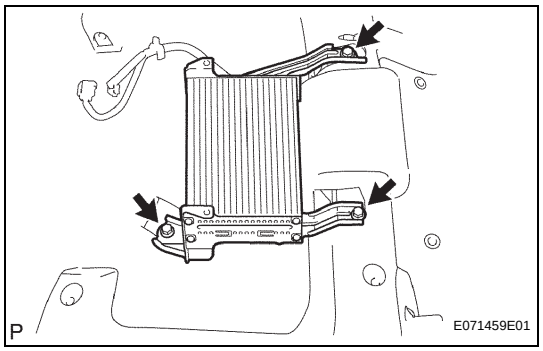
AV

REMOVAL

1. **DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL**
   CAUTION:
   Wait at least 90 seconds after disconnecting the cable from the negative (-) battery terminal to prevent airbag and seat belt pretensioner activation.
2. **REMOVE FRONT SEAT ASSEMBLY RH (See page SE-4)**
3. **REMOVE AUDIO AMPLIFIER COVER**
   (a) Detach the 2 clips and amplifier cover.

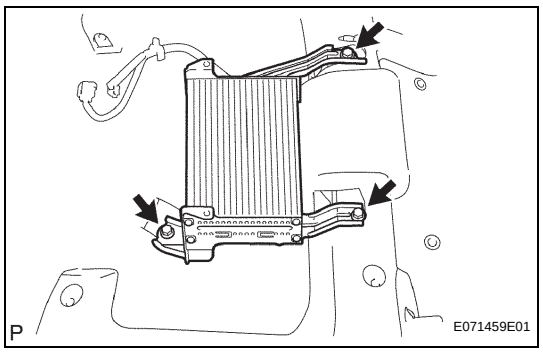


4. **REMOVE STEREO COMPONENT AMPLIFIER ASSEMBLY**
   (a) Disconnect the connector.
   (b) Remove the 3 bolts and stereo component amplifier.

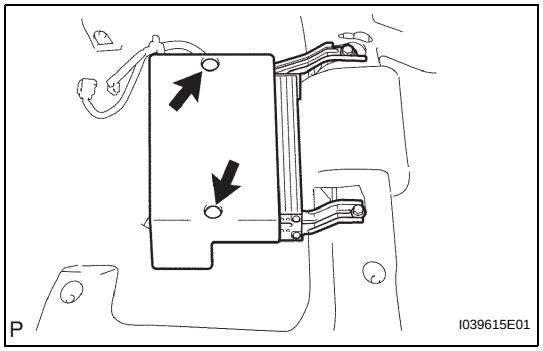


INSTALLATION

1. **INSTALL STEREO COMPONENT AMPLIFIER ASSEMBLY**
   (a) Connect the connector.
   (b) Install the stereo component amplifier with the 3 bolts.



2. **INSTALL AUDIO AMPLIFIER COVER**
   (a) Attach the 2 clips to install the amplifier cover.
3. **INSTALL FRONT SEAT ASSEMBLY RH (See page SE-10)**
4. **CONNECT CABLE TO NEGATIVE BATTERY TERMINAL**



AV

5. PERFORM INITIALIZATION

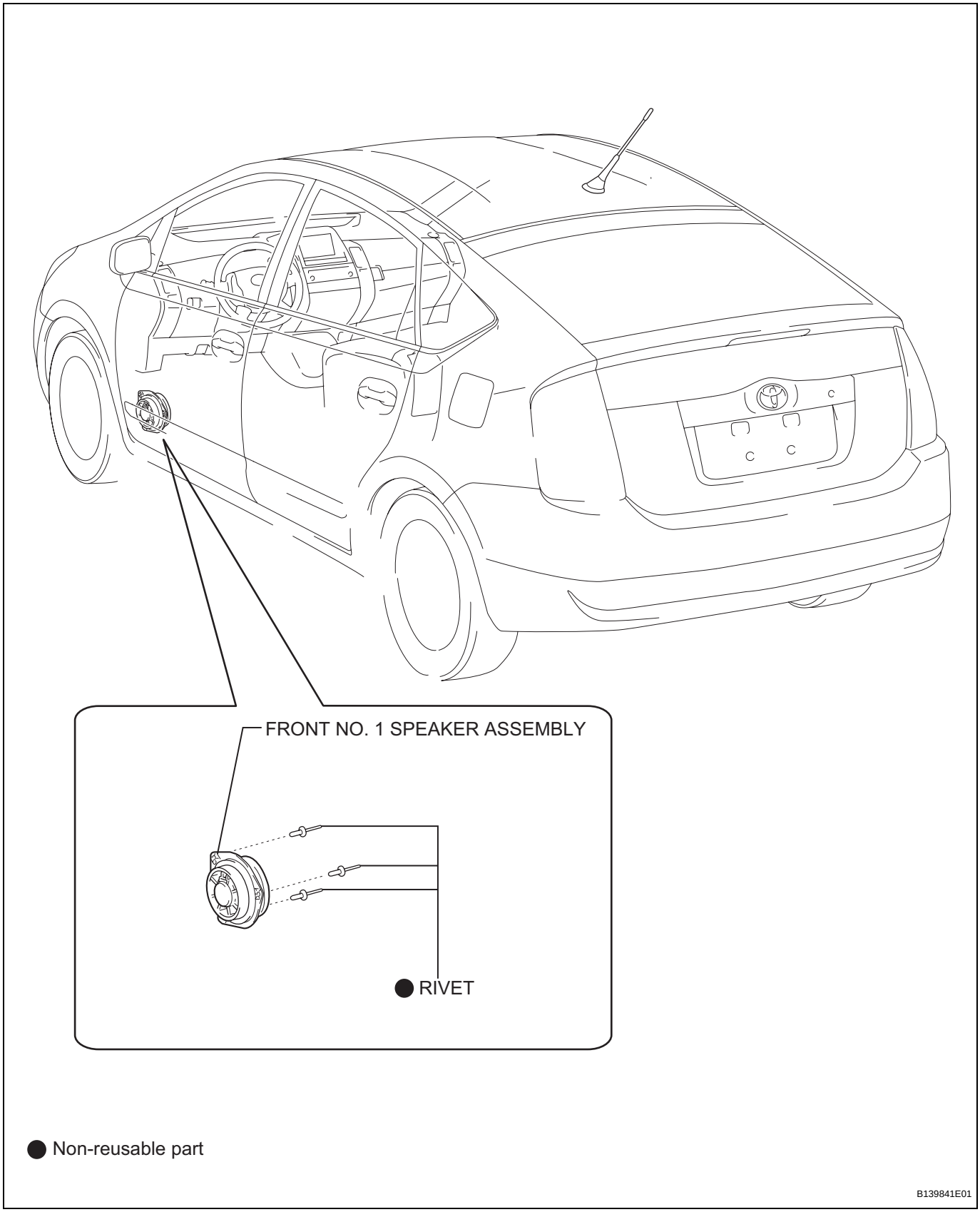
(a) Perform initialization (see page IN-32).

NOTICE:

Certain systems need to be initialized after disconnecting and reconnecting the cable from the negative (-) battery terminal.

FRONT NO. 1 SPEAKER

COMPONENTS

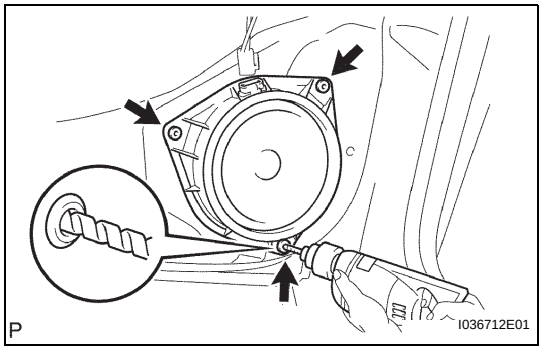


REMOVAL

HINT:

- Use the same procedures for the RH side and LH sides.
- The procedures listed below are for the LH side.

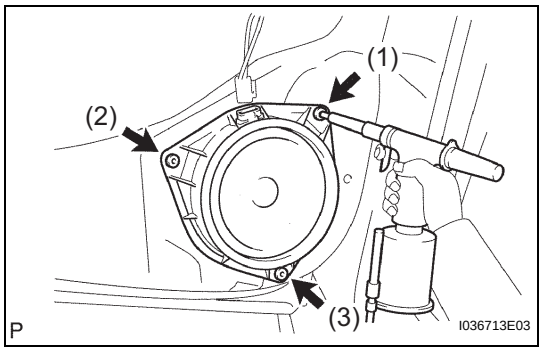
1. **DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL**
   CAUTION:
   Wait at least 90 seconds after disconnecting the cable from the negative (-) battery terminal to prevent airbag and seat belt pretensioner activation.
2. **REMOVE FRONT DOOR LOWER FRAME BRACKET GARNISH LH (See page ED-11)**
3. **REMOVE FRONT DOOR INSIDE HANDLE BEZEL LH (See page ED-11)**
4. **REMOVE DOOR PULL HANDLE (See page ED-11)**
5. **REMOVE FRONT ARMREST BASE PANEL UPPER LH (See page ED-11)**
6. **REMOVE FRONT DOOR TRIM BOARD SUB-ASSEMBLY LH (See page ED-12)**
7. **REMOVE FRONT NO. 1 SPEAKER ASSEMBLY**
   (a) Disconnect the connector.
   (b) Using a drill bit with a diameter of less than 4 mm (0.16 in.), drill out the 3 rivet heads and remove the speaker.
   NOTICE:
   - **Do not drill the rivet at an angle as this will cause damage to the drill and drill hole. Line up the drill and rivet, and carefully drill out the rivet head.**
   - **Be careful. The cut rivet is very hot.**
   (c) Continue drilling and push out the remaining rivet fragments.
   (d) Using a vacuum cleaner, remove the rivet fragments and shavings from the inside of the door.



INSTALLATION

HINT:

- Use the same procedures for the RH and LH sides.
- The procedures listed below are for the LH side.

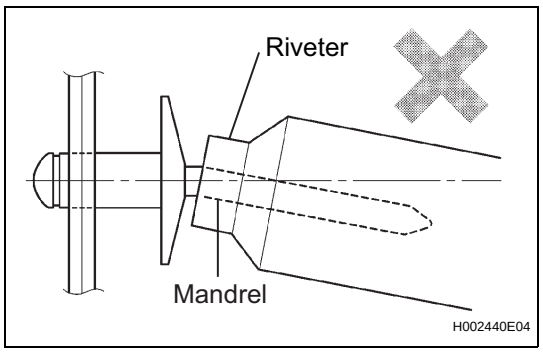


1. INSTALL FRONT NO. 1 SPEAKER ASSEMBLY

(a) Using an air riveter or hand riveter, install the speaker with 3 new rivets.

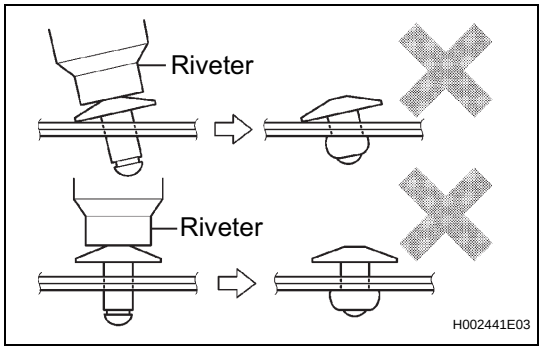
HINT:

Install the new strike rivets in the order shown in the illustration.

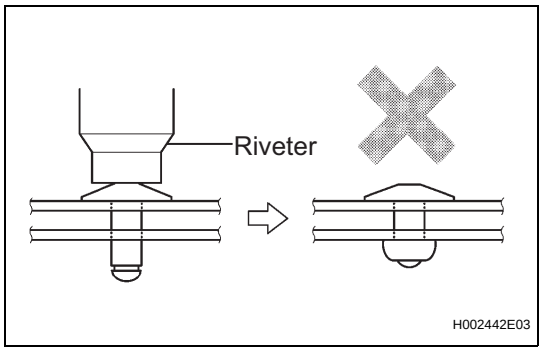


NOTICE:

- **Do not pry the rivet with the riveter, as this will cause damage to the riveter and mandrel.**



- **Confirm that the rivets are seated properly against the speaker. Do not tilt the riveter when installing the rivet to the speaker. Do not leave any space between the rivet head and speaker.**



- **Do not leave any space between the speaker and door. Firmly hold together the 2 items while installing the rivet.**

(b) Connect the connector.

2. INSTALL FRONT DOOR TRIM BOARD SUB-ASSEMBLY LH (See page ED-21)

3. INSTALL FRONT ARMREST BASE PANEL UPPER LH (See page ED-21)

4. INSTALL DOOR PULL HANDLE (See page ED-22)

5. INSTALL FRONT DOOR INSIDE HANDLE BEZEL LH (See page ED-22)

6. INSTALL FRONT DOOR LOWER FRAME BRACKET GARNISH LH (See page ED-22)

7. CONNECT CABLE TO NEGATIVE BATTERY TERMINAL

AV

8. PERFORM INITIALIZATION

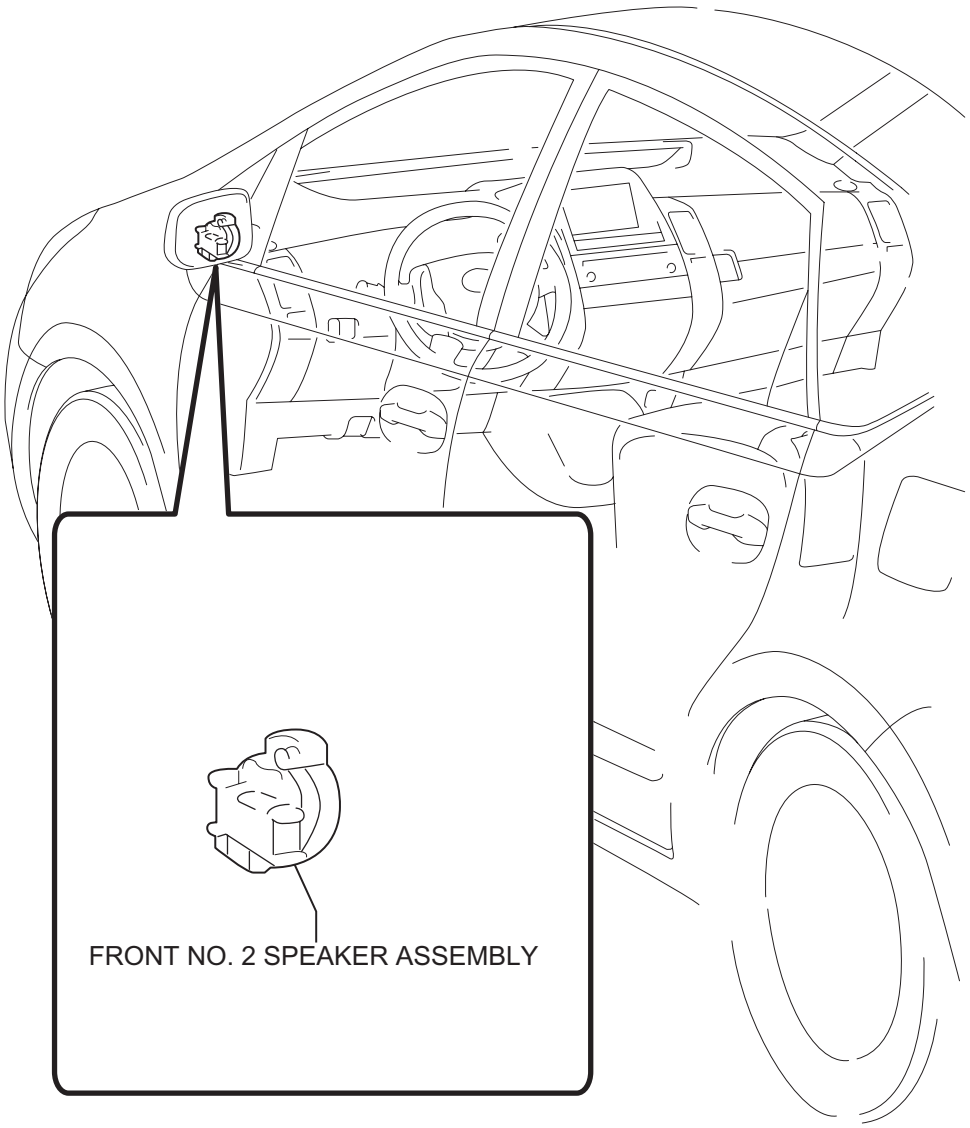
(a) Perform initialization (see page IN-32).

NOTICE:

Certain systems need to be initialized after disconnecting and reconnecting the cable from the negative (-) battery terminal.

FRONT NO. 2 SPEAKER

COMPONENTS



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REMOVAL

HINT:

- Use the same procedures for the RH and LH sides.
- The procedures listed below are for the LH side.

1. DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

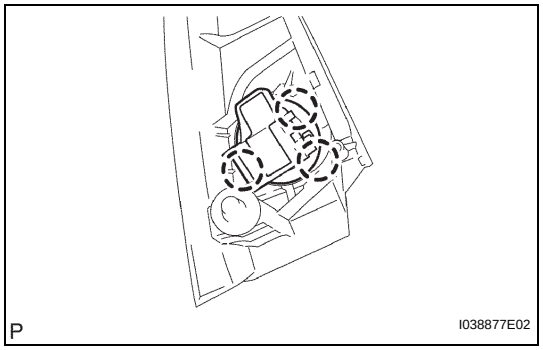
CAUTION:

Wait at least 90 seconds after disconnecting the cable from the negative (-) battery terminal to prevent airbag and seat belt pretensioner activation.

2. REMOVE FRONT DOOR LOWER FRAME BRACKET GARNISH LH (See page ED-11)

3. REMOVE FRONT NO. 2 SPEAKER ASSEMBLY

(a) Detach the 3 claws and remove the speaker.

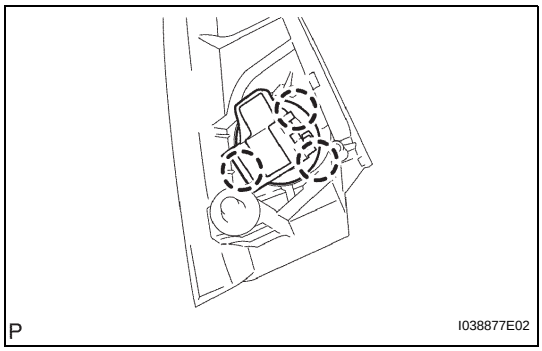


AV

INSTALLATION

HINT:

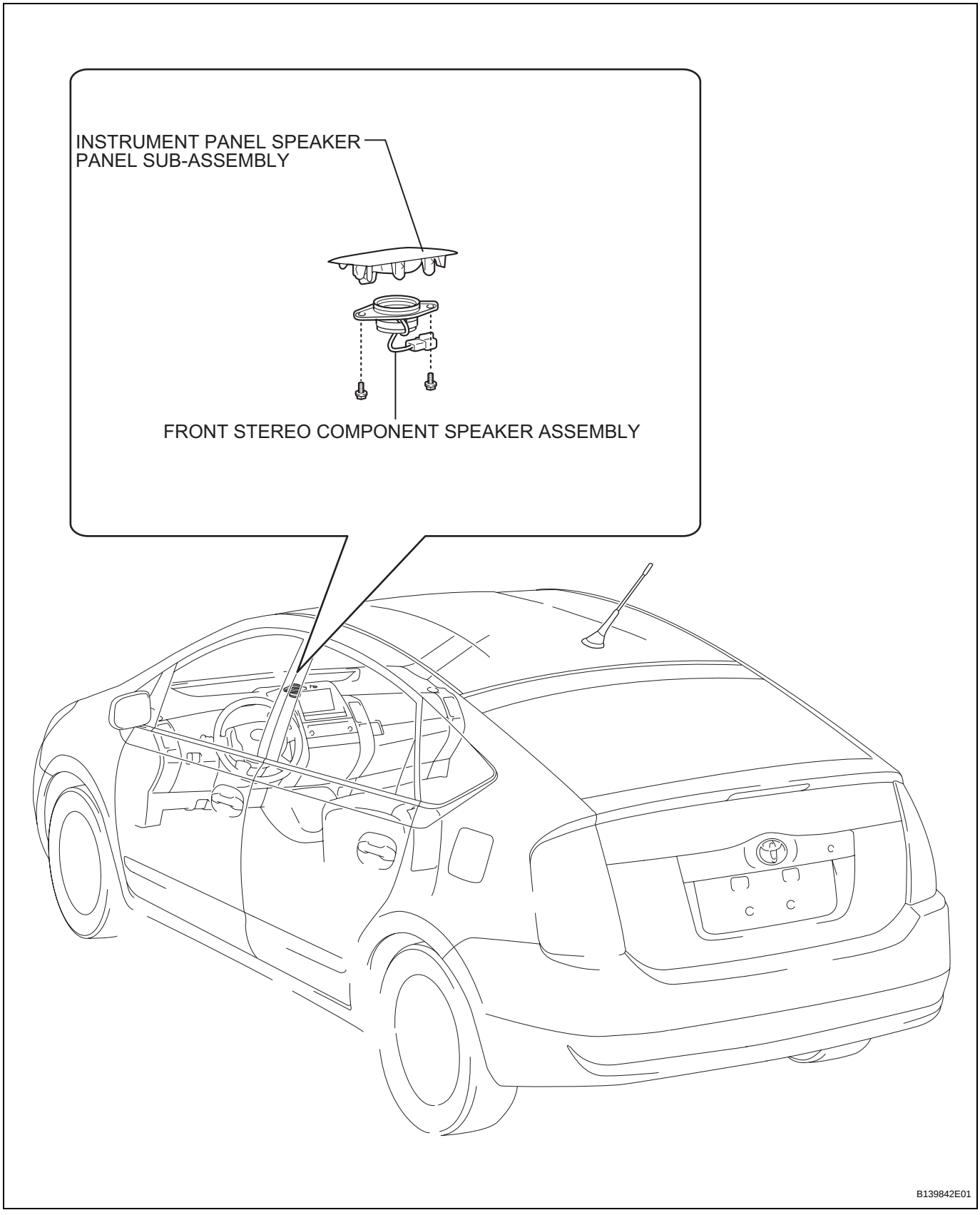
- Use the same procedures for the RH and LH sides.
- The procedures listed below are for the LH side.



1. **INSTALL FRONT NO. 2 SPEAKER ASSEMBLY**
   (a) Attach the 3 claws to install the speaker.
2. **INSTALL FRONT DOOR LOWER FRAME BRACKET GARNISH LH (See page ED-22)**
3. **CONNECT CABLE TO NEGATIVE BATTERY TERMINAL**
4. **PERFORM INITIALIZATION**
   (a) Perform initialization (see page IN-32).
   NOTICE:
   Certain systems need to be initialized after disconnecting and reconnecting the cable from the negative (-) battery terminal.

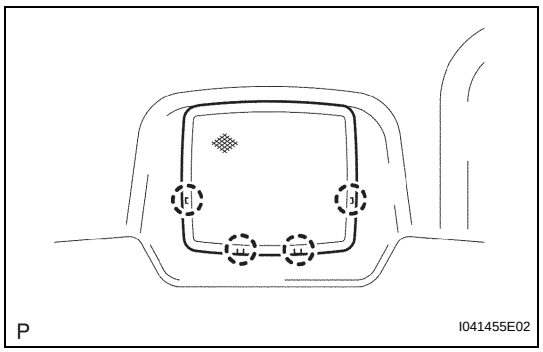
STEREO COMPONENT SPEAKER

COMPONENTS

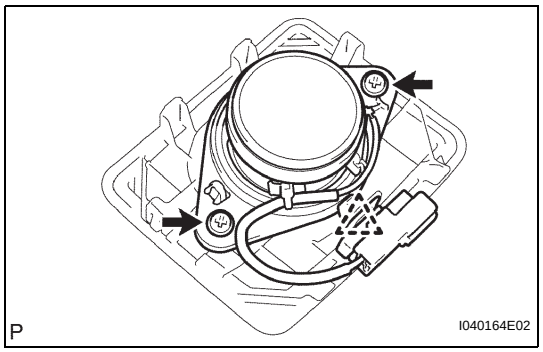


REMOVAL

1. **DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL**
   CAUTION:
   Wait at least 90 seconds after disconnecting the cable from the negative (-) battery terminal to prevent airbag and seat belt pretensioner activation.



2. **REMOVE FRONT STEREO COMPONENT SPEAKER ASSEMBLY**
   (a) Detach the 4 claws and remove the instrument panel speaker panel.
   (b) Disconnect the connector.

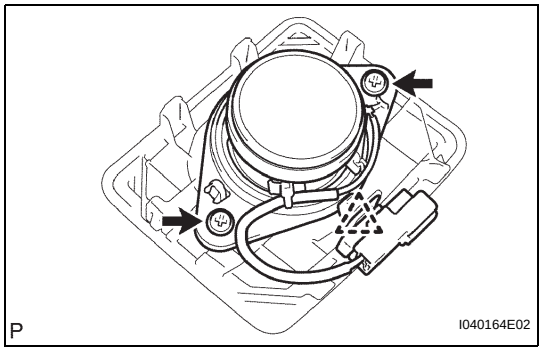


   (c) Remove the 2 screws and detach the clamp, and then remove the speaker.

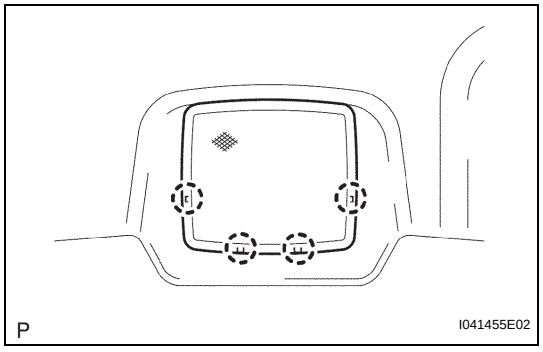
AV

INSTALLATION

1. **INSTALL FRONT STEREO COMPONENT SPEAKER ASSEMBLY**
   (a) Install the speaker with the 2 screws and clamp.
   (b) Connect the connector.



   (c) Attach the 4 claws to install the speaker panel.

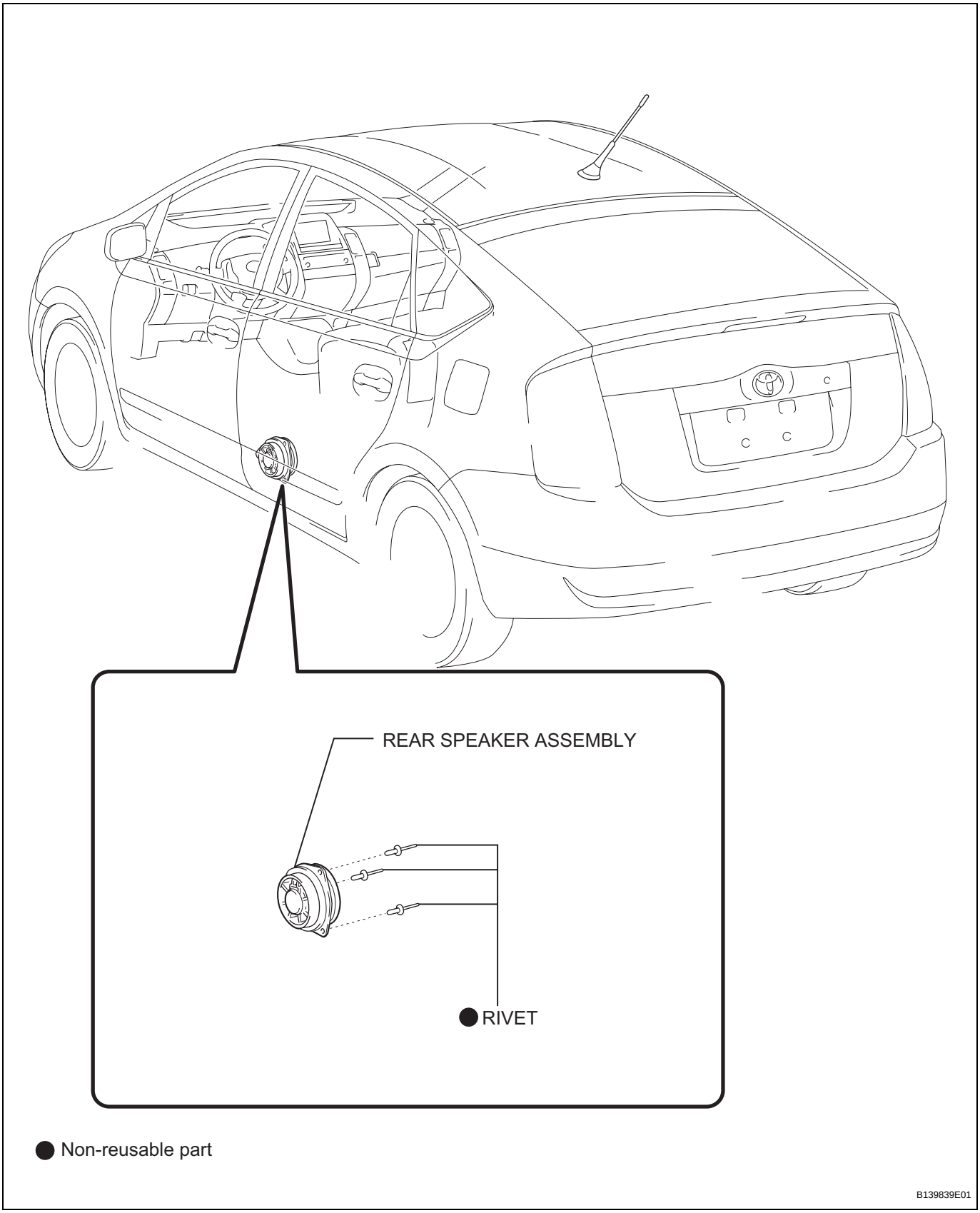


2. **CONNECT CABLE TO NEGATIVE BATTERY TERMINAL**

3. **PERFORM INITIALIZATION**
   (a) Perform initialization (see page IN-32).
   NOTICE:
   Certain systems need to be initialized after disconnecting and reconnecting the cable from the negative (-) battery terminal.

REAR SPEAKER

COMPONENTS

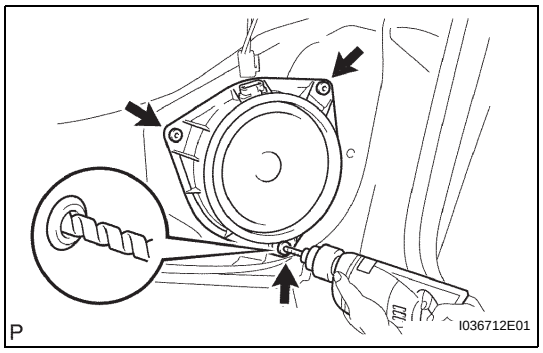


REMOVAL

HINT:

- Use the same procedures for the RH side and LH sides.
- The procedures listed below are for the LH side.

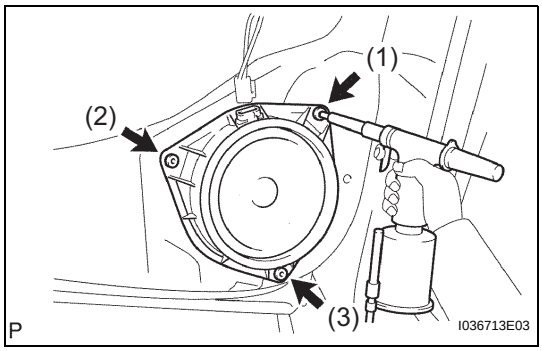
1. **DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL**
   CAUTION:
   Wait at least 90 seconds after disconnecting the cable from the negative (-) battery terminal to prevent airbag and seat belt pretensioner activation.
2. **REMOVE REAR DOOR INSIDE HANDLE BEZEL LH (See page ED-28)**
3. **REMOVE DOOR PULL HANDLE (See page ED-28)**
4. **REMOVE REAR DOOR ARMREST BASE PANEL UPPER LH (See page ED-28)**
5. **REMOVE REAR DOOR TRIM BOARD SUB-ASSEMBLY LH (See page ED-28)**
6. **REMOVE REAR SPEAKER ASSEMBLY**
   (a) Disconnect the connector.
   (b) Using a drill bit with a diameter of less than 4 mm (0.16 in.), drill out the 3 rivet heads and remove the speaker.
   NOTICE:
   - **Do not drill the rivet at an angle as this will cause damage to the drill and drill hole. Line up the drill and rivet, and carefully drill out the rivet head.**
   - **Be careful as the cut rivet will be very hot.**
   (c) Continue drilling and push out the remaining rivet fragments.
   (d) Using a vacuum cleaner, remove the rivet fragments and shavings from the inside of the door.



AV

INSTALLATION

HINT:
- Use the same procedures for the RH and LH sides.
- The procedures listed below are for the LH side.

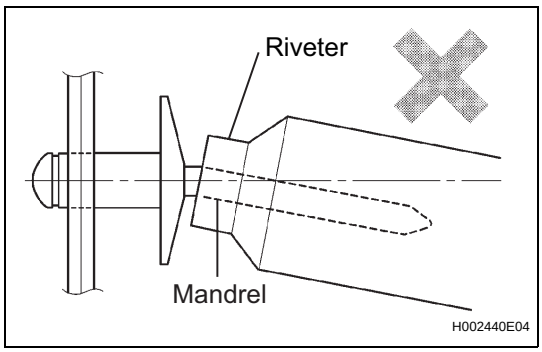


1. INSTALL REAR SPEAKER ASSEMBLY

(a) Using an air riveter or hand riveter, install the speaker with 3 new rivets.

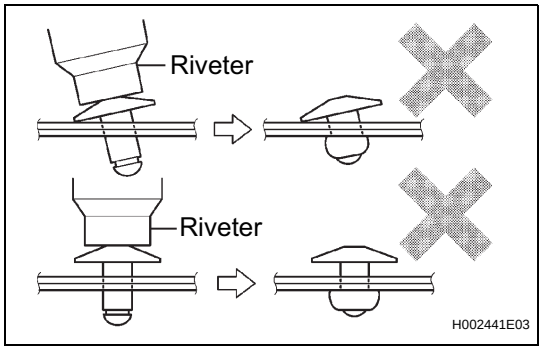
HINT:

Install the new strike rivets in the order shown in the illustration.

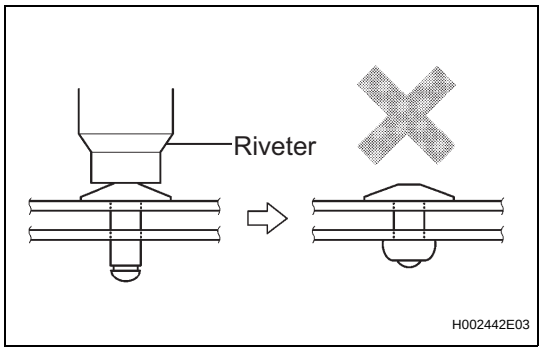


NOTICE:

- **Do not pry the rivet with the riveter, as this will cause damage to the riveter and mandrel.**



- **Confirm that the rivets are seated properly against the speaker. Do not tilt the riveter when installing the rivet to the speaker. Do not leave any space between the rivet head and speaker.**



- **Do not leave any space between the speaker and door. Firmly hold together the 2 items while installing the rivet.**

(b) Connect the connector.

2. INSTALL REAR DOOR TRIM BOARD SUB-ASSEMBLY LH (See page ED-37)

3. INSTALL REAR DOOR ARMREST BASE PANEL UPPER LH (See page ED-37)

4. INSTALL DOOR PULL HANDLE (See page ED-37)

5. INSTALL REAR DOOR INSIDE HANDLE BEZEL LH (See page ED-37)

6. CONNECT CABLE TO NEGATIVE BATTERY TERMINAL

AV

7. PERFORM INITIALIZATION

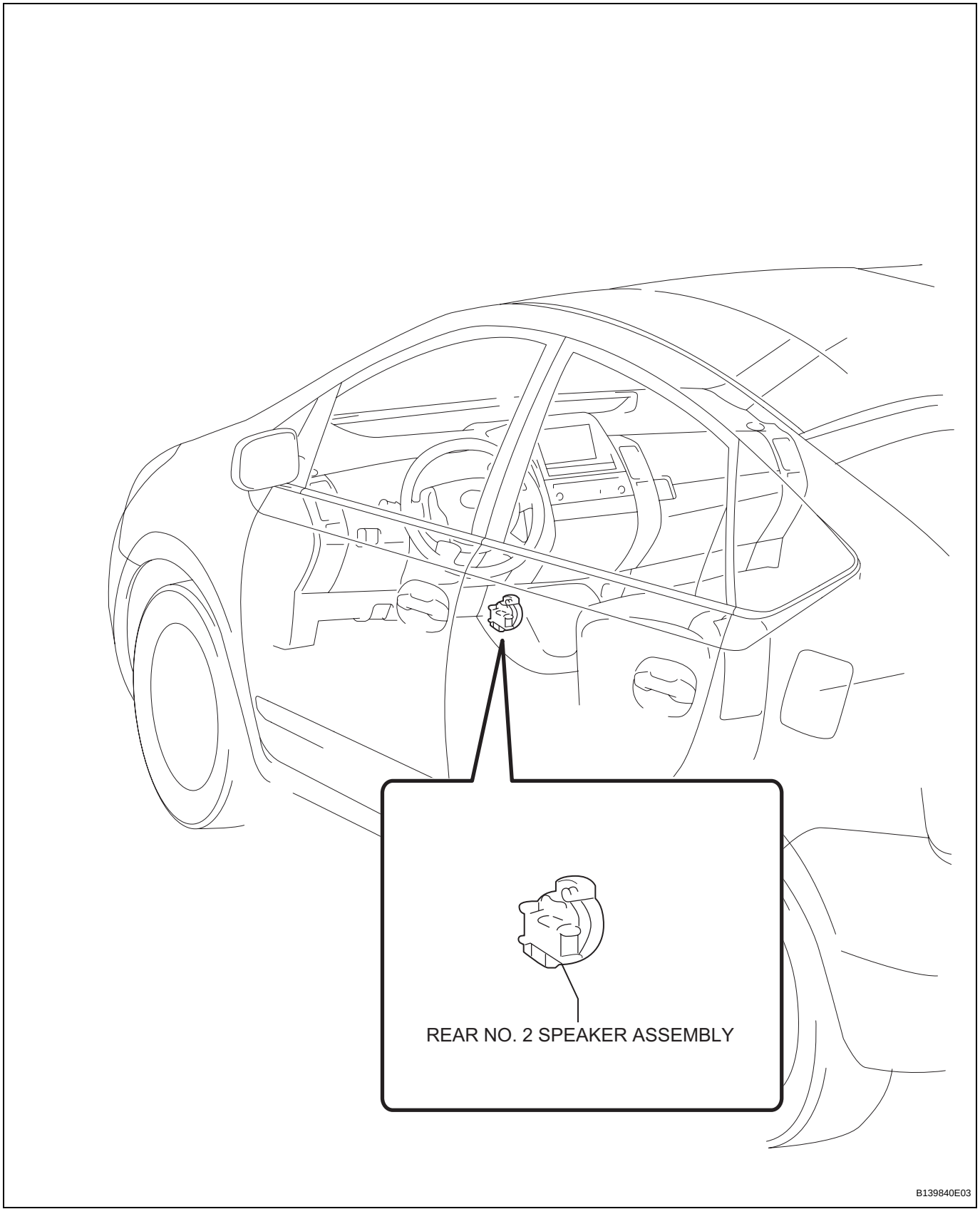
(a) Perform initialization (see page IN-32).

NOTICE:

Certain systems need to be initialized after disconnecting and reconnecting the cable from the negative (-) battery terminal.

REAR NO. 2 SPEAKER

COMPONENTS

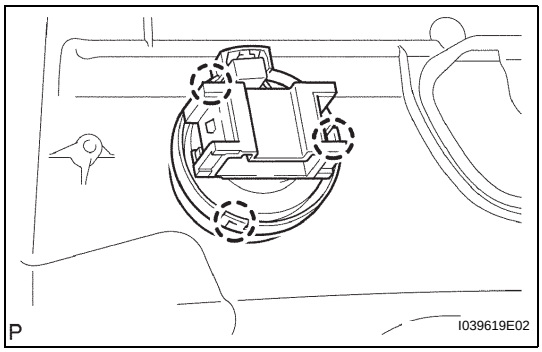


REMOVAL

HINT:

- Use the same procedures for the RH side and LH sides.
- The procedures listed below are for the LH side.

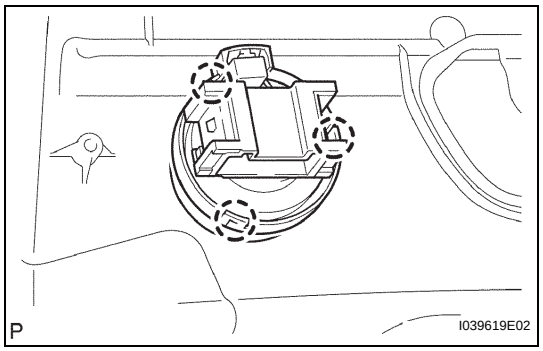
1. **DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL**
   CAUTION:
   Wait at least 90 seconds after disconnecting the cable from the negative (-) battery terminal to prevent airbag and seat belt pretensioner activation.
2. **REMOVE REAR DOOR INSIDE HANDLE BEZEL LH (See page ED-28)**
3. **REMOVE DOOR PULL HANDLE (See page ED-28)**
4. **REMOVE REAR DOOR ARMREST BASE PANEL UPPER LH (See page ED-28)**
5. **REMOVE REAR DOOR TRIM BOARD SUB-ASSEMBLY LH (See page ED-28)**
6. **REMOVE REAR NO. 2 SPEAKER ASSEMBLY**
   (a) Detach the 3 claws and remove the speaker.



INSTALLATION

HINT:

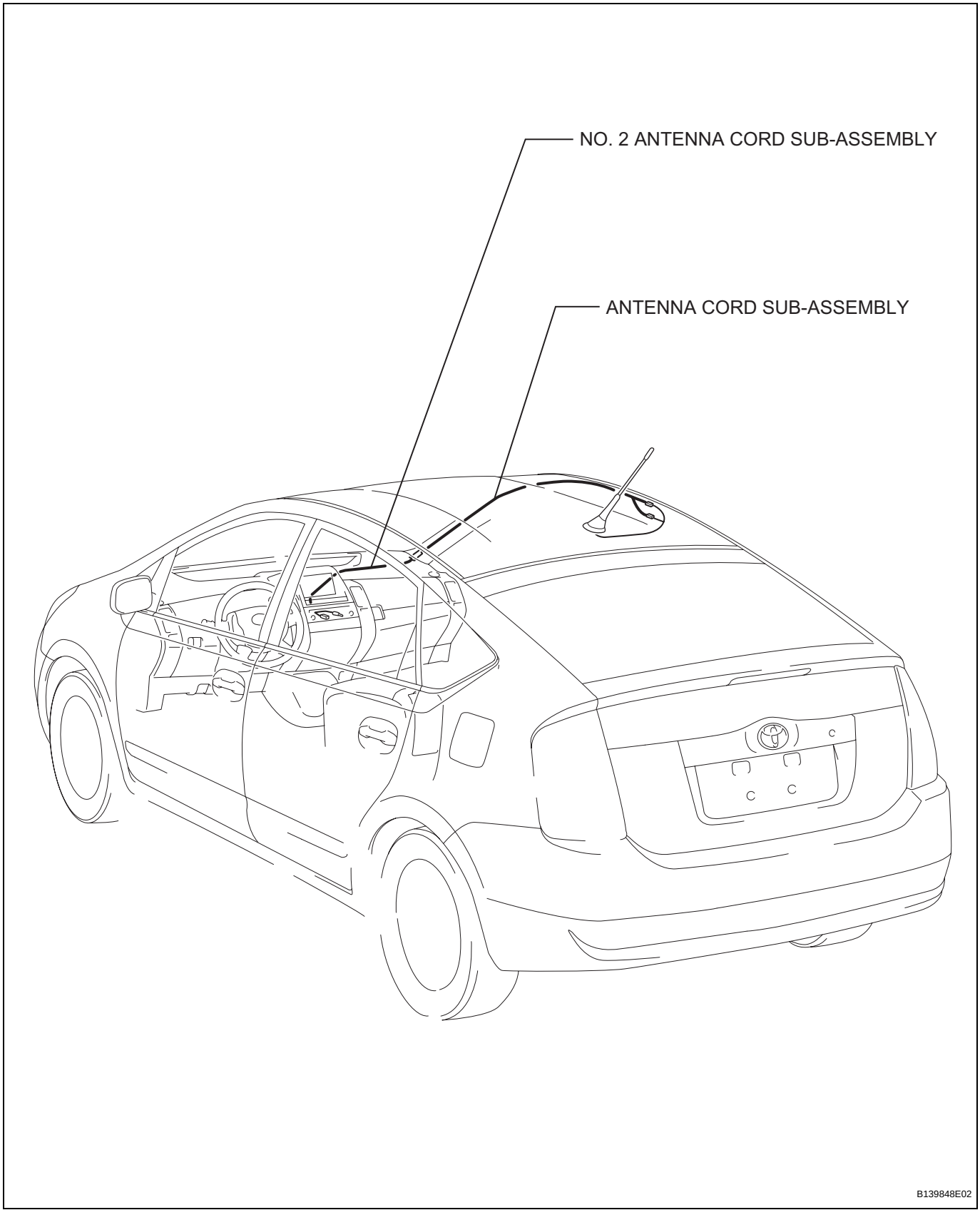
- Use the same procedures for the RH and LH sides.
- The procedures listed below are for the LH side.



1. **INSTALL REAR NO. 2 SPEAKER ASSEMBLY**
   (a) Attach the 3 claws to install the speaker.
2. **INSTALL REAR DOOR TRIM BOARD SUB-ASSEMBLY LH (See page ED-37)**
3. **INSTALL REAR DOOR ARMREST BASE PANEL UPPER LH (See page ED-37)**
4. **INSTALL DOOR PULL HANDLE (See page ED-37)**
5. **INSTALL REAR DOOR INSIDE HANDLE BEZEL LH (See page ED-37)**
6. **CONNECT CABLE TO NEGATIVE BATTERY TERMINAL**
7. **PERFORM INITIALIZATION**
   (a) Perform initialization (see page IN-32).
   NOTICE:
   Certain systems need to be initialized after disconnecting and reconnecting the cable from the negative (-) battery terminal.

RADIO ANTENNA CORD

COMPONENTS

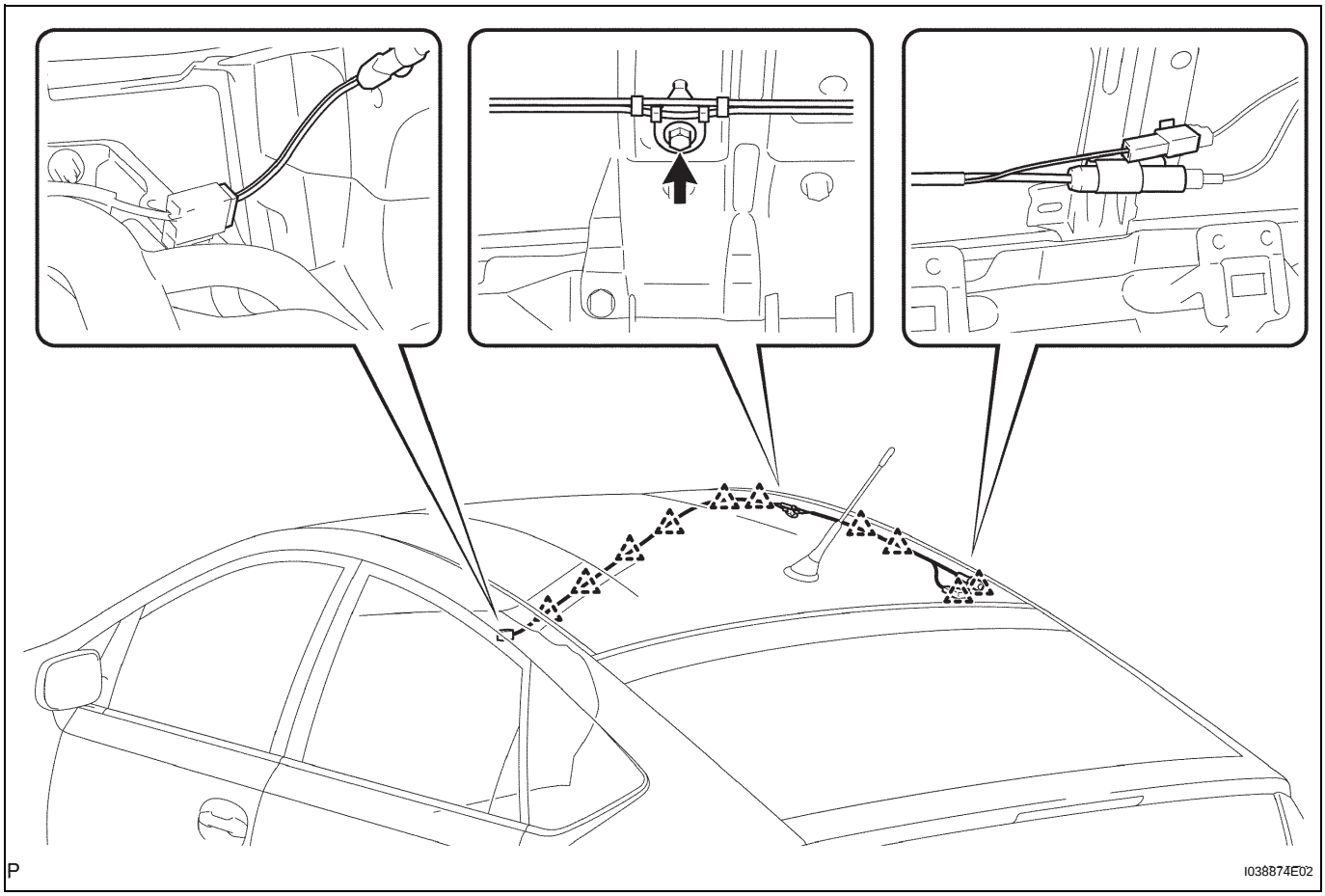


REMOVAL

1. **DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL**
   CAUTION:
   Wait at least 90 seconds after disconnecting the cable from the negative (-) battery terminal to prevent airbag and seat belt pretensioner activation.

2. **REMOVE ROOF HEADLINING ASSEMBLY**
   (a) Remove the roof headlining (see page IR-7).

3. **REMOVE ANTENNA CORD SUB-ASSEMBLY**

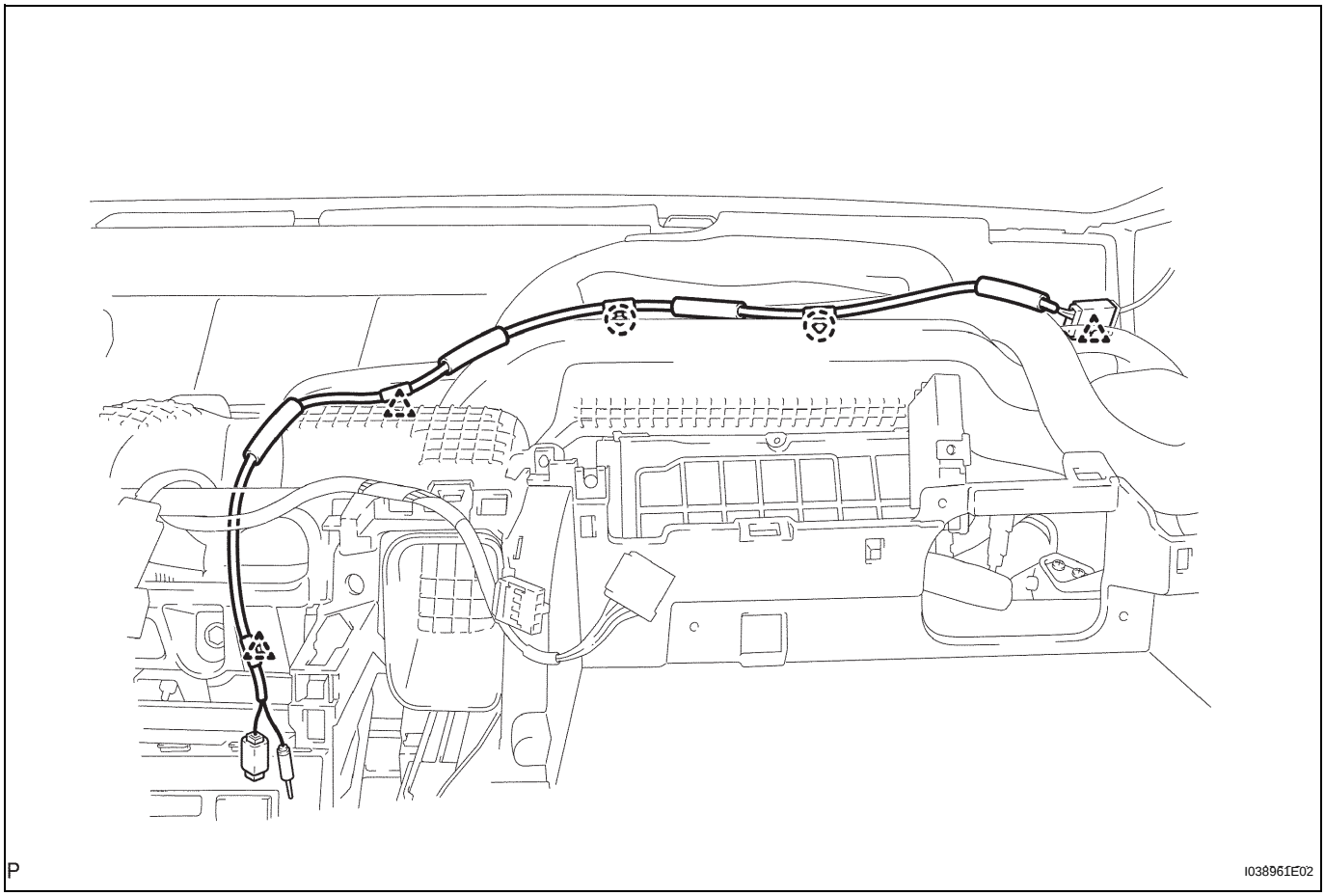


   (a) Disconnect the connector.
   (b) Remove the 10 clamps, ground bolt and antenna cord.

4. **REMOVE INSTRUMENT PANEL SUB- ASSEMBLY**
   (a) Remove the instrument panel (see page IP-5).

5. **REMOVE NO. 2 ANTENNA CORD SUB-ASSEMBLY**
   (a) Disconnect the connector.
   (b) Detach the 3 clamps and 2 claws, and then remove the antenna cord.

AV



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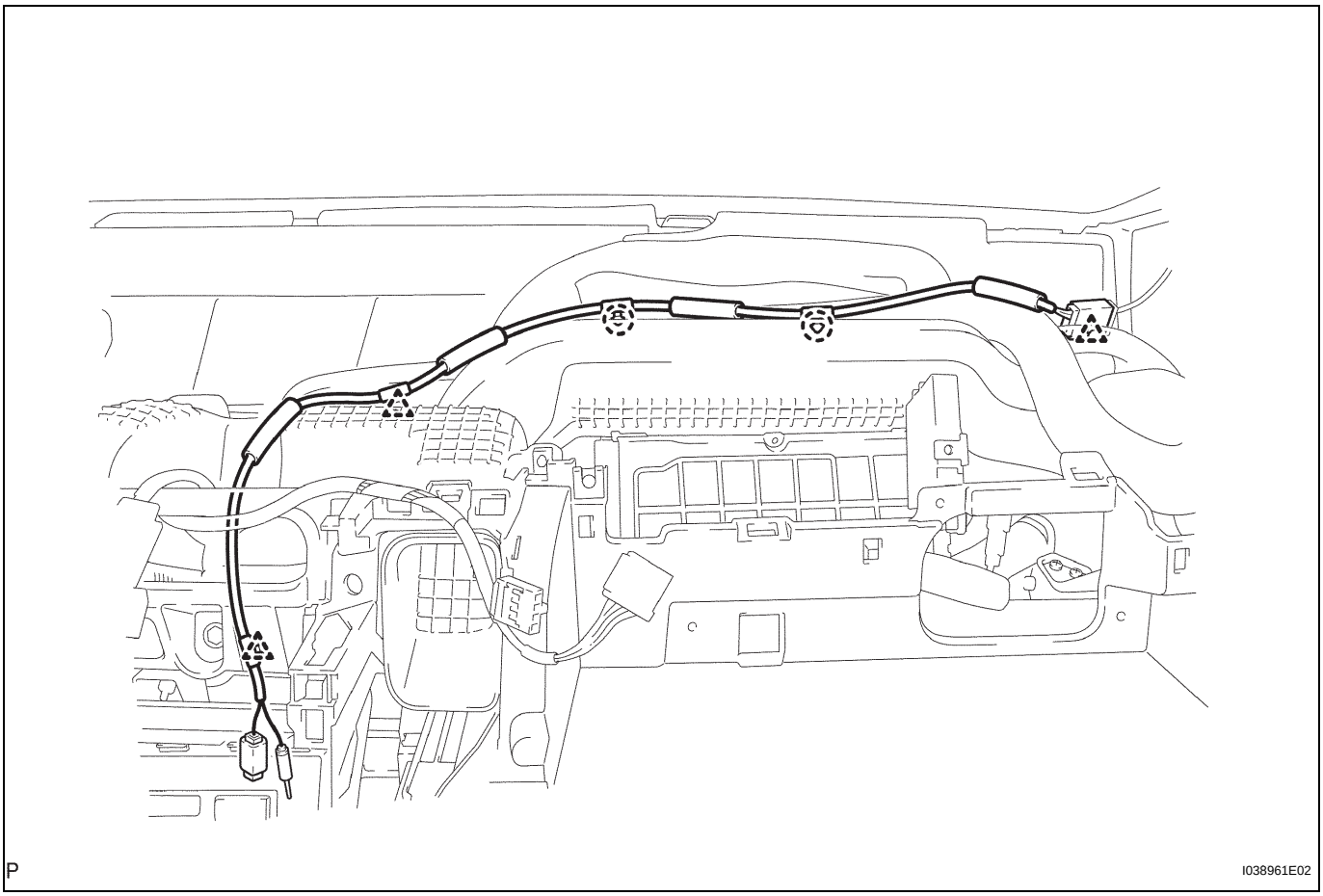
INSTALLATION

1. INSTALL NO. 2 ANTENNA CORD SUB-ASSEMBLY

(a) Attach the 3 clamps and 2 claws to install the antenna cord.

(b) Connect the connector.



2. INSTALL INSTRUMENT PANEL SUB-ASSEMBLY

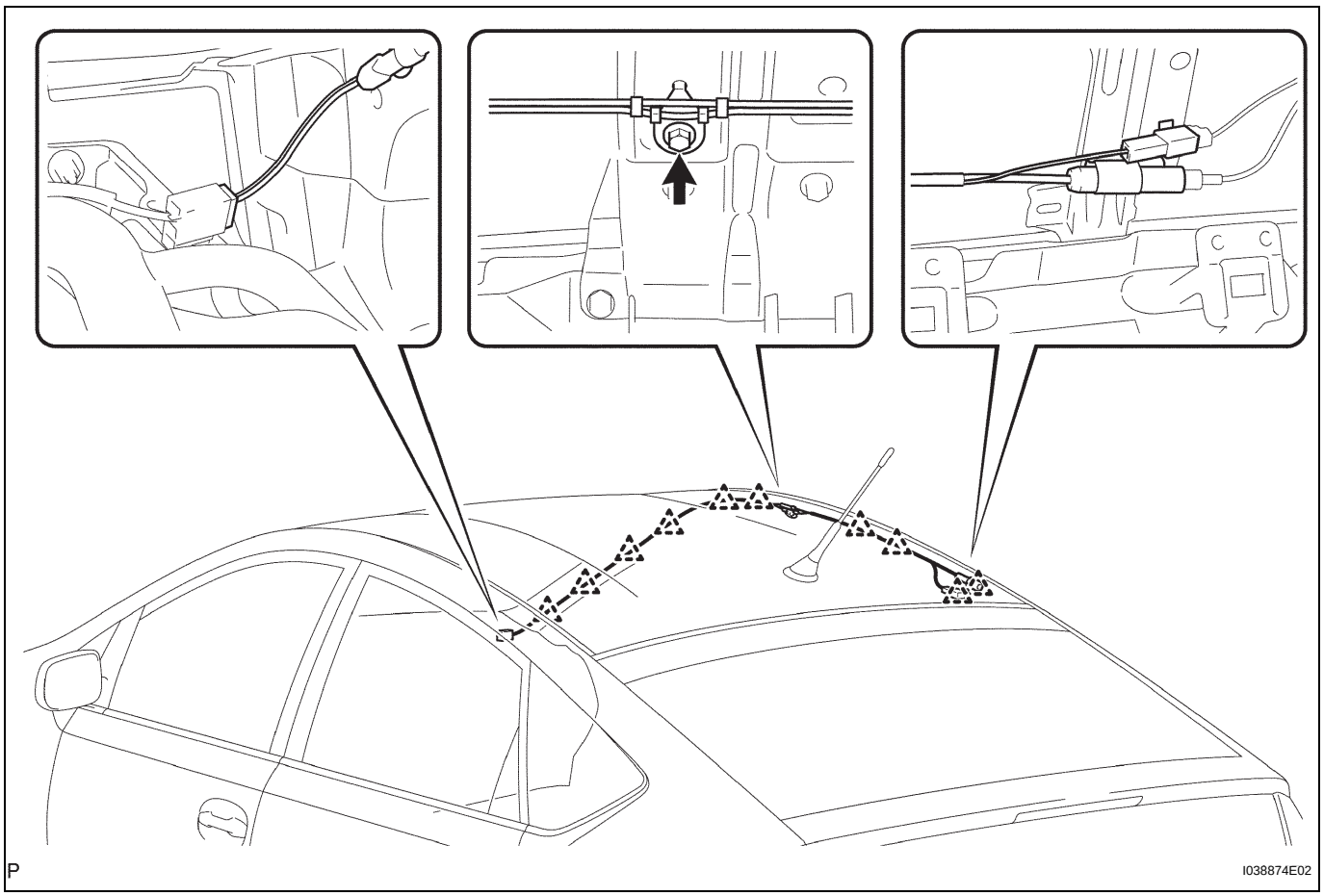
(a) Install the instrument panel (see page IP-11).

3. INSTALL ANTENNA CORD SUB-ASSEMBLY

(a) Attach the 10 clamps. Install the antenna cord with the bolt.

Torque: 7.0 N*m (71 kgf*cm, 62 in.*lbf)

(b) Connect the connector.



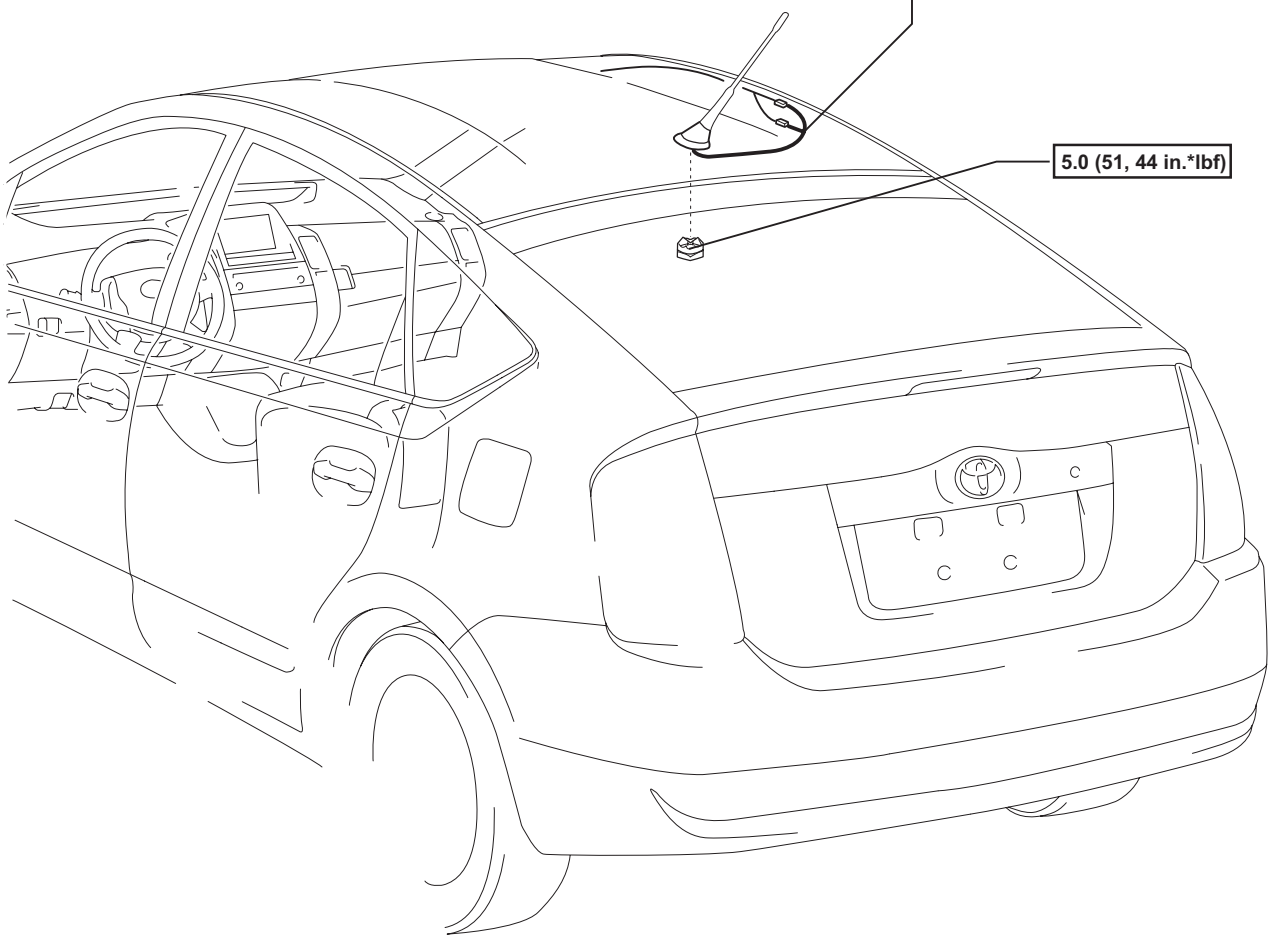
4. **INSTALL ROOF HEADLINING ASSEMBLY**
   (a) Install the roof headlining (see page IR-13).

5. **CONNECT CABLE TO NEGATIVE BATTERY TERMINAL**

6. **PERFORM INITIALIZATION**
   (a) Perform initialization (see page IN-32).
   NOTICE:
   Certain systems need to be initialized after disconnecting and reconnecting the cable from the negative (-) battery terminal.

RADIO ANTENNA HOLDER

COMPONENTS

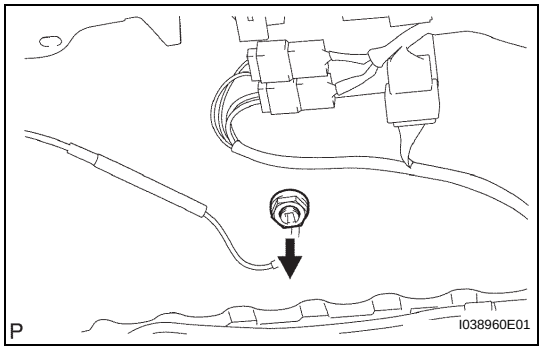


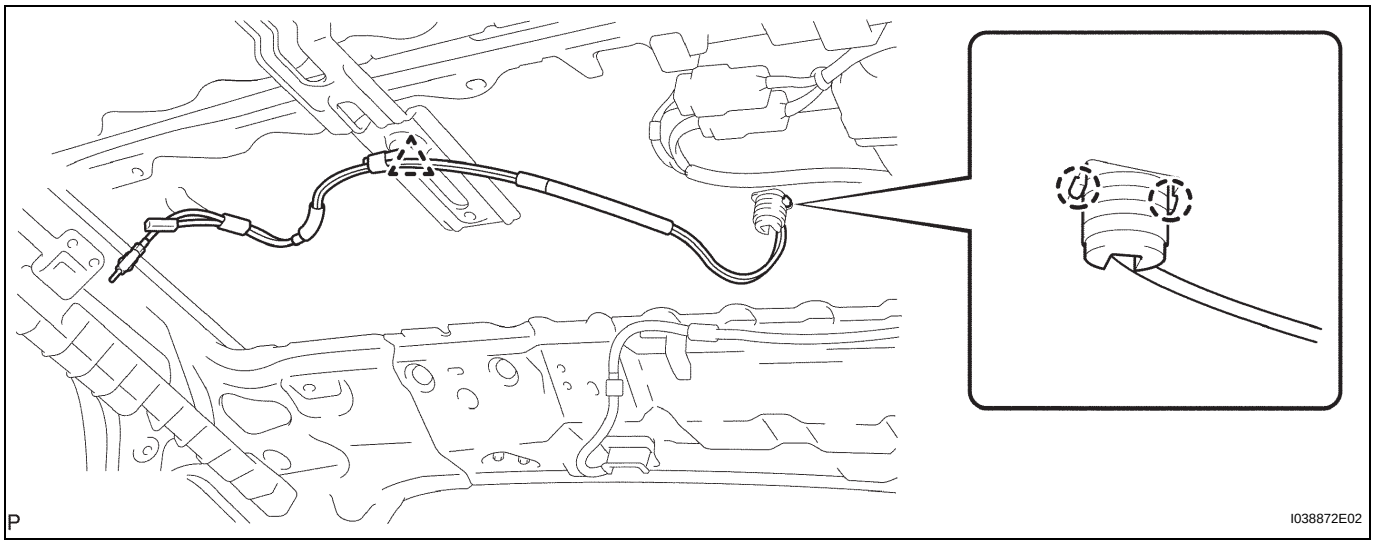
N*m (kgf*cm, ft.*lbf) : Specified torque

B139846E01

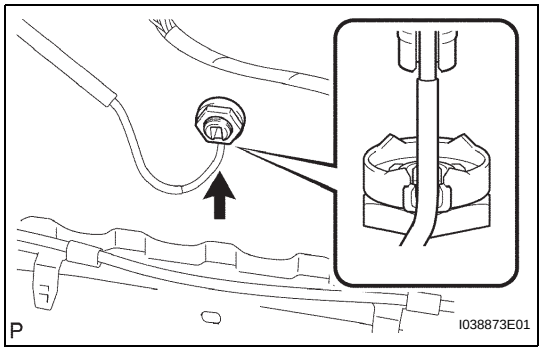
REMOVAL

1. **DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL**
   CAUTION:
   Wait at least 90 seconds after disconnecting the cable from the negative (-) battery terminal to prevent airbag and seat belt pretensioner activation.
2. **REMOVE ROOF HEADLINING ASSEMBLY**
   (a) Remove the roof headlining (see page IR-7).
3. **REMOVE ANTENNA (CORD / POLE SEPARATE TYPE) HOLDER ASSEMBLY**
   (a) Disconnect the connector.
   (b) Remove the antenna nut.
   (c) Remove the clamp and detach the 2 claws to remove the antenna holder.





INSTALLATION



1. **INSTALL ANTENNA (CORD / POLE SEPARATE TYPE) HOLDER ASSEMBLY**
   (a) Install the antenna holder assembly on the roof and align the antenna cord with the antenna nut cutout.
   (b) Tighten the antenna holder assembly with the antenna nut.
   Torque: 5.0 N*m (51 kgf*cm, 44 in.*lbf)
   (c) Attach the clamp.
   (d) Connect the connector.
2. **INSTALL ROOF HEADLINING ASSEMBLY**
   (a) Install the roof headlining (see page IR-13).
3. **CONNECT CABLE TO NEGATIVE BATTERY TERMINAL**

4. PERFORM INITIALIZATION

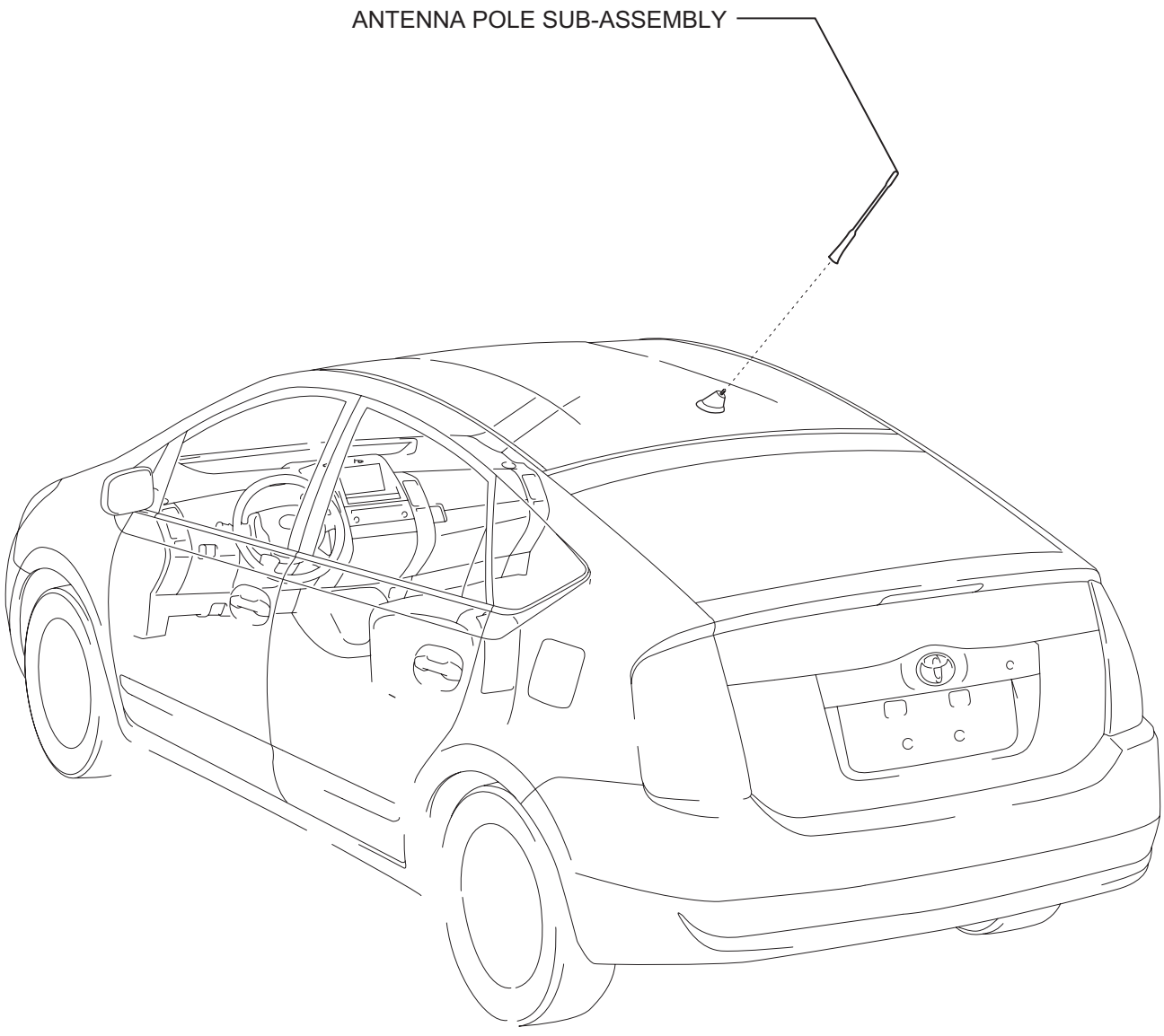
(a) Perform initialization (see page IN-32).

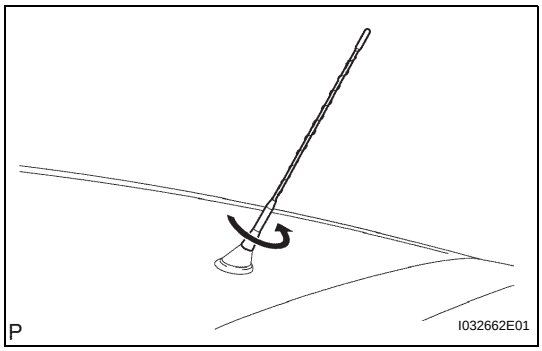
NOTICE:

Certain systems need to be initialized after disconnecting and reconnecting the cable from the negative (-) battery terminal.

RADIO ANTENNA POLE

COMPONENTS





REMOVAL

1. REMOVE ANTENNA POLE SUB-ASSEMBLY

(a) Remove the antenna pole by turning it counterclockwise.

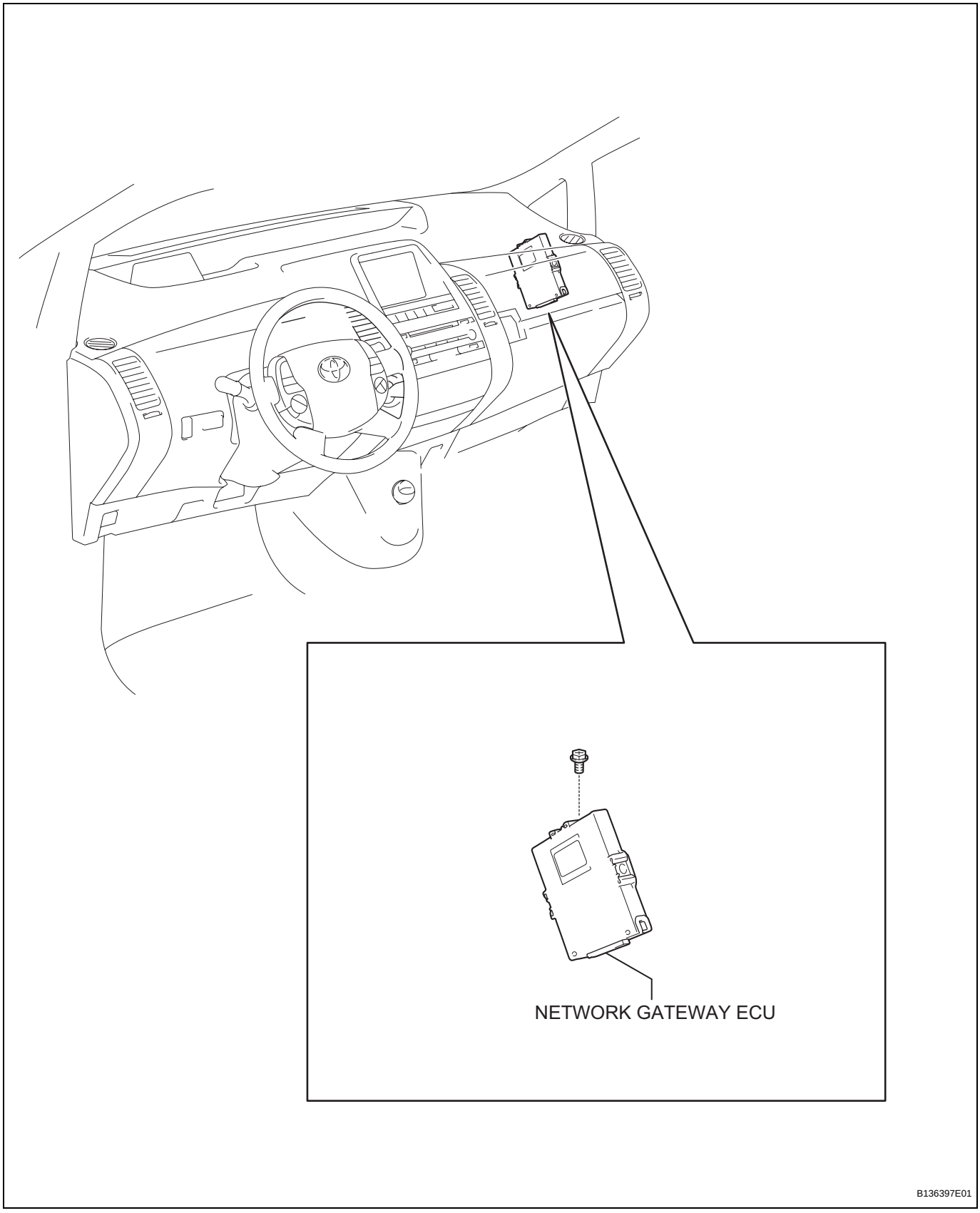
INSTALLATION

1. INSTALL ANTENNA POLE SUB-ASSEMBLY

(a) Install the antenna pole by turning it clockwise.

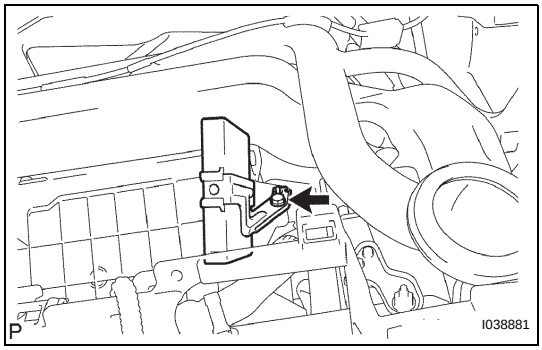
NETWORK GATEWAY ECU

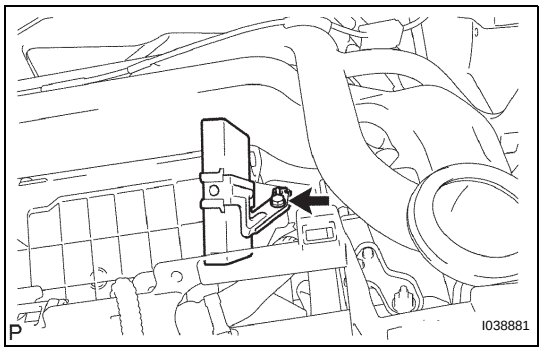
COMPONENTS



REMOVAL

1. **DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL**
   CAUTION:
   Wait at least 90 seconds after disconnecting the cable from the negative (-) battery terminal to prevent airbag and seat belt pretensioner activation.
2. **REMOVE INSTRUMENT PANEL SUB-ASSEMBLY**
   (a) Remove the instrument panel (see page IP-5).
3. **REMOVE NETWORK GATEWAY ECU**
   (a) Disconnect the connector.
   (b) Remove the bolt and network gateway ECU.





INSTALLATION

1. **INSTALL NETWORK GATEWAY ECU**
   (a) Install the network gateway ECU with the bolt.
   (b) Connect the connector.
2. **INSTALL INSTRUMENT PANEL SUB-ASSEMBLY**
   (a) Install the instrument panel (see page IP-11).
3. **CONNECT CABLE TO NEGATIVE BATTERY TERMINAL**
4. **PERFORM INITIALIZATION**
   (a) Perform initialization (see page IN-32).
   NOTICE:
   Certain systems need to be initialized after disconnecting and reconnecting the cable from the negative (-) battery terminal.

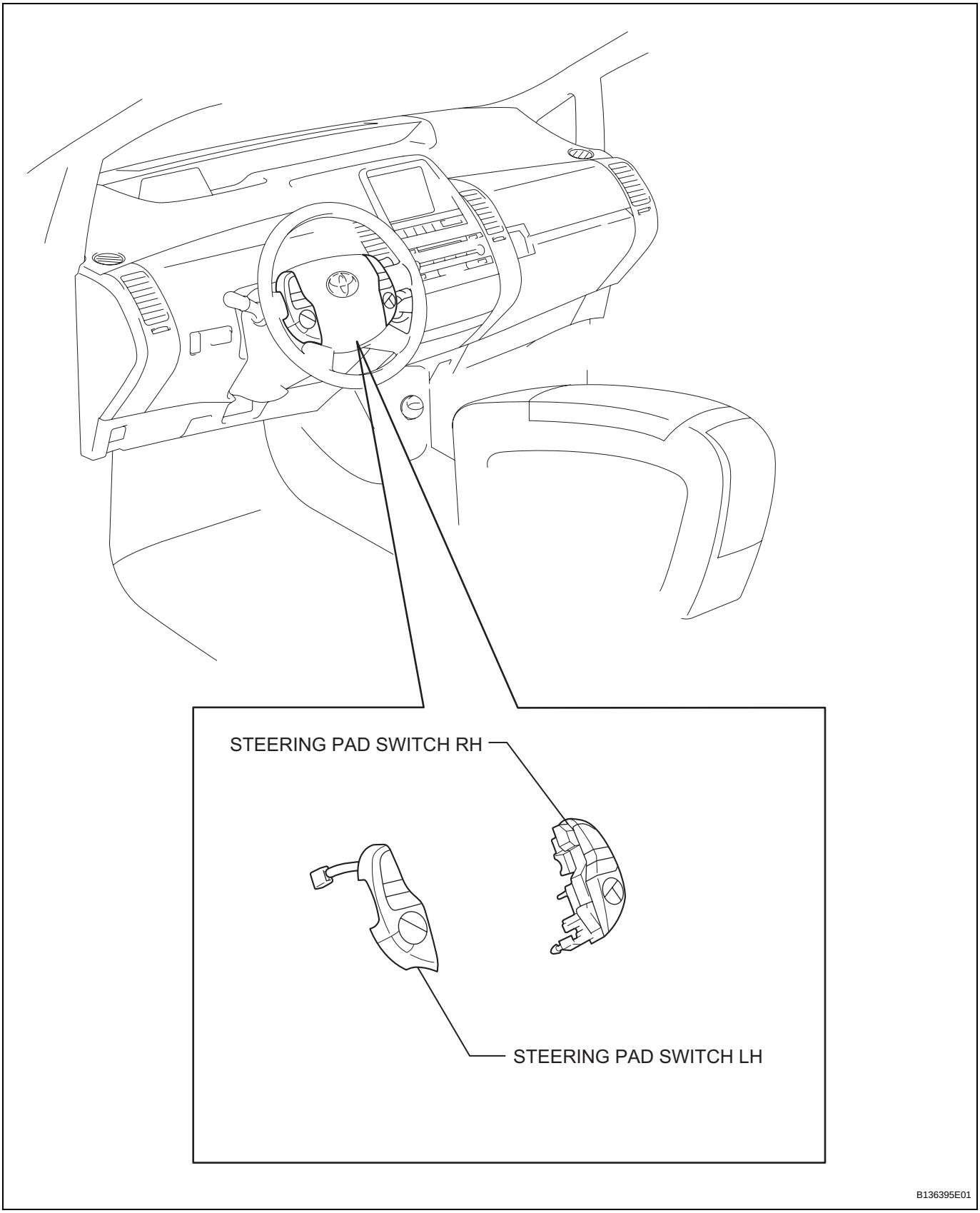
STEERING PAD SWITCH

PRECAUTION

1. PRECAUTION FOR VEHICLE WITH SRS

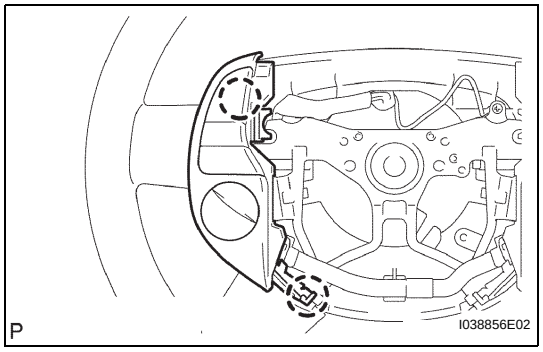
(a) Some procedures in this section may affect the Supplemental Restraint System (SRS). Prior to performing the procedures, read the SRS section's "Precaution" (see page RS-1).

COMPONENTS

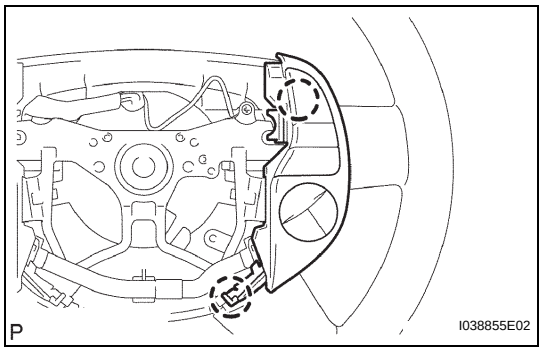


REMOVAL

1. **DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL**
   CAUTION:
   Wait at least 90 seconds after disconnecting the cable from the negative (-) battery terminal to prevent airbag and seat belt pretensioner activation.
2. **REMOVE NO. 2 STEERING WHEEL COVER LOWER**
3. **REMOVE NO. 3 STEERING WHEEL COVER LOWER**
4. **REMOVE STEERING PAD ASSEMBLY (See page RS-268)**
5. **REMOVE STEERING PAD SWITCH LH**
   (a) Detach the 2 claws and pull out the steering pad switch.
   (b) Disconnect the connector and remove the steering pad switch.

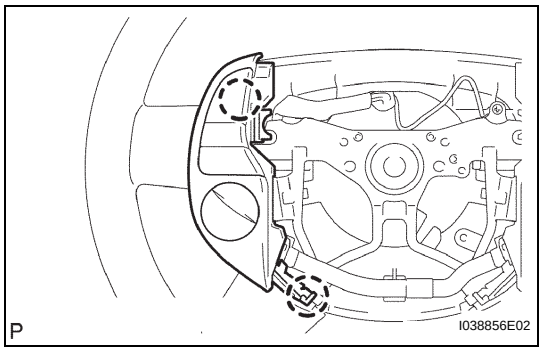


6. **REMOVE STEERING PAD SWITCH RH**
   (a) Detach the 2 claws and pull out the steering pad switch.
   (b) Disconnect the connector and remove the steering pad switch.

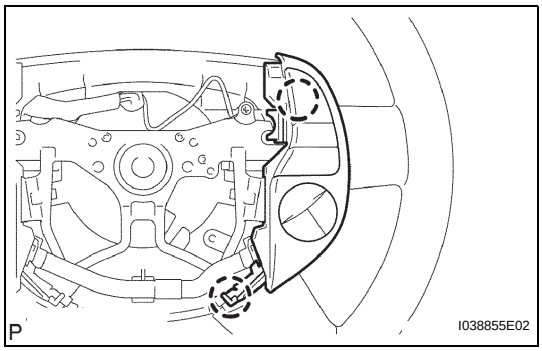


INSTALLATION

1. **INSTALL STEERING PAD SWITCH LH**
   (a) Connect the connector.
   (b) Attach the 2 claws to install the steering pad switch.



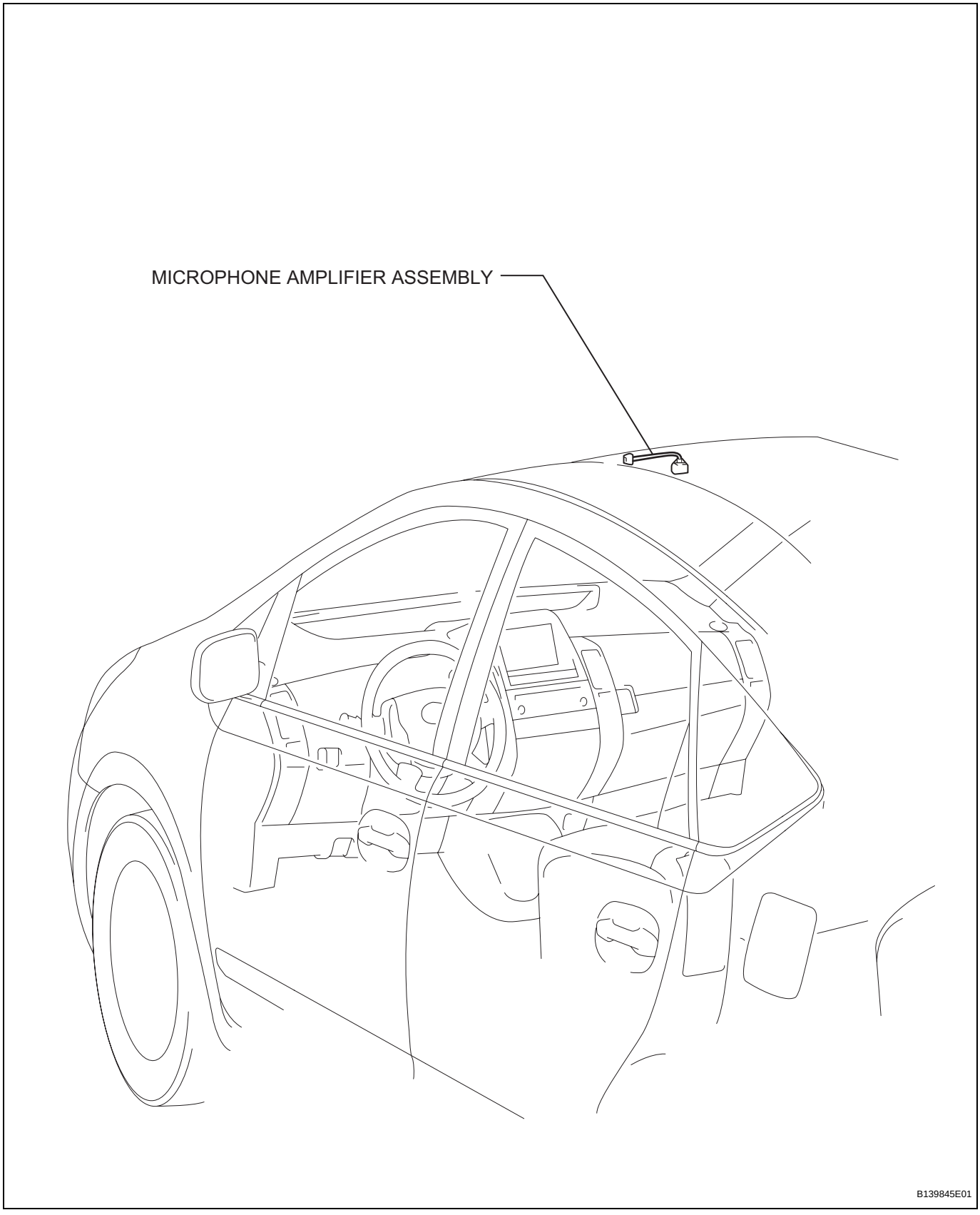
AV



2. **INSTALL STEERING PAD SWITCH RH**
   (a) Connect the connector.
   (b) Attach the 2 claws to install the steering pad switch.
3. **INSTALL STEERING PAD ASSEMBLY (See page RS-269)**
4. **INSTALL NO. 2 STEERING WHEEL COVER LOWER**
5. **INSTALL NO. 3 STEERING WHEEL COVER LOWER**
6. **CONNECT CABLE TO NEGATIVE BATTERY TERMINAL**
7. **PERFORM INITIALIZATION**
   (a) Perform initialization (see page IN-32).
   NOTICE:
   Certain systems need to be initialized after disconnecting and reconnecting the cable from the negative (-) battery terminal.
8. **INSPECT STEERING PAD ASSEMBLY (See page RS-269)**
9. **CHECK SRS WARNING LIGHT (See page RS-269)**

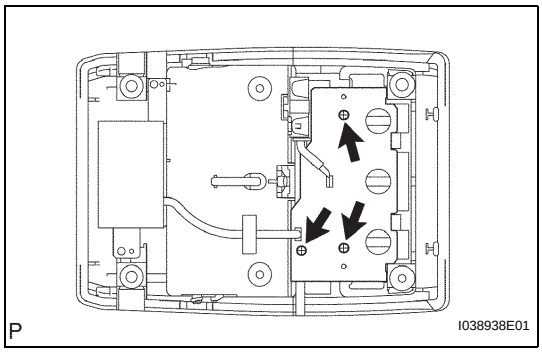
MICROPHONE AMPLIFIER

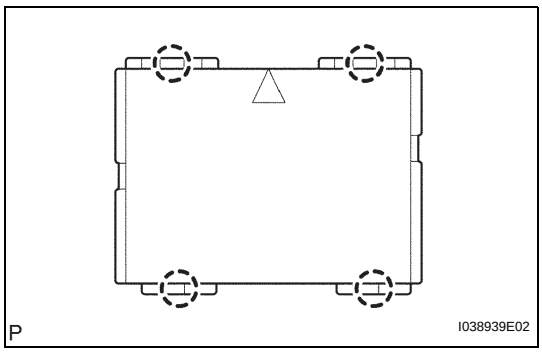
COMPONENTS



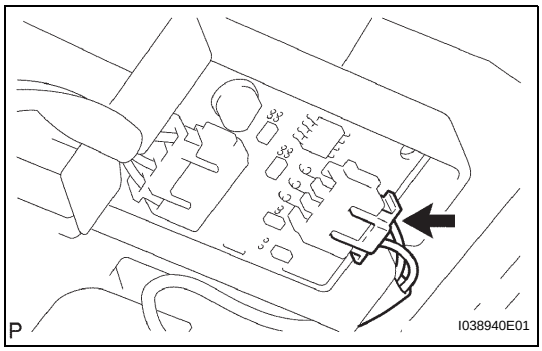
REMOVAL

1. **DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL**
   CAUTION:
   Wait at least 90 seconds after disconnecting the cable from the negative (-) battery terminal to prevent airbag and seat belt pretensioner activation.
2. **REMOVE MAP LIGHT ASSEMBLY (See page IR-12)**
3. **REMOVE MICROPHONE AMPLIFIER ASSEMBLY**
   (a) Remove the 3 screws and print board.





(b) Detach the 4 claws and remove the amplifier cover.
(c) Disconnect the connector.



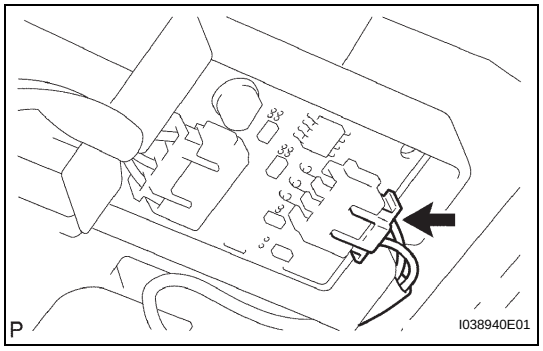
(d) Remove the microphone amplifier.

INSTALLATION

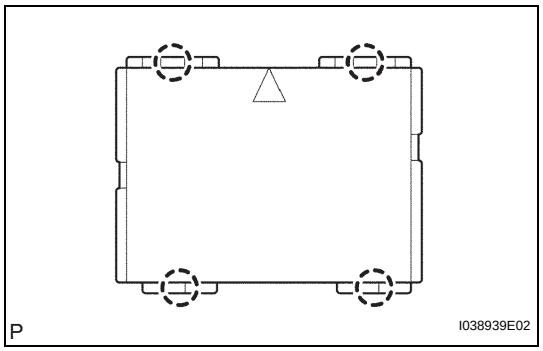
1. INSTALL MICROPHONE AMPLIFIER ASSEMBLY

(a) Install the microphone amplifier.

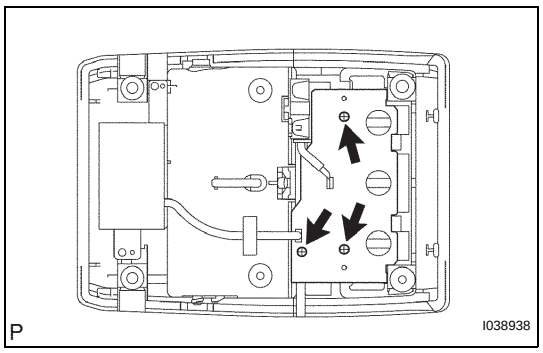
(b) Connect the connector.



(c) Attach the 4 claws to install the amplifier cover.



(d) Install the print board with the 3 screws.



2. INSTALL MAP LIGHT ASSEMBLY (See page IR-15)

3. CONNECT CABLE TO NEGATIVE BATTERY TERMINAL

4. PERFORM INITIALIZATION

(a) Perform initialization (see page IN-32).

NOTICE:

Certain systems need to be initialized after disconnecting and reconnecting the cable from the negative (-) battery terminal.

AV