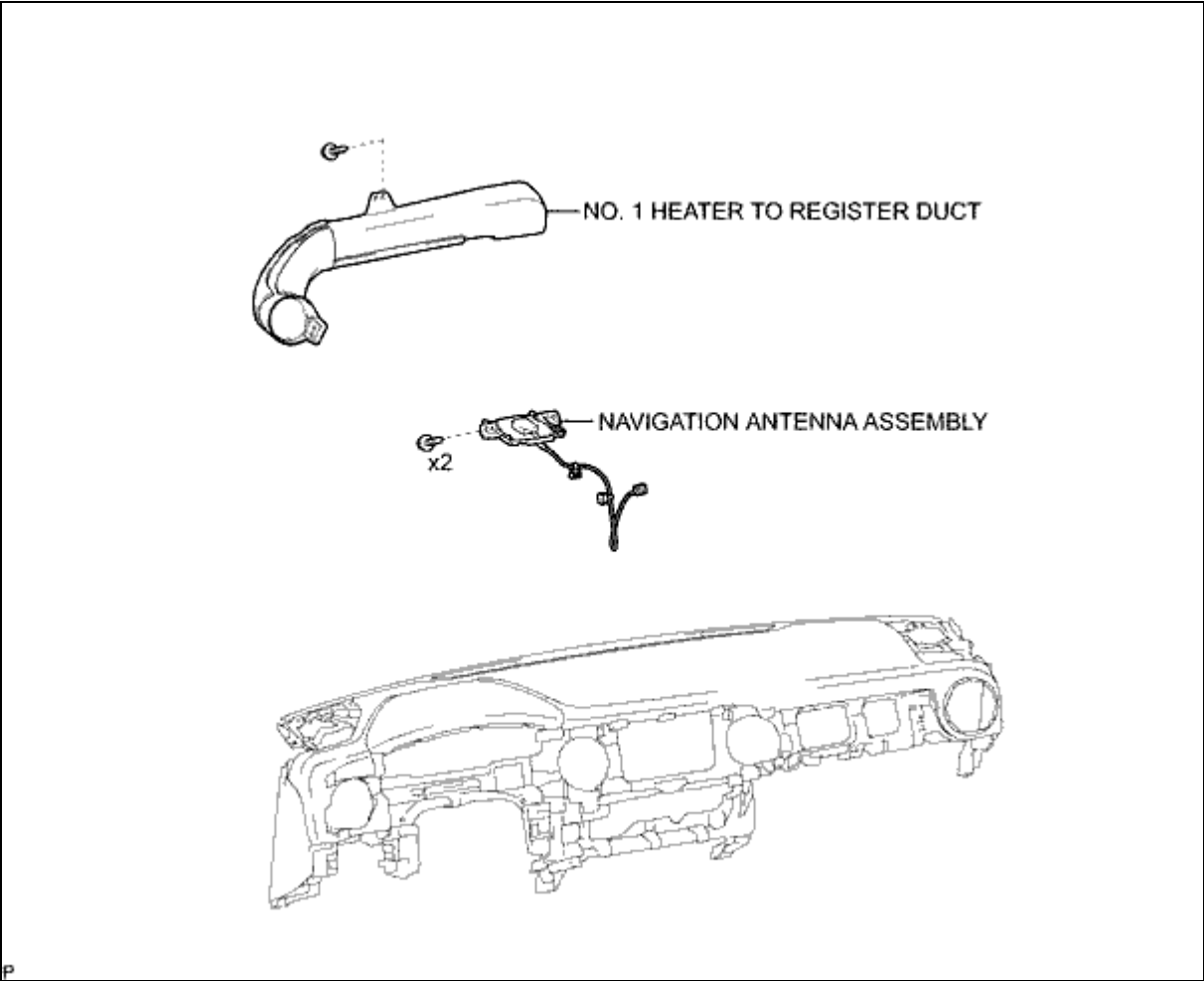


Last Modified: 11-13-2015	6.6 K	Doc ID: RM000002ZVD00UX
Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: NAVIGATION: NAVIGATION ANTENNA: COMPONENTS; 2016 MY Tacoma [08/2015 -]		

COMPONENTS

ILLUSTRATION



Last Modified: 11-13-2015	6.6 A	Doc ID: RM000002ZVC00WX
Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: NAVIGATION: NAVIGATION ANTENNA: INSTALLATION; 2016 MY Tacoma [08/2015 -]		

INSTALLATION

1. INSTALL NAVIGATION ANTENNA ASSEMBLY

- (a) Install the navigation antenna assembly with the 2 screws.
- (b) Engage the 2 clamps.

2. INSTALL NO. 1 HEATER TO REGISTER DUCT

3. INSTALL INSTRUMENT PANEL SUB-ASSEMBLY



Last Modified: 11-13-2015	6.6 A	Doc ID: RM000002ZVE00WX
Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: NAVIGATION: NAVIGATION ANTENNA: REMOVAL; 2016 MY Tacoma [08/2015 -]		

REMOVAL

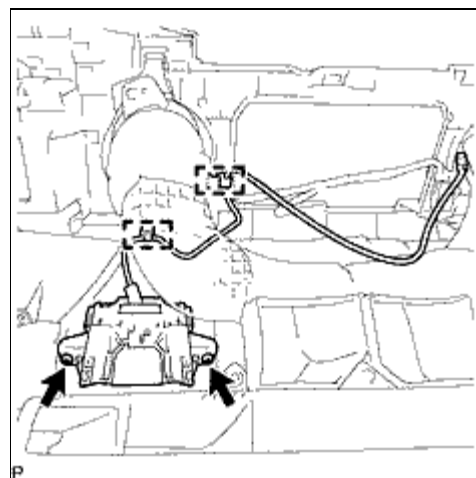
1. REMOVE INSTRUMENT PANEL SUB-ASSEMBLY

INFO

2. REMOVE NO. 1 HEATER TO REGISTER DUCT INFO

3. REMOVE NAVIGATION ANTENNA ASSEMBLY

(a) Disengage the 2 clamps.



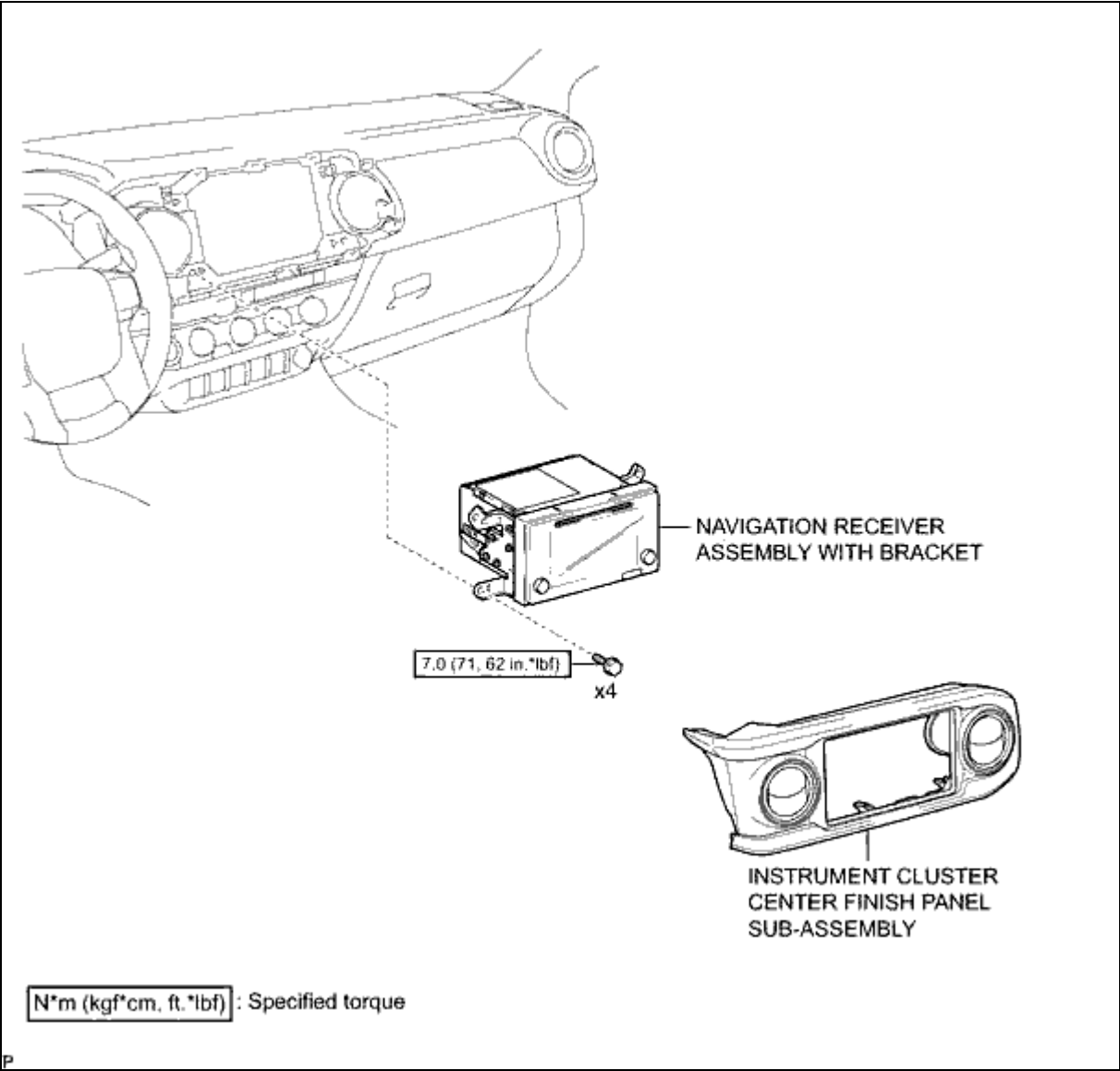
(b) Remove the 2 screws and navigation antenna assembly.



Last Modified: 11-13-2015	6.6 K	Doc ID: RM000002ZVG00FX
Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: NAVIGATION: NAVIGATION RECEIVER: COMPONENTS; 2016 MY Tacoma [08/2015 -]		

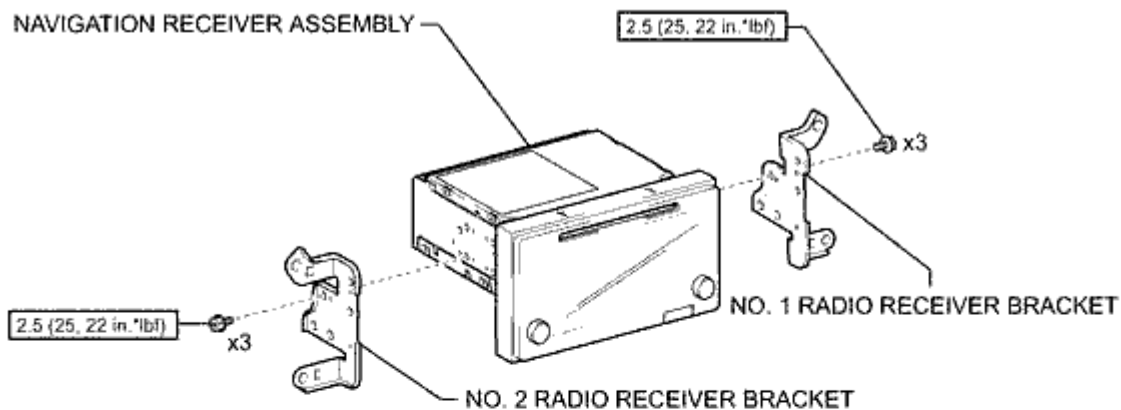
COMPONENTS

ILLUSTRATION

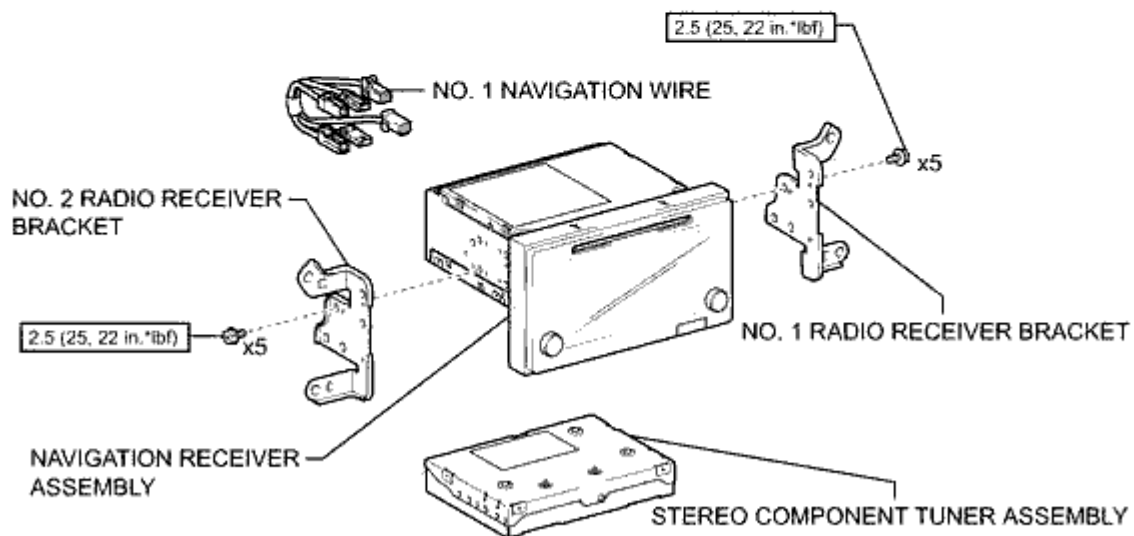


ILLUSTRATION

w/o Satellite Radio:



w/ Satellite Radio:



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



Last Modified: 11-13-2015	6.6 A	Doc ID: RM000002ZVF00TX
Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: NAVIGATION: NAVIGATION RECEIVER: INSTALLATION; 2016 MY Tacoma [08/2015 -]		

INSTALLATION

1. INSTALL STEREO COMPONENT TUNER ASSEMBLY (w/ Satellite Radio) INFO

2. INSTALL NO. 2 RADIO RECEIVER BRACKET

(a) w/o Satellite Radio:

Install the No. 2 radio receiver bracket with the 3 bolts.

Torque:

2.5 N·m {25 kgf·cm, 22in·lbf}

(b) w/ Satellite Radio:

Install the No. 2 radio receiver bracket with the 5 bolts.

Torque:

2.5 N·m {25 kgf·cm, 22in·lbf}

3. INSTALL NO. 1 RADIO RECEIVER BRACKET

(a) w/o Satellite Radio:

Install the No. 1 radio receiver bracket with the 3 bolts.

Torque:

2.5 N·m {25 kgf·cm, 22in·lbf}

(b) w/ Satellite Radio:

Install the No. 1 radio receiver bracket with the 5 bolts.

Torque:

2.5 N·m {25 kgf·cm, 22in·lbf}

4. INSTALL NO. 1 NAVIGATION WIRE (w/ Satellite Radio) INFO

5. INSTALL NAVIGATION RECEIVER ASSEMBLY WITH BRACKET

(a) Connect the connectors.

(b) Install the navigation receiver assembly with bracket with the 4 bolts.

Torque:

7.0 N·m {71 kgf·cm, 62in·lbf}

6. INSTALL INSTRUMENT CLUSTER CENTER FINISH PANEL SUB-ASSEMBLY INFO



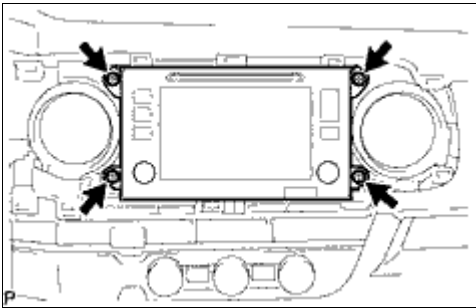
Last Modified: 11-13-2015	6.6 A	Doc ID: RM000002ZVH00TX
Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: NAVIGATION: NAVIGATION RECEIVER: REMOVAL; 2016 MY Tacoma [08/2015 -]		

REMOVAL

1. REMOVE INSTRUMENT CLUSTER CENTER FINISH PANEL SUB-ASSEMBLY INFO

2. REMOVE NAVIGATION RECEIVER ASSEMBLY WITH BRACKET

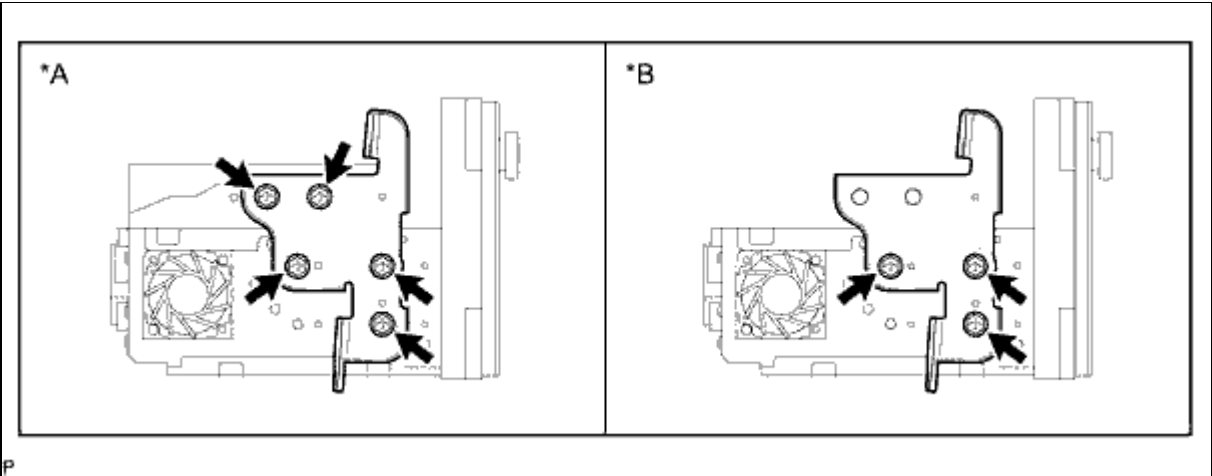
(a) Remove the 4 bolts.



(b) Disconnect the connectors to remove the navigation receiver assembly with bracket.

3. REMOVE NO. 1 NAVIGATION WIRE (w/ Satellite Radio) INFO

4. REMOVE NO. 1 RADIO RECEIVER BRACKET



Text in Illustration

*A	w/ Satellite Radio	*B	w/o Satellite Radio
----	--------------------	----	---------------------

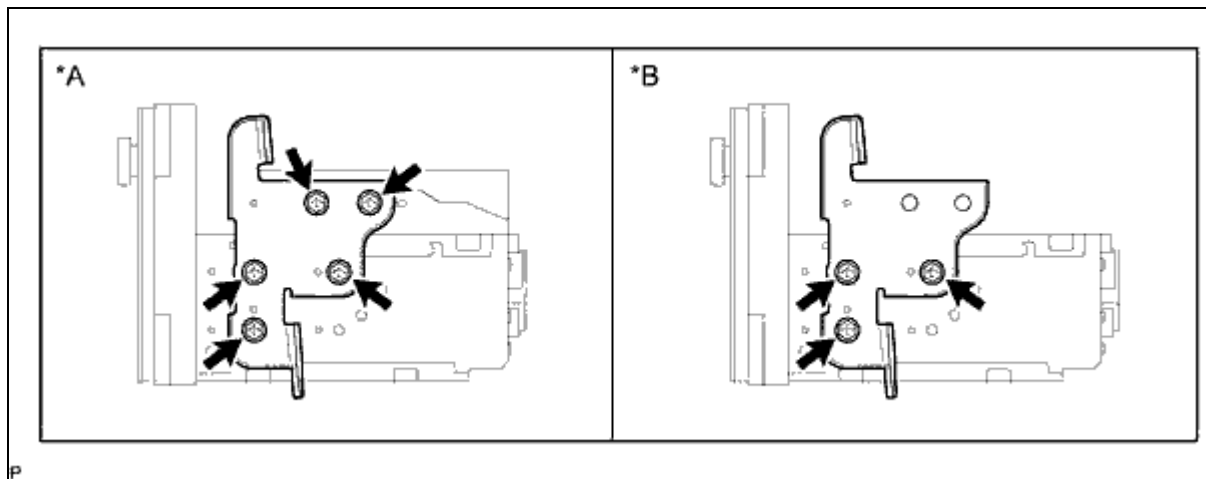
(a) w/ Satellite Radio:

Remove the 5 bolts and No. 1 radio receiver bracket.

(b) w/o Satellite Radio:

Remove the 3 bolts and No. 1 radio receiver bracket.

5. REMOVE NO. 2 RADIO RECEIVER BRACKET



Text in Illustration

*A	w/ Satellite Radio	*B	w/o Satellite Radio
----	--------------------	----	---------------------

(a) w/ Satellite Radio:

Remove the 5 bolts and No. 2 radio receiver bracket.

(b) w/o Satellite Radio:

Remove the 3 bolts and No. 2 radio receiver bracket.

6. REMOVE STEREO COMPONENT TUNER ASSEMBLY (w/ Satellite Radio)

INFO



Last Modified: 11-13-2015	6.6 J	Doc ID: RM0000019NG0ZGX
Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: NAVIGATION: NAVIGATION SYSTEM: AVC-LAN Circuit; 2016 MY Tacoma [08/2015 -]		

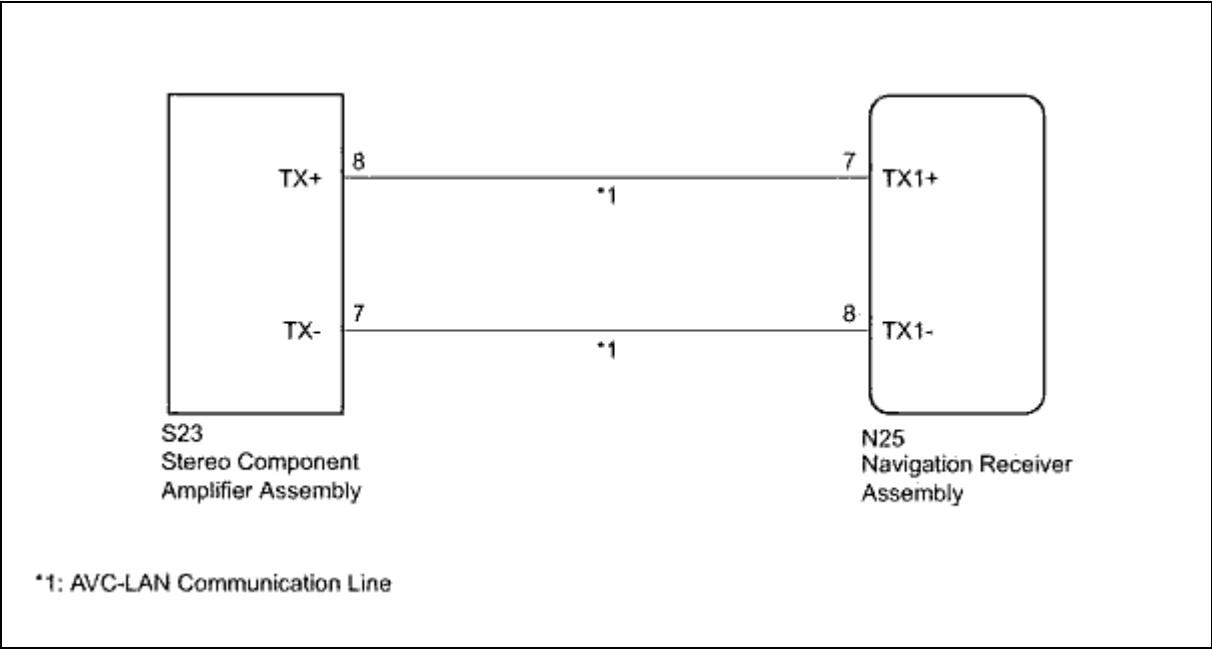
AVC-LAN Circuit

DESCRIPTION

Each unit of the navigation system connected to the AVC-LAN (communication bus) transfers the switch signals using the AVC-LAN.

If a short to +B or short to ground occurs in the AVC-LAN, the navigation system will not function normally because communication is not possible.

WIRING DIAGRAM



INSPECTION PROCEDURE

HINT:

The navigation receiver assembly is the master unit.

PROCEDURE

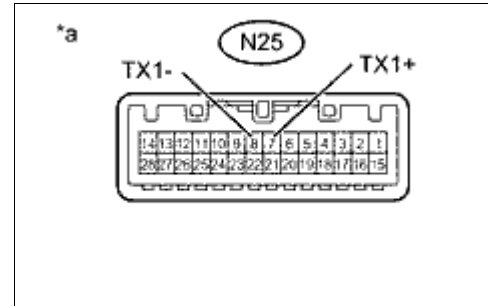
1.	INSPECT NAVIGATION RECEIVER ASSEMBLY
----	--------------------------------------

(a) Disconnect the navigation receiver assembly connectors.

(b) Measure the resistance according to the value(s) in the table below.

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
N25-7 (TX1+) - N25-8 (TX1-)	Always	60 to 80 Ω



Text in Illustration

*a	Component without harness connected (Navigation Receiver Assembly)
----	---

NG **REPLACE NAVIGATION RECEIVER ASSEMBLY**

OK



2.	CHECK HARNESS AND CONNECTOR (AVC-LAN CIRCUIT)
-----------	--

- (a) Disconnect the N25 navigation receiver assembly connector.
- (b) Disconnect the S23 stereo component amplifier assembly connector.
- (c) Measure the resistance according to the value(s) in the table below.

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
N25-7 (TX1+) - S23-8 (TX+)	Always	Below 1 Ω
N25-8 (TX1-) - S23-7 (TX-)	Always	Below 1 Ω
N25-7 (TX1+) - Body ground	Always	10 k Ω or higher
N25-8 (TX1-) - Body ground	Always	10 k Ω or higher

NG **REPAIR OR REPLACE HARNESS OR CONNECTOR**

OK



3.	INSPECT MALFUNCTIONING PARTS
-----------	-------------------------------------

(a) Disconnect and reconnect each slave unit one by one until the master unit returns to normal operation.

HINT:

- Check all slave units.
- If disconnecting a slave unit causes the master unit to return to normal operation, the slave unit is defective and should be replaced.

OK:

Master unit returns to normal operation.

NG ► **REPLACE NAVIGATION RECEIVER ASSEMBLY**

OK ► **REPLACE MALFUNCTIONING PARTS**



Last Modified: 11-13-2015	6.6 C	Doc ID: RM0000057MH02ZX
Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: NAVIGATION: NAVIGATION SYSTEM: B1324; Lost Communication with Meter; 2016 MY Tacoma [08/2015 -]		

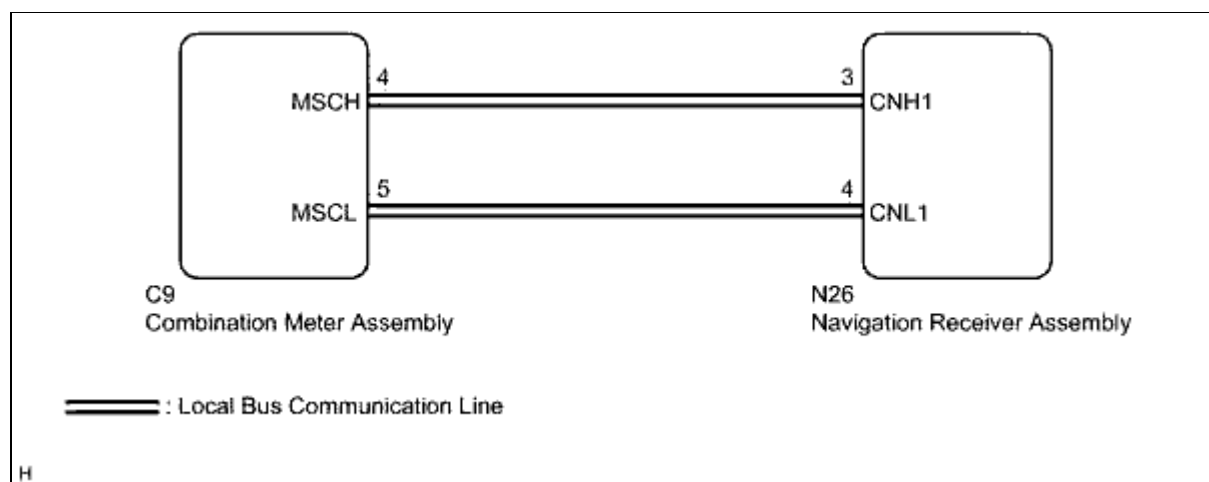
DTC	B1324	Lost Communication with Meter
------------	--------------	--------------------------------------

DESCRIPTION

This DTC is stored when a communication error occurs between the navigation receiver assembly and combination meter assembly.

DTC NO.	DTC DETECTION CONDITION	TROUBLE AREA
B1324	After the navigation receiver assembly receives a registration information signal, which is sent by the combination meter assembly when the ignition switch is ACC, 1 or more times, the navigation receiver assembly cannot receive the signal for 30 seconds or more.	• Combination meter assembly • Navigation receiver assembly • Harness or connector

WIRING DIAGRAM



INSPECTION PROCEDURE

PROCEDURE

1.	CHECK HARNESS AND CONNECTOR (NAVIGATION RECEIVER ASSEMBLY - COMBINATION METER ASSEMBLY)
----	--

(a) Disconnect the N26 navigation receiver assembly connector.

(b) Disconnect the C9 combination meter assembly connector.

(c) Measure the resistance according to the value(s) in the table below.

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
N26-3 (CNH1) - C9-4 (MSCH)	Always	Below 1 Ω
N26-4 (CNL1) - C9-5 (MSCL)	Always	Below 1 Ω
N26-3 (CNH1) - Body ground	Always	10 k Ω or higher
N26-4 (CNL1) - Body ground	Always	10 k Ω or higher
N26-3 (CNH1) - N26-4 (CNL1)	Always	10 k Ω or higher

(d) Measure the voltage according to the value(s) in the table below.

Standard Voltage:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
N26-3 (CNH1) - Body ground	Always	Below 1 V
N26-4 (CNL1) - Body ground	Always	Below 1 V

NG  **REPAIR OR REPLACE HARNESS OR CONNECTOR**

OK



2.	INSPECT COMBINATION METER ASSEMBLY
-----------	---

(a) Remove the combination meter assembly  .

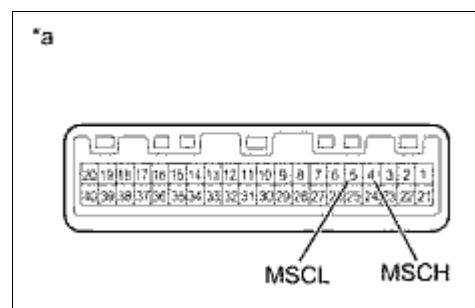
(b) Measure the resistance according to the value(s) in the table below.

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
4 (MSCH) - 5 (MSCL)	Always	108 to 132 Ω

Text in Illustration

*a	Component without harness connected (Combination Meter Assembly)
----	---



NG  **REPLACE COMBINATION METER ASSEMBLY**

OK



3. INSPECT NAVIGATION RECEIVER ASSEMBLY

(a) Remove the navigation receiver assembly [INFO](#) .

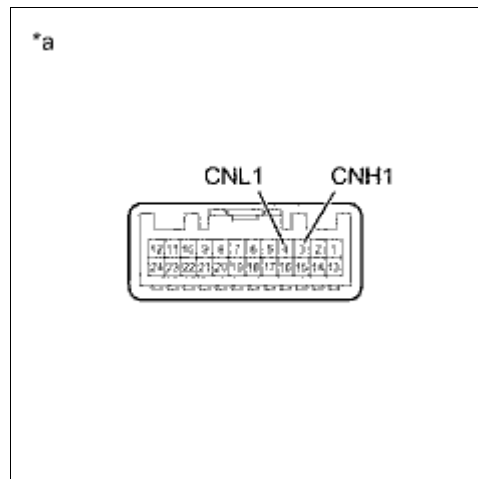
(b) Measure the resistance according to the value(s) in the table below.

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
3 (CNH1) - 4 (CNL1)	Always	108 to 132 Ω

Text in Illustration

*a	Component without harness connected (Navigation Receiver Assembly)
----	---



NG **REPLACE NAVIGATION RECEIVER ASSEMBLY**

OK



4. REPLACE COMBINATION METER ASSEMBLY

(a) Replace the combination meter assembly with a new or known good one [INFO](#) .

(b) Clear the DTCs [INFO](#) .

(c) Recheck for DTCs and check that no DTCs are output.

OK:

No DTCs are output.

NG **REPLACE NAVIGATION RECEIVER ASSEMBLY**

OK



5.	CHECK METER / GAUGE SYSTEM
-----------	-----------------------------------

- (a) Turn the ignition switch to ON and wait 30 seconds.
- (b) Operate the steering pad switch assembly and check that the audio tab is displayed on the multi-information display in the combination meter assembly and the audio system can be operated normally.

OK:

Audio system returns to normal.

NG ► **REPLACE NAVIGATION RECEIVER ASSEMBLY**

OK ► **END**



Last Modified: 11-13-2015	6.6 C	Doc ID: RM000005LN6005X
Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: NAVIGATION: NAVIGATION SYSTEM: B1532,B156C; LVDS Signal Malfunction (from Extension Module); 2016 MY Tacoma [08/2015 -]		

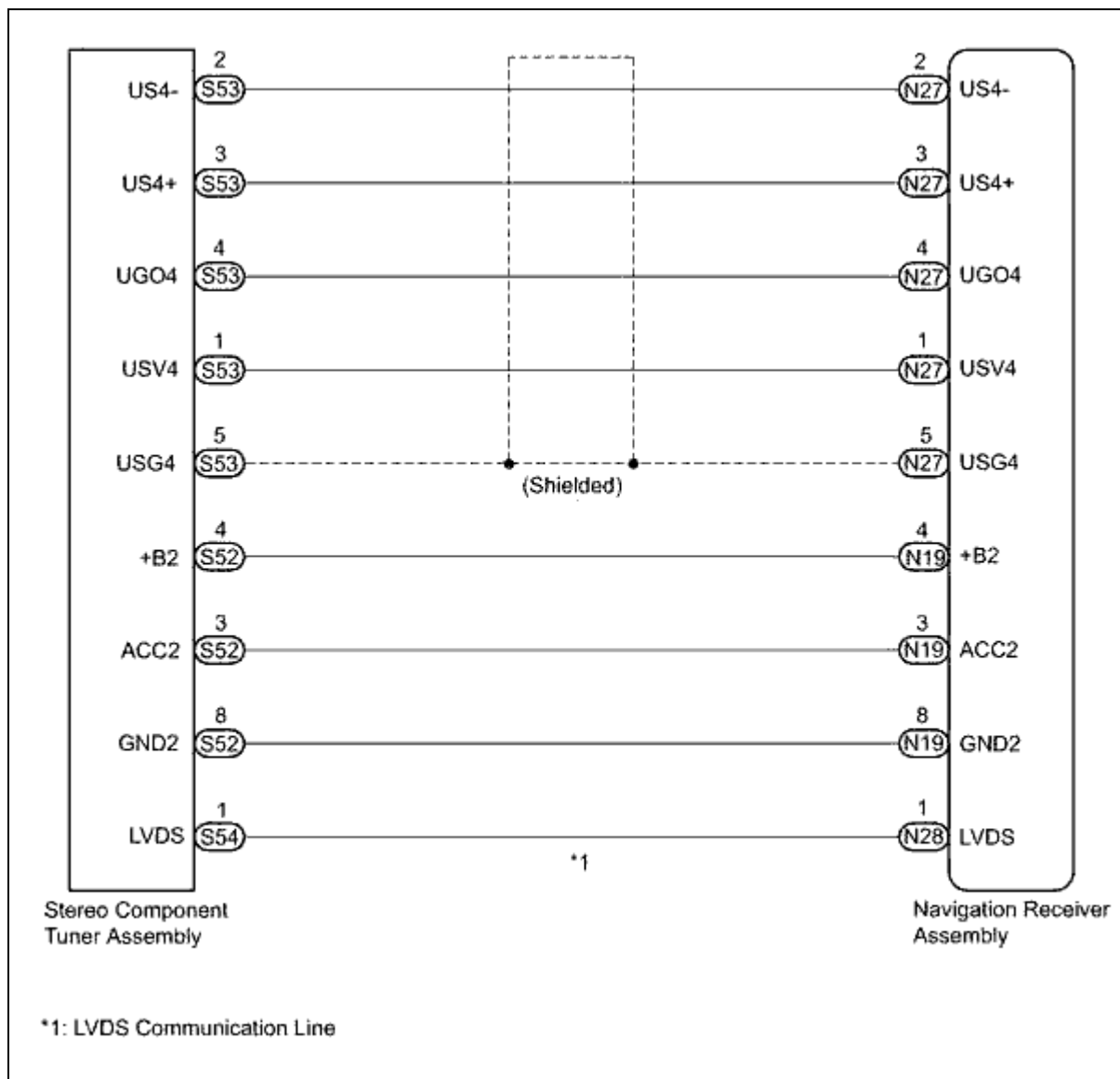
DTC	B1532	LVDS Signal Malfunction (from Extension Module)
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DTC	B156C	Extension Module Disconnected
------------	--------------	--------------------------------------

DESCRIPTION

DTC CODE	DTC DETECTION CONDITION	TROUBLE AREA
B1532	When one of the conditions below is met: • Video signal (digital) is lost. • The stereo component tuner assembly is not connected while the ignition switch is ON or ACC. • Communication between the navigation receiver assembly and the stereo component tuner assembly is not possible when the engine is started.	• Stereo component tuner assembly • Navigation receiver assembly • Harness or connector • No. 1 navigation wire
B156C		

WIRING DIAGRAM



INSPECTION PROCEDURE

NOTICE:

After replacing the stereo component tuner assembly of vehicles subscribed to pay-type satellite radio broadcasts, XM radio ID registration is necessary. (w/ SDARS System)

PROCEDURE

1.	CHECK DTC
----	------------------

(a) Clear the DTCs INFO.

(b) Check for DTCs INFO.

OK:

No DTCs are output.

2.	CHECK HARNESS AND CONNECTOR (NAVIGATION RECEIVER ASSEMBLY - STEREO COMPONENT TUNER ASSEMBLY)
----	---

- (a) Disconnect the N19, N27 and N28 navigation receiver assembly connectors.
- (b) Disconnect the S52, S53 and S54 stereo component tuner assembly connectors.
- (c) Measure the resistance according to the value(s) in the table below.

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
N27-1 (USV4) - S53-1 (USV4)	Always	Below 1 Ω
N27-2 (US4-) - S53-2 (US4-)	Always	Below 1 Ω
N27-3 (US4+) - S53-3 (US4+)	Always	Below 1 Ω
N27-4 (UGO4) - S53-4 (UGO4)	Always	Below 1 Ω
N27-5 (USG4) - S53-5 (USG4)	Always	Below 1 Ω
N19-4 (+B2) - S52-4 (+B)	Always	Below 1 Ω
N19-3 (ACC2) - S52-3 (ACC2)	Always	Below 1 Ω
N19-8 (GND2) - S52-8 (GND2)	Always	Below 1 Ω
N28-1 (LVDS) - S54-1 (LVDS)	Always	Below 1 Ω
N27-1 (USV4) - Body ground	Always	10 k Ω or higher
N27-2 (US4-) - Body ground	Always	10 k Ω or higher
N27-3 (US4+) - Body ground	Always	10 k Ω or higher
N27-4 (UGO4) - Body ground	Always	10 k Ω or higher
N27-5 (USG4) - Body ground	Always	10 k Ω or higher
N19-4 (+B2) - Body ground	Always	10 k Ω or higher
N19-3 (ACC2) - Body ground	Always	10 k Ω or higher
N19-8 (GND2) - Body ground	Always	10 k Ω or higher
N28-1 (LVDS) - Body ground	Always	10 k Ω or higher

3.	CHECK NO. 1 NAVIGATION WIRE
----	------------------------------------

(a) Replace the No. 1 navigation wire with a known good one  .

(b) Clear the DTCs  .

(c) Check for DTCs  .

OK:

No DTCs are output.

NG  **GO TO STEP 4**

OK  **END (NO. 1 NAVIGATION WIRE WAS DEFECTIVE)**

4.	CHECK STEREO COMPONENT TUNER ASSEMBLY
-----------	--

(a) Replace the stereo component tuner assembly with a known good one  .

(b) Clear the DTCs  .

(c) Check for DTCs  .

OK:

No DTCs are output.

NG  **REPLACE NAVIGATION RECEIVER ASSEMBLY**

OK  **END (STEREO COMPONENT TUNER ASSEMBLY IS DEFECTIVE)**



Last Modified: 11-13-2015	6.6 C	Doc ID: RM00000182L0V7X
Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: NAVIGATION: NAVIGATION SYSTEM: B1551,B15A0,B15AD,B15B0,B15B3,B15B4,B15B7; HD Radio Tuner Malfunction; 2016 MY Tacoma [08/2015 -]		

DTC	B1551	HD Radio Tuner Malfunction
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DTC	B15A0	LAN Master Malfunction
------------	--------------	-------------------------------

DTC	B15AD	Navigation Processor Malfunction
------------	--------------	---

DTC	B15B0	Display Screen Malfunction
------------	--------------	-----------------------------------

DTC	B15B3	Radio Tuner Malfunction
------------	--------------	--------------------------------

DTC	B15B4	CD Changer Malfunction
------------	--------------	-------------------------------

DTC	B15B7	Bluetooth Module Malfunction
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DESCRIPTION

These DTCs are stored when a malfunction occurs in the navigation receiver assembly.

DTC NO.	DTC DETECTION CONDITION	TROUBLE AREA
B1551	When one of the conditions below is met: • "HD Radio" tuner decoder malfunction • "HD Radio" tuner audio output section malfunction • "HD Radio" tuner decoder RF/IF malfunction	Navigation receiver assembly
B15A0	When either condition below is met: • Bus malfunction • EEPROM error	
B15AD	When one of the conditions below is met: • Short to ground or +B, or open occurs in gyro signal circuit • Gyro sensor malfunction • GPS receiver malfunction	

DTC NO.	DTC DETECTION CONDITION	TROUBLE AREA
B15B0	Picture circuit (TFT unit) malfunction	
B15B3	When one of the conditions below is met: • AM tuner PLL is unlocked • FM tuner PLL is unlocked • Tuner malfunction	
B15B4	When one of the conditions below is met: • Mechanism drive signal malfunction • Load/Eject malfunction • Read mechanism malfunction • Mechanical malfunction	
B15B7	"Bluetooth" module malfunction	

INSPECTION PROCEDURE

PROCEDURE

1.	CHECK DTC
-----------	------------------

(a) Clear the DTCs  .

(b) Recheck for DTCs and check if the same DTC is output again.

OK:

No DTCs are output.

NG  **REPLACE NAVIGATION RECEIVER ASSEMBLY**

OK  **USE SIMULATION METHOD TO CHECK**



Last Modified: 11-13-2015	6.6 C	Doc ID: RM00000182M0K7X
Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: NAVIGATION: NAVIGATION SYSTEM: B1552,B158A,B15BA; Extension Module Malfunction; 2016 MY Tacoma [08/2015 -]		

DTC	B1552	Extension Module Malfunction
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DTC	B158A	Extension Module Noise Adjustment Malfunction
------------	--------------	--

DTC	B15BA	XM Tuner Malfunction
------------	--------------	-----------------------------

DESCRIPTION

These DTCs are stored when a malfunction occurs in the extension module.

DTC CODE	DTC DETECTION CONDITION	TROUBLE AREA
B1552	Internal malfunction of the extension module	Stereo component tuner assembly
B158A	Screen noise adjustment fails	
B15BA	When either of the conditions below is met: • Internal IC malfunction • Tuner malfunction	

INSPECTION PROCEDURE

NOTICE:

After replacing the stereo component tuner assembly of vehicles subscribed to pay-type satellite radio broadcasts, XM radio ID registration is necessary.

PROCEDURE

1.	CHECK FOR DTC
-----------	----------------------

(a) Clear the DTCs  .

(b) Check for DTCs  .

OK:

No DTCs are output.

NG  **REPLACE STEREO COMPONENT TUNER ASSEMBLY**

OK  **USE SIMULATION METHOD TO CHECK**





Last Modified: 11-13-2015	6.6 C	Doc ID: RM000004N7O0ENX
Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: NAVIGATION: NAVIGATION SYSTEM: B1579; Voice Recognition Microphone Disconnected; 2016 MY Tacoma [08/2015 -]		

DTC	B1579	Voice Recognition Microphone Disconnected
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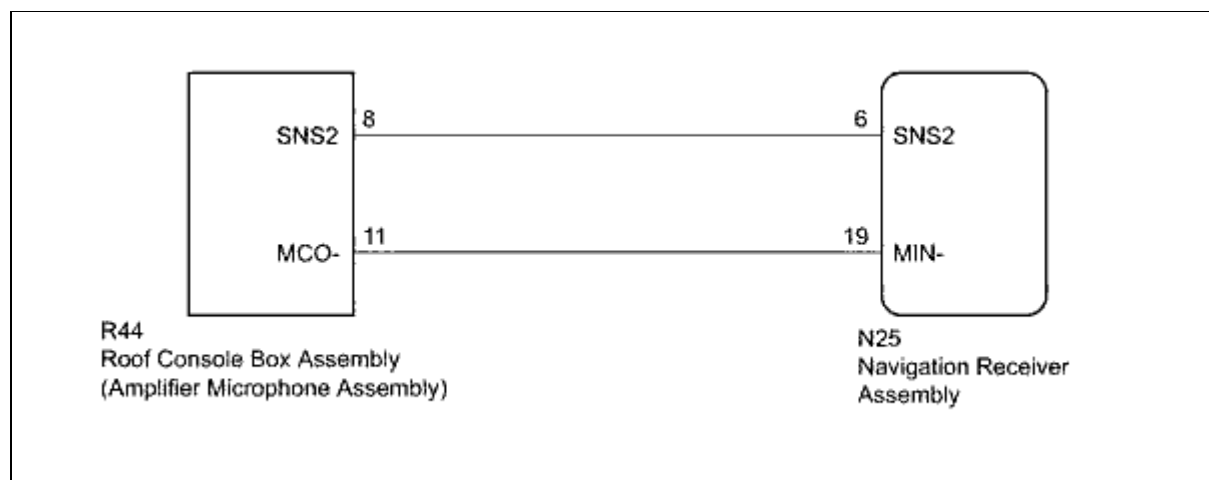
DESCRIPTION

The navigation receiver assembly and roof console box assembly (amplifier microphone assembly) are connected to each other using the microphone connection detection signal lines.

This DTC is stored when the microphone connection detection signal is disconnected.

DTC CODE	DTC DETECTION CONDITION	TROUBLE AREA
B1579	Telephone microphone signal is lost.	• Roof console box assembly (Amplifier microphone assembly) • Navigation receiver assembly • Harness or connector

WIRING DIAGRAM



INSPECTION PROCEDURE

PROCEDURE

1.	INSPECT NAVIGATION RECEIVER ASSEMBLY
-----------	---

(a) Remove the navigation receiver assembly with connector still connected.

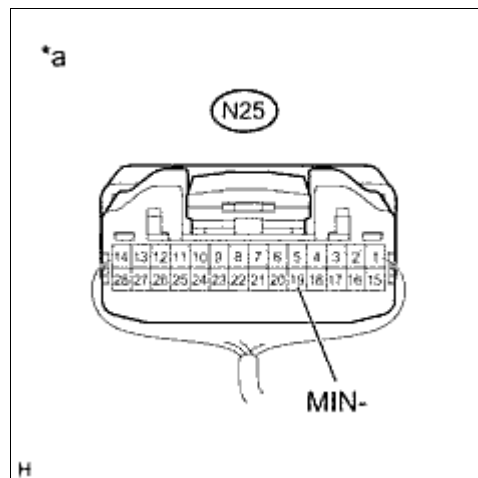
(b) Measure the resistance according to the value(s) in the table below.

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
N25-19 (MIN-) - Body ground	Always	Below 1 Ω

Text in Illustration

*a	Component with harness connected (Navigation Receiver Assembly)
----	--



NG **REPLACE NAVIGATION RECEIVER ASSEMBLY**

OK



2.	CHECK HARNESS AND CONNECTOR (NAVIGATION RECEIVER ASSEMBLY - AMPLIFIER MICROPHONE ASSEMBLY)
-----------	---

(a) Disconnect the N25 navigation receiver assembly connector.

(b) Disconnect the R44 roof console box assembly (amplifier microphone assembly).

(c) Measure the resistance according to the value(s) in the table below.

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
N25-6 (SNS2) - R44-8 (SNS2)	Always	Below 1 Ω
N25-19 (MIN-) - R44-11 (MCO-)	Always	Below 1 Ω
N25-6 (SNS2) - Body ground	Always	10 k Ω or higher
N25-19 (MIN-) - Body ground	Always	10 k Ω or higher

NG **REPAIR OR REPLACE HARNESS OR CONNECTOR**

OK



3.	INSPECT ROOF CONSOLE BOX ASSEMBLY (AMPLIFIER MICROPHONE ASSEMBLY)
-----------	--

(a) Remove the roof console box assembly (amplifier microphone assembly) INFO .

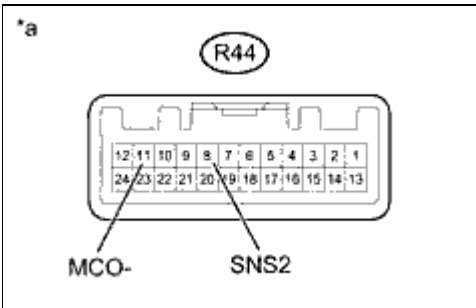
(b) Measure the resistance according to the value(s) in the table below.

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
R44-8 (SNS2) - R44-11 (MCO-)	Always	Below 1 Ω

Text in Illustration

*a	Component with harness connected (Roof Console Box Assembly (Amplifier Microphone Assembly))
----	---



NG ➤ **REPLACE ROOF CONSOLE BOX ASSEMBLY
(AMPLIFIER MICROPHONE ASSEMBLY)**

OK ➤ **REPLACE NAVIGATION RECEIVER ASSEMBLY**



Last Modified: 11-13-2015	6.6 C	Doc ID: RM000003Z0Z0GKX
Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: NAVIGATION: NAVIGATION SYSTEM: B1585; USB Media Malfunction; 2016 MY Tacoma [08/2015 -]		

DTC	B1585	USB Media Malfunction
------------	--------------	------------------------------

DESCRIPTION

This DTC is stored when a malfunction occurs in a connected device.

DTC NO.	DTC DETECTION CONDITION	TROUBLE AREA
B1585	USB Device Malfunction • Non mass-storage class or incompatible protocol USB device • USB device with an incompatible file system, corrupted or incompatible File Allocation Table (FAT) • "iPod" malfunction • "iPod" with unsupported firmware • Unsupported "iPod" model	• USB device or "iPod" • Navigation receiver assembly

INSPECTION PROCEDURE

PROCEDURE

1.	REPLACE USB DEVICE OR "iPod"
-----------	-------------------------------------

(a) Disconnect the USB device or "iPod" from the No. 1 stereo jack adapter assembly.

(b) Turn the ignition switch off.

HINT:

When one of these DTCs has been stored, it is necessary to turn off the ignition switch to make it possible for the vehicle to recognize a new device when it is connected.

(c) Turn the ignition switch to ACC.

(d) Connect a known good USB device or "iPod" to the No. 1 stereo jack adapter assembly.

HINT:

- If the malfunction occurred when a USB device was in use, use another USB device for the inspection. If the malfunction occurred when an "iPod" was in use, use another "iPod" for the inspection.
- Refer to System Description for compatible formats and versions [INFO](#) .

NEXT



2. CHECK DTC

(a) Clear the DTCs  .

(b) Recheck for DTCs and check if the same DTC is output again.

OK:

No DTCs are output.

NG  **REPLACE NAVIGATION RECEIVER ASSEMBLY**

OK  **USB DEVICE FORMAT WAS INCOMPATIBLE, "iPod" VERSION WAS INCOMPATIBLE, OR USB DEVICE OR "iPod" WAS DEFECTIVE**



Last Modified: 11-13-2015	6.6 C	Doc ID: RM000005LN4002X
Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: NAVIGATION: NAVIGATION SYSTEM: B158C; SD Card Communication Malfunction; 2016 MY Tacoma [08/2015 -]		

DTC	B158C	SD Card Communication Malfunction
------------	--------------	--

DESCRIPTION

The navigation receiver assembly stores this DTC when the SD card cannot be mounted when inserted into the SD card slot.

DTC CODE	DTC DETECTION CONDITION	TROUBLE AREA
B158C	The SD card cannot be mounted when inserted into the SD card slot.	• SD card • Navigation receiver assembly

INSPECTION PROCEDURE

PROCEDURE

1.	CHECK SD CARD
-----------	----------------------

(a) Turn the ignition switch off and remove the SD card from the SD card slot.

(b) Check that the SD card is not damaged.

OK:

The SD card is not damaged.

NG  **REPLACE SD CARD**

OK



2.	CLEAN COMPONENTS
-----------	-------------------------

(a) Check that the terminals of the SD card are free of foreign matter. Remove foreign matter as necessary.

(b) Check that the SD card slot of the navigation receiver assembly is free of foreign matter. Remove foreign matter as necessary.

(c) Insert the SD card into the SD card slot.

NEXT



3.	CHECK DTC
-----------	------------------

(a) Clear the DTCs  .

(b) Recheck for DTCs and check that no DTCs are output  .

OK:

No DTCs are output.

NG  **GO TO STEP 4**

OK  **END (FOREIGN MATTER IS ADHERED TO SD CARD OR SD CARD SLOT)**

4.	REPLACE SD CARD
-----------	------------------------

(a) Replace the SD card.

(b) Clear the DTCs  .

(c) Recheck for DTCs and check that no DTCs are output  .

OK:

No DTCs are output.

NG  **REPLACE NAVIGATION RECEIVER ASSEMBLY**

OK  **END (SD CARD WAS DEFECTIVE)**



Last Modified: 11-13-2015	6.6 C	Doc ID: RM000005LN5005X
Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: NAVIGATION: NAVIGATION SYSTEM: B158F; AV Signal Stoppage (Low Battery Voltage); 2016 MY Tacoma [08/2015 -]		

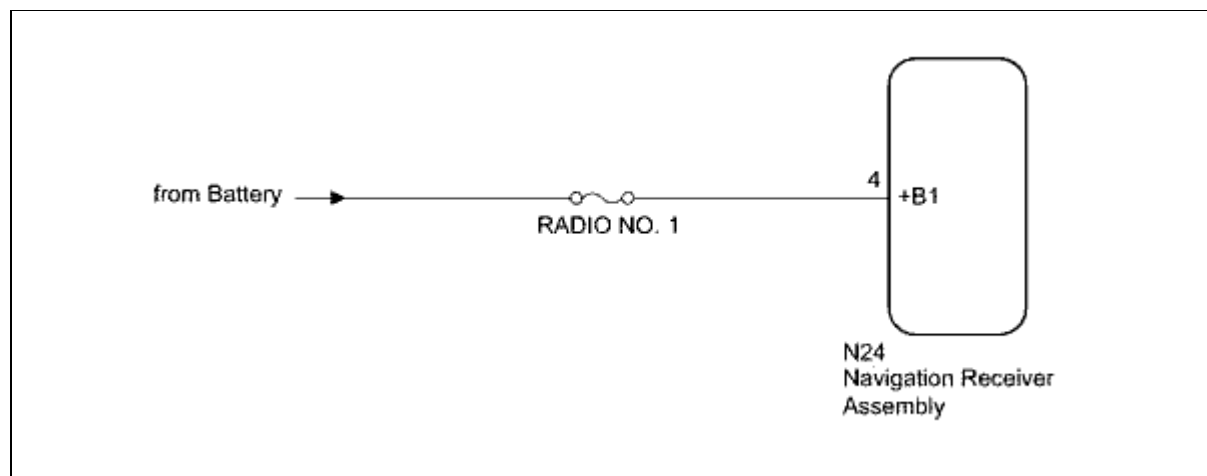
DTC	B158F	AV Signal Stoppage (Low Battery Voltage)
------------	--------------	---

DESCRIPTION

This DTC is stored when a video or audio signal is interrupted due to battery voltage input to the navigation receiver assembly dropping temporarily.

DTC CODE	DTC DETECTION CONDITION	TROUBLE AREA
B158F	A video or audio signal is interrupted when the battery voltage drops.	- Navigation receiver assembly - Harness or connector

WIRING DIAGRAM



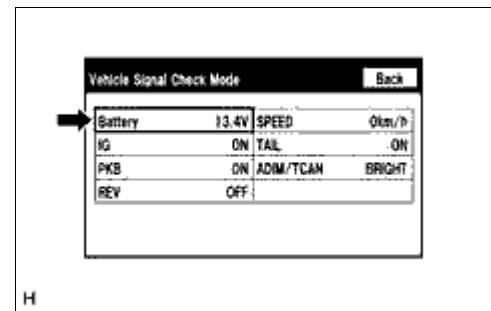
INSPECTION PROCEDURE

NOTICE:

Inspect the fuses for circuits related to this system before performing the following procedure.

PROCEDURE

1.	CHECK VEHICLE SIGNAL (OPERATION CHECK)
-----------	---



(a) Enter the "Vehicle Signal Check Mode" screen. Refer to Check Vehicle Signal in Operation Check **INFO** .

(b) Check that the battery voltage.

Standard voltage:
11 to 14 V

HINT:
This display is updated once per second. As a result, it is normal for the display to lag behind the actual switch operation.

NG ► **GO TO STEP 3**

OK
▼

2.

CHECK FOR DTC

(a) Clear the DTCs **INFO** .

(b) Check for DTCs **INFO** .

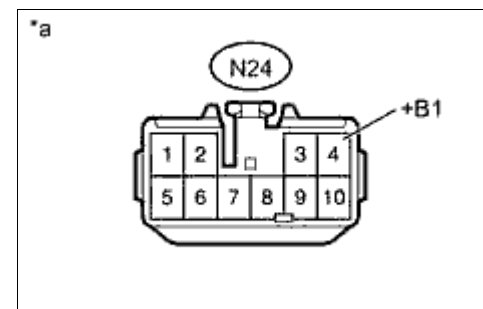
OK:
No DTCs are output.

NG ► **REPLACE NAVIGATION RECEIVER ASSEMBLY**

OK ► **USE SIMULATION METHOD TO CHECK**

3.

CHECK HARNESS AND CONNECTOR (NAVIGATION RECEIVER ASSEMBLY POWER SOURCE)



(a) Disconnect the navigation receiver assembly connector.

(b) Measure the voltage according to the value(s) in the table below.

Standard Voltage:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
N24-4 (+B1) - Body ground	Always	11 to 14 V

Text in Illustration

*a	Front view of wire harness connector (to Navigation Receiver Assembly)
----	---

NG ► REPAIR OR REPLACE HARNESS OR CONNECTOR

OK ► REPLACE NAVIGATION RECEIVER ASSEMBLY



Last Modified: 11-13-2015	6.6 C	Doc ID: RM00000182M0K2X
Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: NAVIGATION: NAVIGATION SYSTEM: B15A3; Stereo Component Amplifier Malfunction; 2016 MY Tacoma [08/2015 -]		

DTC	B15A3	Stereo Component Amplifier Malfunction
------------	--------------	---

DESCRIPTION

This DTC is stored when a malfunction occurs in the stereo component amplifier assembly.

DTC NO.	DTC DETECTION CONDITION	TROUBLE AREA
B15A3	When one of the conditions below is met: • Internal power supply malfunction • DSP error • EEPROM error	Stereo component amplifier assembly

INSPECTION PROCEDURE

PROCEDURE

1.	CHECK DTC
-----------	------------------

(a) Clear the DTCs  .

(b) Recheck for DTCs and check if the same DTC is output again.

OK:

No DTCs are output.

NG  **REPLACE STEREO COMPONENT AMPLIFIER ASSEMBLY**

OK  **USE SIMULATION METHOD TO CHECK**



Last Modified: 11-13-2015	6.6 C	Doc ID: RM00000182T0ZJX
Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: NAVIGATION: NAVIGATION SYSTEM: B15C0,B15C1; Short in GPS Antenna; 2016 MY Tacoma [08/2015 -]		

DTC	B15C0	Short in GPS Antenna
------------	--------------	-----------------------------

DTC	B15C1	Open in GPS Antenna
------------	--------------	----------------------------

DESCRIPTION

These DTCs are stored when a malfunction occurs in the navigation antenna assembly.

DTC NO.	DTC DETECTION CONDITION	TROUBLE AREA
B15C0	Navigation antenna error	• Navigation antenna assembly • Navigation receiver assembly
B15C1	Error of the power source to the navigation antenna	

INSPECTION PROCEDURE

NOTICE:

Check that the navigation antenna assembly cable is properly installed and does not have any sharp bends, pinching or loose connections before performing following inspection procedure [INFO](#) .

PROCEDURE

1.	CHECK DTC
-----------	------------------

(a) Clear the DTCs [INFO](#) .

(b) Recheck for DTCs and check that no DTCs are output.

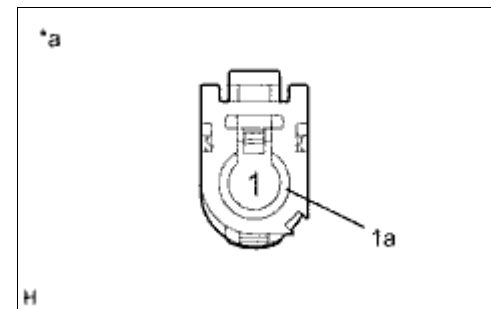
OK:

No DTCs are output.

NG  **GO TO STEP 2**

OK  **USE SIMULATION METHOD TO CHECK**

2.	INSPECT NAVIGATION ANTENNA ASSEMBLY
-----------	--



(a) Remove the navigation antenna assembly INFO .

(b) Measure the resistance according to the value(s) in the table below.

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
1 - 1a	Always	50 to 500 Ω

Text in Illustration

*a	Component without harness connected (Navigation Antenna Assembly)
----	--

NG ▶ REPLACE NAVIGATION ANTENNA ASSEMBLY

OK ▶ REPLACE NAVIGATION RECEIVER ASSEMBLY



Last Modified: 11-13-2015	6.6 C	Doc ID: RM000005LN3002X
Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: NAVIGATION: NAVIGATION SYSTEM: B15C2; Speed Signal Malfunction; 2016 MY Tacoma [08/2015 -]		

DTC	B15C2	Speed Signal Malfunction
------------	--------------	---------------------------------

DESCRIPTION

The navigation receiver assembly receives a vehicle speed signal from the combination meter assembly and information from the navigation antenna assembly, and then adjusts the vehicle position.

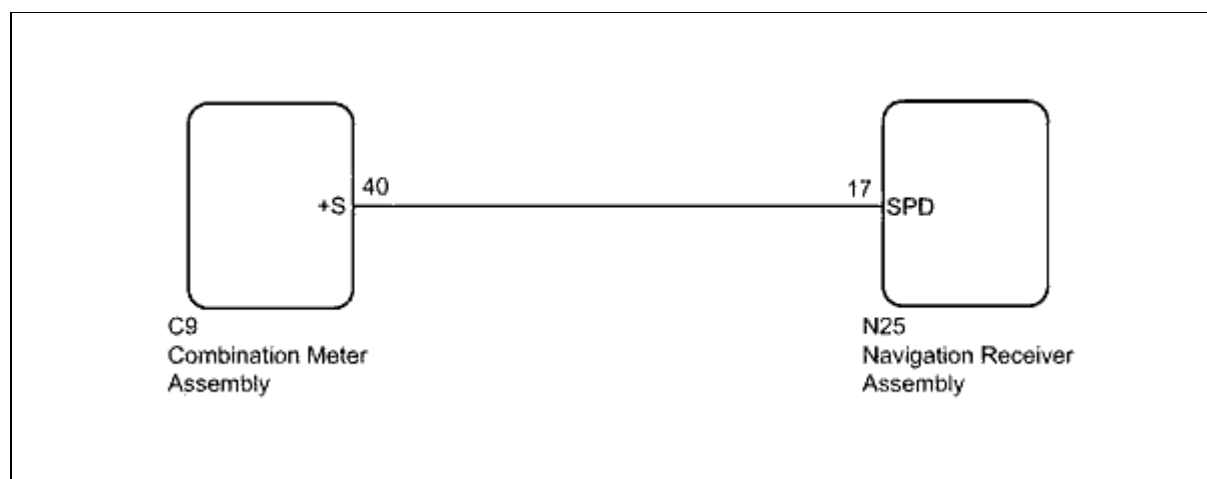
The navigation receiver assembly stores this DTC when the difference between the speed information that the navigation antenna assembly receives and the SPD pulse received from the combination meter assembly becomes large.

HINT:

- A voltage of 12 V or 5 V is output from each ECU and then input to the combination meter assembly. The signal is changed to a pulse signal at the transistor in the combination meter assembly. Each ECU controls the respective systems based on the pulse signal.
- If a short occurs in any of the ECUs or in the wire harness connected to an ECU, all systems in the diagram below will not operate normally.

DTC CODE	DTC DETECTION CONDITION	TROUBLE AREA
B15C2	A difference between the GPS speed and SPD pulse is detected.	• Meter/gauge system • Harness or connector • Navigation receiver assembly

WIRING DIAGRAM

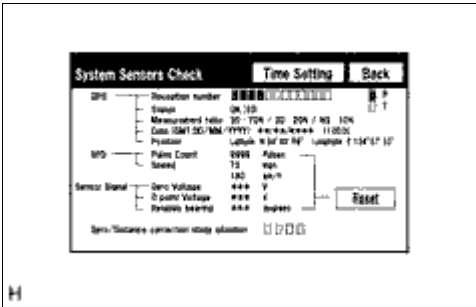


INSPECTION PROCEDURE

PROCEDURE

1. CHECK VEHICLE SENSOR (OPERATION CHECK)

(a) Enter the "System Sensors Check" screen. Refer to Check GPS & Vehicle Sensors in Operation Check INFO .



(b) While driving the vehicle, compare the "Speed" indicator to the reading on the speedometer. Check if these readings are almost equal.

OK:
The readings are equal or almost equal.

NG ▶ GO TO STEP 2

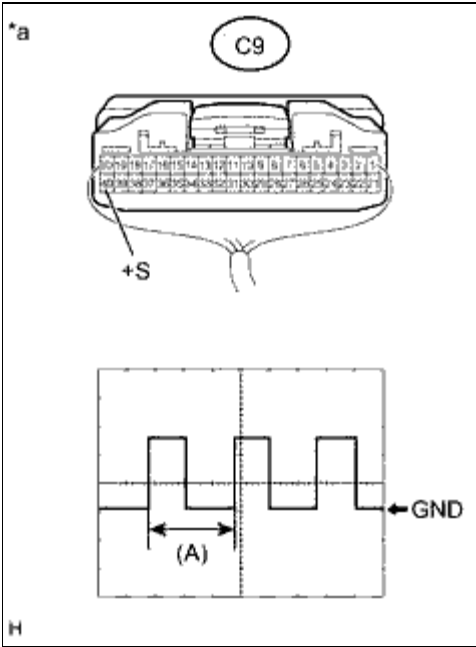
OK ▶ REPLACE NAVIGATION RECEIVER ASSEMBLY

2. CHECK COMBINATION METER ASSEMBLY (OUTPUT WAVEFORM)

- (a) Check the output waveform.
- (1) Remove the combination meter assembly with the connector(s) still connected.
 - (2) Connect an oscilloscope to terminal C9-40 (+S) and body ground.
 - (3) Turn the ignition switch to ON.
 - (4) Turn a wheel slowly.
 - (5) Check the signal waveform according to the condition(s) in the table below.

ITEM	CONDITION
Measurement terminal	C9-40 (+S) - Body ground
Tool setting	5 V/DIV., 20 ms./DIV.
Vehicle condition	Wheel being rotated

OK:
The waveform is similar to that shown in the illustration.



HINT:

When the system is functioning normally, one wheel revolution generates 4 pulses. As the vehicle speed increases, the width indicated by (A) in the illustration narrows.

Text in Illustration

*a	Component with harness connected (Combination Meter Assembly)
----	--

NG ► **GO TO METER / GAUGE SYSTEM**

OK



3.	CHECK HARNESS AND CONNECTOR (NAVIGATION RECEIVER ASSEMBLY - COMBINATION METER ASSEMBLY)
-----------	--

- (a) Disconnect the N25 navigation receiver assembly connector.
- (b) Disconnect the C9 combination meter assembly connector.
- (c) Measure the resistance according to the value(s) in the table below.

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
N25-17 (SPD) - C9-40 (+S)	Always	Below 1 Ω

NG ► **REPAIR OR REPLACE HARNESS OR CONNECTOR**

OK ► **REPLACE NAVIGATION RECEIVER ASSEMBLY**



Last Modified: 11-13-2015	6.6 C	Doc ID: RM000003WFJ0EEX
Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: NAVIGATION: NAVIGATION SYSTEM: B15C3; Speaker Output Short; 2016 MY Tacoma [08/2015 -]		

DTC	B15C3	Speaker Output Short
------------	--------------	-----------------------------

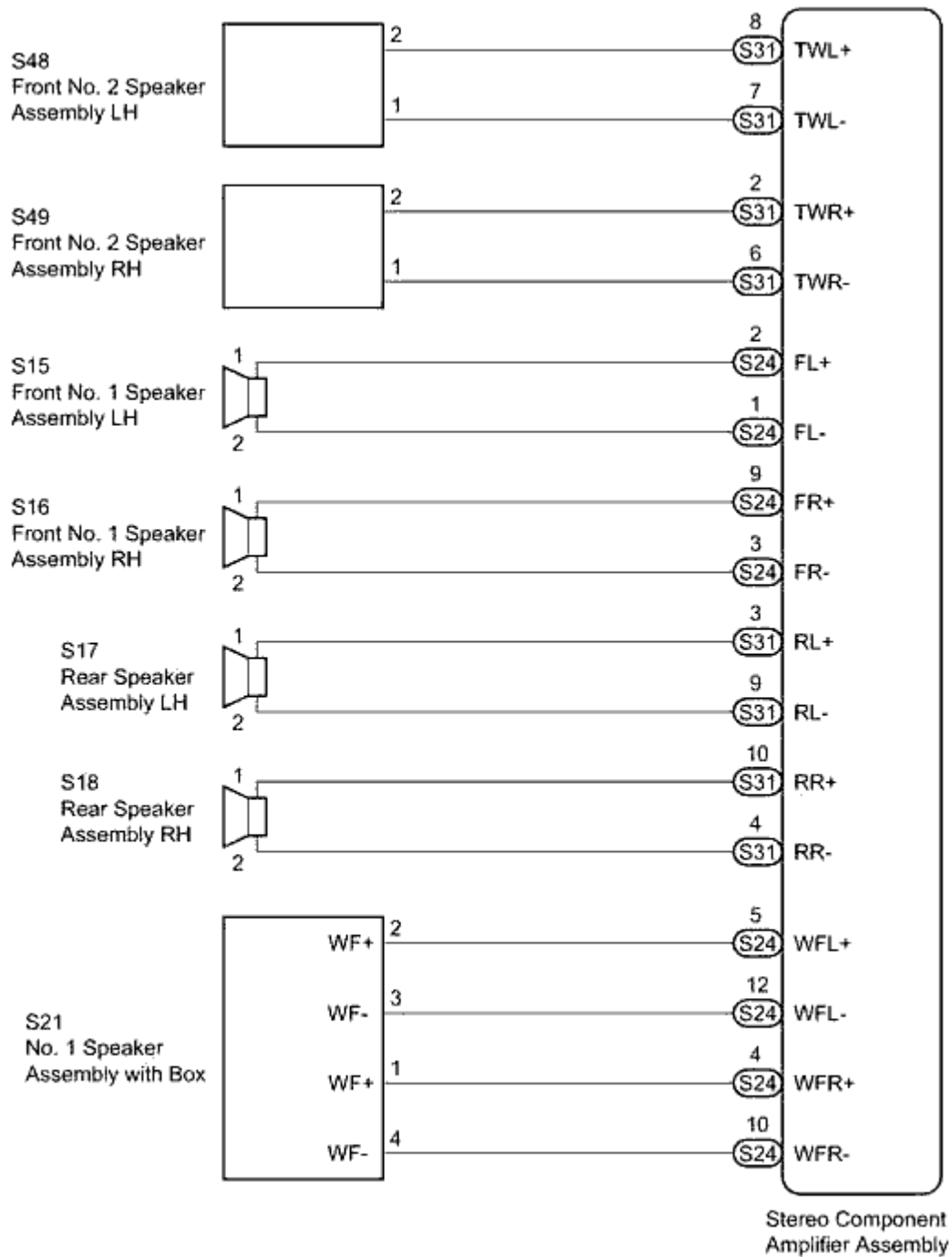
DESCRIPTION

This DTC is stored when a malfunction occurs in the speakers.

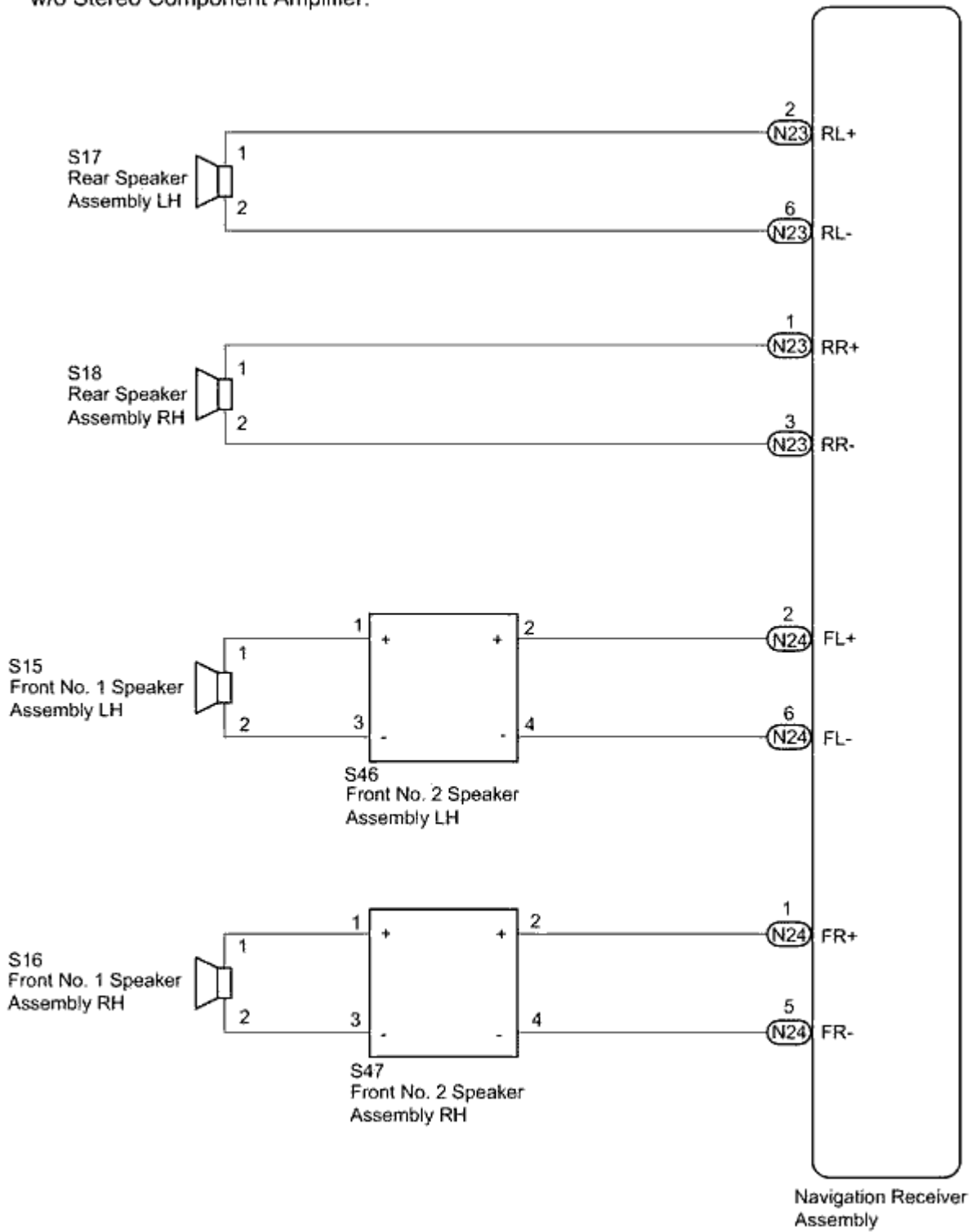
DTC NO.	DTC DETECTION CONDITION	TROUBLE AREA
B15C3	A short is detected in the speaker output circuit.	• Harness or connector • Speaker • Stereo component amplifier assembly (w/ Stereo Component Amplifier) • Navigation receiver assembly (w/o Stereo Component Amplifier)

WIRING DIAGRAM

w/ Stereo Component Amplifier:



w/o Stereo Component Amplifier:



INSPECTION PROCEDURE

PROCEDURE

1. CHECK VEHICLE CONDITION

(a) Check vehicle condition.

Result

RESULT	PROCEED TO
w/ Stereo Component Amplifier	A
w/o Stereo Component Amplifier	B

B  **GO TO STEP 7**

A



2. CHECK HARNESS AND CONNECTOR (STEREO COMPONENT AMPLIFIER ASSEMBLY - BODY GROUND)

(a) Disconnect the S24 and S31 stereo component amplifier assembly connectors.

(b) Disconnect the S15 and S16 front No. 1 speaker assembly connectors.

(c) Disconnect the S48 and S49 front No. 2 speaker assembly connectors.

(d) Disconnect the S17 and S18 rear speaker assembly connectors.

(e) Disconnect the S21 No. 1 speaker assembly with box connector.

(f) Measure the resistance between the stereo component amplifier assembly and body ground to check for a short circuit in the wire harness.

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
S24-2 (FL+) - Body ground	Always	10 k Ω or higher
S24-1 (FL-) - Body ground	Always	10 k Ω or higher
S24-9 (FR+) - Body ground	Always	10 k Ω or higher
S24-3 (FR-) - Body ground	Always	10 k Ω or higher
S31-8 (TWL+) - Body ground	Always	10 k Ω or higher
S31-7 (TWL-) - Body ground	Always	10 k Ω or higher
S31-2 (TWR+) - Body ground	Always	10 k Ω or higher
S31-6 (TWR-) - Body ground	Always	10 k Ω or higher
S31-3 (RL+) - Body ground	Always	10 k Ω or higher
S31-9 (RL-) - Body ground	Always	10 k Ω or higher

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
S31-10 (RR+) - Body ground	Always	10 kΩ or higher
S31-4 (RR-) - Body ground	Always	10 kΩ or higher
S24-5 (WFL+) - Body ground	Always	10 kΩ or higher
S24-12 (WFL-) - Body ground	Always	10 kΩ or higher
S24-4 (WFR+) - Body ground	Always	10 kΩ or higher
S24-10 (WFR-) - Body ground	Always	10 kΩ or higher

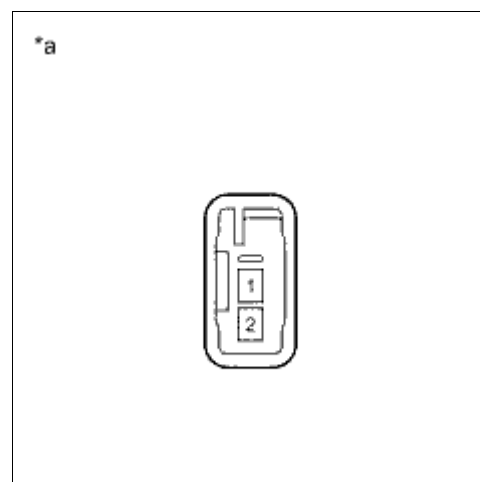
NG  **REPAIR OR REPLACE HARNESS OR CONNECTOR**

OK



3.	INSPECT FRONT NO. 1 SPEAKER ASSEMBLY
-----------	---

(a) Remove front No. 1 speaker assembly  .



(b) Measure the resistance according to the value(s) in the table below.

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
1 - 2	Always	3.2 to 4.8Ω

Text in Illustration

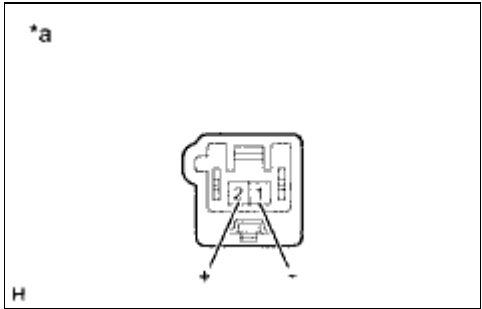
*a	Component without harness connected (Front No. 1 Speaker Assembly)
-----------	---

NG  **REPAIR OR REPLACE HARNESS OR CONNECTOR**

OK
▼

4.	INSPECT FRONT NO. 2 SPEAKER ASSEMBLY
----	--------------------------------------

(a) Remove front No. 2 speaker assembly INFO .



(b) Measure the resistance according to the value(s) in the table below.

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
1 (-) - 2 (+)	Always	1.5 to 2.5 Ω

Text in Illustration

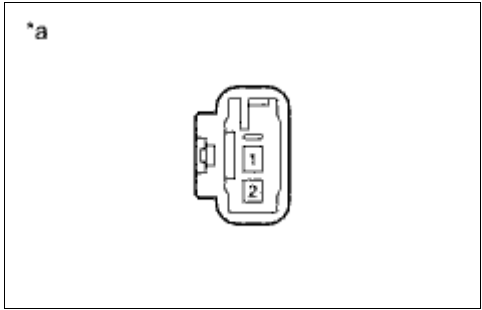
*a	Component without harness connected (Front No. 2 Speaker Assembly)
----	---

NG ► REPLACE FRONT NO. 2 SPEAKER ASSEMBLY

OK
▼

5.	INSPECT REAR SPEAKER ASSEMBLY
----	-------------------------------

(a) Disconnect the S17 and S18 rear speaker assembly connectors.



(b) Measure the resistance according to the value(s) in the table below.

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
1 - 2	Always	4 Ω

Text in Illustration

*a	Component without harness connected (Rear Speaker Assembly)
----	--

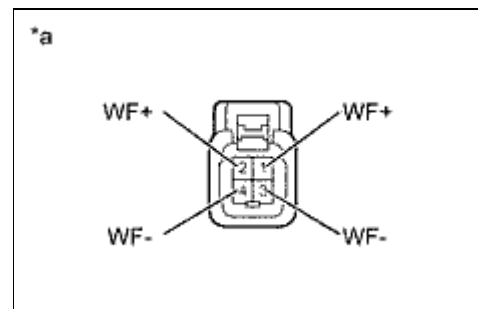
NG  **REPLACE REAR SPEAKER ASSEMBLY**

OK



6.	INSPECT NO. 1 SPEAKER ASSEMBLY WITH BOX
-----------	--

(a) Disconnect the S21 No. 1 speaker assembly with box connector.



(b) Measure the resistance according to the value(s) in the table below.

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
2 (WF+) - 3 (WF-)	Always	1.6 to 2.4 Ω
1 (WF+) - 4 (WF-)	Always	1.6 to 2.4 Ω

Text in Illustration

*a	Component without harness connected (No. 1 Speaker Assembly with Box)
----	--

NG  **REPLACE NO. 1 SPEAKER ASSEMBLY WITH BOX**

OK  **REPLACE STEREO COMPONENT AMPLIFIER ASSEMBLY**

7.

CHECK HARNESS AND CONNECTOR (NAVIGATION RECEIVER ASSEMBLY - BODY GROUND)

- (a) Disconnect the N23 and N24 navigation receiver assembly connectors.
- (b) Disconnect the S46 and S47 front No. 2 speaker assembly connectors.
- (c) Disconnect the S17 and S18 rear speaker assembly connectors.
- (d) Measure the resistance between the navigation receiver assembly to check for a short circuit in the wire harness.

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
N24-1 (FR+) - Body ground	Always	10 kΩ or higher
N24-5 (FR-) - Body ground	Always	10 kΩ or higher
N24-2 (FL+) - Body ground	Always	10 kΩ or higher
N24-6 (FL-) - Body ground	Always	10 kΩ or higher
N23-1 (RR+) - Body ground	Always	10 kΩ or higher
N23-3 (RR-) - Body ground	Always	10 kΩ or higher
N23-2 (RL+) - Body ground	Always	10 kΩ or higher
N23-6 (RL-) - Body ground	Always	10 kΩ or higher

NG  **REPAIR OR REPLACE HARNESS OR CONNECTOR**
OK

8.

CHECK HARNESS AND CONNECTOR (FRONT NO. 2 SPEAKER ASSEMBLY - BODY GROUND)

- (a) Disconnect the S15 and S16 front No. 1 speaker assembly connectors.
- (b) Disconnect the S46 and S47 front No. 2 speaker assembly connectors.
- (c) Measure the resistance between each of the front No. 2 speaker assemblies and body ground to check for a short circuit in the wire harness.

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
S47-1 (+) - Body ground	Always	10 kΩ or higher
S47-3 (-) - Body ground	Always	10 kΩ or higher

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
S46-1 (+) - Body ground	Always	10 kΩ or higher
S46-3 (-) - Body ground	Always	10 kΩ or higher

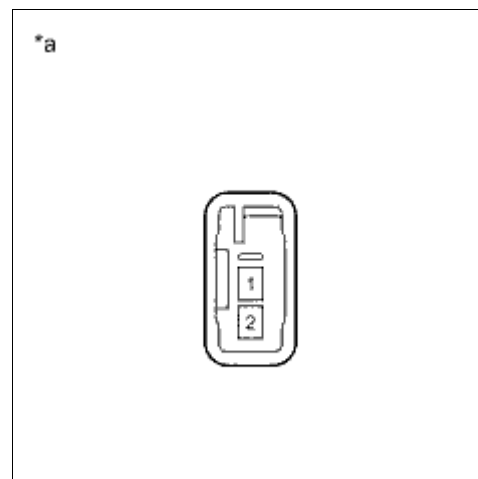
NG ► REPAIR OR REPLACE HARNESS OR CONNECTOR

OK



9.	INSPECT FRONT NO. 1 SPEAKER ASSEMBLY
-----------	---

(a) Remove front No. 1 speaker assembly **INFO** .



(b) Measure the resistance according to the value(s) in the table below.

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
1 - 2	Always	3.2 to 4.8 Ω

Text in Illustration

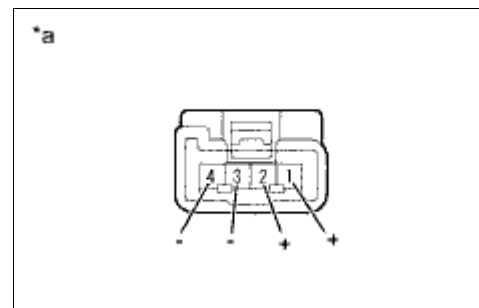
*a	Component without harness connected (Front No. 1 Speaker Assembly)
-----------	---

NG ► REPLACE FRONT NO. 1 SPEAKER ASSEMBLY

OK



10. INSPECT FRONT NO. 2 SPEAKER ASSEMBLY



(a) Remove front No. 2 speaker assembly [INFO](#) .

(b) Measure the resistance according to the value(s) in the table below.

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
2 (+) - 4(-)	Always	10 k Ω or higher
2 (+) - 1(+)	Always	Below 1 Ω
4 (-) - 3(-)	Always	Below 1 Ω

Text in Illustration

*a	Component without harness connected (Front No. 2 Speaker Assembly)
----	---

NG **REPLACE FRONT NO. 2 SPEAKER ASSEMBLY**

OK



11. REPLACE FRONT NO. 2 SPEAKER ASSEMBLY

(a) Replace the front No. 2 speaker assembly with a new or known good one [INFO](#) .

(b) Clear the DTCs [INFO](#) .

(c) Recheck for DTCs and check that no DTCs are output.

OK:

No DTCs are output.

HINT:

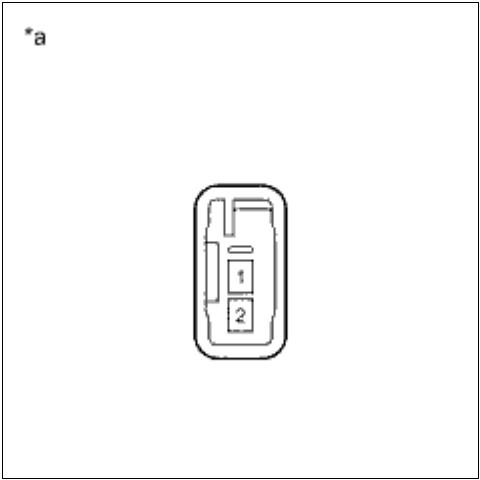
- Connect all the connectors to the front No. 2 speaker assemblies that were disconnected.
- When there is a possibility that either the right or left front No. 2 speaker assembly is defective, inspect by interchanging the right one with the left one.
- Perform the above inspection on both the LH and RH side.

NG ► GO TO STEP 12

OK ► END

12.	INSPECT REAR SPEAKER ASSEMBLY
-----	-------------------------------

(a) Remove rear speaker assembly INFO .



(b) Measure the resistance according to the value(s) in the table below.

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
1 - 2	Always	4 Ω

Text in Illustration

*a	Component without harness connected (Rear Speaker Assembly)
----	--

NG ► REPLACE REAR SPEAKER ASSEMBLY

OK ► REPLACE NAVIGATION RECEIVER ASSEMBLY



Last Modified: 11-13-2015	6.6 C	Doc ID: RM00000182J0UMX
Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: NAVIGATION: NAVIGATION SYSTEM: B15D3; Stereo Component Amplifier Disconnected; 2016 MY Tacoma [08/2015 -]		

DTC	B15D3	Stereo Component Amplifier Disconnected
------------	--------------	--

DESCRIPTION

The navigation receiver assembly and stereo component amplifier assembly are connected by the AVC-LAN communication line.

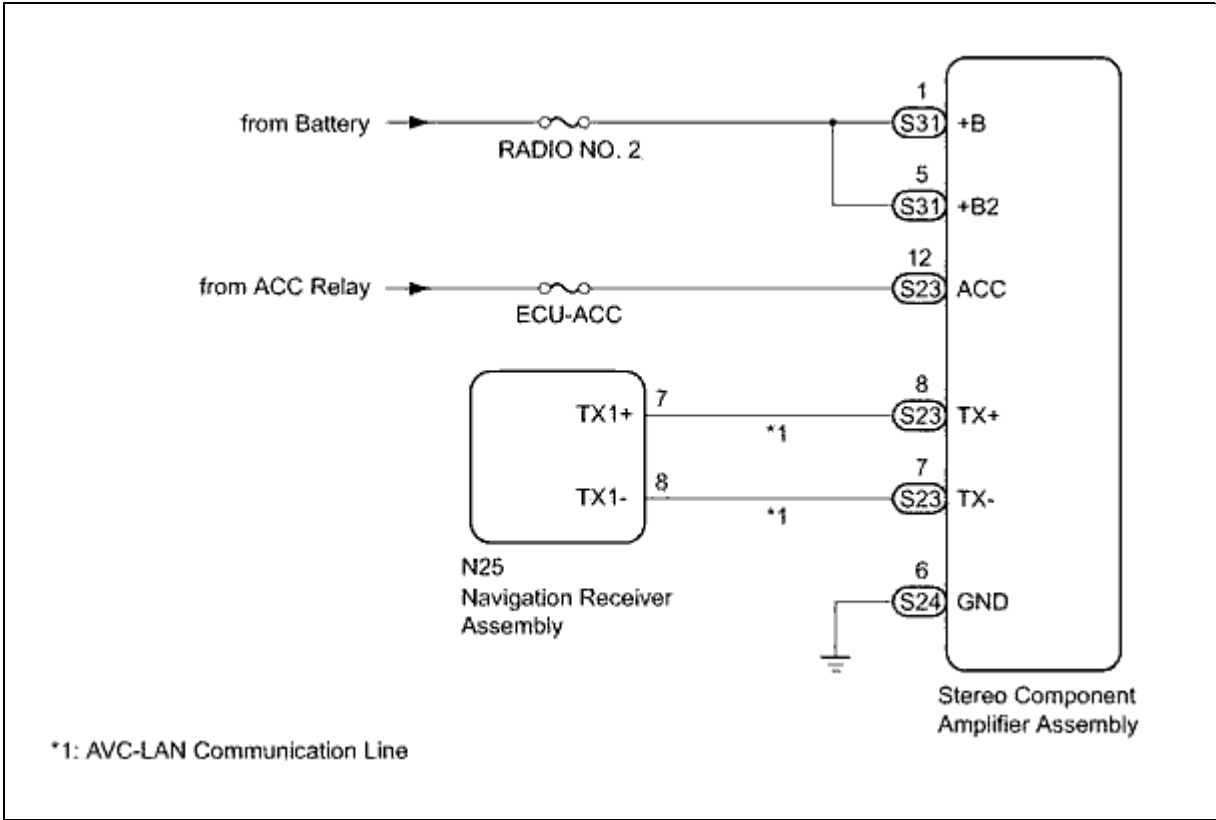
When an AVC-LAN communication error occurs between the navigation receiver assembly and stereo component amplifier assembly, this DTC will be stored.

DTC NO.	DTC DETECTION CONDITION	TROUBLE AREA
B15D3*1	When either condition below is met: • Stereo component amplifier assembly is/was not connected while the ignition switch is ON or ACC. • Communication between the master unit and the stereo component amplifier assembly is not possible when the engine is started.	• Stereo component amplifier assembly power source circuit • AVC-LAN circuit between navigation receiver assembly and stereo component amplifier assembly • Stereo component amplifier assembly • Navigation receiver assembly • Harness or connector

HINT:

- *1: Even if no fault is present, this DTC may be stored depending on the battery condition or engine start voltage.
- The navigation receiver assembly is the master unit.

WIRING DIAGRAM



INSPECTION PROCEDURE

NOTICE:

Inspect the fuses for circuits related to this system before performing the following inspection procedure.

PROCEDURE

1.	CHECK DTC
----	-----------

(a) If DTC B15C3 is output, perform the troubleshooting of DTC B15C3 first.

Result

RESULT	PROCEED TO
DTC B15C3 is not output	A
DTC B15C3 is output	B

B ► GO TO DTC "B15C3" IN DIAGNOSTIC TROUBLE CODE CHART

A
▼

2. CHECK OPTIONAL COMPONENTS (INCLUDING ASSOCIATED WIRING)

- (a) Check that optional components (including associated wiring) which generate radio waves are not installed.

Result

RESULT	PROCEED TO
Optional components (including associated wiring) are installed.	A
Optional components (including associated wiring) are not installed.	B

HINT:

- Electrical noise from radio waves generated by optional components or the wiring for those components may affect AVC-LAN communication.
- This DTC may be stored when an AVC-LAN communication error occurs due to electrical noise.

B ► GO TO STEP 4

A



3. REMOVE OPTIONAL COMPONENTS (INCLUDING ASSOCIATED WIRING)

- (a) Remove optional components (including associated wiring).

NOTICE:

Do not remove optional components or associated wiring without the permission of the customer.

NEXT



4. CHECK DTC

- (a) Clear the DTCs  .
- (b) Recheck for DTCs and check if the same DTC is output again.

OK:

No DTCs are output.

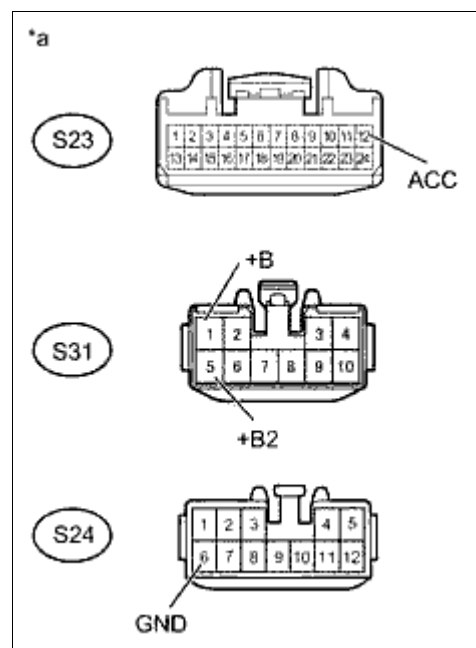
NG ► GO TO STEP 5

OK ► END

5.

CHECK HARNESS AND CONNECTOR (STEREO COMPONENT AMPLIFIER ASSEMBLY POWER SOURCE)

- (a) Disconnect the stereo component amplifier assembly connectors.



- (b) Measure the resistance according to the value(s) in the table below.

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
S24-6 (GND) - Body ground	Always	Below 1 Ω

- (c) Measure the voltage according to the value(s) in the table below.

Standard Voltage:

TESTER CONNECTION	SWITCH CONDITION	SPECIFIED CONDITION
S31-1 (+B) - S24-6 (GND)	Always	11 to 14 V
S31-5 (+B2) - S24-6 (GND)	Always	11 to 14 V
S23-12 (ACC) - S24-6 (GND)	Ignition switch ACC	11 to 14 V

Text in Illustration

*a	Front view of wire harness connector (to Stereo Component Amplifier Assembly)
----	--

NG REPAIR OR REPLACE HARNESS OR CONNECTOR

OK



6.

CHECK HARNESS AND CONNECTOR (NAVIGATION RECEIVER ASSEMBLY - STEREO COMPONENT AMPLIFIER ASSEMBLY)

- (a) Disconnect the N25 navigation receiver assembly connector.
- (b) Disconnect the S23 stereo component amplifier assembly connector.
- (c) Measure the resistance according to the value(s) in the table below.

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
N25-7 (TX1+) - S23-8 (TX+)	Always	Below 1 Ω
N25-8 (TX1-) - S23-7 (TX-)	Always	Below 1 Ω
N25-7 (TX1+) - Body ground	Always	10 k Ω or higher
N25-8 (TX1-) - Body ground	Always	10 k Ω or higher

NG  **REPAIR OR REPLACE HARNESS OR CONNECTOR**

OK



7.

REPLACE STEREO COMPONENT AMPLIFIER ASSEMBLY

- (a) Replace the stereo component amplifier assembly  .
- (b) Clear the DTCs  .
- (c) Recheck for DTCs and check if the same DTC is output again.

OK:

No DTCs are output.

NG  **REPLACE NAVIGATION RECEIVER ASSEMBLY**

OK  **END**



Last Modified: 11-13-2015	6.6 C	Doc ID: RM000003WQ20CGX
Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: NAVIGATION: NAVIGATION SYSTEM: B15F5; A/C ECU Vehicle Information Reading/Writing Processor Malfunction; 2016 MY Tacoma [08/2015 -]		

DTC	B15F5	A/C ECU Vehicle Information Reading/Writing Processor Malfunction
------------	--------------	--

DESCRIPTION

This DTC is stored when items controlled by the Air conditioning amplifier assembly cannot be customized via the navigation system vehicle customization screen.

HINT:

The Air conditioning amplifier assembly controls the air conditioning system related items that are customizable via the navigation receiver assembly screen.

DTC CODE	DTC DETECTION CONDITION	TROUBLE AREA
B15F5	Air conditioning amplifier assembly vehicle setting processing error.	• CAN communication system • Air conditioning system • Air conditioning amplifier assembly • Navigation receiver assembly

INSPECTION PROCEDURE

PROCEDURE

1.	CHECK CAN COMMUNICATION SYSTEM
-----------	---------------------------------------

(a) Use the Techstream to check if the CAN communication system is functioning normally  .

OK:

CAN communication DTCs are not output.

NG  **GO TO CAN COMMUNICATION SYSTEM**

OK



2.	CHECK AIR CONDITIONING SYSTEM
-----------	--------------------------------------

(a) Check if the air conditioning system is malfunctioning  .

HINT:

Customization may not be possible depending on the malfunction in the air conditioning system.

OK:

No malfunctions are present in the air conditioning system.

NG ► **GO TO AIR CONDITIONING SYSTEM**

OK



3.	CHECK CUSTOMIZE ITEMS
-----------	------------------------------

(a) Display the "Vehicle Customization" screen.

(b) Make a note of the customizable items for the air conditioning system.

HINT:

These air conditioning system items shown as customizable via the navigation receiver assembly vehicle customization screen can also be changed using the Techstream. In the following steps, the Techstream will be used.

(1) To match-up the items in the navigation receiver assembly with the items on the Techstream, check the customize parameters list for the air conditioning system related items that can be customized via the navigation receiver assembly screen  .

(c) Using the Techstream, confirm that it is possible to change the settings of the air conditioning system related customize parameters that are shown as customizable via the navigation receiver assembly screen.

OK:

The items available for customization via the navigation receiver assembly screen can be customized successfully using the Techstream.

NG ► **REPLACE AIR CONDITIONING AMPLIFIER ASSEMBLY**

OK ► **REPLACE NAVIGATION RECEIVER ASSEMBLY**



Last Modified: 11-13-2015	6.6 C	Doc ID: RM000003WQ30GAX
Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: NAVIGATION: NAVIGATION SYSTEM: B15F6; Main Body ECU Vehicle Information Reading/Writing Process Malfunction; 2016 MY Tacoma [08/2015 -]		

DTC	B15F6	Main Body ECU Vehicle Information Reading/Writing Process Malfunction
------------	--------------	--

DESCRIPTION

This DTC is stored when items controlled by the main body ECU cannot be customized via the navigation system vehicle customization screen.

HINT:

The main body ECU controls the items for the following systems that are customizable via the navigation receiver assembly screen:

- Power door lock control system
- Wireless door lock control system
- Lighting system

DTC CODE	DTC DETECTION CONDITION	TROUBLE AREA
B15F6	Main body ECU vehicle setting processing error.	• CAN communication system • Power door lock control system • Wireless door lock control system • Lighting system • Main body ECU • Navigation receiver assembly

INSPECTION PROCEDURE

PROCEDURE

1.	CHECK CAN COMMUNICATION SYSTEM
-----------	---------------------------------------

(a) Use the Techstream to check if the CAN communication system is functioning normally  .

OK:

CAN communication DTCs are not output.

NG  **GO TO CAN COMMUNICATION SYSTEM**

OK



2.	CHECK POWER DOOR LOCK CONTROL SYSTEM
-----------	---

(a) Check if the power door lock control system is malfunctioning  .

HINT:

Customization may not be possible depending on the malfunction in the power door lock control system.

OK:

No malfunctions are present in the power door lock control system.

NG  **GO TO POWER DOOR LOCK CONTROL SYSTEM**

OK



3.	CHECK WIRELESS DOOR LOCK CONTROL SYSTEM
-----------	--

(a) Check if the wireless door lock control system is malfunctioning  .

HINT:

Customization may not be possible depending on the malfunction in the wireless door lock control system.

OK:

No malfunctions are present in the wireless door lock control system.

NG  **GO TO WIRELESS DOOR LOCK CONTROL SYSTEM**

OK



4.	CHECK LIGHTING SYSTEM
-----------	------------------------------

(a) Check if the lighting system is malfunctioning  .

HINT:

Customization may not be possible depending on the malfunction in the lighting system.

OK:

No malfunctions are present in the lighting system.

NG  **GO TO LIGHTING SYSTEM**

OK



5. CHECK CUSTOMIZE ITEMS

- (a) Display the "Vehicle Customization" screen.
- (b) Make a note of the customizable items for each main body ECU (driver side junction block assembly) related system.

HINT:

These items shown as customizable via the navigation receiver assembly vehicle customization screen can also be changed using the Techstream. In a following step, the Techstream will be used.

- (1) To match-up the items in the navigation receiver assembly with the items on the Techstream, check the customize parameters list for the power door lock control system related items that can be customized via the navigation receiver assembly screen .
 - (2) To match-up the items in the navigation receiver assembly with the items on the Techstream, check the customize parameters list for the wireless door lock control system related items that can be customized via the navigation receiver assembly screen .
 - (3) To match-up the items in the navigation receiver assembly with the items on the Techstream, check the customize parameters list for the lighting system related items that can be customized via the navigation receiver assembly screen .
- (c) Using the Techstream, confirm that it is possible to change the settings of the customize parameters that are available for customization via the navigation receiver assembly screen.

OK:

The items available for customization via the navigation receiver assembly screen can be customized successfully using the Techstream.

NG  **REPLACE MAIN BODY ECU**

OK  **REPLACE NAVIGATION RECEIVER ASSEMBLY**



Last Modified: 11-13-2015	6.6 C	Doc ID: RM000003WQ40GBX
Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: NAVIGATION: NAVIGATION SYSTEM: B15F7; Certification ECU Vehicle Information Reading/Writing Process Malfunction; 2016 MY Tacoma [08/2015 -]		

DTC	B15F7	Certification ECU Vehicle Information Reading/Writing Process Malfunction
------------	--------------	--

DESCRIPTION

This DTC is stored when items controlled by the certification ECU (smart key ECU assembly) cannot be customized via the navigation system vehicle customization screen.

HINT:

The certification ECU (smart key ECU assembly) controls the smart key system related items that are customizable via the audio and visual system vehicle customization screen.

DTC NO.	DTC DETECTION CONDITION	TROUBLE AREA
B15F7	Certification ECU (smart key ECU assembly) vehicle setting processing malfunction	• CAN communication system • Smart key system (for Entry Function) • Smart key system (for Start Function) • Certification ECU (smart key ECU assembly) • Navigation receiver assembly

INSPECTION PROCEDURE

NOTICE:

Before replacing the certification ECU (smart key ECU assembly), refer to Registration [INFO](#) .

PROCEDURE

1.	CHECK CAN COMMUNICATION SYSTEM
-----------	---------------------------------------

(a) Use the Techstream to check if the CAN communication system is functioning normally [INFO](#) .

OK:

CAN communication DTCs are not output.

NG  **GO TO CAN COMMUNICATION SYSTEM**

OK



2. CHECK SMART KEY SYSTEM (for Entry Function)

(a) Check if the smart key system (for Entry Function) is malfunctioning  .

HINT:

Customization may not be possible depending on the malfunction in the smart key system (for Entry Function).

OK:

No malfunctions are present in the smart key system (for Entry Function).

NG  **GO TO SMART KEY SYSTEM (for Entry Function)**

OK



3. CHECK SMART KEY SYSTEM (for Start Function)

(a) Check if the smart key system (for Start Function) is malfunctioning  .

HINT:

Customization may not be possible depending on the malfunction in the smart key system (for Start Function).

OK:

No malfunctions are present in the smart key system (for Start Function).

NG  **GO TO SMART KEY SYSTEM (for Start Function)**

OK



4. CHECK CUSTOMIZE ITEMS

(a) Make a note of the customizable items for each certification ECU (smart key ECU assembly) related system.

HINT:

The items shown as customizable via the navigation system vehicle customization screen can also be changed manually. In the following step, change the items manually.

- (1) Check the customize parameters list for the smart key system (for Entry Function) related items that can be customized via the navigation system vehicle customization screen  .
- (2) Check the customize parameters list for the smart key system (for Start Function) related items that can be customized via the navigation system vehicle customization screen  .

(b) Confirm that it is possible to manually change the settings of the customize parameters for each system that are available for customization via the navigation system vehicle customization screen.

OK:

The items available for customization via the navigation system vehicle customization screen can be customized successfully using the manual procedure.

NG ► **REPLACE CERTIFICATION ECU (SMART KEY ECU ASSEMBLY)**

OK ► **REPLACE NAVIGATION RECEIVER ASSEMBLY**



Last Modified: 11-13-2015	6.6 C	Doc ID: RM000001YYU0HHX
Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: NAVIGATION: NAVIGATION SYSTEM: B15FE,B15FF; XM Tuner Antenna Disconnected; 2016 MY Tacoma [08/2015 -]		

DTC	B15FE	XM Tuner Antenna Disconnected
------------	--------------	--------------------------------------

DTC	B15FF	XM Tuner Antenna Short
------------	--------------	-------------------------------

DESCRIPTION

These DTCs are stored when a malfunction occurs in the antenna assembly with holder which is connected to the navigation receiver assembly assembly.

DTC NO.	DTC DETECTION CONDITION	TROUBLE AREA
B15FE	The antenna assembly with holder is not connected.	• Antenna cord sub-assembly • No. 2 antenna cord sub-assembly • Antenna assembly with holder • Stereo component tuner assembly
B15FF	A short occurs in the antenna assembly with assembly	

INSPECTION PROCEDURE

NOTICE:

After replacing the stereo component tuner assembly of vehicles subscribed to pay-type satellite radio broadcasts, XM radio ID registration is necessary.

PROCEDURE

1.	REPLACE ANTENNA CORD SUB-ASSEMBLY
-----------	--

(a) Replace the antenna cord sub-assembly with a known good one and check if the same DTC is output again  .

(1) Clear the DTCs  .

(2) Recheck for DTCs and check if the same DTC is output again.

OK:

No DTCs are output.

NG  **GO TO STEP 2**

OK  **END**

2. REPLACE NO. 2 ANTENNA CORD SUB-ASSEMBLY

(a) Replace the No. 2 antenna cord sub-assembly with a known good one and check if the same DTC is output again  .

(1) Clear the DTCs  .

(2) Recheck for DTCs and check if the same DTC is output again.

OK:

No DTCs are output.

NG  **GO TO STEP 3**

OK  **END**

3. REPLACE ANTENNA ASSEMBLY WITH HOLDER

(a) Replace the antenna assembly with holder with a known good one and check if the same DTC is output again  .

(1) Clear the DTCs  .

(2) Recheck for DTCs and check if the same DTC is output again.

OK:

No DTCs are output.

NG  **REPLACE STEREO COMPONENT TUNER ASSEMBLY**

OK  **END**



Last Modified: 11-13-2015	6.6 J	Doc ID: RM0000020RR0V6X
Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: NAVIGATION: NAVIGATION SYSTEM: Black Screen; 2016 MY Tacoma [08/2015 -]		

Black Screen

INSPECTION PROCEDURE

PROCEDURE

1.	CHECK DISPLAY SETTING
-----------	------------------------------

(a) Check that the display is not in "Screen Off" mode.

OK:

The display setting is not in "Screen Off" mode.

NG ► **CHANGE SCREEN TO SCREEN ON MODE**

OK

2.	CHECK IMAGE QUALITY SETTING
-----------	------------------------------------

(a) Check that the screen color quality can be set.

OK:

Setting is possible.

NG ► **PROCEED TO NEXT SUSPECTED AREA SHOWN IN PROBLEM SYMPTOMS TABLE**

OK ► **SET SCREEN COLOR QUALITY TO NORMAL**



Last Modified: 11-13-2015	6.6 J	Doc ID: RM0000020N30BUX
Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: NAVIGATION: NAVIGATION SYSTEM: CD Sound Skips; 2016 MY Tacoma [08/2015 -]		

CD Sound Skips

INSPECTION PROCEDURE

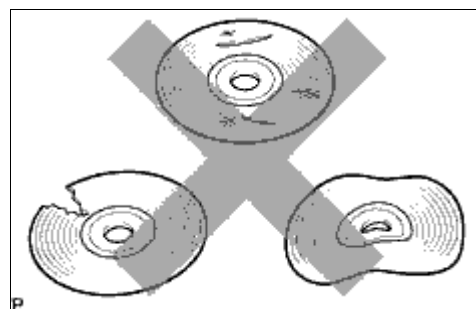
PROCEDURE

1. CHECK CD

(a) Check that the CD is not deformed or cracked.

OK:

No deformation or cracks on the CD



NG ► CD IS FAULTY

OK



2. CHECK CD

(a) Check the CD.

OK:

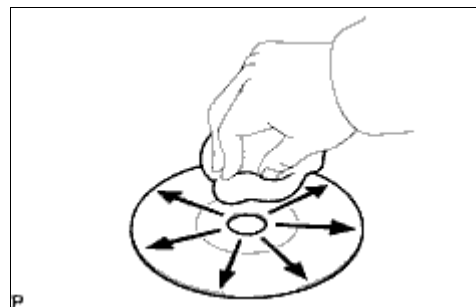
The CD is clean.

NOTICE:

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

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.



NG ► CLEAN CD

OK



3.	REPLACE CD AND RECHECK
-----------	-------------------------------

(a) Replace CD with a known good one and check that the malfunction disappears.

OK:

Malfunction disappears.

NG ► **GO TO STEP 4**

OK ► **CD WAS FAULTY**

4.	CHECK NAVIGATION RECEIVER ASSEMBLY
-----------	---

(a) Check the navigation receiver assembly installation condition.

(1) Check that the navigation receiver assembly is properly installed.

OK:

The navigation receiver assembly is properly installed.

NG ► **REINSTALL NAVIGATION RECEIVER ASSEMBLY**

OK ► **REPLACE NAVIGATION RECEIVER ASSEMBLY**



Last Modified: 11-13-2015	6.6 J	Doc ID: RM0000020N50BKX
Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: NAVIGATION: NAVIGATION SYSTEM: CD cannot be Ejected; 2016 MY Tacoma [08/2015 -]		

CD cannot be Ejected

INSPECTION PROCEDURE

PROCEDURE

1.	CHECK OPERATION
-----------	------------------------

(a) Press the disc eject switch of the navigation receiver assembly for 5 seconds or more and check that the CD is ejected.

OK:

CD is ejected.

NG ► **REPLACE NAVIGATION RECEIVER ASSEMBLY**

OK



2.	REPLACE CD AND RECHECK
-----------	-------------------------------

(a) Replace CD with a known good one and check that the malfunction disappears.

OK:

CD is ejected.

NG ► **REPLACE NAVIGATION RECEIVER ASSEMBLY**

OK ► **CD WAS FAULTY**



Last Modified: 11-13-2015	6.6 J	Doc ID: RM0000020N40BSX
Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: NAVIGATION: NAVIGATION SYSTEM: CD cannot be Inserted / Played or CD is Ejected Right After Insertion; 2016 MY Tacoma [08/2015 -]		

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

INSPECTION PROCEDURE

PROCEDURE

1.	CHECK IF A PROPER CD IS INSERTED
-----------	---

(a) Make sure that the CD is an audio CD or a CD with an MP3, WMA or AAC file, and that it is not deformed, flawed, stained, deteriorated or otherwise defective.

OK:

CD is normal.

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.	CHECK THAT CD IS INSERTED PROPERLY
-----------	---

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

OK:

CD is properly inserted.

NG  **SET CD PROPERLY**

OK



3. CLEAN CD AND RECHECK

(a) Disc cleaning

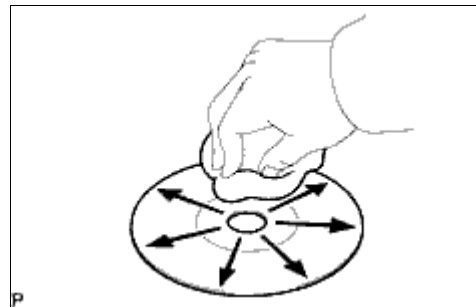
- (1) If dirt is on the disc surface, wipe it clean with a soft cloth from the inside to the outside in a radial direction.

OK:

Malfunction disappears.

NOTICE:

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



NG ► GO TO STEP 4

OK ► END (CD WAS DIRTY)

4. REPLACE CD AND RECHECK

- (a) Replace CD with a known good one and check that the malfunction disappears.

OK:

Malfunction disappears.

NG ► REPLACE NAVIGATION RECEIVER ASSEMBLY

OK ► CD WAS FAULTY



Last Modified: 11-13-2015	6.6 J	Doc ID: RM0000011FD14HX
Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: NAVIGATION: NAVIGATION SYSTEM: Cellular Phone Registration Failure, Phone Directory Transfer Failure; 2016 MY Tacoma [08/2015 -]		

Cellular Phone Registration Failure, Phone Directory Transfer Failure

INSPECTION PROCEDURE

PROCEDURE

1.	CHECK OPERATION
-----------	------------------------

(a) Place the cellular phone close to the navigation receiver assembly.

(b) Check if the cellular phone can be registered.

OK:

The cellular phone can be registered.

NG ► **GO TO STEP 2**

OK ► **NORMAL OPERATION**

2.	CHECK CURRENT CONDITIONS
-----------	---------------------------------

(a) Proceed to the next step according to the table below.

Result

RESULT	PROCEED TO
Another "Bluetooth" compatible cellular phone is available	A
Another "Bluetooth" compatible vehicle is available	B
None of the above	C

B ► **GO TO STEP 4**

C ► **GO TO STEP 5**

A



3. 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:

The system functions.

NG ► PROCEED TO NEXT SUSPECTED AREA SHOWN IN PROBLEM SYMPTOMS TABLE

OK ► USE A "Bluetooth" COMPATIBLE CELLULAR PHONE

4. CHECK USING ANOTHER "Bluetooth" COMPATIBLE 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:

The system functions.

NG ► ASK CUSTOMER TO UPDATE CELLULAR PHONE OR CHANGE IT TO A "Bluetooth" COMPATIBLE MODEL

OK ► PROCEED TO NEXT SUSPECTED AREA SHOWN IN PROBLEM SYMPTOMS TABLE

5. 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:

The system functions.

NG ► GO TO STEP 6

OK ► USE A "Bluetooth" COMPATIBLE CELLULAR PHONE

6. CHECK CELLULAR PHONE

(a) Check if a call can be made from the cellular phone.

HINT:

The cellular phone is unable to call under any of the following conditions:

- The cellular phone is locked.
- The phonebook is being transferred.
- The line is crossed.
- The cellular phone is outside service range.
- The power is off.
- The battery is low.
- The cellular phone is not connected to "Bluetooth".

OK:

A call can be made from the cellular phone.

NG ► REPAIR OR REPLACE CELLULAR PHONE

OK ► PROCEED TO NEXT SUSPECTED AREA SHOWN IN
PROBLEM SYMPTOMS TABLE



Last Modified: 11-13-2015	6.6 J	Doc ID: RM000000POK159X
Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: NAVIGATION: NAVIGATION SYSTEM: Cellular Phone cannot Send/Receive; 2016 MY Tacoma [08/2015 -]		

Cellular Phone cannot Send/Receive

INSPECTION PROCEDURE

PROCEDURE

1.	CHECK "Bluetooth" SETTINGS
-----------	-----------------------------------

(a) Check if the cellular phone is registered as a connected device and the "Bluetooth" settings are correct.

OK:

The cellular phone is registered as a connected device and "Bluetooth" settings are correct.

NG  **SET SETTINGS CORRECTLY**

OK



2.	CHECK SETTINGS AND CONDITIONS
-----------	--------------------------------------

(a) Check the cellular phone functions.

HINT:

The cellular phone is unable to call under any of the following conditions:

- The cellular phone is locked.
- The phonebook is being transferred.
- The line is crossed.
- The cellular phone is outside service range.
- The power is off.
- The battery is low.
- The cellular phone is not connected to "Bluetooth".

OK:

None of the above conditions exist.

NG  **SET CORRECTLY**

OK



3.	CHECK RECEPTION
-----------	------------------------

- (a) Place the cellular phone close to the navigation receiver assembly.
- (b) Set the cellular phone so that it can receive calls.
- (c) Check if the cellular phone has reception according to the navigation receiver assembly.

OK:

The cellular phone has reception.

NG  **GO TO STEP 4**

OK  **END**

4.	CHECK CELLULAR PHONE
-----------	-----------------------------

- (a) Check if the cellular phone can make a call.

HINT:

The purpose of this step is to inspect the cellular phone when it is not connected to the vehicle.

OK:

Cellular phone can make a call.

NG  **REPAIR OR REPLACE CELLULAR PHONE**

OK



5.	RESTART CELLULAR PHONE
-----------	-------------------------------

- (a) Restart the cellular phone.
- (b) Register the cellular phone as a connected device again and check that the malfunction disappears.

OK:

Malfunction disappears.

NG  **GO TO STEP 6**

OK  **END**

6. 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 ► **PROCEED TO NEXT SUSPECTED AREA SHOWN IN
PROBLEM SYMPTOMS TABLE**

OK ► **END (ONLY A "Bluetooth" COMPATIBLE CELLULAR
PHONE CAN BE USED)**



Last Modified: 11-13-2015	6.6 J	Doc ID: RM000004ZYU06DX
Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: NAVIGATION: NAVIGATION SYSTEM: Confirm Cellular Phone Functionality; 2016 MY Tacoma [08/2015 -]		

Confirm Cellular Phone Functionality

INSPECTION PROCEDURE

PROCEDURE

1.	CHECK THE CUSTOMER'S CELLULAR PHONE COMPATIBILITY
-----------	--

(a) Go to TIS "Bluetooth" Compatibility Portal and check if the cellular phone is compatible.

Result

RESULT	PROCEED TO
Cellular phone is compatible	A
Cellular phone is not compatible	B

HINT:

It is important to check the cellular phone compatibility charts carefully:

- Some apps may only work on cellular phones.
- Some apps may only work when paired to a vehicle.
- Some cellular phones do not support all features.

B ► RECOMMEND COMPATIBLE CELLULAR PHONE

A



2.	CONFIRM CELLULAR PHONE SIGNAL
-----------	--------------------------------------

(a) A 3G or higher connection is required for proper Entune functionality. If a 3G or higher connection is not available, some applications may not function properly. (Wi-Fi is not an approved connection for Entune services.)

NEXT



3. CONFIRM THE ENTUNE APP IS DOWNLOADED TO THE CUSTOMER'S CELLULAR PHONE

- (a) Turn the cellular phone on.
- (b) Check that the Entune app has been downloaded.

Result

RESULT	PROCEED TO
Entune app has been not downloaded	A
Entune app has been downloaded	B

B ► GO TO STEP 5

A

4. DOWNLOAD ENTUNE APP

- (a) Download the Entune app.

Result

RESULT	PROCEED TO
App downloaded successfully	A
App did not download successfully	B

HINT:

Contact the service provider or cellular phone manufacturer if assistance is required for downloading the Entune app or resetting the customer's cellular phone.

B ► RESET CUSTOMER'S CELLULAR PHONE (REMOVE BATTERY) AND TRY AGAIN

A

5. CHECK IF THE CUSTOMER'S ACCOUNT IS VALID AND ACTIVE

- (a) Start the Entune app on the customer's cellular phone.
- (b) Sign out of the account (if currently signed in).

(c) Sign in using the customer's account information.

Result

RESULT	PROCEED TO
Sign in to app is successful	A
Sign in to app is not successful	B

HINT:

The purpose of signing out of the account and then signing back in is to ensure that the correct account is used.

B  **GO TO STEP 9**

A



6.	RECORD ERROR MESSAGES IF PRESENT
-----------	---

NEXT



7.	CONFIRM THE CUSTOMER'S CELLULAR PHONE WITH A KNOWN GOOD ENTUNE ACCOUNT (e.g. DEALER DEMO ACCOUNT)
-----------	--

(a) Start the Entune app on the customer's cellular phone.

(b) Sign out of the customer's account (if currently signed in).

(c) Sign in using a known good Entune account (e.g. dealer demo account).

Result

RESULT	PROCEED TO
Sign in using demo account is successful	A
Sign in using demo account is not successful	B

HINT:

- The purpose of signing out of the account and then signing back in is to ensure that the correct account is used.
- Upon completion of this procedure, be sure to sign out of the dealer demo account on the customer's cellular phone.
- If sign in using a demo account is successful, the customer's account has a problem. Instruct the customer to visit www.toyota.com/entune or contact Entune customer support for account status verification.

B ► **GO TO STEP 8**

A ► **CUSTOMER ACCOUNT ISSUE (SIGN OUT OF THE DEALER DEMO ACCOUNT)**

8.	CONFIRM ENTUNE SERVICES ARE AVAILABLE
-----------	--

- (a) Start the Entune app on a known good cellular phone.
- (b) Sign out of the account (if currently signed in).
- (c) Sign in using the dealers demo account information.

Result

CONDITION	PROCEED TO
Sign in to app is successful	A
Sign in to app is not successful	B

HINT:

Contact the service provider or cellular phone manufacturer if assistance is required for resetting the customer's cellular phone.

B ► **ENTUNE SERVICES ARE CURRENTLY UNAVAILABLE**

A ► **RESET CUSTOMER'S CELLULAR PHONE (REMOVE BATTERY) AND TRY AGAIN**

9.	CHECK ENTUNE SEARCH FUNCTION ON CUSTOMER'S CELLULAR PHONE
-----------	--

- (a) Sign in to the Entune app on the customer's cellular phone.
- (b) Start a search app (e.g. Bing) within the Entune app.
- (c) Check that a search can be made.

Result

RESULT	PROCEED TO
App search is successful	A
App search is not successful	B

B ► **GO TO STEP 10**

A ► **PROCEED TO NEXT SUSPECTED AREA SHOWN IN PROBLEM SYMPTOMS TABLE**

10.	RECORD ERROR MESSAGES IF PRESENT
-----	----------------------------------

NEXT



11.	CHECK ENTUNE SEARCH FUNCTION ON KNOWN GOOD CELLULAR PHONE
-----	---

- (a) Sign in to the Entune app on a known good cellular phone.
- (b) Start a search app (e.g. Bing) within the Entune app.
- (c) Check that a search can be made.

Result

RESULT	PROCEED TO
App search is successful	A
App search is not successful	B

HINT:
 Contact the service provider or cellular phone manufacturer if assistance is required for resetting the customer's cellular phone or known good cellular phone.

- B** ▶ RESET KNOWN GOOD CELLULAR PHONE (REMOVE BATTERY) AND TRY AGAIN
- A** ▶ RESET CUSTOMER'S CELLULAR PHONE (REMOVE BATTERY) AND TRY AGAIN



Last Modified: 11-13-2015	6.6 J	Doc ID: RM000004ZYV06DX
Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: NAVIGATION: NAVIGATION SYSTEM: Confirm Vehicle Headunit Functionality; 2016 MY Tacoma [08/2015 -]		

[Confirm Vehicle Headunit Functionality](#)

INSPECTION PROCEDURE

PROCEDURE

1.	CHECK CUSTOMER'S CELLULAR PHONE COMPATIBILITY
-----------	--

(a) Go to TIS "Bluetooth" Compatibility Portal and check if the cellular phone is compatible.

Result

RESULT	PROCEED TO
Cellular phone is compatible	A
Cellular phone is not compatible	B

HINT:

It is important to check the cellular phone compatibility charts carefully:

- Some apps may only work on cellular phones.
- Some apps may only work when paired to a vehicle.
- Some cellular phones do not support all features.

B ► RECOMMEND COMPATIBLE CELLULAR PHONE

A



2.	CONFIRM CELLULAR PHONE SIGNAL
-----------	--------------------------------------

(a) A 3G or higher connection is required for proper Entune functionality. If a 3G or higher connection is not available, some applications may not function properly. (Wi-Fi is not an approved connection for Entune services.)

NEXT



3. CONFIRM IF THE CUSTOMER'S CELLULAR PHONE CAN BE PAIRED TO THE VEHICLE

(a) Pair the customer's cellular phone to the vehicle.

Result

RESULT	PROCEED TO
Cellular phone is not successfully paired	A
Cellular phone is successfully paired	B

B ► **GO TO STEP 5****A****4. CONFIRM THAT A KNOWN GOOD CELLULAR PHONE CAN BE PAIRED TO THE VEHICLE**

(a) Check that a known good cellular phone can be paired to the customer's vehicle.

Result

CONDITION	PROCEED TO
Cellular phone is successfully paired	A
Cellular phone is not successfully paired	B

HINT:

For instructions on how to reset cellular phone, refer to the appropriate manufacturer's website.

B ► **GO TO STEP 12****A** ► **RESET CUSTOMER'S CELLULAR PHONE (REMOVE BATTERY) AND TRY AGAIN****5. CHECK ENTUNE APPS FUNCTION WHEN PAIRED**

(a) Proceed to the appropriate section based on the customer concern in the table below.

Result

CUSTOMER CONCERN	PROCEED TO
Head unit data apps (e.g. internet search) do not function properly	A
Head unit internet radio apps do not function properly	B

HINT:

This is a head unit functionality check. Ensure that a cellular phone is paired to the vehicle.

B ► **GO TO STEP 9**

A



6. CHECK DATA APPS FUNCTION ON THE HEAD UNIT

- (a) Make sure that the customer's cellular phone is paired with the vehicle.
- (b) Start an internet search app on the head unit.
- (c) Check if a search can be made.

Result

RESULT	PROCEED TO
Head unit data app does not function properly	A
Head unit data app functions properly	B

B ► **END (NO PROBLEM WAS FOUND)**

A



7. RECORD ERROR MESSAGES IF PRESENT

NEXT

8. CHECK ENTUNE SEARCH FUNCTION ON THE HEAD UNIT USING A KNOWN GOOD CELLULAR PHONE

- (a) Make sure that a known good cellular phone is paired with vehicle.
- (b) Start an internet search app on the head unit.
- (c) Check if a search can be made.

Result

RESULT	PROCEED TO
Head unit data app functions properly	A
Head unit data app does not function properly	B

HINT:

For instructions on how to reset cellular phone, refer to the appropriate manufacturer's website.

B ► **GO TO STEP 12**

A ► **RESET CUSTOMER'S CELLULAR PHONE (REMOVE BATTERY) AND TRY AGAIN**

9.	CHECK INTERNET RADIO FUNCTION ON THE HEAD UNIT USING THE CUSTOMER'S CELLULAR PHONE
-----------	---

(a) Make sure that the customer's cellular phone is paired with the vehicle.

(b) Start an internet radio app on the head unit.

(c) Check that the audio can be heard through the vehicle's speakers.

Result

RESULT	PROCEED TO
Head unit internet radio app does not function properly	A
Head unit internet radio app functions properly	B

B ► **END (NO PROBLEM WAS FOUND)**

A



10.	RECORD ERROR MESSAGES IF PRESENT
------------	---

NEXT

11.	CHECK INTERNET RADIO FUNCTION ON THE HEAD UNIT USING A KNOWN GOOD CELLULAR PHONE
------------	---

- (a) Make sure that a known good cellular phone is paired with the vehicle.
- (b) Start an internet radio app on the head unit.
- (c) Check that the audio can be heard through the speakers.

Result

RESULT	PROCEED TO
Head unit internet radio app does not function properly using a known good phone	A
Head unit internet radio app functions properly using known good phone	B

HINT:

For instructions on how to reset cellular phone, refer to the appropriate manufacturer's website.

B ► RESET CUSTOMER'S CELLULAR PHONE (REMOVE BATTERY) AND TRY AGAIN

A



12.	PERFORM ENTUNE RESET PROCEDURE
------------	---------------------------------------

- (a) Perform Entune reset procedure  .

Result

CONDITION	PROCEED TO
The problem symptom has been repaired	A
The problem symptom has not been repaired	B

B ► PROCEED TO NEXT SUSPECTED AREA SHOWN IN PROBLEM SYMPTOMS TABLE

A ► END



Last Modified: 11-13-2015	6.6 J	Doc ID: RM000000POD0MAX
Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: NAVIGATION: NAVIGATION SYSTEM: Cursor or Map Rotates when Vehicle Stopped; 2016 MY Tacoma [08/2015 -]		

Cursor or Map Rotates when Vehicle Stopped

INSPECTION PROCEDURE

PROCEDURE

1.	CHECK CONDITION
-----------	------------------------

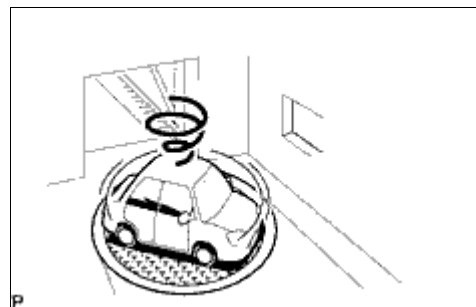
(a) Check with the customer if the vehicle has been turned by a turntable.

OK:

Vehicle has not been turned by a turntable.

HINT:

If the vehicle is turned on a turntable with the ignition switch ON, the system may store the angular velocity. As a result, the vehicle position cursor may deviate. In this case, the vehicle position cursor will return to normal by turning the ignition switch off and back to ON again with the vehicle completely stopped.



NG ► **TURN IGNITION SWITCH TO ON WHEN VEHICLE IS COMPLETELY STOPPED**

OK ► **PROCEED TO NEXT SUSPECTED AREA SHOWN IN PROBLEM SYMPTOMS TABLE**



Last Modified: 11-13-2015	6.6 U	Doc ID: RM000004MKN0E3X
Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: NAVIGATION: NAVIGATION SYSTEM: DATA LIST / ACTIVE TEST; 2016 MY Tacoma [08/2015 -]		

DATA LIST / ACTIVE TEST

1. DATA LIST

NOTICE:

In the table below, the values listed under "Normal Condition" are reference values. Do not depend solely on these reference values when deciding whether a part is faulty or not.

HINT:

Using the Techstream to read the Data List allows the values or states of switches, sensors, actuators and other items to be read without removing any parts. This non-intrusive inspection can be very useful because intermittent conditions or signals may be discovered before parts or wiring is disturbed. Reading the Data List information early in troubleshooting is one way to save diagnostic time.

- Connect the Techstream to the DLC3.
- Turn the ignition switch to ON.
- Turn the Techstream on.
- Enter the following menus: Body Electrical / Navigation System / Data List.
- According to the display on the Techstream, read the Data List.

Navigation System

TESTER DISPLAY	MEASUREMENT ITEM/RANGE	NORMAL CONDITION	DIAGNOSTIC NOTE
Battery Voltage	Battery voltage/ Min.: 0 V, Max.: 24 V	11 to 14 V	-
Active Dimmer	Active dimmer function/ON or OFF	ON: Active dimmer function on OFF: Active dimmer function off	-
Tail Light SW	Taillight switch/ON or OFF	ON: Light control switch in tail or head position OFF: Light control switch off	-
Reverse Signal	Reverse signal/ON or OFF	ON: Reverse selected OFF: Reverse not selected	-
Parking Brake	Parking brake switch/ON or OFF	ON: Parking brake applied OFF: Parking brake released	-
Ignition	Ignition switch/ON or OFF	ON: Ignition switch ON OFF: Ignition switch off	-

TESTER DISPLAY	MEASUREMENT ITEM/RANGE	NORMAL CONDITION	DIAGNOSTIC NOTE
Vehicle Speed	Maximum wheel speed sensor reading/Min.: 0 km/h (0 mph), Max.: 255 km/h (158 mph)	Vehicle stopped: 0 km/h (0 mph)	When driving at constant speed: No large fluctuations



Last Modified: 11-13-2015	6.6 S	Doc ID: RM0000011BO0PNX
Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: NAVIGATION: NAVIGATION SYSTEM: DIAGNOSTIC TROUBLE CODE CHART; 2016 MY Tacoma [08/2015 -]		

DIAGNOSTIC TROUBLE CODE CHART

Navigation System

DTC CODE	DETECTION ITEM	SEE PAGE
B1324	Lost Communication with Meter	INFO
B1532	LVDS Signal Malfunction (from Extension Module)	INFO
B1551	HD Radio Tuner Malfunction	INFO
B1552	Extension Module Malfunction	INFO
B156C	Extension Module Disconnected	INFO
B1579	Voice Recognition Microphone Disconnected	INFO
B1585	USB Media Malfunction	INFO
B158A	Extension Module Noise Adjustment Malfunction	INFO
B158C	SD Card Communication Malfunction	INFO
B158F	AV Signal Stoppage (Low Battery Voltage)	INFO
B15A0	LAN Master Malfunction	INFO
B15A3	Stereo Component Amplifier Malfunction	INFO
B15AD	Navigation Processor Malfunction	INFO
B15B0	Display Screen Malfunction	INFO
B15B3	Radio Tuner Malfunction	INFO
B15B4	CD Changer Malfunction	INFO
B15B7	Bluetooth Module Malfunction	INFO
B15BA	XM Tuner Malfunction	INFO
B15C0	Short in GPS Antenna	INFO
B15C1	Open in GPS Antenna	INFO
B15C2	Speed Signal Malfunction	INFO
B15C3	Speaker Output Short	INFO
B15D3	Stereo Component Amplifier Disconnected	INFO
B15F5	A/C ECU Vehicle Information Reading/Writing Processor Malfunction	INFO
B15F6	Main Body ECU Vehicle Information Reading/Writing Process Malfunction	INFO
B15F7	Certification ECU Vehicle Information Reading/Writing Process Malfunction	INFO
B15FE	XM Tuner Antenna Disconnected	INFO

DTC CODE	DETECTION ITEM	SEE PAGE
B15FF	XM Tuner Antenna Short	INFO
U0073	Sending Malfunction (Navigation to APGS)	INFO
U0100	Lost Communication with ECM / PCM "A"	INFO
U0129	Lost Communication with Brake System Control Module	INFO
U0140	Lost Communication with Body Control Module	INFO
U0155	Meter ECU Communication	INFO
U0164	Lost Communication with A/C ECU	INFO



Last Modified: 11-13-2015	6.6 D	Doc ID: RM0000011BU0XCX
Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: NAVIGATION: NAVIGATION SYSTEM: DTC CHECK / CLEAR; 2016 MY Tacoma [08/2015 -]		

DTC CHECK / CLEAR

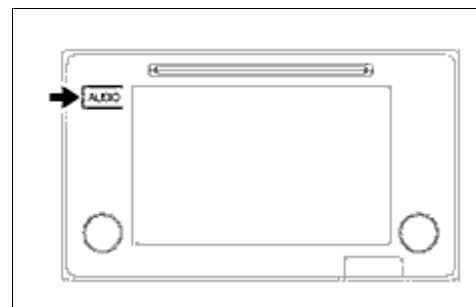
1. START DIAGNOSTIC MODE

HINT:

- Illustrations may differ from the actual vehicle screen depending on the device settings and options. Therefore, some detailed areas may not be shown exactly the same as on the actual vehicle screen.
- If the system cannot enter diagnostic mode, inspect all AVC-LAN communication components and repair or replace problem parts INFO.
- After the ignition switch is turned to ON, check that the map is displayed before starting diagnostic mode. Otherwise, some items cannot be checked.

(a) Start the engine.

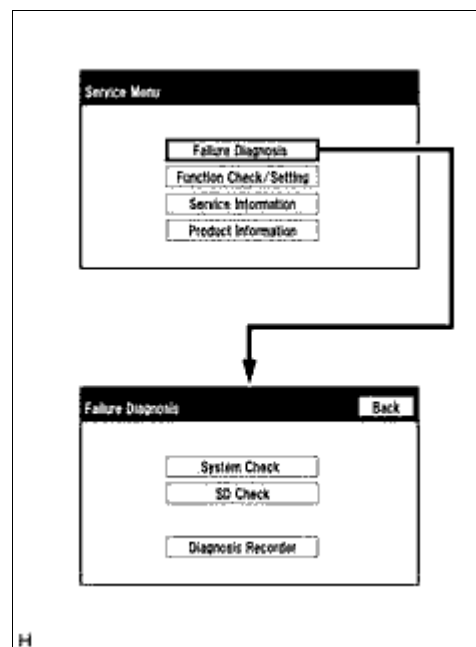
(b) While pressing and holding the "AUDIO" switch, operate the light control switch: Off → Tail → Off → Tail → Off → Tail → Off.



(c) Diagnostic mode starts and the "Service Menu" screen will be displayed. Service inspection starts automatically and the result will be displayed.

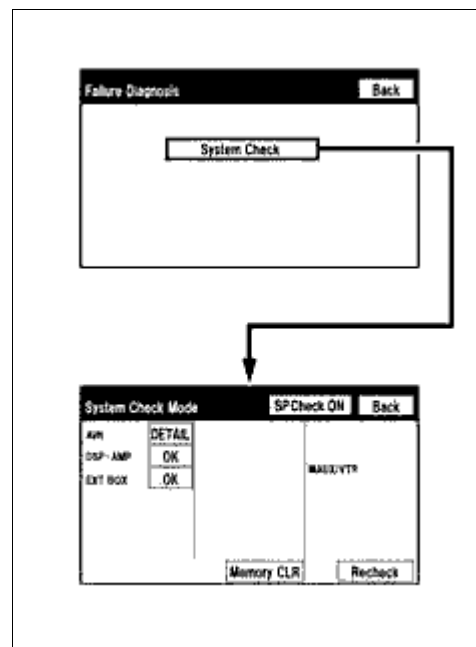
2. FAILURE DIAGNOSIS

(a) The "Failure Diagnosis" screen will be displayed by pressing the "Failure Diagnosis" switch on the "Service Menu" screen.



3. SYSTEM CHECK

- (a) The "System Check Mode" screen will be displayed by pressing the "System Check" switch on the "Failure Diagnosis" screen.



4. CHECK DTC (CHECK USING SYSTEM CHECK MODE SCREEN)

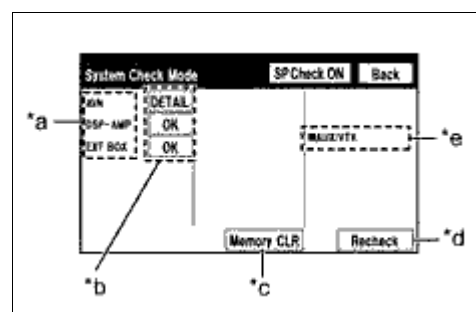
HINT:

When "NCON" is displayed for all devices connected using the AVC-LAN, or when all device names are not displayed, check if there is a short circuit in the AVC-LAN or devices connected to the AVC-LAN. Repair or replace parts as necessary INFO.

- (a) System check mode screen description

Screen Description

DISPLAY	CONTENT
*a: Device Name List No. 1	• Device Name List No. 1 displays some of the devices that make up the navigation system. • The names of the components from Device Name List No. 1 are shown in the following table.
*b: Check Result	Result codes for all devices are displayed.
*c: Memory Clear	• Present and history DTCs and registered connected device names are cleared. • Press the "Memory CLR" switch for 3 seconds.
*d: Recheck	• A system check will be performed again after the memory is cleared. • The "Recheck" switch will dim during a system check.



DISPLAY	CONTENT
*e: Device Name List No. 2	• Device Name List No. 2 displays some of the devices that make up the navigation system. • The names of the components from Device Name List No. 2 are shown in the following table.

***a: Device Name List No. 1 Description**

NAME	COMPONENT	CONNECTION METHOD
AVN	Navigation receiver assembly	-
EXT BOX	Stereo component tuner assembly	Communication line for LVDS
DSP-AMP	Stereo component amplifier assembly	Communication line for AVC-LAN

***b: Check Result Description**

RESULT	MEANING	ACTION
OK	The device does not respond with a DTC.	-
DETAIL	The device responds with a DTC.	Look up the DTC in "Unit Check Mode".
NCON	The device was previously present, but does not respond in diagnostic mode.	- Check power supply wire harness of the device. - Check the AVC-LAN of the device.
NRES	The device responds in diagnostic mode, but gives no DTC information.	- Check power supply wire harness of the device. - Check the AVC-LAN of the device.

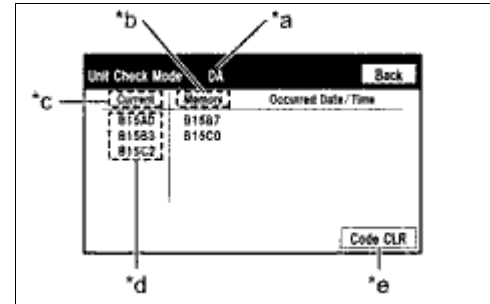
***e: Device Name List No. 2 Description**

NAME	COMPONENT	CONNECTION METHOD
AUX/VTR	No. 1 stereo jack adapter assembly	Vehicle wire harness

(b) Unit check mode screen description

Screen Description

DISPLAY	CONTENT
*a: Device name	Target device
*b: History DTC	Diagnostic memory results and stored DTCs are displayed.
*c: Current DTC	DTCs output in the service check are displayed.
*d: DTC	DTC (Diagnostic Trouble Code)
*e: Diagnosis clear switch	Pushing this switch for 3 seconds clears the diagnostic memory data of the target device (Both response to diagnostic system check result and the displayed data are cleared.).



HINT:

- This screen is updated once per second.
- A maximum of 6 DTCs can be displayed for history and present DTCs.

(c) Read the system check result.

- (1) If the check result is "DETAIL", touch the displayed check result to view the results on the "Unit Check Mode" screen and record them.

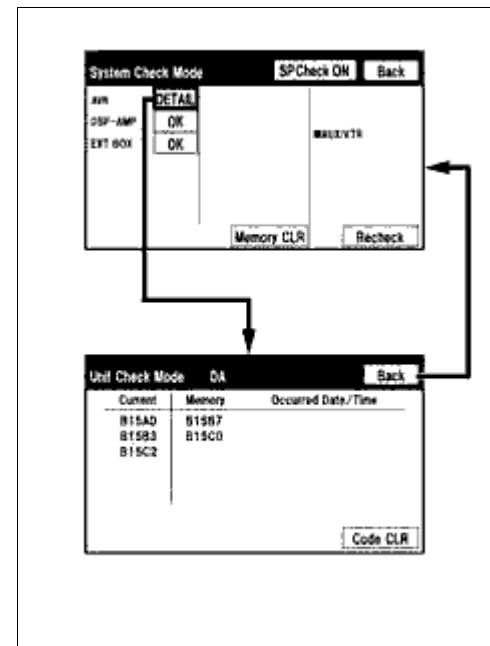
NOTICE:

A maximum of 6 DTCs can be displayed for history and present DTCs on the "Unit check mode" screen. Therefore, when 6 DTCs are displayed, troubleshoot those DTCs first and then check the "Unit check mode" screen again to see if any other DTCs are displayed.

HINT:

- When all results are "OK", this means that no DTCs are present.
- When proceeding to view the results of another device, press the "Back" switch to return to the "System Check Mode" screen. Repeat the step above to view the results of other devices.

- (2) Check the details of the DTCs INFO.



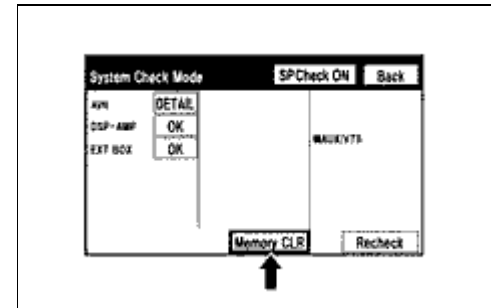
5. DTC CLEAR/RECHECK (CLEAR USING SYSTEM CHECK MODE SCREEN)

(a) Clear DTC

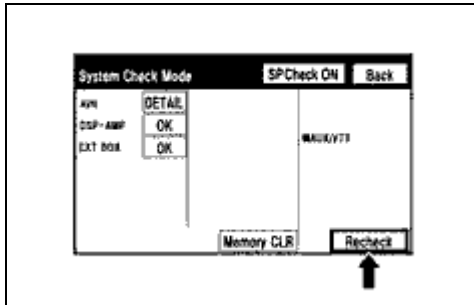
- (1) Press the "Memory CLR" switch for 3 seconds.
- (2) Confirm that the check results are cleared.

HINT:

- To clear the DTC for a specific device, clear the DTC using the "Unit Check Mode" screen.
- When clearing a DTC using the "Unit Check Mode" screen, press the "Code CLR" switch for 3 seconds.



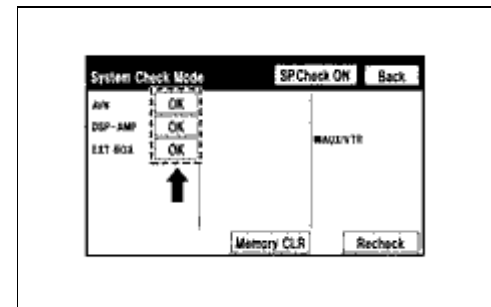
(b) Recheck



- (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.

HINT:

When a DTC was cleared using the "Unit Check Mode" screen, press the "Back" switch to return to the "System Check Mode" screen and perform this operation.



6. FINISH DIAGNOSTIC MODE

- (a) Turn the ignition switch off.



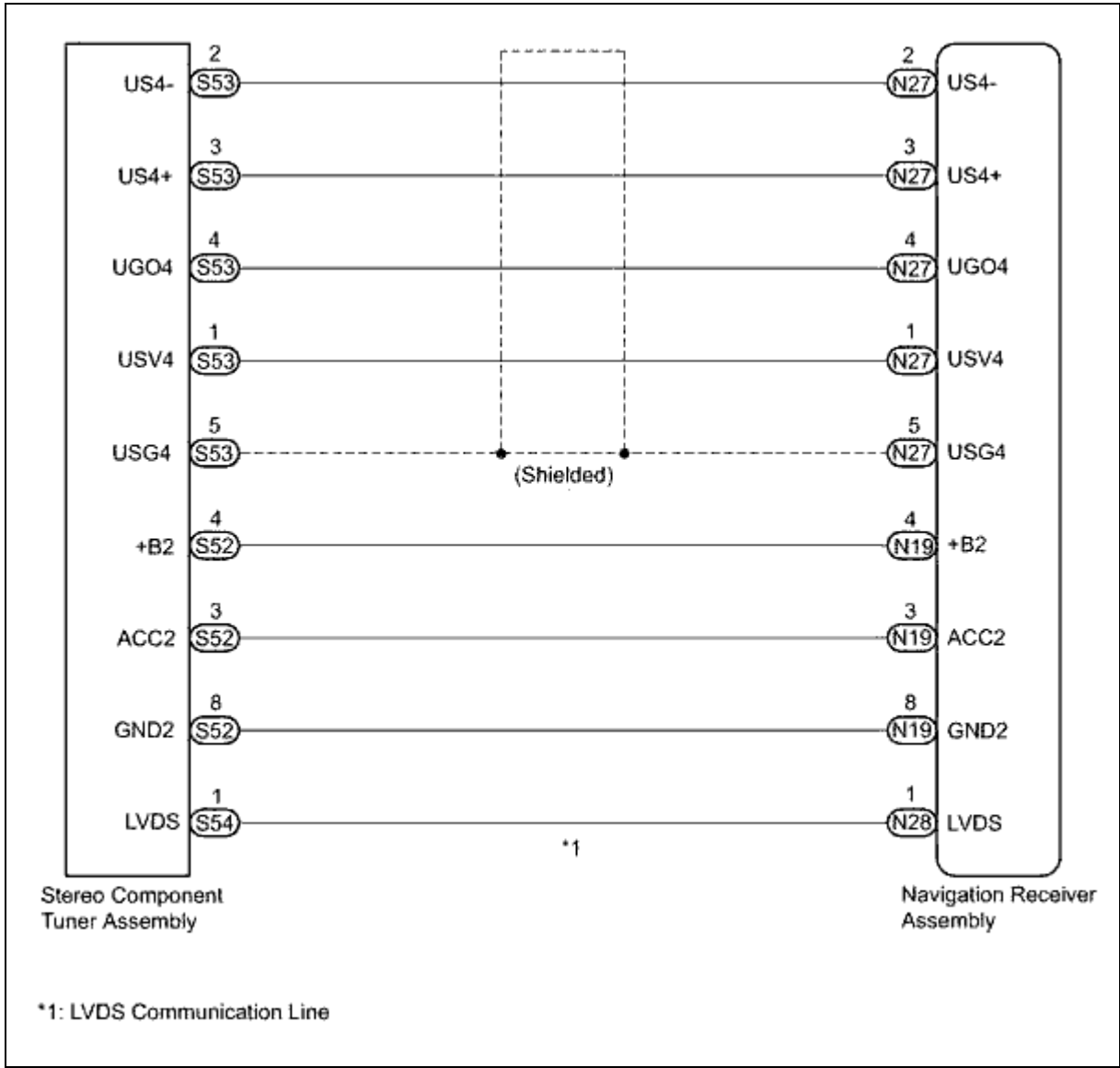
Last Modified: 11-13-2015	6.6 J	Doc ID: RM000005KRN00HX
Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: NAVIGATION: NAVIGATION SYSTEM: Data Signal Circuit between Navigation Receiver Assembly and Extension Module; 2016 MY Tacoma [08/2015 -]		

Data Signal Circuit between Navigation Receiver Assembly and Extension Module

DESCRIPTION

The stereo component tuner assembly sends the sound data signal or image data signal from a device to the navigation receiver assembly via this circuit.

WIRING DIAGRAM



INSPECTION PROCEDURE

NOTICE:

After replacing the stereo component tuner assembly of vehicles subscribed to pay-type satellite radio broadcasts, XM radio ID registration is necessary.

PROCEDURE**1.****CHECK HARNESS AND CONNECTOR (NAVIGATION RECEIVER ASSEMBLY - STEREO COMPONENT TUNER ASSEMBLY)**

- (a) Disconnect the N19, N27 and N28 navigation receiver assembly connectors.
- (b) Disconnect the S52, S53 and S54 stereo component tuner assembly connectors.
- (c) Measure the resistance according to the value(s) in the table below.

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
N27-1 (USV4) - S53-1 (USV4)	Always	Below 1 Ω
N27-2 (US4-) - S53-2 (US4-)	Always	Below 1 Ω
N27-3 (US4+) - S53-3 (US4+)	Always	Below 1 Ω
N27-4 (UGO4) - S53-4 (UGO4)	Always	Below 1 Ω
N27-5 (USG4) - S53-5 (USG4)	Always	Below 1 Ω
N19-4 (+B2) - S52-4 (+B2)	Always	Below 1 Ω
N19-3 (ACC2) - S52-3 (ACC2)	Always	Below 1 Ω
N19-8 (GND2) - S52-8 (GND2)	Always	Below 1 Ω
N28-1 (LVDS) - S54-1 (LVDS)	Always	Below 1 Ω
N27-1 (USV4) - Body ground	Always	10 k Ω or higher
N27-2 (US4-) - Body ground	Always	10 k Ω or higher
N27-3 (US4+) - Body ground	Always	10 k Ω or higher
N27-4 (UGO4) - Body ground	Always	10 k Ω or higher
N27-5 (USG4) - Body ground	Always	10 k Ω or higher
N19-4 (+B2) - Body ground	Always	10 k Ω or higher
N19-3 (ACC2) - Body ground	Always	10 k Ω or higher
N19-8 (GND2) - Body ground	Always	10 k Ω or higher
N28-1 (LVDS) - Body ground	Always	10 k Ω or higher

NG  **REPAIR OR REPLACE HARNESS OR CONNECTOR**

OK

2.	CHECK NO. 1 NAVIGATION WIRE
-----------	------------------------------------

(a) Replace the No. 1 navigation wire with a known good one  .

(b) Check that the malfunction disappears.

OK:

Malfunction disappears.

NG  **PROCEED TO NEXT SUSPECTED AREA SHOWN IN
PROBLEM SYMPTOMS TABLE**

OK  **END (NO. 1 NAVIGATION WIRE WAS DEFECTIVE)**



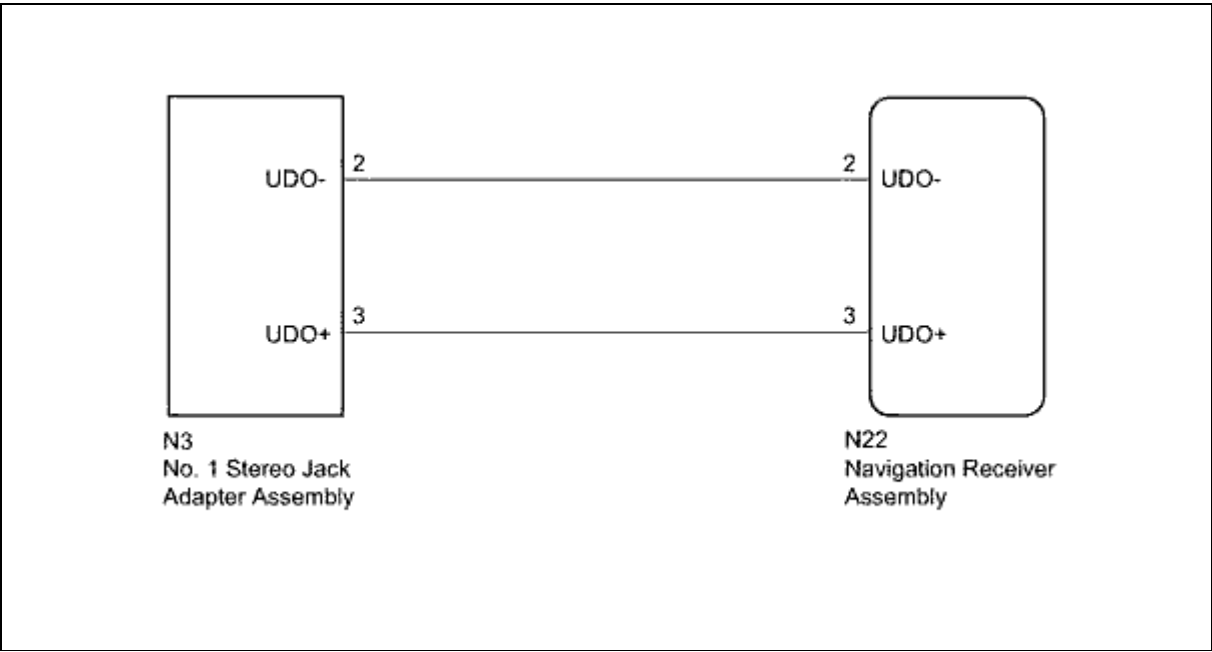
Last Modified: 11-13-2015	6.6 J	Doc ID: RM000001YQ60DTX
Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: NAVIGATION: NAVIGATION SYSTEM: Data Signal Circuit between Stereo Jack Adapter and Extension Module; 2016 MY Tacoma [08/2015 -]		

Data Signal Circuit between Stereo Jack Adapter and Extension Module

DESCRIPTION

The No. 1 stereo jack adapter assembly sends the sound data signal or image data signal from a USB device to the navigation receiver assembly via this circuit.

WIRING DIAGRAM



INSPECTION PROCEDURE

PROCEDURE

1.	CHECK HARNESS AND CONNECTOR (NAVIGATION RECEIVER ASSEMBLY - NO. 1 STEREO JACK ADAPTER ASSEMBLY)
-----------	--

- (a) Disconnect the N22 navigation receiver assembly connector.
 - (b) Disconnect the N3 No. 1 stereo jack adapter assembly connector.
 - (c) Measure the resistance according to the value(s) in the table below.
- Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
N3-2 (UDO-) - N22-2 (UDO-)	Always	Below 1 Ω
N3-3 (UDO+) - N22-3 (UDO+)	Always	Below 1 Ω
N3-2 (UDO-) - Body ground	Always	10 k Ω or higher
N3-3 (UDO+) - Body ground	Always	10 k Ω or higher

NG ► REPAIR OR REPLACE HARNESS OR CONNECTOR

OK ► PROCEED TO NEXT SUSPECTED AREA SHOWN IN
PROBLEM SYMPTOMS TABLE



Last Modified: 11-13-2015	6.6 J	Doc ID: RM000000PNK0XDX
Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: NAVIGATION: NAVIGATION SYSTEM: Display does not Dim when Light Control Switch is Turned ON; 2016 MY Tacoma [08/2015 -]		

Display does not Dim when Light Control Switch is Turned ON

INSPECTION PROCEDURE

PROCEDURE

1.	CHECK IMAGE QUALITY SETTING
----	-----------------------------

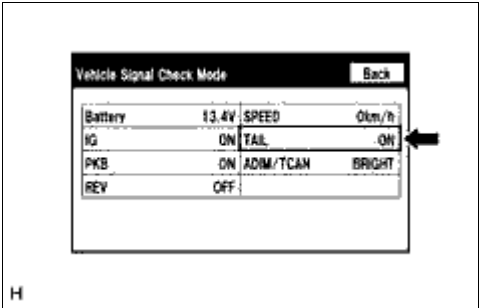
- (a) Display the "Display Settings" screen.
- (b) Turn the light control switch to the tail or head position.
- (c) Check if "Day Mode" on the display adjustment screen is on.
 - OK:
 - "Day Mode" setting is off

NG TURN "Day Mode" SETTING OFF

OK

2.	CHECK VEHICLE SIGNAL (OPERATION CHECK)
----	--

- (a) Enter the "Vehicle Signal Check Mode" screen. Refer to Check Vehicle Signal in Operation Check INFO .



- (b) Check that the display changes between ON and OFF according to the light control switch operation.
 - OK:

LIGHT CONTROL SWITCH	DISPLAY
Tail or head	ON

LIGHT CONTROL SWITCH	DISPLAY
Off	OFF

HINT:

The display is updated once per second. It is normal for the display to lag behind the actual switch operation.

NG ► **PROCEED TO NEXT SUSPECTED AREA SHOWN IN PROBLEM SYMPTOMS TABLE**

OK ► **REPLACE NAVIGATION RECEIVER ASSEMBLY**



Last Modified: 11-13-2015	6.6 J	Doc ID: RM000003UOQ0TBX
Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: NAVIGATION: NAVIGATION SYSTEM: Does not Play even after Bluetooth Audio Mode is Selected; 2016 MY Tacoma [08/2015 -]		

Does not Play even after Bluetooth Audio Mode is Selected

INSPECTION PROCEDURE

HINT:

Even if the portable player can play audio content, it may not be able to play via the in-vehicle device. This does not necessarily indicate a malfunction of the in-vehicle device.

PROCEDURE

1.	CHECK OPERATION
-----------	------------------------

(a) Check if the portable player operates normally.

OK:

The portable player operates normally.

NG ► **MALFUNCTION IN PORTABLE PLAYER**

OK



2.	CHECK AUDIO SETTINGS
-----------	-----------------------------

(a) In sound setting mode set volume, fader and balance to the initial values and check that sound is normal.

OK:

Audio system returns to normal.

HINT:

Sound quality adjustment measures vary according to the type of amplifier.

NG ► **PROCEED TO NEXT SUSPECTED AREA SHOWN IN PROBLEM SYMPTOMS TABLE**

OK



3.	CHECK USING ANOTHER "Bluetooth" AUDIO COMPATIBLE VEHICLE OF SAME MODEL
-----------	---

(a) Check if the "Bluetooth" audio player plays normally on another "Bluetooth" audio compatible vehicle of the same model.

OK:

"Bluetooth" audio player plays normally.

NG ► **MALFUNCTION IN PORTABLE PLAYER**

OK ► **PROCEED TO NEXT SUSPECTED AREA SHOWN IN
PROBLEM SYMPTOMS TABLE**



Last Modified: 11-13-2015	6.6 D	Doc ID: RM000004Z3F02SX
Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: NAVIGATION: NAVIGATION SYSTEM: FREEZE FRAME DATA; 2016 MY Tacoma [08/2015 -]		

FREEZE FRAME DATA

1. CHECK FREEZE FRAME DATA

- (a) Connect the Techstream to the DLC3.
- (b) Turn the ignition switch to ON.
- (c) Turn the Techstream on.
- (d) Enter the following menus: Body Electrical / Navigation System / Trouble Codes.
- (e) Select a PTC to display its Freeze Frame Data.

2. LIST OF FREEZE FRAME DATA

- (a) Refer to "Data List / Active Test"  .



Last Modified: 11-13-2015	6.6 J	Doc ID: RM000000PN60NFX
Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: NAVIGATION: NAVIGATION SYSTEM: GPS Mark is not Displayed; 2016 MY Tacoma [08/2015 -]		

GPS Mark is not Displayed

INSPECTION PROCEDURE

PROCEDURE

1.	CHECK CABIN
-----------	--------------------

- (a) Check the cabin for any object that might interrupt radio reception or additional devices which use radio waves on the instrument panel. If such an object exists, remove it and check if the GPS mark reappears.

HINT:

The GPS uses extremely weak radio waves originating from satellites. If the signal is interrupted by obstructions or other radio waves, the GPS may not be able to properly receive the signal.

OK:

The GPS mark appears.

NG ► **GO TO STEP 2**

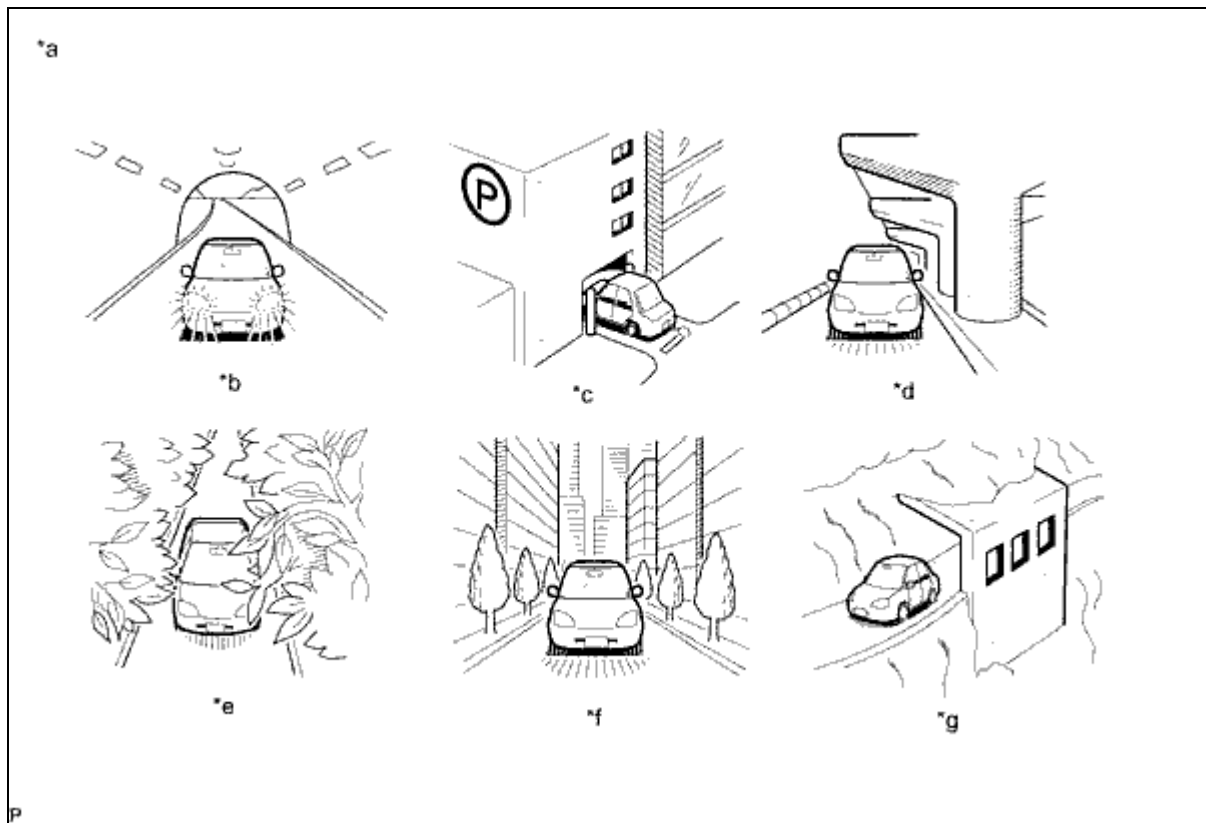
OK ► **NORMAL OPERATION**

2.	CHECK SURROUNDINGS
-----------	---------------------------

- (a) Check if the vehicle is in a location where GPS signal reception is poor. If the vehicle is in such a place, relocate the vehicle and check if the GPS mark reappears.

HINT:

The GPS uses 24 satellites in 6 orbits. At any point in time, 4 satellites should be able to pinpoint your vehicle. However, GPS signals may not reach the vehicle due to influence from the surroundings, vehicle direction and time. For examples, see the following illustration.



OK:

The GPS mark is displayed.

Text in Illustration

*a	Example	*b	In a tunnel
*c	In a building	*d	Under an overpass
*e	On a forest or tree-lined path	*f	Between tall buildings
*g	Under a cliff or overhang	-	-

NG ► **GO TO STEP 3**

OK ► **SYSTEM RETURNS TO NORMAL**

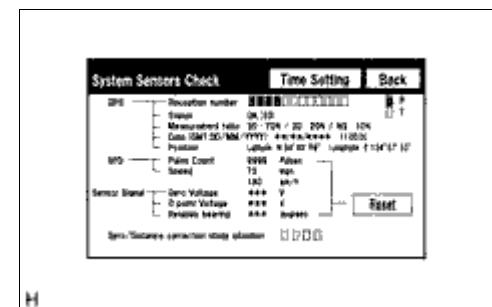
3. CHECK GPS INFORMATION (OPERATION CHECK)

(a) Enter the "System Sensor Check" screen. Refer to Check GPS & Vehicle Sensors in Operation Check [INFO](#).

(b) Check how many of the following codes appear in the "Reception number" column.

HINT:

T or P appears.



OK:

At least 3 codes appear.

NG ► **PROCEED TO NEXT SUSPECTED AREA SHOWN IN
PROBLEM SYMPTOMS TABLE**

OK ► **REPLACE NAVIGATION RECEIVER ASSEMBLY**



Last Modified: 11-13-2015	6.6 D	Doc ID: RM0000011BN0UJX
Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: NAVIGATION: NAVIGATION SYSTEM: HOW TO PROCEED WITH TROUBLESHOOTING; 2016 MY Tacoma [08/2015 -]		

HOW TO PROCEED WITH TROUBLESHOOTING

HINT:

- Use the following procedure to troubleshoot the navigation system.
- *: Use the Techstream.

1.	VEHICLE BROUGHT TO WORKSHOP
-----------	------------------------------------

NEXT



2.	CUSTOMER PROBLEM ANALYSIS
-----------	----------------------------------

- When troubleshooting, confirm that the problem symptoms have been accurately identified. Preconceptions should be discarded in order to make an accurate judgment. To clearly understand what the problem symptoms are, it is extremely important to ask the customer about the problem and the conditions at the time the malfunction occurred.
- Gather as much information as possible for reference. Past problems that seem unrelated may also help in some cases.
- The following 5 items are important points in problem analysis:

What	Vehicle model, system name
When	Date, time, occurrence frequency
Where	Road conditions
Under what conditions?	Driving conditions, weather conditions
How did it happen?	Problem symptoms

NEXT



3.	INSPECT BATTERY VOLTAGE
-----------	--------------------------------

(a) Measure the battery voltage.

Standard voltage:

11 to 14 V

HINT:

If the voltage is below 11 V, recharge or replace the battery before proceeding to the next step.

NEXT

4.	CHECK CABIN
-----------	--------------------

- (a) Check that condensation is not likely to occur in the cabin, and that the temperature is not high or extremely low in the cabin.

OK:

Condensation is not likely being produced and the temperature is not high or extremely low.

HINT:

- A humid cabin and a rapid change in temperature may lead to condensation. Condensation in the cabin may cause a short circuit.
- The navigation system may not operate normally when the temperature is -20°C (-4°F) or lower, or 65°C (149°F) or higher.

NG **SET CABIN TO APPROPRIATE TEMPERATURE**

OK

5.	CHECK NAVIGATION SYSTEM NORMAL CONDITION
-----------	---

- (a) Refer to Check System Normal Condition .

Result

RESULT	PROCEED TO
Symptom is not normal operation	A
Symptom is normal operation	B

B **SYMPTOM IS NORMAL OPERATION**

A

6.	CHECK CAN COMMUNICATION SYSTEM*
-----------	--

(a) Check if CAN communication system DTCs are output  .

Result

RESULT	PROCEED TO
CAN DTCs are not output.	A
CAN DTCs are output.	B

B  **GO TO CAN COMMUNICATION SYSTEM**

A



7.	CHECK FOR DTC*
-----------	-----------------------

(a) Refer to DTC Check/Clear  .

Result

RESULT	PROCEED TO
DTCs are output	A
DTCs are not output	B

HINT:

If the system cannot enter diagnostic mode, inspect the AVC-LAN and all the components that connect to the AVC-LAN for short circuits and repair or replace the problem part  .

B  **Go to step 11**

A



8.	DTC CLEAR*
-----------	-------------------

(a) Refer to DTC Check/Clear  .

HINT:

The present DTCs may not indicate actual malfunctions depending on the vehicle operating conditions.

NEXT



9. RECHECK FOR DTC*

(a) Refer to DTC Check/Clear [INFO](#) .

Result

RESULT	PROCEED TO
DTCs are output	A
DTCs are not output	B

HINT:

- Even if the malfunction symptom is not confirmed, check for DTCs. This is because the system stores history DTCs.
- If more information is needed, perform a recheck using the "System Check Mode" screen after rechecking for DTCs using the Techstream.
- Check the DTCs and inspect the area that the code indicates.

B  Go to step 11

A



10. DIAGNOSTIC TROUBLE CODE CHART

(a) Find the output code in Diagnostic Trouble Code Chart [INFO](#) .

NEXT  Go to step 13

11. CHECK SD CARD

(a) Enter the "SD Check" screen. Refer to Check SD Card in Operation Check [INFO](#) .

NG  REPLACE SD CARD

OK



12. PROBLEM SYMPTOMS TABLE

(a) Refer to Problem Symptoms Table [INFO](#) .

Result

RESULT	PROCEED TO
Fault is not listed in Problem Symptoms Table	A
Fault is listed in Problem Symptoms Table	B

HINT:

If the symptom does not recur and no DTCs are output, attempt to reproduce the symptoms [INFO](#) .

B  Go to step 13

A



13.	PERFORM TROUBLESHOOTING BASED ON MALFUNCTION SYMPTOM
------------	---

(a) Refer to Terminals of ECU [INFO](#) .

NEXT



14.	CHECK CIRCUIT
------------	----------------------

(a) Adjust, repair or replace as necessary.

NEXT



15.	RECHECK FOR DTC*
------------	-------------------------

(a) After clearing DTCs, recheck for DTCs.

NEXT



16.	PERFORM CONFIRMATION TEST
------------	----------------------------------



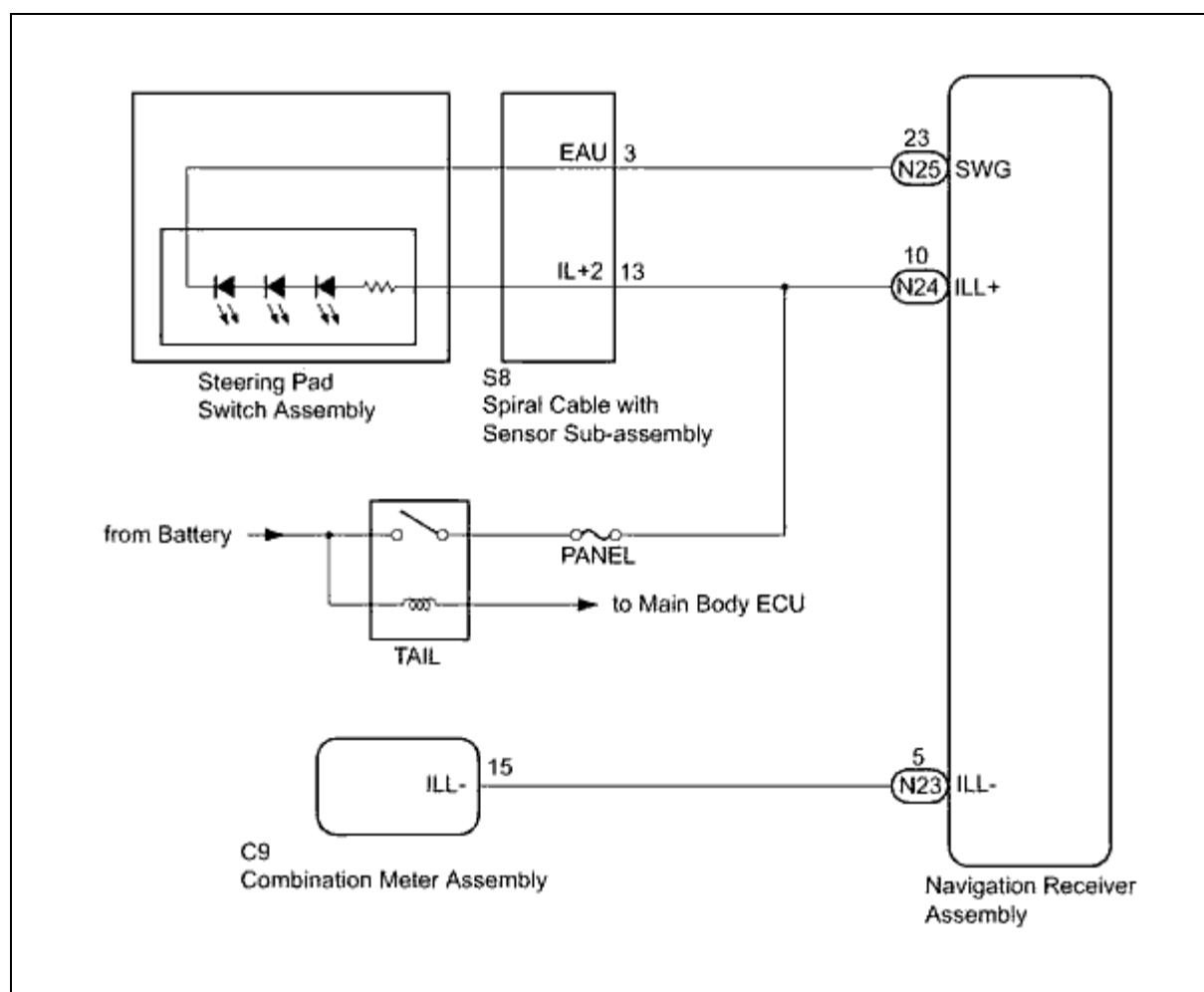
Last Modified: 11-13-2015	6.6 J	Doc ID: RM0000012CG11IX
Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: NAVIGATION: NAVIGATION SYSTEM: Illumination Circuit; 2016 MY Tacoma [08/2015 -]		

Illumination Circuit

DESCRIPTION

Power is supplied to the navigation receiver assembly and steering pad switch assembly illumination when the light control switch is in the TAIL or HEAD position.

WIRING DIAGRAM



INSPECTION PROCEDURE

NOTICE:

- The vehicle is equipped with a Supplemental Restraint System (SRS) 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 [INFO](#).
- Inspect the fuses for circuits related to this system before performing the following inspection procedure.

PROCEDURE

1. CHECK ILLUMINATION

- (a) Check if the illumination for the navigation receiver assembly, steering pad switch, heater control switch or others (hazard switch, transmission control switch, etc.) comes on when the light control switch is turned to the TAIL or HEAD position.

Result

RESULT	PROCEED TO
Illumination comes on for all components except steering pad switch assembly	A
Illumination comes on for all components except navigation receiver assembly	B
Illumination comes on for all components except steering pad switch assembly and navigation receiver assembly	C

B ► GO TO STEP 6

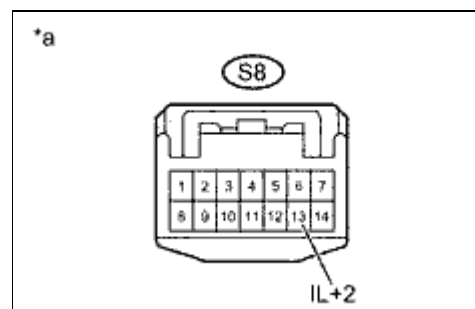
C ► GO TO STEP 7

A



2. CHECK HARNESS AND CONNECTOR (SPIRAL CABLE WITH SENSOR SUB-ASSEMBLY - BATTERY)

- (a) Disconnect the spiral cable with sensor sub-assembly connector.



- (b) Measure the voltage according to the value(s) in the table below.

Standard Voltage:

TESTER CONNECTION	SWITCH CONDITION	SPECIFIED CONDITION
S8-13 (IL+2) - Body ground	Light control switch in the tail or head position	11 to 14 V

Text in Illustration

*a	Front view of wire harness connector (to Spiral Cable with Sensor Sub-assembly)
----	--

NG  **REPAIR OR REPLACE HARNESS OR CONNECTOR**

OK



3.	INSPECT STEERING PAD SWITCH ASSEMBLY
-----------	---

(a) Remove the steering pad switch assembly  .

(b) Inspect the steering pad switch assembly  .

NG  **REPLACE STEERING PAD SWITCH ASSEMBLY**

OK



4.	INSPECT SPIRAL CABLE WITH SENSOR SUB-ASSEMBLY
-----------	--

(a) Remove the spiral cable with sensor sub-assembly  .

(b) Inspect the spiral cable with sensor sub-assembly  .

NG  **REPLACE SPIRAL CABLE WITH SENSOR SUB-ASSEMBLY**

OK



5.	CHECK HARNESS AND CONNECTOR (SPIRAL CABLE WITH SENSOR SUB-ASSEMBLY - NAVIGATION RECEIVER ASSEMBLY)
-----------	---

(a) Disconnect the S8 spiral cable with sensor sub-assembly connector.

(b) Disconnect the N25 navigation receiver assembly connector.

(c) Measure the resistance according to the value(s) in the table below.

Standard Resistance:

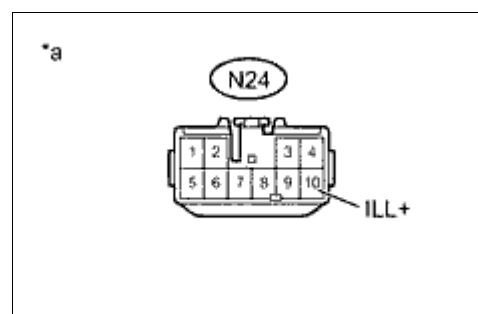
TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
N25-23 (SWG) - S8-3 (EAU)	Always	Below 1 Ω
N25-23 (SWG) - Body ground	Always	10 k Ω or higher

NG ► REPAIR OR REPLACE HARNESS OR CONNECTOR

OK ► PROCEED TO NEXT SUSPECTED AREA SHOWN IN PROBLEM SYMPTOMS TABLE

6.	CHECK HARNESS AND CONNECTOR (NAVIGATION RECEIVER ASSEMBLY - BATTERY)
-----------	---

(a) Disconnect the navigation receiver assembly connector.



(b) Measure the voltage according to the value(s) in the table below.

Standard Voltage:

TESTER CONNECTION	SWITCH CONDITION	SPECIFIED CONDITION
N24-10 (ILL+) - Body ground	Light control switch in the tail or head position	11 to 14 V

Text in Illustration

*a	Front view of wire harness connector (to Navigation Receiver Assembly)
----	---

NG ► REPAIR OR REPLACE HARNESS OR CONNECTOR

OK
▼

7.	CHECK HARNESS AND CONNECTOR (NAVIGATION RECEIVER ASSEMBLY - COMBINATION METER ASSEMBLY)
-----------	--

(a) Disconnect the N23 navigation receiver assembly connector.

(b) Disconnect the C9 combination meter assembly connector.

(c) Measure the resistance according to the value(s) in the table below.

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
N23-5 (ILL-) - C9-15 (ILL-)	Always	Below 1 Ω
N23-5 (ILL-) - Body ground	Always	10 k Ω or higher

NG  **REPAIR OR REPLACE HARNESS OR CONNECTOR**

OK  **PROCEED TO NEXT SUSPECTED AREA SHOWN IN
PROBLEM SYMPTOMS TABLE**



Last Modified: 11-13-2015	6.6 J	Doc ID: RM000000PNJ0UGX
Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: NAVIGATION: NAVIGATION SYSTEM: Illumination for Panel Switch does not Come on with Tail Switch ON; 2016 MY Tacoma [08/2015 -]		

Illumination for Panel Switch does not Come on with Tail Switch ON

INSPECTION PROCEDURE

PROCEDURE

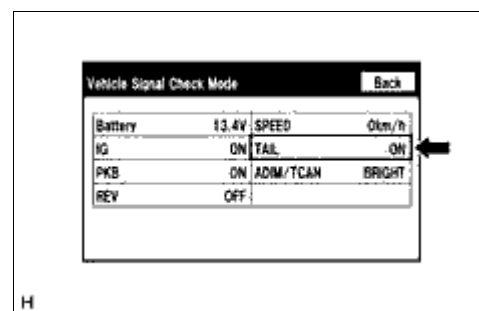
1.	CHECK VEHICLE SIGNAL (OPERATION CHECK)
-----------	---

(a) Enter the "Vehicle Signal Check Mode" screen. Refer to Check Vehicle Signal in Operation Check **INFO** .

(b) Check that the display changes between ON and OFF according to the light control switch operation.

OK:

LIGHT CONTROL SWITCH	DISPLAY
Tail or head	ON
Off	OFF



HINT:

This display is updated once per second. As a result, it is normal for the display to lag behind the actual switch operation.

NG ► **PROCEED TO NEXT SUSPECTED AREA SHOWN IN PROBLEM SYMPTOMS TABLE**

OK ► **REPLACE NAVIGATION RECEIVER ASSEMBLY**



Last Modified: 11-13-2015	6.6 J	Doc ID: RM000002NND0WRX
Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: NAVIGATION: NAVIGATION SYSTEM: Microphone Circuit between Microphone and Radio Receiver; 2016 MY Tacoma [08/2015 -]		

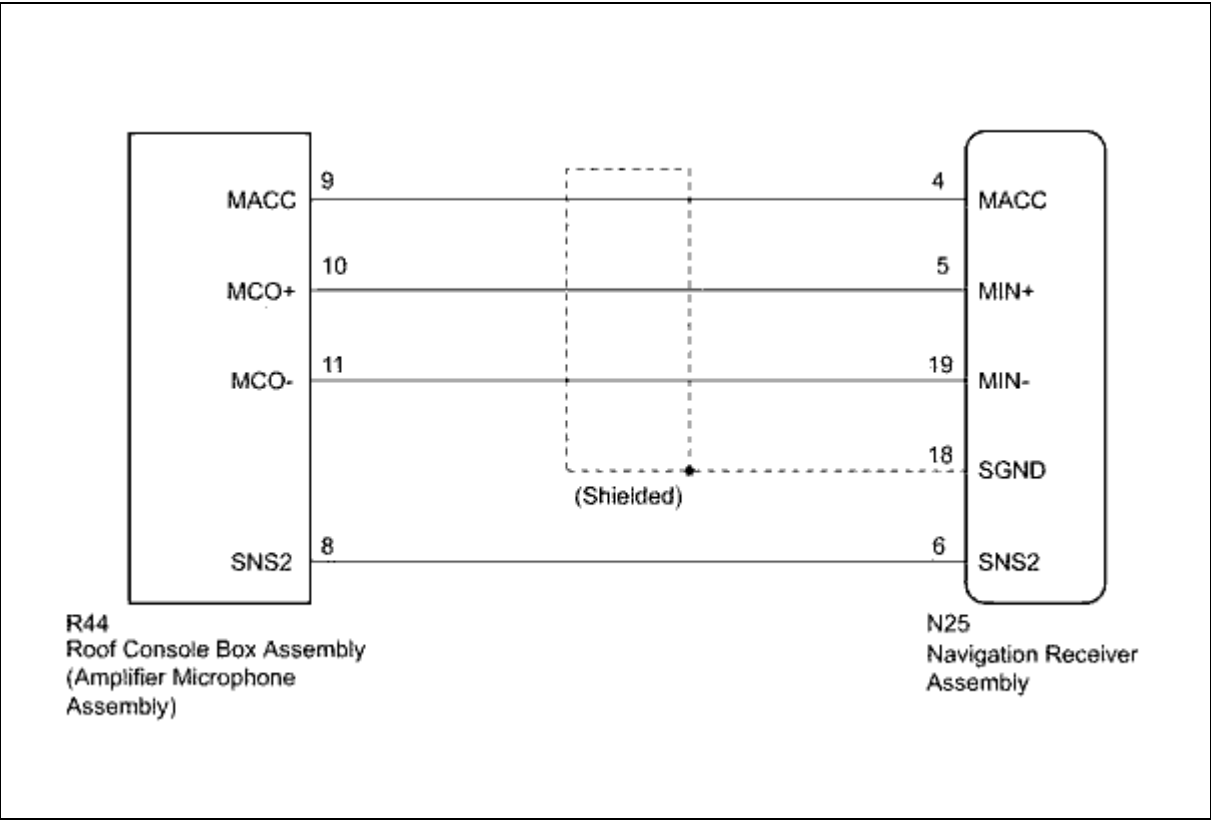
Microphone Circuit between Microphone and Radio Receiver

DESCRIPTION

The navigation receiver assembly and roof console box assembly (amplifier microphone assembly) are connected to each other using the microphone connection detection signal lines.

Using this circuit, the navigation receiver assembly sends power to the roof console box assembly (amplifier microphone assembly), and the roof console box assembly (amplifier microphone assembly) sends microphone signals to the navigation receiver assembly.

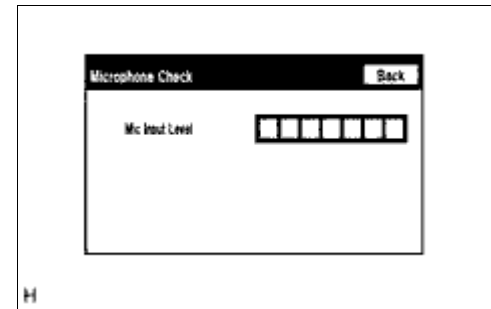
WIRING DIAGRAM



INSPECTION PROCEDURE

PROCEDURE

1.	CHECK MICROPHONE
----	------------------



- (a) Enter the "Microphone Check" screen. Refer to Check Microphone in Operation Check **INFO** .

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

OK:

Check result is normal.

NG **GO TO STEP 2**

OK **PROCEED TO NEXT SUSPECTED AREA SHOWN IN PROBLEM SYMPTOMS TABLE**

2.	CHECK HARNESS AND CONNECTOR (NAVIGATION RECEIVER ASSEMBLY - AMPLIFIER MICROPHONE ASSEMBLY)
-----------	---

- (a) Disconnect the N25 navigation receiver assembly connector.
- (b) Disconnect the R44 roof console box assembly (amplifier microphone assembly) connector.
- (c) Measure the resistance according to the value(s) in the table below.

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
N25-4 (MACC) - R44-9 (MACC)	Always	Below 1 Ω
N25-5 (MIN+) - R44-10 (MCO+)	Always	Below 1 Ω
N25-19 (MIN-) - R44-11 (MCO-)	Always	Below 1 Ω
N25-6 (SNS2) - R44-8 (SNS2)	Always	Below 1 Ω
N25-4 (MACC) - Body ground	Always	10 k Ω or higher
N25-5 (MIN+) - Body ground	Always	10 k Ω or higher
N25-19 (MIN-) - Body ground	Always	10 k Ω or higher
N25-18 (SGND) - Body ground	Always	10 k Ω or higher
N25-6 (SNS2) - Body ground	Always	10 k Ω or higher

- (d) Reconnect the navigation receiver assembly connector.
- (e) Reconnect the roof console box assembly (amplifier microphone assembly) connector.

NG **REPAIR OR REPLACE HARNESS OR CONNECTOR**

OK

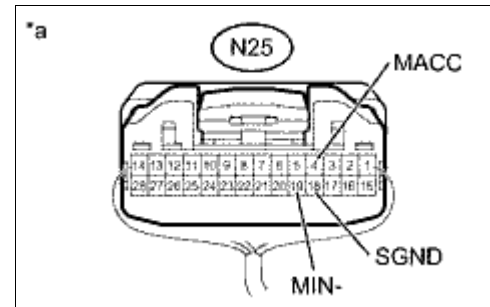


3. INSPECT NAVIGATION RECEIVER ASSEMBLY

(a) Measure the voltage according to the value(s) in the table below.

Standard Voltage:

TESTER CONNECTION	SWITCH CONDITION	SPECIFIED CONDITION
N25-4 (MACC) - Body ground	Ignition switch ACC	4 to 6 V



(b) Measure the resistance according to the value(s) in the table below.

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
N25-19 (MIN-) - Body ground	Always	Below 1 Ω
N25-18 (SGND) - Body ground	Always	Below 1 Ω

Text in Illustration

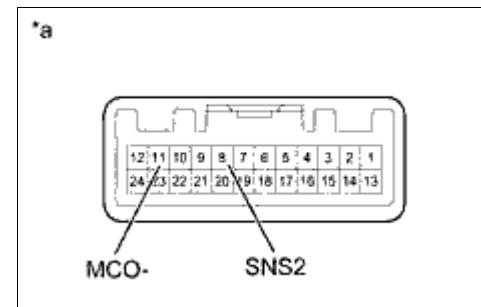
*a	Component with harness connected (Navigation Receiver Assembly)
----	--

NG REPLACE NAVIGATION RECEIVER ASSEMBLY

OK



4. INSPECT ROOF CONSOLE BOX ASSEMBLY (AMPLIFIER MICROPHONE ASSEMBLY)



(a) Remove the roof console box assembly (amplifier microphone assembly) **INFO** .

(b) Measure the resistance according to the value(s) in the table below.

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
8 (SNS2) - 11(MCO-)	Always	Below 1 Ω

Text in Illustration

*a	Component without harness connected (Roof Console Box Assembly (Amplifier Microphone Assembly))
----	--

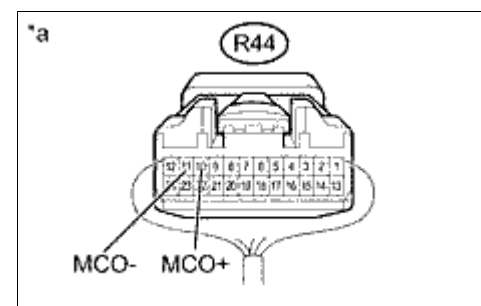
(c) Install the roof console box assembly (amplifier microphone assembly).

NG ► **REPLACE ROOF CONSOLE BOX ASSEMBLY (AMPLIFIER MICROPHONE ASSEMBLY)**

OK



5.	INSPECT ROOF CONSOLE BOX ASSEMBLY (AMPLIFIER MICROPHONE ASSEMBLY)
-----------	--



(a) Turn the ignition switch to ACC.

(b) Connect an oscilloscope to terminals 10 (MCO+) and 11 (MCO-) of the roof console box assembly (amplifier microphone assembly) connector.

(c) Check the waveform of the roof console box assembly (amplifier microphone assembly) using the oscilloscope.

Result

RESULT	PROCEED TO
A waveform synchronized with the voice input to the roof console box assembly (amplifier microphone assembly) is output	A
A waveform synchronized with the voice input to the roof console box assembly (amplifier microphone assembly) is not output	B

Text in Illustration

*a	Component with harness connected (Roof Console Box Assembly (Amplifier Microphone Assembly))
----	---

B ▶ **REPLACE ROOF CONSOLE BOX ASSEMBLY
(AMPLIFIER MICROPHONE ASSEMBLY)**

A ▶ **PROCEED TO NEXT SUSPECTED AREA SHOWN IN
PROBLEM SYMPTOMS TABLE**



Last Modified: 11-13-2015	6.6 J	Doc ID: RM0000020QH08QX
Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: NAVIGATION: NAVIGATION SYSTEM: Mute Signal Circuit between Radio Receiver and Stereo Component Amplifier; 2016 MY Tacoma [08/2015 -]		

Mute Signal Circuit between Radio Receiver and Stereo Component Amplifier

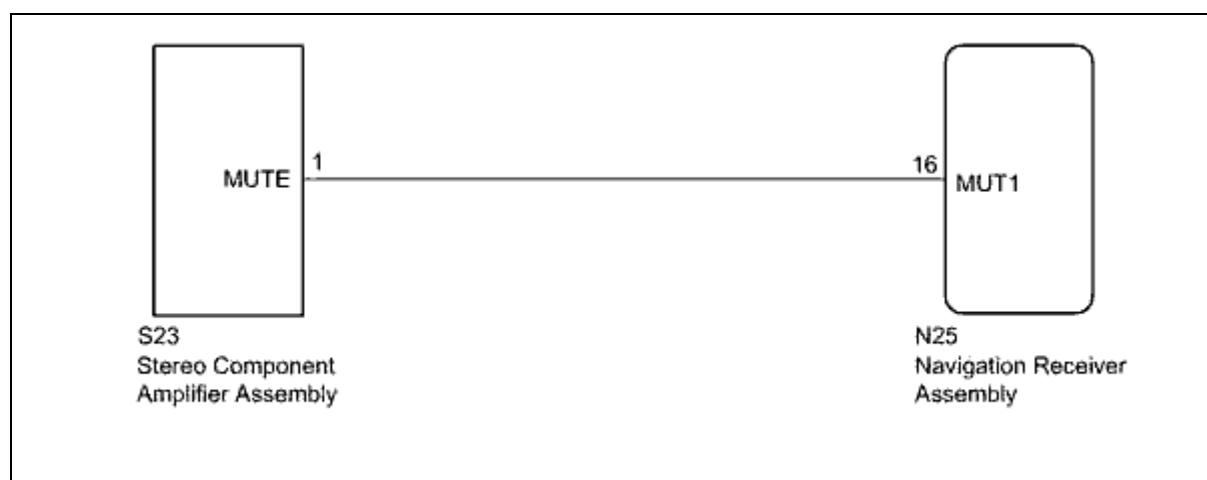
DESCRIPTION

This circuit sends a signal to the stereo component amplifier assembly to mute noise. Because of that, 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 assembly is functioning normally, no sound or only an extremely faint sound can be heard.

WIRING DIAGRAM



INSPECTION PROCEDURE

PROCEDURE

1.	INSPECT STEREO COMPONENT AMPLIFIER ASSEMBLY
-----------	--

(a) Remove the stereo component amplifier assembly with connectors still connected.

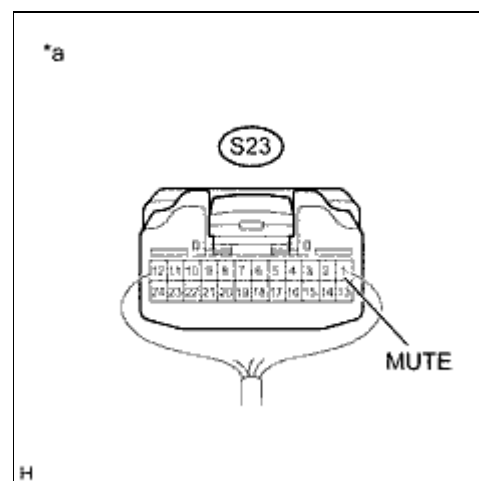
(b) Measure the voltage according to the value(s) in the table below.

Standard Voltage:

TESTER CONNECTION	SWITCH CONDITION	SPECIFIED CONDITION
S23-1 (MUTE) - Body ground	Ignition switch ACC, audio system playing → Changing modes	Above 3.5 V → Below 1 V

Text in Illustration

*a	Component with harness connected (Stereo Component Amplifier Assembly)
----	---



NG ► GO TO STEP 2

OK ► PROCEED TO NEXT SUSPECTED AREA SHOWN IN PROBLEM SYMPTOMS TABLE

2.	CHECK HARNESS AND CONNECTOR (NAVIGATION RECEIVER ASSEMBLY - STEREO COMPONENT AMPLIFIER ASSEMBLY)
----	---

- (a) Disconnect the N25 navigation receiver assembly connector.
- (b) Disconnect the S23 stereo component amplifier assembly connector.
- (c) Measure the resistance according to the value(s) in the table below.

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
N25-16 (MUT1) - S23-1 (MUTE)	Always	Below 1 Ω
N25-16 (MUT1) - Body ground	Always	10 k Ω or higher

NG ► REPAIR OR REPLACE HARNESS OR CONNECTOR

OK
▼

3.	INSPECT STEREO COMPONENT AMPLIFIER ASSEMBLY (OUTPUT SIGNAL)
----	--

(a) Reconnect the S23 stereo component amplifier assembly connector.

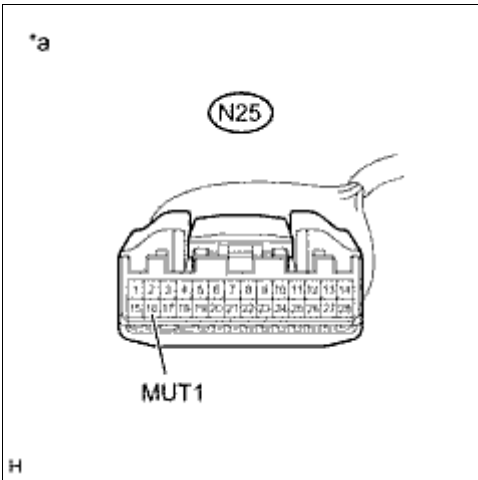
(b) Measure the voltage according to the value(s) in the table below.

Standard Voltage:

TESTER CONNECTION	SWITCH CONDITION	SPECIFIED CONDITION
N25-16 (MUT1) - Body ground	Ignition switch ACC, audio system is playing	Above 3.5 V

Text in Illustration

*a	Front view of wire harness connector (to Navigation Receiver Assembly)
----	--



NG ► REPLACE STEREO COMPONENT AMPLIFIER ASSEMBLY

OK ► REPLACE NAVIGATION RECEIVER ASSEMBLY



Last Modified: 11-13-2015	6.6 J	Doc ID: RM0000020N80J3X
Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: NAVIGATION: NAVIGATION SYSTEM: No Sound can be Heard from Speakers; 2016 MY Tacoma [08/2015 -]		

No Sound can be Heard from Speakers

INSPECTION PROCEDURE

PROCEDURE

1.	CHECK AUDIO SETTINGS
-----------	-----------------------------

- (a) Display the "Sound Settings" screen.
- (b) Set volume, fader and balance to the initial values and check that sound is normal.
- OK:
Audio system returns to normal.

HINT:

Sound quality adjustment measures vary according to the type of amplifier.

NG ► **PROCEED TO NEXT SUSPECTED AREA SHOWN IN PROBLEM SYMPTOMS TABLE**

OK ► **END**



Last Modified: 11-13-2015	6.6 J	Doc ID: RM000000NL514UX
Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: NAVIGATION: NAVIGATION SYSTEM: Noise Occurs; 2016 MY Tacoma [08/2015 -]		

Noise Occurs

INSPECTION PROCEDURE

PROCEDURE

1.	NOISE CONDITION
-----------	------------------------

(a) Check from which direction the noise comes (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 SPEAKERS
-----------	-----------------------

(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.

Result

RESULT	PROCEED TO
No malfunction is found	A
A speaker is installed incorrectly	B
Foreign objects are in the speaker	C
A speaker cone paper is broken	D

B ► **REINSTALL SPEAKER**

C ► **REMOVE FOREIGN OBJECT**

D ► **REPLACE SPEAKER**

A

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.

CONDITION UNDER WHICH NOISE OCCURS	NOISE SOURCE
Noise increases when the accelerator pedal is depressed, but stops when the engine is stopped.	Generator
Noise occurs during A/C or heater operation.	Blower motor
Noise occurs when the horn switch is pressed and released or when pressed and held.	Horn
Noise occurs synchronously with the turn signal blinking pattern.	Flasher
Noise occurs during window washer operation.	Washer
Noise occurs during wiper operation.	Wiper
Noise occurs when the brake pedal is depressed.	Stop light switch
Others.	Static electricity

HINT:

- In the left column of the table, find the situation that matches the customer's complaint. Then, in the right column, find the part that is causing the noise. Check the respective noise filter.
- To save time and avoid a misdiagnosis, first make sure that the noise is not coming from outside the vehicle.
- Troubleshoot noises 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 cannot be determined.

NG **REPAIR OR REPLACE NOISE SOURCE**

OK **PROCEED TO NEXT SUSPECTED AREA SHOWN IN PROBLEM SYMPTOMS TABLE**



Last Modified: 11-13-2015	6.6 J	Doc ID: RM000003UOW0T6X
Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: NAVIGATION: NAVIGATION SYSTEM: Noise Occurs or Sound Skips when Portable Player Plays; 2016 MY Tacoma [08/2015 -]		

Noise Occurs or Sound Skips when Portable Player Plays

INSPECTION PROCEDURE

HINT:

- Perform this check with the portable player volume set at an appropriate level.
- Make sure that there are no obstructions between the portable player and navigation receiver assembly that may block signals, and that the portable player and navigation receiver assembly are not excessively far apart.
- Make sure that devices other than the navigation receiver assembly are not connected to the portable player.
- Make sure that there is no interference from a wireless LAN, etc.

PROCEDURE

1. CHECK USING ANOTHER "Bluetooth" AUDIO COMPATIBLE VEHICLE OF SAME MODEL

- (a) Check that the same problem does not occur in the sound heard from the speakers on another "Bluetooth" audio compatible vehicle of the same model.

OK:

The same problem does not occur in the sound heard from the speakers.

NG ► **MALFUNCTION IN PORTABLE PLAYER**

OK



2. REMOVE ADDITIONAL DEVICES WHICH USE RADIO WAVES

- (a) Remove additional devices which use radio waves.
- (b) Play the portable player and check that the same problem does not occur in the sound heard from the speakers.

OK:

The same problem does not occur in the sound heard from the speakers.

NG ► **PROCEED TO NEXT SUSPECTED AREA SHOWN IN PROBLEM SYMPTOMS TABLE**

OK ► **END**



Last Modified: 11-13-2015	6.6 D	Doc ID: RM000003SKF0MHX
Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: NAVIGATION: NAVIGATION SYSTEM: OPERATION CHECK; 2016 MY Tacoma [08/2015 -]		

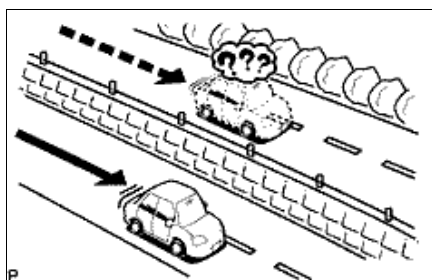
OPERATION CHECK

1. CHECK NAVIGATION SYSTEM NORMAL CONDITION

(a) If the symptom is applicable to any of the following, it is intended behavior, and not a malfunction.

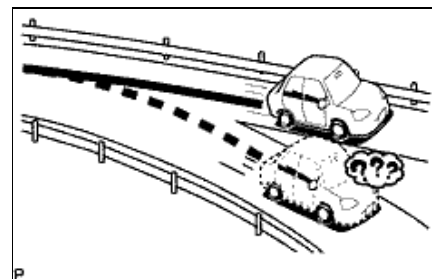
SYMPTOM	ANSWER
A longer route than expected is chosen.	Depending on the road conditions, the navigation receiver assembly may determine that a longer route is quicker.
Even when distance priority is high, the shortest route is not shown.	Some routes may not be advised due to safety concerns.
When the vehicle is put into motion immediately after the engine starts, the navigation system deviates from the correct position.	If the vehicle starts before the navigation system activates, the system may not react.
When driving on certain types of roads, especially new roads, the vehicle position deviates from the correct position.	When the vehicle is driving on new roads not available on the SD card, the system attempts to match it to another nearby road, causing the position mark to deviate.
Expected arrival time is earlier than current time, or time different from expected arrival time is displayed.	If a destination is set to a point where a different time zone is used, the system displays an expected arrival time corresponding to the time zone of the destination. If a location on the sea is set as the destination, the system may display an expected arrival time corresponding to the time zone setting of the vehicle. Check which communication is not used for displaying traffic information.

(b) The following symptoms are not malfunctions, but are caused by errors inherent in the GPS, gyro sensor, speed sensor or navigation receiver assembly.

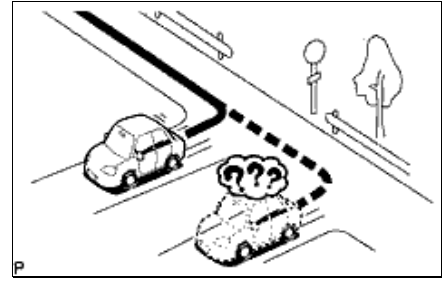


(1) The current position mark may be displayed on a nearby parallel road.

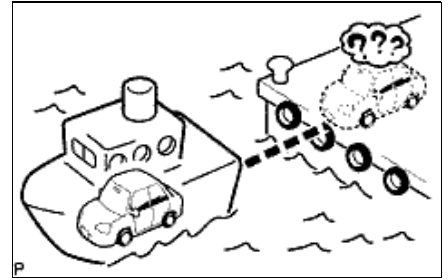
(2) Immediately after a fork in the road, the current vehicle position mark may be displayed on the wrong road.



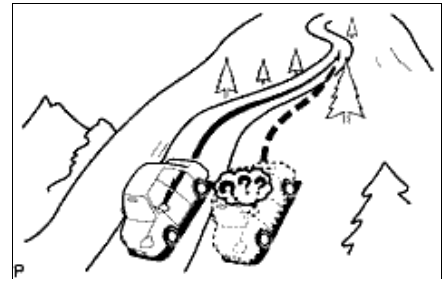
- (3) When the vehicle turns right or left at an intersection, the current vehicle position mark may be displayed on a nearby parallel road.



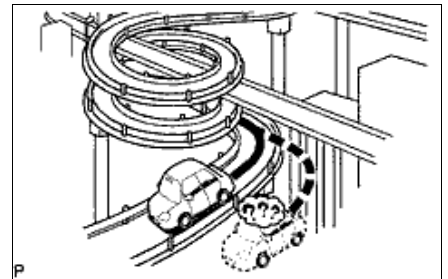
- (4) When the vehicle is carried, such as on a ferry, and the vehicle itself is not driving, the current vehicle position mark may be displayed in the position where the vehicle was until a measurement can be performed by the GPS.



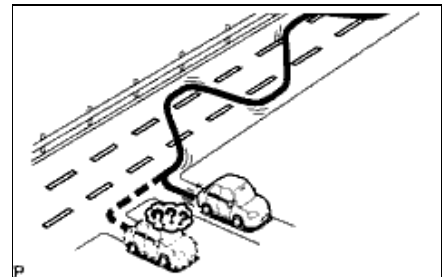
- (5) When the vehicle travels on a steep hill, the current vehicle position mark may deviate from the correct position.



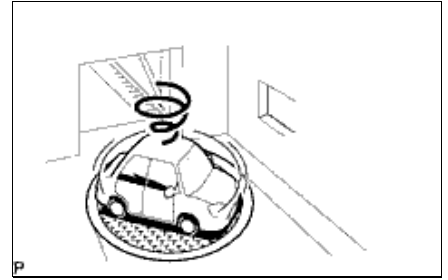
- (6) When the vehicle makes a continuous turn (e.g. 360, 720, 1080 degrees), the current vehicle position mark may deviate from the correct position.



- (7) When the vehicle moves erratically, such as constant lane changes, the current vehicle position mark may deviate from the correct position.



- (8) When the ignition switch is turned to ACC or ON and the vehicle is turned on a turntable before parking, the current vehicle position mark may not indicate the correct direction. The same will occur when the vehicle comes out of the parking garage.



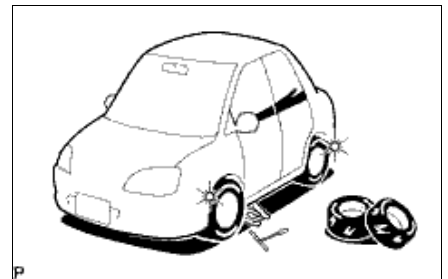
- (9) When the vehicle travels on a snowy road or a mountain path with tire chains installed or using a spare tire, the current vehicle position mark may deviate from the correct position.



- (10) When the tires are changed, the current vehicle position mark may deviate from the correct position.

HINT:

- A change in tire diameter may cause a speed sensor error.
- Performing "tire change" in calibration mode will allow the system to correct the current vehicle position faster.



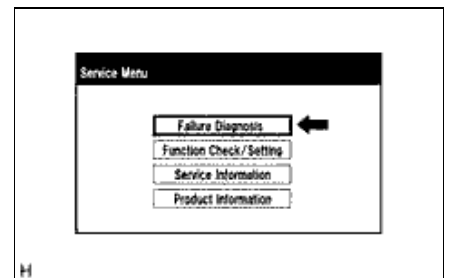
2. CHECK SD CARD

HINT:

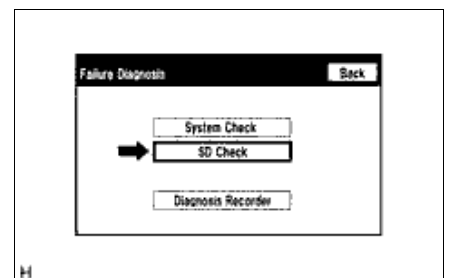
- Check the SD card installed in the navigation receiver assembly.
- Illustrations may differ from the actual vehicle screen depending on the device settings and options. Therefore, some detailed areas may not be shown exactly the same as on the actual vehicle screen.

- (a) Enter diagnostic mode **INFO** .

- (b) Select "Failure Diagnosis" from the "Service Menu" screen.



- (c) Select "SD Check" from the "Failure Diagnosis" screen.

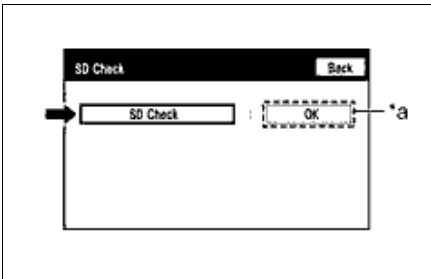


(d) SD Check

(1) Select "SD Check" to start the SD card check.

Text in Illustration

*a	Result
----	--------



(2) Check the result displayed when the SD check is complete.

Screen Description

DISPLAY (RESULT)	DESCRIPTION
Checking	Check is in progress
OK	SD card is normal
NG	SD card is malfunctioning

HINT:

- After selecting "SD Check", it may take a while until the result is displayed.
- If the cabin temperature is -20°C (-4°F) or lower, or 65°C (149°F) or higher, the SD card may not operate normally, and "NG" may be shown on the display. Make sure to perform the inspection with the cabin at an appropriate temperature.
- If "NG" is displayed even when the cabin temperature is appropriate, replace the SD card with a new one.

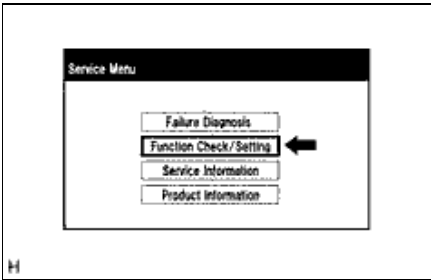
3. CHECK PANEL & STEERING SWITCH

HINT:

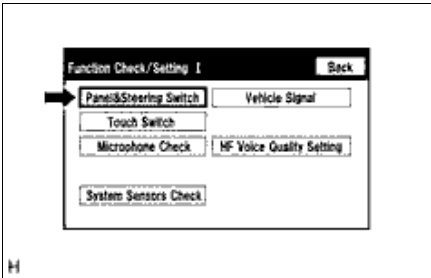
- The navigation receiver assembly panel switches and steering switches are checked in the following procedure.
- Illustrations may differ from the actual vehicle screen depending on the device settings and options. Therefore, some detailed areas may not be shown exactly the same as on the actual vehicle screen.

(a) Enter diagnostic mode INFO .

(b) Select "Function Check/Setting" from the "Service Menu" screen.



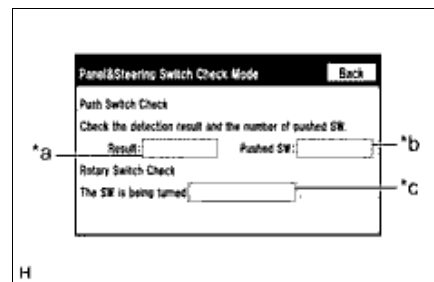
(c) Select "Panel & Steering Switch" from the "Function Check/Setting I" screen.



(d) Panel & Steering Switch Check Mode

Screen Description

DISPLAY	CONTENT
*a: Switch condition	"Pushed" is displayed when any switch is pushed
*b: Number of pushed switch	- Number of switches pushed at once is displayed - If more than 3 switches are pushed at once, "More than 3" is displayed
*c: Rotary switch direction	Direction of rotary switch is displayed



- (1) Operate each switch and check that the switch conditions are correctly displayed.

NOTICE:

When the "APPS" switch is pressed and held for 3 seconds or more, diagnostic mode will be canceled.

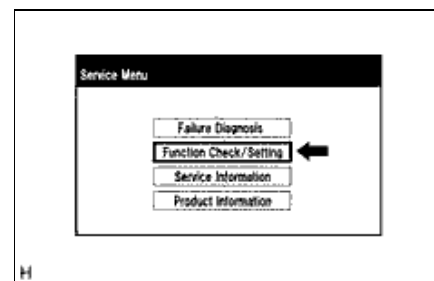
4. CHECK TOUCH SWITCH

HINT:

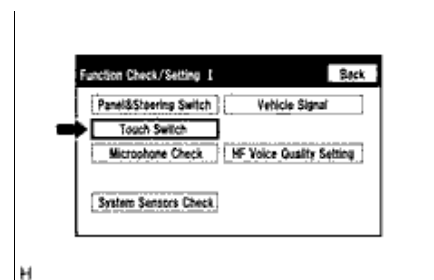
- The touch switches on the screen are checked in the following procedure.
- Illustrations may differ from the actual vehicle screen depending on the device settings and options. Therefore, some detailed areas may not be shown exactly the same as on the actual vehicle screen.

- (a) Enter diagnostic mode **INFO** .

- (b) Select "Function Check/Setting" from the "Service Menu" screen.



- (c) Select "Touch Switch" from the "Function Check/Setting I" screen.

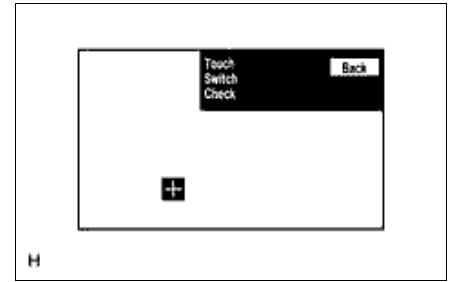


(d) Touch Switch Check

- (1) 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.
- The "+" mark remains on the display even after the finger is removed.



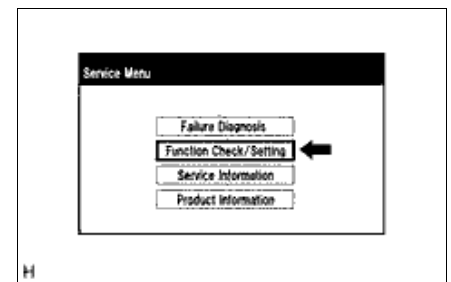
5. CHECK VEHICLE SIGNALS

HINT:

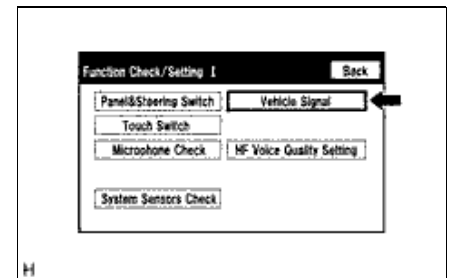
- Vehicle signals received by the navigation receiver assembly are checked in the following procedure.
- Illustrations may differ from the actual vehicle screen depending on the device settings and options. Therefore, some detailed areas may not be shown exactly the same as on the actual vehicle screen.

- (a) Enter diagnostic mode **INFO** .

- (b) Select "Function Check/Setting" from the "Service Menu" screen.



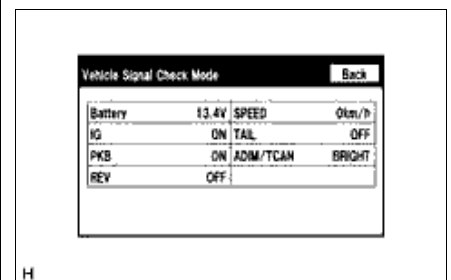
- (c) Select "Vehicle Signal" from the "Function Check/Setting I" screen.



- (d) Vehicle Signal Check Mode

Screen Description

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



HINT:

- Only items sending vehicle signals will be displayed.
- This screen displays vehicle signals input to the navigation receiver assembly.
- This screen is updated once per second when vehicle input signals change.

- (1) When the "Vehicle Signal Check Mode" screen is displayed, check all the vehicle signal conditions.

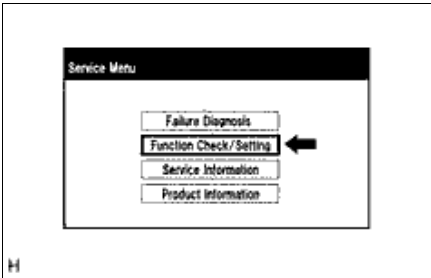
6. CHECK MICROPHONE

HINT:

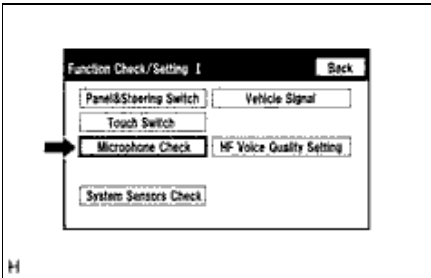
- The microphone and microphone input level are checked in the following procedure.
- Illustrations may differ from the actual vehicle screen depending on the device settings and options. Therefore, some detailed areas may not be shown exactly the same as on the actual vehicle screen.

(a) Enter diagnostic mode  .

(b) Select "Function Check/Setting" from the "Service Menu" screen.



(c) Select "Microphone Check" from the "Function Check/Setting I" screen.



(d) Microphone Test

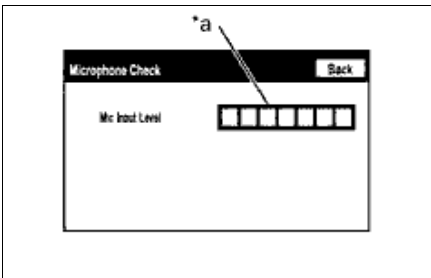
Screen Description

DISPLAY	CONTENT
*a: Microphone input level meter	Monitors the microphone input level every 0.1 seconds and displays the results in 8 different levels.

- (1) When speaking into the microphone, check that the microphone input level meter changes according to the input level.

HINT:

The microphone is active at all times when this screen is displayed.



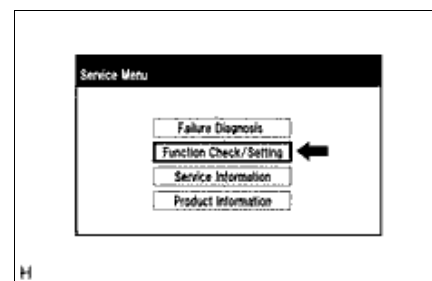
7. CHECK SYSTEM SENSORS

HINT:

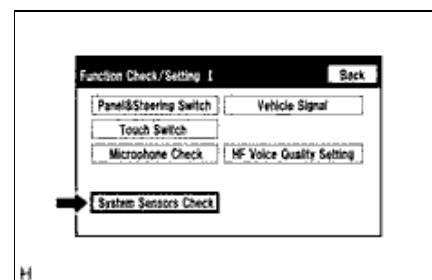
- GPS information, vehicle signals and sensor signals are checked in the following procedure.
- Illustrations may differ from the actual vehicle screen depending on the device settings and options. Therefore, some detailed areas may not be shown exactly the same as on the actual vehicle screen.

(a) Enter diagnostic mode  .

(b) Select "Function Check/Setting" from the "Service Menu" screen.



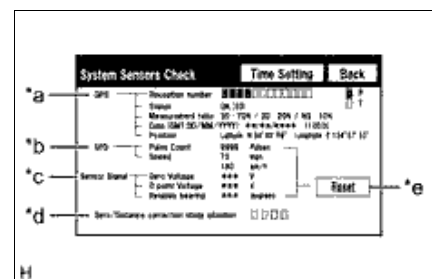
(c) Select "System Sensors Check" from the "Function Check/Setting I" screen.



(d) System Sensors Check

***a: GPS**

DISPLAY	CONTENT		
Reception number	Displays reception condition of the satellites used to determine vehicle position	Blue: P (In use)	System is using GPS signal for location.
		Yellow: T (Receiving)	System is tracking GPS signal for location.
		No color: Not in use	System cannot receive GPS signal (searching for GPS signal).
Status	Displays reception status of the satellites used to determine vehicle position	OK(H3D)	High accuracy 3-dimensional location method is being used.
		OK(H2D)	High accuracy 2-dimensional location method is being used.
		OK(3D)	3-dimensional location method is being used.
		OK(2D)	2-dimensional location method is being used.
		NG	Location data cannot be used.
		error	Reception error has occurred.
		-	Any other state.
Measurement ratio	Displays the ratio of satellites performing measurements	3D	The ratio of satellites performing 3D positioning, Hyper 3D positioning and Hyper 2D positioning is displayed.



DISPLAY	CONTENT	
	2D	The ratio of satellites performing 2D positioning is displayed.
	NG	The ratio of satellites not performing measurement is displayed.
Date	Date/time information obtained from GPS signals is displayed in Greenwich Mean Time (GMT).	
Position	Latitude and longitude information on current position is displayed.	

***b: SPD**

DISPLAY	CONTENT
Pulse Count	Displays the accumulated number of input pulses beginning when this screen is displayed
Speed	Displays vehicle speed (km/h)

***c: Sensor Signal**

DISPLAY	CONTENT	NOTE
Gyro Voltage	Displays the output voltage of the gyro sensor	-
0 point Voltage	Displays the zero-point voltage of the gyro sensor	-
Relative bearing	Displays the output angle of the gyro sensor	The amount of change in bearing angle (degrees) after the system sensor check screen is displayed (clockwise: "+", counterclockwise: "-").

***d: Gyro/Distance correction study situation**

DISPLAY	CONTENT
Gyro/Distance correction study situation	Displays learning status of Gyro/Distance correction

***e: Reset**

DISPLAY	CONTENT
Reset	When this switch is pressed and held for 3 seconds or more, the values for the display items of SPD and Sensor Signal are reset and display "0".

- (1) When the "System Sensors Check" screen is displayed, check all the sensor signals.

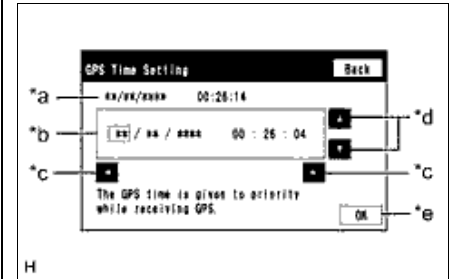
HINT:

This screen is updated once per second.

(e) GPS Time Setting

Screen Description

DISPLAY	CONTENT
*a: Time display	Displays the date and time in the device.
*b: Time setting screen	Setting is possible only when GPS signals are not being received.
*c: Cursor movement switch	Moves the cursor on the date and time setting screen to the right and left.
*d: Adjustment switch	Adjusts values of items selected by the cursor.
*e: OK switch	Selecting this switch after setting the date and time updates the date and time in the device (only when GPS signals are not being received).



- (1) When GPS signals are not being received, the date and time in the device can be adjusted.

HINT:

Time setting is possible only when GPS signals are not being received. When the navigation system is receiving GPS signals, priority is given to displaying the time and date received via GPS.

8. ENTUNE RESET PROCEDURE (w/ Entune Function)

- (a) Duplicate the problem symptom.
- (b) Check for DTCs and repair the systems for which any DTCs are output **INFO** .
- (c) Check cellular phone compatibility.
- (1) Go to Toyota website and check if the cellular phone/vehicle is compatible.
- (2) If the cellular phone is not compatible, recommend to the customer a compatible cellular phone.
- (d) Delete all paired devices from the cellular phone.
- (1) The procedure varies based on phone model. Contact the service provider or cellular phone manufacturer if assistance is required.
- (e) Remove the Entune app from the phone.

NOTICE:

Only perform this step if the customer is present and approves.

- (1) The procedure varies based on phone model. Contact the service provider or cellular phone manufacturer if assistance is required.
- (f) Reset the phone.

NOTICE:

Only perform this step if the customer is present and approves.

- (1) Turn off the phone and remove the battery for 15 seconds. For instructions on how to reset cellular devices, refer to the appropriate manufacturer's website.
- (g) Reinstall the Entune app on the phone. (If removed.)
- (1) The procedure varies based on phone model. Contact the service provider or cellular phone manufacturer if assistance is required.
- (h) Delete all personal data from the head unit.
- (1) Delete all personal data from the head unit.

NOTICE:

Only perform this step if the customer is present and approves.

HINT:

Re-installation of applications must be completed before applications will appear on the head unit.

- (i) Disconnect the cable from the negative (-) battery terminal.

NOTICE:

After turning the ignition switch off, waiting time may be required before disconnecting the cable from the negative (-) battery terminal. Therefore, make sure to read the disconnecting the cable from the negative (-) battery terminal notices before proceeding with work **INFO**.

- (1) Record all radio station presets.

- (2) Disconnect the cable from the negative (-) battery and leave it disconnected for 2 minutes.

- (j) Check if the problem symptom has been repaired.

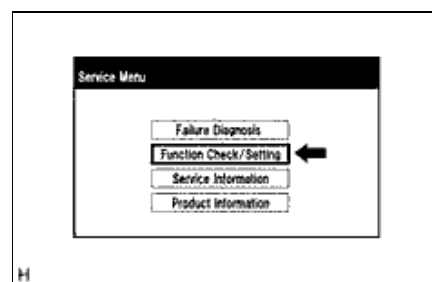
9. CHECK HANDS-FREE VOICE QUALITY SETTING

HINT:

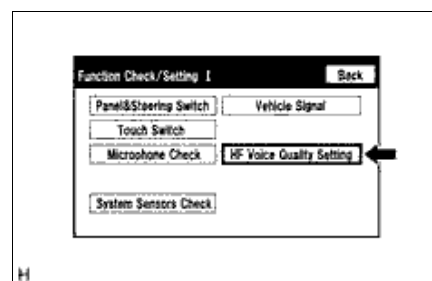
- The hands-free voice of a "Bluetooth" compatible phone can be adjusted using the following procedure
- Illustrations may differ from the actual vehicle screen depending on the device settings and options. Therefore, some detailed areas may not be shown exactly the same as on the actual vehicle screen.

- (a) Enter diagnostic mode **INFO**.

- (b) Select "Function Check/Setting" from the "Service Menu" screen.



- (c) Select "HF Voice Quality Setting" from the "Function Check/Setting I" screen.

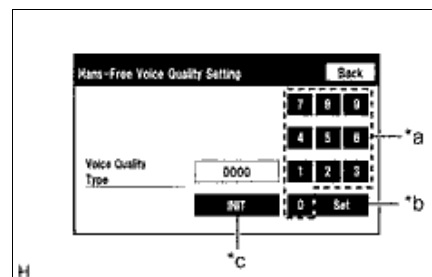


- (d) Hands-Free Voice Quality Setting

Text in Illustration

*a	Numeric Keypad
*b	Setting Button
*c	Reset Button

- (1) If necessary, refer to the table below to adjust the voice quality type with the numeric keypad.
- (2) When adjusting the settings, use the number pad on the screen to input the voice quality type according to the table.



Settings

PARAMETER	TARGET PHENOMENON	VOICE QUALITY TYPE	POSITIVE EFFECT OF CHANGING VOICE QUALITY	NEGATIVE EFFECT OF CHANGING VOICE QUALITY
A (Noise)	The other party hears background noise when listening to your voice.	1000	The amount of background noise the other party hears when listening to your voice is reduced.	The volume of voice the other party hears when listening to your voice may temporarily drop.
B (Noise)	The other party hears a lot of background noise when listening to your voice.	2000	The amount of background noise the other party hears when listening to your voice is sharply reduced.	The volume of voice the other party hears when listening to your voice may temporarily drop.
C (Echo)	The other party hears weak echoes.	0100	The amount of echo is reduced (low level).	Sound quality of the other party deteriorates (low level).
D (Echo)	The other party hears strong echoes.	0200	The amount of echo is reduced (high level).	Sound quality of the other party deteriorates (high level).

Settings (When Multiple Phenomenon Occurred)

PARAMETER	TARGET PHENOMENON	VOICE QUALITY TYPE	POSITIVE EFFECT OF CHANGING VOICE QUALITY	NEGATIVE EFFECT OF CHANGING VOICE QUALITY
A+C	The other party hears background noise and weak echoes when listening to your voice.	1100	- The amount of background noise the other party hears when listening to your voice is reduced. - The amount of echo is reduced (low level).	- The volume of voice may drop temporarily. - Sound quality of the other party deteriorates (low level).
A+D	The other party hears background noise and strong echoes when listening to your voice.	1200	The amount of background noise the other party hears when listening to	- The volume of voice may drop temporarily. - Sound quality of the other

PARAMETER	TARGET PHENOMENON	VOICE QUALITY TYPE	POSITIVE EFFECT OF CHANGING VOICE QUALITY	NEGATIVE EFFECT OF CHANGING VOICE QUALITY
			your voice is reduced. • The amount of echo is reduced (high level).	party deteriorates (high level).
B+C	The other party hears a lot of background noise and weak echoes when listening to your voice.	2100	• The amount of background noise the other party hears when listening to your voice is sharply reduced. • The amount of echo is reduced (low level).	• The volume of voice may drop temporarily. • Sound quality of the other party deteriorates (low level).
B+D	The other party hears a lot of background noise and strong echoes when listening to your voice.	2200	• The amount of background noise the other party hears when listening to your voice is sharply reduced. • The amount of echo is reduced (high level).	• The volume of voice may drop temporarily. • Sound quality of the other party deteriorates (high level).

HINT:

- The default value is "0000".
- Settings will be applied when the setting button is selected.
- If voice quality type values that are not in the table are input, the setting will not be applied and a positive effect may not be gained.
- If the quality of phone calls decreases due to the changed settings, return the settings to "0000" by pressing the "INIT" switch.

10. CHECK SPEAKER**HINT:**

- This function is used when checking the speaker wiring and whether the speakers are functioning properly.

- Illustrations may differ from the actual vehicle screen depending on the device settings and options. Therefore, some detailed areas may not be shown exactly the same as on the actual vehicle screen.

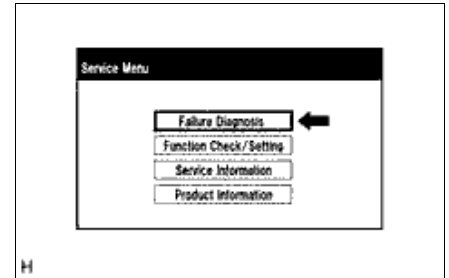
(a) Turn audio mode on and play any audio source.

HINT:

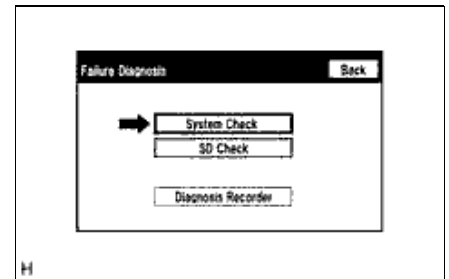
This audio source will be used for the speaker check.

(b) Enter diagnostic mode **INFO** .

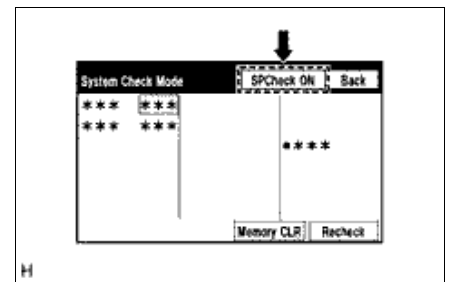
(c) Select "Failure Diagnosis" from the "Service Menu" screen.



(d) Select "System Check" from the "Failure Diagnosis" screen.



(e) Select "SP Check ON" from the "System Check Mode" screen.



(f) Check the speaker wiring and check that the speakers are functioning properly.

HINT:

- Check that each speaker outputs sound from the selected audio source properly.
- "SP Check OFF" is displayed during the speaker check.
- Sound can be heard from the speakers around the vehicle in order beginning from a speaker on the front side.
- More than one speaker may sound simultaneously depending on the speaker wiring.

(g) Sound stops when any of the following conditions are met:

- (1) The "SP Check OFF" switch is pressed.
- (2) The ignition switch is turned off.
- (3) Diagnostic mode is turned off.
- (4) The screen is changed to another screen.
- (5) Audio mode is turned off.

11. CHECK SOFTWARE ERROR HISTORY

HINT:

This function is used to check the cause when the navigation receiver assembly screen is blacked out.

(a) Check Software Error History.

(1) Connect the Techstream to the DLC3.

(2) Turn the ignition switch to ON.

(3) Turn the Techstream on.

(4) Enter the following menus: Body Electrical / Navigation System/ Utility / Software Error History.

(5) When an item is stored for Software Error History, record it before repairing the navigation receiver assembly.

Software Error History Screen Description

ERROR DESCRIPTION	TRIGGER	DETAIL
Software Reset	Navi Microcomputer	Hexadecimal Number
	Audio Microcomputer	
	CAN Microcomputer	
No Video Signal	Front Monitor	
	Rear Monitor	
MOST Cold Restart	Always	

HINT:

- Software Error History can store up to 5 history data items. If a new software error occurs when 5 data items have already been stored, the oldest data is cleared and the new data is stored.
- If an error that is unsupported by the Techstream occurs, a "-" is displayed for the display items.

(b) Clear Software Error History.

(1) When DTCs are cleared using any of the following operations, Software Error History will be cleared as well  .

- Cleared using the Techstream.
- Cleared using the system check mode screen.
- Cleared using the unit check mode screen.

12. CHECK OPTICAL DISC ERROR HISTORY

HINT:

This function is used to check the cause when an optical disc error occurs.

(a) Check Optical Disc Error History.

(1) Connect the Techstream to the DLC3.

(2) Turn the ignition switch to ON.

(3) Turn the Techstream on.

(4) Enter the following menus: Body Electrical / Navigation System/ Utility / Optical Disc Error History.

(5) When an item is stored for Optical Disc Error History, record it before proceeding with troubleshooting.

Optical Disc Error History Screen Description

DISPLAY	CONTENT
Error Type	Displays the type of error.
Device	Displays the malfunctioning device.
Date	Displays the date and time that the malfunction occurred.

"Error Type" Screen Description

ERROR TYPE	DETECTION CONDITION	ACTION
Read Error	When a disc read error occurs.	Proceed to next suspected area

ERROR TYPE	DETECTION CONDITION	ACTION
Disc damaged/up side down/dirty	When it is determined that any of the following is the cause of the disc read error: • The disc cannot be read. • The disc cannot be read because of dirt or scratches. • The disc cannot be read because it is inserted upside down.	shown in Problem Symptoms Table INFO
Cannot determine disc type	An unsuitable disc is inserted.	
DPS error	When an error occurs while decoding MP3/WMA/AAC files.	
Some files are corrupt	• When MP3/WMA/AAC files cannot be played back because they are unsupported. • Even though the file extensions are MP3, WMA or AAC files cannot be played back because the header information cannot be read.	
Some files cannot be found	• When a disc without music data is played back. • When there are no playable MP3/WMA/AAC files.	
Copy protection violation	When a file with copyright protection that cannot be played back is played back.	

"Device" Screen Description

DEVICE	COMPONENT
DVD-P	Not available
CD-P	Navigation receiver assembly
R-Seat DVD-P	Not available

HINT:

- Optical Disc Error History can store up to 7 history data items. If a new optical disc error occurs when 7 data items have already been stored, the oldest data is cleared and the new data is stored.
- If an error that is unsupported by the Techstream occurs, a "-" or blank is displayed for the display items.

(b) Clear Optical Disc Error History.

(1) When DTCs are cleared using any of the following operations, Optical Disc Error History will be cleared as well [INFO](#) .

- Cleared using the Techstream.
- Cleared using the system check mode screen.
- Cleared using the unit check mode screen.

13. CHECK VIDEO DEVICE CONNECTION CHECK

HINT:

- This function is used to detect disconnection of the video devices.
- In order to inspect the RSE, a disc should be inserted into the navigation receiver assembly.

(a) Check Video Device Connection Check.

- (1) Connect the Techstream to the DLC3.
- (2) Turn the ignition switch to ON.
- (3) Turn the Techstream on.
- (4) Enter the following menus: Body Electrical / Navigation System / Utility / Video Device Connection Check.
- (5) When an item is stored for Video Device Connection Check, record it before proceeding with troubleshooting.

HINT:

- DTCs are stored when errors are detected.
- Depending on the vehicle, some of the items are not displayed on the "Error Detected Image Line (Type)" screen.

Video Device Connection Check Screen Description

ERROR DETECTED IMAGE LINE (TYPE)	AREAS TO BE CHECKED
H/U - > Separate Display (GVIF)	Not available
H/U - > Full RSE (GVIF)	Not available
RSE - > Seat Back Display RH (GVIF)	Not available
RSE - > Seat Back Display LH (GVIF)	Not available
Rear Camera - > H/U (NTSC)	NTSC video signal between the navigation receiver assembly and rear television camera assembly
IPA/BGM/PVM ECU - > Separate Display (GVIF)	Not available
IPA/BGM/PVM ECU - > H/U (NTSC)	Not available
IPA/BGM/PVM ECU - > H/U (GVIF)	Not available

(b) Clear Video Device Connection Check.

(1) When DTCs are cleared using any of the following operations, Video Device Connection Check will be cleared as well



- Cleared using the Techstream.
- Cleared using the system check mode screen.
- Cleared using the unit check mode screen.

14. MAP INFORMATION**HINT:**

This function is used to check the map version of the navigation system and the end date of the map update service.

(a) Check map information.

- (1) Connect the Techstream to the DLC3.
- (2) Turn the ignition switch to ON.
- (3) Turn the Techstream on.
- (4) Enter the following menus: Body Electrical / Navigation System / Utility / Map Information.
- (5) Check the map version and the end date of the map update service.

15. CHECK "Bluetooth" CONNECTION HISTORY**HINT:**

This function is used to check the connection history when the connection between the radio and display receiver assembly and a "Bluetooth" device is unstable.

(a) Check "Bluetooth" Connection History.

HINT:

- "Bluetooth" Connection History displays data stored in the internal memory of the ECU, such as the date a "Bluetooth" connection was attempted and the progress of a "Bluetooth" connection.
- By checking "Bluetooth" Connection History, the date, cause, etc. of a "Bluetooth" device failing to register or connect can be analyzed.
- "Bluetooth" connection history indicates the estimated cause of a malfunction, but does not determine it. Therefore, checking "Bluetooth" Connection History may not improve the problem.
- Performing inspection using the Techstream before recording the "Bluetooth" Connection History may clear the operation history.

- (1) Connect the Techstream to the DLC3.

- (2) Turn the ignition switch to ON.
- (3) Turn the Techstream on.
- (4) Enter the following menus: Body Electrical / Navigation System / Utility / "Bluetooth" Connection History.
- (5) When an item is stored for "Bluetooth" Connection History, record it before proceeding with troubleshooting.

"Bluetooth" Connection History Screen Description

ITEM	CONTENT
Occurrence Start Date/ Time	Date and time of "Bluetooth" connection are displayed.
Occurrence End Date/Time	Date and time of "Bluetooth" disconnection are displayed.
History Type	Type of "Bluetooth" Connection History is displayed.
Result	"Bluetooth" connection result is displayed.
Contents	"Bluetooth" connection status is displayed.
"Bluetooth" Address	"Bluetooth" device address is displayed.
Continuance Time	The number of retries when "Bluetooth" connection was performed is displayed.

History Type: ACC ON

RESULT	CONTENTS	DETAIL	AREAS TO BE CHECKED
-	-	Ignition switch ACC	-

History Type: Registration

RESULT	CONTENTS	DETAIL	AREAS TO BE CHECKED
Success (HFP)	No Error	"Bluetooth" device was registered as a hands-free device properly.	-
Success (AVP)	No Error	"Bluetooth" device was registered as a "Bluetooth" audio device properly.	-
Failure	Time Out	Could not perform "Bluetooth" connection properly.	• Check that the "Bluetooth" device is in the cabin. • Check that the "Bluetooth" device is not connected to another device using the "Bluetooth" connection. • Restart the "Bluetooth" device and operate it again.
	Authentication Error	Wrong PIN code was input for PIN code verification.	Perform "Bluetooth" device registration again. (Input PIN code correctly.)
		Did not select the confirmation button even though a passkey was displayed.	Perform "Bluetooth" device registration again. (When a passkey is displayed, select the confirmation button.)
		A verification error occurred between the radio and display receiver assembly and "Bluetooth" device.	Restart the radio and display receiver assembly and "Bluetooth" device, and operate them again.
	ACL Link Disconnection	"Bluetooth" connection was disconnected by operating the "Bluetooth" device.	Perform "Bluetooth" device registration again.
		"Bluetooth" connection could not be established due to wave interference around the vehicle.	Check for wave interference and perform "Bluetooth" device registration again.

RESULT	CONTENTS	DETAIL	AREAS TO BE CHECKED
		"Bluetooth" device was outside the communication area.	Bring the "Bluetooth" device near the radio and display receiver assembly and perform "Bluetooth" device registration again.
		"Bluetooth" setting on the "Bluetooth" device was off.	Change the "Bluetooth" setting to on and perform "Bluetooth" device registration again.
		"Bluetooth" device was off.	Turn the "Bluetooth" device on and perform "Bluetooth" device registration again.
		A malfunction occurred in the "Bluetooth" device.	Restart the "Bluetooth" device and operate it again.
	Memory Write Failure	"Bluetooth" device information could not be stored in the radio and display receiver assembly.	Perform "Bluetooth" device registration again.
	Other Error	An error other than above occurred.	After turning the ignition switch off and back to ON again, perform "Bluetooth" device registration again.
Cancel	No Error	Registration was suspended by operating the radio and display receiver assembly or "Bluetooth" device.	-

History Type: Connection

RESULT	CONTENTS	DETAIL	AREAS TO BE CHECKED
• Auto Connect Success (HFP) • Manual Connect Success (HFP)	No Error	"Bluetooth" device was connected as a hands-free device properly.	-
• Auto Connect Failure (HFP) • Manual Connect Failure (HFP)	Time Out	Could not perform "Bluetooth" connection properly.	• Check that the "Bluetooth" device is in the cabin. • Check that the "Bluetooth" device is not connected to another device using the "Bluetooth" connection. • Restart the "Bluetooth" device and operate it again.
	Authentication Error	Verification of authentication key between the radio and display receiver assembly and "Bluetooth" device failed.	If "Bluetooth" connection failed again even though the "Bluetooth" connection was performed, perform registration again.
		A verification error occurred between the radio and display receiver assembly and "Bluetooth" device.	Restart the radio and display receiver assembly and "Bluetooth" device, and operate them again.
	Page Time Out	Could not find a "Bluetooth" device near the radio and display receiver assembly.	Bring the "Bluetooth" device near the radio and display receiver assembly and perform "Bluetooth" connection again.
		"Bluetooth" connection could not be established due to wave interference around the vehicle.	Check for wave interference and perform "Bluetooth" connection again.

RESULT	CONTENTS	DETAIL	AREAS TO BE CHECKED
		"Bluetooth" device was outside the communication area.	Bring the "Bluetooth" device near the radio and display receiver assembly and perform "Bluetooth" connection again.
		"Bluetooth" setting on the "Bluetooth" device was off.	Change the "Bluetooth" setting to on and perform "Bluetooth" connection again.
		"Bluetooth" device was off.	Turn the "Bluetooth" device on and perform "Bluetooth" connection again.
		A malfunction occurred in the "Bluetooth" device.	Restart the "Bluetooth" device and operate it again.

History Type: Connection

RESULT	CONTENTS	DETAIL	AREAS TO BE CHECKED
• Auto Connect Failure (HFP) • Manual Connect Failure (HFP)	ACL Link Disconnection	"Bluetooth" connection was disconnected by operating the "Bluetooth" device.	Perform "Bluetooth" connection again.
		"Bluetooth" connection could not be established due to wave interference around the vehicle.	Check for wave interference and perform "Bluetooth" connection again.
		"Bluetooth" device was outside the communication area.	Bring the "Bluetooth" device near the radio and display receiver assembly and perform "Bluetooth" connection again.
		"Bluetooth" setting on the "Bluetooth" device was off.	Change the "Bluetooth" setting to on and perform "Bluetooth" connection again.
		"Bluetooth" device was off.	Turn the "Bluetooth" device on and perform "Bluetooth" connection again.
		A malfunction occurred in the "Bluetooth" device.	Restart the "Bluetooth" device and operate it again.
	SDP Error	HFP was disabled on the "Bluetooth" device.	Enable HFP on the "Bluetooth" device and perform "Bluetooth" connection again.
		"Bluetooth" device which operation had not been confirmed was used.	Check that the "Bluetooth" device is hands-free compatible and its operation has been confirmed INFO .
	Other Error	An error other than above occurred.	After turning the ignition switch off and back to ON again, perform "Bluetooth" device registration again.
Manual Connect Cancel (HFP)	No Error	Connection was interrupted by operating the radio and display receiver assembly or "Bluetooth" device.	-

History Type: Connection

RESULT	CONTENTS	DETAIL	AREAS TO BE CHECKED
• Auto Connect Success (AVP) • Manual Connect Success	No Error	"Bluetooth" device was connected as a "Bluetooth" audio device properly.	-

RESULT	CONTENTS	DETAIL	AREAS TO BE CHECKED
(AVP)			
• Auto Connect Failure (AVP) • Manual Connect Failure (AVP)	Time Out	Could not perform "Bluetooth" connection properly.	• Check that the "Bluetooth" device is in the cabin. • Check that the "Bluetooth" device is not connected to another device using the "Bluetooth" connection. • Restart the "Bluetooth" device and operate it again.
	Authentication Error	Verification of authentication key between the radio and display receiver assembly and "Bluetooth" device failed.	If "Bluetooth" connection failed again even though the "Bluetooth" connection was performed, perform registration again.
		A verification error occurred between the radio and display receiver assembly and "Bluetooth" device.	Restart the radio and display receiver assembly and "Bluetooth" device, and operate them again.
	Page Time Out	Could not find a "Bluetooth" device near the radio and display receiver assembly.	Bring the "Bluetooth" device near the radio and display receiver assembly and perform "Bluetooth" connection again.
		"Bluetooth" connection could not be established due to wave interference around the vehicle.	Check for wave interference and perform "Bluetooth" connection again.
		"Bluetooth" device was outside the communication area.	Bring the "Bluetooth" device near the radio and display receiver assembly and perform "Bluetooth" connection again.
		"Bluetooth" setting on the "Bluetooth" device was off.	Change the "Bluetooth" setting to on and perform "Bluetooth" connection again.
		"Bluetooth" device was off.	Turn the "Bluetooth" device on and perform "Bluetooth" connection again.
		A malfunction occurred in the "Bluetooth" device.	Restart the "Bluetooth" device and operate it again.

History Type: Connection

RESULT	CONTENTS	DETAIL	AREAS TO BE CHECKED
• Auto Connect Failure (AVP) • Manual Connect Failure (AVP)	ACL Link Disconnection	"Bluetooth" connection was disconnected by operating the "Bluetooth" device.	Perform "Bluetooth" connection again.
		"Bluetooth" connection could not be established due to wave interference around the vehicle.	Check for wave interference and perform "Bluetooth" connection again.
		"Bluetooth" device was outside the communication area.	Bring the "Bluetooth" device near the radio and display receiver assembly and perform "Bluetooth" connection again.
		"Bluetooth" setting on the "Bluetooth" device was off.	Change the "Bluetooth" setting to on and perform "Bluetooth" connection again.
		"Bluetooth" device was off.	Turn the "Bluetooth" device on and perform "Bluetooth" connection again.

RESULT	CONTENTS	DETAIL	AREAS TO BE CHECKED
	SDP Error	A malfunction occurred in the "Bluetooth" device.	Restart the "Bluetooth" device and operate it again.
		AVP was disabled on the "Bluetooth" device.	Enable AVP on the "Bluetooth" device and perform "Bluetooth" connection again.
		"Bluetooth" device which operation had not been confirmed was used.	Check that the "Bluetooth" device is "Bluetooth" audio compatible and its operation has been confirmed INFO .
	Other Error	An error other than above occurred.	After turning the ignition switch off and back to ON again, perform "Bluetooth" device registration again.
Manual Connect Cancel (AVP)	No Error	Connection was interrupted by operating the radio and display receiver assembly or "Bluetooth" device.	-

History Type: Disconnection

RESULT	CONTENTS	DETAIL	AREAS TO BE CHECKED
Disconnection Complete (HFP)	Link Loss	The "Bluetooth" device was moved outside of the communication area.	Move the "Bluetooth" device into the communication area.
		"Bluetooth" connection was disconnected due to wave interference around the vehicle.	Check for wave interference and perform "Bluetooth" connection again.
		A malfunction occurred in the "Bluetooth" device.	Restart the "Bluetooth" device and operate it again.
	Disconnection from Partner	"Bluetooth" connection was disconnected by operating the "Bluetooth" device.	-
	Disconnection from Self	"Bluetooth" connection was disconnected by operating the radio and display receiver assembly.	-
	Other Error	An error other than above occurred.	After turning the ignition switch off and back to ON again, perform "Bluetooth" device registration again.
Disconnection Complete (AVP)	Link Loss	The "Bluetooth" device was moved outside of the communication area.	Move the "Bluetooth" device into the communication area.
		"Bluetooth" connection was disconnected due to wave interference around the vehicle.	Check for wave interference and perform "Bluetooth" connection again.
		A malfunction occurred in the "Bluetooth" device.	Restart the "Bluetooth" device and operate it again.
	Disconnection from Partner	"Bluetooth" connection was disconnected by operating the "Bluetooth" device.	-
	Disconnection from Self	"Bluetooth" connection was disconnected by operating the radio and display receiver assembly.	-
	Other Error	An error other than above occurred.	After turning the ignition switch off and back to ON again, perform "Bluetooth" device registration again.

History Type: Send

RESULT	CONTENTS	DETAIL	AREAS TO BE CHECKED
Success	No Error	Call was made properly.	-
Failure	Out of Service	Outside the cellular phone service area.	Move the vehicle into a cellular phone service area, check that the "Bluetooth" device is connected to the vehicle and operate the device again.
	Redial Regulation	Redial of the "Bluetooth" device was restricted and could not make a hands-free call.	Restart the "Bluetooth" device and operate it again.
	Other Error	Could not make a hands-free call due to a "Bluetooth" device malfunction.	Restart the "Bluetooth" device and operate it again.
		Could not make a hands-free call due to a radio and display receiver assembly malfunction.	After turning the ignition switch off and back to ON again, perform "Bluetooth" device registration again.
		Could not make a hands-free call from the radio and display receiver assembly because the call status of the "Bluetooth" device was not transmitted to the radio and display receiver assembly.	Restart the "Bluetooth" device and operate it again.

(b) Clear "Bluetooth" connection history.

(1) When DTCs are cleared using any of the following operations, "Bluetooth" Connection History will be cleared as well

 .

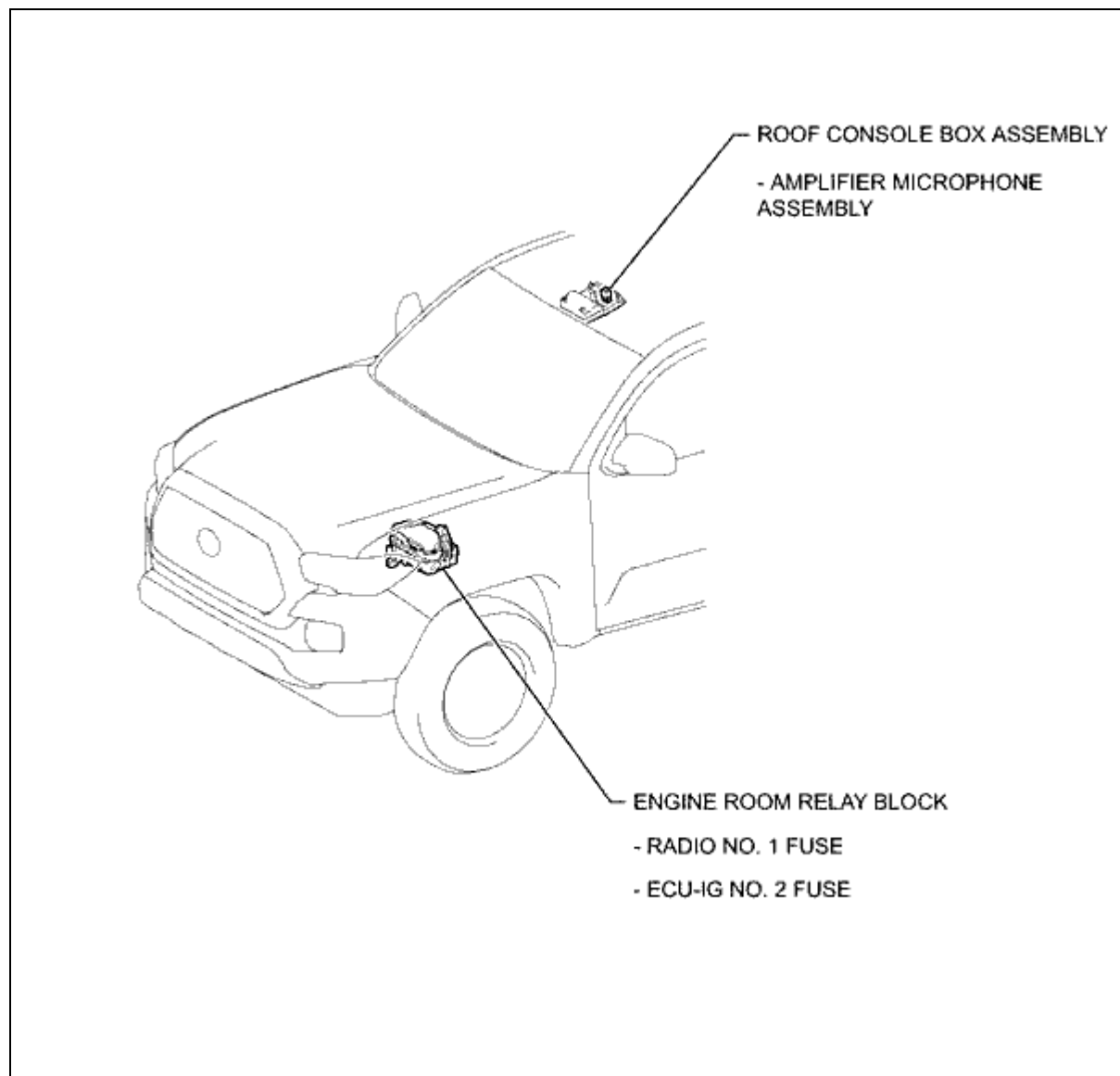
- Cleared using the Techstream.
- Cleared using the system check mode screen.
- Cleared using the unit check mode screen.



Last Modified: 11-13-2015	6.6 R	Doc ID: RM0000033SW0GMX
Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: NAVIGATION: NAVIGATION SYSTEM: PARTS LOCATION; 2016 MY Tacoma [08/2015 -]		

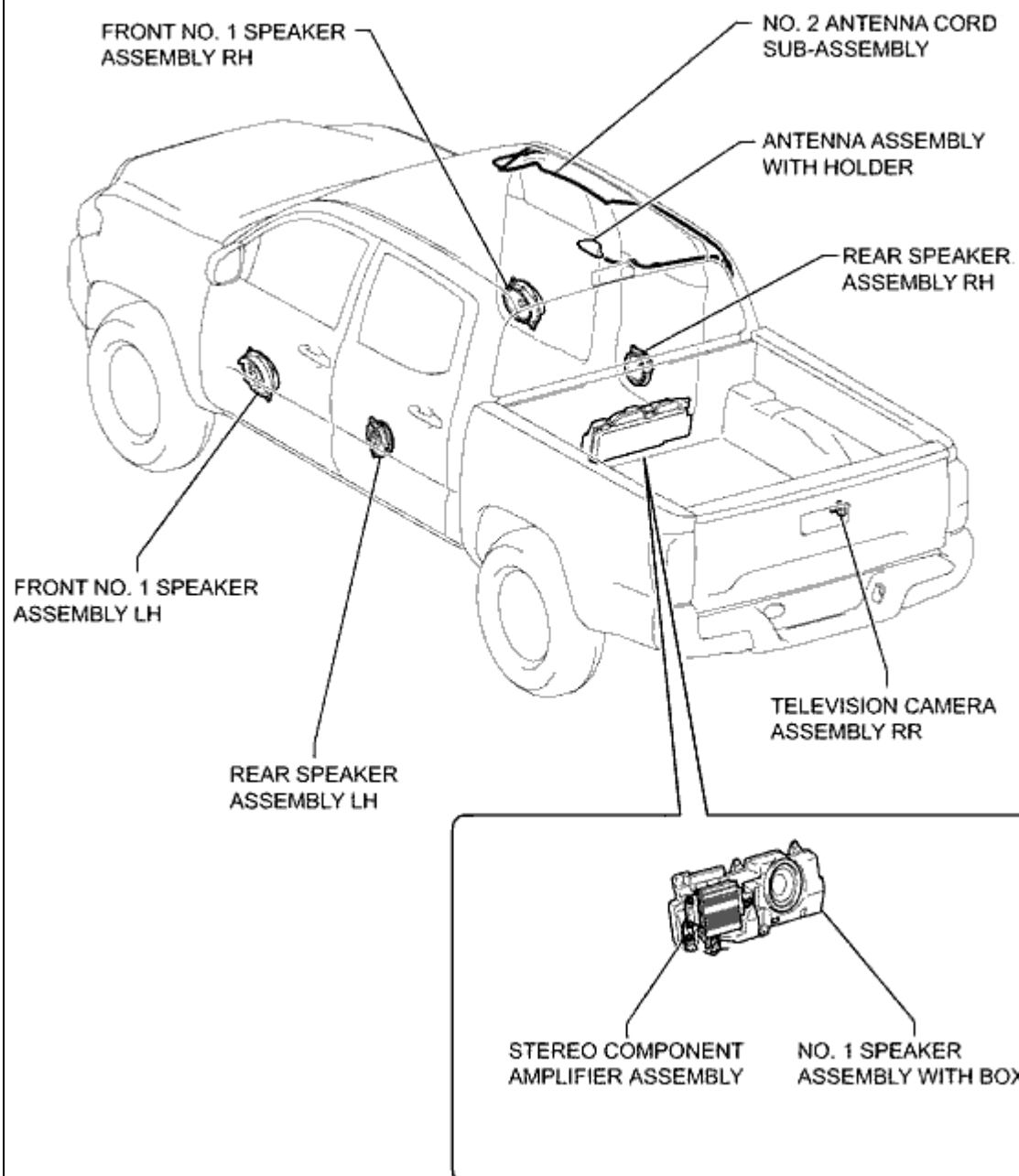
PARTS LOCATION

ILLUSTRATION



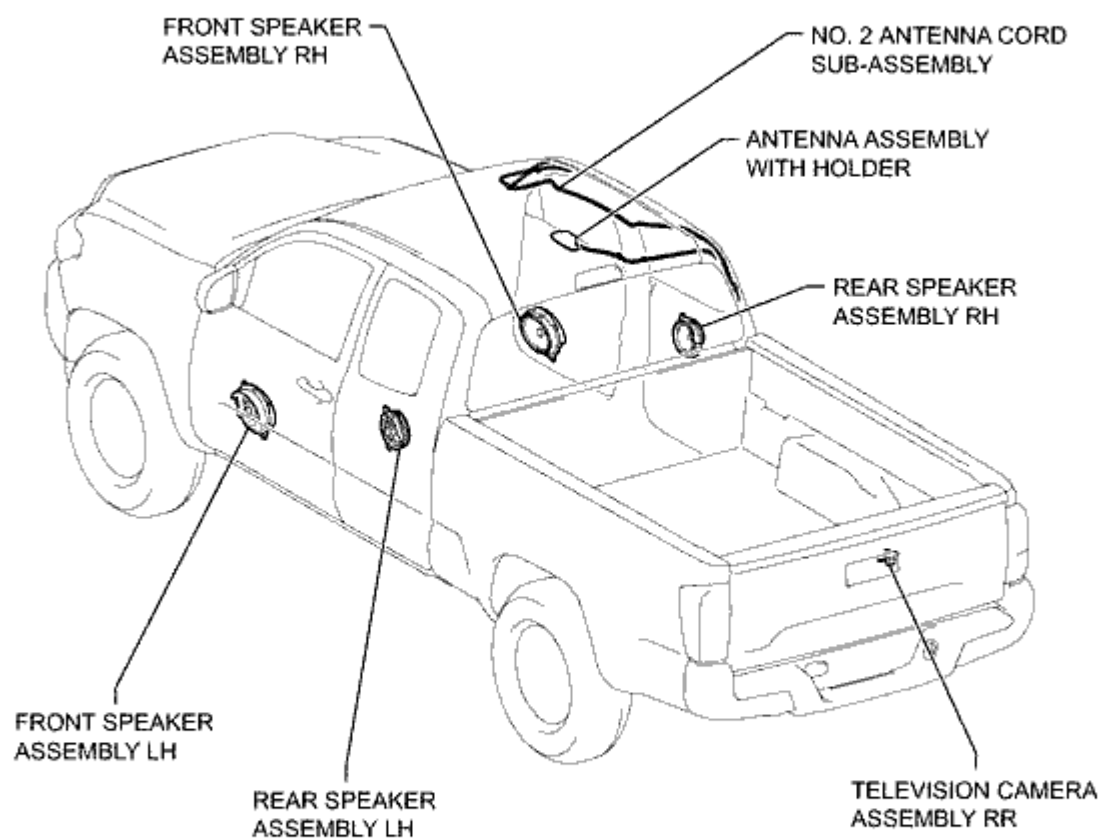
ILLUSTRATION

w/ Stereo Component Amplifier:

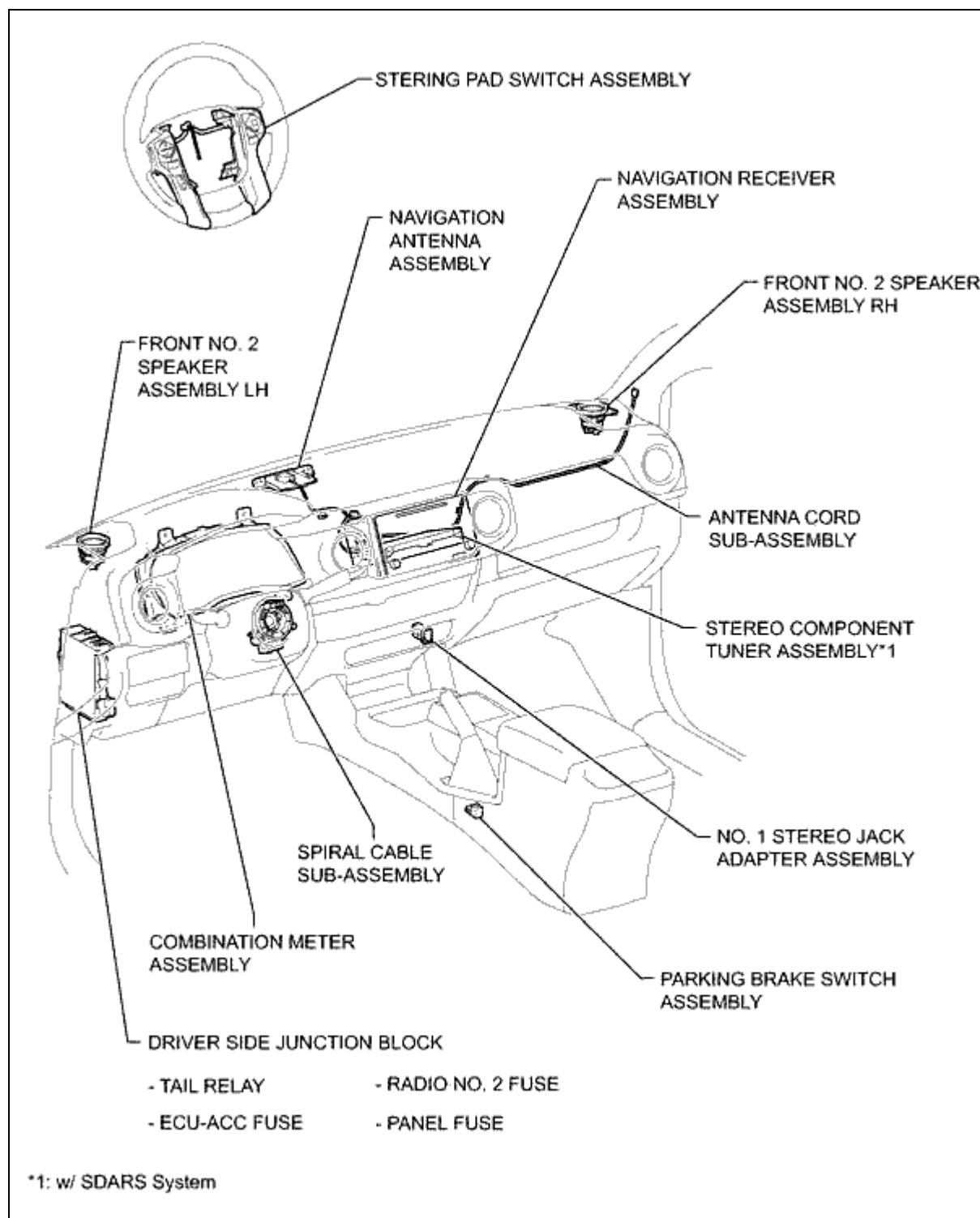


ILLUSTRATION

w/o Stereo Component Amplifier:



ILLUSTRATION



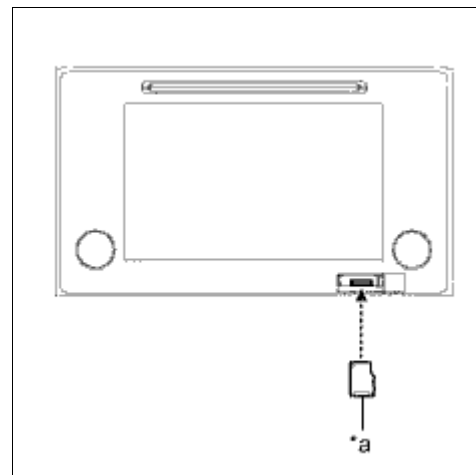
Last Modified: 11-13-2015	6.6 L	Doc ID: RM000005LLO002X
Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: NAVIGATION: NAVIGATION SYSTEM: PRECAUTION; 2016 MY Tacoma [08/2015 -]		

PRECAUTION

1. The navigation system uses an SD card containing data such as map data.

Text in Illustration

*a	SD Card
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2. Precaution for removing the SD card

NOTICE:

- The SD card contains map data and various programs for the navigation system.

Without the SD card inserted, the navigation system will not operate normally. Therefore, remove the SD card only when necessary, such as when updating the map data.

- After removing the SD card, do not insert any other object into the SD card slot.
- When inserting the SD card into the SD card slot, make sure that the SD card is free of foreign matter.
- After inserting the SD card, make sure that it is securely inserted into the SD card slot.

(a) Before removing the SD card, make sure that the ignition switch is turned off.

3. Precaution for handling the SD card

NOTICE:



- Do not touch the terminals with your hand or a metal object.
- If a strong force is applied to the SD card, it may be damaged.
- Do not leave the removed SD card in any of the following environments. If the SD card is affected adversely, it may result in a malfunction in the navigation system.
 - Places where static electricity or electronic noise is generated.
 - Places which are hot or humid.
 - Places where the SD card may be exposed to direct sunlight.
 - Places where condensation occurs.
 - Places which are prone to corrosion.

- Do not use the SD card if the label has peeled off or someone has put a sticker or other label on the SD card.



Last Modified: 11-13-2015	6.6 T	Doc ID: RM0000011BR0TKX
Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: NAVIGATION: NAVIGATION SYSTEM: PROBLEM SYMPTOMS TABLE; 2016 MY Tacoma [08/2015 -]		

PROBLEM SYMPTOMS TABLE

NOTICE:

- After replacing the stereo component tuner assembly of vehicles subscribed to pay-type satellite radio broadcasts, XM radio ID registration is necessary (w/ SDARS System).

HINT:

- Use the table below to help determine the cause of problem symptoms. If multiple suspected areas are listed, 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.

Display Function

SYMPTOM	SUSPECTED AREA	SEE PAGE
Pressing power switch does not turn on system	Proceed to "Radio Receiver Power Source Circuit"	INFO
	Proceed to "Check Software Error History" in Operation Check	INFO
	Navigation receiver assembly	INFO
Black screen (No image appears on navigation/audio screen)	Proceed to "Black Screen"	INFO
	Navigation receiver assembly	INFO
Display does not dim (does not change to night screen) with tail switch on	Proceed to "Display does not Dim when Light Control Switch is Turned ON"	INFO
	Proceed to "Illumination Circuit"	INFO
	Navigation receiver assembly	INFO
Power does not turn off (Screen remains on)	Proceed to "Radio Receiver Power Source Circuit"	INFO
	Navigation receiver assembly	INFO
Screen is distorted	Proceed to "Radio Receiver Power Source Circuit"	INFO
	Navigation receiver assembly	INFO
Screen flicker or color distortion	Proceed to "Screen Flicker or Color Distortion"	INFO
	Proceed to "Radio Receiver Power Source Circuit"	INFO
	Navigation receiver assembly	INFO

Panel Switch and Touch Switch Function

SYMPTOM	SUSPECTED AREA	SEE PAGE
Illumination for panel switches does not come on with tail switch on	Proceed to "Illumination for Panel Switch does not Come on with Tail Switch ON"	INFO

SYMPTOM	SUSPECTED AREA	SEE PAGE
	Proceed to "Illumination Circuit"	INFO
	Navigation receiver assembly	INFO
Panel switches do not function	Proceed to "Panel Switches do not Function"	INFO
	Proceed to "Radio Receiver Power Source Circuit"	INFO
	Navigation receiver assembly	INFO
Touch panel switch does not function	Proceed to "Touch Panel Switch does not Function"	INFO
	Proceed to "Radio Receiver Power Source Circuit"	INFO
	Navigation receiver assembly	INFO
Navigation function switches can be operated while vehicle is driving	Proceed to "Parking Brake Switch Circuit"	INFO
	Proceed to "Vehicle Speed Signal Circuit between Radio Receiver and Combination Meter"	INFO
	Navigation receiver assembly	INFO

Steering Pad Switch Function

SYMPTOM	SUSPECTED AREA	SEE PAGE
System cannot be operated by steering pad switch	Proceed to "Panel Switches do not Function"	INFO
	Proceed to "Steering Pad Switch Circuit"	INFO
	Navigation receiver assembly	INFO
Illumination for steering pad switch does not come on with tail switch on	Proceed to "Illumination Circuit"	INFO
	Navigation receiver assembly	INFO

Navigation Function

SYMPTOM	SUSPECTED AREA	SEE PAGE
Vehicle position mark deviates	Proceed to "Vehicle Position Mark Deviates Greatly"	INFO
	Antenna assembly with holder	INFO
	Navigation receiver assembly	INFO
Vehicle position mark deviates from correct position and does not return to correct position	Proceed to "Vehicle Position Mark Deviates Greatly"	INFO
	Antenna assembly with holder	INFO
	Navigation receiver assembly	INFO
Vehicle position mark moves slow or fast	Proceed to "Vehicle Position Mark Deviates Greatly"	INFO

SYMPTOM	SUSPECTED AREA	SEE PAGE
	Drive the vehicle for sensor learning (At a place where GPS signals can be received, drive the vehicle clockwise and counterclockwise in at least a 200 meter square 2 times or more)	-
	Antenna assembly with holder	INFO
	Navigation receiver assembly	INFO
Cursor or map rotates when vehicle is stopped	Proceed to "Cursor or Map Rotates when Vehicle Stopped"	INFO
	Navigation receiver assembly	INFO
Vehicle position mark moves in the opposite direction to the vehicle	Proceed to "Cursor or Map Rotates when Vehicle Stopped"	INFO
	Proceed to "Reverse Signal Circuit"	INFO
	Navigation receiver assembly	INFO
Vehicle position mark deviates from and returns to correct position repeatedly even though GPS mark is displayed	Proceed to "GPS Mark is not Displayed"	INFO
	Drive the vehicle for sensor learning (at a place where GPS signals can be received, drive the vehicle clockwise and counterclockwise in at least a 200 meter square 2 times or more)	-
	Navigation antenna assembly	INFO
	Navigation receiver assembly	INFO
Vehicle position mark moves slow or fast	Proceed to "GPS Mark is not Displayed"	INFO
	Navigation antenna assembly	INFO
	Navigation receiver assembly	INFO
Vehicle position mark moves in the opposite direction to the vehicle	Proceed to "Cursor or Map Rotates when Vehicle Stopped"	INFO
	Proceed to "Reverse Signal Circuit"	INFO
	Navigation receiver assembly	INFO
Vehicle position mark is not updated	Navigation receiver assembly	INFO
Current position display does not appear	Antenna assembly with holder	INFO
	Navigation receiver assembly	INFO
Voice guidance does not function	Proceed to "Voice Guidance does not Function"	INFO
	Proceed to "Mute Signal Circuit between Radio Receiver and Stereo Component Amplifier"	INFO
	Proceed to "Speaker Circuit"	INFO
	Navigation receiver assembly	INFO
	Stereo component amplifier assembly	INFO
Map display is incomplete	SD card	-

SYMPTOM	SUSPECTED AREA	SEE PAGE
	Navigation receiver assembly	INFO
Route cannot be calculated	Proceed to "Route cannot be Calculated"	INFO
	Navigation receiver assembly	INFO
Navigation system cannot record memory point registration or each item setting	Navigation receiver assembly	INFO
A message indicating to wait for a while because of low temperature is displayed	Start the engine and increase cabin temperature (near navigation receiver assembly)	-
	SD card (disc player disc)	-
	Navigation receiver assembly	INFO
A message is displayed because map data cannot be read, and current position screen is not displayed	If a message appears only when driving on rough roads, check if the message disappears when vehicle is stopped	-
	SD card (disc player disc)	-
	Navigation receiver assembly	INFO
Map screen turns white or blue (GPS receiving status is displayed normally, and switches and own vehicle position mark are also displayed normally)	Change map scale to the smallest (a scale that shows a large area)	-
	SD card (disc player disc)	-
	Navigation receiver assembly	INFO
Traffic information is not displayed	Proceed to "Traffic Information is not Displayed"	INFO
Customize parameters cannot be changed (customize parameters can be changed by using the Techstream)	Navigation receiver assembly	INFO
Parking brake switch signal does not change in vehicle signal check mode	Proceed to "Parking Brake Switch Circuit"	INFO
	Navigation receiver assembly	INFO
Reverse signal does not change in vehicle signal check mode	Proceed to "Reverse Signal Circuit"	INFO
	Navigation receiver assembly	INFO

General Audio Function

SYMPTOM	SUSPECTED AREA	SEE PAGE
No sound can be heard from speakers	Proceed to "No Sound can be Heard from Speakers"	INFO
	Proceed to "Mute Signal Circuit between Radio Receiver and Stereo Component Amplifier"*1	INFO
	Proceed to "Sound Signal Circuit between Radio Receiver and Stereo Component Amplifier"*1	INFO
	Proceed to "Speaker Circuit"	INFO
	Proceed to "Stereo Component Amplifier Power Source Circuit"*1	INFO
	Stereo component amplifier assembly*1	INFO

SYMPTOM	SUSPECTED AREA	SEE PAGE
Abnormal noise occurs	Navigation receiver assembly	INFO
	Proceed to "Noise Occurs"	INFO
	Stereo component amplifier assembly*1	INFO
	Navigation receiver assembly	INFO
Sound quality is bad in all modes (Volume is too low)	Proceed to "Poor Sound Quality in All Modes (Low Volume)"	INFO
	Proceed to "Mute Signal Circuit between Radio Receiver and Stereo Component Amplifier"*1	INFO
	Proceed to "Sound Signal Circuit between Radio Receiver and Stereo Component Amplifier"*1	INFO
	Proceed to "Speaker Circuit"	INFO
	Stereo component amplifier assembly*1	INFO
	Navigation receiver assembly	INFO
ASL does not function	Check that the ASL function is on	-
	Proceed to "Vehicle Speed Signal Circuit between Stereo Component Amplifier and Combination Meter"*1	INFO
	Proceed to "Vehicle Speed Signal Circuit between Stereo Component Amplifier and Combination Meter"*1	INFO
	Stereo component amplifier assembly*1	INFO
	Navigation receiver assembly	INFO

*1: w/ Stereo Component Amplifier

FM or AM Radio Function

SYMPTOM	SUSPECTED AREA	SEE PAGE
Radio broadcast cannot be received or poor reception	Proceed to "Radio Broadcast cannot be Received or Poor Reception"	INFO
Radio broadcast can be received but radio station cannot be displayed (Some radio stations do not provide their name information)	Navigation receiver assembly	INFO
Radio broadcast can be displayed but radio broadcast cannot be heard from speakers	Check the volume settings	-
	Navigation receiver assembly	INFO
Radio broadcast can be received but station list cannot be displayed	Wait for 120 seconds in radio mode, and select the "Refresh" switch on the station list screen	-
	Navigation receiver assembly	INFO
Radio broadcast can be received but station list cannot	Select "Refresh" on the station list screen	-

SYMPTOM	SUSPECTED AREA	SEE PAGE
be updated	Wait for 10 minutes with the ignition switch ACC, and select the "Refresh" switch on the station list screen again	-
	Navigation receiver assembly	INFO
After the voice recognition function or hands-free function is turned off, the cache radio does not operate	Check that the cache radio setting is on	-
	Navigation receiver assembly	INFO
When the cache radio is playing, sound is interrupted, sound cannot be heard or sound quality is poor	Check if similar symptoms occur when receiving conventional FM/AM radio broadcasts	-
	Check if similar symptoms occur when receiving other broadcasts	-
	Move the vehicle to a place where the reception sensitivity is good and check again	-
	Navigation receiver assembly	INFO
When the cache radio is playing, sound can be heard, but no information is displayed (some radio stations do not provide their name information)	Check if similar symptoms occur when receiving other broadcasts	-
	Move the vehicle to a place where the reception sensitivity is good and check again	-
	Navigation receiver assembly	INFO

"HD Radio" Function (w/ "HD Radio" Function)

SYMPTOM	SUSPECTED AREA	SEE PAGE
Only "HD Radio" stations cannot be heard or selected, or their analog or digital sound cannot be changed	Check the "HD Radio" settings	-
	Navigation receiver assembly	INFO
"iPod" tagging function cannot be used	Check if a message indicating that the capacity for tag information is full is displayed	-
	Check that the cache radio is not playing (when the cache radio is playing, "iPod" tagging function cannot be used)	-
	Proceed to "USB Audio System Recognition/ Play Error"	INFO
	No. 1 stereo jack adapter assembly	INFO
	Navigation receiver assembly	INFO
When the "HD Radio" is playing, cover art is not displayed	When a song unregistered to the Gracenote CDDb is playing or cover art information is not provided by the broadcast station, its cover art cannot be displayed	-
When the "HD Radio" is playing, cover art cannot be displayed	Navigation receiver assembly	INFO

SYMPTOM	SUSPECTED AREA	SEE PAGE
Broadcast station logo cannot be displayed	Check if similar symptoms occur when receiving other broadcasts	-
	Check if similar symptoms occur with another vehicle	-
	Navigation receiver assembly	INFO
SPS channel cannot be selected	Check that "HD Radio" FM mode is selected	-
	After selecting "Refresh", check that the SPS channel is on the station list	-
	Navigation receiver assembly	INFO
When the SPS channel is selected, sound cannot be heard	After selecting "Refresh", select the SPS channel on the station list	-
	Navigation receiver assembly	INFO

CD Player Function

SYMPTOM	SUSPECTED AREA	SEE PAGE
CD cannot be played or player does not function with disc	Proceed to "Disc Player Outline" in System Description and check if the disc is compatible with the disc player	INFO
	Proceed to "Check Optical Disc Error History" in Operation Check	INFO
	Navigation receiver assembly	INFO
CD cannot be inserted/played or CD is ejected right after insertion	Proceed to "Check Optical Disc Error History" in Operation Check	INFO
	Proceed to "CD cannot be Inserted / Played or CD is Ejected Right After Insertion"	INFO
CD cannot be ejected	Proceed to "Check Optical Disc Error History" in Operation Check	INFO
	Proceed to "CD cannot be Ejected"	INFO
CD sound skips	Proceed to "Check Optical Disc Error History" in Operation Check	INFO
	Proceed to "CD Sound Skips"	INFO
Sound quality is bad only when CD is played (Volume is too low)	Proceed to "Check Optical Disc Error History" in Operation Check	INFO
	Proceed to "Sound Quality is Bad Only when CD is Played (Volume is Too Low)"	INFO
When CD is playing, some cover art is not displayed	When a song unregistered to the Gracenote CDDb is playing, its cover art cannot be displayed	-
When CD is playing, cover art cannot be displayed	Navigation receiver assembly	INFO
Album cover art cannot be displayed	Check that Display Cover Art on the disc settings screen is set to on	-
	Check if similar symptoms occur with another vehicle	-
	If an indication to update the Gracenote database appears on the album cover art screen and update data has been downloaded to the navigation receiver assembly, update the Gracenote database to the	-

SYMPTOM	SUSPECTED AREA	SEE PAGE
	latest version	
	Navigation receiver assembly	INFO

AUX Function

SYMPTOM	SUSPECTED AREA	SEE PAGE
External device sound cannot be heard or sound quality is bad (Stereo jack is used)	Proceed to "Sound Signal Circuit between Radio Receiver and Stereo Jack Adapter"	INFO
	No. 1 stereo jack adapter assembly	INFO
	Navigation receiver assembly	INFO
"AUX" is not displayed on system check mode screen	Proceed to "Sound Signal Circuit between Radio Receiver and Stereo Jack Adapter"	INFO
	No. 1 stereo jack adapter assembly	INFO
	Navigation receiver assembly	INFO

Voice Recognition Function

SYMPTOM	SUSPECTED AREA	SEE PAGE
Voice menu screen is not displayed (Voice recognition function does not turn on)	Check if the voice recognition prompts function is "On"	-
	Proceed to "Panel Switches do not Function"	INFO
	Proceed to "Steering Pad Switch Circuit"	INFO
	Navigation receiver assembly	INFO
When voice recognition switch is pressed, a short beep is emitted but voice cannot be recognized properly	Proceed to "Voice is not Recognized"	INFO
	Proceed to "Microphone Circuit between Microphone and Radio Receiver"	INFO
	SD card	-
	Navigation receiver assembly	INFO
Mobile Assistant function does not work (w/ Mobile Assistant Function)	Check if the "Siri" voice recognition application can be used on the device	-
	Check if a hard reset of the device corrects the problem	-
	Proceed to "Steering Pad Switch Circuit"	INFO
	Proceed to "Voice is not Recognized"	INFO
	Proceed to "Microphone Circuit between Microphone and Navigation Receiver Assembly"	INFO

SYMPTOM	SUSPECTED AREA	SEE PAGE
	Navigation receiver assembly	INFO

"Bluetooth" Hands-free Function

SYMPTOM	SUSPECTED AREA	SEE PAGE
Bluetooth is inoperative	Proceed to "Microphone Circuit between Microphone and Radio Receiver"	INFO
	Navigation receiver assembly	INFO
Cellular phone registration failure	Proceed to "Cellular Phone Registration Failure, Phonebook Transfer Failure"	INFO
	Navigation receiver assembly	INFO
Cellular phone cannot make outgoing/incoming calls or call in a certain place	Proceed to "Cellular Phone cannot Make Outgoing/Incoming Calls"	INFO
	Proceed to "Steering Pad Switch Circuit"	INFO
	Navigation receiver assembly	INFO
Message that prompts to check the cellular phone is displayed	Proceed to "Cellular Phone cannot Make Outgoing/Incoming Calls"	INFO
	Navigation receiver assembly	INFO
Phonebook data cannot be transferred manually or automatically	Check the automatically download contact setting	-
	When transferring phonebook data, OBEX authentication may be required. Enter "1234" into the "Bluetooth" phone	-
	Proceed to "Cellular Phone Registration Failure, Phonebook Transfer Failure"	INFO
	Navigation receiver assembly	INFO
E-mail/SMS cannot be received or sent	Check whether messages can be received/sent using the cellular phone	-
	Check that the phone is registered as a hands-free device	-
	Check the sending and receiving e-mails/SMS via the navigation system setting	-
	Proceed to "Cellular Phone Registration Failure, Phonebook Transfer Failure"	INFO
	Navigation receiver assembly	INFO

"Bluetooth" Audio Function

SYMPTOM	SUSPECTED AREA	SEE PAGE
Portable player cannot be registered	Proceed to "Portable Player cannot be Registered"	INFO
	Navigation receiver assembly	INFO

SYMPTOM	SUSPECTED AREA	SEE PAGE
Portable player cannot be connected manually/automatically	Proceed to "Portable Player cannot be Registered"	INFO
	Proceed to "Portable Player cannot be Connected Manually/Automatically"	INFO
	Navigation receiver assembly	INFO
Cellular phone with portable audio function cannot be recognized as "Bluetooth" audio device even when connected using "Bluetooth"	Proceed to "Portable Player cannot be Registered"	INFO
	Proceed to "Portable Player cannot be Connected Manually/Automatically"	INFO
	Navigation receiver assembly	INFO
Sound of portable player cannot be heard from speakers, or sound is low	Proceed to "Sound of Portable Player cannot be Heard from Speakers or Sound is Low"	INFO
	Navigation receiver assembly	INFO
Portable player does not play even after "Bluetooth" audio mode is selected	Proceed to "Does not Play even after Bluetooth Audio Mode is Selected"	INFO
	Navigation receiver assembly	INFO
Portable player does not play	Proceed to "Does not Play even after Bluetooth Audio Mode is Selected"	INFO
	Navigation receiver assembly	INFO
Track information such as track number, track name and elapsed play time and playlist is not displayed	Proceed to "Portable Player cannot be Operated Using In-vehicle Device or Track Information is not Displayed on In-vehicle Device"	INFO
	Navigation receiver assembly	INFO
Operation switches for portable player such as play, pause, repeat, random and scan are not displayed	Proceed to "Portable Player cannot be Operated Using In-vehicle Device or Track Information is not Displayed on In-vehicle Device"	INFO
	Navigation receiver assembly	INFO
Battery condition of portable player is not displayed	Proceed to "Portable Player cannot be Operated Using In-vehicle Device or Track Information is not Displayed on In-vehicle Device"	INFO
	Navigation receiver assembly	INFO
"Bluetooth" signal condition is not displayed	Proceed to "Portable Player cannot be Operated Using In-vehicle Device or Track Information is not Displayed on In-vehicle Device"	INFO
	Navigation receiver assembly	INFO
Portable player cannot pause, select file, fast forward, fast rewind, play at random or scan	Proceed to "Portable Player cannot be Operated Using In-vehicle Device or Track Information is not Displayed on In-vehicle Device"	INFO
	Navigation receiver assembly	INFO
Noise occurs or sound skips when portable player plays	Proceed to "Noise Occurs or Sound Skips when Portable Player Plays"	INFO

SYMPTOM	SUSPECTED AREA	SEE PAGE
Registered device cannot be deleted	Navigation receiver assembly	INFO
	Proceed to "Registered Device cannot be Deleted"	INFO
	Navigation receiver assembly	INFO

USB Audio System Function

SYMPTOM	SUSPECTED AREA	SEE PAGE
USB audio system sound cannot be heard or sound quality is bad (USB connector is used)	Proceed to "Data Signal Circuit between Stereo Jack Adapter and Extension Module"	INFO
	No. 1 stereo jack adapter assembly	INFO
	Navigation receiver assembly	INFO
USB device or "iPod" is not recognized	Proceed to "USB Audio System Recognition/Play Error"	INFO
	Proceed to "Data Signal Circuit between Stereo Jack Adapter and Extension Module"	INFO
	No. 1 stereo jack adapter assembly	INFO
	Navigation receiver assembly	INFO
Track information such as track, artist and album names are not displayed	Proceed to "USB Audio System Recognition/Play Error"	INFO
	Proceed to "Data Signal Circuit between Stereo Jack Adapter and Extension Module"	INFO
	No. 1 stereo jack adapter assembly	INFO
	Navigation receiver assembly	INFO
USB device or "iPod" is recognized but cannot play nor play in a sorted order	Proceed to "USB Audio System Recognition/Play Error"	INFO
	Proceed to "Data Signal Circuit between Stereo Jack Adapter and Extension Module"	INFO
	No. 1 stereo jack adapter assembly	INFO
	Navigation receiver assembly	INFO
Album cover art cannot be displayed	Check that display cover art on the "iPod" Settings screen is set to on	-
	Check that a JPEG file is used for the cover art	-
"iPod" battery cannot be charged	Proceed to "USB Audio System Recognition/Play Error"	INFO
	No. 1 stereo jack adapter assembly	INFO
	Navigation receiver assembly	INFO

SDARS System Function (w/ SDARS System)

SYMPTOM	SUSPECTED AREA	SEE PAGE
Satellite radio broadcast cannot be received or reception is bad	Proceed to "Satellite Radio Broadcast cannot be Received"	INFO
	Stereo component tuner assembly	INFO
	Navigation receiver assembly	INFO
Satellite radio cannot receive pay-type broadcasts	Proceed to "Satellite Radio Broadcast cannot be Received"	INFO
	Stereo component tuner assembly	INFO
	Navigation receiver assembly	INFO
Satellite radio broadcast cannot be selected or after selecting broadcast, broadcast cannot be added into memory	Proceed to "Satellite Radio Broadcast cannot be Received"	INFO
	Proceed to "Satellite Radio Broadcast cannot be Selected or After Selecting Broadcast, Broadcast cannot be Added into Memory"	INFO
	Stereo component tuner assembly	INFO
	Navigation receiver assembly	INFO
Satellite radio can be displayed but radio broadcast cannot be heard from speakers	Check the volume settings	-
	Proceed to "Satellite Radio Broadcast cannot be Received"	INFO
	Stereo component tuner assembly	INFO
	Navigation receiver assembly	INFO
Broadcast station logo cannot be displayed	Proceed to "Satellite Radio Broadcast cannot be Received"	INFO
	Proceed to "Data Signal Circuit between Navigation Receiver Assembly and Extension Module"	INFO
	Stereo component tuner assembly	INFO
	Navigation receiver assembly	INFO
Satellite radio text information cannot be displayed	Proceed to "Satellite Radio Broadcast cannot be Received"	INFO
	Stereo component tuner assembly	INFO
	Navigation receiver assembly	INFO
Satellite radio broadcast station cannot be selected (scan cannot be performed)	Proceed to "Satellite Radio Broadcast cannot be Received"	INFO
	Stereo component tuner assembly	INFO
	Navigation receiver assembly	INFO
When the satellite radio is playing, some cover art is not displayed	When a song unregistered to the Gracenote CDDb is playing, its cover art cannot be displayed	-
When the satellite radio is playing, cover art cannot be displayed	Navigation receiver assembly	INFO

Fuel Consumption Function

SYMPTOM	SUSPECTED AREA	SEE PAGE
"Fuel Consumption" icon is dimmed	Check if other icons or items displayed on screen have any problems	-
	Navigation receiver assembly	INFO
Graph is not displayed on "Trip Information" screen	Recheck with the engine running	-
	Navigation receiver assembly	INFO
Cruise range is not displayed on "Trip Information" screen	Turn the ignition switch to ON and recheck	-
	Navigation receiver assembly	INFO
Graph is not updated on "Past record" screen even though "Clear" is selected	Turn the ignition switch to ON and recheck	-
	Navigation receiver assembly	INFO
Graph is not displayed on "Past record" screen	Turn the ignition switch to ON and recheck	-
	Navigation receiver assembly	INFO

Entune App Suite Function (w/ Entune App Suite Function)

SYMPTOM	SUSPECTED AREA	SEE PAGE
An Entune App Suite system error message is displayed on the screen	Follow on screen instructions	-
	Proceed to "Confirm Cellular Phone Functionality"	INFO
	Proceed to "Confirm Vehicle Headunit Functionality"	INFO
	Proceed to "Entune App Suite Reset Procedure" in Operation Check	INFO
	Navigation receiver assembly	INFO
Entune App Suite apps and services are not operating as expected	Proceed to "Confirm Cellular Phone Functionality"	INFO
	Proceed to "Confirm Vehicle Headunit Functionality"	INFO
	Proceed to "Entune App Suite Reset Procedure" in Operation Check	INFO
	Navigation receiver assembly	INFO
Entune App Suite voice recognition is not possible (voice recognition on the navigation system is normal)	Proceed to "Confirm Cellular Phone Functionality"	INFO
	Proceed to "Confirm Vehicle Headunit Functionality"	INFO
	Proceed to "Entune App Suite Reset Procedure" in Operation Check	INFO

SYMPTOM	SUSPECTED AREA	SEE PAGE
Poor sound quality of Entune App Suite system	Navigation receiver assembly	INFO
	Confirm that cellular phone handset volume is turned up	-
	Confirm that adequate signal is maintained during driving	-
	Proceed to "Confirm Cellular Phone Functionality"	INFO
	Proceed to "Confirm Vehicle Headunit Functionality"	INFO
	Proceed to "Entune App Suite Reset Procedure" in Operation Check	INFO
	Navigation receiver assembly	INFO



Last Modified: 11-13-2015	6.6 J	Doc ID: RM000000PN80WOX
Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: NAVIGATION: NAVIGATION SYSTEM: Panel Switches do not Function; 2016 MY Tacoma [08/2015 -]		

Panel Switches do not Function

INSPECTION PROCEDURE

PROCEDURE

1. CHECK PANEL SWITCH

(a) Check for foreign matter around the switches that might prevent operation.

OK:

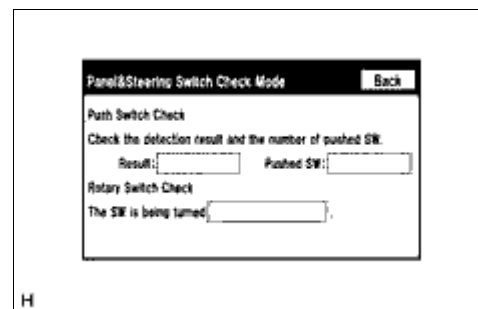
No foreign matter is found.

NG ► **REMOVE ANY FOREIGN MATTER FOUND**

OK

2. CHECK PANEL SWITCH (OPERATION CHECK)

(a) Enter the "Panel & Steering Switch Check Mode" screen. Refer to Check Panel & Steering Switch in Operation Check **INFO** .



(b) Operate the abnormal switch and check if the switch status is correctly displayed.

OK:

The switch status is correctly displayed as operated.

NG ► **PROCEED TO NEXT SUSPECTED AREA SHOWN IN PROBLEM SYMPTOMS TABLE**

OK ► **REPLACE NAVIGATION RECEIVER ASSEMBLY**



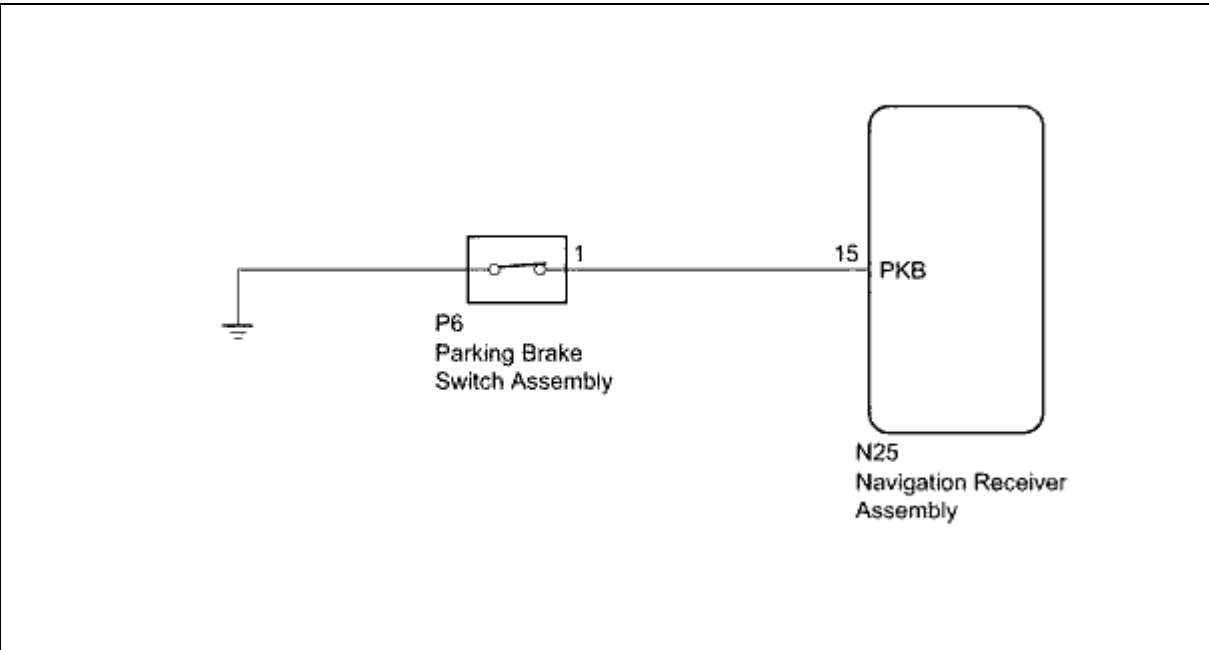
Last Modified: 11-13-2015	6.6 J	Doc ID: RM0000011F30SVX
Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: NAVIGATION: NAVIGATION SYSTEM: Parking Brake Switch Circuit; 2016 MY Tacoma [08/2015 -]		

Parking Brake Switch Circuit

DESCRIPTION

This circuit is from the parking brake switch assembly to the navigation receiver assembly.

WIRING DIAGRAM

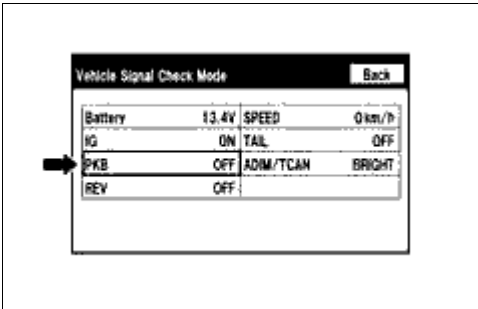


INSPECTION PROCEDURE

PROCEDURE

1.	CHECK VEHICLE SIGNAL (OPERATION CHECK)
----	--

(a) Display the "Vehicle Signal Check Mode" screen [INFO](#) .



(b) Check that the display changes between ON and OFF according to the parking brake operation.

OK:

PARKING BRAKE CONDITION	DISPLAY
Applied	ON
Released	OFF

HINT:

This display is updated once per second. As a result, it is normal for the display to lag behind the actual parking brake operation.

NG ► **GO TO STEP 2**

OK ► **PROCEED TO NEXT SUSPECTED AREA SHOWN IN PROBLEM SYMPTOMS TABLE**

2.	CHECK HARNESS AND CONNECTOR (NAVIGATION RECEIVER ASSEMBLY - PARKING BRAKE SWITCH ASSEMBLY)
-----------	---

(a) Disconnect the N25 navigation receiver assembly connector.

(b) Disconnect the P6 parking brake switch assembly connector.

(c) Measure the resistance according to the value(s) in the table below.

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
N25-15 (PKB) - P6-1	Always	Below 1 Ω
N25-15 (PKB) - Body ground	Always	10 k Ω or higher

NG ► **REPAIR OR REPLACE HARNESS OR CONNECTOR**

OK
▼

3.	INSPECT PARKING BRAKE SWITCH ASSEMBLY
-----------	--

(a) Remove the parking brake switch assembly.

(b) Inspect the parking brake switch assembly.

for Hydraulic Brake Booster: **INFO**

for Vacuum Brake Booster: **INFO**

NG ► **REPLACE PARKING BRAKE SWITCH ASSEMBLY**

OK ► **PROCEED TO NEXT SUSPECTED AREA SHOWN IN
PROBLEM SYMPTOMS TABLE**



Last Modified: 11-13-2015	6.6 J	Doc ID: RM0000020N90J4X
Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: NAVIGATION: NAVIGATION SYSTEM: Poor Sound Quality in All Modes (Low Volume); 2016 MY Tacoma [08/2015 -]		

Poor Sound Quality in All Modes (Low Volume)

INSPECTION PROCEDURE

PROCEDURE

1.	CHECK AUDIO SETTINGS
-----------	-----------------------------

(a) Set "Treble", "Mid" and "Bass" to the initial values and check that sound is normal.

OK:

Malfunction disappears.

HINT:

Sound quality adjustment measures vary according to the type of amplifier.

NG ► **GO TO STEP 2**

OK ► **END**

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.

NG ► **PROCEED TO NEXT SUSPECTED AREA SHOWN IN PROBLEM SYMPTOMS TABLE**

OK ► **END**



Last Modified: 11-13-2015	6.6 J	Doc ID: RM000003UOZ0TBX
Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: NAVIGATION: NAVIGATION SYSTEM: Portable Player cannot be Connected Manually/Automatically; 2016 MY Tacoma [08/2015 -]		

Portable Player cannot be Connected Manually/Automatically

INSPECTION PROCEDURE

HINT:

Some versions of "Bluetooth" compatible audio players may not function, or the function may be limited using the navigation receiver assembly, even if the portable audio player itself can play files [INFO](#) .

PROCEDURE

1.	CHECK CONNECTED DEVICE SETTINGS
-----------	--

(a) Check if the portable player is registered as a connected device.

NOTICE:

If a cellular phone is used as a portable player, it must be registered independently from the registration that is performed for the hands-free system.

HINT:

Only 5 portable players can be registered.

Result

RESULT	PROCEED TO
The portable player is registered as a connected device	A
The portable player is not registered as a connected device	B

B  **REGISTER PORTABLE PLAYER AS CONNECTED DEVICE**

A



2.	CHECK SYMPTOMS
-----------	-----------------------

(a) Check the connection condition between the portable player and navigation receiver assembly.

The portable player cannot be connected under any of the following

conditions:

- The portable player is connected to another device.
- The navigation receiver assembly has cleared the portable player registration.
- The portable player is off.

Result

RESULT	PROCEED TO
The portable player cannot be connected automatically	A
The portable player cannot connect manually	B

B ► **GO TO STEP 4**

A



3.	CHECK AUTOMATIC CONNECTION SETTINGS
-----------	--

(a) Check automatic connection settings of the "Bluetooth" audio.

(1) Check if the "Bluetooth" function is turned on.

OK:

"Bluetooth" connection is on.

NG ► **CHANGE "Bluetooth" POWER TO "ON"**

OK



4.	CHECK PORTABLE PLAYER STATUS
-----------	-------------------------------------

(a) Check the status of the portable player.

(1) Check that the portable player is not in standby mode.

(2) Check that the portable player is not connected to another device (headphones etc.).

OK:

The portable player is not in standby mode and not connected to another device (headphones etc.).

NG ► **TAKE PORTABLE PLAYER OUT OF STANDBY MODE
AND DISCONNECT OTHER DEVICES (HEADPHONES
etc.)**

OK



5.	CHECK USING ANOTHER "Bluetooth" AUDIO COMPATIBLE VEHICLE OF SAME MODEL
-----------	---

(a) Check if the portable player can be connected manually/automatically on another "Bluetooth" audio compatible vehicle of the same model.

OK:

The portable player can be connected manually/automatically.

NG **PORTABLE PLAYER IS NOT COMPATIBLE**

OK



6.	REMOVE ADDITIONAL DEVICES WHICH USE RADIO WAVES
-----------	--

(a) Remove additional devices which use radio waves.

(b) Check if the portable player can be connected manually/automatically.

OK:

The portable player can be connected manually/automatically.

NG **PROCEED TO NEXT SUSPECTED AREA SHOWN IN PROBLEM SYMPTOMS TABLE**

OK **END**



Last Modified: 11-13-2015	6.6 J	Doc ID: RM000003UOS0T5X
Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: NAVIGATION: NAVIGATION SYSTEM: Portable Player cannot be Operated Using In-vehicle Device or Track Information is not Displayed on In-vehicle Device; 2016 MY Tacoma [08/2015 -]		

Portable Player cannot be Operated Using In-vehicle Device or Track Information is not Displayed on In-vehicle Device

INSPECTION PROCEDURE

PROCEDURE

1.	CHECK USING ANOTHER "Bluetooth" AUDIO COMPATIBLE VEHICLE OF SAME MODEL
-----------	---

(a) Check if track information is displayed normally on another "Bluetooth" audio compatible vehicle of the same model.

OK:

Track information is displayed normally.

NG ► **PORTABLE PLAYER IS NOT COMPATIBLE**

OK ► **PROCEED TO NEXT SUSPECTED AREA SHOWN IN PROBLEM SYMPTOMS TABLE**



Last Modified: 11-13-2015	6.6 J	Doc ID: RM000003UP10T8X
Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: NAVIGATION: NAVIGATION SYSTEM: Portable Player cannot be Registered; 2016 MY Tacoma [08/2015 -]		

Portable Player cannot be Registered

INSPECTION PROCEDURE

HINT:

Some versions of "Bluetooth" compatible audio players may not function, or the function may be limited using the navigation receiver assembly, even if the portable audio player itself can play files [INFO](#) .

PROCEDURE

1.	CHECK THAT PORTABLE PLAYER IS "Bluetooth" AUDIO COMPATIBLE
-----------	---

(a) Check if the portable player is "Bluetooth" audio compatible.

Result

RESULT	PROCEED TO
The portable player is "Bluetooth" audio compatible	A
The portable player is not "Bluetooth" audio compatible	B

B  **USE A "Bluetooth" AUDIO COMPATIBLE PORTABLE PLAYER**

A



2.	CHECK CONNECTION PROCEDURE OF CONNECTED DEVICE
-----------	---

(a) Referring to the owner's manual, correctly register the portable player.

(b) Check that the portable player has been registered as a connected device.

The portable player cannot be registered under any of the following conditions:

- The A2DP (Advanced Audio Distribution Profile) is not used when registering a cellular phone.
- A different portable player registration remains in the navigation receiver assembly.
- A different device registration remains in the portable player.
- The portable player is off.

OK:

The portable player has been registered as a connected device.

NG ► **GO TO STEP 3**

OK ► **END**

3.	CHECK USING ANOTHER "Bluetooth" AUDIO COMPATIBLE VEHICLE OF SAME MODEL
-----------	---

- (a) Check if the portable player can be registered normally on another "Bluetooth" audio compatible vehicle of the same model.

OK:

The portable player can be registered.

NG ► **MALFUNCTION IN PORTABLE PLAYER**

OK



4.	REMOVE ADDITIONAL DEVICES WHICH USE RADIO WAVES
-----------	--

- (a) Remove additional devices which use radio waves.
- (b) Place the portable player close to the navigation receiver assembly.
- (c) Check that the portable player can be registered as a connected device.

OK:

The portable player can be registered.

NG ► **PROCEED TO NEXT SUSPECTED AREA SHOWN IN PROBLEM SYMPTOMS TABLE**

OK ► **END**



Last Modified: 11-13-2015	6.6 J	Doc ID: RM0000012CN10BX
Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: NAVIGATION: NAVIGATION SYSTEM: Radio Broadcast cannot be Received or Poor Reception; 2016 MY Tacoma [08/2015 -]		

Radio Broadcast cannot be Received or Poor Reception

INSPECTION PROCEDURE

PROCEDURE

1.	CHECK NAVIGATION RECEIVER ASSEMBLY
-----------	---

(a) Check the radio automatic station search function.

(1) Check the radio automatic station search function by activating it.

Result

RESULT	PROCEED TO
Automatic station search function does not stop	A
Automatic station search function stops on a station	B

B  **REPLACE NAVIGATION RECEIVER ASSEMBLY**

A



2.	CHECK OPTIONAL COMPONENTS
-----------	----------------------------------

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

Result

RESULT	PROCEED TO
Optional components are not installed	A
Optional components are installed	B

NOTICE:

Do not remove optional components without the permission of the customer.

B ► **REMOVE OPTIONAL COMPONENTS AND CHECK AGAIN (SEE NOTICE ABOVE)**

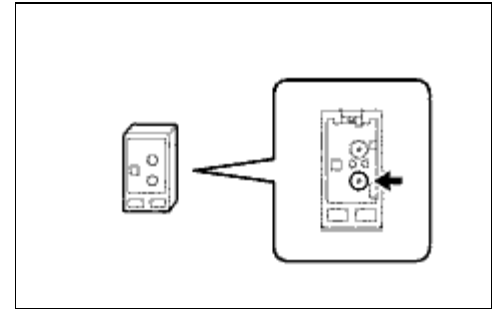
A



3.	CHECK NAVIGATION RECEIVER ASSEMBLY
-----------	---

(a) Preparation for check

- (1) Remove the antenna connector from the navigation receiver assembly.



(b) Check for noise

- (1) Turn the ignition switch to ACC with the navigation receiver assembly connector connected.
- (2) Turn the radio on and tune into AM mode.
- (3) Place a screwdriver, thin wire or other metal object on the navigation receiver assembly antenna jack and check that noise can be heard from the speakers.

OK:

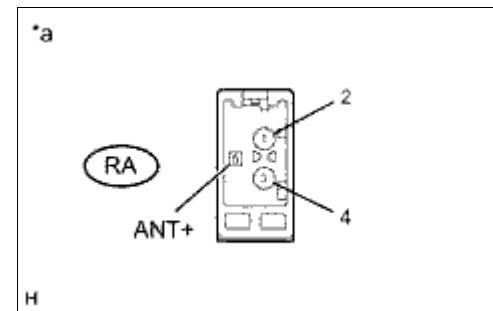
Noise can be heard from the speakers.

NG ► **REPLACE NAVIGATION RECEIVER ASSEMBLY**

OK



4.	INSPECT NAVIGATION RECEIVER ASSEMBLY
-----------	---



(a) Disconnect the navigation receiver assembly connector.

(b) Measure the voltage according to the value(s) in the table below.

Standard Voltage:

TESTER CONNECTION	SWITCH CONDITION	SPECIFIED CONDITION
RA-5 (ANT+) - Body ground	Ignition switch ACC. Radio switch on and FM or AM selected	11 to 14 V

Text in Illustration

*a	Component without harness connected (Navigation Receiver Assembly)
----	---

NG **REPLACE NAVIGATION RECEIVER ASSEMBLY**

OK

5.	REPLACE ANTENNA CORD SUB-ASSEMBLY
-----------	--

(a) Replace the antenna cord sub-assembly and check if radio broadcasts can be received normally

OK:
Radio broadcasts can be received normally.

NG **GO TO STEP 6**

OK **END**

6.	REPLACE NO. 2 ANTENNA CORD SUB-ASSEMBLY
-----------	--

(a) Replace the antenna assembly with assembly and check if radio broadcasts can be received normally

OK:

Radio broadcasts can be received normally.

NG ► **GO TO STEP 7**

OK ► **END**

7.	REPLACE ANTENNA ASSEMBLY WITH HOLDER
-----------	---

(a) Replace the roof antenna assembly and check if radio broadcasts can be received normally  .

OK:

Radio broadcasts can be received normally.

NG ► **REPLACE NAVIGATION RECEIVER ASSEMBLY**

OK ► **END**



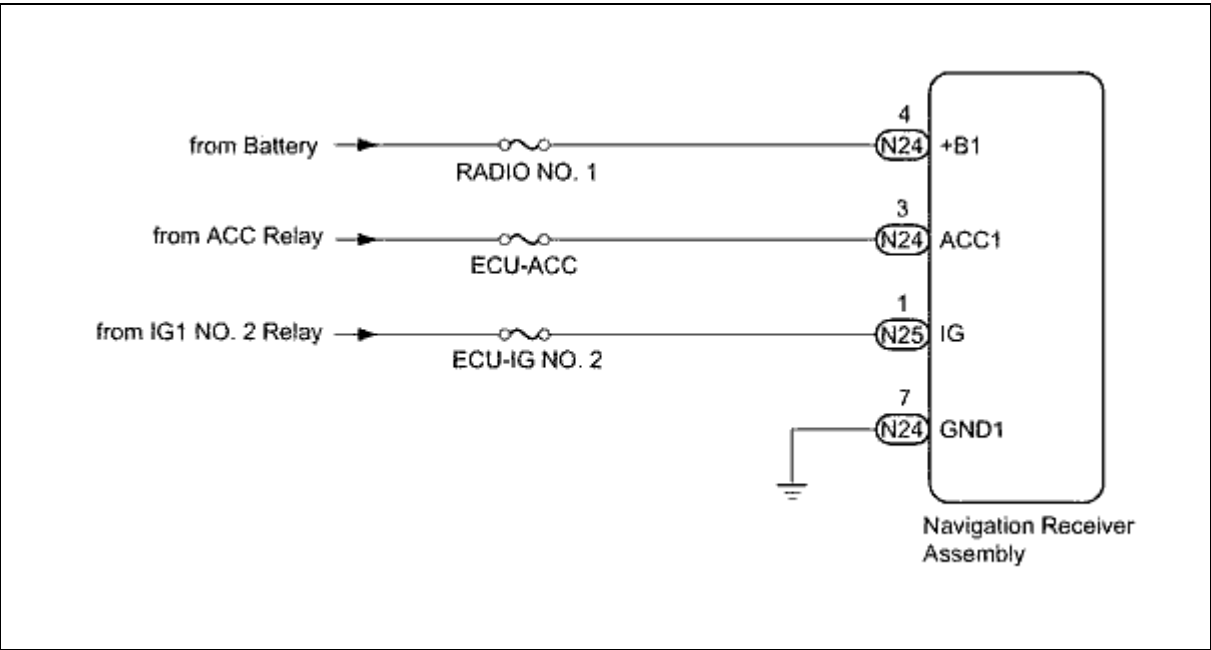
Last Modified: 11-13-2015	6.6 J	Doc ID: RM000002NNF0Q9X
Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: NAVIGATION: NAVIGATION SYSTEM: Radio Receiver Power Source Circuit; 2016 MY Tacoma [08/2015 -]		

Radio Receiver Power Source Circuit

DESCRIPTION

This is the power source circuit to operate the navigation receiver assembly.

WIRING DIAGRAM



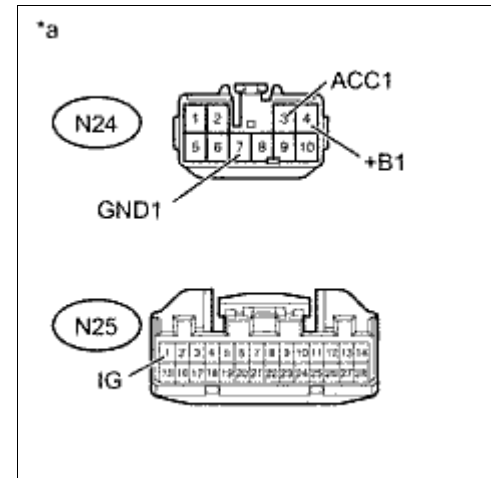
INSPECTION PROCEDURE

NOTICE:

Inspect the fuses for circuits related to this system before performing the following inspection procedure.

PROCEDURE

1.	CHECK HARNESS AND CONNECTOR (NAVIGATION RECEIVER ASSEMBLY - BATTERY AND BODY GROUND)
----	--



(a) Disconnect the N24 and N25 navigation receiver assembly connectors.

(b) Measure the resistance according to the value(s) in the table below.

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
N24-7 (GND1) - Body ground	Always	Below 1 Ω

(c) Measure the voltage according to the value(s) in the table below.

Standard Voltage:

TESTER CONNECTION	SWITCH CONDITION	SPECIFIED CONDITION
N24-4 (+B1) - N24-7 (GND1)	Always	11 to 14 V
N24-3 (ACC1) - N24-7 (GND1)	Ignition switch ACC	11 to 14 V
N25-1 (IG) - N24-7 (GND1)	Ignition switch ON	11 to 14 V

Text in Illustration

*a	Front view of wire harness connector (to Navigation Receiver Assembly)
----	---

NG ► REPAIR OR REPLACE HARNESS OR CONNECTOR

OK ► PROCEED TO NEXT SUSPECTED AREA SHOWN IN
PROBLEM SYMPTOMS TABLE



Last Modified: 11-13-2015	6.6 J	Doc ID: RM000003UP00TYX
Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: NAVIGATION: NAVIGATION SYSTEM: Registered Device cannot be Deleted; 2016 MY Tacoma [08/2015 -]		

Registered Device cannot be Deleted

INSPECTION PROCEDURE

PROCEDURE

1.	DELETE OPERATION
-----------	-------------------------

(a) Check if a registered portable player can be deleted normally.

OK:

Registered portable player can be deleted normally.

NG ► **PROCEED TO NEXT SUSPECTED AREA SHOWN IN PROBLEM SYMPTOMS TABLE**

OK ► **END**



Last Modified: 11-13-2015	6.6 J	Doc ID: RM000000PNN0OIX
Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: NAVIGATION: NAVIGATION SYSTEM: Route cannot be Calculated; 2016 MY Tacoma [08/2015 -]		

Route cannot be Calculated

INSPECTION PROCEDURE

PROCEDURE

1.	SET DESTINATION
-----------	------------------------

(a) Set another destination and check if the system can calculate the route correctly.

OK:

Route can be correctly calculated.

NG ► **PROCEED TO NEXT SUSPECTED AREA SHOWN IN
PROBLEM SYMPTOMS TABLE**

OK ► **NORMAL OPERATION**



Last Modified: 11-13-2015	6.6 D	Doc ID: RM0000011BT0LCX
Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: NAVIGATION: NAVIGATION SYSTEM: SYSTEM DESCRIPTION; 2016 MY Tacoma [08/2015 -]		

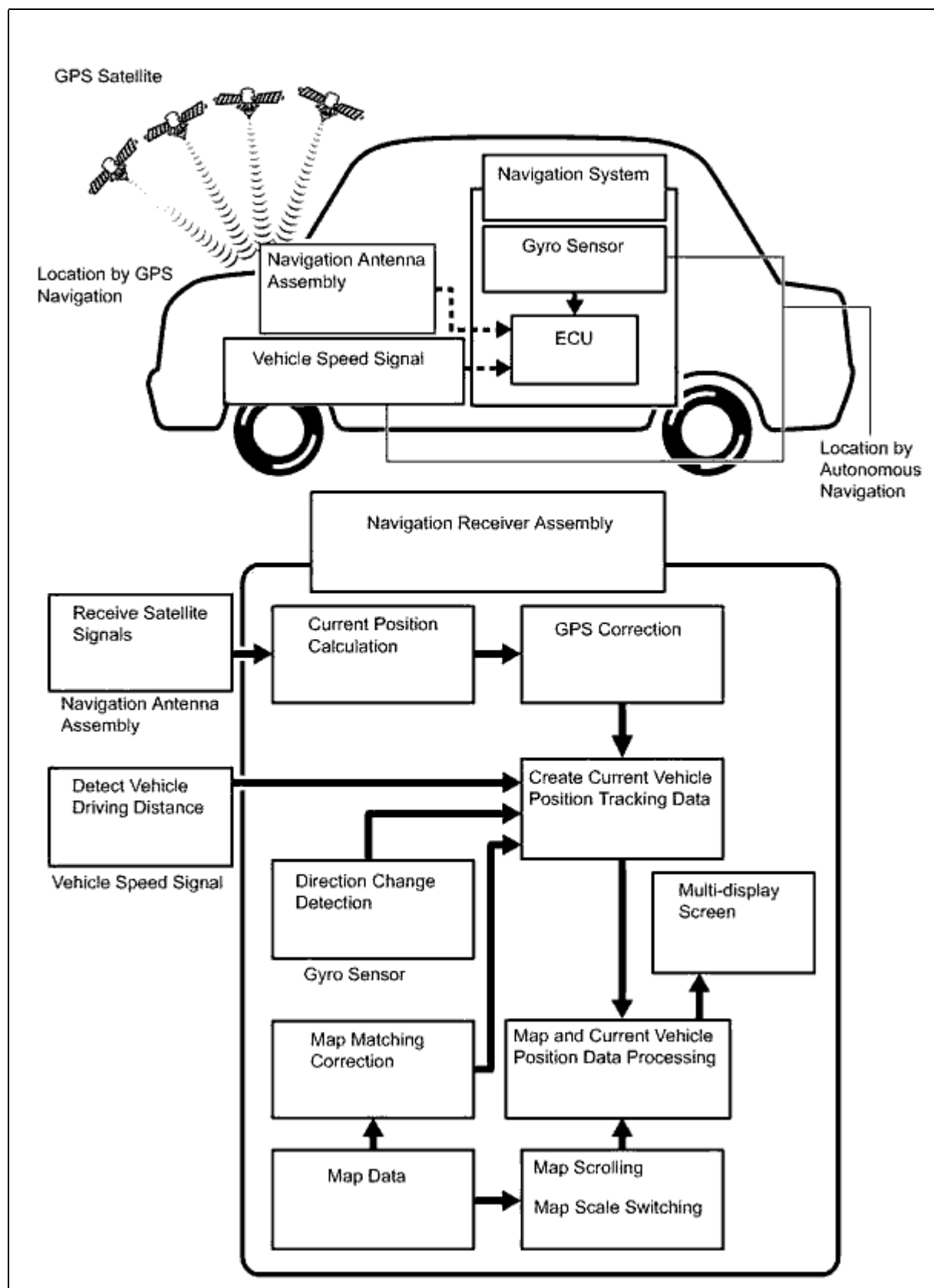
SYSTEM DESCRIPTION

1. NAVIGATION SYSTEM OUTLINE

(a) Vehicle position tracking methods

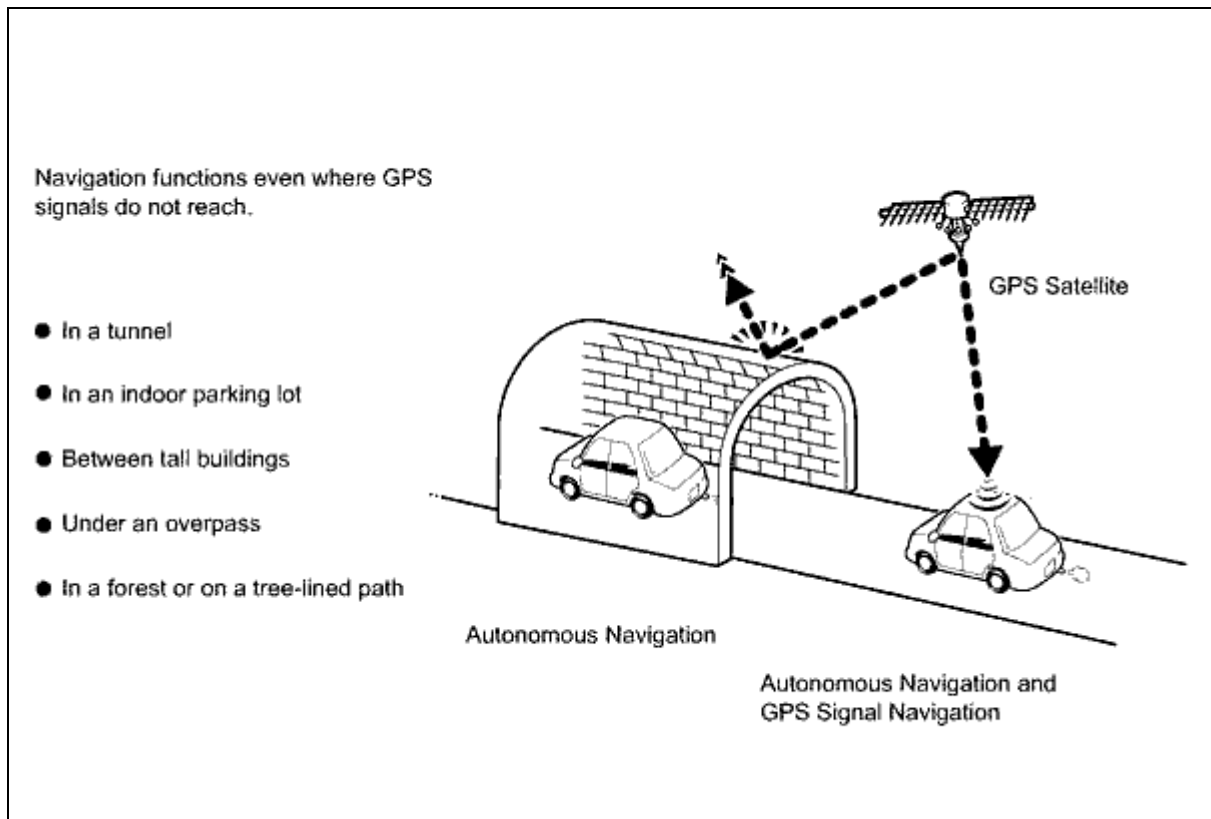
It is essential that the navigation system correctly tracks the current vehicle position and displays it on the map. There are 2 methods to track the current vehicle position: autonomous (dead reckoning) and GPS* (satellite) navigation. Both navigation methods are used in conjunction with each other.

*: GPS (Global Positioning System)



OPERATION	DESCRIPTION
Vehicle Position Calculation	The navigation receiver assembly calculates the current vehicle position (direction and current position) using the direction deviation signal from the gyro sensor and driving distance signal from the vehicle speed sensor and creates the driving route.

OPERATION	DESCRIPTION
Map Display Processing	The navigation receiver assembly processes the vehicle position data, vehicle driving track and map data from the SD card.
Map Matching	The map data from the SD card is compared to the vehicle position and driving track data. Then, the vehicle position is matched with the nearest road.
GPS Correction	The vehicle position is matched to the position measured by the GPS. Then, the GPS measurement position data is compared with the vehicle position and driving track data. If the position is very different, the GPS measurement position is used.
Distance Correction	The vehicle speed signal includes the error caused by tire wear and slippage between the tires and road surface. Distance correction is performed to account for this. The navigation receiver assembly automatically offsets the signal to make up for the difference between it and the distance data of the map. The offset is automatically updated.



HINT:

The combination of autonomous and GPS navigation makes it possible to display the vehicle position even when the vehicle is in places where GPS signals cannot be received. When only autonomous navigation is used, however, the mapping accuracy may slightly decrease.

(b) Autonomous navigation

This method determines the relative vehicle position based on the driving track determined by the gyro located in the navigation receiver assembly and the vehicle speed signal.

(1) Gyro sensor

Used to calculate the direction by detecting angular velocity. It is located in the navigation receiver assembly.

(2) Vehicle speed signal

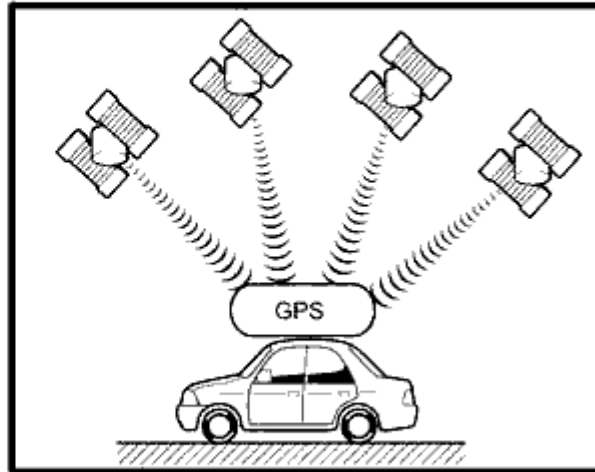
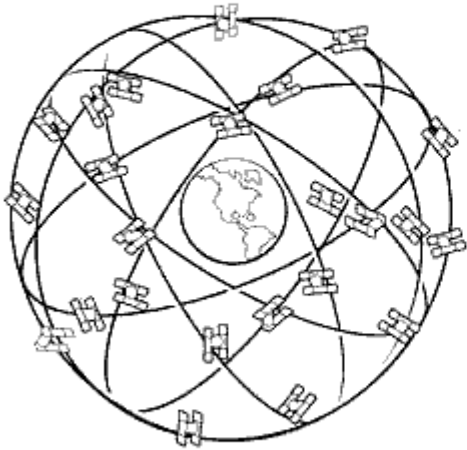
Used to calculate the vehicle driving distance.

(c) GPS * navigation (Satellite navigation)

This method detects the absolute vehicle position using radio waves from GPS satellites.

*: GPS satellites were launched by the U.S. Department of Defense for military purposes.

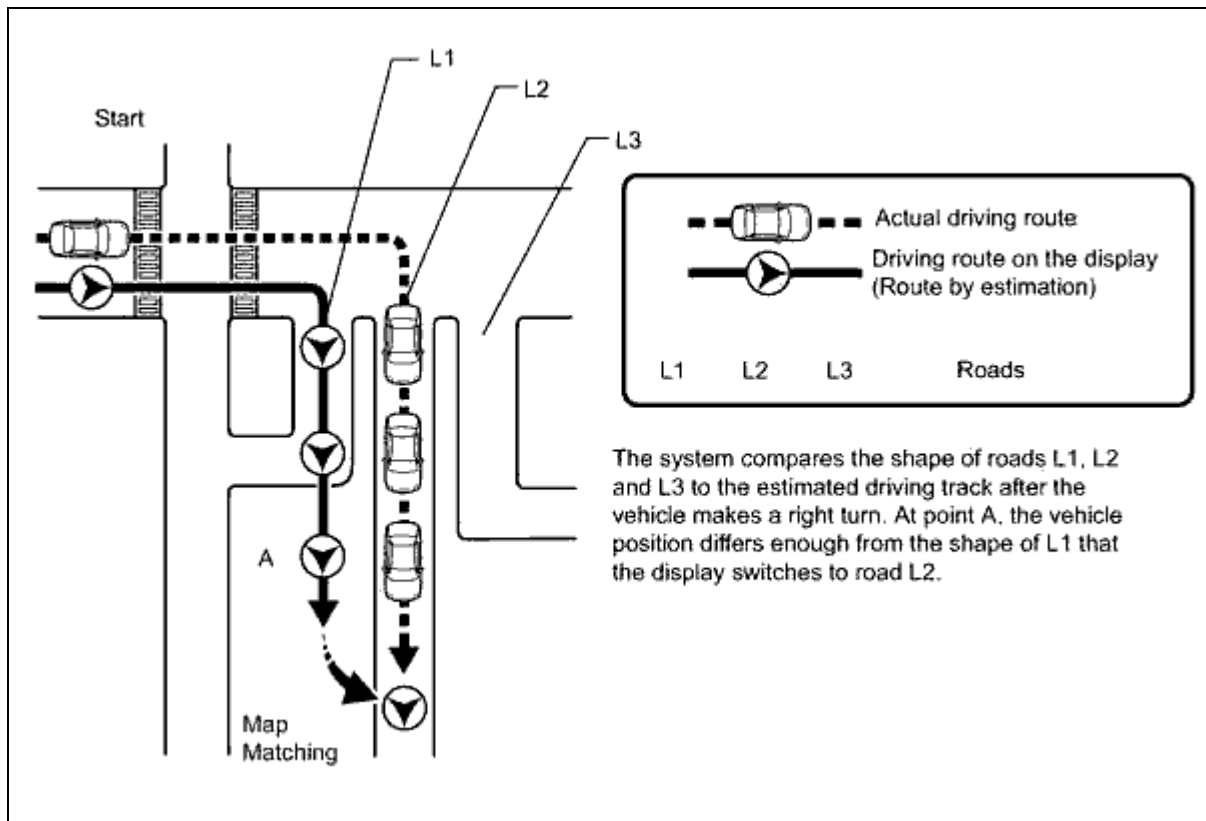
Current longitude/latitude/altitude is determined using the signal arrival time from four satellites.



NUMBER OF SATELLITES	MEASUREMENT	DESCRIPTION
2 or less	Measurement is impossible	Vehicle position cannot be obtained because the number of satellites is not enough.
3	2-dimensional measurement is possible	Vehicle position is obtained based on the current longitude and latitude. (This is less precise than 3-dimensional measurement.)
4	3-dimensional measurement is possible	Vehicle position is obtained based on the current longitude, latitude and altitude.

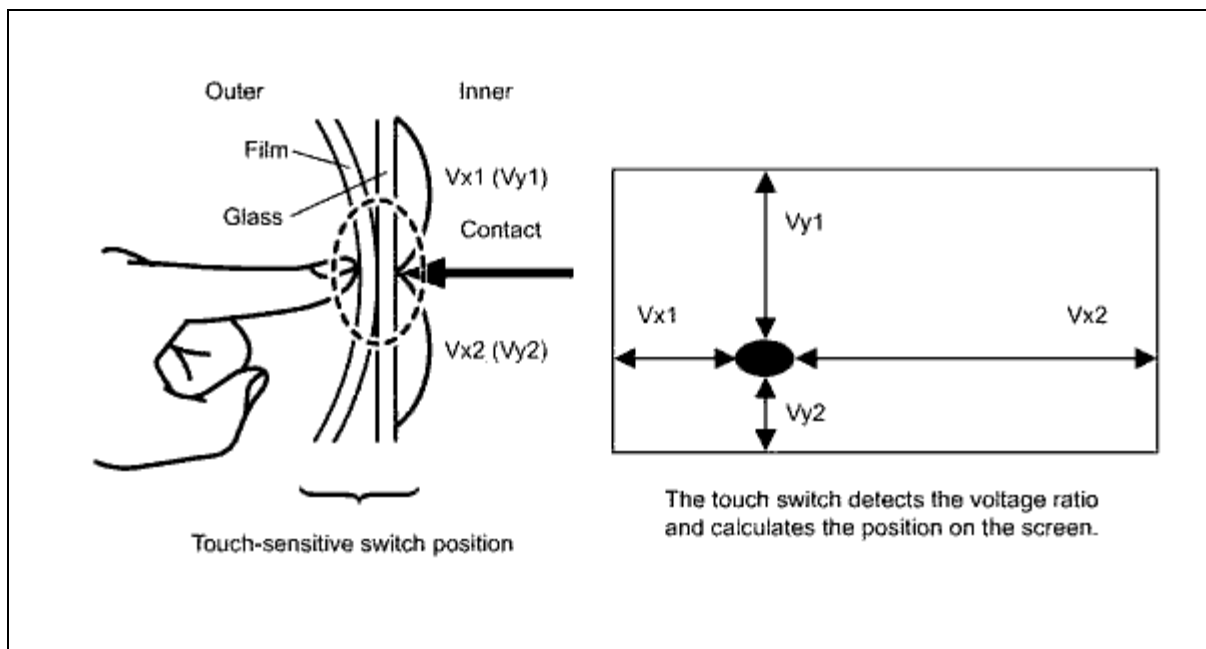
(d) Map matching

The current driving route is calculated by autonomous navigation (according to the gyro sensor and vehicle speed signal) and GPS navigation. This information is then compared with possible road shapes from the map data in the SD card and the vehicle position is set onto the most appropriate road.



(e) Touch switch

Touch switches are touch-sensitive (interactive) switches operated by touching the screen. When a switch is pressed, the outer glass bends in to contact the inner glass at the pressed position. By doing this, the voltage ratio is measured and the pressed position is detected.



2. CD (Compact Disc) PLAYER OUTLINE

(a) A compact disc player uses a laser pickup to read digital signals recorded on a compact disc (CD). By converting the digital signals to analog, it can play music and audio.

CAUTION:

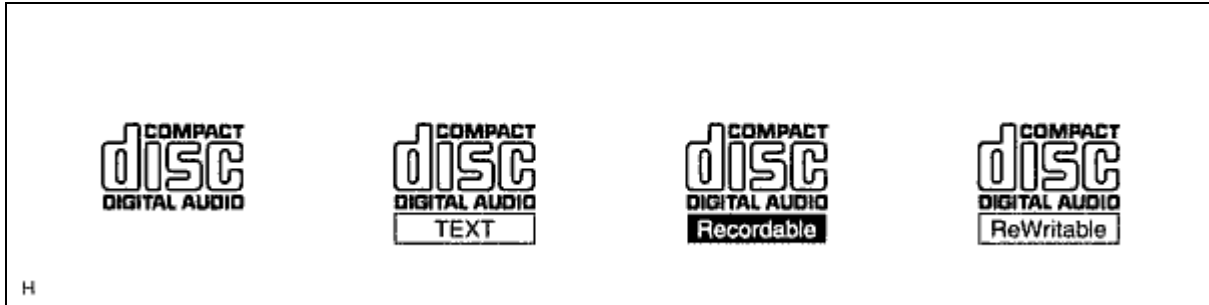
Do not look directly at the laser pickup because the CD player uses an invisible laser beam. Be sure to operate the player only as instructed.

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) This player can play only audio CDs, CD-Rs (CD-Recordable) and CD-RWs (CD-ReWritable) that have any of the following marks:



(c) Precautions for use of discs

NOTICE:

- Copy-protected CDs cannot be played.
- CD-Rs and CD-RWs may not be played depending on the recording conditions or characteristics of the discs, or due to damage, dirt or deterioration caused by leaving the discs in the cabin for a long time.
- Unfinalized CD-Rs and CD-RWs cannot be played.
- DualDiscs that combine DVD recorded material on one side with CD digital audio material on the other cannot be played.
- Keep the discs away from dirt. Be careful not to damage the discs or leave your fingerprints on them.
- Hold discs by the outer edge and center hole with the label side up.
- Leaving the disc exposed halfway out of the slot for a long time after pressing the disc eject button may cause deformation of the disc, making the disc unusable.
- If discs have adhesive tape, stickers, CD labels or any traces of such labels attached, the discs may not be ejected or player malfunctions may result.
- Keep the discs away from direct sunlight. (Exposure to direct sunlight may cause deformation of the disc, making the disc unusable.)
- Do not use odd-shaped CDs because these may cause player malfunctions.
- Do not use discs whose recording portion is transparent or translucent because they may not be inserted, ejected or played normally.
- Use only 4.7 in. (12 cm) CDs.
- Do not use 3 in. (8 cm) CDs either with or without adaptors.

HINT:

- When it is cold or it is raining, if the windows mist up, mist and condensation may form in the player. In such cases, the CD may skip or stop in the middle of play. Ventilate or dehumidify the cabin for a while before using the player.
- The CD may skip if the player experiences strong vibrations when the vehicle is driven on rough roads or similar uneven surfaces.

(d) Cleaning

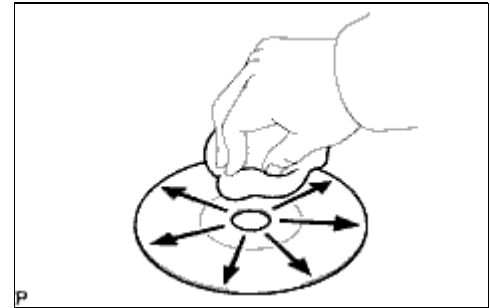
NOTICE:

Do not use a lens cleaner because it may cause a malfunction in the pickup portion of the player.

- (1) If dirt is on the disc surface, wipe it clean with a soft dry cloth such as an eyeglass cleaner for plastic lenses from the inside to the outside in a radial direction.

NOTICE:

- Pressing on the disc by hand or rubbing the disc with a hard cloth may scratch the disc surface.
- Use of solvents such as record spray, antistatic agents, alcohol, benzine, thinners or a chemical cloth may cause damage to the disc, making the disc unusable.



3. MP3/WMA/AAC OUTLINE

(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: 32, 40, 48, 56, 64, 80, 96, 112, 128, 160, 192, 224, 256, 320 (kbps) • MPEG2 LSF LAYER3: 8, 16, 24, 32, 40, 48, 56, 64, 80, 96, 112, 128, 144, 160 (kbps) • Compatible with VBR
Compatible channel mode	Stereo, joint stereo, dual channel, monaural

(b) Playable WMA file standards

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

(c) Playable AAC file standards

Compatible standard	MPEG4/AAC-LC
Compatible sampling frequency	11.025, 12, 16, 22.05, 24, 32, 44.1, 48 (kHz)
Compatible bit rate	• 16 to 320 (kbps) • Compatible with VBR

(d) ID3 tag, WMA tag and AAC tag

- (1) Additional text information called an ID3 tag can be input to MP3 files. Information such as song titles and artist names can be stored.

HINT:

This player is compatible with 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 text information called a WMA tag can be input to WMA files. Information such as song titles and artist names can be stored.

- (3) Additional text information called an AAC tag can be input to AAC files. Information such as song titles and artist names can be stored.

(e) Usable media

- (1) Only CD-ROMs, CD-Rs (CD-Recordable), CDRWs (CD-ReWritable) and USB device can be used to play MP3/WMA/AAC 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 do not play.
- If there are fingerprints or scratches on a disc, the disc may not play or the CD may skip.
- Some CD-Rs and CD-RWs may deteriorate if they are left in the cabin for a long time.
- Keep CD-Rs and CD-RWs in an opaque case.

(f) Usable media format

- (1) Usable media format

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

HINT:

- As for MP3/WMA/AAC files written in any unlisted format, the contents of the files may not be played normally 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/AAC files have been added. However, only the first session can be played.
- Discs whose first session includes both music data and MP3 or WMA and AAC format data cannot be played.

- (2) Standards and restrictions

Maximum directory levels	8 levels
Maximum number of characters for a folder name/file name	32 characters
Maximum number of folders	192 (Including empty folders, the root folder, and folders that do not contain MP3/WMA/AAC files)
Maximum number of files in a disc	255 (Including non-MP3/WMA/AAC files)

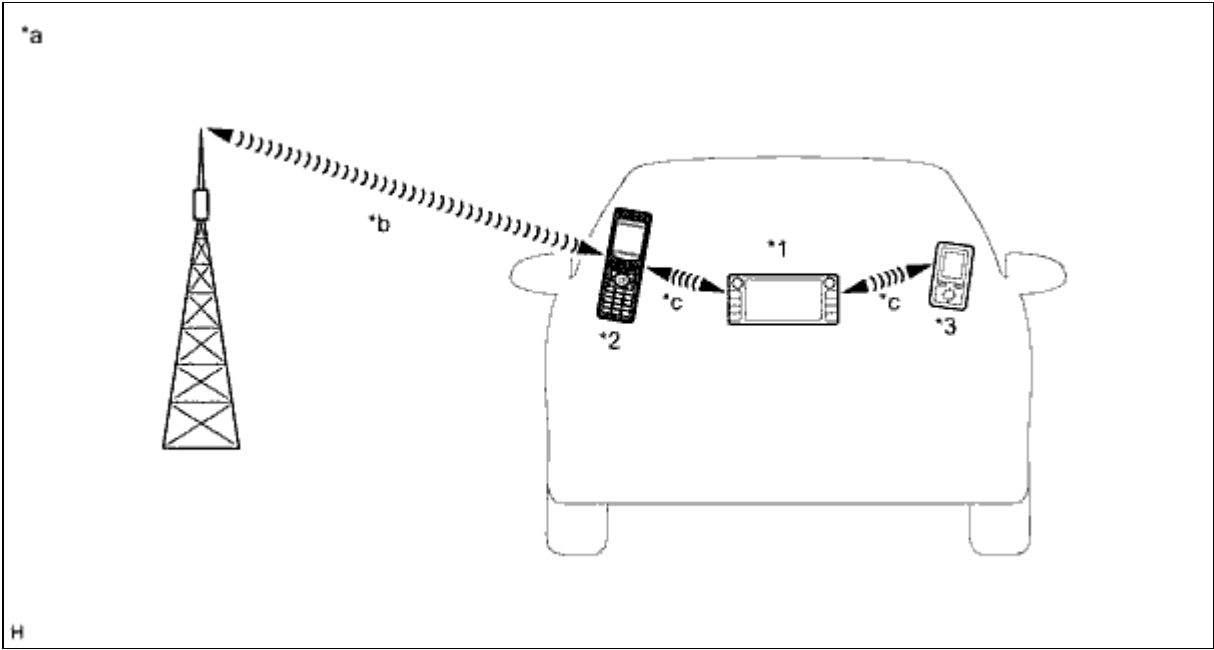
(g) File names

- (1) Only files with an extension of ".mp3", ".wma" and ".m4a" can be recognized and played as MP3, WMA or AAC files.
- (2) Save MP3, WMA or AAC files with an extension of ".mp3", ".wma" or ".m4a".

NOTICE:

If non-MP3, non-WMA or non-AAC files are saved with an extension of ".mp3", ".wma" or ".m4a", those files may be wrongly recognized as MP3, WMA or AAC files and played. A loud noise may occur and damage to the speakers may result.

4. "Bluetooth" OUTLINE



Text in Illustration

*1	Navigation Receiver Assembly (Built-in "Bluetooth" receiver antenna)	*2	Cellular Phone ("Bluetooth" compatible type)
*3	Portable Audio Player ("Bluetooth" compatible type)	-	-
*a	Example	*b	Cellular Network
*c	"Bluetooth" Wireless Connection	-	-

- (a) "Bluetooth" is a trademark owned by Bluetooth SIG, Inc.
- (b) "Bluetooth" is a wireless connection technology that uses the 2.4 GHz frequency band.

HINT:

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

- (c) Hands-free function
- (1) The "Bluetooth" built-in navigation receiver assembly and a "Bluetooth" compatible cellular phone*1 can be connected using a "Bluetooth" wireless connection. This enables the use of the hands-free function on the cellular phone even if the phone is in a pocket or bag. For this reason, it is not necessary to use a connector or cable to connect the cellular phone.

*1: Some versions of "Bluetooth" compatible cellular phones may not function.

- (2) Compatible hands-free devices

Required "Bluetooth" specifications	Ver. 2.0 or higher (Ver. 3.0+EDR recommended)
-------------------------------------	---

Compatible profiles	• HFP (Hands Free Profile) Ver.1.0 or higher (Ver.1.6 recommended)*1 • OPP (Object Push Profile) Ver.1.1 or higher*1 • PBAP (Phone Book Access Profile) Ver.1.0 or higher*1 • MAP (Message Access Profile) Ver.1.0 or higher*2 • SPP (Serial Port Profile) Ver.1.1 or higher*3
Maximum number of hands-free devices that can be registered (including audio devices)	5

*1: This profile is necessary when using hands-free function.

*2: This profile is necessary when using message function.

*3: This profile is necessary when using the Entune App Suite function (w/ Entune App Suite Function).

HINT:

- "Bluetooth" compatible cellular phone can be checked at [http:// www.toyota.com/entune/](http://www.toyota.com/entune/).
- The amount of remaining battery charge displayed on the navigation receiver assembly may be different from that of the "Bluetooth" device.

(d) "Bluetooth" audio function

- (1) The "Bluetooth" built-in navigation receiver assembly and a "Bluetooth" compatible portable audio player*1 can be connected using a "Bluetooth" wireless connection. This enables files stored in the portable audio player to be heard from the vehicle speakers. In addition, operations such as play/stop can be performed directly from the navigation receiver assembly.

*1: Some versions of "Bluetooth" compatible audio players may not be able to operate the "Bluetooth" function, or music may play, but functions available using the navigation receiver assembly may be limited.

(2) Compatible "Bluetooth" audio devices

Required "Bluetooth" specifications	Ver. 2.0 or higher (Ver. 3.0+EDR or higher recommended)
Compatible profiles	• A2DP (Advanced Audio Distribution Profile) Ver. 1.0 or higher (Ver. 1.2 recommended) • AVRCP (Audio/Video Remote Control Profile) Ver. 1.0 or higher (Ver. 1.4 recommended)
Maximum number of audio devices that can be registered (including hands-free devices)	5

HINT:

The amount of remaining battery charge displayed on the navigation receiver assembly may be different from that of the "Bluetooth" device.

5. "Entune" SYSTEM FUNCTION OUTLINE (w/ Entune Function)

- (a) Entune is a service that enables Entune applications and Entune content from a cellular phone to be used via the extension module screen. As Bluetooth communication is used for the communication between a cellular phone and the extension module, before using the "Entune" service on the navigation system, the cellular phone needs to be registered with the navigation system as a Bluetooth device. For details regarding "Entune" operations, each of the applications and compatible phones, refer to

6. RADIO DESCRIPTION

(a) Radio frequency band

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

Frequency	30 kHz	300 kHz	3 MHz	30 MHz	300 MHz
Designation	LF	MF	HF	VHF	
Radio wave		AM		FM	
Modulation	Amplitude modulation			Frequency modulation	

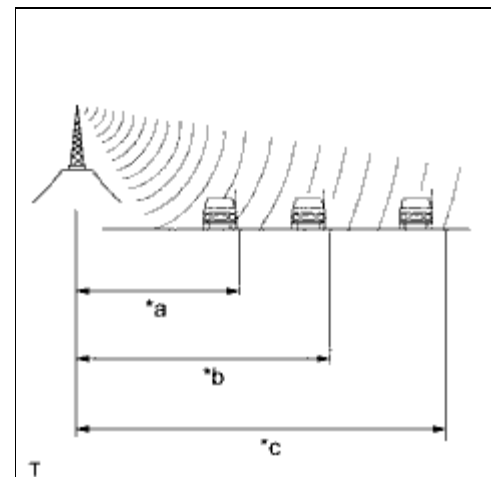
LF: Low Frequency MF: Medium Frequency HF: High Frequency VHF: Very High Frequency

(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 broadcast cannot. FM stereo has the smallest service area, and is prone to pick up static and other types of interference such as noise.

Text in Illustration

*a	FM (Stereo)
*b	FM (Monaural)
*c	AM



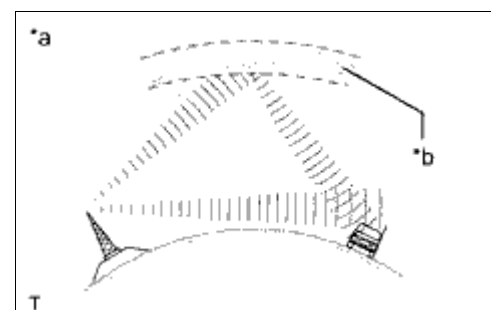
(c) Radio reception problems

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.



Text in Illustration

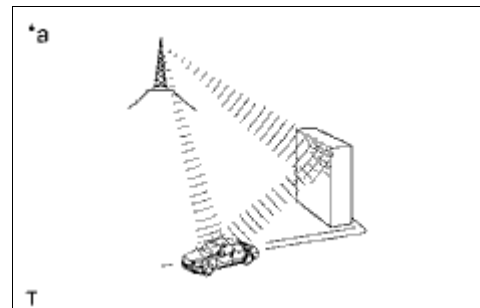
*a	Phasing
*b	Ionosphere

(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.

Text in Illustration

*a	Multipath
----	-----------

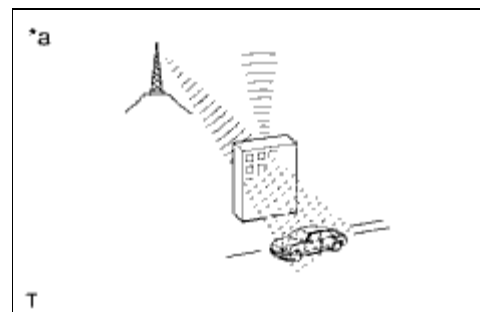


(3) Fade out

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 less likely to deflect.

Text in Illustration

*a	Fade Out
----	----------



(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 specific area	Foreign noise
	Noise occurs when listening to an intermittent broadcast	An identical program transmitted from multiple towers can cause noise where the signals overlap
	Noise occurs only at night	Signal phasing
FM	Noise occurs while driving in a specified area	Multipath resulting from a change in FM frequency

7. "HD Radio" FUNCTION OUTLINE (BROADCAST IN NORTH AMERICA ONLY) (w/ HD Radio Function)

(a) "HD Radio" system is a radio system that broadcasts in the IBOC (In-Band On-Channel) form that the iBiquity Co. has developed. By expanding the bandwidth per channel of conventional FM/AM bands, digital audio and data signals are additionally transmitted.

"HD Radio" Technology manufactured under license from iBiquity Digital Corporation. U.S. and Foreign

Patents. "HD Radio" and the HD and HD Radio logos are proprietary trademarks of iBiquity Digital Corp.

The information for the music currently being listened to is stored in the system and transmitted to the "iPod" connected to the system. The information transferred to the "iPod" can be used for purchasing the music through "iTunes" music store.

8. SDARS SYSTEM FUNCTION OUTLINE (BROADCAST IN NORTH AMERICA ONLY) (w/ SDARS System)

- (a) Satellite Digital Audio Radio Service (SDARS) is a satellite digital radio broadcast provided by Sirius XM Radio Inc. The broadcast (pay-type) is performed through satellites and terrestrial repeater networks. Several unique channels are available, and even if a vehicle changes locations, the same information can be received without breaks. Information such as song names, broadcast station names, etc. can be received. Also, traffic information can be received and displayed on the multi-display screen.

NOTICE:

To receive audio-visual pay-type broadcasts, the customer must enter into a pay-type contract with XM Satellite Radio Inc. After entering into a contract, registration of an 8-digit XM Radio ID is necessary. Also, if parts are replaced, the XM Radio ID must be reregistered.

HINT:

When disconnecting the cable from the negative (-) battery terminal, the broadcast station logo data will be initialized. It takes a while for the broadcast station logo data to be updated to the latest one.

9. USB AUDIO SYSTEM FUNCTION OUTLINE

- (a) The No. 1 stereo jack adapter assembly is equipped with a USB terminal. Connecting a USB device or "iPod" to the No. 1 stereo jack adapter assembly allows music files to be played. Not only is it possible to play music from a USB device with audio functions, is also possible to play MP3 or WMA music files that are stored on a USB device. In addition, "iPod" control software is installed, allowing file selection from playlists and operation using shuffle mode.

HINT:

- Visual contents of an "iPod" cannot be played.
- Operation through the controls of a USB device or "iPod" cannot be performed while it is connected.

- (b) USB audio system compatible model

- (1) USB device

The following device formats can be used:

Compatible USB device formats	• USB communication format: USB 2.0 FS (12MBPS) • File format: FAT16/32 (Windows) • Class: Mass storage class
-------------------------------	---

MP3, WMA and AAC files written in any format other than those listed above may not play correctly, and their names and folder names may not be displayed correctly.

Items related to standards and limitations are as follows:

- Maximum directory hierarchy: 8 levels
- Maximum number of folders in device: 3000 (including the root folder)
- Maximum number of files in device: 9999
- Maximum number of files per folder: 255

- (2) "iPod"

"iPhone", "iPod", "iPod classic", "iPod nano" and "iPod touch" are trademarks of Apple Inc., registered in the U.S. and other countries.

The following "iPod", "iPod nano", "iPod classic", "iPod touch" and "iPhone" devices can be used with this system.

Made for:

- "iPod touch" (5th generation)
- "iPod touch" (4th generation)
- "iPod touch" (3rd generation)
- "iPod touch" (2nd generation)
- "iPod touch" (1st generation)
- "iPod classic"
- "iPod with video"
- "iPod nano" (7th generation)
- "iPod nano" (6th generation)
- "iPod nano" (5th generation)
- "iPod nano" (4th generation)
- "iPod nano" (3rd generation)
- "iPod nano" (2nd generation)
- "iPod nano" (1st generation)
- "iPhone 6 Plus"
- "iPhone 6"
- "iPhone 5S"
- "iPhone 5C"
- "iPhone 5"
- "iPhone 4S"
- "iPhone 4"
- "iPhone 3GS"
- "iPhone 3G"
- "iPhone"

HINT:

Depending on differences between models or software versions etc., some models might be incompatible with this system.

10. AUTOMATIC SOUND LEVELIZER (ASL) FUNCTION OUTLINE

- (a) The Automatic Sound Levelizer (ASL) function automatically adjusts the audio system volume level in order to compensate for increased vehicle noise (vehicle noise tends to increase as vehicle speed increases). The ASL adjusts the volume level based upon vehicle speed signals that it receives from the combination meter assembly.

11. VEHICLE CUSTOMIZATION OUTLINE

- (a) Customization of functions can also be customized on the multi-display screen. Refer to Owner's Manual for further information on customizable items for the navigation system.

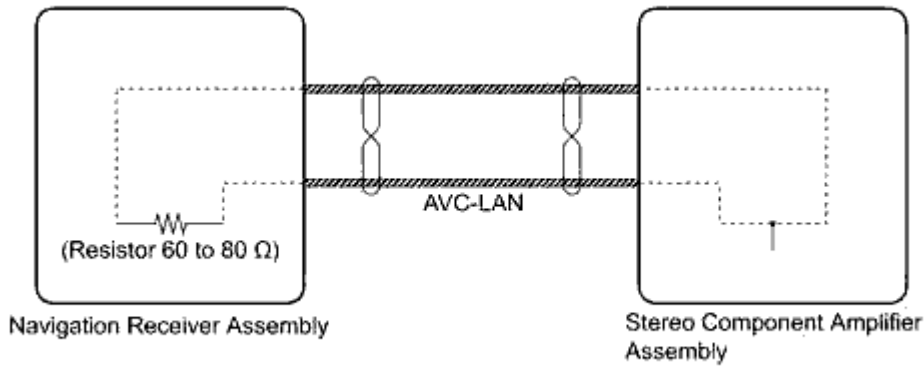
HINT:

- Items available for customization via the navigation system can also be customized by using the Techstream.
- Some customize parameters displayed on the Techstream will be displayed on the vehicle customization screen for the navigation system. Users can customize these items.

12. COMMUNICATION SYSTEM

- (a) AVC-LAN Outline

Example:



H

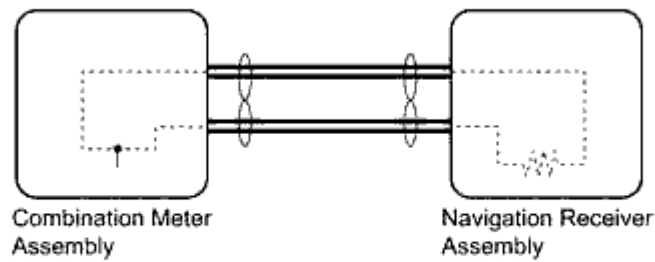
- (1) Components of the navigation system communicate with each other via the AVC-LAN.
- (2) The AVC-LAN uses a twisted pair of wires for its communication lines.
- (3) The master unit of the AVC-LAN is the navigation receiver assembly.

HINT:

- The navigation receiver assembly has the resistance (60 to 80 Ω) necessary for communication.
- If a short or open circuit occurs in the AVC-LAN circuit, communication is interrupted and the system will not operate normally.

(b) Local Bus Communication Outline

Example:



- (1) Components of the navigation system communicate with each other via the local bus.
- (2) The local bus uses a twisted pair of wires for its communication lines.
- (3) The master unit of the local bus is the navigation receiver assembly.

HINT:

- The navigation receiver assembly has the resistance (108 to 132 Ω) necessary for communication.
- If a short or open occurs in the local bus circuit, communication is interrupted and the system will not operate normally.

(c) CAN Communication Outline

- (1) The navigation system uses CAN communication between the navigation receiver assembly and ECUs.

(d) LVDS Communication Outline (w/ SDARS System)

- (1) The navigation system uses LVDS communication, between the navigation receiver assembly and

stereo component tuner assembly.

- (2) If a short or open occurs in the LVDS communication line, communication is interrupted and the system will not operate normally.

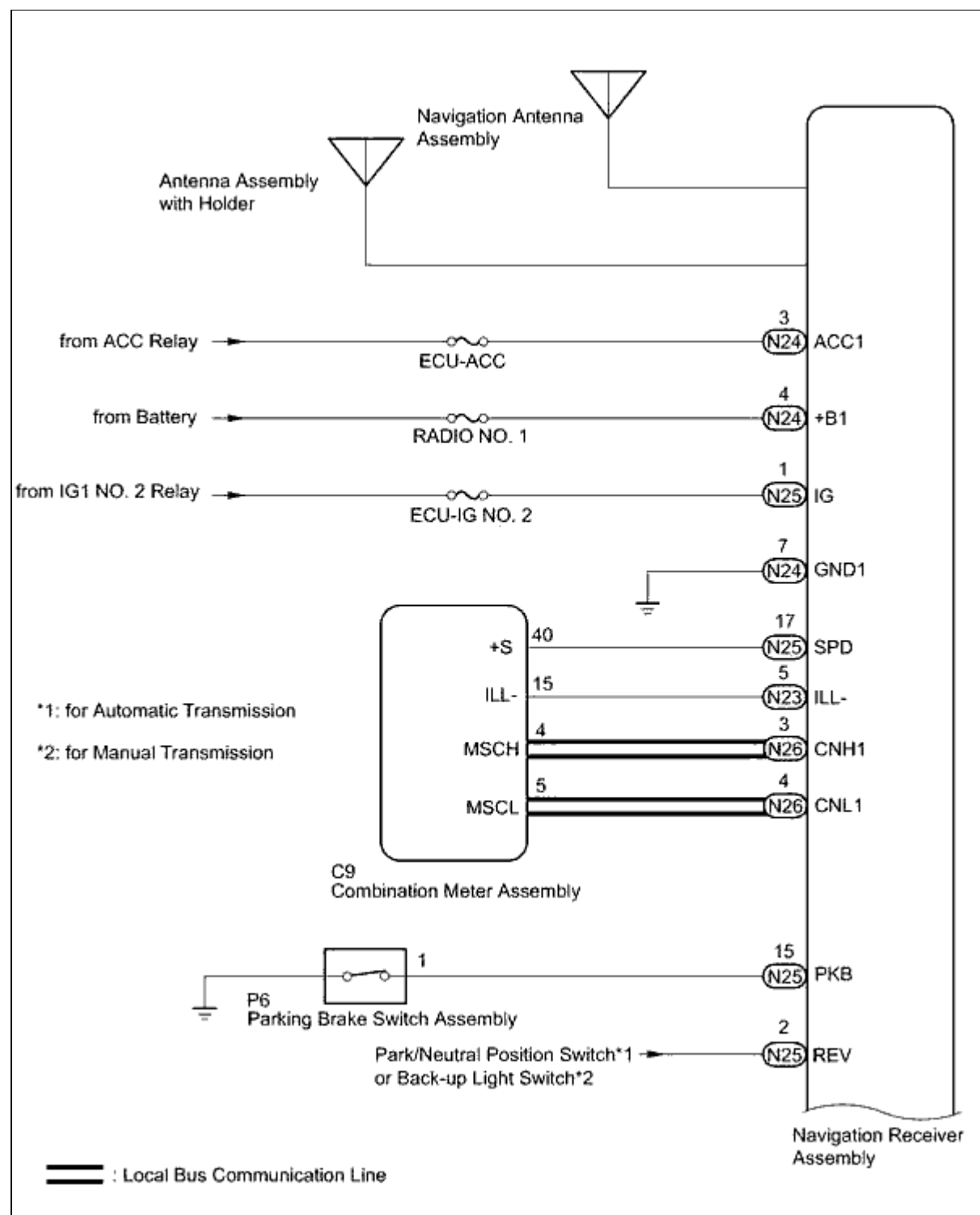
13. DIAGNOSTIC FUNCTION OUTLINE

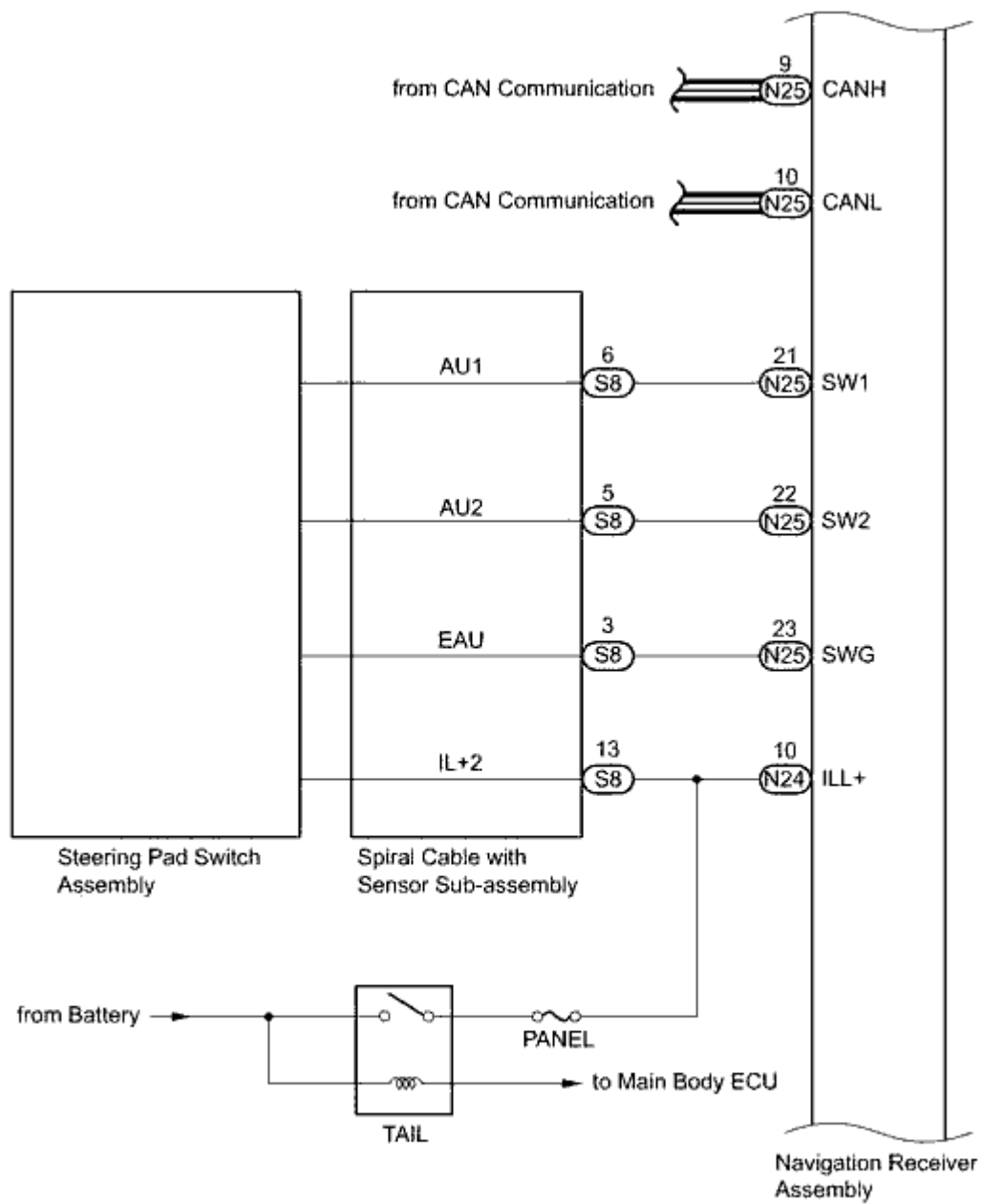
- (a) The navigation system has a diagnostic function (the result is indicated on the master unit).



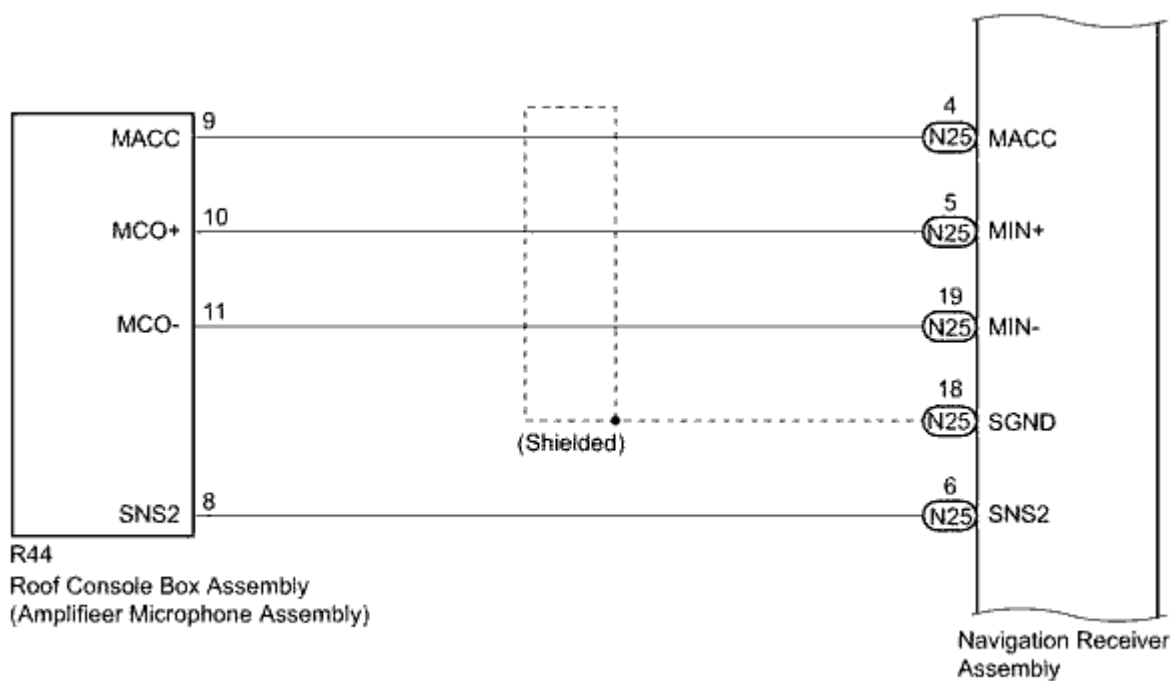
Last Modified: 11-13-2015	6.6 U	Doc ID: RM0000011BX0MPX
Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: NAVIGATION: NAVIGATION SYSTEM: SYSTEM DIAGRAM; 2016 MY Tacoma [08/2015 -]		

SYSTEM DIAGRAM

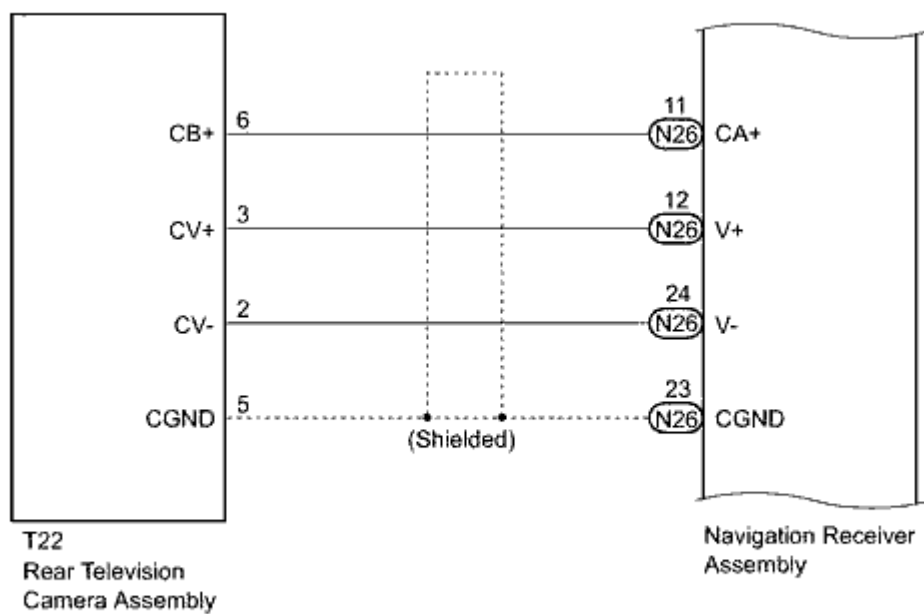




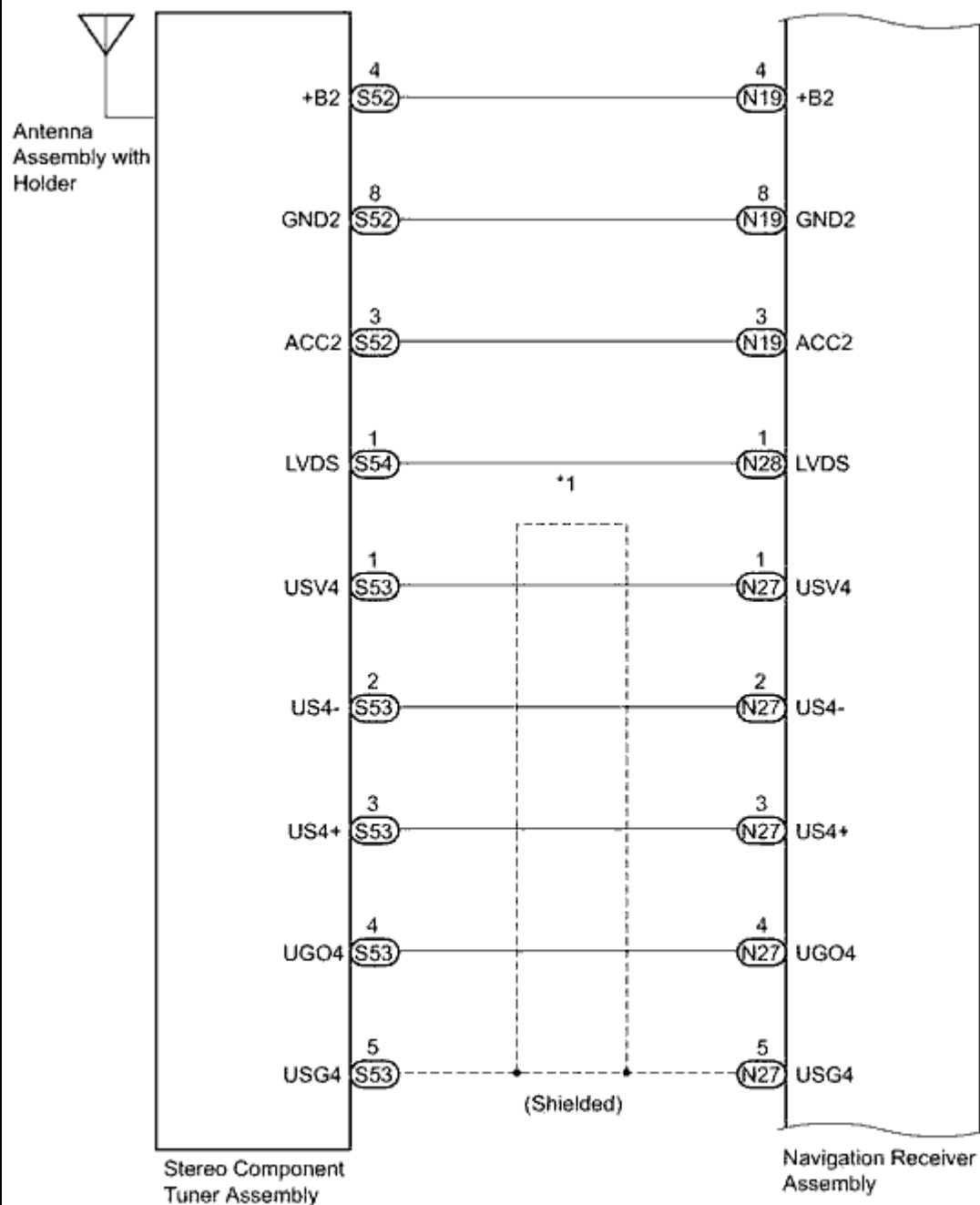
≡ : CAN Communication Line



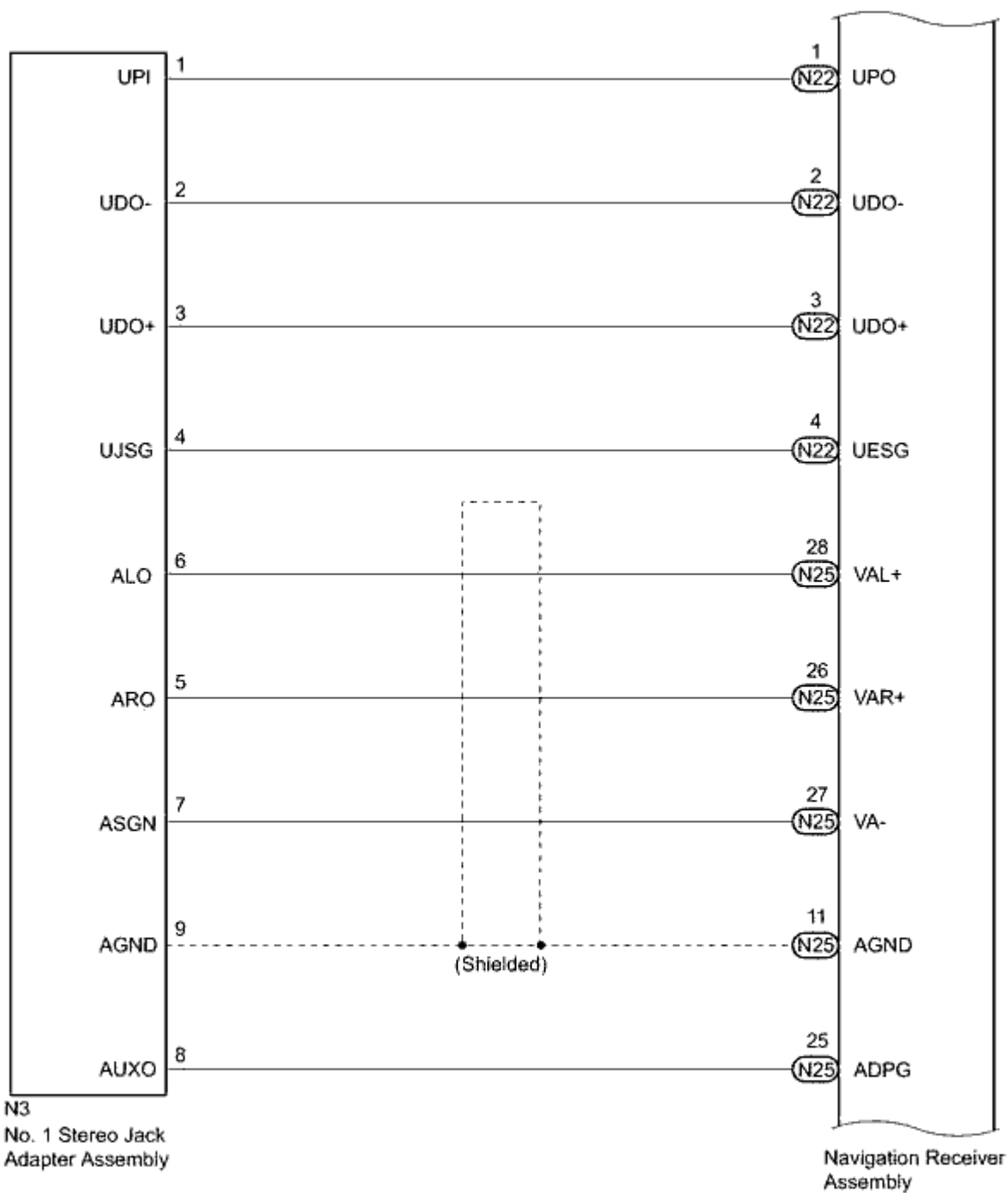
w/ Rear Television Camera:



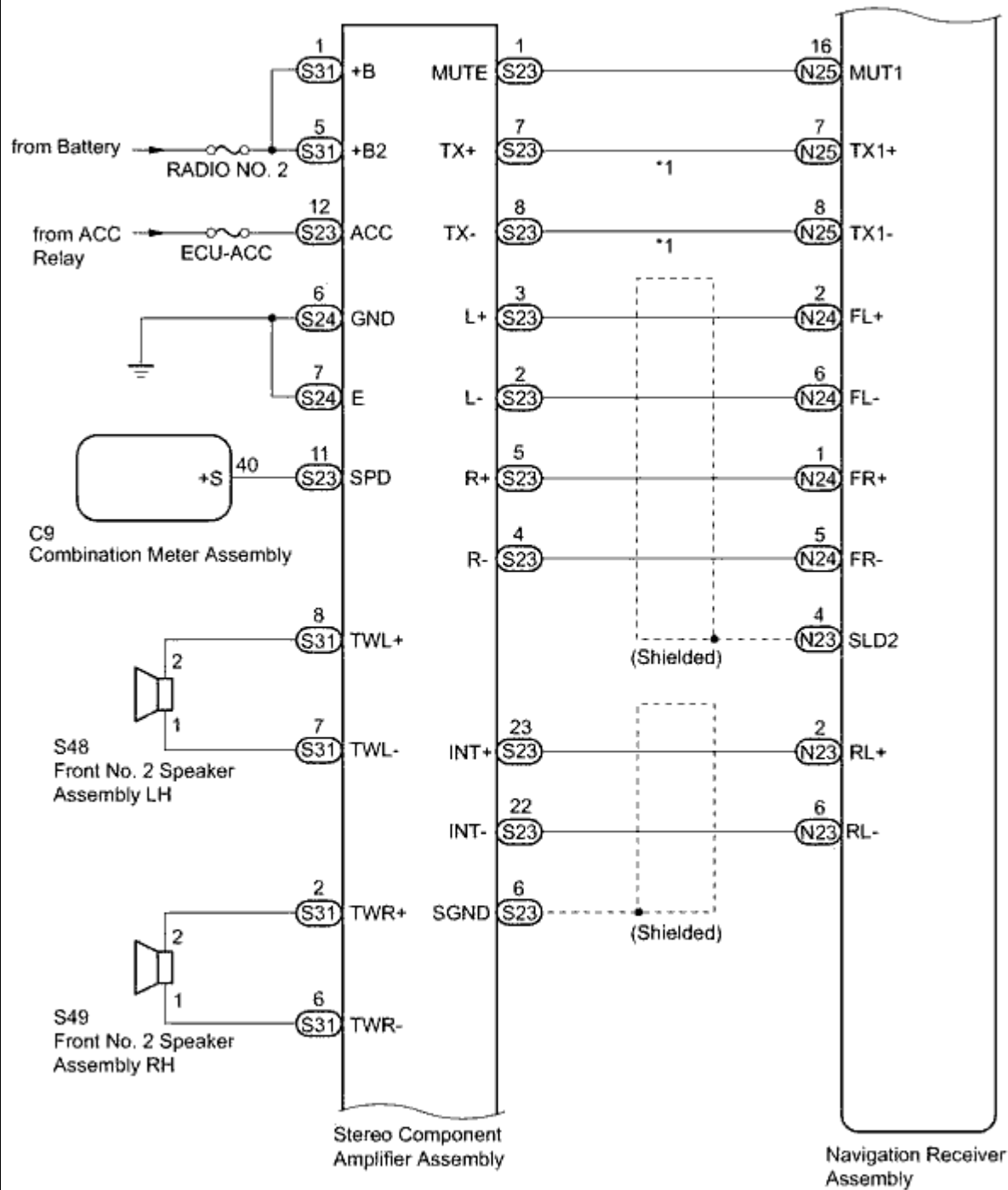
w/ SDARS System:



*1: LVDS Communication Line

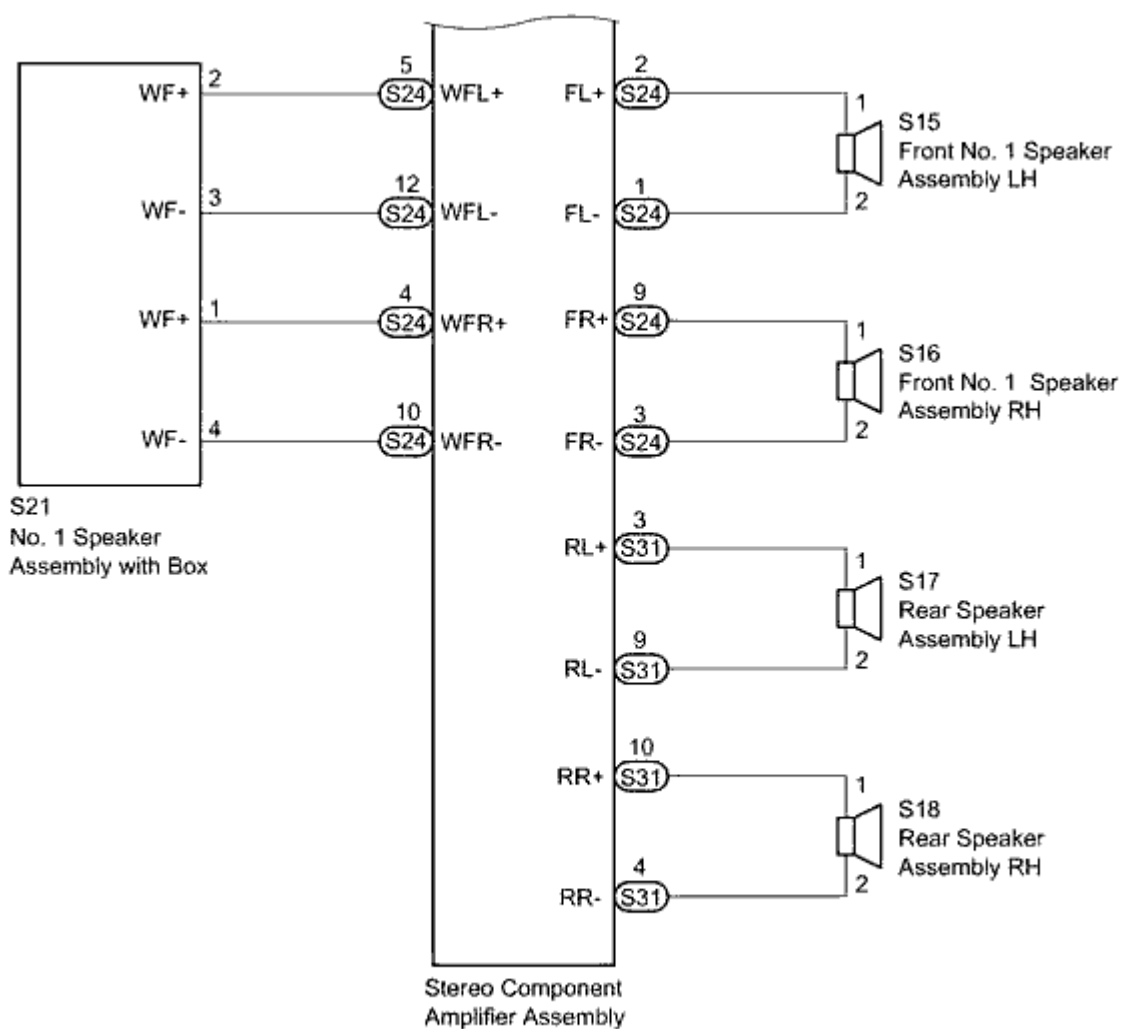


w/ Stereo Component Amplifier:

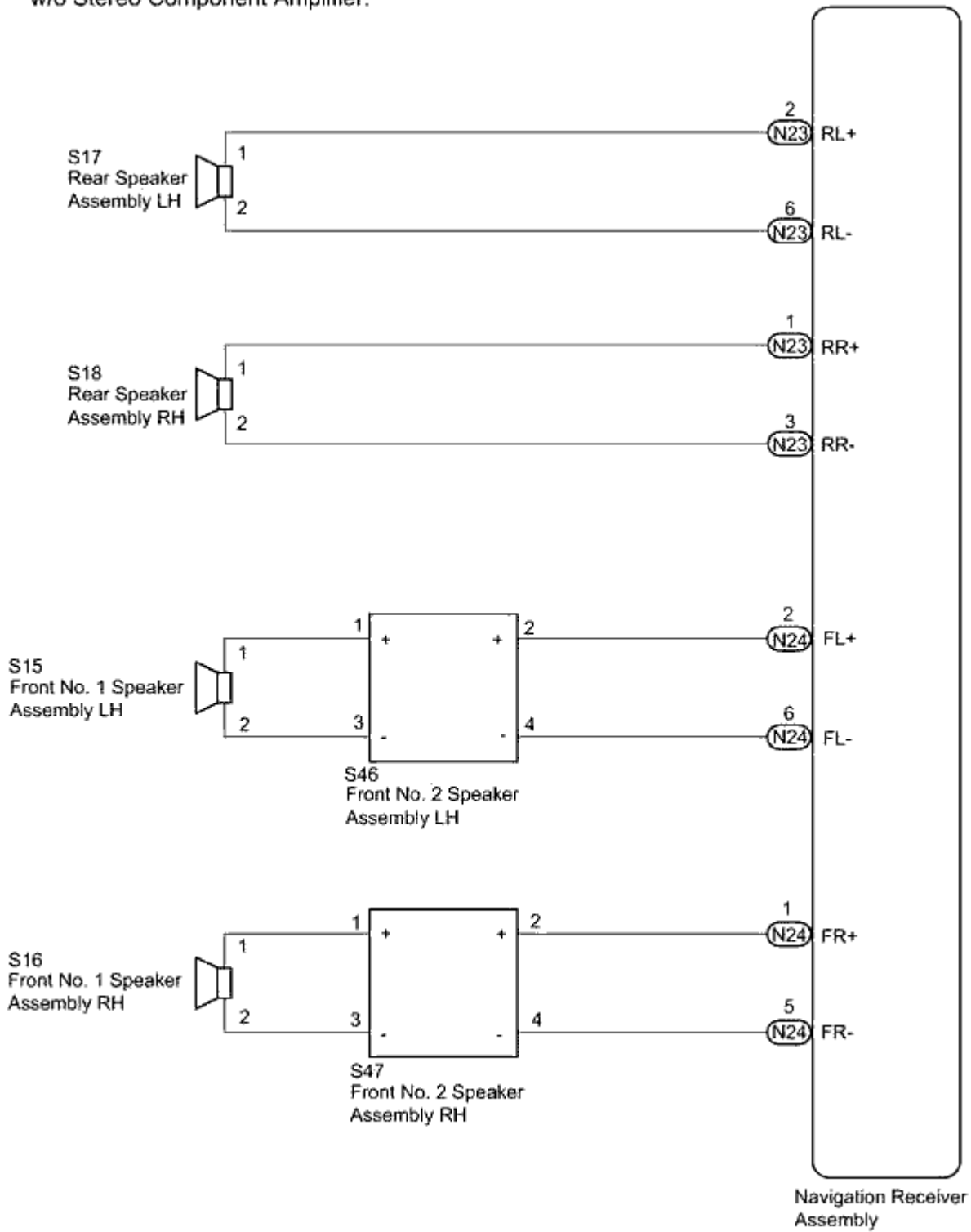


*1: AVC-LAN Communication Line

w/ Stereo Component Amplifier:



w/o Stereo Component Amplifier:



Last Modified: 11-13-2015	6.6 J	Doc ID: RM000002TSN08UX
Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: NAVIGATION: NAVIGATION SYSTEM: Satellite Radio Broadcast cannot be Received; 2016 MY Tacoma [08/2015 -]		

Satellite Radio Broadcast cannot be Received

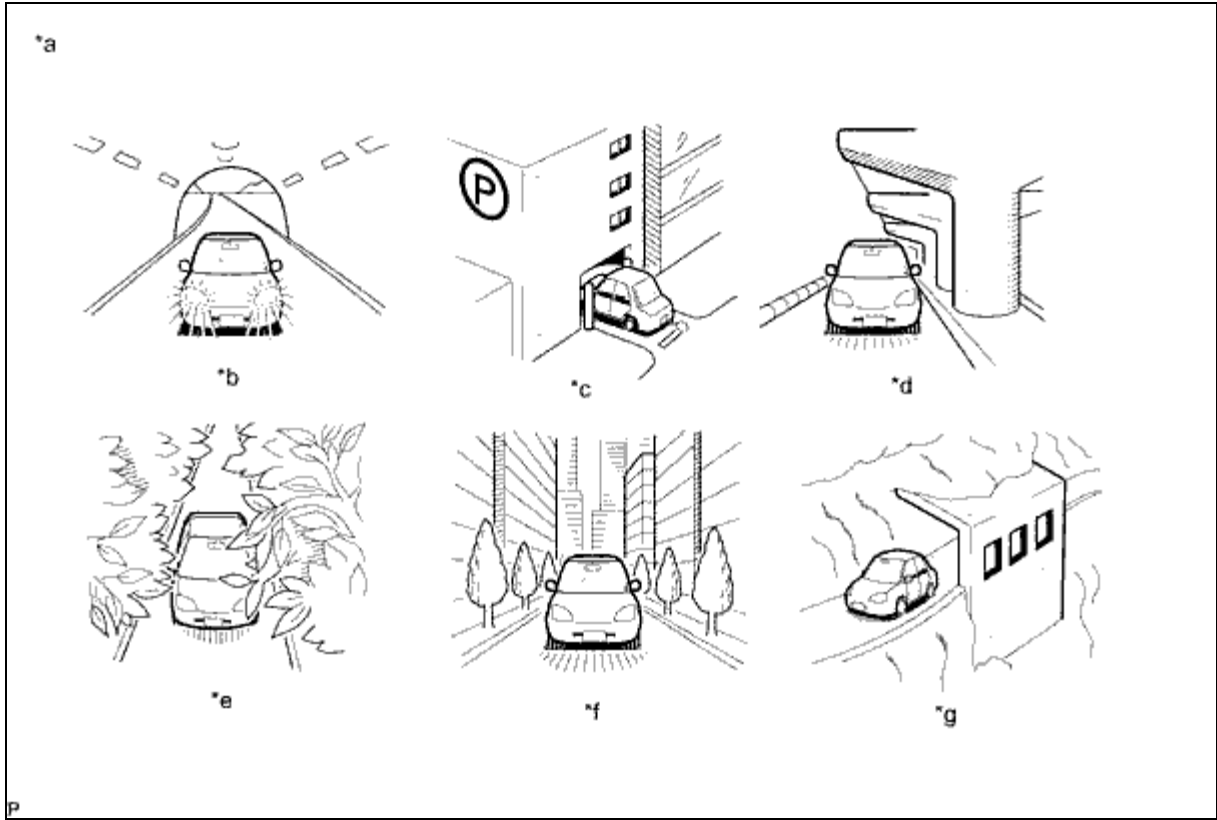
INSPECTION PROCEDURE

- NOTICE:**
- Some satellite radio broadcasts require payment. A contract must be made between a satellite radio company and the user. If the contract expires, it will not be possible to listen to the broadcast.
 - After replacing the stereo component tuner assembly of vehicles subscribed to pay-type satellite radio broadcasts, XM radio ID registration is necessary.

PROCEDURE

1.	CHECK SURROUNDINGS
----	--------------------

(a) Check if the vehicle is in an environment where reception is difficult due to something blocking the area above the vehicle.



Text in Illustration

*a	Example	*b	In a tunnel
----	---------	----	-------------

*c	In a building	*d	Under an overpass
*e	On a forest or tree-lined path	*f	Between tall buildings
*g	Under a cliff or overhang	-	-

HINT:

If the area above the vehicle is blocked, such as when in a building or tunnel, reception may not be possible.

OK:

Area above vehicle is not blocked.

NG  **END (MOVE VEHICLE TO LOCATION WHERE RECEPTION IS BETTER)**

OK



2.	CHECK NAVIGATION RECEIVER ASSEMBLY
-----------	---

(a) Check if CH001 (free broadcast) can be received.

OK:

CH001 can be received.

NG  **GO TO STEP 6**

OK



3.	CHECK DISPLAY SETTING
-----------	------------------------------

(a) Check the display screen.

Result

RESULT	PROCEED TO
"Updating" is displayed	A
"-----" is displayed	B
None of the displays above are shown	C

B  **THERE IS NO SONG/PROGRAM TITLE OR ARTIST NAME/FEATURE ASSOCIATED WITH CHANNEL AT THAT TIME**

A


4.	CHECK CONTRACT CONDITIONS
----	---------------------------

(a) Check if the pay-type contract has been extended, or if the contract period has ended.

OK:
Pay-type contract is valid.

NG  TO RECEIVE PAY-TYPE BROADCASTS, CONTRACT
MUST BE MADE WITH SATELLITE RADIO COMPANY

OK


5.	PERFORM ACTIVATION REFRESH
----	----------------------------

(a) Perform activation refresh by referring to the satellite radio company web site
(https://care.siriusxm.com/retailrefresh_view.action).

OK:
Malfunction disappears.

HINT:
The XM radio ID that is necessary to perform activation refresh is displayed when CH000 is selected on the satellite radio.

NG  PROCEED TO NEXT SUSPECTED AREA SHOWN IN
PROBLEM SYMPTOMS TABLE

OK  END

6.	CHECK DISPLAY
----	---------------

(a) Check the display screen.

Result

RESULT	PROCEED TO
"SAT Check Antenna" is displayed	A

B ► **END (MOVE VEHICLE TO LOCATION WHERE RECEPTION IS BETTER)**

C ► **CHANNEL IS CURRENTLY NOT BEING BROADCAST. BROADCAST CAN BE LISTENED TO OR VIEWED WHEN IT IS BACK ON AIR. (CONFIRM WITH RADIO STATION)**

D ► **CHANNEL BROADCAST HAS ENDED CONDITION (CONFIRM WITH RADIO STATION)**

E ► **GO TO STEP 9**

A



7.	REPLACE ANTENNA CORD SUB-ASSEMBLY
-----------	--

(a) Replace the antenna cord sub-assembly with a known good one **INFO** .

(b) Check if radio broadcasts can be received normally.

OK:

Radio broadcasts can be received normally.

NG ► **GO TO STEP 8**

OK ► **END**

8.	REPLACE NO. 2 ANTENNA CORD SUB-ASSEMBLY
-----------	--

(a) Replace the No. 2 antenna cord sub-assembly with a new or known good one and check if radio broadcasts can be received normally **INFO** .

OK:

Radio broadcasts can be received normally.

NG ► **GO TO STEP 9**

OK ► **END**

9.	REPLACE ANTENNA ASSEMBLY WITH HOLDER
-----------	---

(a) Replace the antenna assembly with holder with a new or known good one and check if radio broadcasts can be received normally 

OK:

CH000 is selected.

NG  **GO TO STEP 10**

OK  **END**

10.	CONFIRM CURRENTLY SELECTED CHANNEL
------------	---

(a) Confirm if CH000 is currently selected.

OK:

CH000 is selected.

NG  **PROCEED TO NEXT SUSPECTED AREA SHOWN IN PROBLEM SYMPTOMS TABLE**

OK  **END (CH000 HAS NO SOUND. SELECT ANOTHER CHANNEL)**



Last Modified: 11-13-2015	6.6 J	Doc ID: RM000002TSO08PX
Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: NAVIGATION: NAVIGATION SYSTEM: Satellite Radio Broadcast cannot be Selected or After Selecting Broadcast, Broadcast cannot be Added into Memory; 2016 MY Tacoma [08/2015 -]		

Satellite Radio Broadcast cannot be Selected or After Selecting Broadcast, Broadcast cannot be Added into Memory

INSPECTION PROCEDURE

NOTICE:

Some satellite radio broadcasts require payment. A contract must be made between a satellite radio company and the user. If the contract expires, it will not be possible to listen to the broadcast.

PROCEDURE

1.	CHECK NAVIGATION RECEIVER ASSEMBLY
-----------	---

(a) Check radio condition.

OK:

Broadcast can be selected, but selection cannot be memorized.

NG ► **REPLACE NAVIGATION RECEIVER ASSEMBLY**

OK



2.	CHECK SATELLITE RADIO
-----------	------------------------------

(a) Check the number of preset channels.

OK:

36 channels have already been preset.

NG ► **GO TO STEP 3**

OK ► **END (ONLY 36 CHANNELS CAN BE PRESET)**

3.	CHECK BATTERY
-----------	----------------------

(a) Check if the battery was replaced.

OK:

Battery was not replaced.

NG ► **GO TO STEP 4**

OK ► **REPLACE NAVIGATION RECEIVER ASSEMBLY**

4.	ADD PRESET CHANNEL INTO MEMORY AGAIN
-----------	---

(a) Check if the preset channels that have been cleared can be added into memory again.

OK:

Preset channels can be added into memory.

NG ► **PROCEED TO NEXT SUSPECTED AREA SHOWN IN
PROBLEM SYMPTOMS TABLE**

OK ► **END**



Last Modified: 11-13-2015	6.6 J	Doc ID: RM000000POJ11YX
Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: NAVIGATION: NAVIGATION SYSTEM: Screen Flicker or Color Distortion; 2016 MY Tacoma [08/2015 -]		

Screen Flicker or Color Distortion

INSPECTION PROCEDURE

PROCEDURE

1.	CHECK DISPLAY SETTING
-----------	------------------------------

(a) Reset display settings (contrast, brightness) and check that the screen appears normal.

OK:

The display returns to normal.

NG ► **PROCEED TO NEXT SUSPECTED AREA SHOWN IN PROBLEM SYMPTOMS TABLE**

OK ► **END**



Last Modified: 11-13-2015	6.6 J	Doc ID: RM0000012CB0YUX
Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: NAVIGATION: NAVIGATION SYSTEM: Sound Quality is Bad Only when CD is Played (Volume is Too Low); 2016 MY Tacoma [08/2015 -]		

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

INSPECTION PROCEDURE

PROCEDURE

1.	REPLACE CD AND RECHECK
-----------	-------------------------------

(a) Replace the CD with a known good one and recheck.

(1) Check if the same malfunction occurs again.

OK:

Malfunction disappears.

NG ► **REPLACE NAVIGATION RECEIVER ASSEMBLY**

OK ► **END**



Last Modified: 11-13-2015	6.6 J	Doc ID: RM0000020QD08NX
Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: NAVIGATION: NAVIGATION SYSTEM: Sound Signal Circuit between Radio Receiver and Stereo Component Amplifier; 2016 MY Tacoma [08/2015 -]		

Sound Signal Circuit between Radio Receiver and Stereo Component Amplifier

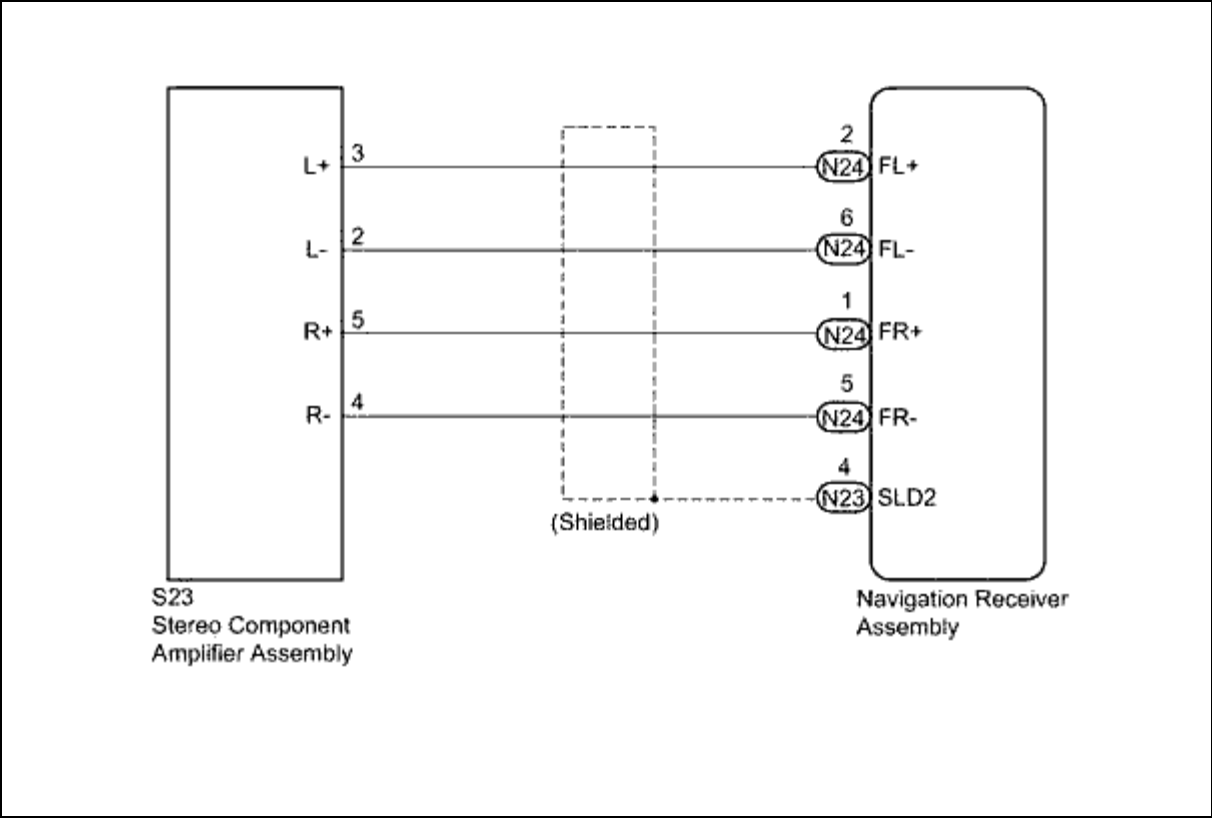
DESCRIPTION

The navigation receiver assembly sends a sound signal to the stereo component amplifier assembly via this circuit.

The sound signal that has been sent is amplified by the stereo component amplifier assembly, 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 assembly or speakers.

WIRING DIAGRAM



INSPECTION PROCEDURE

PROCEDURE

1.	CHECK HARNESS AND CONNECTOR (NAVIGATION RECEIVER ASSEMBLY - STEREO
----	--

COMPONENT AMPLIFIER ASSEMBLY)

- (a) Disconnect the N23 and N24 navigation receiver assembly connector.
- (b) Disconnect the S23 stereo component amplifier assembly connector.
- (c) Measure the resistance according to the value(s) in the table below.

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
S23-3 (L+) - N24-2 (FL+)	Always	Below 1 Ω
S23-2 (L-) - N24-6 (FL-)	Always	Below 1 Ω
S23-5 (R+) - N24-1 (FR+)	Always	Below 1 Ω
S23-4 (R-) - N24-5 (FR-)	Always	Below 1 Ω
S23-3 (L+) - Body ground	Always	10 k Ω or higher
S23-2 (L-) - Body ground	Always	10 k Ω or higher
S23-5 (R+) - Body ground	Always	10 k Ω or higher
S23-4 (R-) - Body ground	Always	10 k Ω or higher
N23-4 (SLD2) - Body ground	Always	10 k Ω or higher

NG ► REPAIR OR REPLACE HARNESS OR CONNECTOR

OK ► PROCEED TO NEXT SUSPECTED AREA SHOWN IN
PROBLEM SYMPTOMS TABLE



Last Modified: 11-13-2015	6.6 J	Doc ID: RM0000020QE0QUX
Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: NAVIGATION: NAVIGATION SYSTEM: Sound Signal Circuit between Radio Receiver and Stereo Jack Adapter; 2016 MY Tacoma [08/2015 -]		

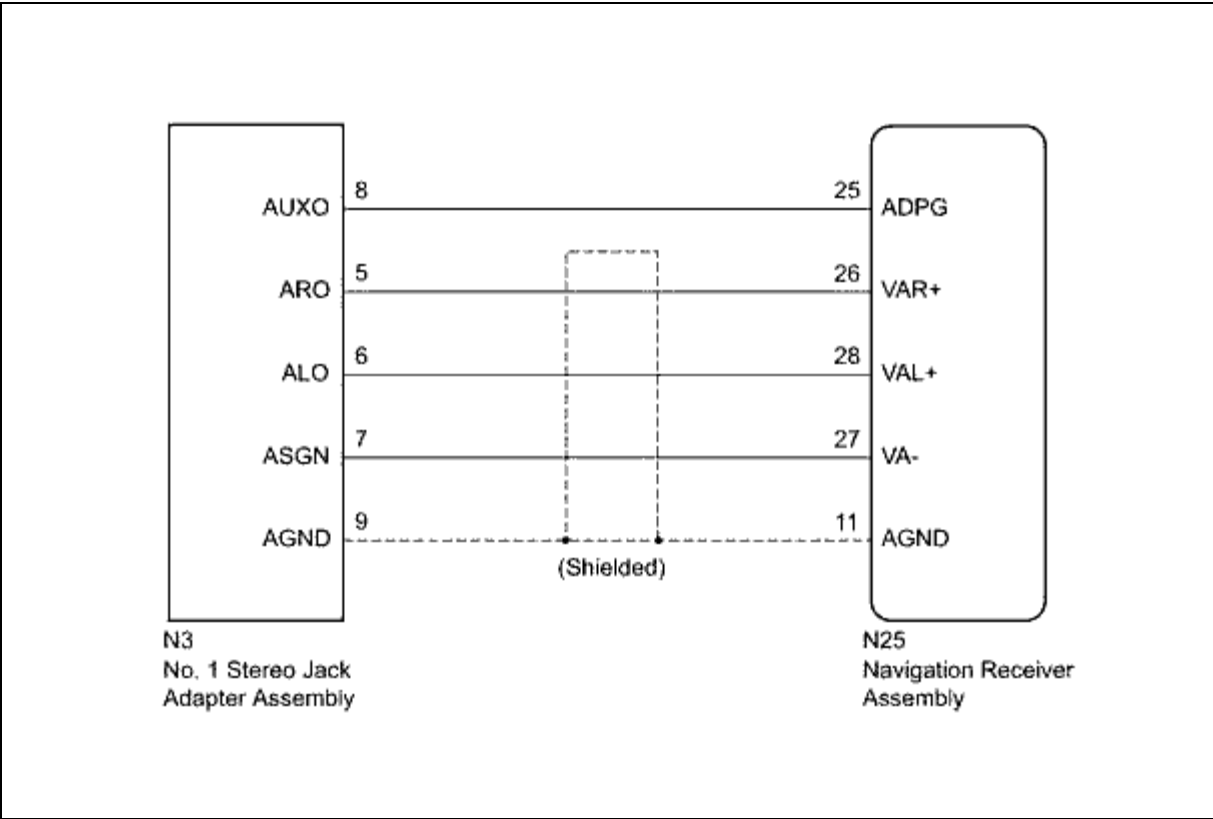
Sound Signal Circuit between Radio Receiver and Stereo Jack Adapter

DESCRIPTION

The No. 1 stereo jack adapter assembly sends the sound signal from an external device to the navigation receiver assembly via this circuit.

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 assembly, navigation receiver assembly or speakers.

WIRING DIAGRAM



INSPECTION PROCEDURE

PROCEDURE

1.	CHECK HARNESS AND CONNECTOR (NAVIGATION RECEIVER ASSEMBLY - NO. 1 STEREO JACK ADAPTER ASSEMBLY)
----	--

- (a) Disconnect the N25 navigation receiver assembly connector.
- (b) Disconnect the N3 No. 1 stereo jack adapter assembly connector.
- (c) Measure the resistance according to the value(s) in the table below.

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
N25-25 (ADPG) - N3-8 (AUXO)	Always	Below 1 Ω
N25-26 (VAR+) - N3-5 (ARO)	Always	Below 1 Ω
N25-28 (VAL+) - N3-6 (ALO)	Always	Below 1 Ω
N25-27 (VA-) - N3-7 (ASGN)	Always	Below 1 Ω
N25-11 (AGND) - N3-9 (AGND)	Always	Below 1 Ω
N25-25 (ADPG) - Body ground	Always	10 k Ω or higher
N25-26 (VAR+) - Body ground	Always	10 k Ω or higher
N25-28 (VAL+) - Body ground	Always	10 k Ω or higher
N25-27 (VA-) - Body ground	Always	10 k Ω or higher
N25-11 (AGND) - Body ground	Always	10 k Ω or higher

NG  **REPAIR OR REPLACE HARNESS OR CONNECTOR**

OK  **PROCEED TO NEXT SUSPECTED AREA SHOWN IN PROBLEM SYMPTOMS TABLE**



Last Modified: 11-13-2015	6.6 J	Doc ID: RM000003UOP0T6X
Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: NAVIGATION: NAVIGATION SYSTEM: Sound of Portable Player cannot be Heard from Speakers or Sound is Low; 2016 MY Tacoma [08/2015 -]		

Sound of Portable Player cannot be Heard from Speakers or Sound is Low

INSPECTION PROCEDURE

PROCEDURE

1.	CHECK PORTABLE PLAYER SETTINGS
-----------	---------------------------------------

(a) Check the portable player settings.

(1) Check that the volume is not set to "0".

(2) Check that the mute is off.

(b) Check that the sound of the portable player can be heard from the speakers.

OK:

Sound of the portable player can be heard from the speakers.

NG ► **GO TO STEP 2**

OK ► **END**

2.	CHECK AUDIO SETTINGS
-----------	-----------------------------

(a) Check the audio settings.

(1) Check that the volume is not set to "0".

(b) Check that the sound of the portable player can be heard from the speakers.

OK:

Sound of the portable player can be heard from the speakers.

NG ► **GO TO STEP 3**

OK ► **END**

3.	CHECK USING ANOTHER "Bluetooth" AUDIO COMPATIBLE VEHICLE OF SAME MODEL
-----------	---

(a) Check that the sound of the portable player can be heard from the speakers on another "Bluetooth"

audio compatible vehicle of the same model.

OK:

Sound of the portable player can be heard from the speakers.

NG ► **MALFUNCTION IN PORTABLE PLAYER**

OK ► **PROCEED TO NEXT SUSPECTED AREA SHOWN IN
PROBLEM SYMPTOMS TABLE**



Last Modified: 11-13-2015	6.6 J	Doc ID: RM000005N2D014X
Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: NAVIGATION: NAVIGATION SYSTEM: Speaker Circuit; 2016 MY Tacoma [08/2015 -]		

Speaker Circuit

DESCRIPTION

If there is a short in a speaker circuit, the stereo component amplifier assembly*1 or navigation receiver assembly*2 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 assembly*1 or navigation receiver assembly*2 or speakers.

If a short is detected in a speaker circuit, no sound can be heard from the speakers.

*1: w/ Stereo Component Amplifier

*2: w/o Stereo Component Amplifier

WIRING DIAGRAM

INFO

INSPECTION PROCEDURE

PROCEDURE

1.	CONFIRM MODEL
-----------	----------------------

(a) Choose the model to be inspected.

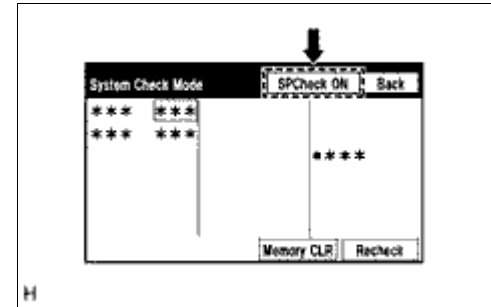
Result

RESULT	PROCEED TO
w/o Stereo Component Amplifier	A
w/ Stereo Component Amplifier	B

B  **GO TO STEP 9**

A


2.	CHECK SPEAKER (OPERATION CHECK)
-----------	--



(a) Enter the "System Check Mode" screen.

Refer to Check Speaker in Operation Check [INFO](#) .

(b) Perform the operation check above and determine the speaker that is not operating.

Result

NOT OPERATING SPEAKER	PROCEED TO
Front No. 1 speaker assembly or front No. 2 speaker assembly	A
Rear speaker assembly	B

HINT:

If sound cannot be heard from any speaker, inspect all of them.

B [▶ GO TO STEP 7](#)

A

3.	CHECK HARNESS AND CONNECTOR (NAVIGATION RECEIVER ASSEMBLY - FRONT NO. 2 SPEAKER ASSEMBLY - FRONT NO. 1 SPEAKER ASSEMBLY)
----	---

(a) Disconnect the N24 navigation receiver assembly connector.

(b) Disconnect the S46 and S47 front No. 2 speaker assembly connectors.

(c) Disconnect the S15 and S16 front No. 1 speaker assembly connectors.

(d) Measure the resistance between the navigation receiver assembly and each of the front No. 2 speaker assemblies to check for an open circuit in the wire harness.

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
N24-1 (FR+) - S47-2 (+)	Always	Below 1 Ω
N24-5 (FR-) - S47-4 (-)	Always	Below 1 Ω
N24-2 (FL+) - S46-2 (+)	Always	Below 1 Ω
N24-6 (FL-) - S46-4 (-)	Always	Below 1 Ω

(e) Measure the resistance between each of the front No. 2 speaker assemblies and the front No. 1

speaker assemblies to check for an open circuit in the wire harness.

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
S46-1 (+) - S15-1	Always	Below 1 Ω
S46-3 (-) - S15-2	Always	Below 1 Ω
S47-1 (+) - S16-1	Always	Below 1 Ω
S47-3 (-) - S16-2	Always	Below 1 Ω

(f) Measure the resistance between the navigation receiver assembly and body ground to check for a short circuit in the wire harness.

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
N24-1 (FR+) - Body ground	Always	10 k Ω or higher
N24-5 (FR-) - Body ground	Always	10 k Ω or higher
N24-2 (FL+) - Body ground	Always	10 k Ω or higher
N24-6 (FL-) - Body ground	Always	10 k Ω or higher

(g) Measure the resistance between each of the front No. 2 speaker assemblies and body ground to check for a short circuit in the wire harness.

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
S46-1 (+) - Body ground	Always	10 k Ω or higher
S46-3 (-) - Body ground	Always	10 k Ω or higher
S47-1 (+) - Body ground	Always	10 k Ω or higher
S47-3 (-) - Body ground	Always	10 k Ω or higher

NG  **REPAIR OR REPLACE HARNESS OR CONNECTOR**

OK



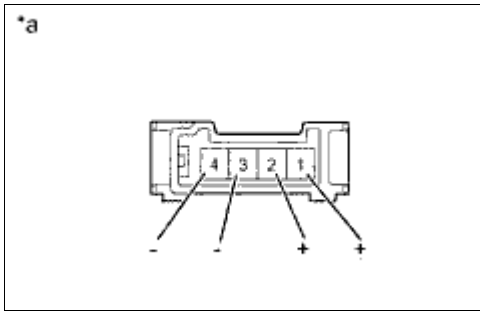
4.	INSPECT FRONT NO. 2 SPEAKER ASSEMBLY
-----------	---

(a) Remove the front No. 2 speaker assembly  .

(b) Measure the resistance according to the value(s) in the table below.

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
4 (+) - 2 (-)	Always	10 kΩ or higher
1 (+) - 2 (+)	Always	Below 1 Ω
4 (-) - 3 (-)	Always	Below 1 Ω



Text in Illustration

*a	Component without harness connected (Front No. 2 Speaker Assembly)
----	---

NG ► REPLACE FRONT NO. 1 SPEAKER ASSEMBLY

OK
▼

5.	REPLACE FRONT NO. 2 SPEAKER ASSEMBLY
----	--------------------------------------

(a) Check that the malfunction disappears when a known good speaker is installed INFO .

OK:
Malfunction disappears.

HINT:

- Connect all the connectors to the front No. 2 speaker assemblies that were disconnected.
- When there is a possibility that either the right or left front No. 2 speaker assembly is defective, inspect by interchanging the right one with the left one.
- Perform the above inspection on both the LH and RH side.

NG ► GO TO STEP 6

OK ► END

6.	INSPECT FRONT NO. 1 SPEAKER ASSEMBLY
----	--------------------------------------

(a) Remove the front No. 1 speaker assembly INFO .

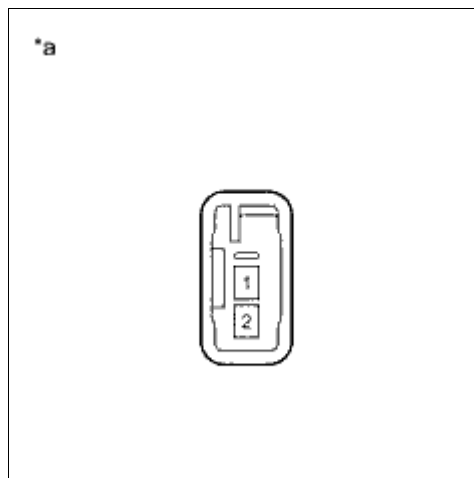
(b) Measure the resistance according to the value(s) in the table below.

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
1 - 2	Always	3.2 to 4.8 Ω

Text in Illustration

*a	Component without harness connected (Front No. 1 Speaker Assembly)
----	---



NG ► **REPLACE FRONT NO. 1 SPEAKER ASSEMBLY**

OK ► **PROCEED TO NEXT SUSPECTED AREA SHOWN IN PROBLEM SYMPTOMS TABLE**

7.	CHECK HARNESS AND CONNECTOR (NAVIGATION RECEIVER ASSEMBLY - REAR SPEAKER ASSEMBLY)
-----------	---

(a) Disconnect the N23 navigation receiver assembly connector.

(b) Disconnect the S17 and S18 rear speaker assembly connectors.

(c) Measure the resistance between the navigation receiver assembly and each of the rear speaker assemblies to check for an open circuit in the wire harness.

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
N23-1 (RR+) - S18-1	Always	Below 1 Ω
N23-3 (RR-) - S18-2	Always	Below 1 Ω
N23-2 (RL+) - S17-1	Always	Below 1 Ω
N23-6 (RL-) - S17-2	Always	Below 1 Ω

(d) Measure the resistance between the navigation receiver assembly and body ground to check for a short circuit in the wire harness.

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
N23-1 (RR+) - Body ground	Always	10 k Ω or higher
N23-3 (RR-) - Body ground	Always	10 k Ω or higher
N23-2 (RL+) - Body ground	Always	10 k Ω or higher
N23-6 (RL-) - Body ground	Always	10 k Ω or higher

OK

8. INSPECT REAR SPEAKER ASSEMBLY

(a) Remove the rear speaker assembly INFO.

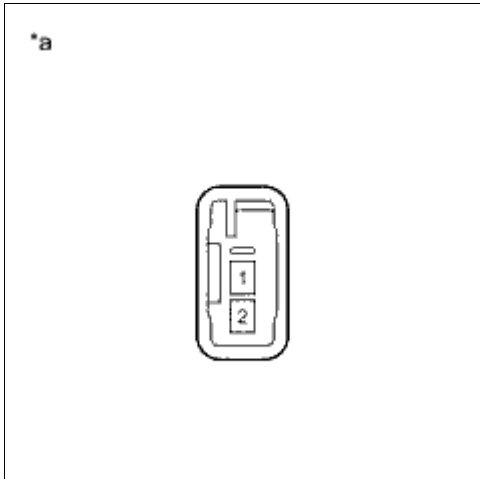
(b) Measure the resistance according to the value(s) in the table below.

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
1 - 2	Always	4 Ω

Text in Illustration

*a	Component without harness connected (Rear Speaker Assembly)
----	--



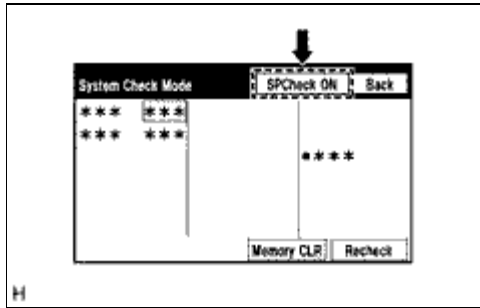
NG REPLACE REAR SPEAKER ASSEMBLY

OK PROCEED TO NEXT SUSPECTED AREA SHOWN IN PROBLEM SYMPTOMS TABLE

9. CHECK SPEAKER (OPERATION CHECK)

(a) Enter the "System Check Mode" screen.

Refer to Check Speaker in Operation Check INFO.



(b) Perform the operation check above and determine the speaker that is not operating.

Result

NOT OPERATING SPEAKER	PROCEED TO
-----------------------	------------

NOT OPERATING SPEAKER	PROCEED TO
Front No. 1 speaker assembly	A
Front No. 2 speaker assembly	B
No. 1 speaker assembly with box	C
Rear speaker assembly	D

HINT:

If sound cannot be heard from any speaker, inspect all of them.

B ► GO TO STEP 12

C ► GO TO STEP 14

D ► GO TO STEP 16

A

10.	CHECK HARNESS AND CONNECTOR (STEREO COMPONENT AMPLIFIER ASSEMBLY - FRONT NO. 1 SPEAKER ASSEMBLY)
------------	---

- (a) Disconnect the S24 stereo component amplifier assembly connector.
- (b) Disconnect the S15 and S16 front No. 1 speaker assembly connectors.
- (c) Measure the resistance between the stereo component amplifier assembly and each of the front No. 1 speaker assemblies to check for an open circuit in the wire harness.

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
S24-9 (FR+) - S16-1	Always	Below 1 Ω
S24-3 (FR-) - S16-2	Always	Below 1 Ω
S24-2 (FL+) - S15-1	Always	Below 1 Ω
S24-1 (FL-) - S15-2	Always	Below 1 Ω

- (d) Measure the resistance between the stereo component amplifier assembly and body ground to check for a short circuit in the wire harness.

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
S24-9 (FR+) - Body ground	Always	10 k Ω or higher
S24-3 (FR-) - Body ground	Always	10 k Ω or higher

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
S24-2 (FL+) - Body ground	Always	10 kΩ or higher
S24-1 (FL-) - Body ground	Always	10 kΩ or higher

NG ► **REPAIR OR REPLACE HARNESS OR CONNECTOR**

OK



11.	INSPECT FRONT NO. 1 SPEAKER ASSEMBLY
------------	---

(a) Remove the front No. 1 speaker assembly **INFO** .

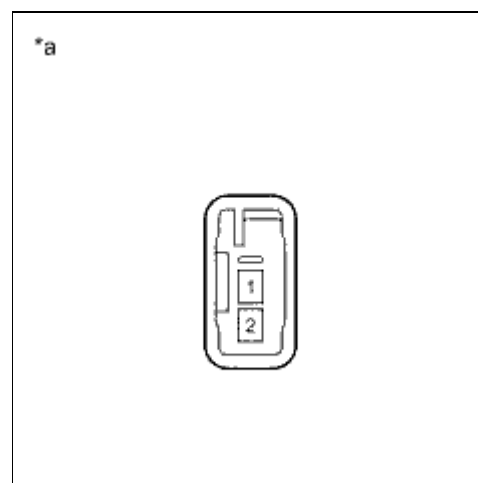
(b) Measure the resistance according to the value(s) in the table below.

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
1 - 2	Always	3.2 to 4.8 Ω

Text in Illustration

*a	Component without harness connected (Front No. 1 Speaker Assembly)
----	---



NG ► **REPLACE FRONT NO. 1 SPEAKER ASSEMBLY**

OK ► **PROCEED TO NEXT SUSPECTED AREA SHOWN IN PROBLEM SYMPTOMS TABLE**

12.	CHECK HARNESS AND CONNECTOR (STEREO COMPONENT AMPLIFIER ASSEMBLY - FRONT NO. 2 SPEAKER ASSEMBLY)
------------	---

(a) Disconnect the S31 stereo component amplifier assembly connector.

(b) Disconnect the S48 and S49 front No. 2 speaker assembly connectors.

(c) Measure the resistance between the stereo component amplifier assembly and each of the front No. 2 speaker assemblies to check for an open circuit in the wire harness.

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
S31-2 (TWR+) - S49-2	Always	Below 1 Ω
S31-6 (TWR-) - S49-1	Always	Below 1 Ω
S31-8 (TWL+) - S48-2	Always	Below 1 Ω
S31-7 (TWL-) - S48-1	Always	Below 1 Ω

(d) Measure the resistance between the stereo component amplifier assembly and body ground to check for a short circuit in the wire harness.

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
S31-2 (TWR+) - Body ground	Always	10 k Ω or higher
S31-6 (TWR-) - Body ground	Always	10 k Ω or higher
S31-8 (TWL+) - Body ground	Always	10 k Ω or higher
S31-7 (TWL-) - Body ground	Always	10 k Ω or higher

NG ► REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

13. INSPECT FRONT NO. 2 SPEAKER ASSEMBLY

(a) Remove the front No. 2 speaker assembly  .

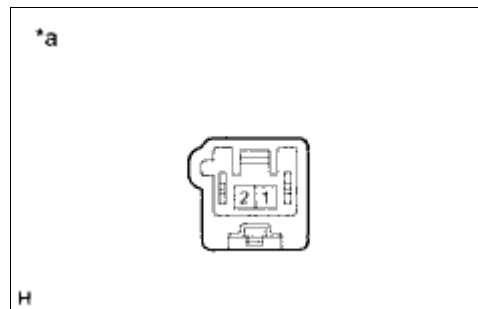
(b) Measure the resistance according to the value(s) in the table below.

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
1 - 2	Always	1.5 to 2.5 Ω

Text in Illustration

*a	Component without harness connected (Front No. 2 Speaker Assembly)
----	---



NG ► REPLACE FRONT NO. 1 SPEAKER ASSEMBLY

OK ► PROCEED TO NEXT SUSPECTED AREA SHOWN IN

PROBLEM SYMPTOMS TABLE

14.	CHECK HARNESS AND CONNECTOR (STEREO COMPONENT AMPLIFIER ASSEMBLY - NO. 1 SPEAKER ASSEMBLY WITH BOX)
------------	--

- (a) Disconnect the S24 stereo component amplifier assembly connector.
- (b) Disconnect the S21 No. 1 speaker assembly with box connectors.
- (c) Measure the resistance between the stereo component amplifier assembly and each of the No. 1 speaker assembly with box to check for an open circuit in the wire harness.

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
S24-4 (WFR+) - S21-1 (WF+)	Always	Below 1 Ω
S24-10 (WFR-) - S21-4 (WF-)	Always	Below 1 Ω
S24-5 (WFL+) - S21-2 (WF+)	Always	Below 1 Ω
S24-12 (WFL-) - S21-3 (WF-)	Always	Below 1 Ω

- (d) Measure the resistance between the stereo component amplifier assembly and body ground to check for a short circuit in the wire harness.

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
S21-2 (WF+) - Body ground	Always	10 k Ω or higher
S21-3 (WF-) - Body ground	Always	10 k Ω or higher
S21-1 (WF+) - Body ground	Always	10 k Ω or higher
S21-4 (WF-) - Body ground	Always	10 k Ω or higher

NG **REPAIR OR REPLACE HARNESS OR CONNECTOR**

OK



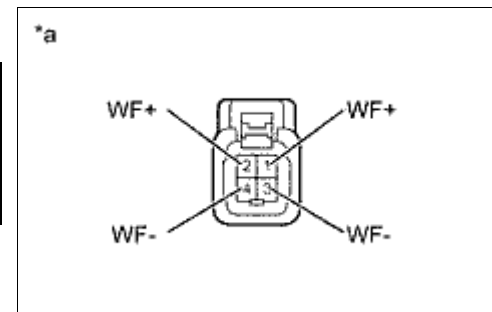
15.	INSPECT NO. 1 SPEAKER ASSEMBLY WITH BOX
------------	--

- (a) Remove the rear No. 1 speaker assembly with box .

(b) Measure the resistance according to the value(s) in the table below.

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
2 (WF+) - 3 (WF-)	Always	1.6 to 2.4 Ω
1 (WF+) - 4 (WF-)	Always	1.6 to 2.4 Ω



Text in Illustration

*a	Component without harness connected (No. 1 Speaker Assembly with box)
----	--

NG ▶ REPLACE NO.1 SPEAKER ASSEMBLY WITH BOX

OK ▶ PROCEED TO NEXT SUSPECTED AREA SHOWN IN PROBLEM SYMPTOMS TABLE

16.	CHECK HARNESS AND CONNECTOR (STEREO COMPONENT AMPLIFIER ASSEMBLY - REAR SPEAKER ASSEMBLY)
------------	--

(a) Disconnect the S31 stereo component amplifier assembly connector.

(b) Disconnect the S17 and S18 rear speaker assembly connector.

(c) Measure the resistance between the stereo component amplifier assembly and the rear speaker assembly to check for an open circuit in the wire harness.

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
S31-3 (RL+) - S17-1	Always	Below 1 Ω
S31-9 (RL-) - S17-2	Always	Below 1 Ω
S31-10 (RR+) - S18-1	Always	Below 1 Ω
S31-4 (RR-) - S18-2	Always	Below 1 Ω

(d) Measure the resistance between the stereo component amplifier assembly and body ground to check for a short circuit in the wire harness.

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
S31-3 (RL+) - Body ground	Always	10 k Ω or higher
S31-9 (RL-) - Body ground	Always	10 k Ω or higher
S31-10 (RR+) - Body ground	Always	10 k Ω or higher

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
S31-4 (RR-) - Body ground	Always	10 kΩ or higher

NG ► REPAIR OR REPLACE HARNESS OR CONNECTOR

OK



17.	INSPECT REAR SPEAKER ASSEMBLY
------------	--------------------------------------

(a) Remove the rear speaker assembly INFO.

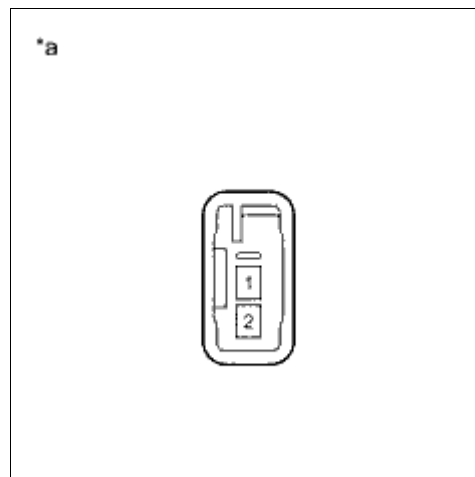
(b) Measure the resistance according to the value(s) in the table below.

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
1 - 2	Always	4 Ω

Text in Illustration

*a	Component without harness connected (Rear Speaker Assembly)
----	--



NG ► REPLACE REAR SPEAKER ASSEMBLY

OK ► PROCEED TO NEXT SUSPECTED AREA SHOWN IN PROBLEM SYMPTOMS TABLE



Last Modified: 11-13-2015	6.6 J	Doc ID: RM0000012CK0W3X
Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: NAVIGATION: NAVIGATION SYSTEM: Steering Pad Switch Circuit; 2016 MY Tacoma [08/2015 -]		

Steering Pad Switch Circuit

DESCRIPTION

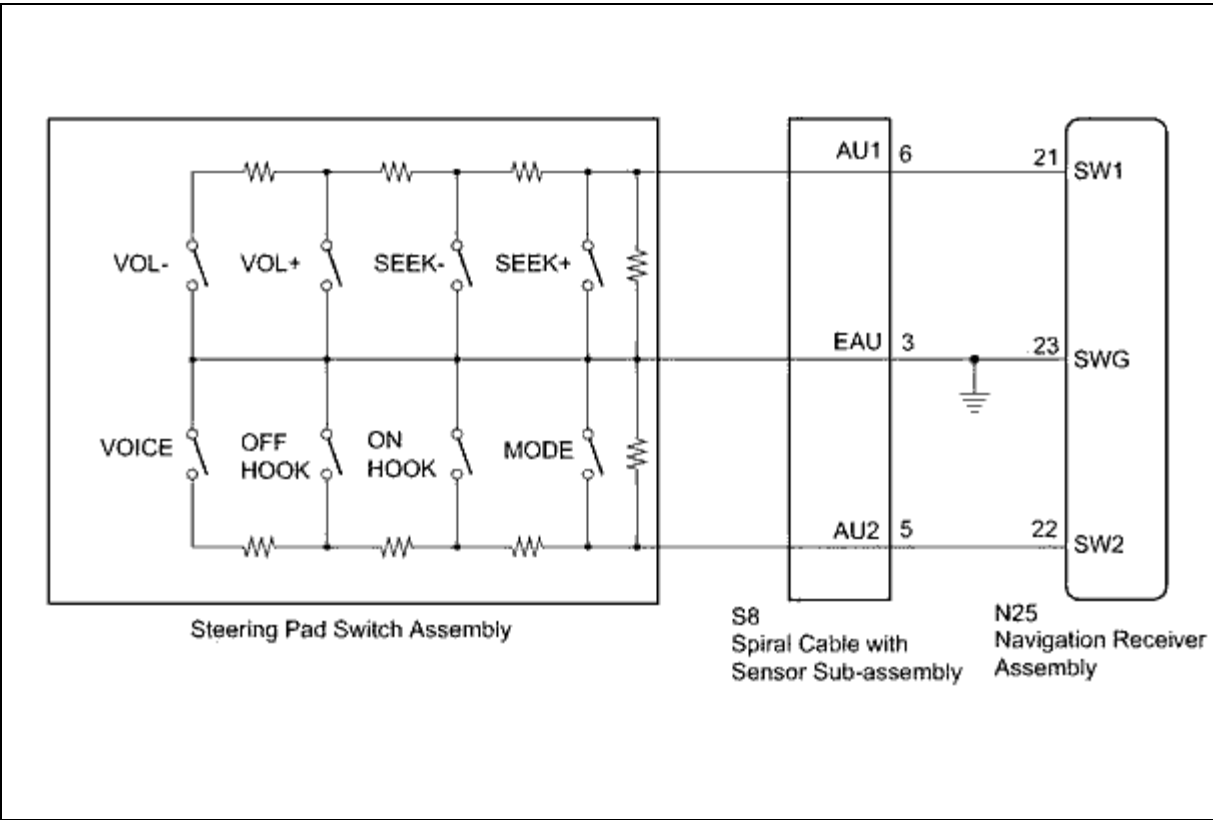
This circuit sends an operation signal from the steering pad switch assembly to the navigation receiver assembly.

If there is an open in the circuit, the audio system cannot be operated using the steering pad switch assembly.

If there is a short in the circuit, the same condition as when a switch is continuously depressed occurs.

Therefore, the navigation receiver assembly cannot be operated using the steering pad switch assembly, and also the navigation receiver assembly itself cannot function.

WIRING DIAGRAM



INSPECTION PROCEDURE

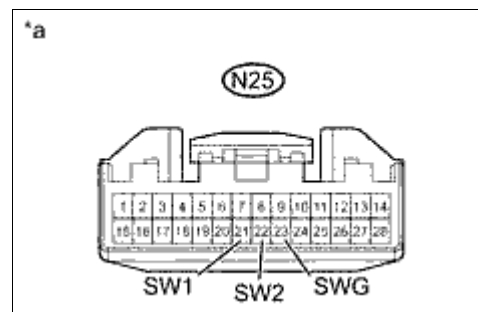
NOTICE:

The vehicle is equipped with a Supplemental Restraint System (SRS) 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 [INFO](#).

PROCEDURE

1. CHECK HARNESS AND CONNECTOR (STEERING PAD SWITCH SIGNAL)

(a) Disconnect the navigation receiver assembly connector.



(b) Measure the resistance according to the value(s) in the table below.

Standard Resistance:

TESTER CONNECTION	SWITCH CONDITION	SPECIFIED CONDITION
N25-21 (SW1) - N25-23 (SWG)	No switch is pushed	99 to 101 kΩ
	Volume+ is pushed	1000 to 1020 Ω
	Volume- is pushed	3178 to 3242 Ω
	Seek+ is pushed	Below 2.5 Ω
	Seek- is pushed	327 to 333 Ω
N25-22 (SW2) - N25-23 (SWG)	No switch is pushed	99 to 101 kΩ
	MODE switch is pushed	Below 2.5 Ω
	On Hook switch is pushed	327 to 333 Ω
	Off Hook switch is pushed	1000 to 1020 Ω
	Voice switch is pushed	3178 to 3242 Ω

Text in Illustration

*a

Front view of wire harness connector
(to Navigation Receiver Assembly)

NG ► **GO TO STEP 2**

OK ► **PROCEED TO NEXT SUSPECTED AREA SHOWN IN
PROBLEM SYMPTOMS TABLE**

2. INSPECT STEERING PAD SWITCH ASSEMBLY

(a) Remove the steering pad switch assembly **INFO** .

(b) Inspect the steering pad switch assembly **INFO** .

NG  **REPLACE STEERING PAD SWITCH ASSEMBLY**

OK



3.	INSPECT SPIRAL CABLE WITH SENSOR SUB-ASSEMBLY
-----------	--

(a) Remove the spiral cable with sensor sub-assembly  .

(b) Inspect the spiral cable with sensor sub-assembly  .

NG  **REPLACE SPIRAL CABLE WITH SENSOR SUB-ASSEMBLY**

OK  **REPAIR OR REPLACE HARNESS OR CONNECTOR (NAVIGATION RECEIVER ASSEMBLY - SPIRAL CABLE WITH SENSOR SUB-ASSEMBLY)**



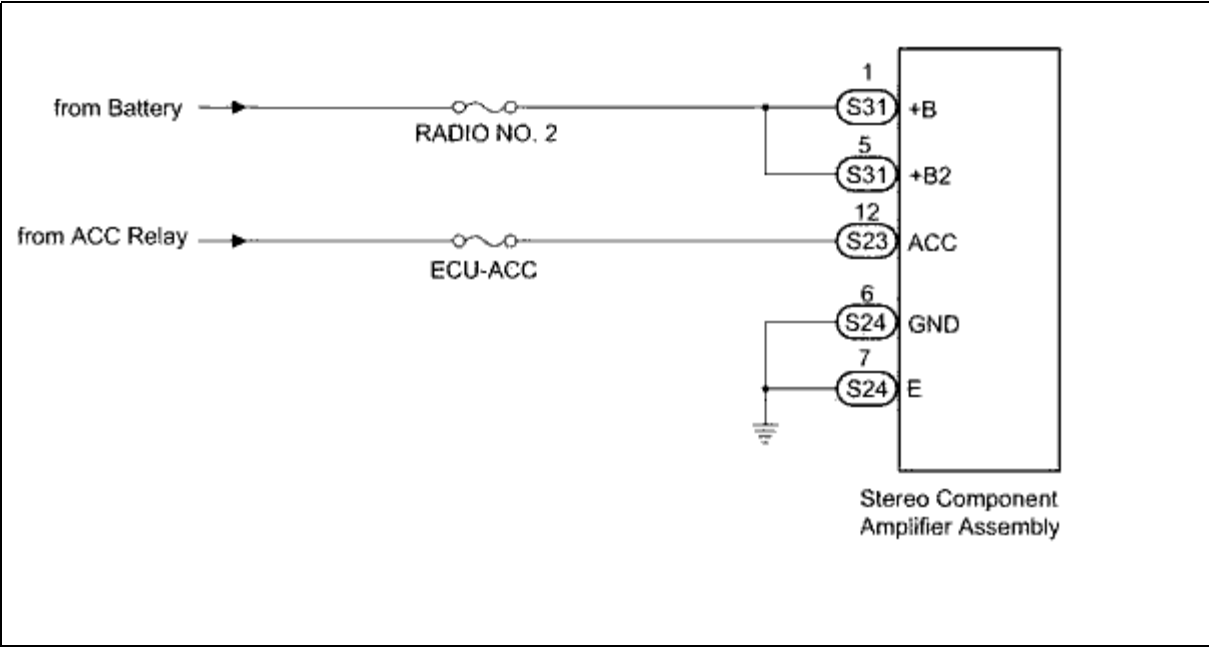
Last Modified: 11-13-2015	6.6 J	Doc ID: RM000005LS2002X
Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: NAVIGATION: NAVIGATION SYSTEM: Stereo Component Amplifier Power Source Circuit; 2016 MY Tacoma [08/2015 -]		

Stereo Component Amplifier Power Source Circuit

DESCRIPTION

This circuit provides power to the stereo component amplifier assembly.

WIRING DIAGRAM

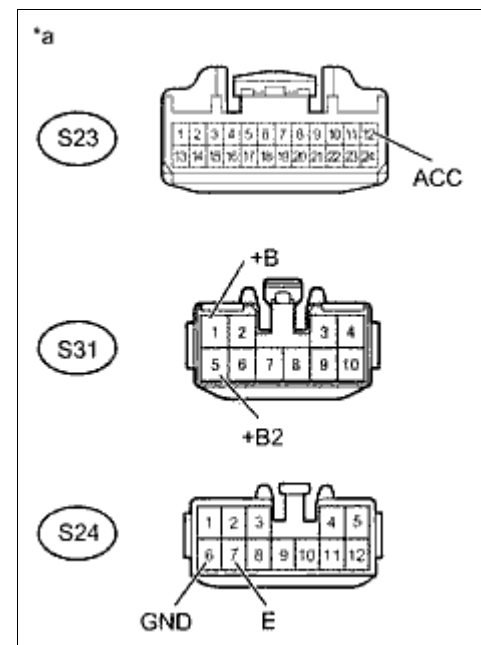


INSPECTION PROCEDURE

Inspect the fuses for circuits related to this system before performing the following inspection procedure.

PROCEDURE

1.	CHECK HARNESS AND CONNECTOR (STEREO COMPONENT AMPLIFIER ASSEMBLY - BATTERY AND BODY GROUND)
----	---



(a) Disconnect the stereo component amplifier assembly connectors.

(b) Measure the resistance according to the value(s) in the table below.

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
S24-6 (GND) - Body ground	Always	Below 1 Ω
S24-7 (E) - Body ground	Always	Below 1 Ω

(c) Measure the voltage according to the value(s) in the table below.

Standard Voltage:

TESTER CONNECTION	SWITCH CONDITION	SPECIFIED CONDITION
S31-1 (+B) - S24-6 (GND)	Always	11 to 14 V
S31-5 (+B2) - S24-6 (GND)	Always	11 to 14 V
S23-12 (ACC) - S24-6 (GND)	Ignition switch ACC	11 to 14 V

Text in Illustration

*a	Front view of wire harness connector (to Stereo Component Amplifier Assembly)
----	--

NG ► REPAIR OR REPLACE HARNESS AND CONNECTOR

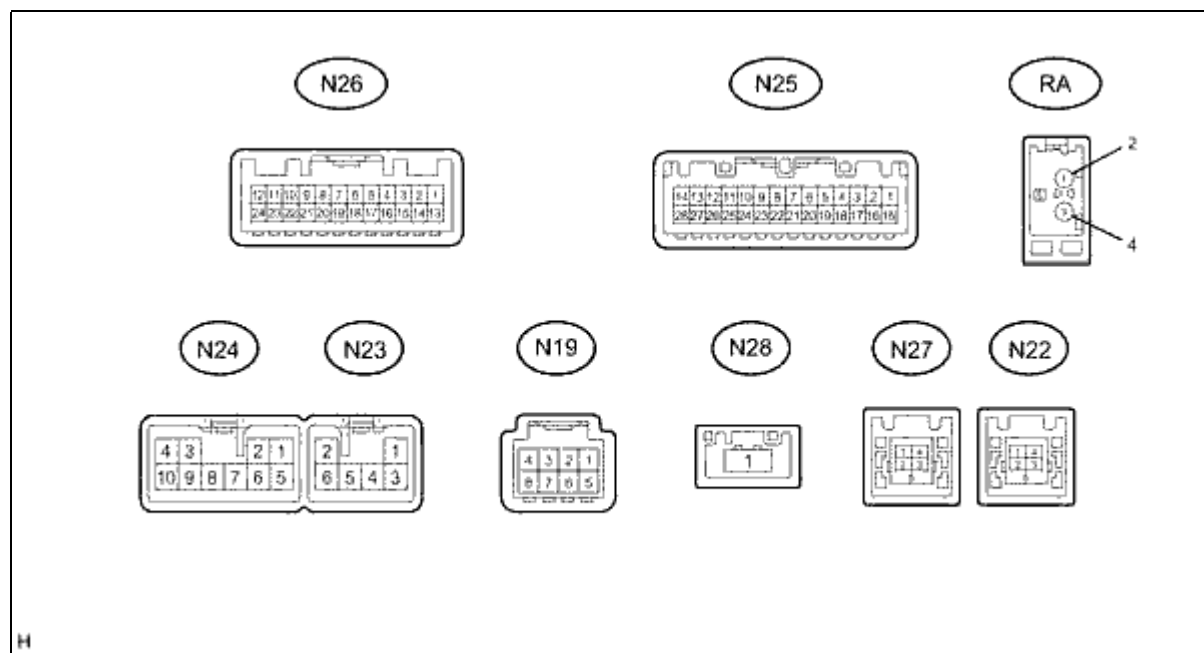
OK ► PROCEED TO NEXT SUSPECTED AREA SHOWN IN PROBLEM SYMPTOMS TABLE



Last Modified: 11-13-2015	6.6 U	Doc ID: RM0000011BQ0SOX
Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: NAVIGATION: NAVIGATION SYSTEM: TERMINALS OF ECU; 2016 MY Tacoma [08/2015 -]		

TERMINALS OF ECU

1. NAVIGATION RECEIVER ASSEMBLY



TERMINAL NO. (SYMBOLS)	WIRING COLOR	TERMINAL DESCRIPTION	CONDITION	SPECIFIED CONDITION
N19-3 (ACC2) - N24-7 (GND1)*3	Y - W-B	Power source (ACC)	Ignition switch off	Below 1 V
			Ignition switch ACC	11 to 14 V
N19-4 (+B2) - N24-7 (GND1)*3	R - W-B	Power source (+B)	Always	11 to 14 V
N19-8 (GND2) - Body ground*3	B - Body ground	Ground	Always	Below 1 V
N22-1 (UPO)	-	Power source	-	-
N22-2 (UDO-)	-	Data signal	-	-
N22-3 (UDO+)	-	Data signal	-	-
N22-4 (UESG)	-	Ground	-	-
N23-1 (RR+) - N24-7 (GND1)*5	L - W-B	Sound signal (Rear)	Audio system playing	A waveform synchronized with sounds is output
N23-2 (RL+) - N24-7 (GND1)*5	V - W-B	Sound signal (Rear)	Audio system playing	A waveform synchronized with sounds is output

TERMINAL NO. (SYMBOLS)	WIRING COLOR	TERMINAL DESCRIPTION	CONDITION	SPECIFIED CONDITION
N23-3 (RR-) - N24-7 (GND1)*5	LG - W-B	Sound signal (Rear)	Audio system playing	A waveform synchronized with sounds is output
N23-4 (SLD2) - N24-7 (GND1)*1	Shielded - W-B	Shield ground	Always	Below 1 V
N23-5 (ILL-) - N24-7 (GND1)	BE - W-B	Illumination signal	Light control switch off	Below 1 V
			Light control switch in tail or head position	Pulse generation
N23-6 (RL-) - N24-7 (GND1)*5	B - W-B	Sound signal (Rear)	Audio system playing	A waveform synchronized with sounds is output
N24-1 (FR+) - N24-7 (GND1)	R - W-B*1 LA-R - W-B*2	Sound signal (Right)	Audio system playing	A waveform synchronized with sounds is output
N24-2 (FL+) - N24-7 (GND1)	B - W-B*1 LA-B - W-B*2	Sound signal (Left)	Audio system playing	A waveform synchronized with sounds is output
N24-3 (ACC1) - N24-7 (GND1)	GR - W-B	Power source (ACC)	Ignition switch off	Below 1 V
			Ignition switch ACC	11 to 14 V
N24-4 (+B1) - N24-7 (GND1)	W - W-B	Power source (+B)	Always	11 to 14 V
N24-5 (FR-) - N24-7 (GND1)	G - W-B*1 LA-G - W-B*2	Sound signal (Right)	Audio system playing	A waveform synchronized with sounds is output
N24-6 (FL-) - N24-7 (GND1)	W - W-B*1 LA-W - W-B*2	Sound signal (Left)	Audio system playing	A waveform synchronized with sounds is output
N24-7 (GND1) - Body ground	W-B - Body ground	Ground	Always	Below 1 V
N24-10 (ILL+) - N24-7 (GND1)	G - W-B	Illumination signal	Light control switch off	Below 1 V
			Light control switch in tail or head position	11 to 14 V
N25-1 (IG) - N24-7 (GND1)	LG - W-B	Power source (IG)	Ignition switch off	Below 1 V
			Ignition switch ON	11 to 14 V
N25-2 (REV) - N24-7 (GND1)	GR - W-B	Reverse signal	See "Vehicle Signal Check Mode" in Operation Check 	-
N25-4 (MAcc) - N24-7 (GND1)	R - W-B	Microphone power supply	Ignition switch off	Below 1 V
			Ignition switch ACC	4 to 6 V

TERMINAL NO. (SYMBOLS)	WIRING COLOR	TERMINAL DESCRIPTION	CONDITION	SPECIFIED CONDITION
N25-5 (MIN+) - N24-7 (GND1)	G - W-B	Microphone voice signal	See "Microphone Level Test" in Operation Check INFO	-
N25-6 (SNS2) - N24-7 (GND1)	W - W-B	Microphone connection detection signal	Always	Below 1 V
N25-7 (TX1+)*1	BE	AVC-LAN communication signal	-	-
N25-8 (TX1-)*1	P	AVC-LAN communication signal	-	-
N25-11 (AGND) - N24-7 (GND1)	Shielded - W-B	Shield ground	Always	Below 1 V
N25-15 (PKB) - N24-7 (GND1)	Y - W-B	Parking brake signal	See "Vehicle Signal Check Mode" in Operation Check INFO	-
N25-16 (MUT1) - N24-7 (GND1)*1	SB - W-B	Mute signal	Audio system playing	Above 3.5 V
			Audio system changing modes	Below 1 V
N25-17 (SPD) - N24-7 (GND1)	V - W-B	Vehicle speed signal	See "Vehicle Signal Check Mode" in Operation Check INFO	-
N25-18 (SGND) - N24-7 (GND1)	Shielded - W-B	Shield ground	Always	Below 1 V
N25-19 (MIN-) - N24-7 (GND1)	B - W-B	Microphone voice signal	See "Microphone Level Test" in Operation Check INFO	-
N25-21 (SW1) - N25-23 (SWG)	V - SB	Steering pad switch signal	No switch pushed	2.97 to 3.56 V
			Up switch pushed	0.27 to 0.35 V
			Down switch pushed	0.86 to 1.03 V
			Volume+ switch pushed	1.51 to 1.79 V
			Volume- switch pushed	2.22 to 2.66 V
N25-22 (SW2) - N25-23 (SWG)	Y - SB	Steering pad switch signal	No switch pushed	2.97 to 3.56 V
			MODE/HOLD switch pushed	0.27 to 0.35 V
			On hook switch pushed	0.86 to 1.03 V
			Off hook switch pushed	1.51 to 1.79 V
			Voice switch pushed	2.22 to 2.66 V
N25-23 (SWG) - N24-7 (GND1)	SB - W-B	Steering pad switch ground	Always	Below 1 V
N25-25 (ADPG) - N24-7 (GND1)	W-B - W-B	External device connection detection signal	External device connected	Below 1 V
N25-26 (VAR+) - N24-7 (GND1)	W - W-B	Sound signal (Right)	External device playing (When stereo jack used)	A waveform synchronized with

TERMINAL NO. (SYMBOLS)	WIRING COLOR	TERMINAL DESCRIPTION	CONDITION	SPECIFIED CONDITION
				sounds is output
N25-27 (VA-) - N24-7 (GND1)	R - W-B	Ground	Always	Below 1 V
N25-28 (VAL+) - N24-7 (GND1)	B - W-B	Sound signal (Left)	External device playing (When stereo jack used)	A waveform synchronized with sounds is output
N26-3 (CNH1)	B	Local bus communication signal	-	-
N26-4 (CNL1)	W	Local bus communication signal	-	-
N26-11 (CA+) - N24-7 (GND1)*4	B - W-B	Power source	Ignition switch ACC	5.5 to 7.05 V
N26-12 (V+) - N26-24 (V-)*4	R - W	Display signal	Ignition switch ON, shift lever in R	Pulse generation (See waveform 1)
			Ignition switch ON, shift lever in R, screen blacked out by covering camera lens	Pulse generation (See waveform 2)
N26-23 (CGND) - N24-7 (GND1)*4	Shielded - W-B	Shield ground	Always	Below 1 V
N27-1 (USV4)*3	-	Power source	-	-
N27-2 (US4-)*3	-	Data signal	-	-
N27-3 (US4+)*3	-	Data signal	-	-
N27-4 (UGO4)*3	-	Ground	-	-
N27-5 (USG4)*3	-	Shield ground	-	-
N28-1 (LVDS) - N24-7 (GND1)*3	B - W-B	LVDS communication signal	-	-
RA-5 (ANT+) - N24-7 (GND1)	- - W-B	Power source of antenna	Ignition switch ACC Radio switch on and FM or AM selected	11 to 14 V

*1: w/ Stereo Component Amplifier

*2: w/o Stereo Component Amplifier

*3: w/ SDARS System

*4: w/ Rear Television Camera

*5: for 6 Speakers

(a) Using an oscilloscope, check the waveform.

(1) Waveform 1

Measurement Condition

ITEM	CONTENT
Terminal No. (Symbol)	N26-12 (V+) - N26-24 (V-)
Tool Setting	0.2 V/DIV., 50 μ s./DIV.
Condition	Ignition switch ON, shift lever in R

HINT:

The video waveform changes according to the image sent by the television camera assembly.

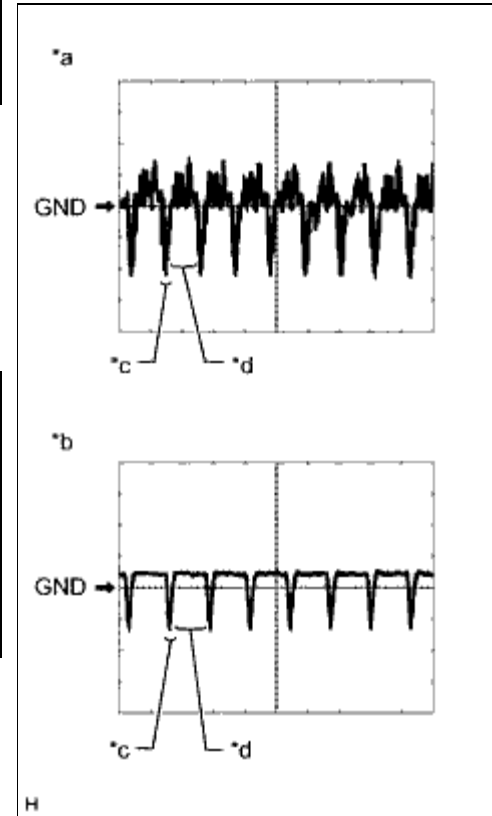
(2) Waveform 2

Measurement Condition

ITEM	CONTENT
Terminal No. (Symbol)	N26-12 (V+) - N26-24 (V-)
Tool Setting	0.2 V/DIV., 50 μ s./DIV.
Condition	Ignition switch ON, shift lever in R, screen blacked out by covering camera lens

HINT:

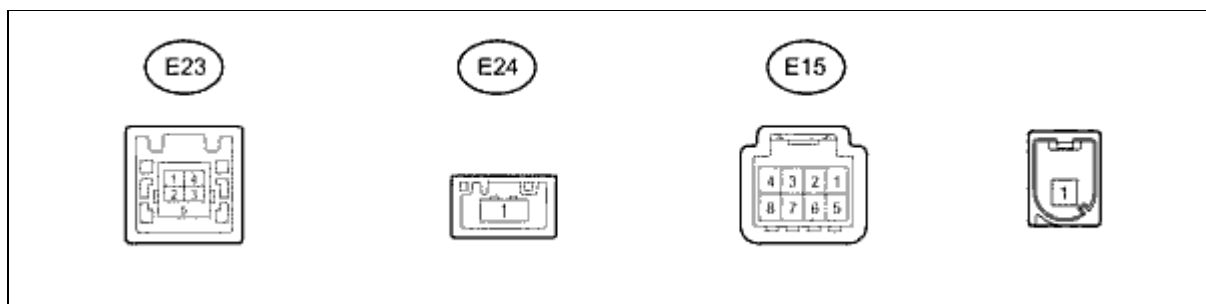
The video waveform changes according to the image sent by the television camera assembly.



Text in Illustration

*a	Waveform 1
*b	Waveform 2
*c	Synchronized Signal
*d	Video Waveform

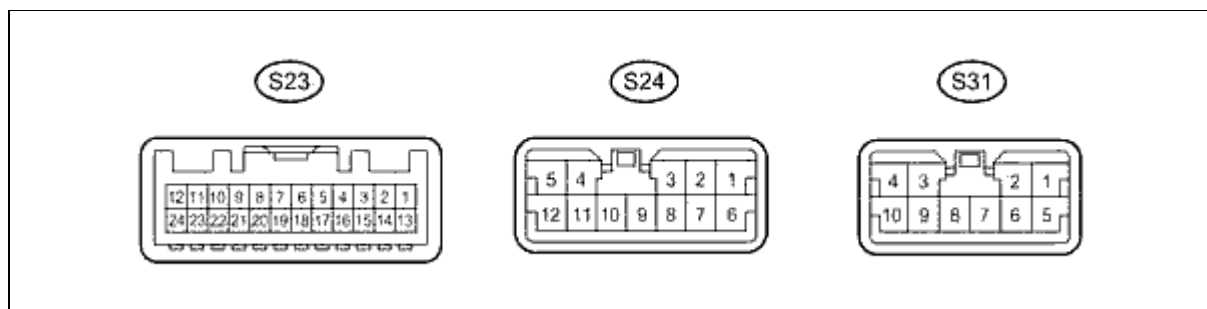
2. STEREO COMPONENT TUNER ASSEMBLY (w/ SDARS System)



TERMINAL NO. (SYMBOLS)	WIRING	TERMINAL DESCRIPTION	CONDITION	SPECIFIED
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	COLOR			CONDITION
S52-3 (ACC2) - S52-8 (GND2)	Y - B	Power source (ACC)	Ignition switch off	Below 1 V
			Ignition switch ACC	11 to 14 V
S52-4 (+B2) - S52-8 (GND2)	R - B	Power source (+B)	Always	11 to 14 V
S52-8 (GND2) - Body ground	B - Body ground	Ground	Always	Below 1 V
S53-1 (USV4)	-	Power source	-	-
S53-2 (US4-)	-	Data signal	-	-
S53-3 (US4+)	-	Data signal	-	-
S53-4 (UGO4)	-	Ground	-	-
S53-5 (USG4)	Shielded	Shield ground	-	-
E54-1 (LVDS)	B	LVDS communication signal	-	-

3. STEREO COMPONENT AMPLIFIER ASSEMBLY (w/ Stereo Component Amplifier)



TERMINAL NO. (SYMBOL)	WIRING COLOR	TERMINAL DESCRIPTION	CONDITION	SPECIFIED CONDITION
S23-1 (MUTE) - S24-6 (GND)	SB - W-B	Mute signal	Audio system is playing	Above 3.5 V
			Audio system is changing mode	Below 1 V
S23-2 (L-) - S24-6 (GND)	W - W-B	Sound signal (Left)	Audio system is playing	A waveform synchronized with sounds is output
S23-3 (L+) - S24-6 (GND)	B - W-B	Sound signal (Left)	Audio system is playing	A waveform synchronized with sounds is output
S23-4 (R-) - S24-6 (GND)	G - W-B	Sound signal (Right)	Audio system is playing	A waveform synchronized with sounds is output
S23-5 (R+) - S24-6 (GND)	R - W-B	Sound signal (Right)	Audio system is playing	A waveform synchronized with sounds is output
S23-6 (SGND) - Body ground	Shielded - Body ground	Shield ground	Always	Below 1 V

TERMINAL NO. (SYMBOL)	WIRING COLOR	TERMINAL DESCRIPTION	CONDITION	SPECIFIED CONDITION
S23-7 (TX-)	P	AVC-LAN communication signal	-	-
S23-8 (TX+)	BE	AVC-LAN communication signal	-	-
S23-11 (SPD) - S24-6 (GND)	V - W-B	Vehicle speed signal	Ignition switch ON, drive wheels turned slowly	Pulse generation
S23-12 (ACC) - S24-6 (GND)	GR - W-B	Power source (ACC)	Ignition switch off	Below 1 V
			Ignition switch ACC	11 to 14 V
S23-22 (INT-) - S24-6 (GND)	B - W-B	Voice signal	Voice guidance sounding	A waveform synchronized with sounds is output
S23-23 (INT+) - S24-6 (GND)	W - W-B	Voice signal	Voice guidance sounding	A waveform synchronized with sounds is output
S24-1 (FL-) - S24-6 (GND)	LG - W-B	Sound signal (Front Left)	Audio system is playing	A waveform synchronized with sounds is output
S24-2 (FL+) - S24-6 (GND)	G - W-B	Sound signal (Front Left)	Audio system is playing	A waveform synchronized with sounds is output
S24-3 (FR-) - S24-6 (GND)	L - W-B	Sound signal (Front Right)	Audio system is playing	A waveform synchronized with sounds is output
S24-4 (WFR+) - S24-6 (GND)	LA-B - W-B	Sound signal (Woofer)	Audio system is playing	A waveform synchronized with sounds is output
S24-5 (WFL+) - S24-6 (GND)	LA-G - W-B	Sound signal (Woofer)	Audio system is playing	A waveform synchronized with sounds is output
S24-6 (GND) - Body ground	W-B - Body ground	Ground	Always	Below 1 V
S24-7 (E) - Body ground	W-B - Body ground	Ground	Always	Below 1 V
S24-9 (FR+) - S24-6 (GND)	GR - W-B	Sound signal (Front Right)	Audio system is playing	A waveform synchronized with sounds is output
S24-10 (WFR-) - S24-6 (GND)	LA-R - W-B	Sound signal (Woofer)	Audio system is playing	A waveform synchronized with sounds is output
S24-12 (WFL-) - S24-6 (GND)	LA-Y - W-B	Sound signal (Woofer)	Audio system is playing	A waveform synchronized with sounds is output
S31-1 (+B) - S24-6 (GND)	B - W-B	Power source (+B)	Always	11 to 14 V
S31-2 (TWR+) - S24-6 (GND)	P - W-B	Sound signal (Front Right)	Audio system is playing	A waveform synchronized with sounds is output
S31-3 (RL+) - S24-6 (GND)	W - W-B	Sound signal (Rear Left)	Audio system is playing	A waveform synchronized with sounds is output

TERMINAL NO. (SYMBOL)	WIRING COLOR	TERMINAL DESCRIPTION	CONDITION	SPECIFIED CONDITION
S31-4 (RR-) - S24-6 (GND)	LA-LG - W-B	Sound signal (Rear Right)	Audio system is playing	A waveform synchronized with sounds is output
S31-5 (+B2) - S24-6 (GND)	SB - W-B	Power source (+B)	Always	11 to 14 V
S31-6 (TWR-) - S24-6 (GND)	V - W-B	Sound signal (Front Right)	Audio system is playing	A waveform synchronized with sounds is output
S31-7 (TWL-) - S24-6 (GND)	R - W-B	Sound signal (Front Left)	Audio system is playing	A waveform synchronized with sounds is output
S31-8 (TWL+) - S24-6 (GND)	Y - W-B	Sound signal (Front Left)	Audio system is playing	A waveform synchronized with sounds is output
S31-9 (RL-) - S24-6 (GND)	B - W-B	Sound signal (Rear Left)	Audio system is playing	A waveform synchronized with sounds is output
S31-10 (RR+) - S24-6 (GND)	LA-L - W-B	Sound signal (Rear Right)	Audio system is playing	A waveform synchronized with sounds is output



Last Modified: 11-13-2015	6.6 J	Doc ID: RM000000PNL0QVX
Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: NAVIGATION: NAVIGATION SYSTEM: Touch Panel Switch does not Function; 2016 MY Tacoma [08/2015 -]		

Touch Panel Switch does not Function

INSPECTION PROCEDURE

PROCEDURE

1.	CHECK MULTI-DISPLAY
-----------	----------------------------

(a) Check if there is any foreign matter caught between the display and exterior frame of the multi-display.

OK:

No foreign matter is caught between the display and exterior frame of the multi-display.

HINT:

If there is foreign matter between the display and exterior frame of the multi-display, the touch panel will remain pressed, preventing touch switch operation.

NG  **REMOVE FOREIGN MATTER**

OK



2.	CHECK TOUCH PANEL
-----------	--------------------------

(a) Check for foreign matter on the display.

OK:

The display is clean.

NG  **CLEAN DISPLAY AND RECHECK TOUCH PANEL**

OK



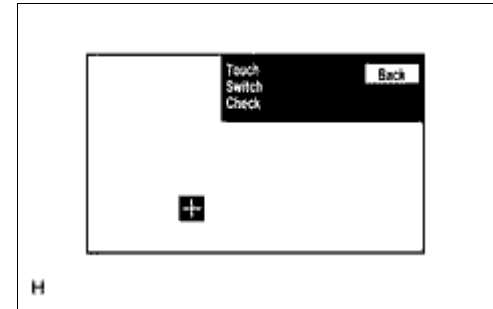
3.	CHECK TOUCH SWITCH (OPERATION CHECK)
-----------	---

(a) Enter the "Touch Switch Check" screen. Refer to Check Touch Switch in Operation Check **INFO** .

(b) Touch the display in the area where the switch malfunction occurs.

OK:

A "+" mark appears at the touched position.



NG ► **PROCEED TO NEXT SUSPECTED AREA SHOWN IN PROBLEM SYMPTOMS TABLE**

OK ► **REPLACE NAVIGATION RECEIVER ASSEMBLY**



Last Modified: 11-13-2015	6.6 J	Doc ID: RM000002U2Z08BX
Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: NAVIGATION: NAVIGATION SYSTEM: Traffic Information is not Displayed; 2016 MY Tacoma [08/2015 -]		

Traffic Information is not Displayed

INSPECTION PROCEDURE

NOTICE:

- Traffic information requires payment. An "XM Nav Traffic" contract must be made between the satellite radio company and the user. If the contract expires, traffic information will not be available.
- Traffic information does not apply to all roads, only main roads. For the latest information on coverage areas, contact the satellite radio company.

PROCEDURE

1.	CHECK DISPLAY
-----------	----------------------

(a) Check which communication is not being used for displaying traffic information.

HINT:

Display of traffic information received via HD traffic is given priority while in an HD radio service area.

Result

RESULT	PROCEED TO
Traffic information using HD radio communication is not displayed	A
Traffic information using Entune function communication is not displayed	B

B  **GO TO STEP 3**

A



2.	CHECK SYMPTOMS
-----------	-----------------------

(a) Check for symptoms (poor sound quality, sounds cannot be heard, etc.) during conventional FM radio broadcasting.

Result

RESULT	PROCEED TO
--------	------------

RESULT	PROCEED TO
Symptoms occur	A
Symptoms do not occur	B

B ► **GO TO STEP 5**

A ► **GO TO "RADIO BROADCAST CANNOT BE RECEIVED OR POOR RECEPTION" IN PROBLEM SYMPTOMS TABLE**

3.	CHECK SYMPTOMS
-----------	-----------------------

(a) Check for symptoms (cellular phone cannot be registered, applications cannot be started, etc.) with an ordinary Entune function.

Result

RESULT	PROCEED TO
Symptoms occur	A
Symptoms do not occur	B

B ► **GO TO STEP 4**

A ► **GO TO "ENTUNE FUNCTION" IN PROBLEM SYMPTOMS TABLE**

4.	CHECK SETTINGS
-----------	-----------------------

(a) Check if the navigation system is set to receive traffic information using Entune function communication as well as HD radio communication.

OK:

The navigation system is set to use Entune function communication.

NG ► **END**

OK
▼

5.	CHECK SETTINGS OF TRAFFIC INFORMATION
-----------	--

(a) Check if the display setting of traffic information on the navigation screen is on.

OK:

The display setting of traffic information is on.

NG  **END**

OK



6.	CHECK COVERAGE AREA
-----------	----------------------------

(a) Check that the current position of the vehicle is within the HD traffic or Entune function coverage area.

OK:

Vehicle is within coverage area.

NG  **MOVE TO WITHIN COVERAGE AREA (FOR LATEST COVERAGE AREA, CONFIRM WITH RADIO STATION)**

OK



7.	CHECK SCALE OF MAP DISPLAY
-----------	-----------------------------------

(a) Check if the traffic information that is currently not displayed can be displayed at the scale shown in the table below.

TRAFFIC INFORMATION TO BE DISPLAYED	DISPLAY SCALE
Traffic information list	1:1280000 or below
Traffic information icon (Closed Road, Accidents, Danger, Road Conditions, Road Works, Weather)	1:640000 or below
Traffic information icon (Stationary Traffic Jam, Delays, Parking, Other)	1:80000 or below

OK:

Traffic information can be displayed.

NG  **REPLACE NAVIGATION RECEIVER ASSEMBLY**

OK  **END**



Last Modified: 11-13-2015	6.6 C	Doc ID: RM000003WPV0IDX
Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: NAVIGATION: NAVIGATION SYSTEM: U0073,U0100,U0129,U0140,U0155,U0164; Sending Malfunction (Navigation to APGS); 2016 MY Tacoma [08/2015 -]		

DTC	U0073	Sending Malfunction (Navigation to APGS)
------------	--------------	---

DTC	U0100	Lost Communication with ECM / PCM "A"
------------	--------------	--

DTC	U0129	Lost Communication with Brake System Control Module
------------	--------------	--

DTC	U0140	Lost Communication with Body Control Module
------------	--------------	--

DTC	U0155	Meter ECU Communication
------------	--------------	--------------------------------

DTC	U0164	Lost Communication with A/C ECU
------------	--------------	--

DESCRIPTION

These DTCs are stored when a malfunction occurs in the CAN communication circuit.

DTC CODE	DTC DETECTION CONDITION	TROUBLE AREA
U0073	CAN bus connection error	CAN communication system
U0100	CAN reception error	
U0129	CAN reception error	
U0140	CAN reception error	
U0155	CAN reception error	
U0164	CAN reception error	

INSPECTION PROCEDURE

PROCEDURE

1.	CHECK FOR DTC
-----------	----------------------

(a) Clear the DTCs  .

(b) Recheck for DTCs and check that no DTCs are output  .

OK:

No DTCs are output.

NG  **GO TO CAN COMMUNICATION SYSTEM**

OK  **USE SIMULATION METHOD TO CHECK**



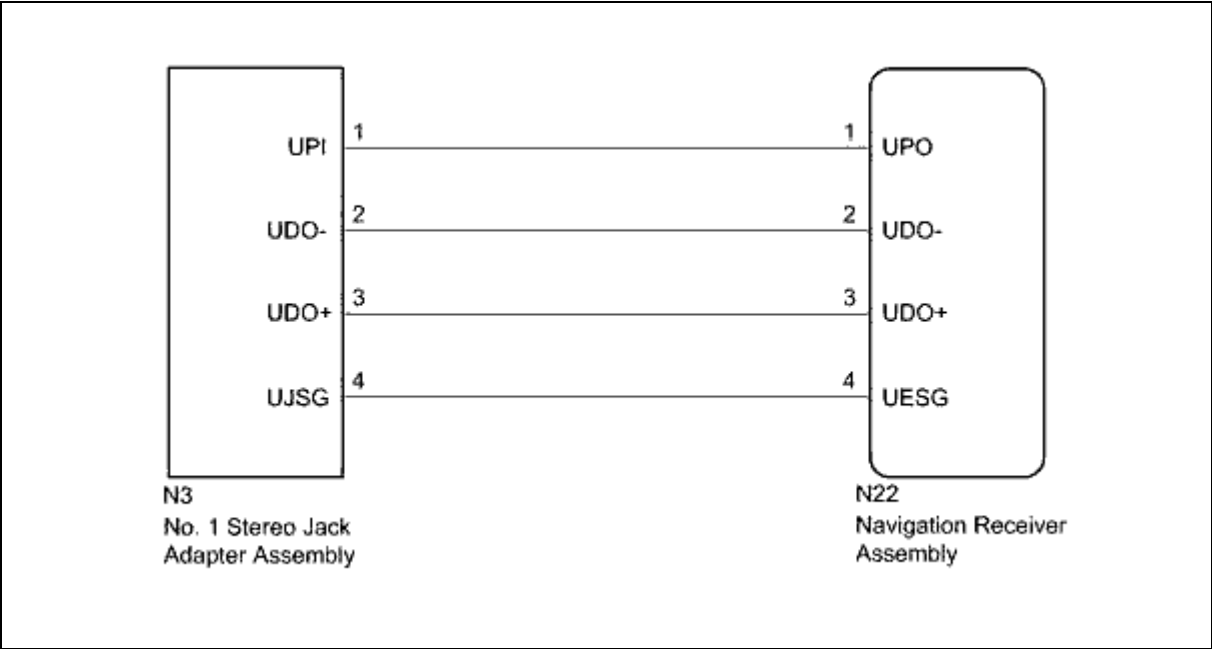
Last Modified: 11-13-2015	6.6 J	Doc ID: RM000003YYX0XPX
Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: NAVIGATION: NAVIGATION SYSTEM: USB Audio System Recognition/Play Error; 2016 MY Tacoma [08/2015 -]		

USB Audio System Recognition/Play Error

DESCRIPTION

When a USB device or "iPod" is connected to the USB jack of the No. 1 stereo jack adapter assembly, it must have playable files. The device must also communicate with and be recognized by the navigation receiver assembly. This diagnosis procedure is for when a device is not recognized, or files from the device cannot be played normally.

WIRING DIAGRAM



INSPECTION PROCEDURE

- HINT:
- When a large amount of data is in a USB device, it may take a while to begin play.
 - When using a USB device, files that are protected by copy protection cannot be played.
 - When files are not played in the sorted order, perform the following procedure before inspection.
 - Add numbers in front of the file names.
 - Put the files in a folder and copy the folder data to the USB device.

PROCEDURE

1.	CHECK USB DEVICE OR "iPod"
----	----------------------------

(a) Disconnect the USB device or "iPod" from the No. 1 stereo jack adapter assembly.

(b) Check if playable files are present on the USB device or "iPod".

HINT:

Refer to System Description for playable files [INFO](#) .

(c) Check if the USB device is a compatible format or "iPod" is a compatible version.

HINT:

Refer to System Description for compatible formats and versions [INFO](#) .

Result

RESULT	PROCEED TO
No playable files exist, or incompatible device format or version	A
Playable files exist, and compatible device format or version	B

B  **GO TO STEP 2**

A  **USB DEVICE FORMAT WAS INCOMPATIBLE, "iPod" VERSION WAS INCOMPATIBLE, OR NO PLAYABLE FILES PRESENT**

2.	CHECK HARNESS AND CONNECTOR (NAVIGATION RECEIVER ASSEMBLY - NO. 1 STEREO JACK ADAPTER ASSEMBLY)
-----------	--

(a) Disconnect the N3 No. 1 stereo jack adapter assembly connector.

(b) Disconnect the N22 navigation receiver assembly connector.

(c) Measure the resistance according to the value(s) in the table below.

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
N3-1 (UPI) - N22-1 (UPO)	Always	Below 1 Ω
N3-2 (UDO-) - N22-2 (UDO-)	Always	Below 1 Ω
N3-3 (UDO+) - N22-3 (UDO+)	Always	Below 1 Ω
N3-4 (UJSG) - N22-4 (UESG)	Always	Below 1 Ω
N3-1 (UPI) - Body ground	Always	10 k Ω or higher
N3-2 (UDO-) - Body ground	Always	10 k Ω or higher
N3-3 (UDO+) - Body ground	Always	10 k Ω or higher
N3-4 (UJSG) - Body ground	Always	10 k Ω or higher

NG  **REPAIR OR REPLACE HARNESS OR CONNECTOR**

OK



3.	INSPECT NAVIGATION RECEIVER ASSEMBLY (NO. 1 STEREO JACK ADAPTER ASSEMBLY POWER SOURCE)
----	---

(a) Reconnect the N22 navigation receiver assembly connector.

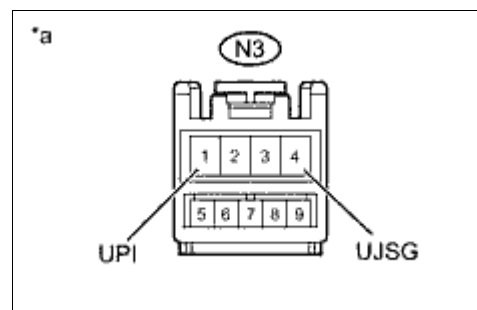
(b) Measure the voltage according to the value(s) in the table below.

Standard Voltage:

TESTER CONNECTION	SWITCH CONDITION	SPECIFIED CONDITION
N3-1 (UPI) - N3-4 (UJSG)	Ignition switch ACC	5 V

Text in Illustration

*a	Front view of wire harness connector (to No. 1 Stereo Jack Adapter Assembly)
----	---



NG **REPLACE NAVIGATION RECEIVER ASSEMBLY**

OK



4.	FORMAT USB DEVICE OR RESTORE "iPod" AND RECHECK
----	--

(a) Delete all files in the USB device or "iPod" and format/restore it.

(b) Save the data again and check if it can be played on the in-vehicle device.

NOTICE:

Formatting a USB device or restoring an "iPod" erases all music on the device. Ensure that backup music data is available before performing this operation.

OK:

Malfunction disappears.

NG **GO TO STEP 5**

OK **END**

5. REPLACE USB DEVICE OR "iPod"

(a) Turn the ignition switch off.

HINT:

When one of these DTCs has been stored, it is necessary to turn off the ignition switch to make it possible for the vehicle to recognize a new device when it is connected.

(b) Turn the ignition switch to ACC.

(c) Connect a known good USB device or "iPod" to the No. 1 stereo jack adapter assembly.

HINT:

- If the malfunction occurred when a USB device was in use, use another USB device for the inspection. If the malfunction occurred when an "iPod" was in use, use another "iPod" for the inspection.
- Refer to System Description for compatible formats and versions  .

NEXT



6. CHECK USB DEVICE OR "iPod"

(a) Check if a USB device or "iPod" is recognized by the navigation receiver assembly, and if information such as track, artist and album names are displayed on the screen.

OK:

Malfunction disappears.

NG  **PROCEED TO NEXT SUSPECTED AREA SHOWN IN PROBLEM SYMPTOMS TABLE**

OK  **USB DEVICE OR "iPod" WAS INCOMPATIBLE OR DEFECTIVE**



Last Modified: 11-13-2015	6.6 J	Doc ID: RM000000POE0I8X
Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: NAVIGATION: NAVIGATION SYSTEM: Vehicle Position Mark Deviates Greatly; 2016 MY Tacoma [08/2015 -]		

Vehicle Position Mark Deviates Greatly

INSPECTION PROCEDURE

NOTICE:

- If standard size tires are not installed, the vehicle position mark may deviate from the route even if the navigation system is operating normally.
- Make sure that standard size tires are installed to the vehicle before inspection.

PROCEDURE

1.	CHECK CABIN
-----------	--------------------

- (a) Check the cabin for any object that might interrupt radio reception on the instrument panel. If such an object exists, remove it and check if the vehicle position mark returns to the appropriate position.

HINT:

The GPS uses extremely faint radio waves originating from satellites. If the signal is interrupted by obstructions or other radio waves, the GPS may not be able to properly receive the signal.

OK:

After driving for a while, the vehicle position mark returns to the appropriate position.

NG ► **GO TO STEP 2**

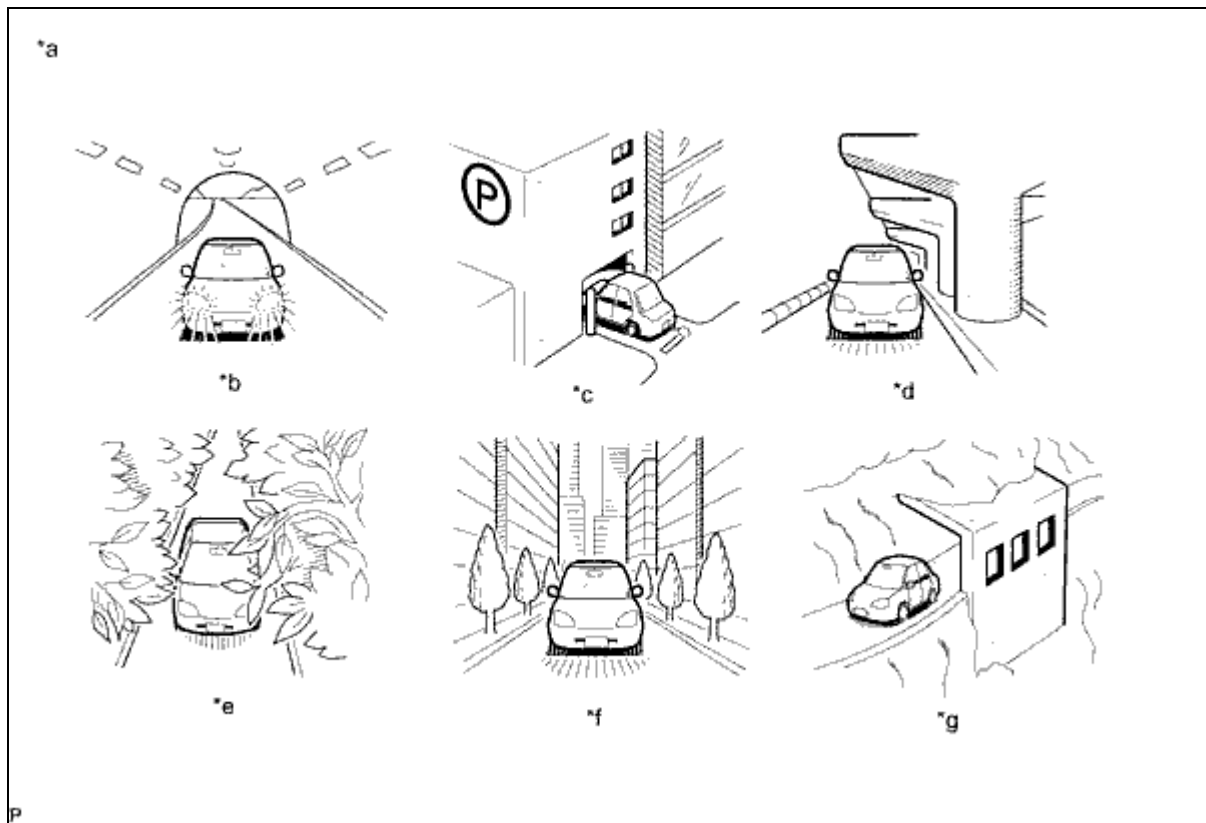
OK ► **NORMAL OPERATION**

2.	CHECK SURROUNDINGS
-----------	---------------------------

- (a) Check if the vehicle is in a location where GPS signal reception is poor. If the vehicle is in such a location, move the vehicle and check if the vehicle position mark returns to the appropriate position.

HINT:

The GPS uses 24 satellites in 6 orbits. At any point in time, 4 satellites should be able to pinpoint your vehicle. However, GPS signals may not reach the vehicle due to influence from the surroundings, vehicle direction and time. For examples, see the following illustration.



Text in Illustration

*a	Example	*b	In a tunnel
*c	In a building	*d	Under an overpass
*e	On a forest or tree-lined path	*f	Between tall buildings
*g	Under a cliff or overhang	-	-

OK:

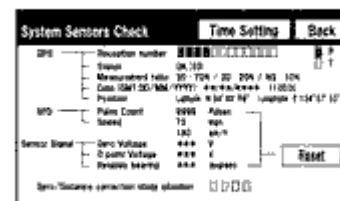
After driving for a while, the vehicle position mark returns to the appropriate position.

NG ► **GO TO STEP 3**

OK ► **SYSTEM RETURNS TO NORMAL**

3. CHECK GPS INFORMATION (OPERATION CHECK)

(a) Enter the "System Sensor Check" screen. Refer to Check GPS & Vehicle Sensors in Operation Check [INFO](#).



(b) Check how many of the following codes appear in the "Reception number" column.

HINT:

T or P appears.

OK:

At least 3 codes appear.

NG ► **PROCEED TO NEXT SUSPECTED AREA SHOWN IN
PROBLEM SYMPTOMS TABLE**

OK ► **REPLACE NAVIGATION RECEIVER ASSEMBLY**



Last Modified: 11-13-2015	6.6 J	Doc ID: RM000002NNE1DWX
Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: NAVIGATION: NAVIGATION SYSTEM: Vehicle Speed Signal Circuit between Radio Receiver and Combination Meter; 2016 MY Tacoma [08/2015 -]		

Vehicle Speed Signal Circuit between Radio Receiver and Combination Meter

DESCRIPTION

for Navigation Function:

The navigation receiver assembly receives a vehicle speed signal from the combination meter assembly and sends the signal to navigation receiver assembly.

for Automatic Sound Levelizer (ASL):

This circuit is necessary for the Automatic Sound Levelizer (ASL) built into the navigation receiver assembly.

The Automatic Sound Levelizer (ASL) function automatically adjusts the audio system volume level in order to compensate for increased vehicle noise (vehicle noise tends to increase as vehicle speed increases). The ASL adjusts the volume level based upon vehicle speed signals that it receives from the combination meter assembly.

for "Bluetooth":

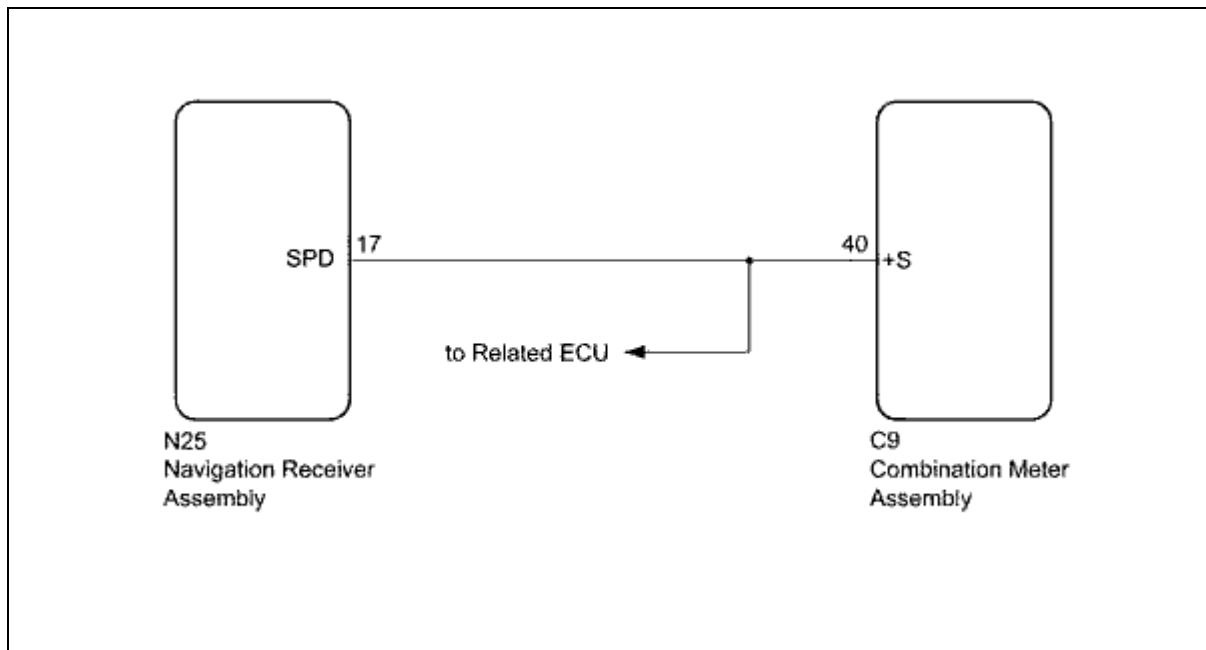
Vehicle speed signals are received from the combination meter assembly and used to cancel "Bluetooth" function operation.

The navigation receiver assembly recognizes that the vehicle is being to driven and makes it impossible to connect or register a "Bluetooth" device while driving.

HINT:

- A voltage of 12 V or 5 V is output from each ECU and then input to the combination meter assembly. The signal is changed to a pulse signal at the transistor in the combination meter assembly. Each ECU controls the respective system based on the pulse signal.
- If a short occurs in any of the ECUs or in the wire harness connected to an ECU, related components will not operate normally.

WIRING DIAGRAM

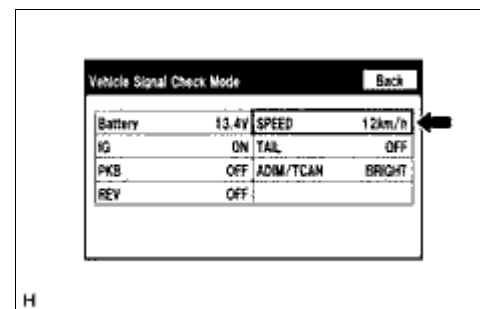


INSPECTION PROCEDURE

PROCEDURE

1.	CHECK VEHICLE SIGNAL (OPERATION CHECK)
----	---

- (a) Enter the "Vehicle Signal Check Mode" screen. Refer to Check Vehicle Signal Check Mode in Operation Check [INFO](#) .



- (b) While driving the vehicle, compare the "SPEED" indicator to the reading on the speedometer. Check if these readings are almost equal.

HINT:

The combination meter assembly receives the vehicle speed signal from the skid control ECU via CAN communication. Therefore, perform the following inspection referring to values on the Data List of the skid control ECU because it is the source of the vehicle speed signal.

OK:

Vehicle speed displayed on the "Vehicle Signal Check Mode" screen is almost the same as the actual vehicle speed measured using the Techstream [INFO](#) .

NG ➡ **GO TO STEP 2**

OK ➡ **PROCEED TO NEXT SUSPECTED AREA SHOWN IN PROBLEM SYMPTOMS TABLE**

2. INSPECT COMBINATION METER ASSEMBLY (OUTPUT WAVEFORM)

(a) Check the output waveform.

- (1) Remove the combination meter assembly with the connector still connected.
- (2) Connect an oscilloscope to terminal C9-40 (+S) and body ground.
- (3) Turn the ignition switch to ON.
- (4) Turn a wheel slowly.
- (5) Check the signal waveform according to the condition(s) in the table below.

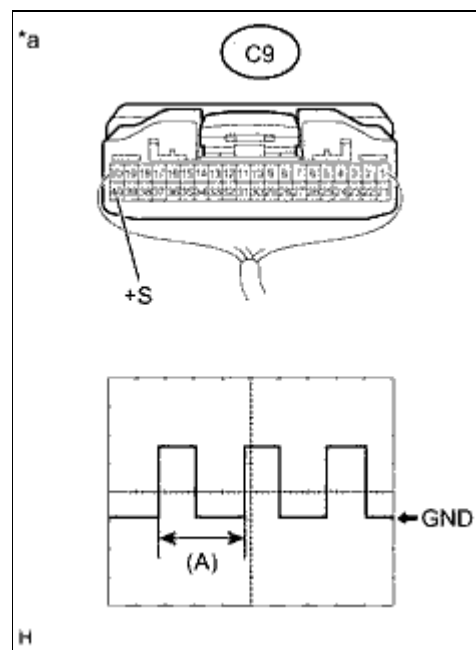
ITEM	CONDITION
Measurement terminal	C9-40 (+S) - Body ground
Tool setting	5 V/DIV., 20 ms./DIV.
Vehicle condition	Wheel being rotated

OK:

The waveform is similar to that shown in the illustration.

HINT:

When the system is functioning normally, one wheel revolution generates 4 pulses. As the vehicle speed increases, the width indicated by (A) in the illustration narrows.



Text in Illustration

*a	Component with harness connected (Combination Meter Assembly)
----	--

NG ► GO TO METER / GAUGE SYSTEM

OK

3. CHECK HARNESS AND CONNECTOR (NAVIGATION RECEIVER ASSEMBLY - COMBINATION METER ASSEMBLY)

- (a) Disconnect the N25 navigation receiver assembly connector.
- (b) Disconnect the C9 combination meter assembly connector.

(c) Measure the resistance according to the value(s) in the table below.

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
N25-17 (SPD) - C9-40 (+S)	Always	Below 1 Ω

NG ► REPAIR OR REPLACE HARNESS OR CONNECTOR

OK ► REPLACE NAVIGATION RECEIVER ASSEMBLY



Last Modified: 11-13-2015	6.6 J	Doc ID: RM000002NNE1DVX
Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: NAVIGATION: NAVIGATION SYSTEM: Vehicle Speed Signal Circuit between Stereo Component Amplifier and Combination Meter; 2016 MY Tacoma [08/2015 -]		

Vehicle Speed Signal Circuit between Stereo Component Amplifier and Combination Meter

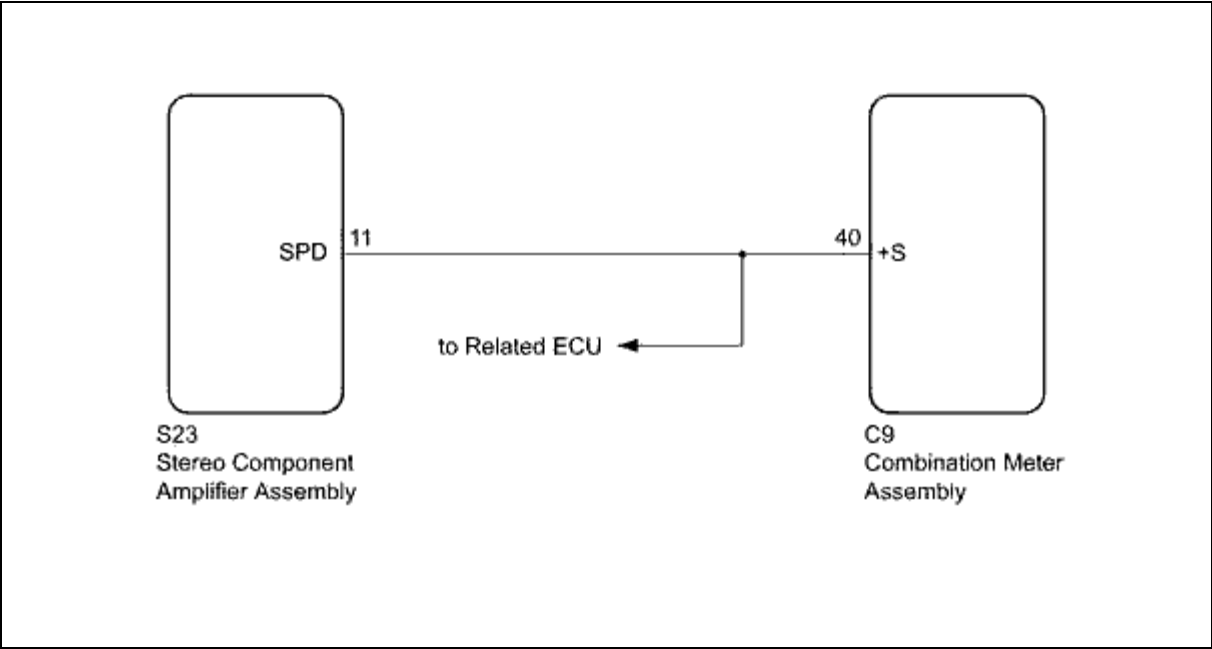
DESCRIPTION

The stereo component amplifier assembly receives a vehicle speed signal from the combination meter assembly to control the ASL function.

HINT:

- A voltage of 12 V or 5 V is output from each ECU and then input to the combination meter assembly. The signal is changed to a pulse signal at the transistor in the combination meter assembly. Each ECU controls the respective systems based on the pulse signal.
- If a short occurs in any of the ECUs or in the wire harness connected to an ECU, related components will not operate normally.

WIRING DIAGRAM



INSPECTION PROCEDURE

PROCEDURE

1.	INSPECT COMBINATION METER ASSEMBLY (OUTPUT WAVEFORM)
----	--

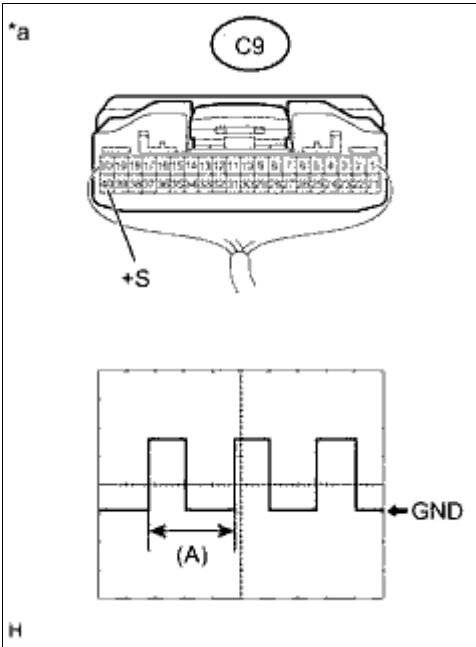
(a) Check the output waveform.

- (1) Remove the combination meter assembly with the connector(s) still connected.
- (2) Connect an oscilloscope to terminal C9-40 (+S) and body ground.
- (3) Turn the ignition switch to ON.
- (4) Turn a wheel slowly.
- (5) Check the signal waveform according to the condition(s) in the table below.

ITEM	CONDITION
Measurement terminal	C9-40 (+S) - Body ground
Tool setting	5 V/DIV., 20 ms./DIV.
Vehicle condition	Wheel being rotated

OK:
The waveform is similar to that shown in the illustration.

HINT:
When the system is functioning normally, one wheel revolution generates 4 pulses. As the vehicle speed increases, the width indicated by (A) in the illustration narrows.



Text in Illustration

*a	Component with harness connected (Combination Meter Assembly)
----	--

NG **GO TO METER / GAUGE SYSTEM**

OK

2.	CHECK HARNESS AND CONNECTOR (STEREO COMPONENT AMPLIFIER ASSEMBLY - COMBINATION METER ASSEMBLY)
----	---

- (a) Disconnect the S23 stereo component amplifier assembly connector.
- (b) Disconnect the C9 combination meter assembly connector.
- (c) Measure the resistance according to the value(s) in the table below.

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
S23-11 (SPD) - C9-40 (+S)	Always	Below 1 Ω

NG ► REPAIR OR REPLACE HARNESS OR CONNECTOR

OK ► PROCEED TO NEXT SUSPECTED AREA SHOWN IN
PROBLEM SYMPTOMS TABLE



Last Modified: 11-13-2015	6.6 J	Doc ID: RM000000PNM0TAX
Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: NAVIGATION: NAVIGATION SYSTEM: Voice Guidance does not Function; 2016 MY Tacoma [08/2015 -]		

Voice Guidance does not Function

INSPECTION PROCEDURE

PROCEDURE

1.	CHECK VOICE GUIDANCE SETTING
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(a) Check that the voice guidance settings are not off.

OK:

Voice guidance settings are not off.

NG  **CHANGE VOICE GUIDANCE SETTINGS TO ON**

OK



2.	CHECK AUDIO FUNCTION
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(a) Check that sound can be heard from a front speaker.

OK:

Sound can be heard.

NG  **PROCEED TO NEXT SUSPECTED AREA SHOWN IN PROBLEM SYMPTOMS TABLE**

OK  **REPLACE NAVIGATION RECEIVER ASSEMBLY**



Last Modified: 11-13-2015	6.6 J	Doc ID: RM000000PO60R9X
Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: NAVIGATION: NAVIGATION SYSTEM: Voice is not Recognized; 2016 MY Tacoma [08/2015 -]		

Voice is not Recognized

INSPECTION PROCEDURE

PROCEDURE

1.	CHECK CONDITION
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(a) Check if the system voice recognition level is low when recognizing a particular voice.

Result

RESULT	PROCEED TO
System voice recognition level is low with any voice	A
System voice recognition level is low only for a particular voice	B

HINT:

- System voice recognition level varies depending on voice and pronunciation. This is not a malfunction.
- To achieve better voice recognition, ask the customer to watch the tutorial or perform the voice training to train the system.

B ► **END**

A ► **PROCEED TO NEXT SUSPECTED AREA SHOWN IN PROBLEM SYMPTOMS TABLE**

