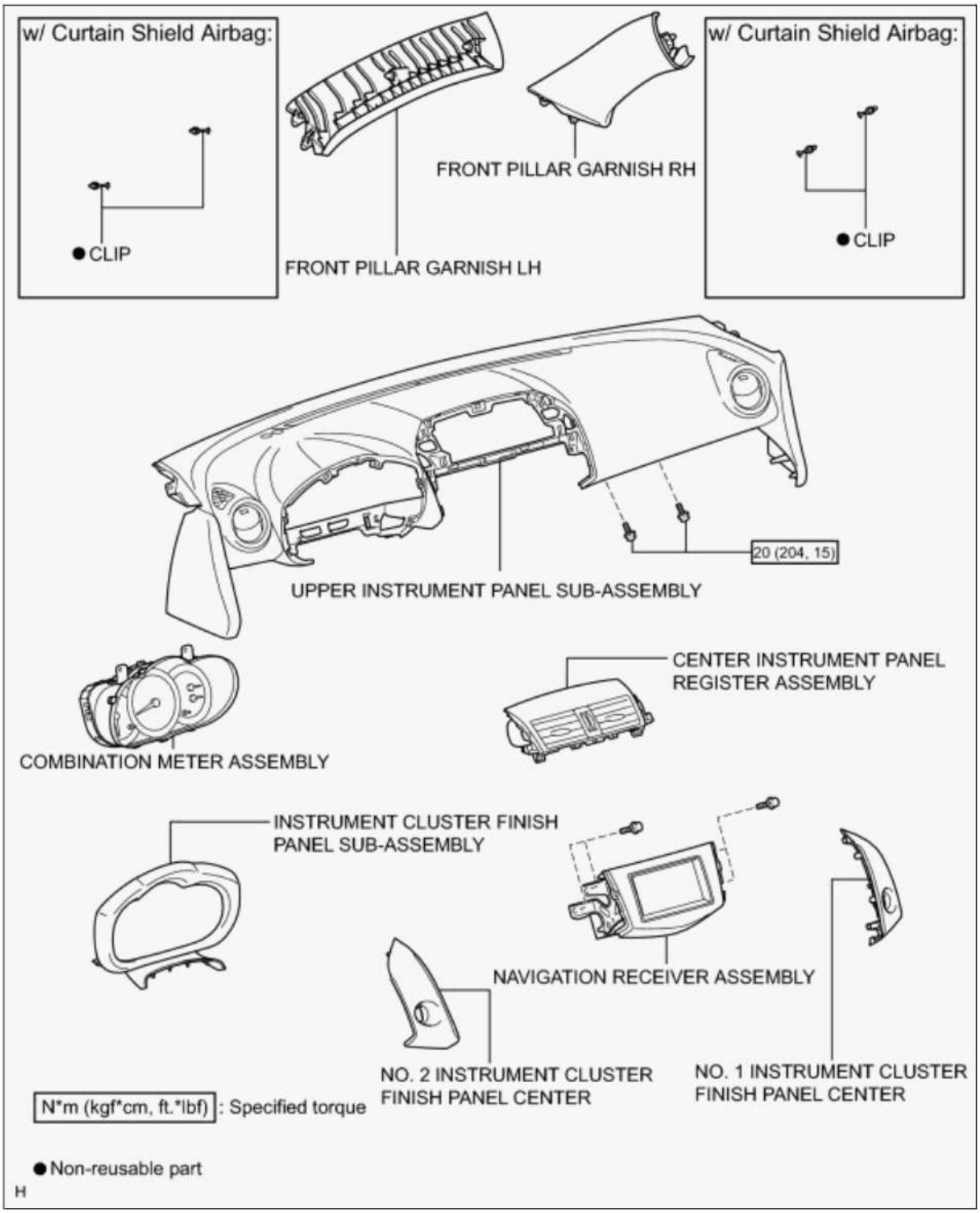
Last Modified: 9-7-2011	6.4 K	**From:** 201008
Model Year: 2011	**Model:** RAV4	**Doc ID:** RM000003P8G005X
Title: NAVIGATION: NAVIGATION ANTENNA: COMPONENTS (2011 RAV4)		

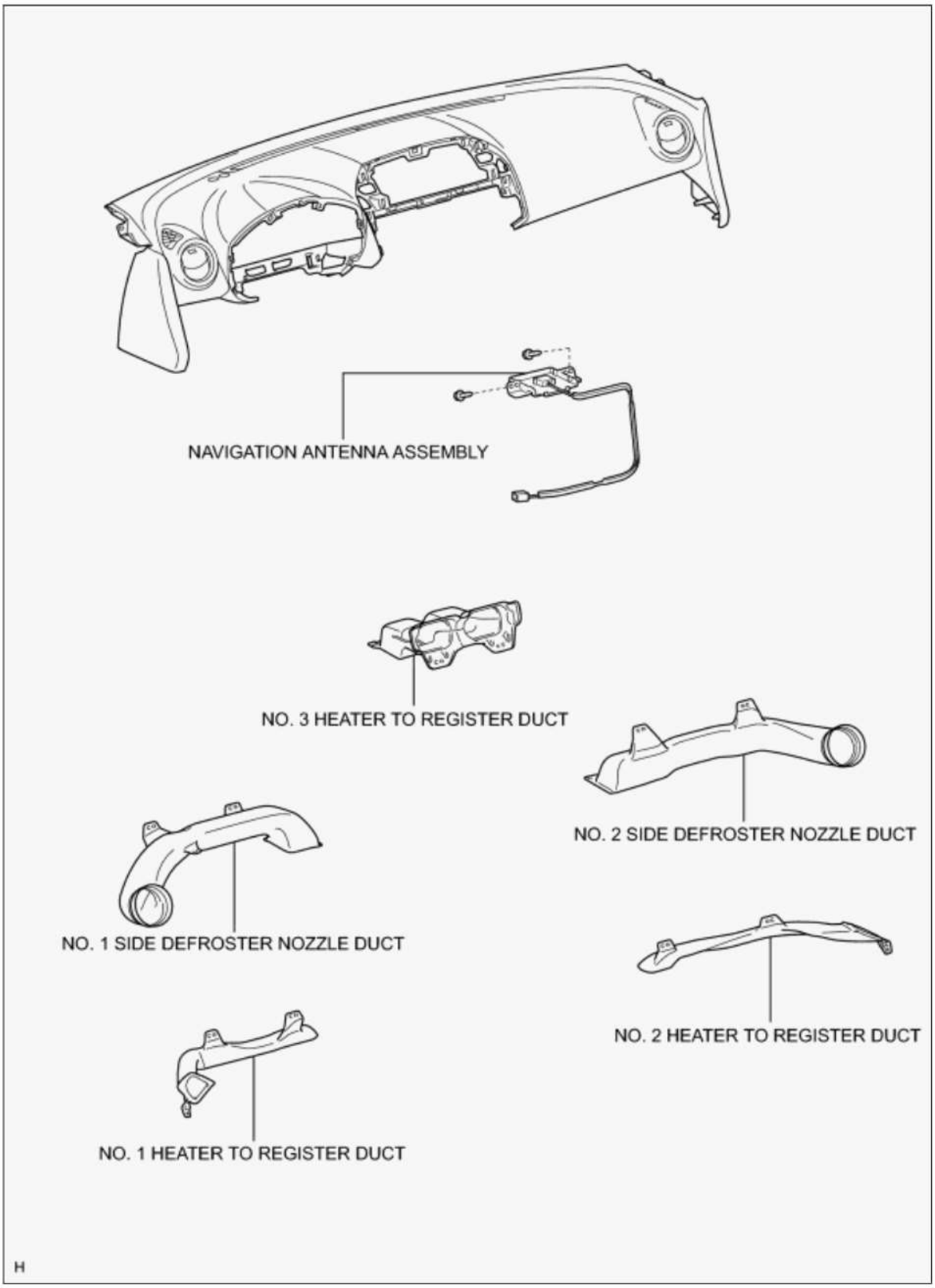
COMPONENTS

ILLUSTRATION



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ILLUSTRATION



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Last Modified: 9-7-2011	6.4 G	**From:** 201008
Model Year: 2011	**Model:** RAV4	**Doc ID:** RM000003P8F005X
Title: NAVIGATION: NAVIGATION ANTENNA: INSPECTION (2011 RAV4)		

INSPECTION

1. INSPECT NAVIGATION ANTENNA ASSEMBLY

Component without harness connected:
(Navigation Antenna)



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

Standard Resistance:

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

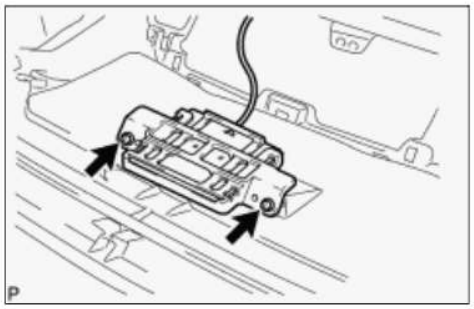
If the result is not as specified, replace the navigation antenna assembly.

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Last Modified: 9-7-2011	6.4 A	**From:** 201008
Model Year: 2011	**Model:** RAV4	**Doc ID:** RM000003P8E005X
Title: NAVIGATION: NAVIGATION ANTENNA: INSTALLATION (2011 RAV4)		

INSTALLATION

1. INSTALL NAVIGATION ANTENNA ASSEMBLY



(a) Install the navigation antenna with the 2 screws.

2. INSTALL NO. 3 HEATER TO REGISTER DUCT INFO

3. INSTALL NO. 2 HEATER TO REGISTER DUCT INFO

4. INSTALL NO. 1 HEATER TO REGISTER DUCT INFO

5. INSTALL NO. 2 SIDE DEFROSTER NOZZLE DUCT INFO

6. INSTALL NO. 1 SIDE DEFROSTER NOZZLE DUCT INFO

7. INSTALL UPPER INSTRUMENT PANEL SUB-ASSEMBLY INFO

8. INSTALL FRONT PILLAR GARNISH RH INFO

9. INSTALL FRONT PILLAR GARNISH LH INFO

10. INSTALL GLOVE COMPARTMENT DOOR ASSEMBLY INFO

11. INSTALL CENTER INSTRUMENT PANEL REGISTER ASSEMBLY INFO

12. INSTALL NAVIGATION RECEIVER ASSEMBLY WITH BRACKET INFO

13. INSTALL NO. 1 INSTRUMENT CLUSTER FINISH PANEL CENTER INFO

14. INSTALL NO. 2 INSTRUMENT CLUSTER FINISH PANEL CENTER INFO

15. INSTALL COMBINATION METER ASSEMBLY INFO

16. INSTALL INSTRUMENT CLUSTER FINISH PANEL SUB-ASSEMBLY INFO

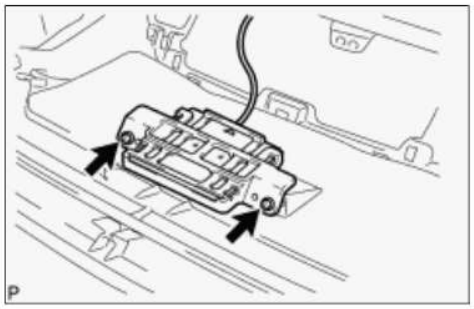
17. CONNECT CABLE TO NEGATIVE BATTERY TERMINAL

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Last Modified: 9-7-2011	6.4 A	**From:** 201008
Model Year: 2011	**Model:** RAV4	**Doc ID:** RM000003P8H005X
Title: NAVIGATION: NAVIGATION ANTENNA: REMOVAL (2011 RAV4)		

REMOVAL

1. DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL
2. REMOVE INSTRUMENT CLUSTER FINISH PANEL SUB-ASSEMBLY INFO
3. REMOVE COMBINATION METER ASSEMBLY INFO
4. REMOVE NO. 2 INSTRUMENT CLUSTER FINISH PANEL CENTER INFO
5. REMOVE NO. 1 INSTRUMENT CLUSTER FINISH PANEL CENTER INFO
6. REMOVE NAVIGATION RECEIVER ASSEMBLY WITH BRACKET INFO
7. REMOVE CENTER INSTRUMENT PANEL REGISTER ASSEMBLY INFO
8. REMOVE GLOVE COMPARTMENT DOOR ASSEMBLY INFO
9. REMOVE FRONT PILLAR GARNISH LH INFO
10. REMOVE FRONT PILLAR GARNISH RH INFO
11. REMOVE UPPER INSTRUMENT PANEL SUB-ASSEMBLY INFO
12. REMOVE NO. 1 SIDE DEFROSTER NOZZLE DUCT INFO
13. REMOVE NO. 2 SIDE DEFROSTER NOZZLE DUCT INFO
14. REMOVE NO. 1 HEATER TO REGISTER DUCT INFO
15. REMOVE NO. 2 HEATER TO REGISTER DUCT INFO
16. REMOVE NO. 3 HEATER TO REGISTER DUCT INFO
17. REMOVE NAVIGATION ANTENNA ASSEMBLY



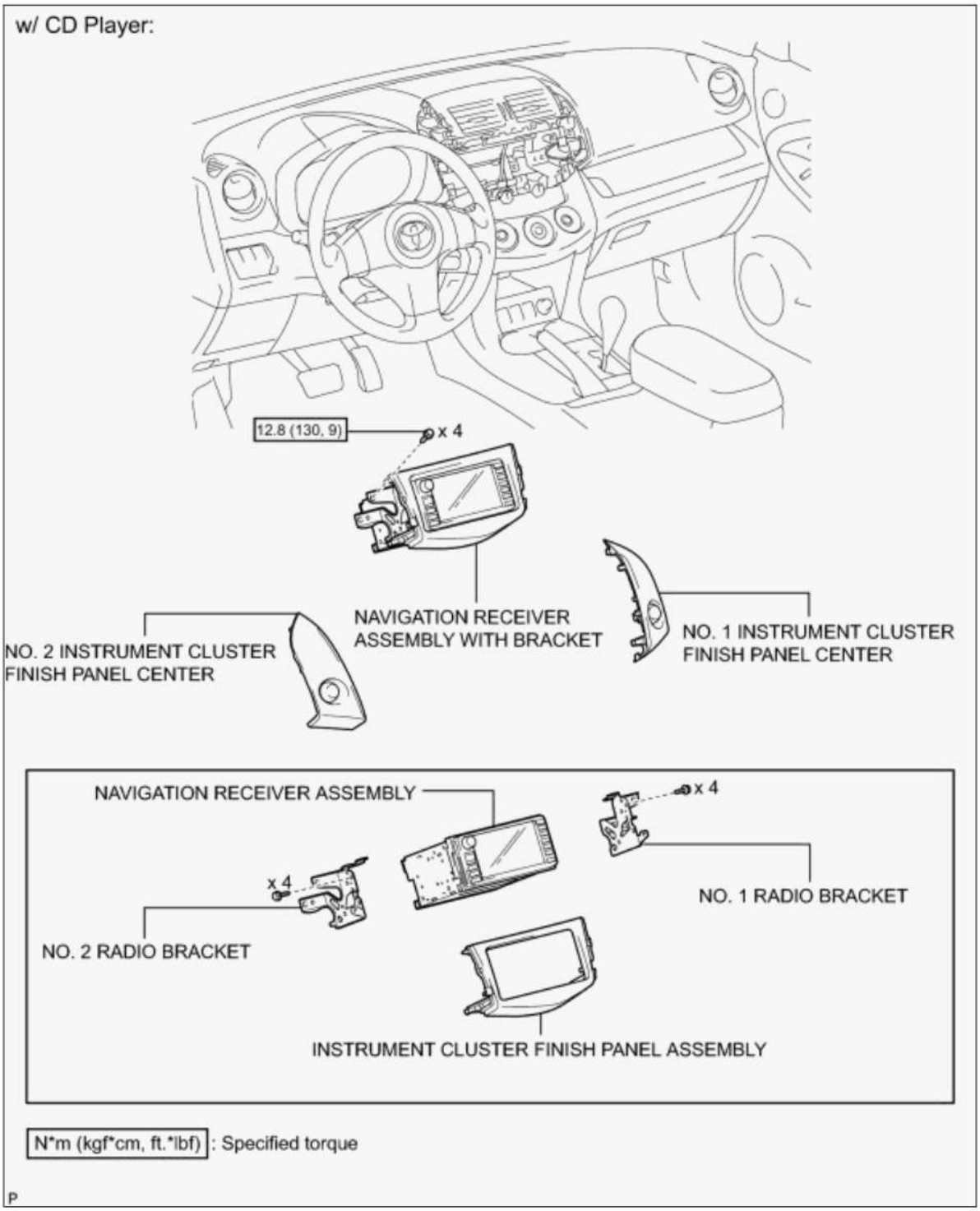
(a) Remove the 2 screws and navigation antenna.

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Last Modified: 9-7-2011	6.4 K	**From:** 201008
Model Year: 2011	**Model:** RAV4	**Doc ID:** RM000003P8C004X
Title: NAVIGATION: NAVIGATION RECEIVER: COMPONENTS (2011 RAV4)		

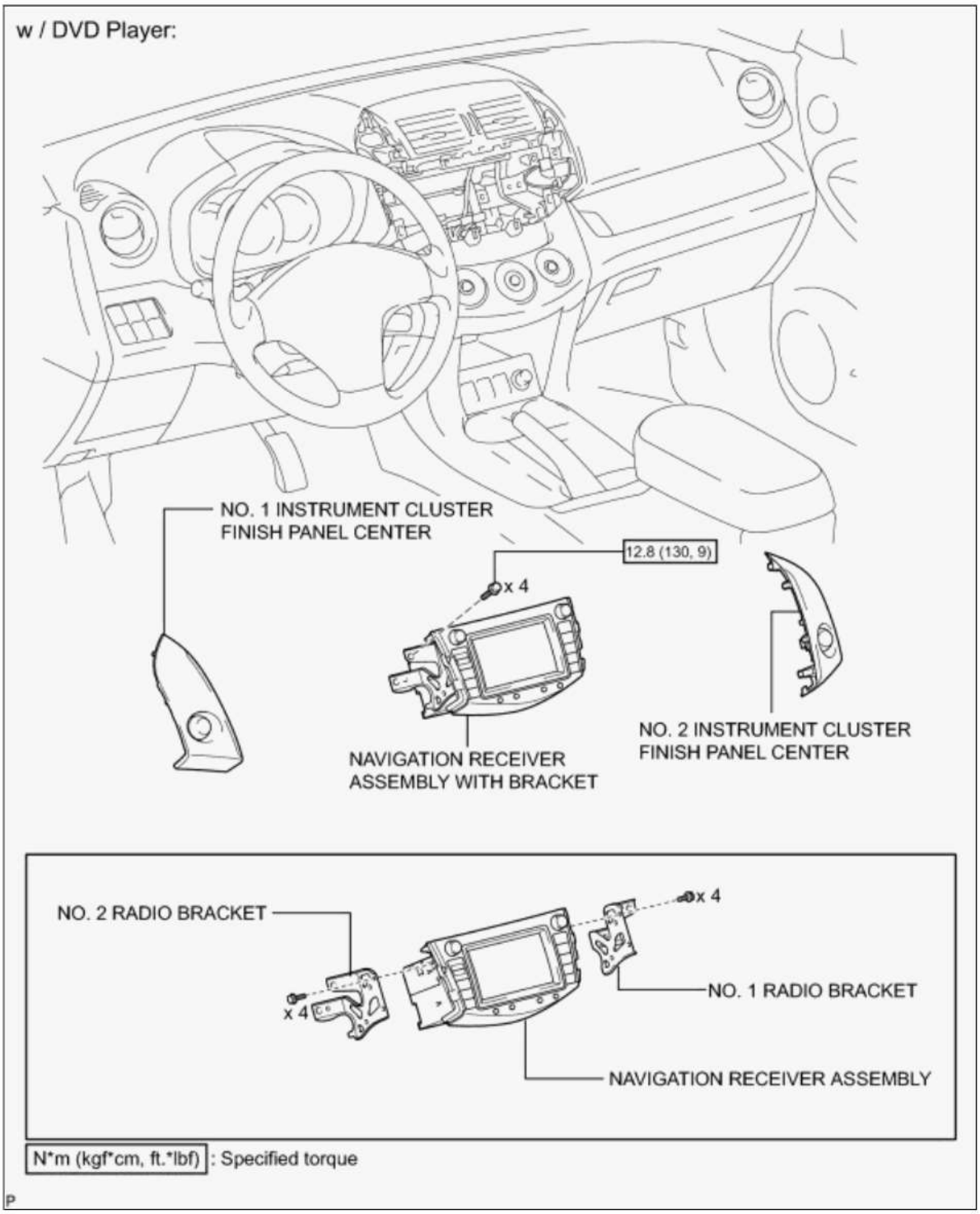
COMPONENTS

ILLUSTRATION



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ILLUSTRATION



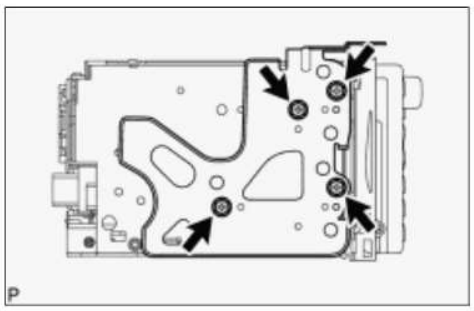
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Last Modified: 9-7-2011	6.4 A	**From:** 201008
Model Year: 2011	**Model:** RAV4	**Doc ID:** RM000003P8B004X
Title: NAVIGATION: NAVIGATION RECEIVER: INSTALLATION (2011 RAV4)		

INSTALLATION

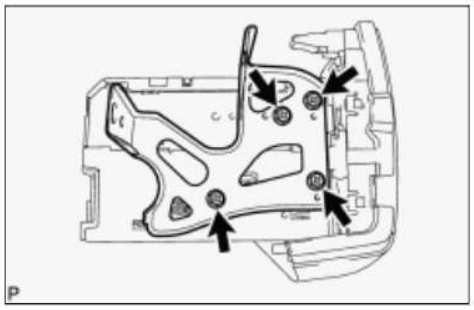
1. INSTALL NO. 2 RADIO BRACKET

(a) w/ CD Player:



(1) Install the No. 2 radio bracket to the navigation receiver with the 4 screws.

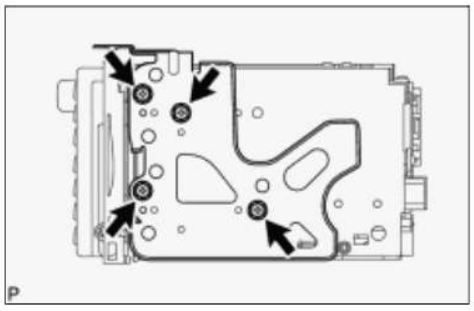
(b) w/ DVD Player:



(1) Install the No. 2 radio bracket to the navigation receiver with the 4 screws.

2. INSTALL NO. 1 RADIO BRACKET

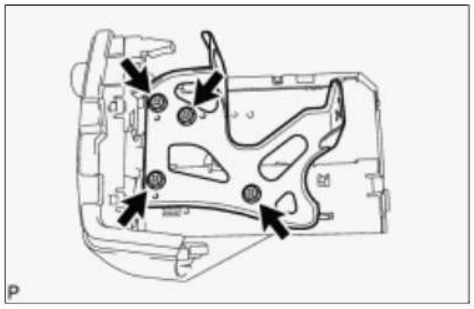
(a) w/ CD Player:



(1) Install the No. 1 radio bracket to the navigation receiver with the 4 screws.

(b) w/ DVD Player:

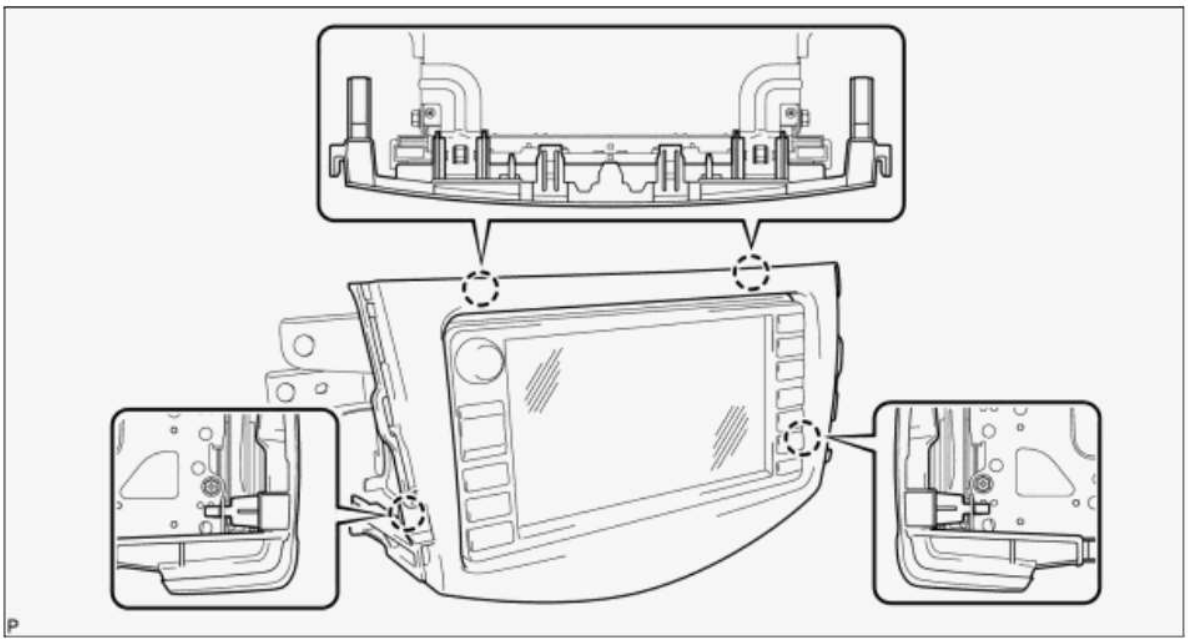
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(1) Install the No. 1 radio bracket to the navigation receiver with the 4 screws.

3. INSTALL INSTRUMENT CLUSTER FINISH PANEL ASSEMBLY

(a) Attach the 4 claws to install the instrument cluster finish panel.

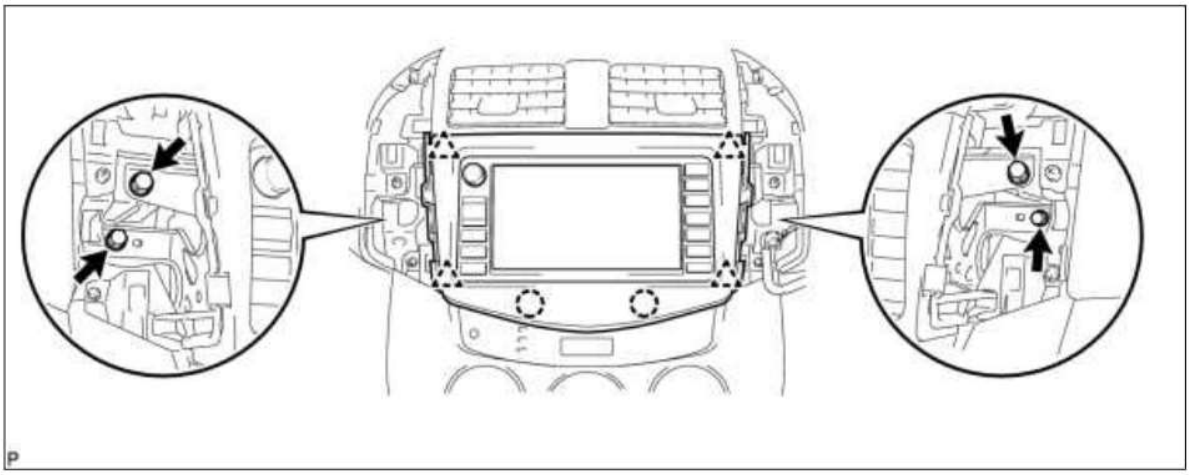


4. INSTALL NAVIGATION RECEIVER ASSEMBLY WITH BRACKET

(a) w/ CD Player:

(1) Connect all the connectors to install the navigation receiver.

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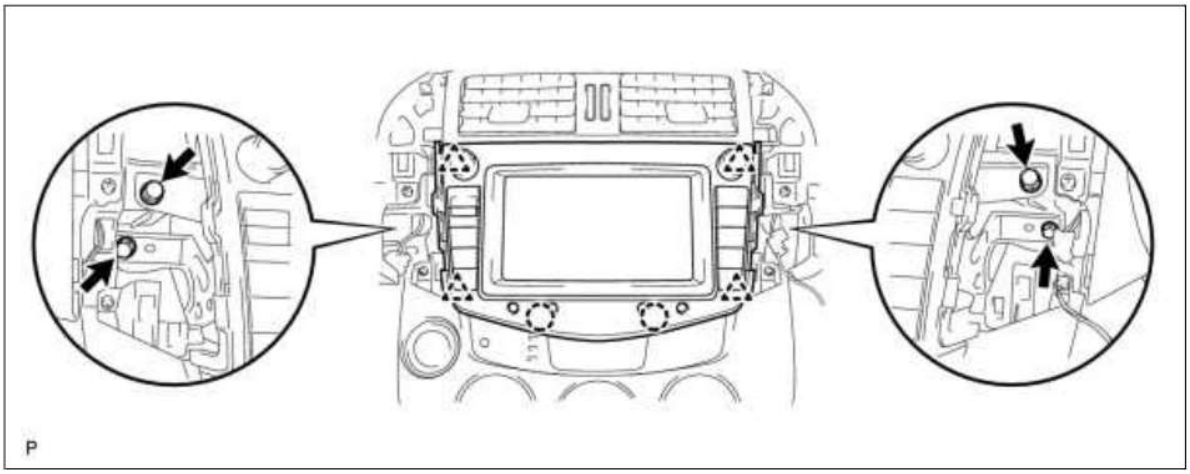
(2) Insert the navigation receiver to attach the 2 claws and 4 clips on its backside.

(3) Install the 4 bolts.

Torque: 12.8 N·m (130 kgf·cm, 9ft·lbf)

(b) w/ DVD Player:

(1) Connect all connectors to install the navigation receiver.



(2) Insert the navigation receiver to attach the 2 claws and 4 clips on its backside.

(3) Install the 4 bolts.

Torque: 12.8 N·m (130 kgf·cm, 9ft·lbf)

5. INSTALL NO. 1 INSTRUMENT CLUSTER FINISH PANEL CENTER INFO

6. INSTALL NO. 2 INSTRUMENT CLUSTER FINISH PANEL CENTER INFO

7. CONNECT CABLE TO NEGATIVE BATTERY TERMINAL

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Last Modified: 9-7-2011	6.4 A	**From:** 201008
Model Year: 2011	**Model:** RAV4	**Doc ID:** RM000003P8D004X
Title: NAVIGATION: NAVIGATION RECEIVER: REMOVAL (2011 RAV4)		

REMOVAL

1. DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

2. REMOVE NO. 2 INSTRUMENT CLUSTER FINISH PANEL CENTER INFO

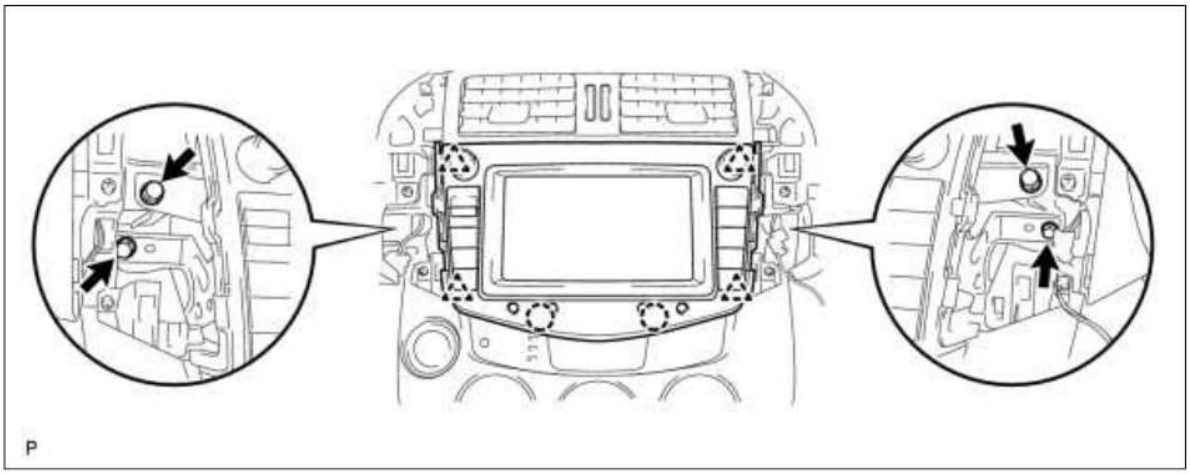
3. REMOVE NO. 1 INSTRUMENT CLUSTER FINISH PANEL CENTER INFO

4. REMOVE NAVIGATION RECEIVER ASSEMBLY WITH BRACKET

(a) w/ DVD Player:

(1) Remove the 4 bolts.

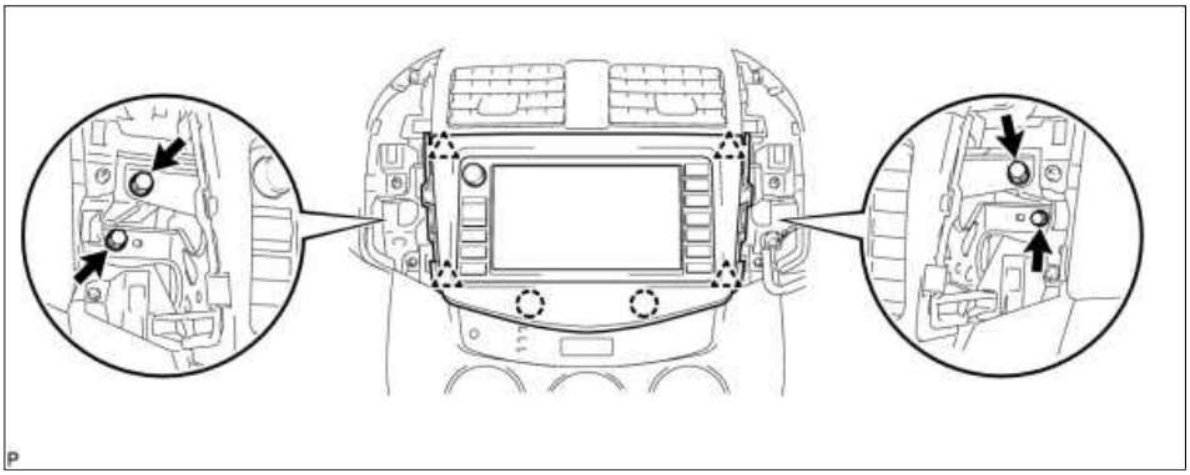
(2) Pull the navigation receiver to detach the 2 claws and 4 clips on the backside of the navigation receiver



(3) Disconnect all the connectors and remove the navigation receiver.

(b) w/ CD Player:

(1) Remove the 4 bolts.



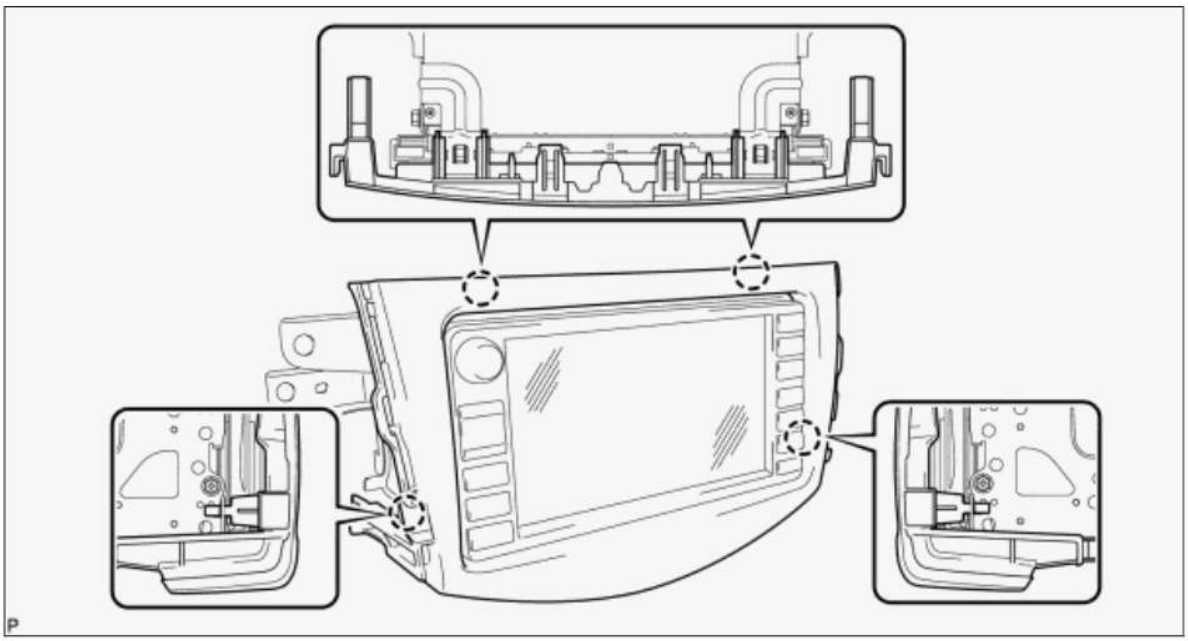
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(2) Pull the navigation receiver to detach the 2 claws and 4 clips on the backside of the navigation receiver.

(3) Disconnect all the connectors and remove the navigation receiver.

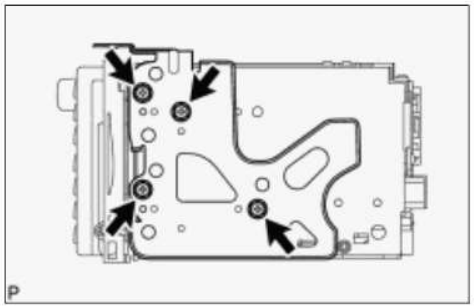
5. REMOVE INSTRUMENT CLUSTER FINISH PANEL ASSEMBLY

(a) Detach the 4 claws and remove the instrument cluster finish panel.



6. REMOVE NO. 1 RADIO BRACKET

(a) w/ CD Player:

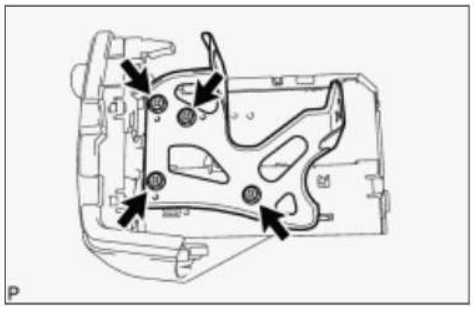


(1) Remove the 4 screws and No. 1 radio bracket from the navigation receiver.

(b) w/ DVD Player:

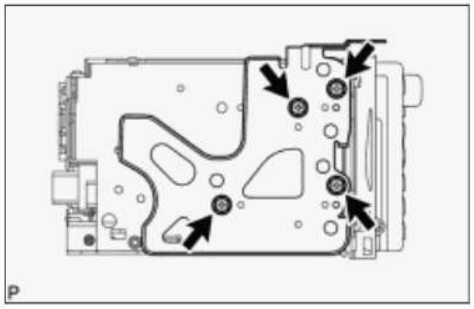
(1) Remove the 4 screws and No. 1 radio bracket from the navigation receiver.

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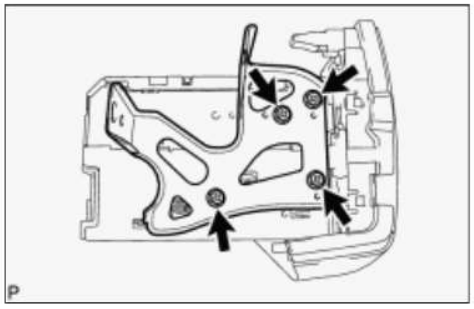
7. REMOVE NO. 2 RADIO BRACKET

(a) w/ CD Player:



(1) Remove the 4 screws and No. 2 radio bracket from the navigation receiver.

(b) w/ DVD Player:



(1) Remove the 4 screws and No. 2 radio bracket from the navigation receiver.

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Last Modified: 9-7-2011	6.4 C	**From:** 201008
Model Year: 2011	**Model:** RAV4	**Doc ID:** RM00000182H081X
Title: NAVIGATION: NAVIGATION SYSTEM (w/ CD Player): 01-21,01-22: ROM Error (2011 RAV4)		

DTC	**01-21**	**ROM Error**

DTC	**01-22**	**RAM Error**

DESCRIPTION

DTC CODE	DTC DETECTION CONDITION	TROUBLE AREA
01-21	A malfunction exists in ROM.	Navigation receiver assembly
01-22	A malfunction exists in RAM.	

INSPECTION PROCEDURE

HINT:

After the inspection is completed, clear the DTCs INFO .

PROCEDURE

1.	**REPLACE NAVIGATION RECEIVER ASSEMBLY**

(a) Replace the navigation receiver assembly INFO .

NEXT END

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Last Modified: 9-7-2011	6.4 C	**From:** 201008
Model Year: 2011	**Model:** RAV4	**Doc ID:** RM00000182P07LX
Title: NAVIGATION: NAVIGATION SYSTEM (w/ CD Player): 21-10,21-11,23-10,23-11,24-10,24-11,25-10,25-11: Panel Switch Error (2011 RAV4)		

DTC	**21-10**	**Panel Switch Error**

DTC	**21-11**	**Touch Switch Error**

DTC	**23-10**	**Panel Switch Error**

DTC	**23-11**	**Touch Switch Error**

DTC	**24-10**	**Panel Switch Error**

DTC	**24-11**	**Touch Switch Error**

DTC	**25-10**	**Panel Switch Error**

DTC	**25-11**	**Touch Switch Error**

DESCRIPTION

DTC CODE	DTC DETECTION CONDITION	TROUBLE AREA
21-10	The panel switch detection circuit has a problem.	Navigation receiver assembly
21-11	The touch panel switch has a problem.	
23-10	The panel switch detection circuit has a problem.	
23-11	The touch panel switch has a problem.	

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DTC CODE	DTC DETECTION CONDITION	TROUBLE AREA
24-10	The panel switch detection circuit has a problem.	
24-11	The touch panel switch has a problem.	
25-10	The panel switch detection circuit has a problem.	
25-11	The touch panel switch has a problem.	

INSPECTION PROCEDURE

HINT:

After the inspection is completed, clear the DTCs INFO .

PROCEDURE

1.	**REPLACE NAVIGATION RECEIVER ASSEMBLY**

(a) Replace the navigation receiver assembly INFO .

NEXT END

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Last Modified: 9-7-2011	6.4 C	**From:** 201008
Model Year: 2011	**Model:** RAV4	**Doc ID:** RM00000182Q064X
Title: NAVIGATION: NAVIGATION SYSTEM (w/ CD Player): 34-10-34-12: Error in Picture Circuit (2011 RAV4)		

DTC	**34-10**	**Error in Picture Circuit**

DTC	**34-11**	**No Current in Back-light**

DTC	**34-12**	**Excess Current in Back-light**

DESCRIPTION

DTC CODE	DTC DETECTION CONDITION	TROUBLE AREA
34-10	Error in power supply system for picture circuit	Navigation receiver assembly
34-11	Decline in power output from inverter circuit for back-light	
34-12	Excess power output from inverter circuit for back-light	

INSPECTION PROCEDURE

HINT:

After the inspection is completed, clear the DTCs INFO .

PROCEDURE

1.	**REPLACE NAVIGATION RECEIVER ASSEMBLY**

(a) Replace the navigation receiver assembly INFO .

NEXT END

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Last Modified: 9-7-2011	6.4 C	**From:** 201008
Model Year: 2011	**Model:** RAV4	**Doc ID:** RM00000182R05LX
Title: NAVIGATION: NAVIGATION SYSTEM (w/ CD Player): 58-10,80-10: Gyro Error (2011 RAV4)		

DTC	**58-10**	**Gyro Error**

DTC	**80-10**	**Gyro Error**

DESCRIPTION

DTC CODE	DTC DETECTION CONDITION	TROUBLE AREA
58-10	Ground short, power supply short, or open circuit in the gyro signal	• Gyro sensor • Navigation receiver assembly
80-10	Ground short, power supply short, or open circuit in the gyro signal	

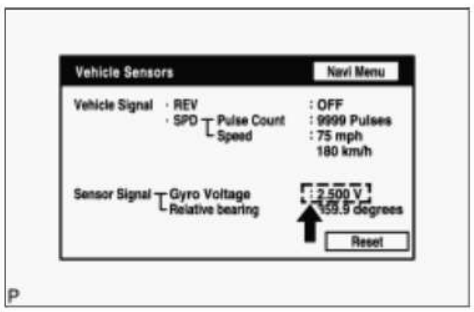
INSPECTION PROCEDURE

HINT:

After the inspection is completed, clear the DTCs INFO .

PROCEDURE

1.	**CHECK VEHICLE SENSOR (NAVIGATION CHECK MODE)**



(a) Enter the "Navigation Check" mode and select "Vehicle Sensors" INFO .

(b) Check the gyro voltage.

Standard Voltage:
0.1 to 4.5 V

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NG ▶ REPLACE NAVIGATION RECEIVER ASSEMBLY

OK ▼

2.	CLEAR DTC

(a) Clear the DTCs INFO .

NEXT ▼

3.	RECHECK DTC

(a) Recheck for DTCs and check if the same trouble occurs again.

HINT:

If DTCs are output frequently, replace the navigation receiver assembly.

OK:
No DTC is output.

NG ▶ REPLACE NAVIGATION RECEIVER ASSEMBLY

OK ▶ END

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Last Modified: 9-7-2011	6.4 C	**From:** 201008
Model Year: 2011	**Model:** RAV4	**Doc ID:** RM00000182S05EX
Title: NAVIGATION: NAVIGATION SYSTEM (w/ CD Player): 58-11,80-11: GPS Receiver Error (2011 RAV4)		

DTC	**58-11**	**GPS Receiver Error**

DTC	**80-11**	**GPS Receiver Error**

DESCRIPTION

DTC CODE	DTC DETECTION CONDITION	TROUBLE AREA
58-11	When either condition below is met: • An RTC, ROM, and RAM error of the GPS receiver and TCXO error. • The GPS receiver has failed.	Navigation receiver assembly
80-11	When either condition below is met: • An RTC, ROM, and RAM error of the GPS receiver and TCXO error. • The GPS receiver has failed.	

INSPECTION PROCEDURE

HINT:

After the inspection is completed, clear the DTCs INFO .

PROCEDURE

1.	**REPLACE NAVIGATION RECEIVER ASSEMBLY**

(a) Replace the navigation receiver assembly INFO .

NEXT END

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Last Modified: 9-7-2011	6.4 C	**From:** 201008
Model Year: 2011	**Model:** RAV4	**Doc ID:** RM00000182T0ARX
Title: NAVIGATION: NAVIGATION SYSTEM (w/ CD Player): 58-40,58-41,80-40,80-41: GPS Antenna Error (2011 RAV4)		

DTC	**58-40**	**GPS Antenna Error**

DTC	**58-41**	**GPS Antenna Power Source Error**

DTC	**80-40**	**GPS Antenna Error**

DTC	**80-41**	**GPS Antenna Power Source Error**

DESCRIPTION

DTC CODE	DTC DETECTION CONDITION	TROUBLE AREA
58-40	Navigation antenna error	• Harness or connector • Navigation antenna • Navigation receiver assembly
58-41	An error of the power source to the navigation antenna	
80-40	Navigation antenna error	
80-41	An error of the power source to the navigation antenna	

INSPECTION PROCEDURE

HINT:

After the inspection is completed, clear the DTCs INFO **.**

PROCEDURE

1.	**CHECK HARNESS AND CONNECTOR (NAVIGATION ANTENNA - NAVIGATION RECEIVER ASSEMBLY)**

(a) Check that the navigation antenna cord is securely connected to the navigation receiver assembly connector.

OK:

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The cord is securely connected.

NG ▶ **REPAIR OR REPLACE HARNESS OR CONNECTOR**

OK ▼

2.	**INSPECT NAVIGATION ANTENNA ASSEMBLY**

Component without harness connected:
(Navigation Antenna)



(a) Disconnect the navigation antenna connector.

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

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
1 - 2	Always	50 to 500 Ω

NG ▶ **REPLACE NAVIGATION ANTENNA ASSEMBLY**

OK ▼

3.	**REPLACE NAVIGATION RECEIVER ASSEMBLY**

(a) Replace the navigation receiver assembly with a known good one and check if the same problem occurs again.

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(1) Clear the DTCs INFO .

(2) Recheck for DTCs and check if the same trouble occurs again.

OK:
Same problem does not occur.

NG ▶ **REPLACE NAVIGATION ANTENNA ASSEMBLY**

OK ▶ **END**

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Last Modified: 9-7-2011	6.4 C	**From:** 201008
Model Year: 2011	**Model:** RAV4	**Doc ID:** RM00000182U07OX
Title: NAVIGATION: NAVIGATION SYSTEM (w/ CD Player): 58-42,80-42: Map Disc Read Error (2011 RAV4)		

DTC	**58-42**	**Map Disc Read Error**

DTC	**80-42**	**Map Disc Read Error**

DESCRIPTION

DTC CODE	DTC DETECTION CONDITION	TROUBLE AREA
58-42	• Player error • Scratches or dirt on the disc • Access to an invalid address due to software error	• Map disc • Navigation receiver assembly
80-42	• Player error • Scratches or dirt on the disc • Access to an invalid address due to software error	

INSPECTION PROCEDURE

HINT:

After the inspection is completed, clear the DTCs INFO **.**

PROCEDURE

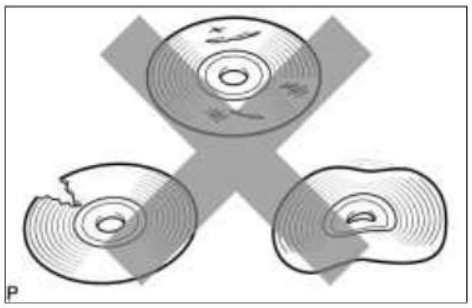
1.	**CHECK MAP DISC**

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

OK:

No deformations or cracks on the map disc.

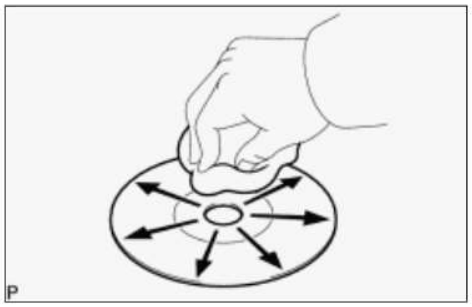
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NG ▶ REPLACE MAP DISC

OK ▼

2.	DISC CLEANING



(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.

NOTICE:

Do not use a conventional record cleaner or antistatic preservative.

NEXT ▼

3.	DTC CLEAR AND RECHECK

(a) Clear the DTCs INFO .

(b) Recheck for DTCs and check if the same trouble occurs again.

OK:

The same problem does not occur.

NG ▶ REPLACE MAP DISC

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OK ▶ **END**

4.	**REPLACE MAP DISC**

(a) Replace the map disc.

(b) Clear the DTCs and recheck for DTCs.

(c) Check if the same trouble occurs again.

OK:
The same problem does not occur.

NG ▶ **REPLACE NAVIGATION RECEIVER ASSEMBLY**

OK ▶ **END**

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Last Modified: 9-7-2011	6.4 C	**From:** 201008
Model Year: 2011	**Model:** RAV4	**Doc ID:** RM00000182V098X
Title: NAVIGATION: NAVIGATION SYSTEM (w/ CD Player): 58-43,80-43: SPD Signal Error (2011 RAV4)		

DTC	**58-43**	**SPD Signal Error**

DTC	**80-43**	**SPD Signal Error**

DESCRIPTION

DTC CODE	DTC DETECTION CONDITION	TROUBLE AREA
58-43	A difference between the GPS speed and SPD pulse is detected.	• Speed signal circuit • Navigation receiver assembly
80-43	A difference between the GPS speed and SPD pulse is detected.	

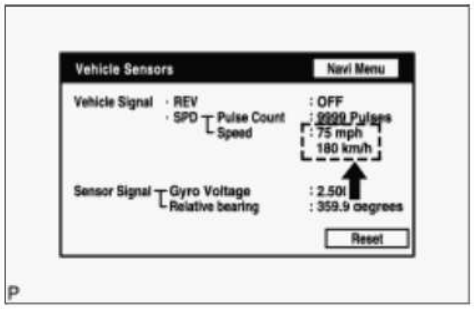
INSPECTION PROCEDURE

HINT:

After the inspection is completed, clear the DTCs INFO .

PROCEDURE

1.	**CHECK VEHICLE SENSOR (NAVIGATION CHECK MODE)**



(a) Enter the "Navigation Check" mode and select "Vehicle Sensors" INFO .

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

OK:

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The readings are almost equal.

NG ▶ **GO TO "Speed Signal Circuit"**

OK ▶ **REPLACE NAVIGATION RECEIVER ASSEMBLY**

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Last Modified: 9-7-2011	6.4 C	**From:** 201008
Model Year: 2011	**Model:** RAV4	**Doc ID:** RM00000182W05IX
Title: NAVIGATION: NAVIGATION SYSTEM (w/ CD Player): 58-44,80-44: Player Error (2011 RAV4)		

DTC	**58-44**	**Player Error**

DTC	**80-44**	**Player Error**

DESCRIPTION

DTC CODE	DTC DETECTION CONDITION	TROUBLE AREA
58-44	A map player error is detected.	Navigation receiver assembly
80-44	A map player error is detected.	

INSPECTION PROCEDURE

HINT:

After the inspection is completed, clear the DTCs INFO **.**

PROCEDURE

1.	**CHECK NAVIGATION RECEIVER ASSEMBLY**

(a) Check if a disc can be inserted or ejected normally.

OK:
A disc can be inserted or ejected normally.

NG ▶ **REPLACE NAVIGATION RECEIVER ASSEMBLY**

OK ▼

2.	**DTC CLEAR AND RECHECK**

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(a) Clear the DTCs INFO .

(b) Recheck for DTCs and check if the same trouble occurs again.

OK:
The same problem does not occur.

NG ▶ **REPLACE NAVIGATION RECEIVER ASSEMBLY**

OK ▶ **END**

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Last Modified: 9-7-2011	6.4 C	**From:** 201008
Model Year: 2011	**Model:** RAV4	**Doc ID:** RM00000182X05BX
Title: NAVIGATION: NAVIGATION SYSTEM (w/ CD Player): 58-45,80-45: High Temperature (2011 RAV4)		

DTC	**58-45**	**High Temperature**

DTC	**80-45**	**High Temperature**

DESCRIPTION

DTC CODE	DTC DETECTION CONDITION	TROUBLE AREA
58-45	The temperature of the map disc player is high (Over 80°C (176°F)).	Navigation receiver assembly
80-45	The temperature of the map disc player is high (Over 80°C (176°F)).	

INSPECTION PROCEDURE

HINT:

After the inspection is completed, clear the DTCs INFO **.**

PROCEDURE

1.	**CHECK NAVIGATION RECEIVER ASSEMBLY**

(a) Park the vehicle in a cool place.

(b) Operate the navigation receiver assembly after it has sufficiently cooled down. Check if the malfunction occurs.

OK:

Same problem does not occur.

NG ▶ **REPLACE NAVIGATION RECEIVER ASSEMBLY**

OK ▶ **END**

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Last Modified: 9-7-2011	6.4 C	**From:** 201008
Model Year: 2011	**Model:** RAV4	**Doc ID:** RM00000200N056X
Title: NAVIGATION: NAVIGATION SYSTEM (w/ CD Player): 60-10,60-11: AM Tuner PLL does not Lock (2011 RAV4)		

DTC	**60-10**	**AM Tuner PLL does not Lock**

DTC	**60-11**	**FM Tuner PLL does not Lock**

DESCRIPTION

DTC CODE	DTC DETECTION CONDITION	TROUBLE AREA
60-10	AM tuner PLL (phase locked loop) synchronization is impossible.	Navigation receiver assembly
60-11	FM tuner PLL (phase locked loop) synchronization is impossible.	

INSPECTION PROCEDURE

HINT:

After the inspection is completed, clear the DTCs INFO .

PROCEDURE

1.	**REPLACE NAVIGATION RECEIVER ASSEMBLY**

(a) Replace the navigation receiver assembly INFO .

NEXT END

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Last Modified: 9-7-2011	6.4 C	**From:** 201008
Model Year: 2011	**Model:** RAV4	**Doc ID:** RM00000200Q05EX
Title: NAVIGATION: NAVIGATION SYSTEM (w/ CD Player): 60-42-60-44,60-50: Tuner Power Source Error (2011 RAV4)		

DTC	**60-42**	**Tuner Power Source Error**

DTC	**60-43**	**AM Tuner Error**

DTC	**60-44**	**FM Tuner Error**

DTC	**60-50**	**Malfunction in Internal IC**

DESCRIPTION

DTC CODE	DTC DETECTION CONDITION	TROUBLE AREA
60-42	The power source of the tuner is abnormal.	Navigation receiver assembly
60-43	The AM tuner is abnormal.	
60-44	The FM tuner is abnormal.	
60-50	A problem occurs in the IC inside the tuner unit and radio reception is not normal.	

INSPECTION PROCEDURE

HINT:

After the inspection is completed, clear the DTCs INFO .

PROCEDURE

1.	**CLEAR DTC**

(a) Clear the DTCs INFO .

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NEXT



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Last Modified: 9-7-2011	6.4 C	**From:** 201008
Model Year: 2011	**Model:** RAV4	**Doc ID:** RM0000020S202WX
Title: NAVIGATION: NAVIGATION SYSTEM (w/ CD Player): 62-7D-62-7F: Disc cannot be Played (2011 RAV4)		

DTC	**62-7D**	**Disc cannot be Played**

DTC	**62-7E**	**No Playable Files**

DTC	**62-7F**	**Copyright Protection Error**

DESCRIPTION

DTC CODE	DTC DETECTION CONDITION	TROUBLE AREA
62-7D	When either condition below is met: • An incompatible MP3/WMA file is used. • Although the file has an extension of ".mp3" or ".wma", the header information cannot be read.	• CD • Navigation receiver assembly
62-7E	When either condition below is met: • A disc with no music data is used. • Playable files are not on the disc (MP3/WMA).	
62-7F	A copy-protected file, which cannot be played, is used.	

INSPECTION PROCEDURE

HINT:

After the inspection is completed, clear the DTCs INFO .

PROCEDURE

1.	**CHANGE DISC**

(a) Insert a disc with a playable file and check if the disc can be played correctly.

HINT:

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For details on playable files and discs, refer to the Owner's Manual.

OK:
The disc can be played correctly.

NG ▶ **REPLACE NAVIGATION RECEIVER ASSEMBLY**

OK ▶ **END**

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Last Modified: 9-7-2011	6.4 C	**From:** 201008
Model Year: 2011	**Model:** RAV4	**Doc ID:** RM0000020NC024X
Title: NAVIGATION: NAVIGATION SYSTEM (w/ CD Player): 62-10-62-12: CD Player Mechanical Error (2011 RAV4)		

DTC	**62-10**	**CD Player Mechanical Error**

DTC	**62-11**	**CD Insertion and Ejection Error**

DTC	**62-12**	**CD Reading Abnormal**

DESCRIPTION

DTC CODE	DTC DETECTION CONDITION	TROUBLE AREA
62-10	A mechanical error in the CD player is detected while a CD is not being inserted or ejected.	Navigation receiver assembly
62-11	CD insertion or ejection fails.	
62-12	A CD read problem occurs.	

INSPECTION PROCEDURE

HINT:

After the inspection is completed, clear the DTCs INFO .

PROCEDURE

1.	**REPLACE NAVIGATION RECEIVER ASSEMBLY**

(a) Replace the navigation receiver assembly INFO .

NEXT **END**

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Last Modified: 9-7-2011	6.4 C	**From:** 201008
Model Year: 2011	**Model:** RAV4	**Doc ID:** RM0000020NE056X
Title: NAVIGATION: NAVIGATION SYSTEM (w/ CD Player): 62-41,62-42: Wrong Disc (2011 RAV4)		

DTC	**62-41**	**Wrong Disc**

DTC	**62-42**	**Disc cannot be Read**

DESCRIPTION

DTC CODE	DTC DETECTION CONDITION	TROUBLE AREA
62-41	An unsuitable disc is inserted.	• CD • Navigation receiver assembly
62-42	The disc cannot be read.	

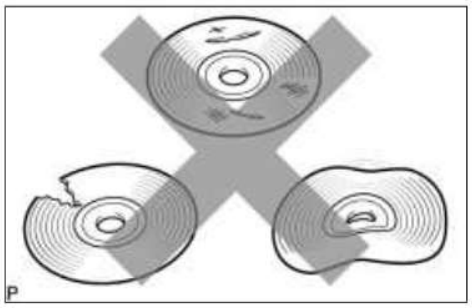
INSPECTION PROCEDURE

HINT:

After the inspection is completed, clear the DTCs INFO .

PROCEDURE

1.	**CHECK DISC**



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

OK:

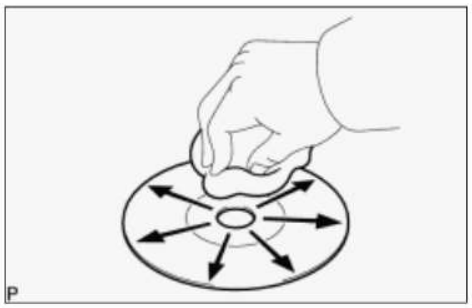
No deformation or cracks on the disc.

NG ▶ **CHANGE DISC**

OK

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2.	DISC CLEANING



(a) Disc cleaning

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

NOTICE:

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

NEXT

3.	CLEAR DTC

(a) Clear the DTCs INFO .

NEXT

4.	RECHECK FOR DTC

(a) Recheck for DTCs and check if the same trouble occurs again.

OK:
No DTC is output.

NG ▶ **REPLACE DISC WITH ANOTHER AND RECHECK**

OK ▶ **END**

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5.	REPLACE DISC WITH ANOTHER AND RECHECK

(a) Replace the disc and recheck.

(1) Replace the disc with a normal one.

(2) Clear the DTCs INFO .

(3) Recheck for DTCs and check if the same trouble code is output.

OK:
No DTC is output.

NG ▶ **REPLACE NAVIGATION RECEIVER ASSEMBLY**

OK ▶ **END**

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Last Modified: 9-7-2011	6.4 C	**From:** 201008
Model Year: 2011	**Model:** RAV4	**Doc ID:** RM0000020NF028X
Title: NAVIGATION: NAVIGATION SYSTEM (w/ CD Player): 62-43: CD-ROM Abnormal (2011 RAV4)		

DTC	**62-43**	**CD-ROM Abnormal**

DESCRIPTION

DTC CODE	DTC DETECTION CONDITION	TROUBLE AREA
62-43	CD-ROM operation is abnormal.	• CD • Navigation receiver assembly

INSPECTION PROCEDURE

HINT:

After the inspection is completed, clear the DTCs INFO **.**

PROCEDURE

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

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

OK:

Normal CD.

HINT:

- Translucent or uniquely-shaped CDs cannot be played.
- For details on playable CDs, refer to the Owner's Manual.

NG ▶ **DISC IS FAULTY**

OK ▼

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2.	**CHANGE DISC**

(a) Replace the disc with another and recheck.

(1) Replace the disc with a known good one.

(2) Clear the DTCs INFO .

(3) Recheck for DTCs and check if the same trouble occurs again.

OK:
The same trouble does not occur.

NG ▶ **REPLACE NAVIGATION RECEIVER ASSEMBLY**

OK ▶ **END**

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Last Modified: 9-7-2011	6.4 C	**From:** 201008
Model Year: 2011	**Model:** RAV4	**Doc ID:** RM0000020NA028X
Title: NAVIGATION: NAVIGATION SYSTEM (w/ CD Player): 62-44,62-48,62-50: CD Abnormal (2011 RAV4)		

DTC	**62-44**	**CD Abnormal**

DTC	**62-48**	**Excess Current**

DTC	**62-50**	**Tray Insertion / Ejection Error**

DESCRIPTION

DTC CODE	DTC DETECTION CONDITION	TROUBLE AREA
62-44	Operation error in the CD mechanism	Navigation receiver assembly
62-48	Excess current is present in the CD player.	
62-50	Malfunction in insertion/ejection system	

INSPECTION PROCEDURE

HINT:

After the inspection is completed, clear the DTCs INFO .

PROCEDURE

1.	**CLEAR DTC**

(a) Clear the DTCs INFO .

NEXT

2.	**RECHECK DTC**

(a) Recheck for DTCs and check if the same trouble occurs again.

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HINT:

If DTCs are output frequently, replace the navigation receiver assembly.

OK:
No DTC is output.

NG ▶ **REPLACE NAVIGATION RECEIVER ASSEMBLY**

OK ▶ **END**

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Last Modified: 9-7-2011	6.4 C	**From:** 201008
Model Year: 2011	**Model:** RAV4	**Doc ID:** RM0000020EU02XX
Title: NAVIGATION: NAVIGATION SYSTEM (w/ CD Player): 62-45,62-51,62-52: Eject Error (2011 RAV4)		

DTC	**62-45**	**Eject Error**

DTC	**62-51**	**Elevator Error**

DTC	**62-52**	**Clamp Error**

DESCRIPTION

DTC CODE	DTC DETECTION CONDITION	TROUBLE AREA
62-45	Disc cannot be ejected.	Navigation receiver assembly
62-51	A mechanical error occurs during elevator operation.	
62-52	An error occurs in CD player clamp.	

INSPECTION PROCEDURE

HINT:

After the inspection is completed, clear the DTCs INFO .

PROCEDURE

1.	**CHECK NAVIGATION RECEIVER ASSEMBLY**

(a) Check if a disc can be changed, inserted or ejected normally.

OK:

The disc can be changed, inserted or ejected normally.

NG ▶ **REPLACE NAVIGATION RECEIVER ASSEMBLY**

OK ▶ **END**

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Last Modified: 9-7-2011	6.4 C	**From:** 201008
Model Year: 2011	**Model:** RAV4	**Doc ID:** RM0000020S1033X
Title: NAVIGATION: NAVIGATION SYSTEM (w/ CD Player): 62-46: Scratched / Reversed Disc (2011 RAV4)		

DTC	**62-46**	**Scratched / Reversed Disc**

DESCRIPTION

DTC CODE	DTC DETECTION CONDITION	TROUBLE AREA
62-46	Scratches or dirt is found on the CD surface or the CD is inserted upside down.	• CD • Navigation receiver assembly

INSPECTION PROCEDURE

HINT:

After the inspection is completed, clear the DTCs INFO .

PROCEDURE

1.	**CHECK THAT DISC IS INSERTED PROPERLY**

(a) Check that the disc is inserted upside down.

OK:

CD is properly inserted.

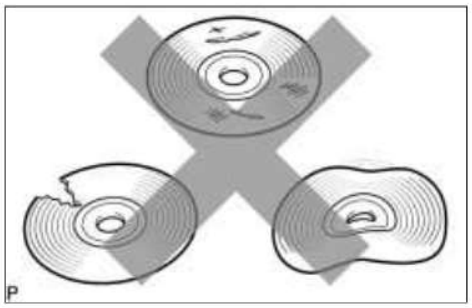
NG ▶ **INSERT CD PROPERLY**

OK ▼

2.	**CHECK DISC**

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

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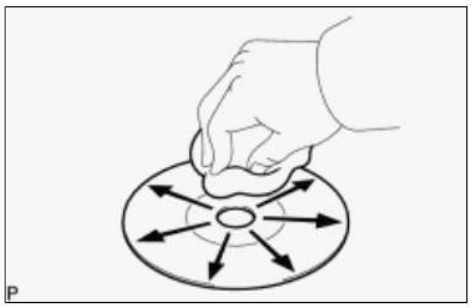


OK:
No deformation or cracks on the disc.

NG ▶ **CHANGE DISC**

OK
▼

3.	DISC CLEANING



(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.

NOTICE:

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

NEXT
▼

4.	CLEAR DTC

(a) Clear the DTCs INFO .

NEXT
▼

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5.	RECHECK DTC

(a) Recheck for DTCs and check if the same trouble code is output.

OK:
No DTC is output.

NG ▶ **REPLACE DISC WITH ANOTHER AND RECHECK**

OK ▶ **END**

6.	REPLACE DISC WITH ANOTHER AND RECHECK

(a) Replace the disc and recheck.

(1) Replace the disc with a normal one.

(2) Clear the DTCs INFO .

(3) Recheck for DTCs and check if the same trouble occurs again.

OK:
No DTC is output.

NG ▶ **REPLACE NAVIGATION RECEIVER ASSEMBLY**

OK ▶ **END**

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Last Modified: 9-7-2011	6.4 C	**From:** 201008
Model Year: 2011	**Model:** RAV4	**Doc ID:** RM0000020NG024X
Title: NAVIGATION: NAVIGATION SYSTEM (w/ CD Player): 62-47: High Temperature (2011 RAV4)		

DTC	**62-47**	**High Temperature**

DESCRIPTION

DTC CODE	DTC DETECTION CONDITION	TROUBLE AREA
62-47	The sensor detects that the CD unit temperature is high (higher than 80°C (176°F)).	Navigation receiver assembly

INSPECTION PROCEDURE

HINT:

After the inspection is completed, clear the DTCs INFO .

PROCEDURE

1.	**CHECK NAVIGATION RECEIVER ASSEMBLY**

(a) Park the vehicle in a cool place.

(b) Check that the temperature of the navigation receiver assembly has become sufficiently low, then start the engine. Check that the malfunction disappears.

OK:
Malfunction disappears.

NG ▶ **REPLACE NAVIGATION RECEIVER ASSEMBLY**

OK ▶ **END**

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Last Modified: 9-7-2011	6.4 C	**From:** 201008
Model Year: 2011	**Model:** RAV4	**Doc ID:** RM0000020NH02IX
Title: NAVIGATION: NAVIGATION SYSTEM (w/ CD Player): 62-78: DSP Error (2011 RAV4)		

DTC	**62-78**	**DSP Error**

DESCRIPTION

DTC CODE	DTC DETECTION CONDITION	TROUBLE AREA
62-78	An error occurs during the decode process (MP3/WMA).	Navigation receiver assembly

INSPECTION PROCEDURE

HINT:

After the inspection is completed, clear the DTCs INFO .

NOTICE:

- This code may be output even if there is no malfunction.
- If this code is output frequently, replace the navigation receiver assembly.

PROCEDURE

1.	**CLEAR DTC**

(a) Clear the DTCs INFO .

NEXT

2.	**RECHECK DTC**

(a) Recheck for DTCs and check if the same trouble occurs again.

OK:
No DTC is output.

NG ▶ **REPLACE NAVIGATION RECEIVER ASSEMBLY**

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Last Modified: 9-7-2011	6.4 J	**From:** 201008
Model Year: 2011	**Model:** RAV4	**Doc ID:** RM0000020RR068X
Title: NAVIGATION: NAVIGATION SYSTEM (w/ CD Player): Black Screen (2011 RAV4)		

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 ▶ **CHECK CABIN**

OK ▶ **PRESS PANEL SWITCH "DISPLAY" AND SET SCREEN COLOR QUALITY TO NORMAL**

3.	**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.

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HINT:

- A humid cabin and a rapid change in temperature may lead to condensation. Condensation in the cabin may cause a short circuit.
- The appropriate cabin temperature is 20 to 30°C (68 to 86°F).

OK:
Condensation is not likely and temperature is not high or extremely low.

NG ▶ **SET CABIN TO APPROPRIATE TEMPERATURE**

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

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Last Modified: 9-7-2011	6.4 J	**From:** 201008
Model Year: 2011	**Model:** RAV4	**Doc ID:** RM0000020N503RX
Title: NAVIGATION: NAVIGATION SYSTEM (w/ CD Player): CD cannot be Ejected (2011 RAV4)		

CD cannot be Ejected

INSPECTION PROCEDURE

PROCEDURE

1.	**CHECK OPERATION**

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

OK:

The CD is ejected.

NG ▶ **REPLACE NAVIGATION RECEIVER ASSEMBLY**

OK ▼

2.	**REPLACE CD WITH ANOTHER AND RECHECK**

(a) Insert another CD and check if it can be ejected.

OK:

The CD can be ejected.

NG ▶ **REPLACE NAVIGATION RECEIVER ASSEMBLY**

OK ▶ **CD IS FAULTY**

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Last Modified: 9-7-2011	6.4 J	**From:** 201008
Model Year: 2011	**Model:** RAV4	**Doc ID:** RM0000020N403VX
Title: NAVIGATION: NAVIGATION SYSTEM (w/ CD Player): CD cannot be Inserted / Played or CD is Ejected Right After Insertion (2011 RAV4)		

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 or WMA file, and that it is not deformed, flawed, stained, burred, or otherwise defective.

OK:

The CD is normal.

HINT:

- Translucent or uniquely-shaped CDs cannot 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**

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OK



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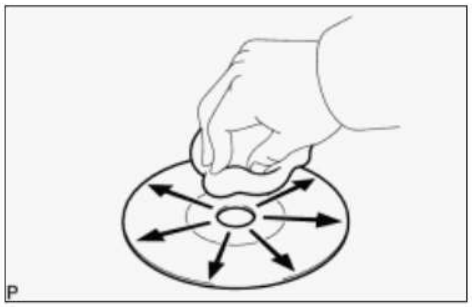
Last Modified: 9-7-2011	6.4 J	**From:** 201008
Model Year: 2011	**Model:** RAV4	**Doc ID:** RM0000020N303VX
Title: NAVIGATION: NAVIGATION SYSTEM (w/ CD Player): CD Sound Skips (2011 RAV4)		

CD Sound Skips

INSPECTION PROCEDURE

PROCEDURE

1.	**CHECK CD**



(a) Check the CD.

OK:

The CD is clean.

HINT:

If dirt is on the CD surface, wipe it clean with a soft cloth from the inside to the outside in a radial direction.

NOTICE:

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

NG ▶ **CLEAN CD**

OK ▼

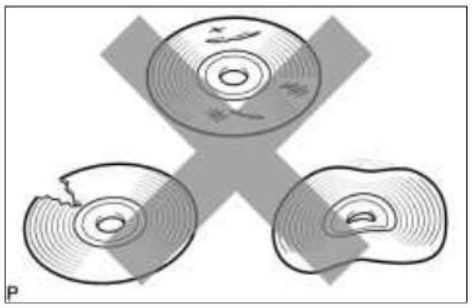
2.	**CHECK CD**

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

OK:

No deformation or cracks on the CD.

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NG ▶ **CD IS FAULTY**

OK ▼

3.	CHECK OPERATION OF ANOTHER CD

(a) Check using another CD.

(1) Check if the problem recurs using another CD.

OK:
The problem does not occur.

NG ▶ **CHECK NAVIGATION RECEIVER ASSEMBLY**

OK ▶ **CD IS 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**

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Last Modified: 9-7-2011	6.4 J	**From:** 201008
Model Year: 2011	**Model:** RAV4	**Doc ID:** RM000000POF07YX
Title: NAVIGATION: NAVIGATION SYSTEM (w/ CD Player): Current Position Display does not Appear (2011 RAV4)		

Current Position Display does not Appear

INSPECTION PROCEDURE

PROCEDURE

1.	**CHECK NAVIGATION RECEIVER ASSEMBLY**

(a) Check if a map disc is inserted into the map disc slot.

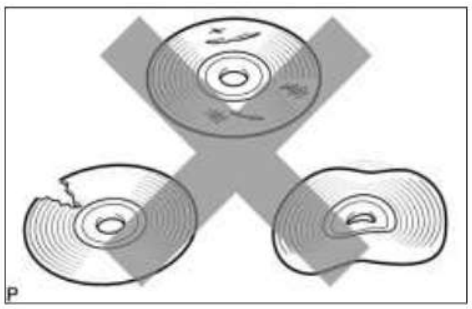
OK:

A map disc is inserted.

NG ▶ **INSERT MAP DISC IN MAP SIDE SLOT**

OK ▼

2.	**CHECK MAP DISC**



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

OK:

No deformations or cracks on the map disc.

NG ▶ **REPLACE MAP DISC**

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

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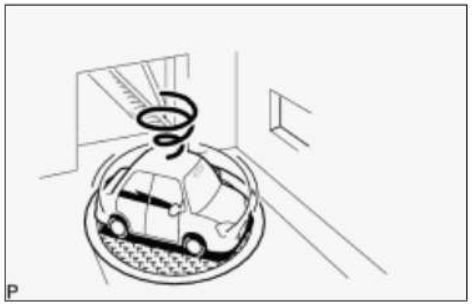
Last Modified: 9-7-2011	6.4 J	**From:** 201008
Model Year: 2011	**Model:** RAV4	**Doc ID:** RM000000POD070X
Title: NAVIGATION: NAVIGATION SYSTEM (w/ CD Player): Cursor or Map Rotates when Vehicle Stopped (2011 RAV4)		

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 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.

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

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

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Last Modified: 9-7-2011	6.4 S	**From:** 201008
Model Year: 2011	**Model:** RAV4	**Doc ID:** RM0000011BO07GX
Title: NAVIGATION: NAVIGATION SYSTEM (w/ CD Player): DIAGNOSTIC TROUBLE CODE CHART (2011 RAV4)		

DIAGNOSTIC TROUBLE CODE CHART

HINT:

If a trouble code is output during the DTC check, inspect the trouble areas.

Communication Diagnosis

DTC CODE	DETECTION ITEM	TROUBLE AREA	SEE PAGE
01-21	ROM Error	Navigation receiver assembly	INFO
01-22	RAM Error	Navigation receiver assembly	INFO

SW

DTC CODE	DETECTION ITEM	TROUBLE AREA	SEE PAGE
21-10	Panel Switch Error	Navigation receiver assembly	INFO
21-11	Touch Switch Error	Navigation receiver assembly	INFO

SW with Name

DTC CODE	DETECTION ITEM	TROUBLE AREA	SEE PAGE
23-10	Panel Switch Error	Navigation receiver assembly	INFO
23-11	Touch Switch Error	Navigation receiver assembly	INFO

SW Converting

DTC CODE	DETECTION ITEM	TROUBLE AREA	SEE PAGE
24-10	Panel Switch Error	Navigation receiver assembly	INFO
24-11	Touch Switch Error	Navigation receiver assembly	INFO

Command SW

DTC CODE	DETECTION ITEM	TROUBLE AREA	SEE PAGE
25-10	Panel Switch Error	Navigation receiver assembly	INFO
25-11	Touch Switch Error	Navigation receiver assembly	INFO

Front Monitor

DTC CODE	DETECTION ITEM	TROUBLE AREA	SEE PAGE
34-10	Error in Picture Circuit	Navigation receiver assembly	INFO

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DTC CODE	DETECTION ITEM	TROUBLE AREA	SEE PAGE
34-11	No Current in Back-light	Navigation receiver assembly	INFO
34-12	Excess Current in Back-light	Navigation receiver assembly	INFO

Navi

DTC CODE	DETECTION ITEM	TROUBLE AREA	SEE PAGE
58-10	Gyro Error	Navigation receiver assembly (Gyro sensor)	INFO
58-11	GPS Receiver Error	Navigation receiver assembly	INFO
58-40	GPS Antenna Error	- Wire harness - GPS antenna - Navigation receiver assembly	INFO
58-41	GPS Antenna Power Source Error	- Wire harness - GPS antenna - Navigation receiver assembly	INFO
58-42	Map Disc Read Error	- Map disc - Navigation receiver assembly	INFO
58-43	SPD Signal Error	- Speed signal circuit - Navigation receiver assembly	INFO
58-44	Player Error	Navigation receiver assembly	INFO
58-45	High Temperature	Navigation receiver assembly	INFO

Radio Unit

DTC CODE	DETECTION ITEM	TROUBLE AREA	SEE PAGE
60-10	AM Tuner PLL does not Lock	Navigation receiver assembly	INFO
60-11	FM Tuner PLL does not Lock	Navigation receiver assembly	INFO
60-42	Tuner Power Source Error	Navigation receiver assembly	INFO
60-43	AM Tuner Error	Navigation receiver assembly	INFO
60-44	FM Tuner Error	Navigation receiver assembly	INFO
60-50	Malfunction in Internal IC	Navigation receiver assembly	INFO

CD Player

DTC CODE	DETECTION ITEM	TROUBLE AREA	SEE PAGE
62-10	CD Player Mechanical Error	Navigation receiver assembly	INFO
62-11	CD Insertion and Ejection Error	Navigation receiver assembly	INFO
62-12	CD Reading Abnormal	Navigation receiver assembly	INFO

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DTC CODE	DETECTION ITEM	TROUBLE AREA	SEE PAGE
62-41	Wrong Disc	- Disc - Navigation receiver assembly	INFO
62-42	Disc cannot be Read	- Disc - Navigation receiver assembly	INFO
62-43	CD-ROM Abnormal	- Disc - Navigation receiver assembly	INFO
62-44	CD Abnormal	Navigation receiver assembly	INFO
62-45	Eject Error	Navigation receiver assembly	INFO
62-46	Scratched / Reversed Disc	- Disc - Navigation receiver assembly	INFO
62-47	High Temperature	Navigation receiver assembly	INFO
62-48	Excess Current	Navigation receiver assembly	INFO
62-50	Tray Insertion / Ejection Error	Navigation receiver assembly	INFO
62-51	Elevator Error	Navigation receiver assembly	INFO
62-52	Clamp Error	Navigation receiver assembly	INFO
62-78	DSP Error	Navigation receiver assembly	INFO
62-7D	Disc cannot be Played	- Disc - Navigation receiver assembly	INFO
62-7E	No Playable Files	- Disc - Navigation receiver assembly	INFO
62-7F	Copyright Protection Error	- Disc - Navigation receiver assembly	INFO

GPS

DTC CODE	DETECTION ITEM	TROUBLE AREA	SEE PAGE
80-10	Gyro Error	Navigation receiver assembly (Gyro sensor)	INFO
80-11	GPS Receiver Error	Navigation receiver assembly	INFO
80-40	GPS Antenna Error	- Wire harness - GPS antenna - Navigation receiver assembly	INFO
80-41	GPS Antenna Power Source Error	- Wire harness - GPS antenna - Navigation receiver assembly	INFO
80-42	Map Disc Read Error	- Map disc - Navigation receiver assembly	INFO
80-43	SPD Signal Error	- Speed signal circuit - Navigation receiver assembly	INFO

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DTC CODE	DETECTION ITEM	TROUBLE AREA	SEE PAGE
80-44	Player Error	Navigation receiver assembly	INFO
80-45	High Temperature	Navigation receiver assembly	INFO

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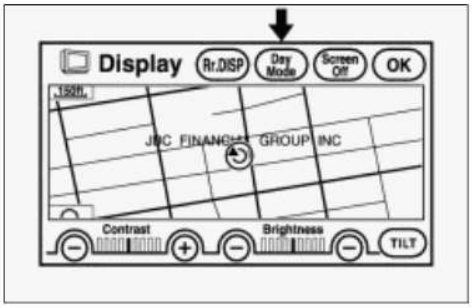
Last Modified: 9-7-2011	6.4 J	**From:** 201008
Model Year: 2011	**Model:** RAV4	**Doc ID:** RM000000PNK07QX
Title: NAVIGATION: NAVIGATION SYSTEM (w/ CD Player): Display does not Dim when Light Control Switch is Turned ON (2011 RAV4)		

Display does not Dim when Light Control Switch is Turned ON

INSPECTION PROCEDURE

PROCEDURE

1.	**CHECK IMAGE QUALITY SETTING**



(a) Enter the display adjustment screen by pressing the "DISP" switch.

(b) Turn the light control switch to the TAIL position.

(c) Check if "Day Mode" on the display adjustment is ON.

OK:
"Day Mode" is ON.

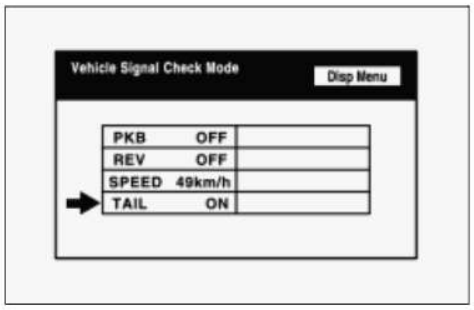
NG ▶ **CHECK VEHICLE SIGNAL (DISPLAY CHECK MODE)**

OK ▶ **TURN "DAY MODE" SETTING OFF**

2.	**CHECK VEHICLE SIGNAL (DISPLAY CHECK MODE)**

(a) Enter the "Display Check" mode and select "Vehicle Signal Check" INFO .

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

OK:

LIGHT CONTROL SWITCH CONDITION	DISPLAY CONDITION
TAIL or ON	ON
OFF	OFF

HINT:

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

NG ▶ **GO TO "Illumination Circuit"**

OK ▶ **REPLACE NAVIGATION RECEIVER ASSEMBLY**

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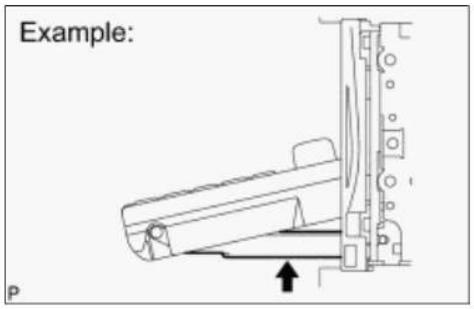
Last Modified: 9-7-2011	6.4 J	**From:** 201008
Model Year: 2011	**Model:** RAV4	**Doc ID:** RM0000020N7044X
Title: NAVIGATION: NAVIGATION SYSTEM (w/ CD Player): Display Panel does not Open, Tilt or Tilts Improperly (2011 RAV4)		

Display Panel does not Open, Tilt or Tilts Improperly

INSPECTION PROCEDURE

PROCEDURE

1.	**CHECK NAVIGATION RECEIVER ASSEMBLY**



(a) Check for foreign matter or obstructions caught in the moving parts of the panel.

OK:

No obstruction or foreign matter found.

NG ▶ **REMOVE ANY OBSTRUCTION OR FOREIGN MATTER FOUND**

OK ▼

2.	**CHECK OPERATION**

(a) Check if the navigation and audio systems function properly.

OK:

Navigation and audio systems function properly.

NG ▶ **GO TO "Navigation Receiver Assembly Power Source Circuit"**

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OK ▶ **REPLACE NAVIGATION RECEIVER ASSEMBLY**

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Last Modified: 9-7-2011	6.4 D	**From:** 201008
Model Year: 2011	**Model:** RAV4	**Doc ID:** RM0000011BU0A4X
Title: NAVIGATION: NAVIGATION SYSTEM (w/ CD Player): DTC CHECK / CLEAR (2011 RAV4)		

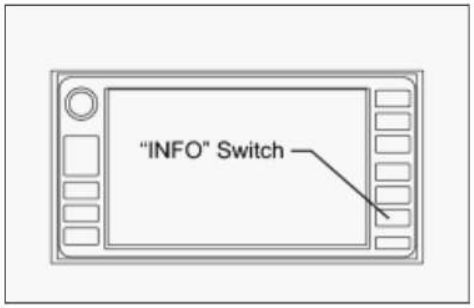
DTC CHECK / CLEAR

HINT:

- Illustrations may differ from the actual vehicle depending on the device settings and options. Therefore, some detailed areas may not be shown exactly the same as on the actual vehicle.
- After the ignition switch is turned to ON, check that the map is displayed before starting the diagnostic mode. Otherwise, some items cannot be checked.

1. START DIAGNOSTIC MODE

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



(b) Method 1

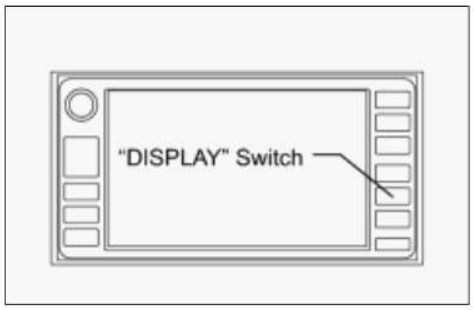
(1) Start the engine.

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

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

(c) Method 2

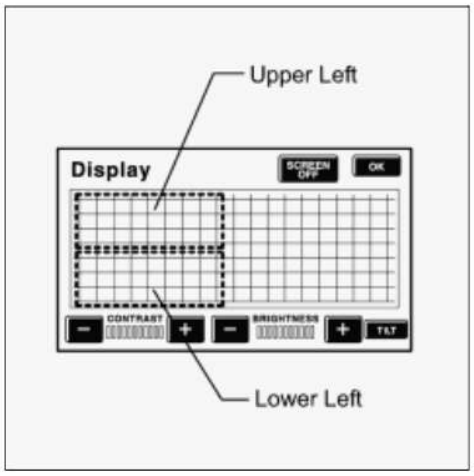
(1) Start the engine.



(2) Press the "DISPLAY" switch.

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

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

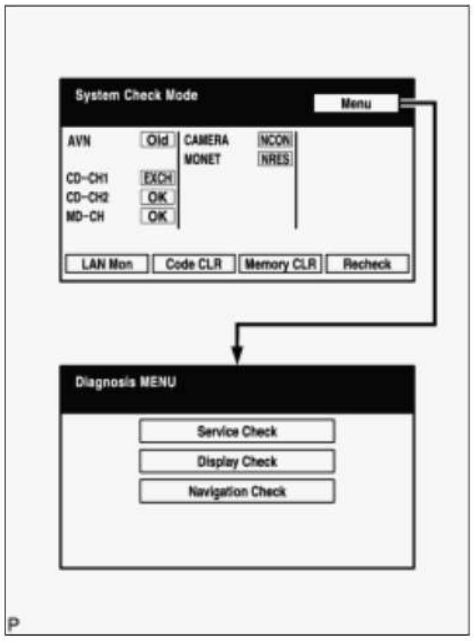
2. FINISH DIAGNOSTIC MODE

(a) There are 2 methods to end diagnostic mode. Use one of them.

(1) Turn the ignition switch off.

(2) Press and hold the "DISP" switch for 3 seconds.

3. DIAGNOSIS MENU



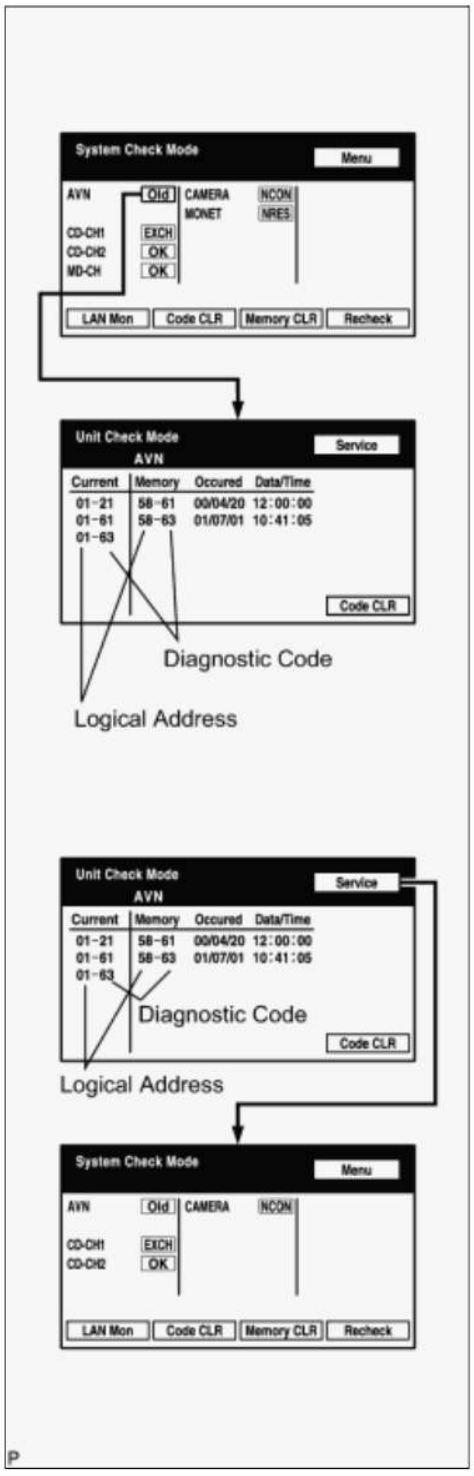
(a) The "Diagnosis MENU" screen will be displayed by pressing the "Menu" switch on the "System Check Mode" screen.

4. CHECK DTC

(a) Read the system check result.

(1) If the check result is "EXCH", "CHEK" or "Old", touch the displayed check result to view the results on the "Unit Check

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Mode" screen and record them.

HINT:

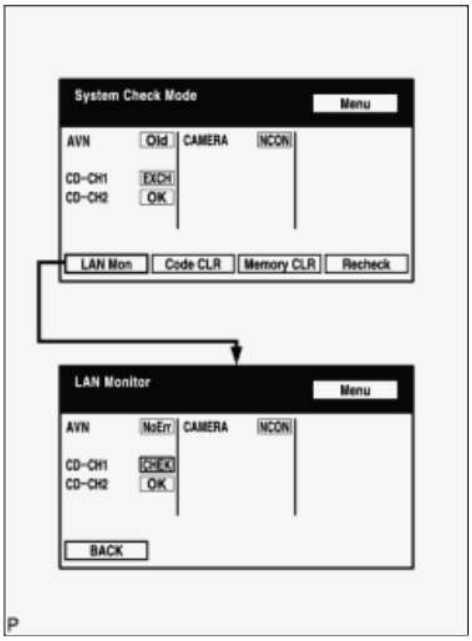
- If all check results are "OK", go to communication DTC check.
- If a device name is not known, its physical address is displayed.

HINT:

When proceeding to view the results of another device, press the "Service" switch to return to the "System Check Mode" screen. Repeat this step.

(b) Read the communication diagnostic check result.

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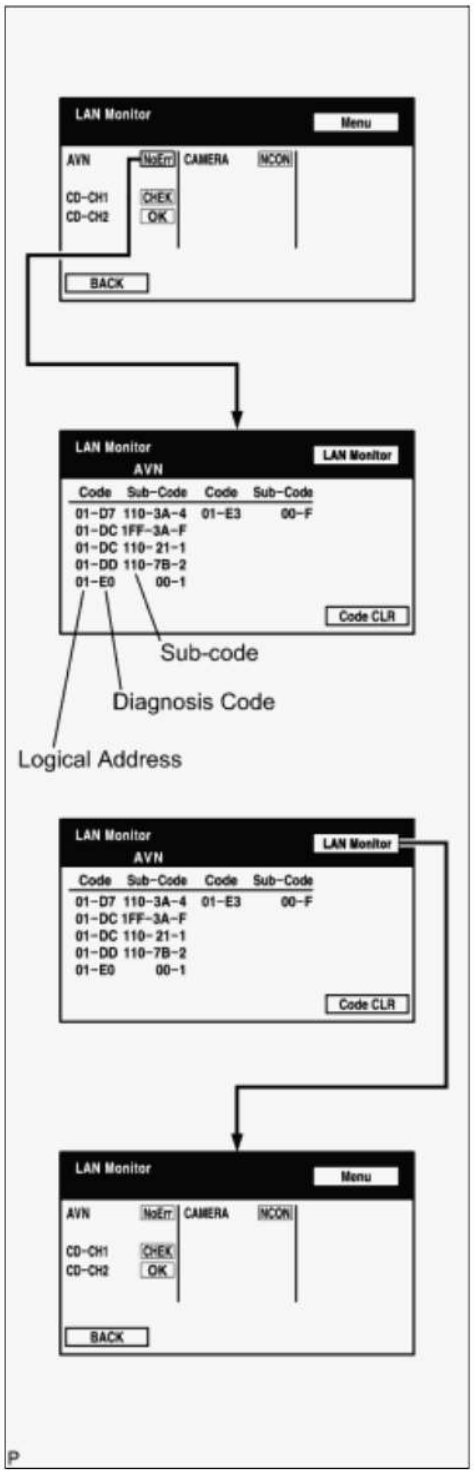
(1) Return to the "System Check Mode" screen, and press the "LAN Mon" switch to enter the "LAN Monitor" screen.

(2) If the check result is "CHEK" or "Old", touch the displayed check result to view the results on the individual communication diagnostic screen and record them.

HINT:

- If all check results are "No Err", the system judges that no DTC exists.
- The sub-code (relevant device) will be indicated by its physical address.
- When proceeding to view the results of another device, press the "Service" switch to return to the original "LAN Monitor" screen. Repeat this step.

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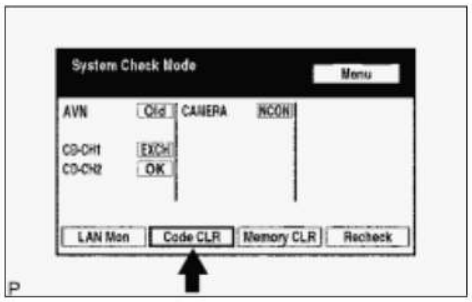
5. DTC CLEAR/RECHECK

(a) Clear DTC

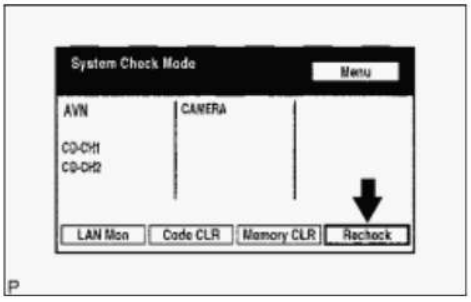
(1) Press the "Code CLR" switch for 3 seconds.

(2) The check results are cleared.

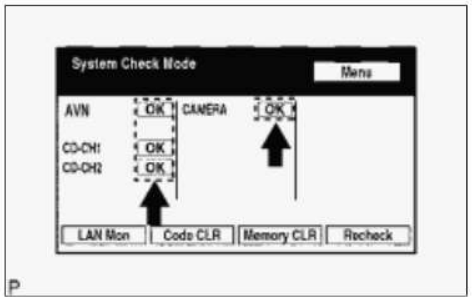
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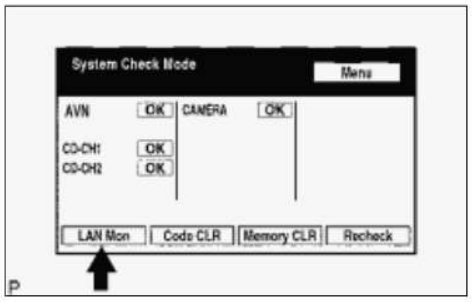
(b) Recheck



(1) Press the "Recheck" switch.



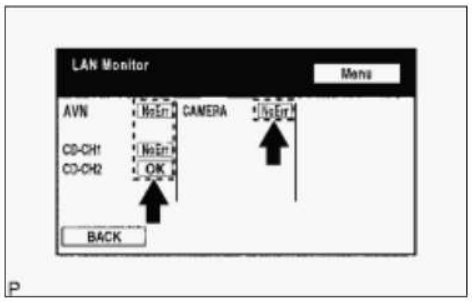
(2) Confirm that all diagnostic codes are "OK" when the check results are displayed. If a code other than "OK" is displayed, troubleshoot again.



(3) Press the "LAN Mon" switch to change to the "LAN Monitor" screen.

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

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Last Modified: 9-7-2011	6.4 J	**From:** 201008
Model Year: 2011	**Model:** RAV4	**Doc ID:** RM000000PN608VX
Title: NAVIGATION: NAVIGATION SYSTEM (w/ CD Player): GPS Mark is not Displayed (2011 RAV4)		

GPS Mark is not Displayed

INSPECTION PROCEDURE

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 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:
Mark appears.

NG ▶ **CHECK SURROUNDINGS**

OK ▶ **NORMAL OPERATION**

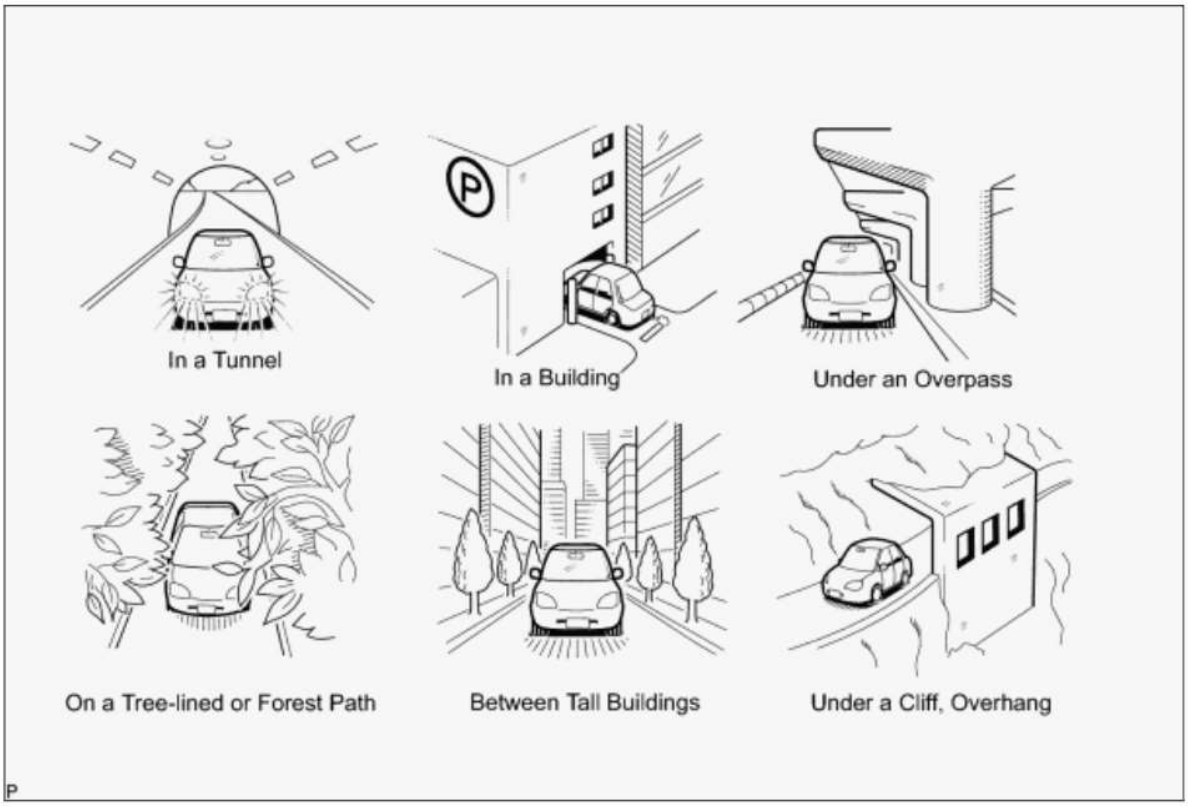
2.	**CHECK SURROUNDINGS**

(a) Check if the vehicle is in a location where GPS signal reception is poor. If the vehicle is in such a place, relocate 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 the vehicle. However, GPS signals may not reach the vehicle due to influence from the surroundings, vehicle direction, and time. For examples, see illustration below.

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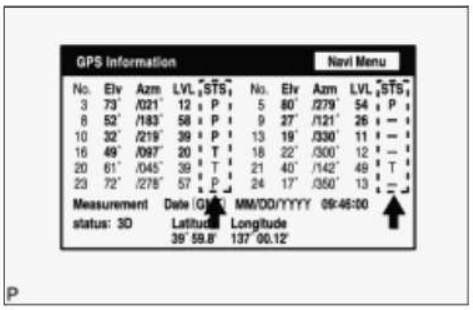
OK:
GPS mark is displayed.

NG ▶ **CHECK GPS INFORMATION (NAVIGATION CHECK MODE)**

OK ▶ **SYSTEM RETURN TO NORMAL**

3.	CHECK GPS INFORMATION (NAVIGATION CHECK MODE)

(a) Enter the "Navigation Check" mode and select "GPS Information" INFO .



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

For DENSO Made:
T, P
For AISIN AW Made:
08H, 04H
OK:
At least 3 codes appear.

NG ▶ **REPLACE**

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NAVIGATION ANTENNA ASSEMBLY

OK ▶ REPLACE NAVIGATION RECEIVER ASSEMBLY

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Last Modified: 9-7-2011	6.4 D	**From:** 201008
Model Year: 2011	**Model:** RAV4	**Doc ID:** RM00000102A069X
Title: NAVIGATION: NAVIGATION SYSTEM (w/ CD Player): HOW TO PROCEED WITH TROUBLESHOOTING (2011 RAV4)		

HOW TO PROCEED WITH TROUBLESHOOTING

HINT:

Use these procedures to troubleshoot the navigation system.

1.	**VEHICLE BROUGHT TO WORKSHOP**

NEXT

2.	**INSPECT BATTERY VOLTAGE**

Standard voltage:
11 to 14 V

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

NEXT

3.	**BASIC INSPECTION**

(a) Turn the ignition switch to ACC.

(b) Check whether or not the display appears on the navigation receiver assembly.

Result

RESULT	PROCEED TO
Display appears	A
Display does not appear	B

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B ▶ **Go to step 6**

4.	**CHECK FOR DTC**

(a) Check for DTCs and note any codes that are output.

(b) Clear the DTCs.

(c) Recheck for DTCs. Based on the DTC output in the first step, try to force output of the navigation system DTC by simulating the conditions indicated by the DTC.

HINT:

- If the system cannot enter the diagnosis mode, inspect each AVC-LAN communication signal and repair or replace problem parts.
- Even if the malfunction symptom is not confirmed, check for DTCs. This is because the system stores past DTCs.
- Refer to the detailed description on the diagnostic screen, as necessary INFO .
- Check and clear past diagnostic trouble codes. Check the diagnostic trouble code and inspect the area the code indicates.

Result

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

B ▶ **Go to step 7**

A ▼

5.	**PROBLEM SYMPTOMS TABLE**

Result

RESULT	PROCEED TO
Fault is not listed in problem symptoms table	A
Fault is listed in problem symptoms table	B

B ▶ **Go to step 7**

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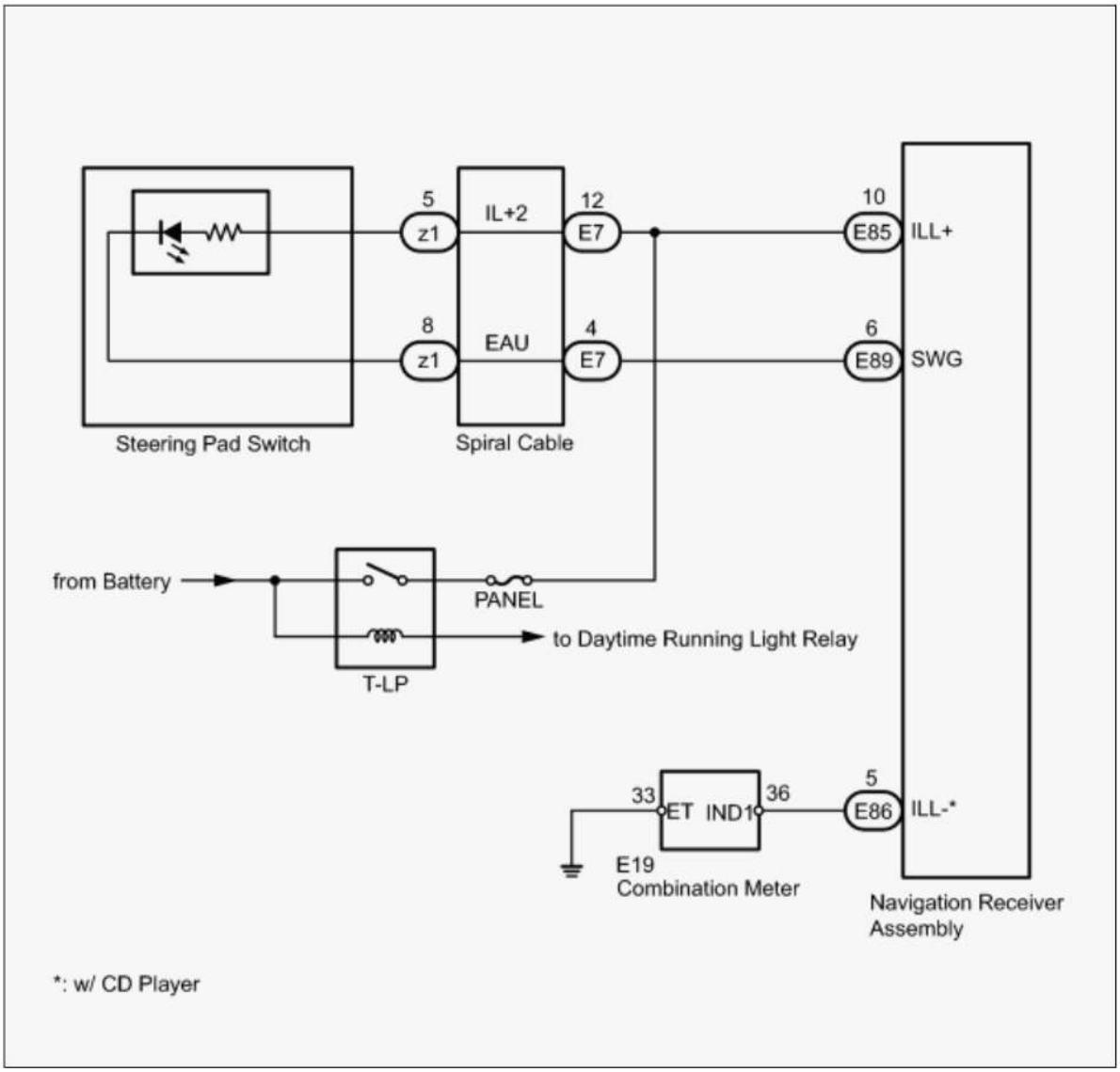
Last Modified: 9-7-2011	6.4 J	**From:** 201008
Model Year: 2011	**Model:** RAV4	**Doc ID:** RM0000011EZ0AYX
Title: NAVIGATION: NAVIGATION SYSTEM (w/ CD Player): Illumination Circuit (2011 RAV4)		

Illumination Circuit

DESCRIPTION

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

WIRING DIAGRAM



INSPECTION PROCEDURE

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NOTICE:

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

PROCEDURE

1.	**CHECK ILLUMINATION**

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

Result

RESULT	PROCEED TO
Illumination comes on for all components except steering pad switch.	A
Illumination comes on for all components except navigation receiver assembly.	B
No illumination comes on (navigation receiver assembly, hazard switch, glove box, etc.).	C
Illumination comes on only for steering pad switch.	D

B ▶ **CHECK HARNESS AND CONNECTOR (BATTERY - NAVIGATION RECEIVER ASSEMBLY)**

C ▶ **GO TO LIGHTING SYSTEM**

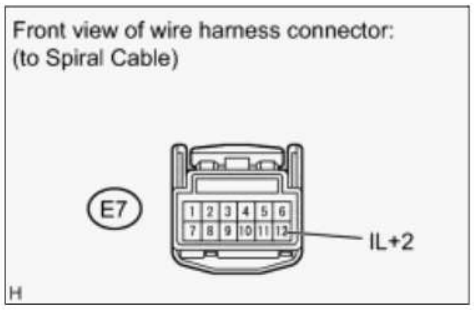
D ▶ **GO TO METER / GAUGE SYSTEM**

A ▼

2.	**CHECK HARNESS AND CONNECTOR (SPIRAL CABLE - BATTERY AND BODY GROUND)**

(a) Disconnect the E7 spiral cable connector.

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

Standard Voltage:

TESTER CONNECTION	SWITCH CONDITION	SPECIFIED CONDITION
E7-12 (IL+2) - Body ground	Light control switch in TAIL or HEAD	11 to 14 V

NG ▶ **REPAIR OR REPLACE HARNESS OR CONNECTOR**

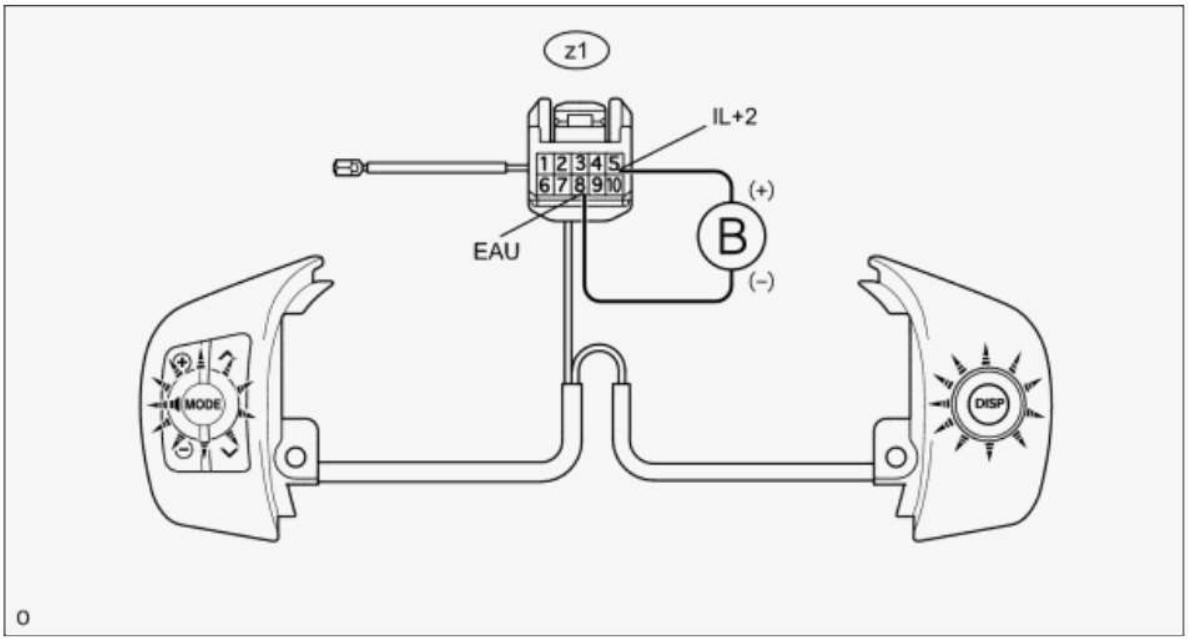
OK ▼

3.	**INSPECT STEERING PAD SWITCH ASSEMBLY**

(a) Disconnect the steering pad switch assembly connector.

(b) Connect a positive (+) lead to terminal 5 (IL+2) and a negative (-) lead to terminal 8 (EAU) of the steering pad switch connector.

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(c) Check if the illumination for the steering pad switch comes on.

OK:

Illumination for the steering pad switch assembly comes on.

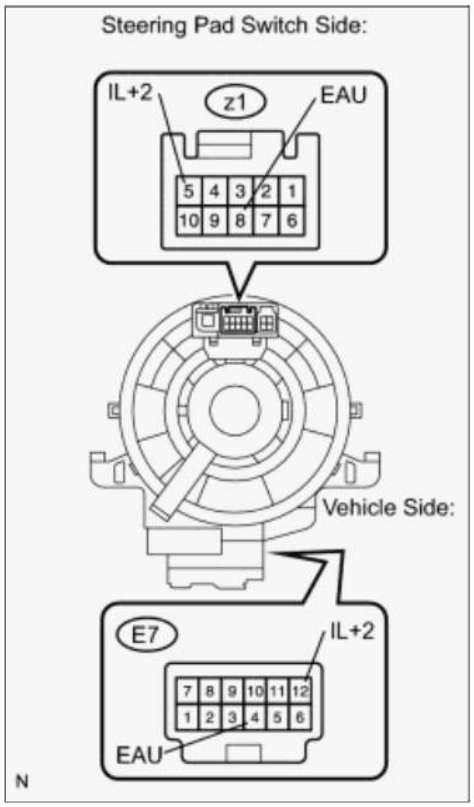
NG ▶ **REPLACE STEERING PAD SWITCH ASSEMBLY**

OK ▼

4.	**INSPECT SPIRAL CABLE**

(a) Disconnect the z1 steering pad switch connector.

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(b) Disconnect the E7 spiral cable connector.

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

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
z1-8 (EAU) - E7-4 (EAU)	Center	Below 1 Ω
	2.5 rotations to the left	
	2.5 rotations to the right	
z1-5 (IL+2) - E7-12 (IL+2)	Center	Below 1 Ω
	2.5 rotations to the left	
	2.5 rotations to the right	

NOTICE:

The spiral cable is an important part of the SRS airbag system. Incorrect removal or installation of the spiral cable may cause airbag deployment. Be sure to refer to the "See page" shown in the brackets.

HINT:

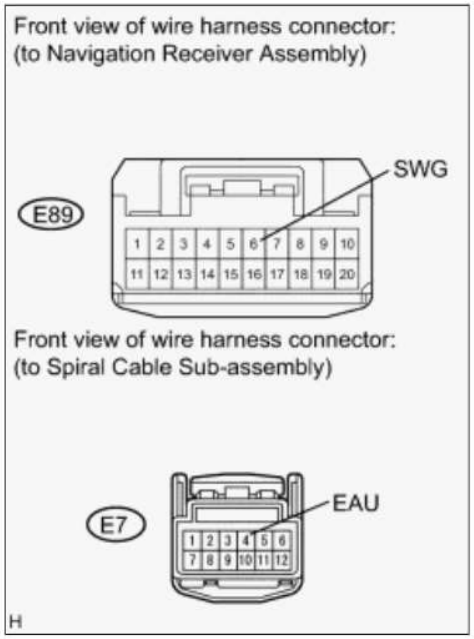
- Removal INFO
- Installation INFO

NG ▶ REPLACE SPIRAL CABLE

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OK

5.	**CHECK HARNESS AND CONNECTOR (NAVIGATION RECEIVER ASSEMBLY - SPIRAL CABLE)**



(a) Disconnect the E87 navigation receiver assembly connector.

(b) Disconnect the E7 spiral cable connector.

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

Standard Resistance:

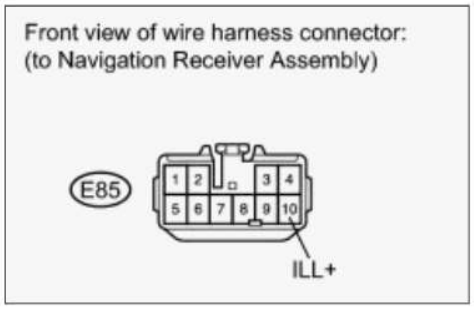
TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
E87-6 (SWG) - E7-4 (EAU)	Always	Below 1 Ω
E87-6 (SWG) - Body ground	Always	10 kΩ or higher

NG ▶ **REPAIR OR REPLACE HARNESS OR CONNECTOR**

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

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

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(a) Disconnect the E85 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
E85-10 (ILL+) - Body ground	Light control switch in TAIL or HEAD	11 to 14 V

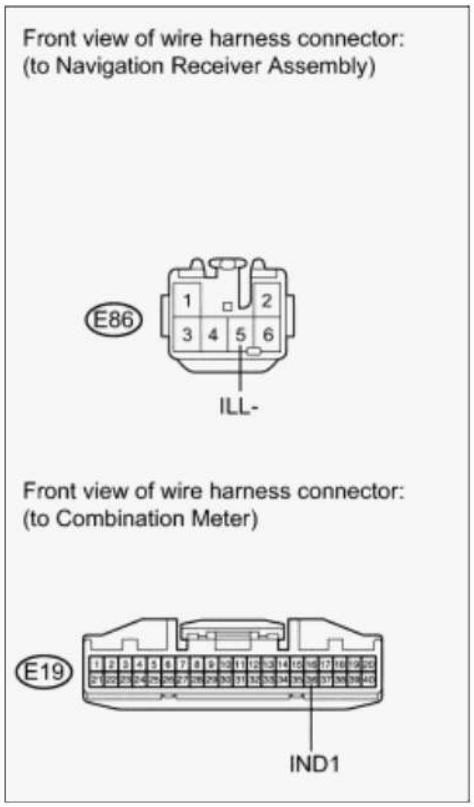
NG ▶ **REPAIR OR REPLACE HARNESS OR CONNECTOR**

OK ▼

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

(a) Disconnect the E86 navigation receiver assembly connector.

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(b) Disconnect the E19 combination meter connector.

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

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
E86-5 (ILL-) - E19-36 (IND1)	Always	Below 1 Ω
E86-5 (ILL-) - Body ground	Always	10 kΩ or higher

NG ▶ **REPAIR OR REPLACE HARNESS OR CONNECTOR**

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

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Last Modified: 9-7-2011	6.4 J	**From:** 201008
Model Year: 2011	**Model:** RAV4	**Doc ID:** RM000000PNJ075X
Title: NAVIGATION: NAVIGATION SYSTEM (w/ CD Player): Illumination for Panel Switch does not Come on with Tail Switch ON (2011 RAV4)		

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

INSPECTION PROCEDURE

PROCEDURE

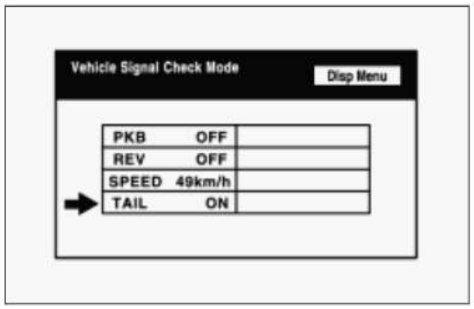
1.	**CHECK VEHICLE SIGNAL (DISPLAY CHECK MODE)**

(a) Enter the "Display Check" mode and select "Vehicle Signal Check Mode" INFO .

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

OK:

LIGHT CONTROL SWITCH CONDITION	DISPLAY CONDITION
TAIL or ON	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 change in the switch.

NG ▶ **GO TO "Illumination Circuit"**

OK ▶ **REPLACE NAVIGATION RECEIVER ASSEMBLY**

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Last Modified: 9-7-2011	6.4 J	**From:** 201008
Model Year: 2011	**Model:** RAV4	**Doc ID:** RM000000PN7073X
Title: NAVIGATION: NAVIGATION SYSTEM (w/ CD Player): Map Disc cannot be Inserted (2011 RAV4)		

Map Disc cannot be Inserted

INSPECTION PROCEDURE

PROCEDURE

1.	**CHECK NAVIGATION RECEIVER ASSEMBLY**

(a) Check if a disc is inserted into the MAP disc slot.

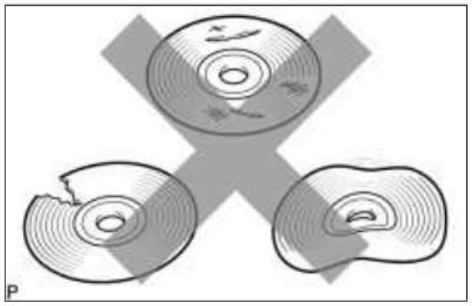
(1) Check if "DISC IN" comes on.

OK:
"DISC IN" comes on.

NG ▶ **EJECT DISC**

OK ▼

2.	**CHECK MAP DISC**



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

OK:
No deformations or cracks on the map disc.

NG ▶ **REPLACE MAP DISC**

OK ▶ **GO TO "Navigation Receiver Assembly Power**

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Source Circuit"

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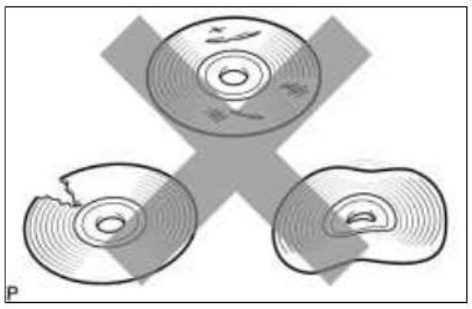
Last Modified: 9-7-2011	6.4 J	**From:** 201008
Model Year: 2011	**Model:** RAV4	**Doc ID:** RM000000POG082X
Title: NAVIGATION: NAVIGATION SYSTEM (w/ CD Player): Map Display Incomplete (2011 RAV4)		

Map Display Incomplete

INSPECTION PROCEDURE

PROCEDURE

1.	**CHECK MAP DISC**



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

OK:

No deformations or cracks on the map disc.

NG ▶ **REPLACE MAP DISC**

OK ▼

2.	**CHECK NAVIGATION DISPLAY**

(a) Check that displays other than the navigation display are complete.

OK:

No other incomplete displays are found.

NG ▶ **REPLACE NAVIGATION RECEIVER ASSEMBLY**

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

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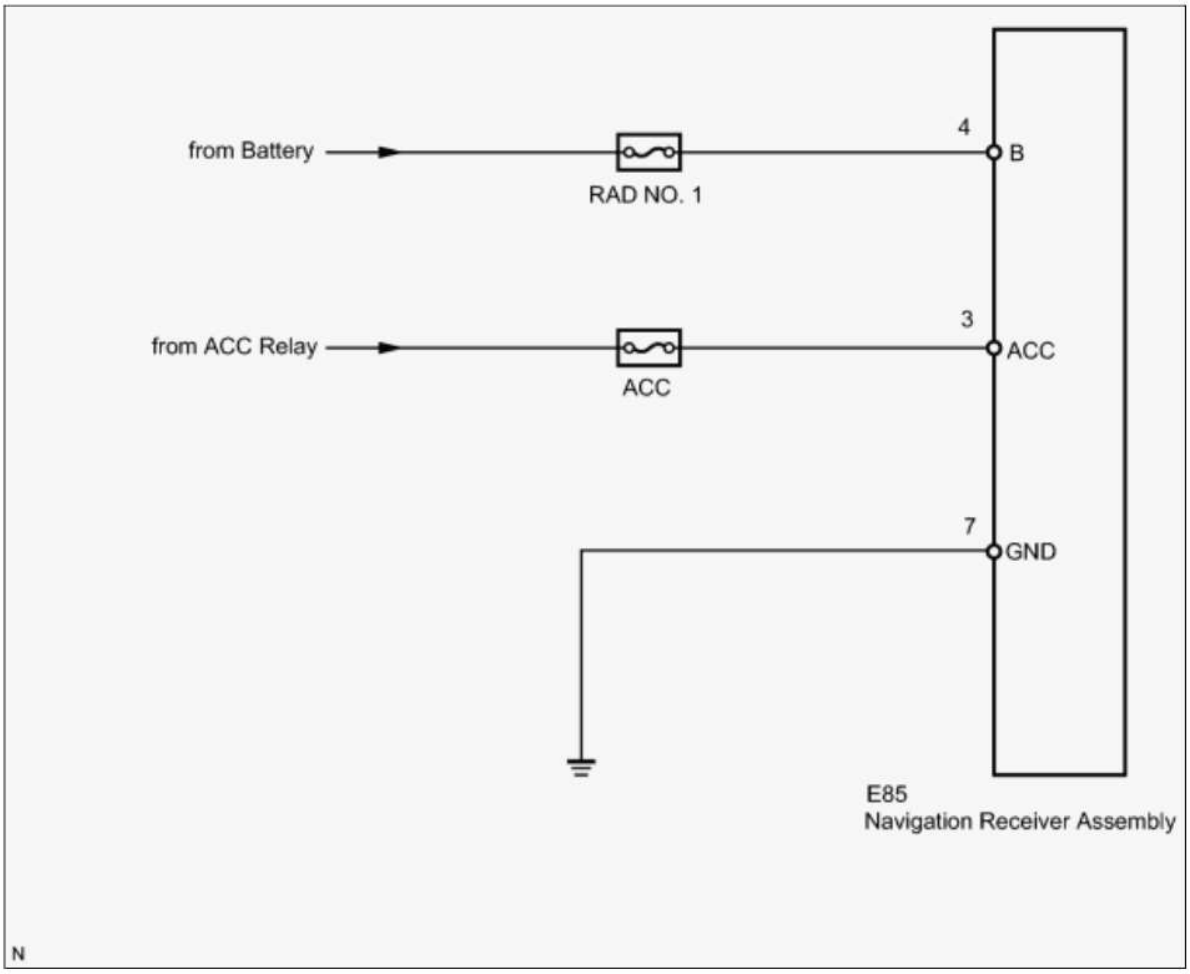
Last Modified: 9-7-2011	6.4 J	**From:** 201008
Model Year: 2011	**Model:** RAV4	**Doc ID:** RM000002NNF052X
Title: NAVIGATION: NAVIGATION SYSTEM (w/ CD Player): Navigation Receiver Assembly Power Source Circuit (2011 RAV4)		

Navigation Receiver Assembly Power Source Circuit

DESCRIPTION

This is the power source circuit to operate the navigation receiver assembly.

WIRING DIAGRAM



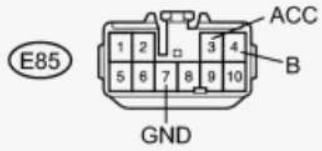
INSPECTION PROCEDURE

PROCEDURE

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1.	**CHECK HARNESS AND CONNECTOR (NAVIGATION RECEIVER ASSEMBLY - BATTERY, BODY GROUND)**

Front view of wire harness connector:
(to Navigation Receiver Assembly)



(a) Disconnect the E85 navigation receiver assembly connector.

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

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
E85-7 (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
E85-4 (B) - E85-7 (GND)	Always	11 to 14 V
E85-3 (ACC) - E85-7 (GND)	Ignition switch ACC	11 to 14 V

NG ▶ **REPAIR OR REPLACE HARNESS OR CONNECTOR**

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

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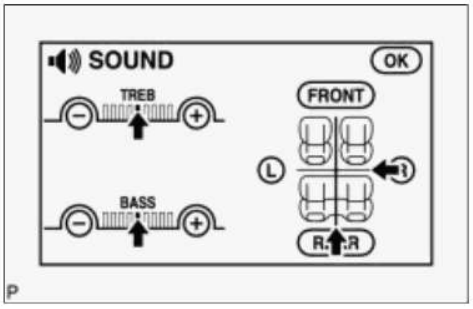
Last Modified: 9-7-2011	6.4 J	**From:** 201008
Model Year: 2011	**Model:** RAV4	**Doc ID:** RM0000020N803RX
Title: NAVIGATION: NAVIGATION SYSTEM (w/ CD Player): No Sound can be Heard from Speakers (2011 RAV4)		

No Sound can be Heard from Speakers

INSPECTION PROCEDURE

PROCEDURE

1.	**CHECK AUDIO SETTINGS**



(a) Enter the sound adjustment screen by pressing the "SOUND" switch on the AUDIO display.

(b) Set volume, fader, and balance to the initial values and check that the sound is normal.

OK:

Audio system returns to normal.

HINT:

Sound quality adjustment items vary depending on the type of the amplifier.

NG ▶ **GO TO "Speaker Circuit"**

OK ▶ **END**

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Last Modified: 9-7-2011	6.4 J	**From:** 201008
Model Year: 2011	**Model:** RAV4	**Doc ID:** RM000000NL50BHX
Title: NAVIGATION: NAVIGATION SYSTEM (w/ CD Player): Noise Occurs (2011 RAV4)		

Noise Occurs

INSPECTION PROCEDURE

PROCEDURE

1.	**NOISE CONDITION**

(a) Check from which direction the noise comes.

- Front No. 1 speaker LH
- Front No. 1 speaker RH
- Rear No. 1 speaker LH
- Rear No. 1 speaker RH
- Front No. 2 speaker LH
- Front No. 2 speaker RH

(1) Check from which direction the noise comes.

OK:

The location of the noise source can be determined.

NG ▶ **CHECK NOISE CONDITIONS**

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 malfunctions.

Result

RESULT	PROCEED TO
A speaker is installed incorrectly	A

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

A ▶ **REINSTALL SPEAKER**

B ▶ **REMOVE FOREIGN OBJECT**

C ▶ **REPLACE SPEAKER**

D ▼

3.	**CHECK NOISE CONDITIONS**

(a) Check the noise condition.

HINT:

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

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 blink of the turn signal.	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:

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

OK:
The noise source cannot be determined.

NG ▶ **REPAIR OR REPLACE NOISE SOURCE**

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

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Last Modified: 9-7-2011	6.4 D	**From:** 201008
Model Year: 2011	**Model:** RAV4	**Doc ID:** RM000003A3N019X
Title: NAVIGATION: NAVIGATION SYSTEM (w/ CD Player): OPERATION CHECK (2011 RAV4)		

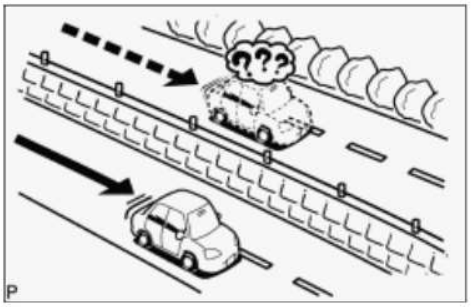
OPERATION CHECK

1. Check system normal condition

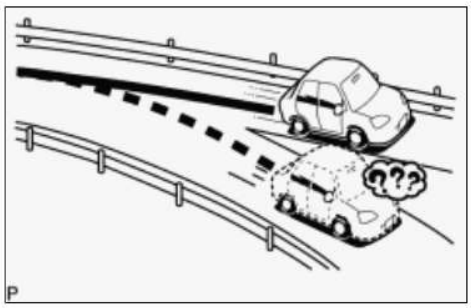
(a) If the cause of a symptom is any of the following, the corresponding symptom is normal, it is not a malfunction.

SYMPTOM	ANSWER
A longer route than expected is chosen.	Depending on the road conditions, the navigation ECU may determine that a longer route is quicker.
Even when distance priority is high, the shortest route is not shown.	Some paths 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 actual position.	If the vehicle starts before the navigation system activates, the system may not react.
When running on certain types of roads, especially new roads, the vehicle position deviates from the actual position.	When the vehicle is driving on new roads not available on the map disc, the system attempts to match it to another nearby road, causing the position mark to deviate.

(b) The following symptoms are not a malfunction, but are caused by errors inherent in the GPS, gyro sensor, speed sensor, and navigation ECU.

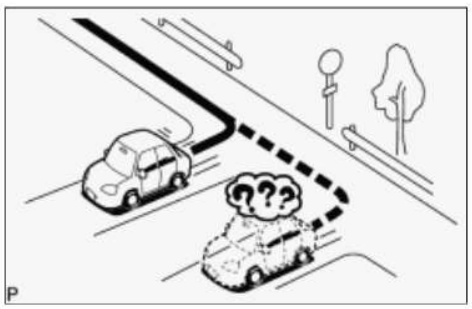


(1) The current position mark may be displayed on a nearby parallel road.

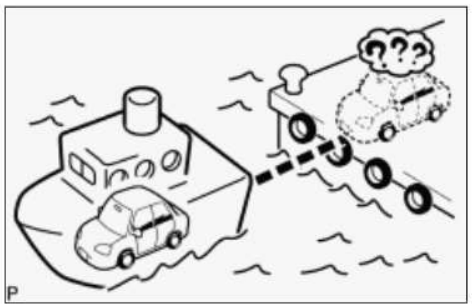


(2) Immediately after a fork in the road, the current vehicle position mark may be displayed on the wrong road.

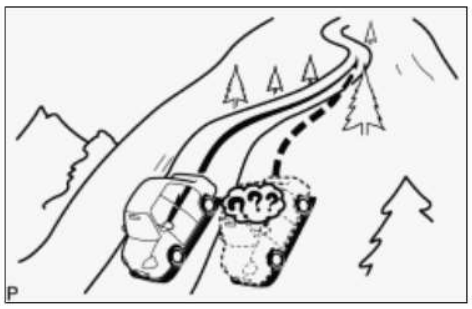
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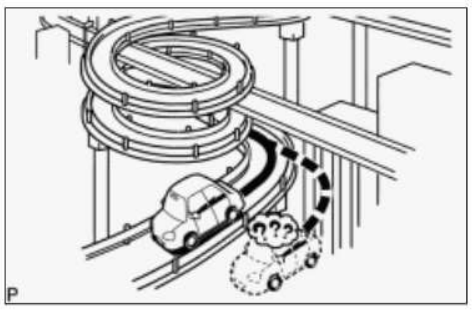
(3) When the vehicle turns right or left at an intersection, the current vehicle position mark may be displayed on a nearby parallel road.



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



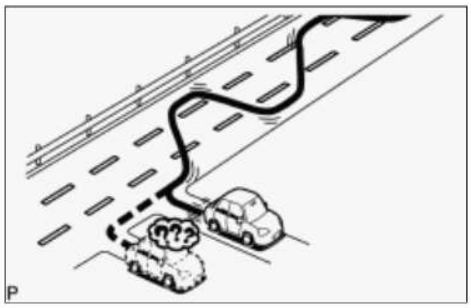
(5) When the vehicle is driven on a steep hill, the current vehicle position mark may deviate from the correct position.

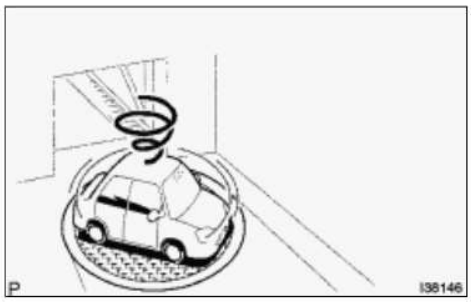


(6) When the vehicle makes a continuous turn of 360°, 720°, 1080°, etc., the current vehicle position mark may deviate from the correct position.

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

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(8) When the ignition switch is turned to ACC or ON on a turntable while parking, the current vehicle position mark may not point in the correct direction. The same will occur when the vehicle starts to move.



(9) When the vehicle is driven 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 a tire is changed, the current vehicle position mark may deviate from the correct position.

HINT:

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

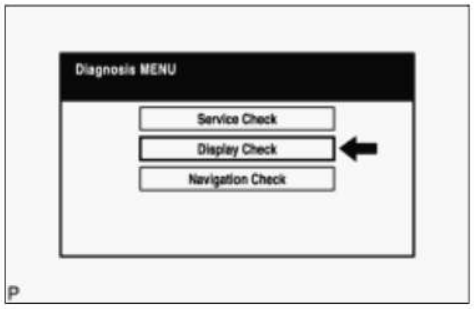
2. Check Display Check mode

HINT:

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

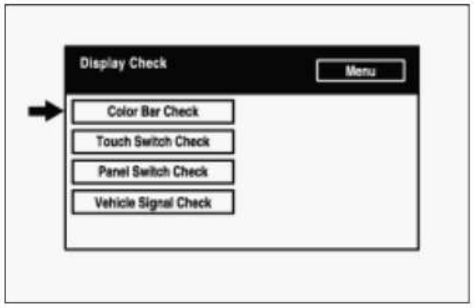
(a) Enter diagnostic mode INFO .

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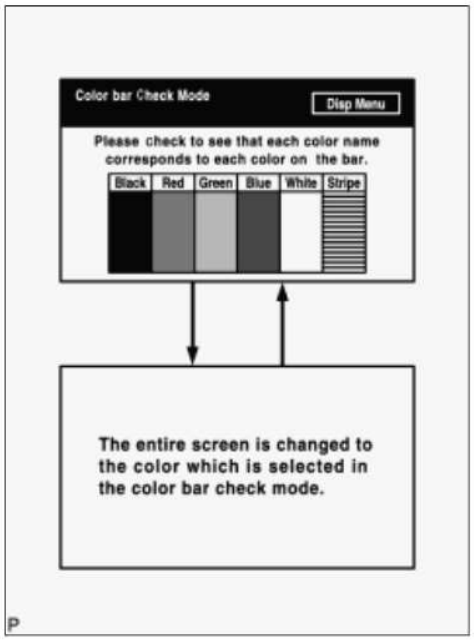


(b) Select "Display Check" from the "Diagnosis MENU" screen.

(c) Color Bar Check



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



(2) Select a color bar from the "Color Bar Check Mode" screen.

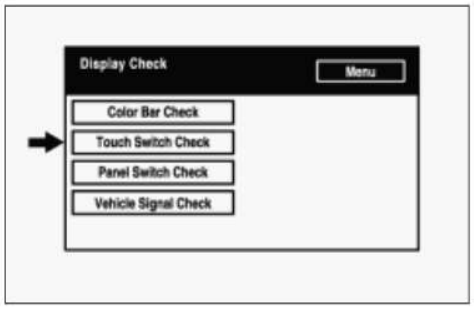
(3) Check the display color.

HINT:

- The entire screen turns to the color or stripe selected.
- Touch the display to return to the "Color Bar Check Mode" screen.

(d) Touch Switch Check

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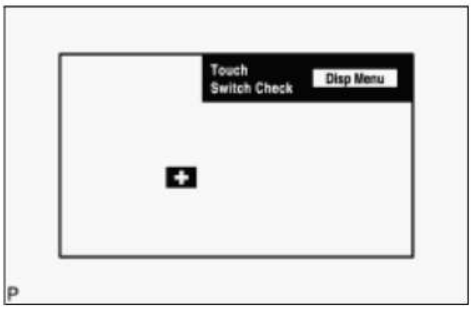


(1) Select "Touch Switch Check" from the "Display Check" screen.

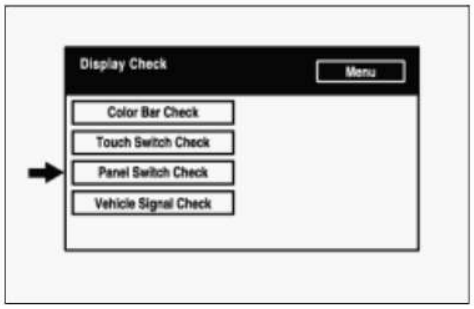
(2) Touch the display anywhere in the open area to perform the check when the "Touch Switch Check" screen is displayed.

HINT:

A "+" mark is displayed where the display is touched.

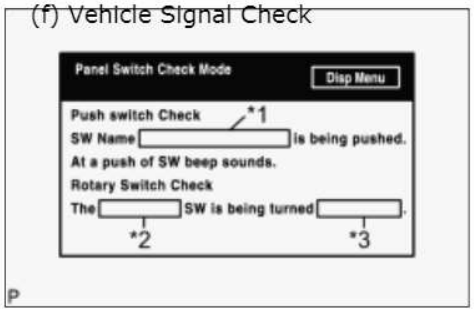


(e) Panel Switch Check



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

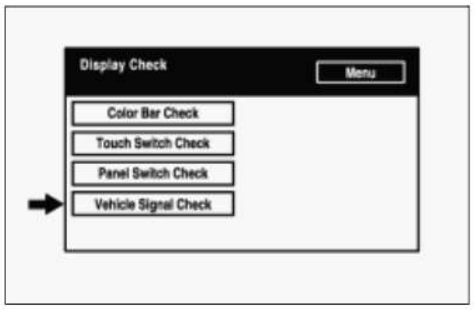
(f) Vehicle Signal Check

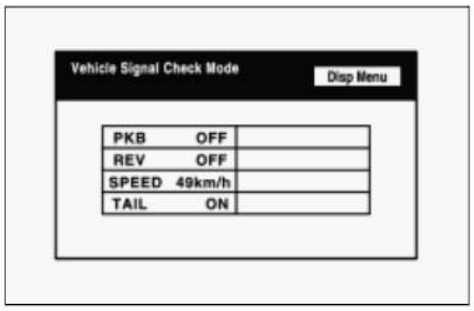


(2) Operate each switch and check that the switch name and condition are correctly displayed.

DISPLAY	CONTENTS
(1) Select "Vehicle Signal Check" from the "Display Check" screen.	• Name of the pressed switch is displayed. • If more than one switch is pressed, "MULTIPLE" is displayed.
*1: Pushed switch name	

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

HINT:

- Only conditions having inputs are displayed.
- This screen is updated once per second when input signals to the vehicle are changed.
- For details of this function, refer to Diagnosis Display Detailed Description in the System Description INFO .

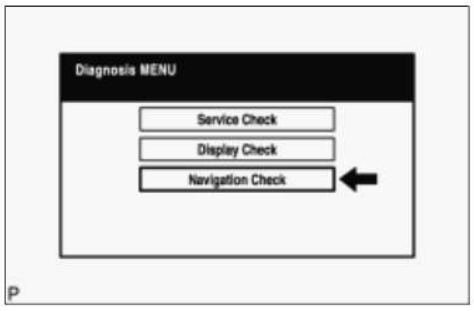
3. Check Navigation Check

HINT:

- This mode displays GPS satellite information.
- Illustrations may differ from the actual vehicle depending on the device settings and options. Therefore, some detailed areas may not be exactly the same as on the actual vehicle.

(a) Enter Diagnostic Mode INFO .

(b) Navigation Check

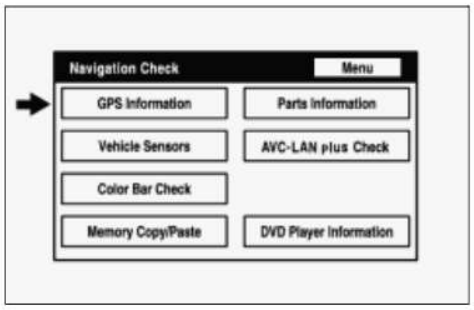


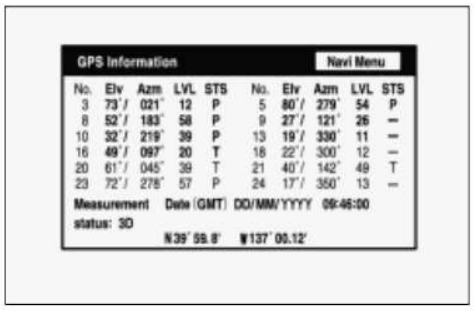
(1) Select "Navigation Check" from the "Diagnosis MENU" screen.

(c) GPS Information

(1) Select "GPS Information" from the "Navigation Check" screen.

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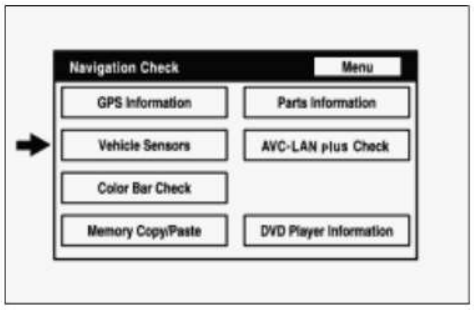


(2) When GPS information is displayed, check the GPS conditions.

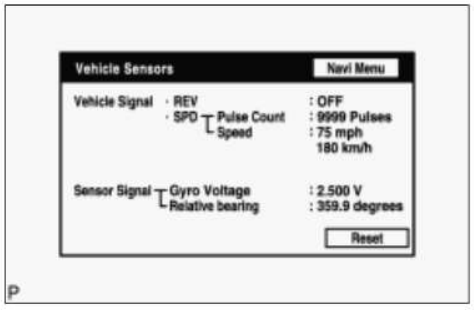
HINT:

- This screen is updated once per second when input signals to the vehicle are changed.
- For details of this function, refer to Diagnosis Display Detailed Description in the System Description INFO .

(d) Vehicle Sensors



(1) Select "Vehicle Sensors" from the "Navigation Check" screen.



(2) Check all the signals and sensors when vehicle signal information is displayed.

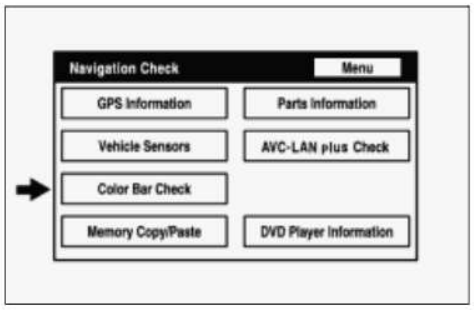
HINT:

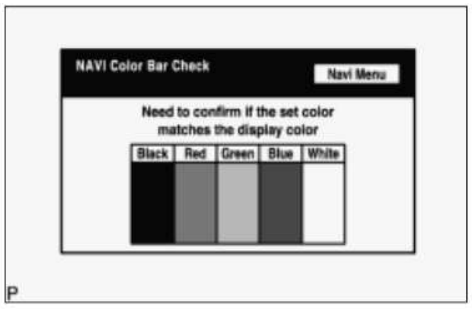
- This screen is updated once per second when input signals to the vehicle are changed.
- This screen displays vehicle signals input to the navigation ECU.
- For details of this function, refer to Diagnosis Display Detailed Description in the System Description INFO .

(e) Color Bar Check

(1) Select "Color Bar Check" from the "Navigation Check" screen.

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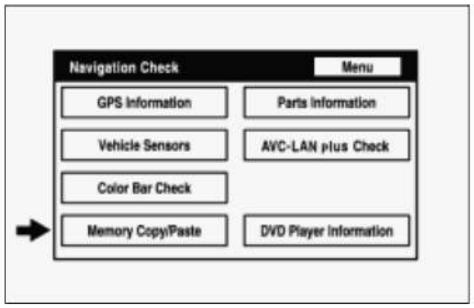




(2) Check each color of the color bar when the "NAVI Color Bar Check" screen is displayed.

HINT:

- Colors will not be displayed full-screen as in "Display Check Mode".
- This screen displays the navigation ECU display color.

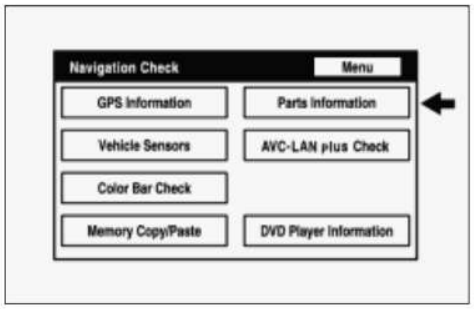


(f) Memory Copy/Paste

HINT:

This function cannot be used.

(g) Parts Information

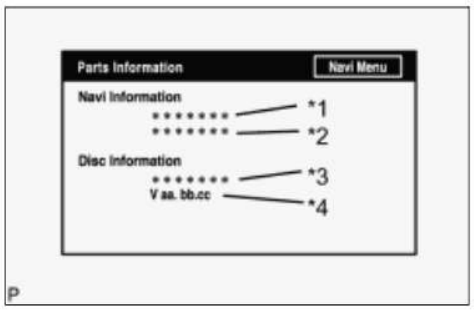


(1) Select "Parts Information" from the "Navigation Check" screen.

(2) Check the navigation and disc information when the "Parts Information" screen is displayed.

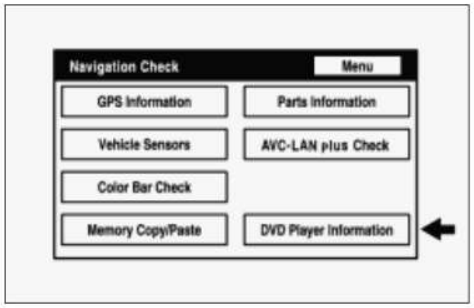
Screen Description

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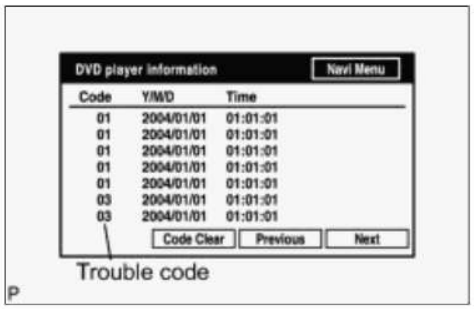


DISPLAY	CONTENTS
*1: Navigation Manufacturer	Navigation ECU manufacturer is displayed.
*2: Navigation Version	Navigation ECU version is displayed.
*3: Disc Manufacturer	Map disc manufacturer is displayed.
*4: Disc Version	Map disc version is displayed.

(h) DVD Player Information



(1) Select "DVD Player Information" from the "Navigation Check" screen.



(2) Check for DTCs.

HINT:

- This is the DVD player check function in the navigation ECU.
- For details of this function, refer to Diagnosis Display Detailed Description in the System Description.

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Last Modified: 9-7-2011	6.4 J	**From:** 201008
Model Year: 2011	**Model:** RAV4	**Doc ID:** RM000000PN807MX
Title: NAVIGATION: NAVIGATION SYSTEM (w/ CD Player): Panel Switches do not Function (2011 RAV4)		

Panel Switches do not Function

INSPECTION PROCEDURE

PROCEDURE

1.	**CHECK PANEL SWITCH**

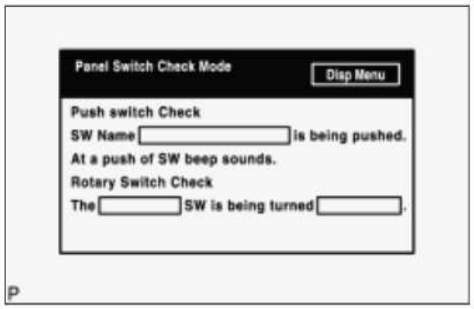
(a) Check for foreign matter around the switches that might prevent operation.

OK:
No foreign matter is found.

NG ▶ **REMOVE ANY FOREIGN MATTER FOUND**

OK ▼

2.	**CHECK PANEL SWITCH (DISPLAY CHECK MODE)**



(a) Enter the "Display Check" mode and select "Panel Switch Check" INFO .

(b) Operate the abnormal switch and check if the switch name and status are correctly displayed.

OK:
The switch name and status are correctly displayed as operated.

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

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TABLE

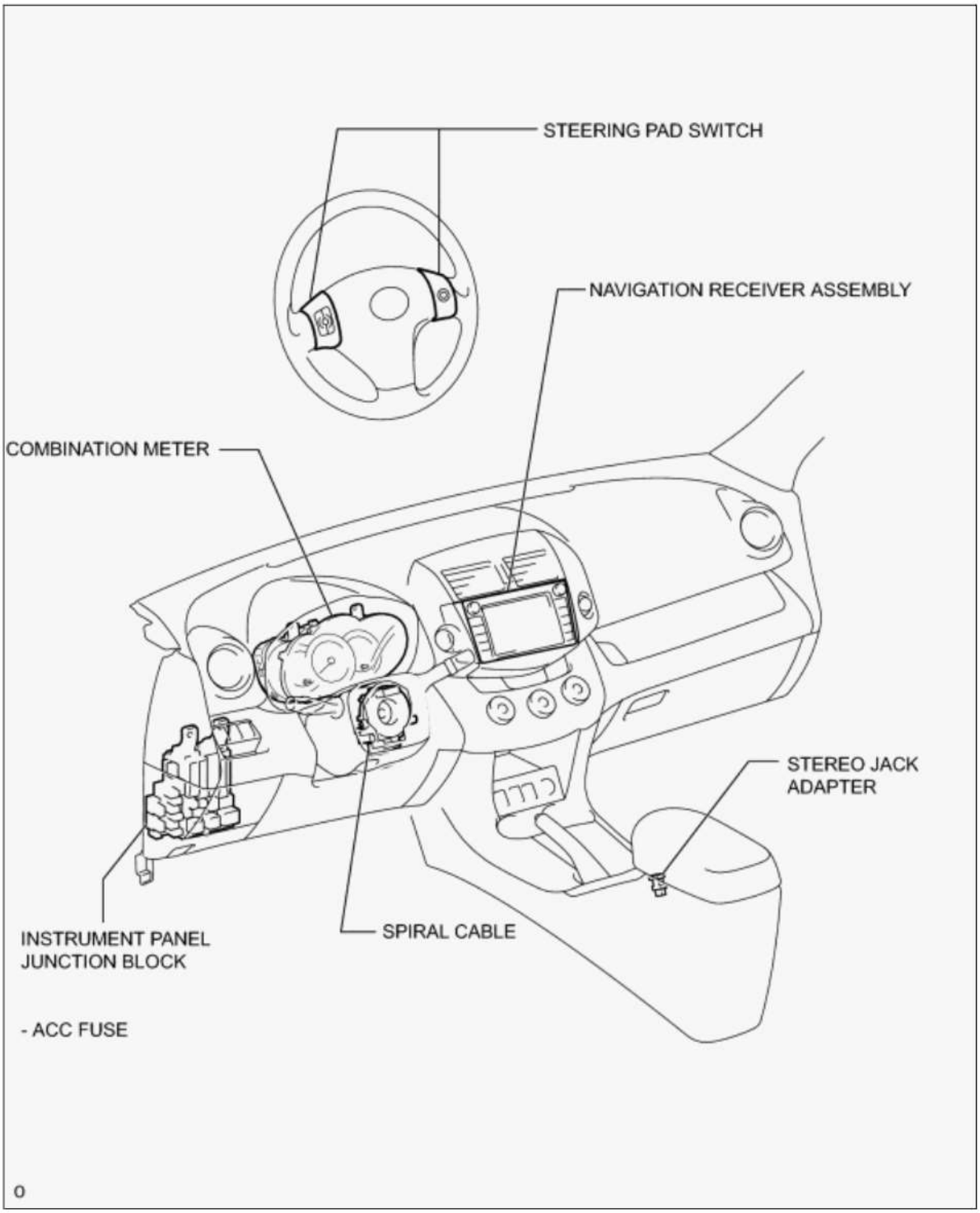
OK ▶ REPLACE NAVIGATION RECEIVER ASSEMBLY

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Last Modified: 9-7-2011	6.4 R	**From:** 201008
Model Year: 2011	**Model:** RAV4	**Doc ID:** RM0000033SW02WX
Title: NAVIGATION: NAVIGATION SYSTEM (w/ CD Player): PARTS LOCATION (2011 RAV4)		

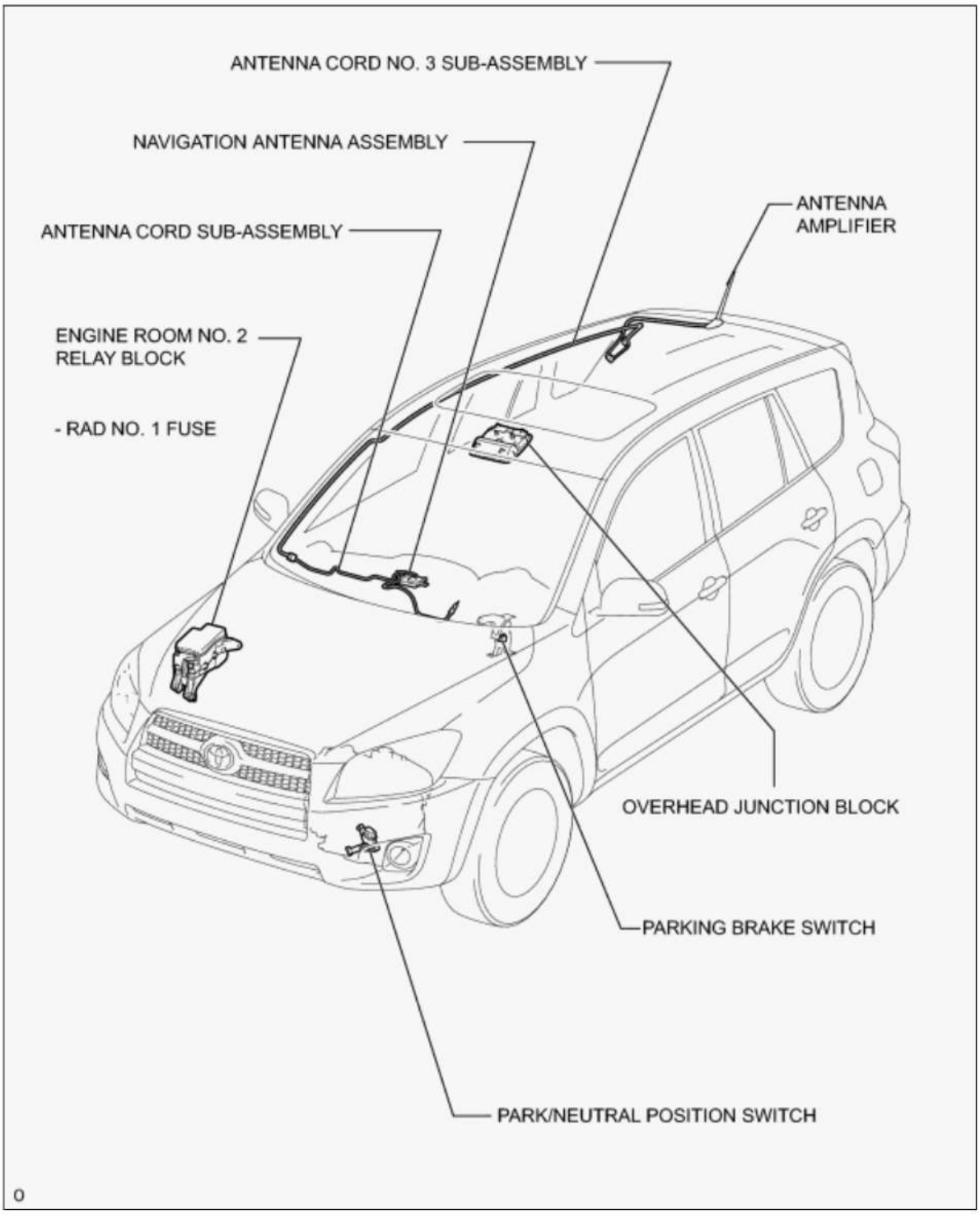
PARTS LOCATION

ILLUSTRATION



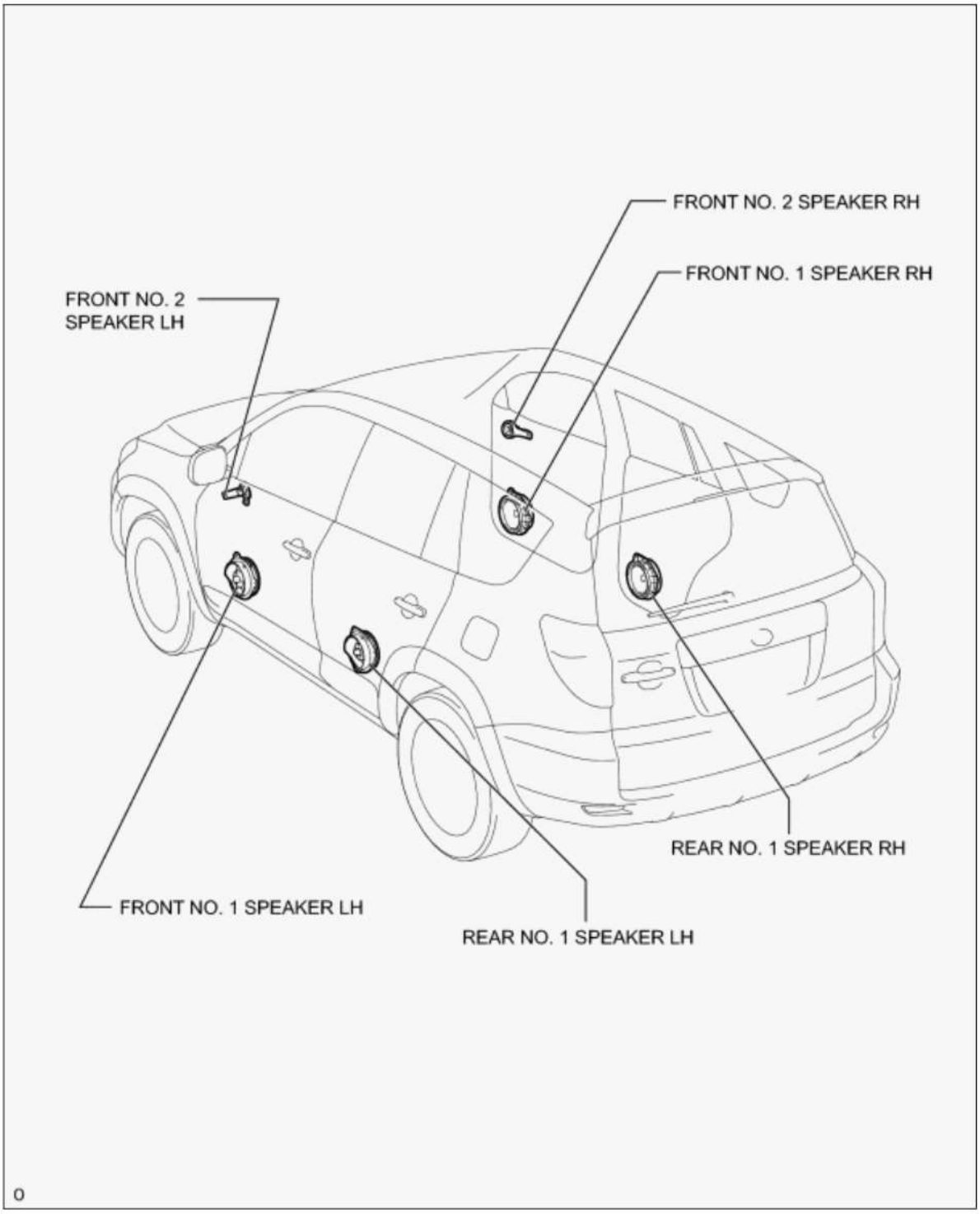
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ILLUSTRATION



ILLUSTRATION

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Last Modified: 9-7-2011	6.4 J	**From:** 201008
Model Year: 2011	**Model:** RAV4	**Doc ID:** RM0000020N903SX
Title: NAVIGATION: NAVIGATION SYSTEM (w/ CD Player): Poor Sound Quality in All Modes (Low Volume) (2011 RAV4)		

Poor Sound Quality in All Modes (Low Volume)

INSPECTION PROCEDURE

PROCEDURE

1.	**CHECK AUDIO SETTINGS**

(a) Set "BASS" and "TREB" to the initial values and check that sound is normal.

OK:
Malfunction disappears.

NG ▶ **COMPARE WITH ANOTHER VEHICLE OF SAME MODEL**

OK ▶ **END**

2.	**COMPARE WITH ANOTHER VEHICLE OF SAME MODEL**

(a) Compare with another vehicle of the same model.

(1) 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 ▶ **GO TO "Navigation Receiver Assembly Power Source Circuit"**

OK ▶ **END**

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Last Modified: 9-7-2011	6.4 L	**From:** 201008
Model Year: 2011	**Model:** RAV4	**Doc ID:** RM000002YLR05JX
Title: NAVIGATION: NAVIGATION SYSTEM (w/ CD Player): PRECAUTION (2011 RAV4)		

PRECAUTION

1. IGNITION SWITCH EXPRESSION

HINT:

The type of ignition switch used on this model differs according to the specifications of the vehicle. The expressions listed in the table below are used in this section.

EXPRESSION	IGNITION SWITCH (POSITION)	ENGINE SWITCH (CONDITION)
Ignition Switch off	Off	Off
Ignition Switch ON	ON	On (IG)
Ignition Switch ACC	ACC	On (ACC)
Engine Start	START	Start

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Last Modified: 9-7-2011	6.4 J	**From:** 201008
Model Year: 2011	**Model:** RAV4	**Doc ID:** RM000001WU4051X
Title: NAVIGATION: NAVIGATION SYSTEM (w/ CD Player): Pressing Power Switch does not Turn on System (2011 RAV4)		

Pressing Power Switch does not Turn on System

INSPECTION PROCEDURE

PROCEDURE

1.	**CHECK CABIN**

(a) Check that conditions in the cabin are not likely to cause condensation.

HINT:

This problem occurs when the cabin is humid and the temperature rapidly changes. This condition may produce condensation, resulting in a short circuit.

OK:
Condensation is not likely to occur.

NG ▶ **DRY CABIN AND RECHECK CONDITIONS**

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

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Last Modified: 9-7-2011	6.4 T	**From:** 201008
Model Year: 2011	**Model:** RAV4	**Doc ID:** RM0000011BR086X
Title: NAVIGATION: NAVIGATION SYSTEM (w/ CD Player): PROBLEM SYMPTOMS TABLE (2011 RAV4)		

PROBLEM SYMPTOMS TABLE

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 PWR switch does not turn on system.	Proceed to "Pressing Power Switch does not Turn on System"	INFO
	Proceed to "Navigation receiver assembly power source circuit"	INFO
	Replace Navigation receiver assembly	INFO
Black screen (No image appears on navigation/audio screen).	Proceed to "Black Screen"	INFO
	Proceed to "Illumination circuit"	INFO
	Replace Navigation receiver assembly	INFO
Illumination for panel switch does not come on with TAIL switch on.	Proceed to "Illumination for Panel Switch does not Come on with TAIL Switch ON"	INFO
	Proceed to "Illumination circuit"	INFO
	Replace Navigation receiver assembly	INFO
Display does not dim (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
	Replace Navigation receiver assembly	INFO
Power does not turn off (The screen remains on).	Proceed to "Navigation receiver assembly power source circuit"	INFO
	Replace Navigation receiver assembly	INFO
Panel switches do not function.	Proceed to "Panel Switches do not Function"	INFO
	Proceed to "Steering pad switch circuit"	INFO
	Proceed to "Navigation receiver assembly power source circuit"	INFO
	Replace Navigation receiver assembly	INFO

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SYMPTOM	SUSPECTED AREA	SEE PAGE
Touch panel switch does not function.	Proceed to "Touch Panel Switch does not Function"	INFO
	Proceed to "Steering pad switch circuit"	INFO
	Proceed to "Navigation receiver assembly power source circuit"	INFO
	Replace Navigation receiver assembly	INFO
Display panel does not open, tilt, or tilts improperly.	Proceed to "Display Panel does not Open, Tilt, or Tilts Improperly"	INFO
	Proceed to "Navigation receiver assembly power source circuit"	INFO
	Replace Navigation receiver assembly	INFO
Screen is distorted.	Proceed to "Navigation receiver assembly power source circuit"	INFO
	Replace Navigation receiver assembly	INFO
Screen flicker or color distortion.	Proceed to "Screen Flicker or Color Distortion"	INFO
	Proceed to "Navigation receiver assembly power source circuit"	INFO
	Replace Navigation receiver assembly	INFO
Navigation function switches can be operated while vehicle is running.	Proceed to "Speed Signal Circuit"	INFO

Audio Function

SYMPTOM	SUSPECTED AREA	SEE PAGE
No sound can be heard from speakers (audio is mute).	Proceed to "No Sound can be Heard from Speakers"	INFO
	Proceed to "Speaker Circuit"	INFO
	Replace Navigation receiver assembly	INFO
Radio broadcast cannot be received or poor reception.	Proceed to "Radio Broadcast cannot be Received or Poor Reception"	INFO
	Replace Antenna cord sub-assembly	INFO
	Replace Antenna cord No. 3 sub-assembly	INFO
	Replace Antenna amplifier	INFO
CD cannot be inserted/played or CD is ejected right after insertion.	Proceed to "CD cannot be Inserted / Played or CD is Ejected Right After Insertion"	INFO
CD cannot be ejected.	Proceed to "CD cannot be Ejected"	INFO
CD sound skips.	Proceed to "CD Sound Skips"	INFO
Abnormal noise occurs.	Proceed to "Noise Occurs"	INFO

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SYMPTOM	SUSPECTED AREA	SEE PAGE
Poor sound quality in all modes (low volume).	Proceed to "Poor Sound Quality in All Modes (Low Volume)"	INFO
	Proceed to "Navigation receiver assembly power source circuit"	INFO
	Replace Navigation receiver assembly	INFO
External device sound cannot be heard or sound quality is bad (Stereo jack is used).	Proceed to "Navigation receiver assembly power source circuit"	INFO
	Proceed to "Sound Signal Circuit between Navigation Receiver Assembly and Stereo Jack Adapter"	INFO
	Replace Stereo jack adapter	INFO
	Replace Navigation receiver assembly	INFO

Navigation Function

SYMPTOM	SUSPECTED AREA	SEE PAGE
Map disc cannot be inserted.	Proceed to "Map Disc cannot be Inserted"	INFO
	Proceed to "Navigation receiver assembly power source circuit"	INFO
	Replace Navigation receiver assembly	INFO
Map disc cannot be ejected.	Proceed to "Navigation receiver assembly power source circuit"	INFO
	Replace Navigation receiver assembly	INFO
Vehicle position mark deviates.	Proceed to "Vehicle Position Mark Deviates Greatly"	INFO
	Proceed to "Speed Signal Circuit"	INFO
	Proceed to "Reverse Signal Circuit"	INFO
	Replace Navigation antenna assembly	INFO
	Replace Navigation receiver assembly	INFO
Cursor or map rotates when vehicle is stopped.	Proceed to "Cursor or Map Rotates When Vehicle is Stopped"	INFO
	Proceed to "Speed Signal Circuit"	INFO
	Replace Navigation receiver assembly	INFO
Vehicle position mark is not updated.	Proceed to "Vehicle Position Mark is not Updated"	INFO
	Proceed to "Speed Signal Circuit"	INFO
	Map disc	-
	Replace Navigation receiver assembly	INFO

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SYMPTOM	SUSPECTED AREA	SEE PAGE
Current position display does not appear.	Proceed to "Current Position Display does not Appear"	INFO
	Map disc	-
	Replace Navigation antenna assembly	INFO
	Replace Navigation receiver assembly	INFO
GPS mark is not displayed.	Proceed to "GPS Mark is not Displayed"	INFO
	Replace Navigation antenna assembly	INFO
	Replace Navigation receiver assembly	INFO
Voice guidance does not function.	Proceed to "Voice Guidance does not Function"	INFO
	Proceed to "Speaker Circuit"	INFO
	Replace Map disc	-
	Replace Navigation receiver assembly	INFO
Map display incomplete.	Proceed to "Map Display Incomplete"	INFO
	Map disc	-
	Replace Navigation receiver assembly	INFO
Route cannot be calculated.	Proceed to "Route cannot be Calculated"	INFO
	Map disc	-
	Replace Navigation receiver assembly	INFO
Speed signal does not change in the navigation check mode.	Proceed to "Speed Signal Circuit"	INFO
Reverse signal does not change in the navigation check mode.	Proceed to "Reverse signal circuit"	INFO

Steering Pad Switch Function

SYMPTOM	SUSPECTED AREA	SEE PAGE
The system cannot be operated by the steering pad switch.	Proceed to "Steering pad switch circuit"	INFO
	Replace Navigation receiver assembly	INFO
Illumination for steering pad switch does not come on with TAIL switch on.	Proceed to "Illumination circuit"	INFO
	Replace Navigation receiver assembly	INFO

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Last Modified: 9-7-2011	6.4 J	**From:** 201008
Model Year: 2011	**Model:** RAV4	**Doc ID:** RM0000012CN0AOX
Title: NAVIGATION: NAVIGATION SYSTEM (w/ CD Player): Radio Broadcast cannot be Received or Poor Reception (2011 RAV4)		

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.

OK:
The radio automatic station search function works properly.

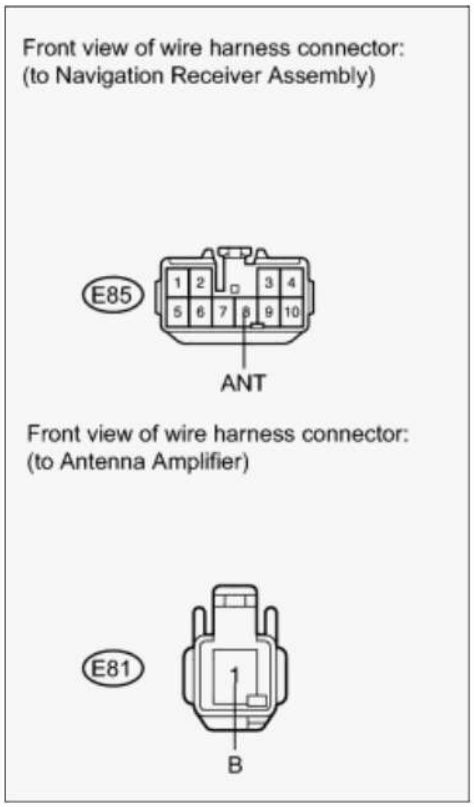
NG ▶ **CHECK HARNESS AND CONNECTOR (NAVIGATION RECEIVER ASSEMBLY - ANTENNA AMPLIFIER)**

OK ▶ **REPLACE NAVIGATION RECEIVER ASSEMBLY**

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

(a) Disconnect E85 navigation receiver assembly connector.

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(b) Disconnect E81 antenna amplifier connector.

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

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
E85-8 (ANT) - E81-1 (B)	Always	Below 1 Ω
E85-8 (ANT) - Body ground	Always	10 kΩ or higher

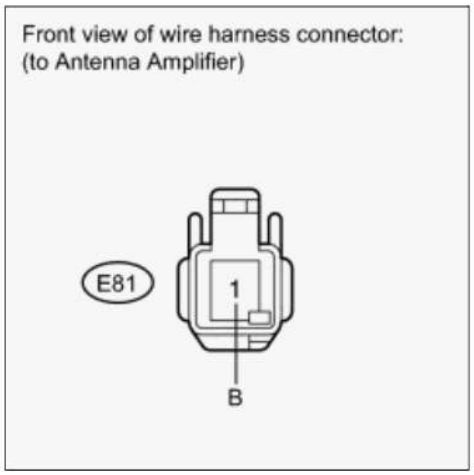
NG ▶ **REPAIR OR REPLACE HARNESS OR CONNECTOR**

OK ▼

3.	**INSPECT NAVIGATION RECEIVER ASSEMBLY**

(a) Reconnect navigation receiver assembly connector.

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

Standard Voltage:

TESTER CONNECTION	SWITCH CONDITION	SPECIFIED CONDITION
E81-1 (B) - Body ground	Ignition switch ON, radio switch ON	11 to 14 V

NG ▶ **REPLACE NAVIGATION RECEIVER ASSEMBLY**

OK ▼

4.	**CHECK OPTIONAL COMPONENTS**

(a) Check optional components (sun-shade film, telephone antenna, etc.).

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

OK:

Optional components are installed.

NOTICE:

Do not remove any optional components installed by the customer without his or her consent.

NG ▶ **CHECK ANTENNA FOR NOISE PRODUCTION**

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

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5.	CHECK ANTENNA FOR NOISE PRODUCTION

(a) With the ignition switch ON, turn on the radio and choose the AM mode.

(b) Place the tip of a screwdriver on the antenna and check that noise is heard from the speakers.

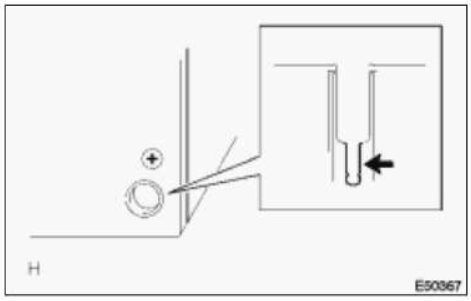
OK:

Noise is heard.

NG ▶ **CHECK NAVIGATION RECEIVER ASSEMBLY**

OK ▶ **REPLACE NAVIGATION RECEIVER ASSEMBLY**

6.	CHECK NAVIGATION RECEIVER ASSEMBLY



(a) Preparation for check

(1) Remove the antenna plug 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 speaker.

OK:

Noise occurs.

NG ▶ **REPLACE NAVIGATION RECEIVER ASSEMBLY**

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

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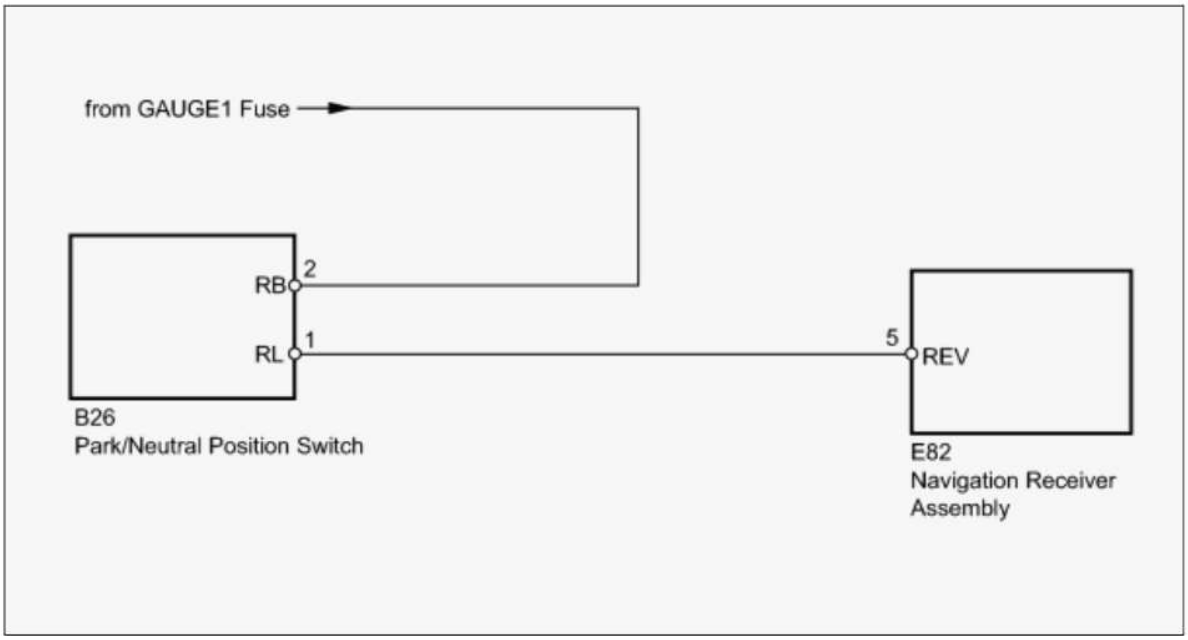
Last Modified: 9-7-2011	6.4 J	**From:** 201008
Model Year: 2011	**Model:** RAV4	**Doc ID:** RM0000020O105XX
Title: NAVIGATION: NAVIGATION SYSTEM (w/ CD Player): Reverse Signal Circuit (2011 RAV4)		

Reverse Signal Circuit

DESCRIPTION

The navigation receiver assembly receives a reverse signal from the park/neutral position switch and information about the GPS antenna, and then adjusts the vehicle position.

WIRING DIAGRAM



INSPECTION PROCEDURE

PROCEDURE

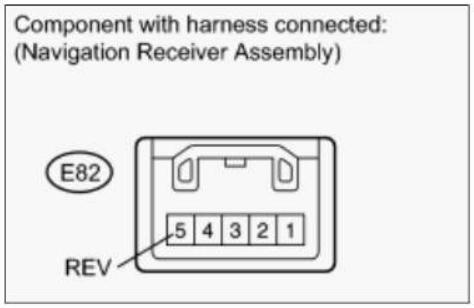
1.	**INSPECT NAVIGATION RECEIVER ASSEMBLY**

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

Standard Voltage:

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TESTER CONNECTION	SWITCH CONDITION	SPECIFIED CONDITION
E82-5 (REV) - Body ground	Ignition switch ON Shift lever is in R	11 to 14 V
E82-5 (REV) - Body ground	Ignition switch ON Shift lever is in any position except R	Below 1 V



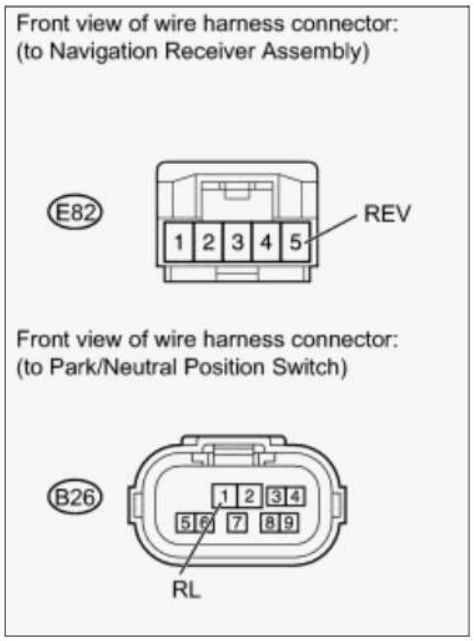
NG ▶ **CHECK HARNESS AND CONNECTOR (NAVIGATION RECEIVER ASSEMBLY- PARK / NEUTRAL POSITION SWITCH)**

OK ▶ **REPLACE NAVIGATION RECEIVER ASSEMBLY**

2.	**CHECK HARNESS AND CONNECTOR (NAVIGATION RECEIVER ASSEMBLY- PARK / NEUTRAL POSITION SWITCH)**

(a) Disconnect the E82 navigation receiver assembly connector.

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(b) Disconnect the B26 park/neutral position switch.

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

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
E82-5 (REV) - B26-1 (RL)	Always	Below 1 Ω
E82-5 (REV) - Body ground	Always	10 kΩ or higher

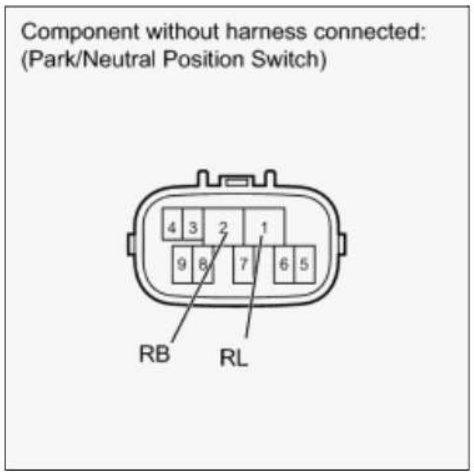
NG ▶ **REPAIR OR REPLACE HARNESS OR CONNECTOR**

OK ▼

3.	**INSPECT PARK/NEUTRAL POSITION SWITCH**

(a) Disconnect the B26 switch connector.

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

Standard Resistance:

TESTER CONNECTION	SWITCH CONDITION	SPECIFIED CONDITION
2 (RB) - 1 (RL)	Ignition switch ON, shift lever is in R	Below 1 Ω
2 (RB) - 1 (RL)	Ignition switch ON, shift lever is in P	10 kΩ or higher

Result

RESULT	PROCEED TO
OK	A
NG (U140F)	B
NG (U151F)	C
NG (U241E)	D
NG (U151E)	E

B ▶ **REPLACE PARK/NEUTRAL POSITION SWITCH**

C ▶ **REPLACE PARK/NEUTRAL POSITION SWITCH**

D ▶ **REPLACE PARK/NEUTRAL POSITION SWITCH**

E ▶ **REPLACE PARK/NEUTRAL POSITION SWITCH**

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

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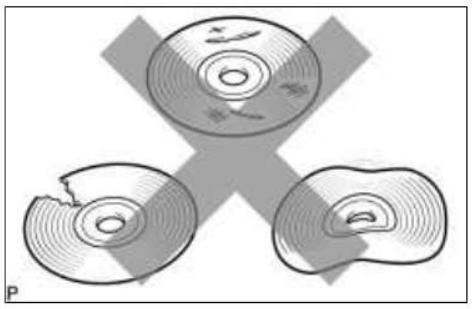
Last Modified: 9-7-2011	6.4 J	**From:** 201008
Model Year: 2011	**Model:** RAV4	**Doc ID:** RM000000PNN08PX
Title: NAVIGATION: NAVIGATION SYSTEM (w/ CD Player): Route cannot be Calculated (2011 RAV4)		

Route cannot be Calculated

INSPECTION PROCEDURE

PROCEDURE

1.	**CHECK MAP DISC**



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

OK:
No deformations or cracks on map disc.

NG ▶ **REPLACE MAP DISC**

OK ▼

2.	**SET DESTINATION**

(a) Set another destination and check if the system can calculate the route correctly.

OK:
Route can be correctly calculated.

NG ▶ **REPLACE NAVIGATION RECEIVER ASSEMBLY**

OK ▶ **END**

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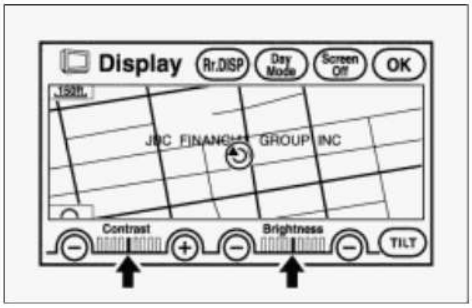
Last Modified: 9-7-2011	6.4 J	**From:** 201008
Model Year: 2011	**Model:** RAV4	**Doc ID:** RM000000POJ09HX
Title: NAVIGATION: NAVIGATION SYSTEM (w/ CD Player): Screen Flicker or Color Distortion (2011 RAV4)		

Screen Flicker or Color Distortion

INSPECTION PROCEDURE

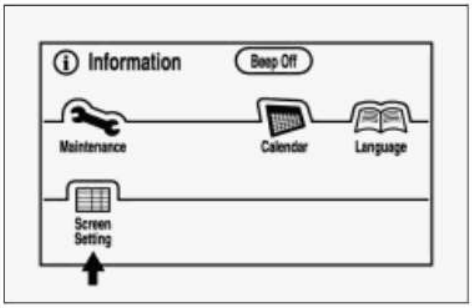
PROCEDURE

1.	**CHECK DISPLAY SETTING**

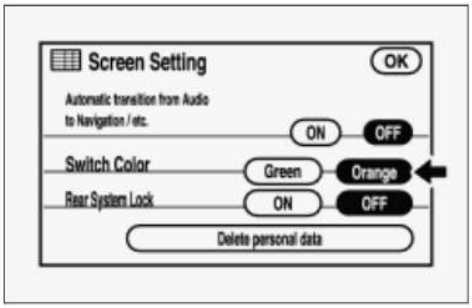


(a) Enter the display adjustment screen by pressing the "DISPLAY" switch.

(b) Reset display settings (contrast, brightness) and check that the screen appears normal.



(c) Press the "INFO" switch and then select "Screen Setting."



(d) Set "Switch Color" to "Orange" (initial setting) and check if the display returns to normal.

OK:

The display returns to normal.

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NG ▶ CHECK CABIN

OK ▶ END

2.	CHECK CABIN

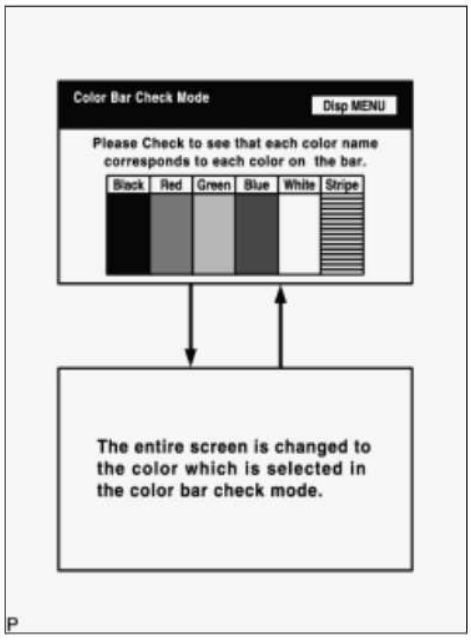
(a) Check that the cabin temperature is higher than -20°C (-4°F).

OK:
The cabin temperature is higher than -20°C (-4°F).

NG ▶ HEAT CABIN AND RECHECK TEMPERATURE

OK ▼

3.	CHECK COLOR BAR (DISPLAY CHECK MODE)



(a) Enter the "Display Check" mode and select "Color Bar Check" INFO .

(b) Check that the color bars match the displayed names.

OK:
Color bars match the displayed names.

NG ▶ REPLACE NAVIGATION RECEIVER ASSEMBLY

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OK

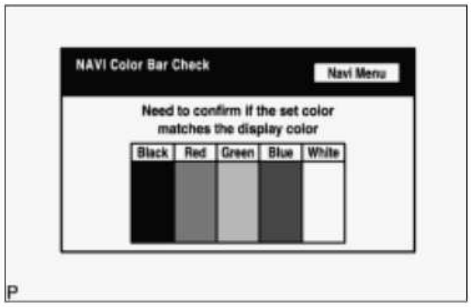
4.	**CHECK NAVI COLOR BAR (NAVIGATION CHECK MODE)**

(a) Enter the "Navigation Check" mode and select "NAVI Color Bar Check" INFO .

(b) Check that the color bars match the displayed names.

OK:

Color bars match the displayed names.



NG ▶ **REPLACE NAVIGATION RECEIVER ASSEMBLY**

OK ▶ **GO TO "Navigation Receiver Assembly Power Source Circuit"**

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Last Modified: 9-7-2011	6.4 J	**From:** 201008
Model Year: 2011	**Model:** RAV4	**Doc ID:** RM0000020QE02TX
Title: NAVIGATION: NAVIGATION SYSTEM (w/ CD Player): Sound Signal Circuit between Navigation Receiver Assembly and Stereo Jack Adapter (2011 RAV4)		

Sound Signal Circuit between Navigation Receiver Assembly and Stereo Jack Adapter

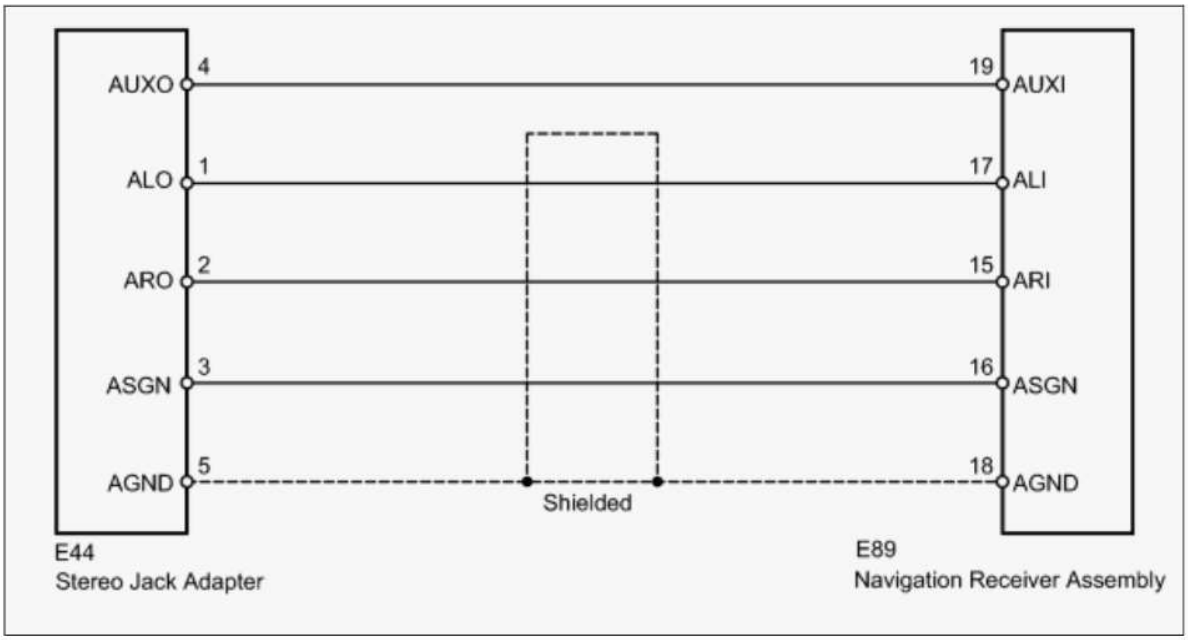
DESCRIPTION

The stereo jack adapter sends an external device sound signal to the navigation receiver assembly through this circuit.

The sound signal that has been sent is amplified by the stereo component amplifier and then is sent to the speakers.

If there is an open or short in the circuit, sound cannot be heard from the speakers even if there is no malfunction in the stereo component amplifier, navigation receiver assembly, or speakers.

WIRING DIAGRAM

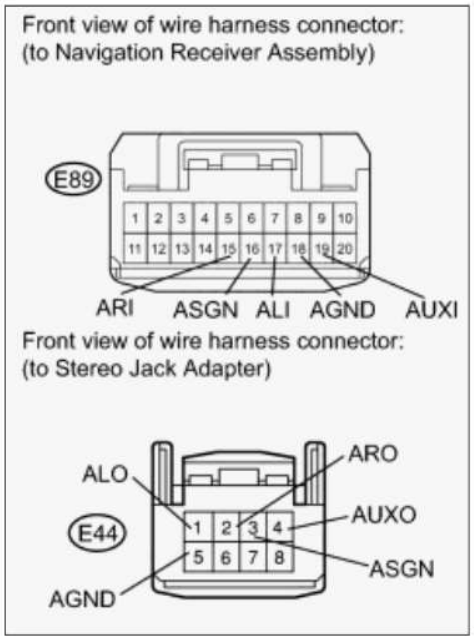


INSPECTION PROCEDURE

PROCEDURE

1.	**CHECK HARNESS AND CONNECTOR (STEREO JACK ADAPTER - NAVIGATION RECEIVER ASSEMBLY)**

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(a) Disconnect the E44 stereo jack adapter connector.

(b) Disconnect the E89 navigation receiver assembly connector.

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

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
E44-1 (ALO) - E89-17 (ALI)	Always	Below 1 Ω
E44-2 (ARO) - E89-15 (ARI)	Always	Below 1 Ω
E44-3 (ASGN) - E89-16 (ASGN)	Always	Below 1 Ω
E44-4 (AUXO) - E89-19 (AUXI)	Always	Below 1 Ω
E44-5 (AGND) - E89-18 (AGND)	Always	Below 1 Ω
E44-1 (ALO) - Body ground	Always	10 kΩ or higher
E44-2 (ARO) - Body ground	Always	10 kΩ or higher
E44-3 (ASGN) - Body ground	Always	10 kΩ or higher
E44-4 (AUXO) - Body ground	Always	10 kΩ or higher
E44-5 (AGND) - Body ground	Always	10 kΩ or higher

NG ▶ **REPAIR OR REPLACE HARNESS OR CONNECTOR**

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

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Last Modified: 9-7-2011	6.4 J	**From:** 201008
Model Year: 2011	**Model:** RAV4	**Doc ID:** RM000001VBY00OX
Title: NAVIGATION: NAVIGATION SYSTEM (w/ CD Player): Speaker Circuit (2011 RAV4)		

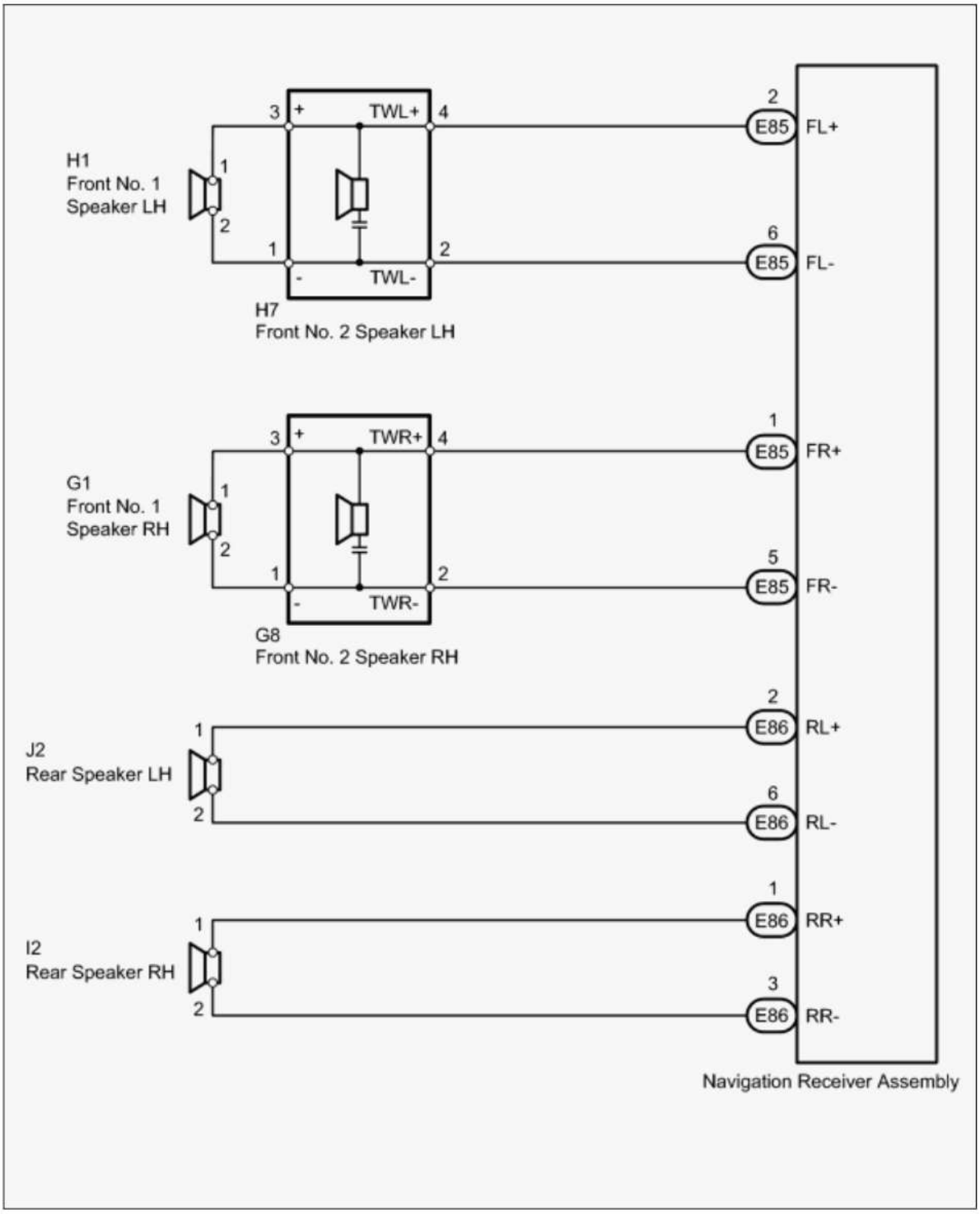
Speaker Circuit

DESCRIPTION

When the vehicle has a built-in type amplifier, a sound signal is sent from the navigation receiver assembly to the speakers through this circuit.

WIRING DIAGRAM

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INSPECTION PROCEDURE

PROCEDURE

1.	**CHECK SPEAKER**

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(a) Check that the speakers sound.

Result

RESULT	PROCEED TO
Front No. 1 speakers do not operate	A
Front No. 2 speakers do not operate	B
Rear No. 1 speakers do not operate	C
All speakers do not operate	D

B ▶ **CHECK HARNESS AND CONNECTOR (NAVIGATION RECEIVER ASSEMBLY - FRONT NO. 2 SPEAKER)**

C ▶ **CHECK HARNESS AND CONNECTOR (NAVIGATION RECEIVER ASSEMBLY - REAR NO. 1 SPEAKER)**

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

A ▼

2.	**CHECK FRONT NO. 2 SPEAKER ASSEMBLY**

(a) Check that the front No. 2 speakers sound.

OK:
Speakers sound.

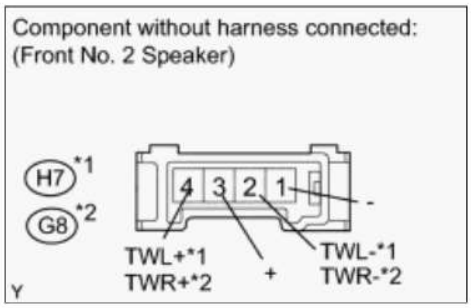
NG ▶ **CHECK HARNESS AND CONNECTOR (NAVIGATION RECEIVER ASSEMBLY - FRONT NO. 2 SPEAKER)**

OK ▼

3.	**INSPECT FRONT NO. 2 SPEAKER ASSEMBLY**

(a) Disconnect the H7 or G8 speaker connector.

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(b) Measure the resistance of the speaker.

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
1 (-) - 2 (TWL-)*1 or (TWR-)*2	Always	Below 1 Ω
3 (+) - 4 (TWL+)*1 or (TWR+)*2	Always	Below 1 Ω
1 (-) - Body ground	Always	10 kΩ or higher
3 (+) - Body ground	Always	10 kΩ or higher

HINT:

***1: for LH**

***2: for RH**

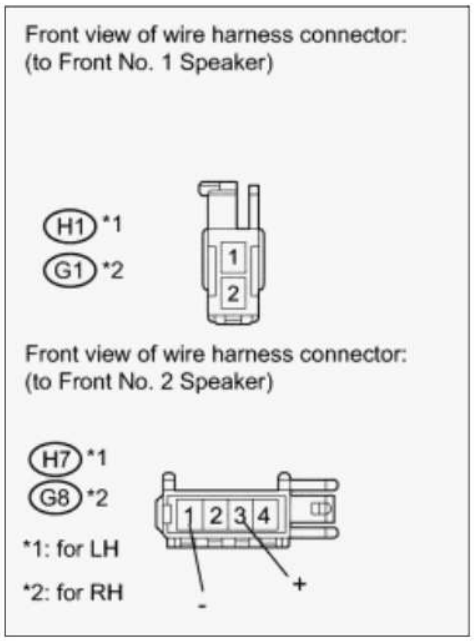
NG ▶ **REPLACE FRONT NO. 2 SPEAKER ASSEMBLY**

OK ▼

4.	**CHECK HARNESS AND CONNECTOR (FRONT NO. 1 SPEAKER - FRONT NO. 2 SPEAKER)**

(a) Disconnect the H1 and H7, or G1 and G8 speaker connectors.

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

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
H1-1 - H7-3 (+)	Always	Below 1 Ω
H1-1 - Body ground	Always	10 kΩ or higher
H1-2 - H7-1 (-)	Always	Below 1 Ω
H1-2 - Body ground	Always	10 kΩ or higher
G1-1 - G8-3 (+)	Always	Below 1 Ω
G1-1 - Body ground	Always	10 kΩ or higher
G1-2 - G8-1 (-)	Always	Below 1 Ω
G1-2 - Body ground	Always	10 kΩ or higher

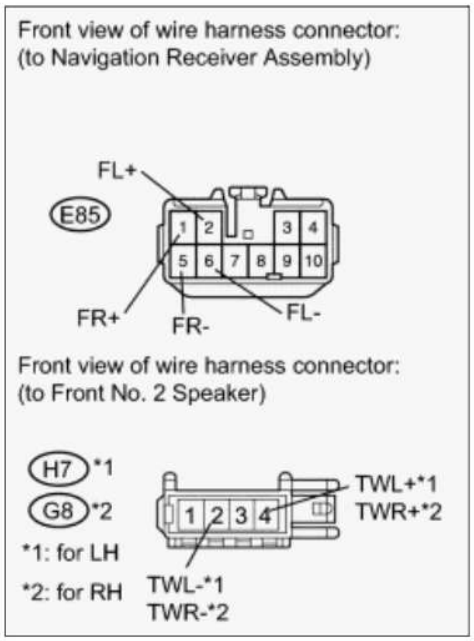
NG ▶ **REPAIR OR REPLACE HARNESS OR CONNECTOR**

OK ▶ **REPLACE FRONT NO. 1 SPEAKER ASSEMBLY**

5.	**CHECK HARNESS AND CONNECTOR (NAVIGATION RECEIVER ASSEMBLY - FRONT NO. 2 SPEAKER)**

(a) Disconnect the E85 receiver connector.

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(b) Disconnect the H7 or G8 speaker connector.

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

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
E85-1 (FR+) - G8-4 (TWR+)	Always	Below 1 Ω
E85-5 (FR-) - G8-2 (TWR-)	Always	Below 1 Ω
E85-1 (FR+) - Body ground	Always	10 kΩ or higher
E85-5 (FR-) - Body ground	Always	10 kΩ or higher
E85-2 (FL+) - H7-4 (TWL+)	Always	Below 1 Ω
E85-6 (FL-) - H7-2 (TWL-)	Always	Below 1 Ω
E85-2 (FL+) - Body ground	Always	10 kΩ or higher
E85-6 (FL-) - Body ground	Always	10 kΩ or higher

NG ▶ **REPAIR OR REPLACE HARNESS OR CONNECTOR**

OK ▼

6.	**INSPECT FRONT NO. 2 SPEAKER ASSEMBLY**

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(a) Check that the malfunction disappears when another speaker in good condition is installed.

OK:

Malfunction disappears.

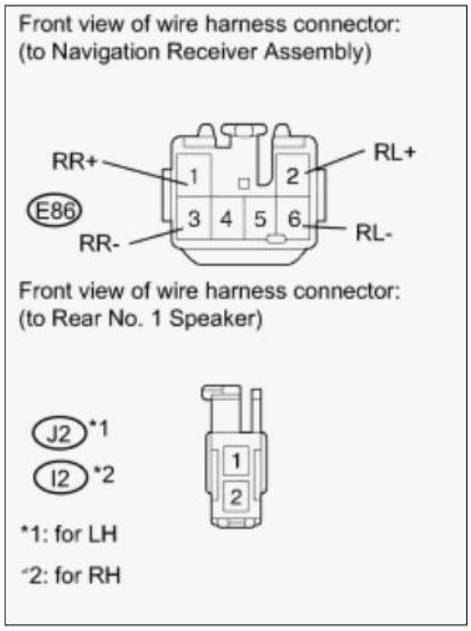
HINT:

- Connect all connectors to speakers.
- When there is a possibility that either the right or left front speaker is defective, inspect by interchanging the right one with the left one.

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

OK ▶ **REPLACE FRONT NO. 2 SPEAKER ASSEMBLY**

7.	**CHECK HARNESS AND CONNECTOR (NAVIGATION RECEIVER ASSEMBLY - REAR NO. 1 SPEAKER)**



(a) Disconnect the E86 receiver connector.

(b) Disconnect the J2 or I2 receiver connector.

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

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
E86-1 (RR+) - I2-1	Always	Below 1 Ω
E86-3 (RR-) - I2-2	Always	Below 1 Ω

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TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
E86-1 (RR+) - Body ground	Always	10 kΩ or higher
E86-3 (RR-) - Body ground	Always	10 kΩ or higher
E86-2 (RL+) - J2-1	Always	Below 1 Ω
E86-6 (RL-) - J2-2	Always	Below 1 Ω
E86-2 (RL+) - Body ground	Always	10 kΩ or higher
E86-6 (RL-) - Body ground	Always	10 kΩ or higher

NG ▶ **REPAIR OR REPLACE HARNESS OR CONNECTOR**

OK ▼

8.	**INSPECT REAR NO. 1 SPEAKER ASSEMBLY**

(a) Check the rear No. 1 speakers INFO .

OK:

Rear No. 1 speakers are normal.

NG ▶ **REPLACE REAR NO. 1 SPEAKER ASSEMBLY**

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

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Last Modified: 9-7-2011	6.4 J	**From:** 201008
Model Year: 2011	**Model:** RAV4	**Doc ID:** RM000002NNE0A6X
Title: NAVIGATION: NAVIGATION SYSTEM (w/ CD Player): Speed Signal Circuit (2011 RAV4)		

Speed Signal Circuit

DESCRIPTION

Navigation function:

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

ASL function:

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

HINT:

- A voltage of 12 V or 5 V is output from each ECU and then input to the combination meter. The signal is changed to a pulse signal at the transistor in the combination meter. 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, all systems in the diagram will not operate normally.

WIRING DIAGRAM



INSPECTION PROCEDURE

PROCEDURE

1.	**CHECK OPERATION OF SPEEDOMETER**

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(a) Drive the vehicle and check if the function of the speedometer in the combination meter is normal.

OK:

Actual vehicle speed and the speed indicated on the speedometer are the same.

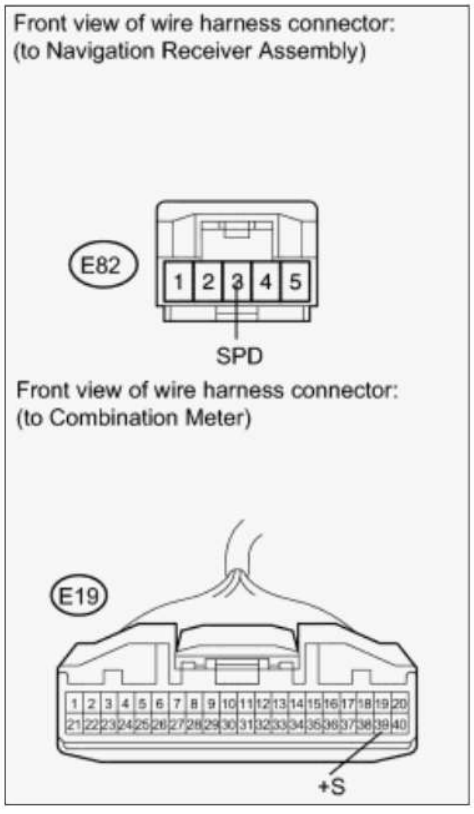
HINT:

The vehicle speed sensor is functioning normally when the indication on the speedometer is normal.

NG ▶ **GO TO METER / GAUGE SYSTEM**

OK ▼

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



(a) Disconnect the E82 navigation receiver assembly connector.

(b) Disconnect the E19 combination meter connector.

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

Standard Resistance:

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TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
E82-3 (SPD) - E19-39 (+S)	Always	Below 1 Ω

NG ▶ **REPAIR OR REPLACE HARNESS OR CONNECTOR**

OK ▶ **REPLACE NAVIGATION RECEIVER ASSEMBLY**

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Last Modified: 9-7-2011	6.4 J	**From:** 201008
Model Year: 2011	**Model:** RAV4	**Doc ID:** RM0000011FP0AVX
Title: NAVIGATION: NAVIGATION SYSTEM (w/ CD Player): Steering Pad Switch Circuit (2011 RAV4)		

Steering Pad Switch Circuit

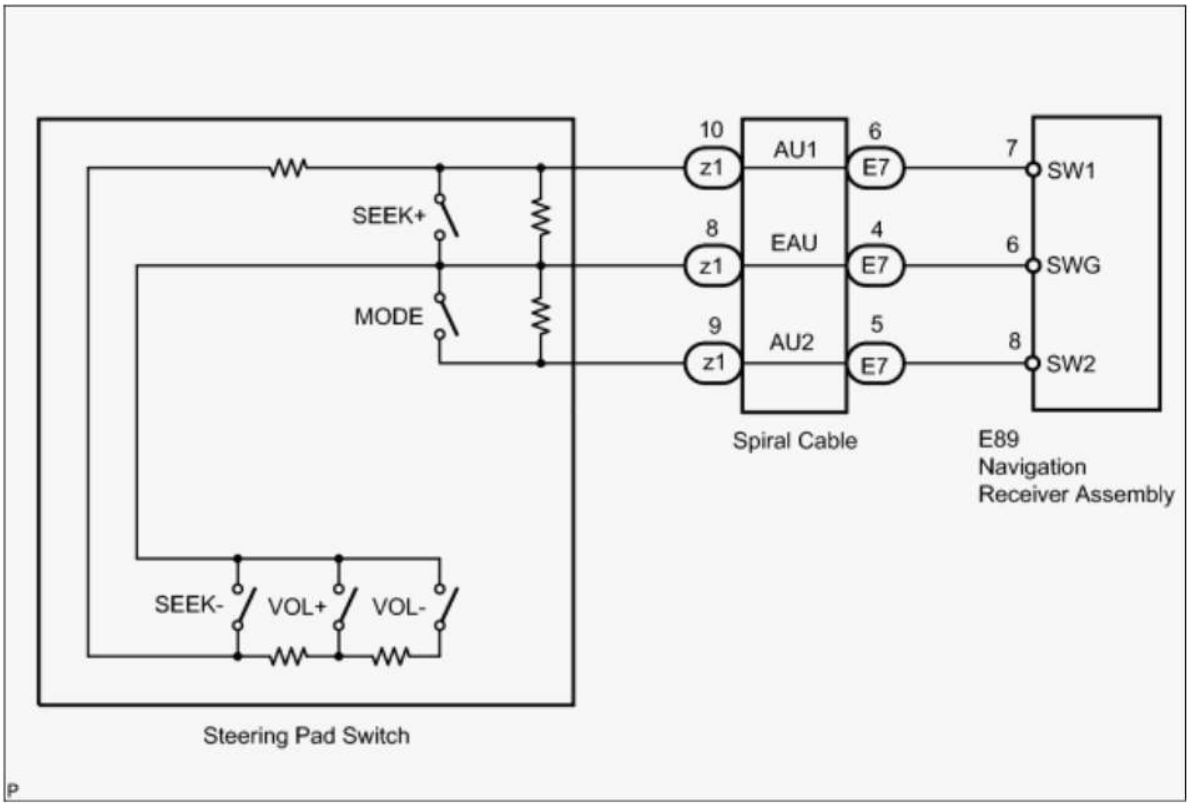
DESCRIPTION

This circuit sends an operation signal from the steering pad switch to the navigation receiver assembly.

If there is an open in the circuit, the navigation system cannot be operated using the steering pad switch.

If there is a short in the circuit, the resulting condition is the same as that when the switch were continuously pressed. Therefore, the navigation receiver assembly cannot be operated using the steering pad switch, and the navigation receiver assembly itself cannot function.

WIRING DIAGRAM



INSPECTION PROCEDURE

NOTICE:

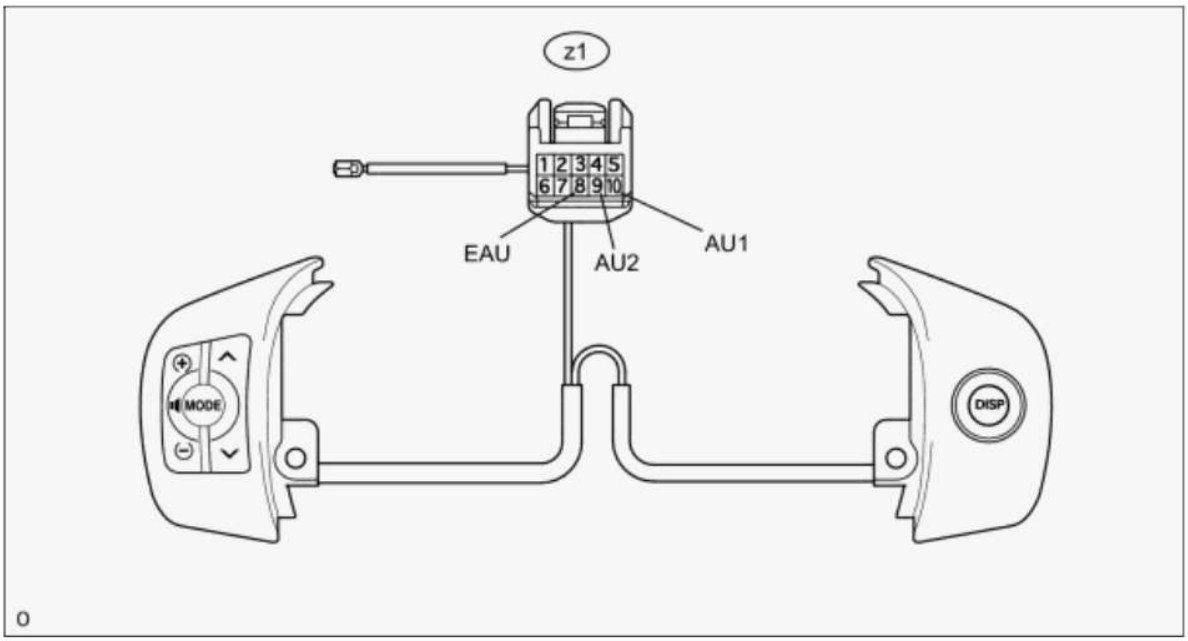
The vehicle is equipped with an SRS (Supplemental Restraint System) which includes components such as airbags. Before servicing (including removal or installation of parts), be sure to read the Precaution in the Supplemental Restraint System INFO **.**

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PROCEDURE

1.	**INSPECT STEERING PAD SWITCH ASSEMBLY**

(a) Disconnect the z1 steering pad switch assembly connector.



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

Standard Resistance:

TESTER CONNECTION	SWITCH CONDITION	SPECIFIED CONDITION
z1-10 (AU1) - z1-8 (EAU)	No switch is pushed	95 to 105 kΩ
z1-10 (AU1) - z1-8 (EAU)	SEEK+ switch: pushed	Below 2.5 Ω
z1-10 (AU1) - z1-8 (EAU)	SEEK- switch: pushed	312.5 to 345.5 Ω
z1-10 (AU1) - z1-8 (EAU)	VOL+ switch: pushed	950 to 1050 Ω
z1-10 (AU1) - z1-8 (EAU)	VOL- switch: pushed	2954.5 to 3265.5 Ω
z1-9 (AU2) - z1-8 (EAU)	No switch is pushed	95 to 105 kΩ
z1-9 (AU2) - z1-8 (EAU)	MODE switch: pushed	Below 2.5 Ω

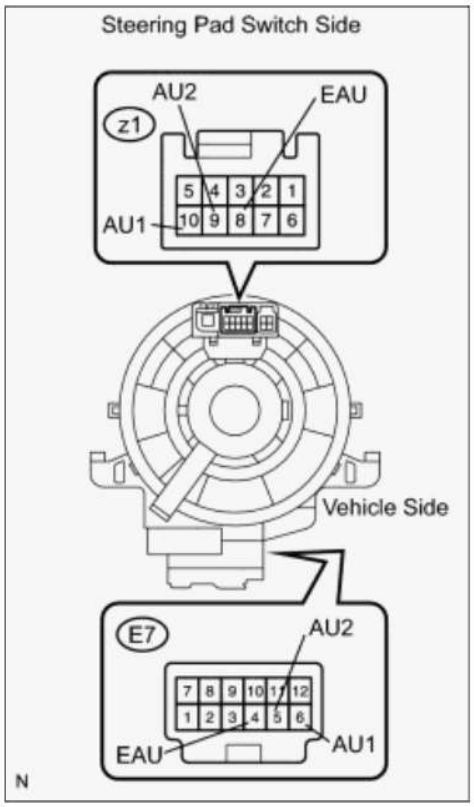
NG ▶ **REPLACE STEERING PAD SWITCH ASSEMBLY**

OK

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2.	**INSPECT SPIRAL CABLE**

(a) Disconnect the z1 steering pad switch connector.



(b) Disconnect the E7 spiral cable connectors.

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

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
E7-4 (EAU) - z1-8 (EAU)	Spiral cable is turned 2.5 rotations counterclockwise	Below 3 Ω
	Spiral cable is centered	
	Spiral cable is turned 2.5 rotations clockwise	
E7-5 (AU2) - z1-9 (AU2)	Spiral cable is turned 2.5 rotations counterclockwise	Below 3 Ω
	Spiral cable is centered	
	Spiral cable is turned 2.5 rotations clockwise	
E7-6 (AU1) - z1-10 (AU1)	Spiral cable is turned 2.5 rotations counterclockwise	Below 3 Ω

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TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
	Spiral cable is centered	
	Spiral cable is turned 2.5 rotations clockwise	

NOTICE:

The spiral cable is an important part of the SRS airbag system. Incorrect removal or installation of the spiral cable may cause airbag deployment. Be sure to refer to the "See page" shown in the brackets.

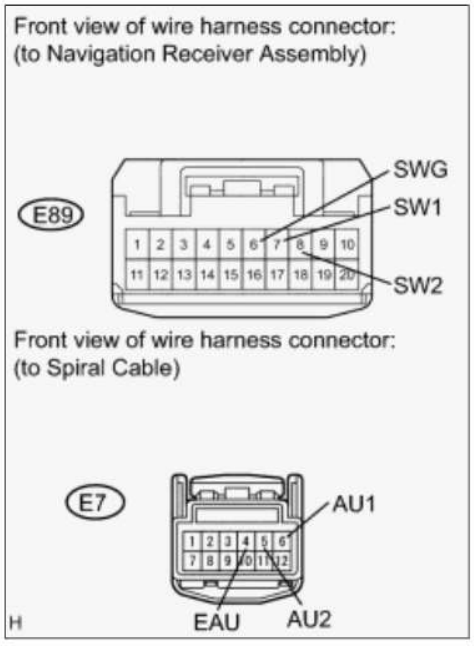
HINT:

- Removal INFO
- Installation INFO

NG ▶ **REPLACE SPIRAL CABLE**

OK ▼

3.	**CHECK HARNESS AND CONNECTOR (NAVIGATION RECEIVER ASSEMBLY - SPIRAL CABLE)**



(a) Disconnect the E89 receiver connector.

(b) Disconnect the E7 cable connector.

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

Standard Resistance:

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TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
E89-8 (SW2) - E7-5 (AU2)	Always	Below 1 Ω
E89-6 (SWG) - E7-4 (EAU)	Always	Below 1 Ω
E89-7 (SW1) - E7-6 (AU1)	Always	Below 1 Ω
E89-8 (SW2) - Body ground	Always	10 kΩ or higher
E89-6 (SWG) - Body ground	Always	10 kΩ or higher
E89-7 (SW1) - Body ground	Always	10 kΩ or higher

NG ▶ **REPAIR OR REPLACE HARNESS OR CONNECTOR**

OK ▶ **REPLACE NAVIGATION RECEIVER ASSEMBLY**

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Last Modified: 9-7-2011	6.4 D	**From:** 201008
Model Year: 2011	**Model:** RAV4	**Doc ID:** RM000000NY602RX
Title: NAVIGATION: NAVIGATION SYSTEM (w/ CD Player): SYSTEM DESCRIPTION (2011 RAV4)		

SYSTEM DESCRIPTION

1. NAVIGATION SYSTEM OUTLINE

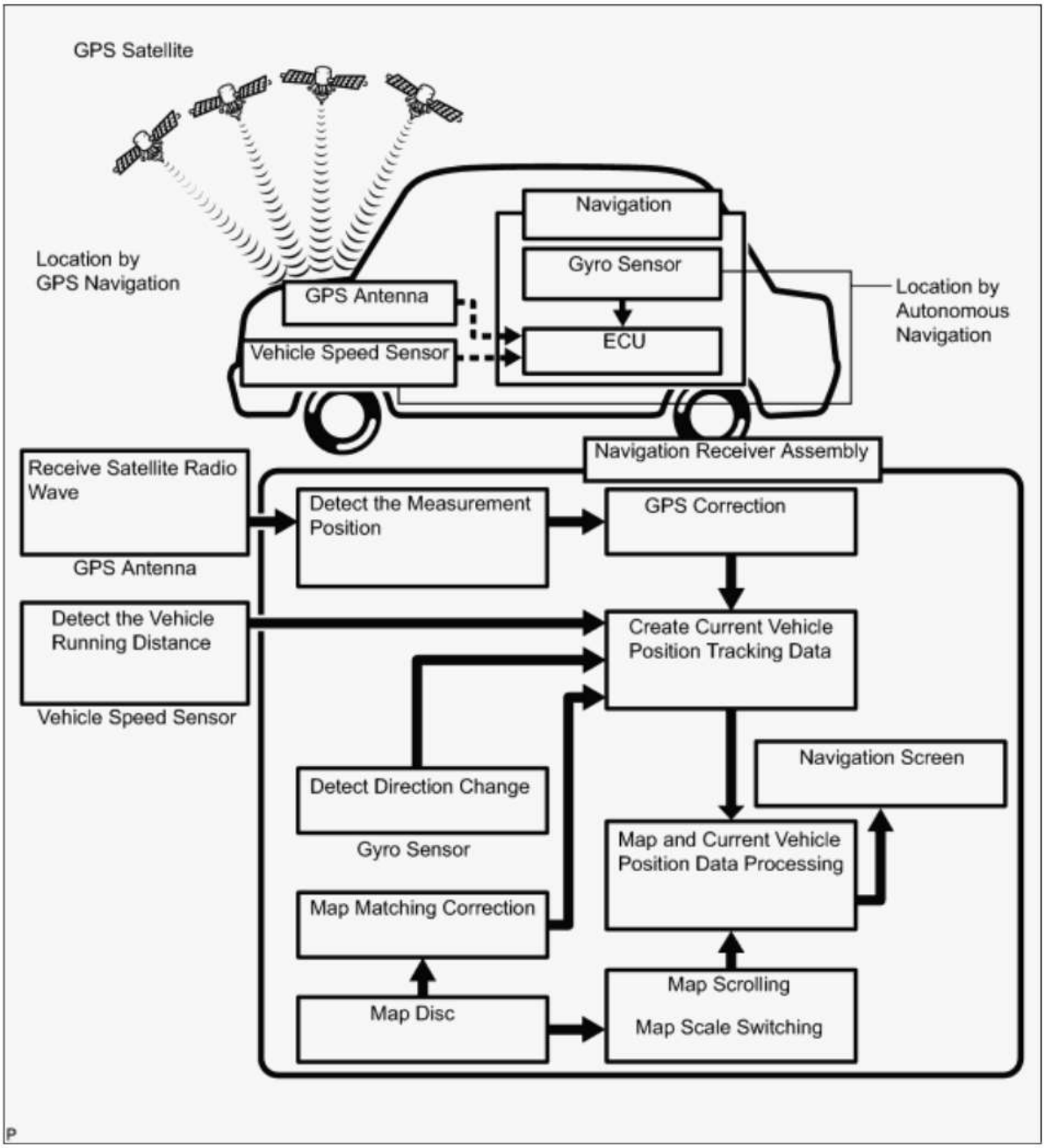
(a) Vehicle position tracking methods

(1) 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.

HINT:

***: GPS (Global Positioning System)**

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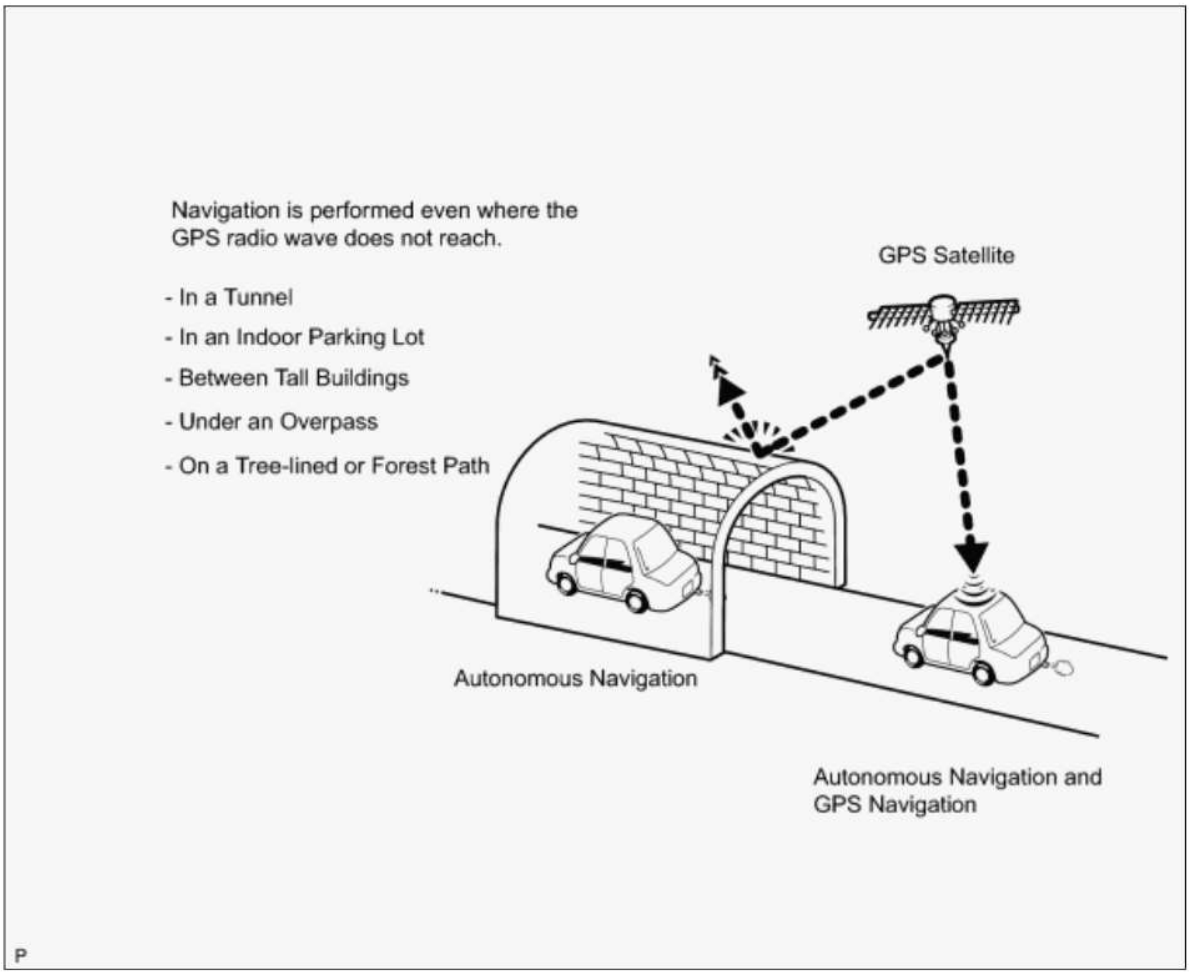
OPERATION	DESCRIPTION
Vehicle Position Calculation	The navigation receiver assembly calculates the current vehicle position (direction and current position) using the direction deviation signal from the gyro sensor and running distance signal from the vehicle speed sensor and creates the driving route.
Map Display Processing	The navigation receiver assembly processes the vehicle position data, vehicle running track, and map data from the map disc.
Map Matching	The map data from the map disc is compared to the vehicle position and running 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 measurement position data from the GPS unit is compared with the vehicle position and running track data. If the position is very different, the GPS measurement position is used.

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OPERATION	DESCRIPTION
Distance Correction	The running distance signal from the vehicle speed sensor includes error caused by tire wear and slippage between the tires and road surface. Distance correction is performed to account for this. The navigation ECU automatically offsets the running distance 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 the GPS radio wave cannot be received. When only autonomous navigation is used, the mapping accuracy may slightly decline.



(b) Autonomous navigation

This method determines the relative vehicle position based on the running track determined by the gyro and vehicle speed sensors located in the navigation receiver assembly.

(1) Gyro sensor

Calculates the direction by detecting angular velocity. It is located in the navigation receiver assembly.

(2) Vehicle speed sensor

Used to calculate the vehicle running distance.

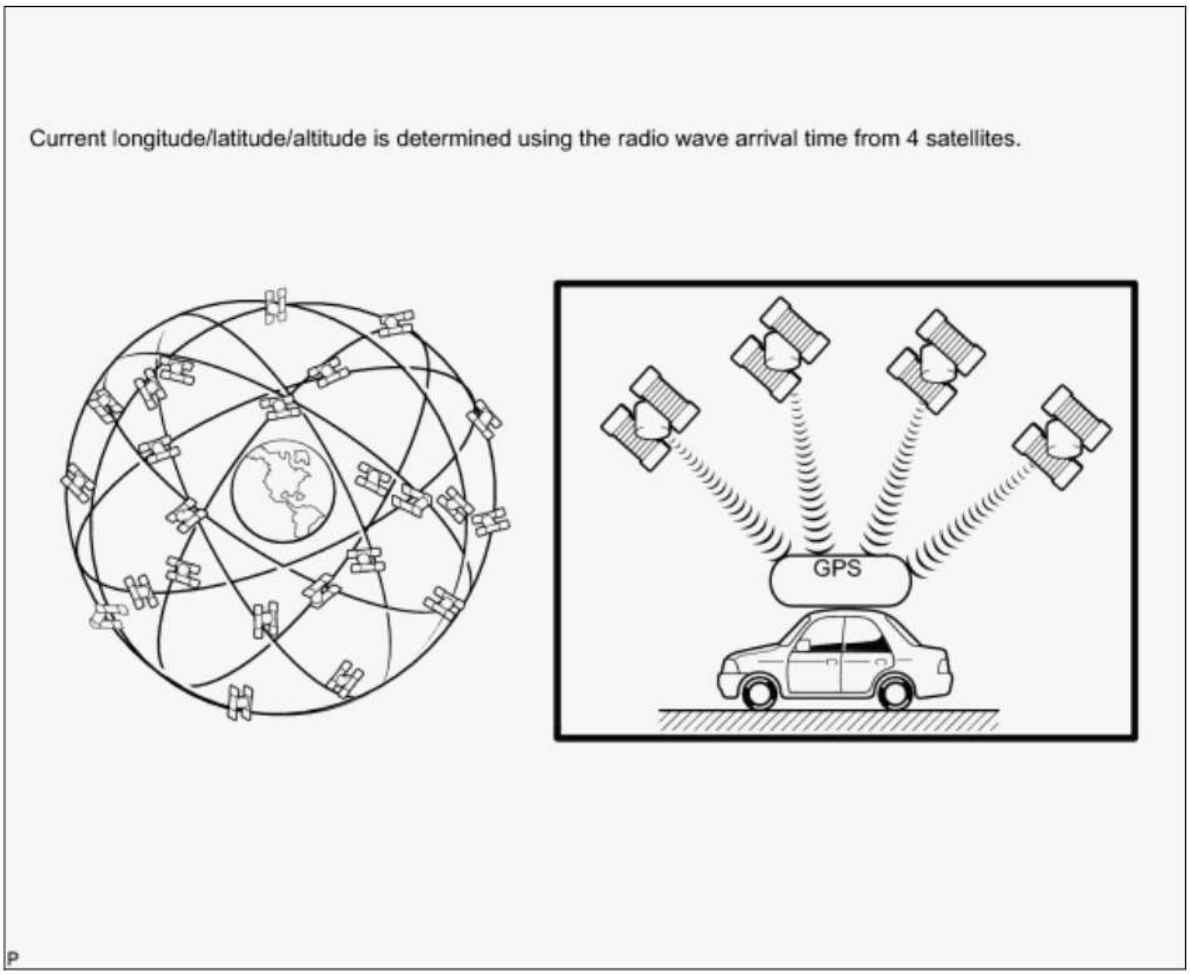
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(c) GPS navigation (satellite navigation)

This method detects the absolute vehicle position using radio waves from a GPS satellite*.

HINT:

***: GPS satellites were launched by the U.S. Department of Defense for military purposes.**

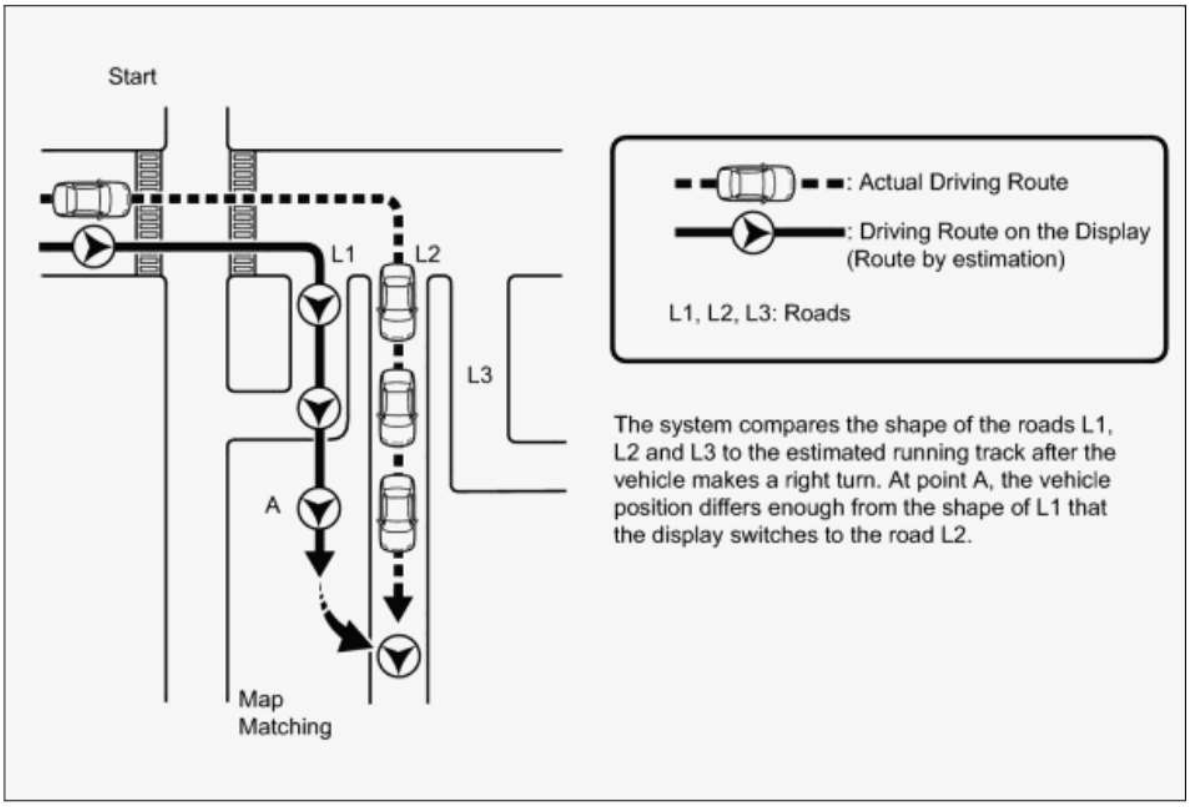


NUMBER OF SATELLITES	MEASUREMENT	DESCRIPTION
2 or less	Measurement impossible	The vehicle position cannot be obtained because the number of satellites is not enough.
3	2-dimensional measurement is possible	The vehicle position is obtained based on current longitude and latitude (this is less precise than 3-dimensional measurement).
4	3-dimensional measurement is possible	The vehicle position is obtained based on current longitude, latitude and altitude.

(d) Map matching

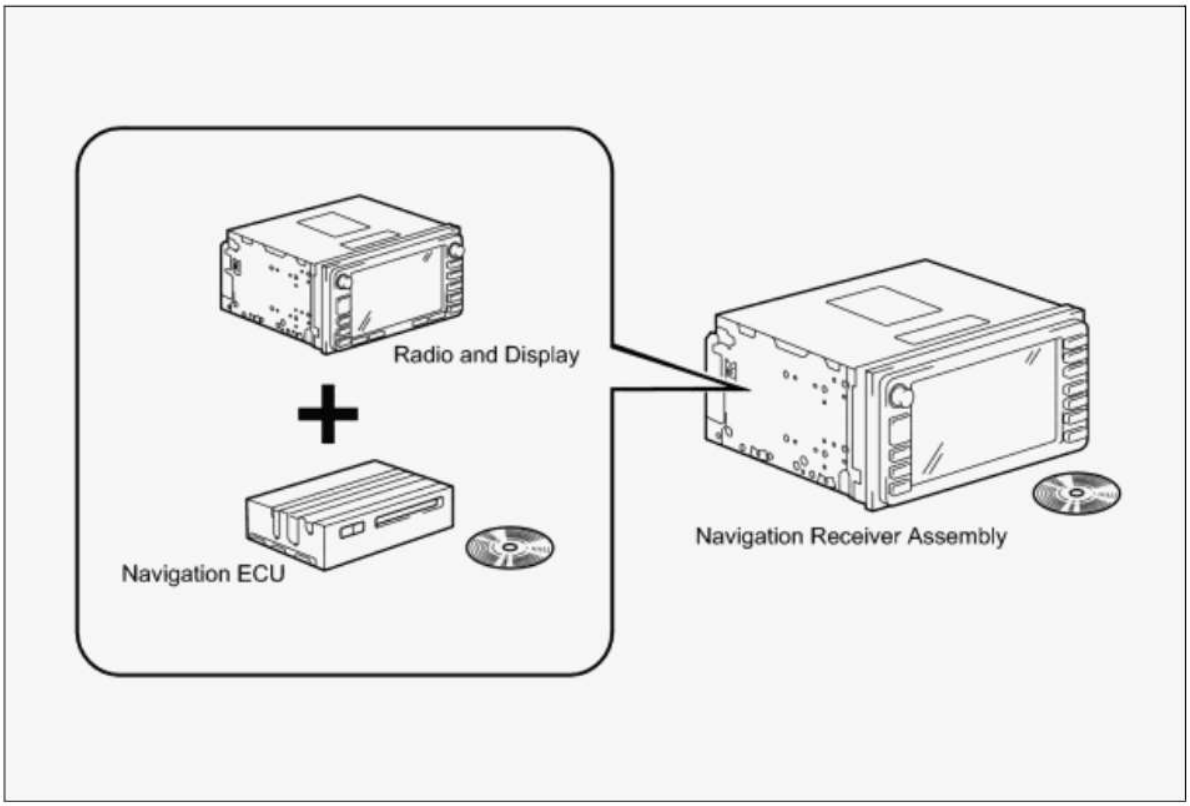
The current driving route is calculated by autonomous navigation (according to the gyro sensor and vehicle speed sensor) and GPS navigation. This information is then compared with possible road shapes from the map data in the map disc and the vehicle position is set onto the most appropriate road.

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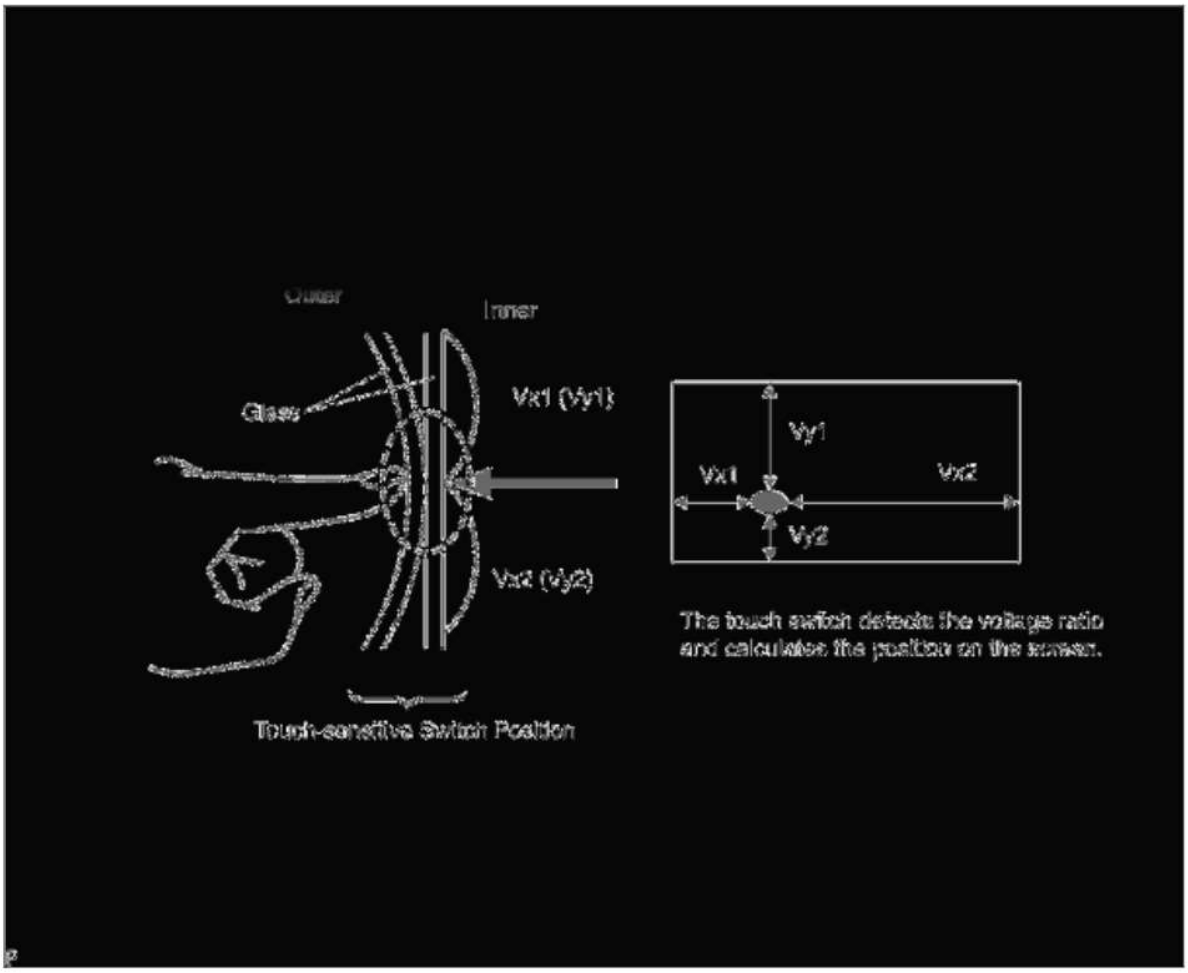
2. NAVIGATION RECEIVER ASSEMBLY OUTLINE

(a) Conventionally, 2 separate devices, a "radio and display" and a "navigation ECU" are used. This model combines these devices into a signal unit.



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(b) Touch switches are touch-sensitive (interactive) switches operated by touching the screen. When a switch is pressed, the outer glass bends to contact the inner glass at the pressed position. By doing this, the voltage ratio is measured and the pressed position is detected.



3. DVD (Digital Versatile Disc) PLAYER OUTLINE (for Navigation Map)

(a) The navigation receiver assembly (built-in navigation ECU) uses a laser pickup to read the digital signals recorded on a DVD.

CAUTION:

Because the navigation system uses an invisible laser beam, do not look directly at the laser pickup. Be sure to only operate the navigation as instructed.

NOTICE:

- Do not disassemble any part of the navigation receiver assembly (built-in navigation ECU).
- Do not apply oil to the navigation receiver assembly (built-in navigation ECU).
- Do not insert anything but a DVD into the navigation receiver assembly (built-in navigation ECU).

4. 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 other content.

NOTICE:

- Do not disassemble any part of the CD player.
- Do not apply oil to the CD player.

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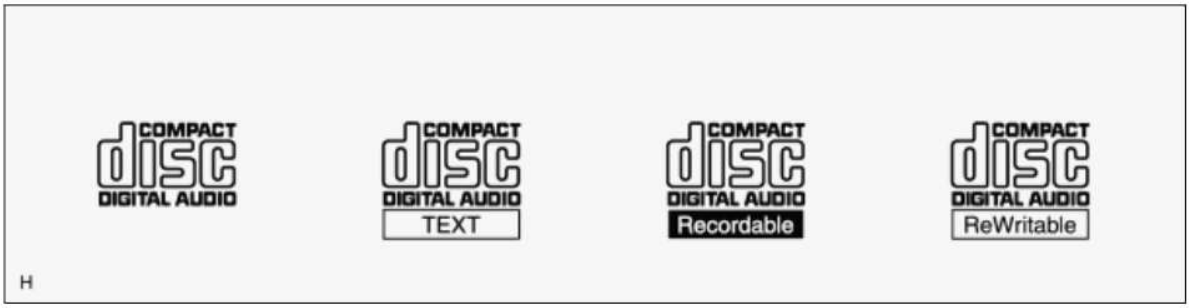
- Do not insert anything but a CD into the CD player.

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.

(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 mate 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, CDR 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.

HINT:

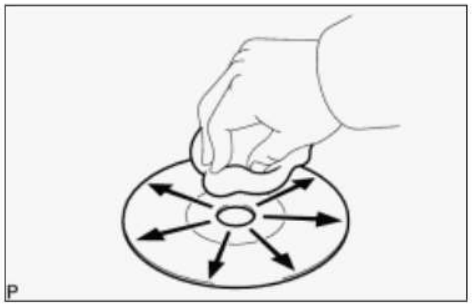
- When it is cold or it is raining, if the windows mist up, mist and condensation may form in the player. In such cases, the CD may skip or stop in the middle of play. Ventilate or dehumidify the cabin for a while before using the player.
- The CD may skip if the player experiences strong vibrations when the vehicle is driven on rough roads or similar uneven surface(s).

(d) Cleaning

NOTICE:

Do not use a lens cleaner because it may cause a malfunction in the pickup portion of the player.

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(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 solvent such as a record spray, antistatic agent, alcohol, benzine, and thinner, or a chemical cloth may cause damage to the disc, making the disc unusable.

5. MP3/WMA OUTLINE

(a) Playable MP3 file standards

COMPATIBLE STANDARD	MP3 (MPEG1 LAYER3, MPEG2 LSF LAYER 3)
Compatible sampling frequency	• MPEG1 LAYER3: 44.1, 48 (kHz) • MPEG2 LSF LAYER3: 16, 22.05, 24 (kHz)
Compatible bit rate	• MPEG1 LAYER3: 64, 80, 96, 112, 128, 160, 192, 224, 256, 320 (kbps) • MPEG2 LSF LAYER3: 64, 80, 96, 112, 128, 144, 160 (kbps) • Compatible with VBR
Compatible channel mode	Stereo, joint stereo, dual channel, monaural

(b) Playable WMA file standards

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

(c) ID3 tag and WMA tag

(1) Additional textual information called ID3 tag can be input to MP3 files. Information such as song titles and artist names can be stored.

HINT:

This player is compatible with the ID3 tags of ID3 Ver. 1.0 and 1.1, and ID3 Ver. 2.2 and 2.3. (Number of characters complies with ID3 Ver. 1.0 and 1.1.)

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

(d) Usable media

(1) Only CD-ROMs, CD-Rs (CD-Recordable), and CD-RWs (CD-ReWritable) can be used to play MP3/WMA

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files.

NOTICE:

- CD-Rs and CD-RWs are more easily affected by a hot and humid environment than discs used for normal audio CDs. For this reason, some CD-Rs and CD-RWs may not be played.
- If there are fingerprints or scratches on the disc, the disc may not be played or the CD may skip.
- Some CD-Rs and CD-RWs deteriorate if they are left in the cabin for a long time.
- Keep CD-Rs and CD-RWs in a storage case that is impenetrable to light.

(e) Usable media format

(1) Usable media format

Disc format	CD-ROM Mode 1, CD-ROM XA Mode 2 Form 1
File format	ISO 9660 Level 1 and Level 2 (Joliet, Romeo)

HINT:

- As for MP3/WMA files written in any format other than those above, the contents of the files may not be 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 files are added. However, only the first session can be played.
- Discs whose first session includes both music data and MP3 or WMA format data cannot be played.

(2) Standard 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, route folders, and folders that do not contain MP3/WMA files)
Maximum number of files in a disc	255 (Including non-MP3/WMA files)

(f) File names

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

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

NOTICE:

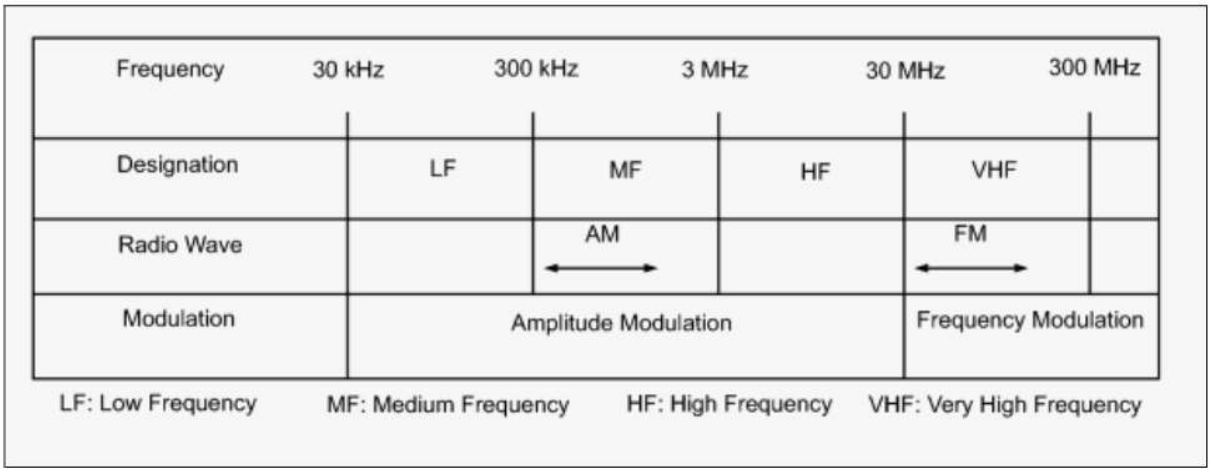
If saving non-MP3 or non-WMA files with an extension of ".mp3" or ".wma", those files are wrongly recognized as MP3 or WMA files and played. A loud noise may occur and damage to the speaker may result.

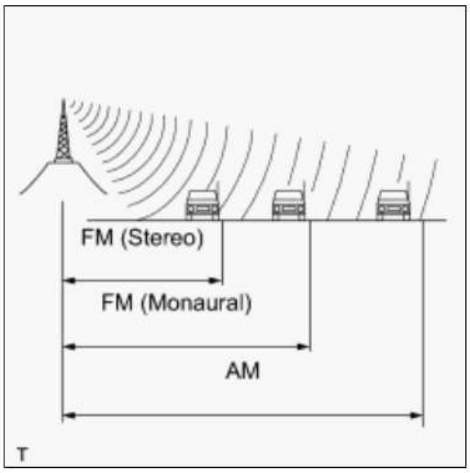
6. RADIO DESCRIPTION

(a) Radio frequency band

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

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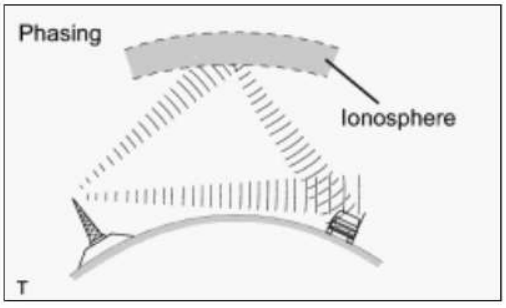
(b) Service area

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

(c) Radio reception problems

HINT:

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



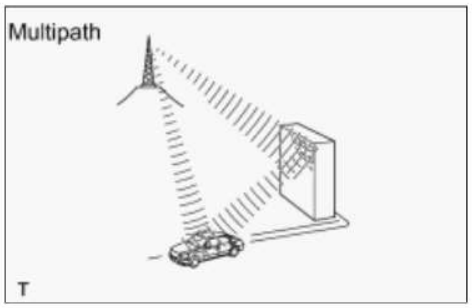
(1) Phasing

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

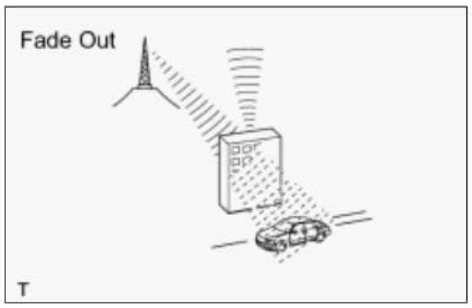
(2) Multipath

Multipath is a type of interference created when a vehicle receives 2 radio wave signals from the same transmitter.

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One signal is reflected off buildings or mountains and the other signal is received directly from the transmitter.



(3) Fade out

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

(d) Noise problem

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

RADIO FREQUENCY	NOISE OCCURRENCE CONDITION	PRESUMABLE CAUSE
AM	Noise occurs in a specified area	Foreign noise
AM	Noise occurs when listening to an intermittent broadcast	An identical program transmitted from multiple towers can cause noise where the signals overlap
AM	Noise occurs only at night	Music beat from a distant broadcast
FM	Noise occurs while driving in a specified area	Multipath or phasing noise resulting from a change in FM frequency

HINT:

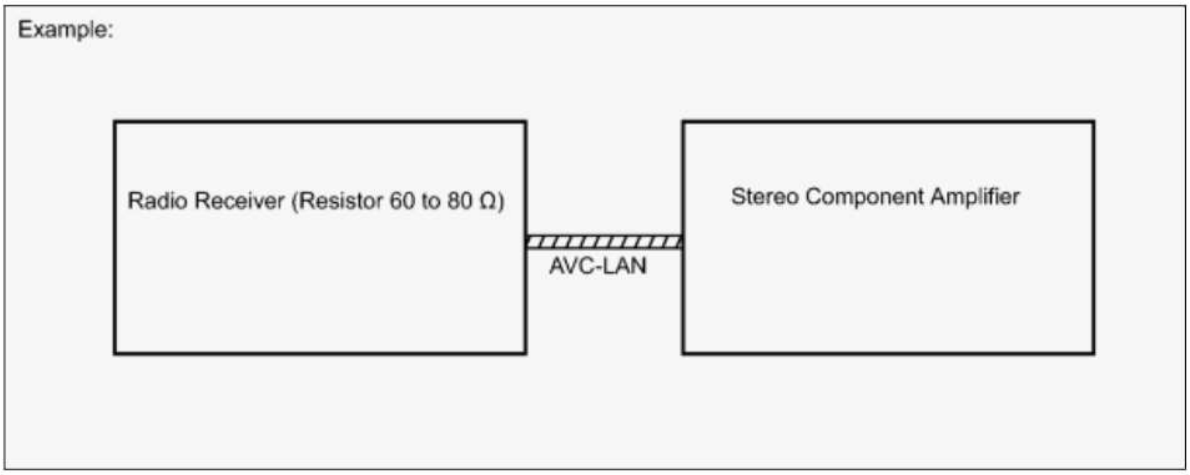
If the noise does not match the examples above, refer to the descriptions about phasing and multipath.

7. AVC-LAN DESCRIPTION

(a) What is AVC-LAN?

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

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(b) Purpose:

Recently, car audio systems have rapidly developed and the functions have vastly changed. The conventional car audio system is being integrated with multimedia interfaces similar to those in navigation systems. At the same time, customers are demanding higher quality from their audio systems. This is merely an overview of the standardization background. The specific purposes are as follows:

(1) To solve sound problems, etc. caused by using components of different manufacturers through signal standardization.

(2) To allow each manufacturer to concentrate on developing products they do best. From this, reasonably priced products can be produced.

HINT:

- If a short to +B or short to ground is detected in the AVC-LAN circuit, communication is interrupted and the navigation system will stop functioning.
- The multi-display unit acts as the master unit.

8. COMMUNICATION SYSTEM OUTLINE

(a) Components of the navigation system communicate with each other via the AVC-LAN.

(b) The navigation receiver assembly has enough resistance (60 to 80 Ω) necessary for transmitting communication signals. This is essential for communication.

(c) If a short circuit or open circuit occurs in the AVC-LAN circuit, communication is interrupted and the navigation system will stop functioning.

9. DIAGNOSTIC FUNCTION OUTLINE

(a) The navigation system has a diagnostic function (the result is indicated on the master unit).

(b) Each component has a specified number (3-digit) called a physical address. Each function has a number (2-digit) called a logical address.

(c) A 3-digit hexadecimal component code (physical address) is allocated to each component on the AVC-LAN. Using this code, the component in the diagnostic function can be displayed.

10. DIAGNOSIS DISPLAY DETAILED DESCRIPTION

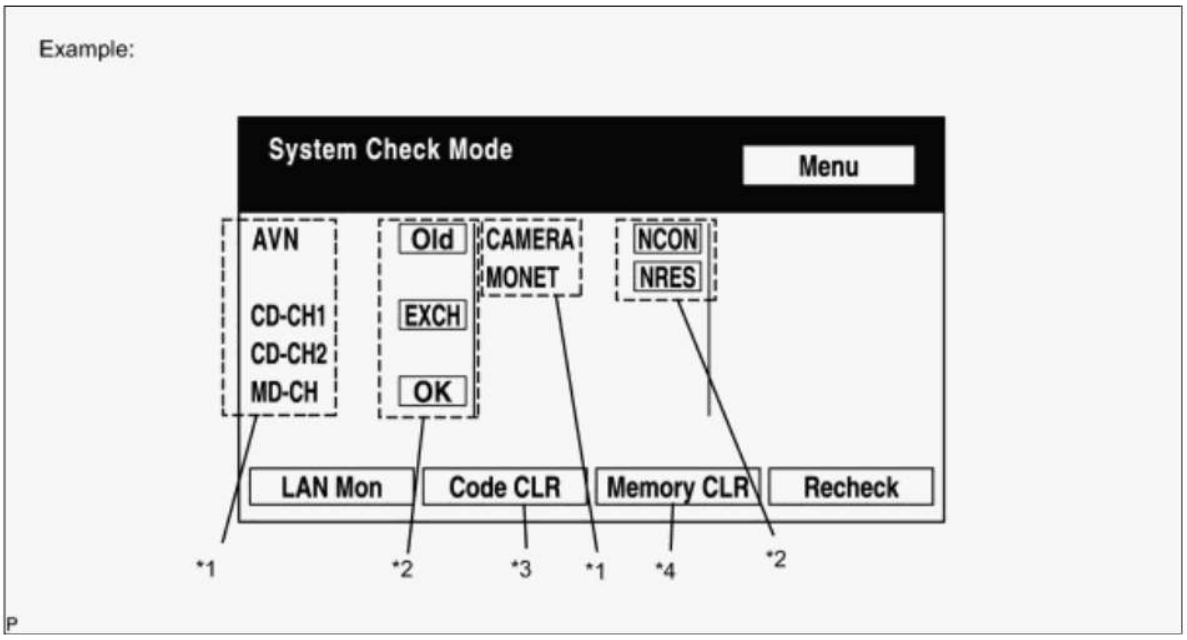
HINT:

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

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(a) SYSTEM CHECK

(1) System Check Mode Screen



*1: Device Names and Hardware Address

HINT:

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

ADDRESS NO.	NAME	ADDRESS NO.	NAME
110	EMV	120	AVX
128	1DIN TV	140	AVN
144	G-BOOK	178	NAVI
17C	MONET	190	AUDIO H/U
1AC	CAMERA-C	1B0	Rr-TV
1C0	Rr-CONT	19D	BT-HF
1C4	PANEL	1C6	G/W
1C8	FM-M-LCD	1D8	CONT-SW
1EC	Body	118	EMVN
1F1	XM	1F2	SIRIUS
230	TV-TUNER	240	CD-CH2
250	DVD-CH	280	CAMERA
360	CD-CH1	3A0	MD-CH
17D	TEL	440	DSP-AMP

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ADDRESS NO.	NAME	ADDRESS NO.	NAME
530	ETC	1F6	RSE
1A0	DVD-P	1D6	CLOCK
238	DTV	480	AMP

*2: Check Result

HINT:

Result codes for all devices are displayed.

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

*3: Code Clear

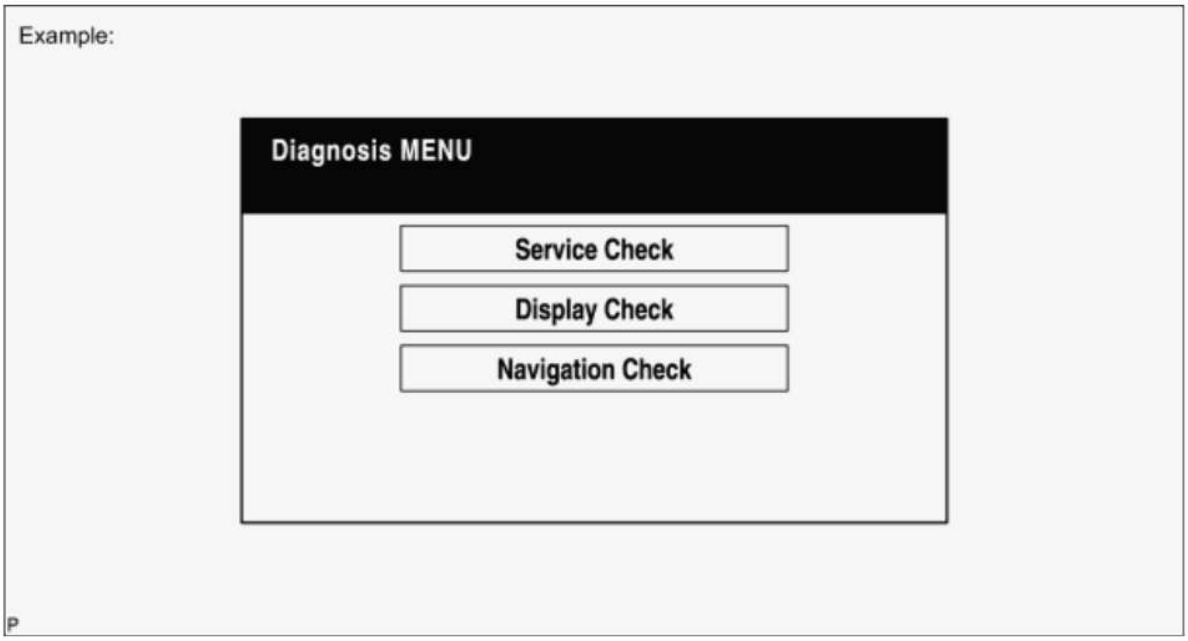
- Present DTCs are cleared.
- Press the "Code CLR" switch for 3 seconds.

*4: Memory Clear

- Present and past DTCs and registered connected device names are cleared.
- Press the "Memory CLR" switch for 3 seconds.

(2) Diagnosis MENU Screen

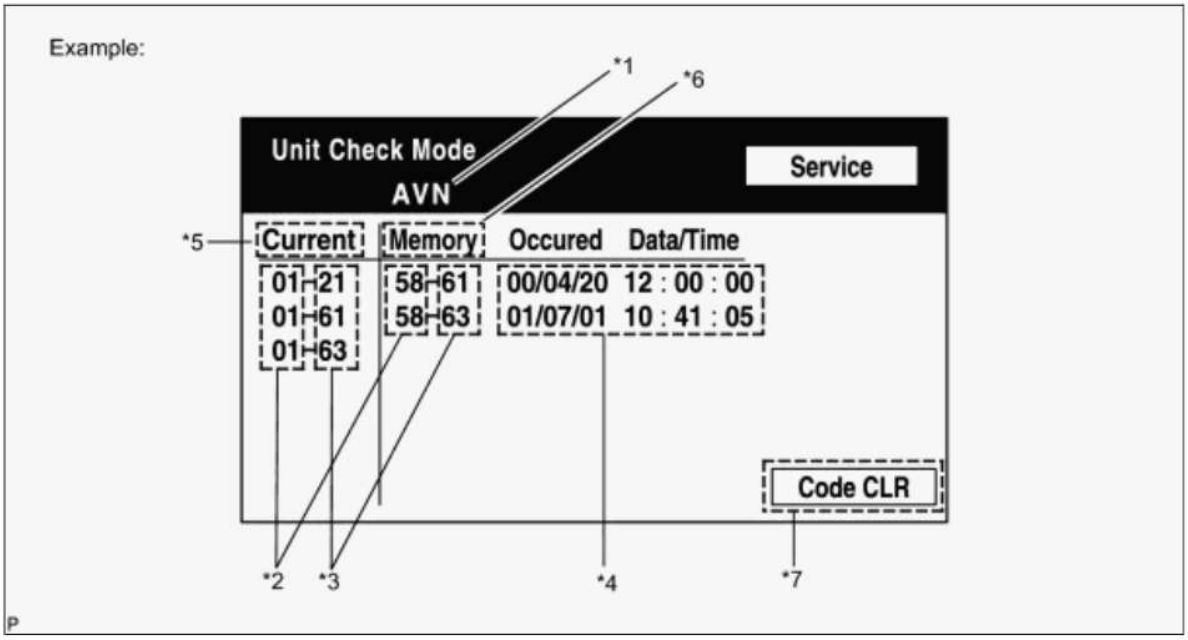
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HINT:

Some items may be grayed out or not displayed, as the functions are different depending on the vehicle.

(3) Unit Check Mode Screen



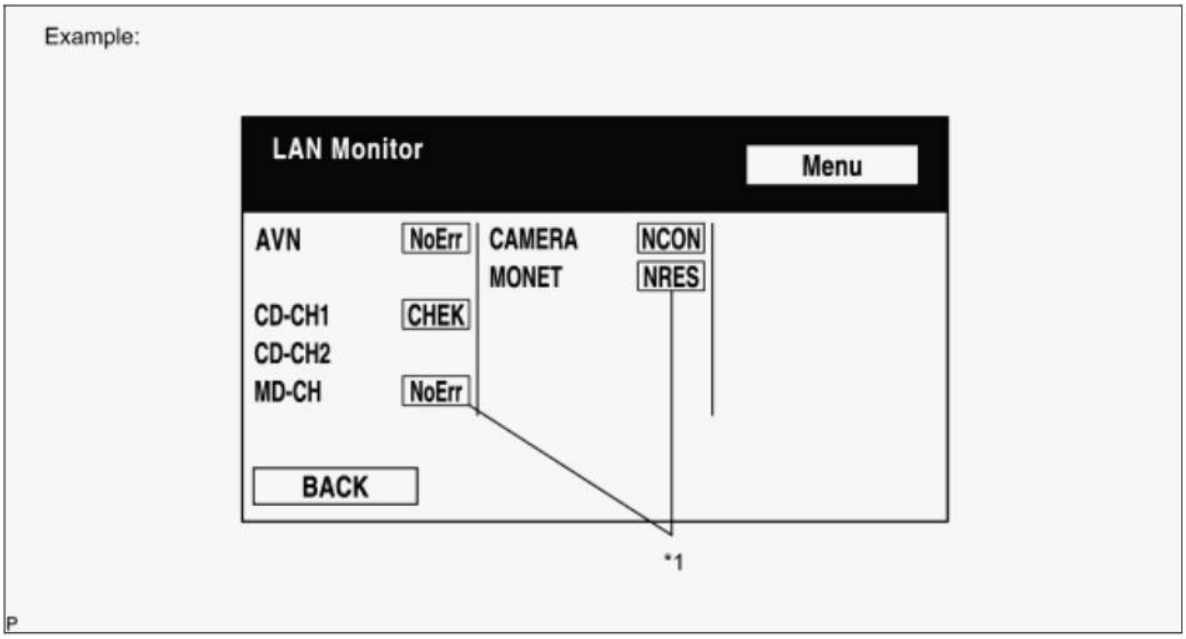
Screen Description

DISPLAY	CONTENT
*1: Device name	Target device
*2: Segment	Target device logical address
*3: DTC	DTC (Diagnostic Trouble Code)

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DISPLAY	CONTENT
*4: Timestamp	Time and date of past DTCs are displayed (year is displayed in 2-digit format).
*5: Present Code	DTCs output at service check are displayed.
*6: Past Code	Diagnostic memory results and stored DTCs are output.
*7: Diagnosis Clear Switch	Pushing this switch for 3 seconds clears diagnostic memory data of target device (responses to diagnostic system check result and displayed data are cleared).

(4) LAN Monitor (Original) Screen



*1: Check Result

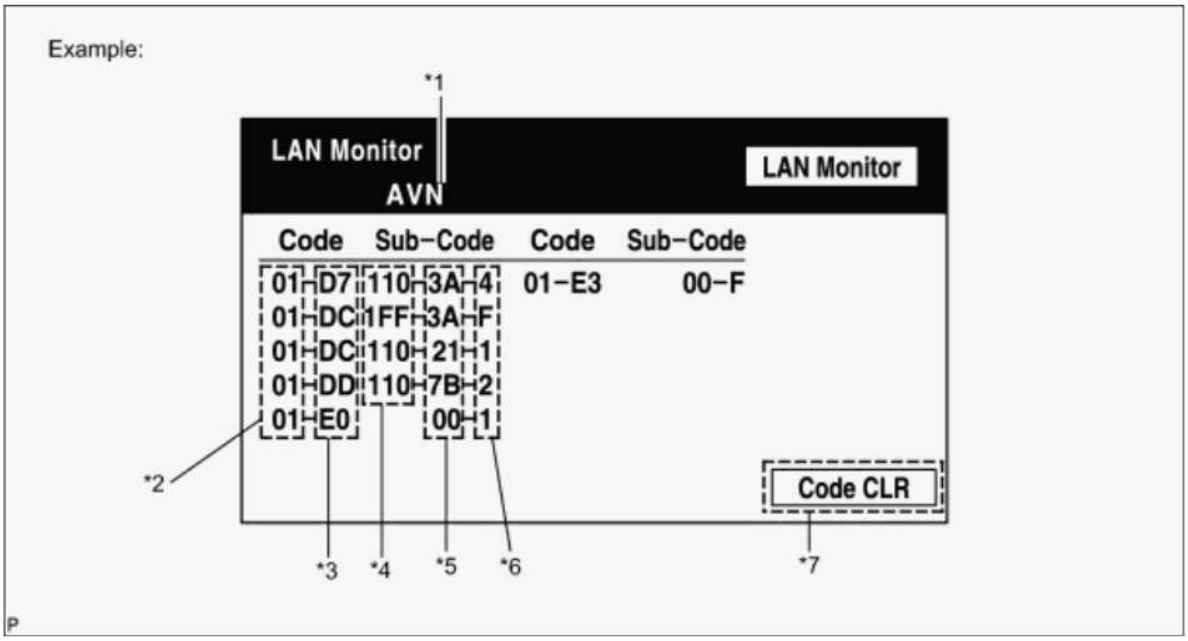
HINT:

Check results of all the devices are displayed.

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

(5) LAN Monitor (Individual) Screen

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Screen Description

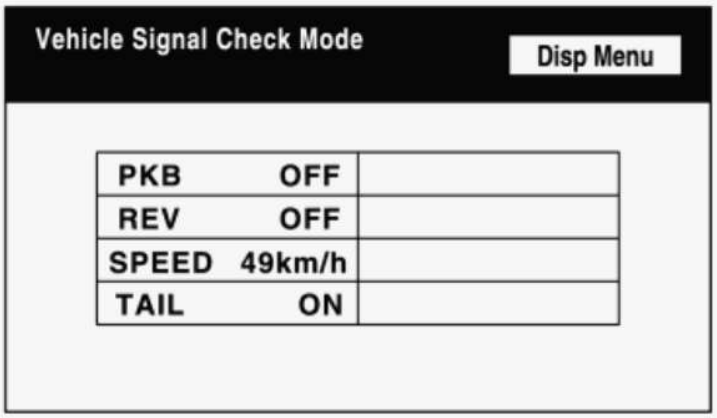
DISPLAY	CONTENT
*1: Device name	Target device
*2: Segment	Target logical address
*3: DTC	DTC (Diagnostic Trouble Code)
*4: Sub-code (device address)	Physical address stored with DTC (if there is no address, nothing is displayed).
*5: Connection check No.	Connection check number stored with DTC
*6: DTC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

(b) DISPLAY CHECK

(1) Vehicle Signal Check Mode Screen

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Example:



Screen Description

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

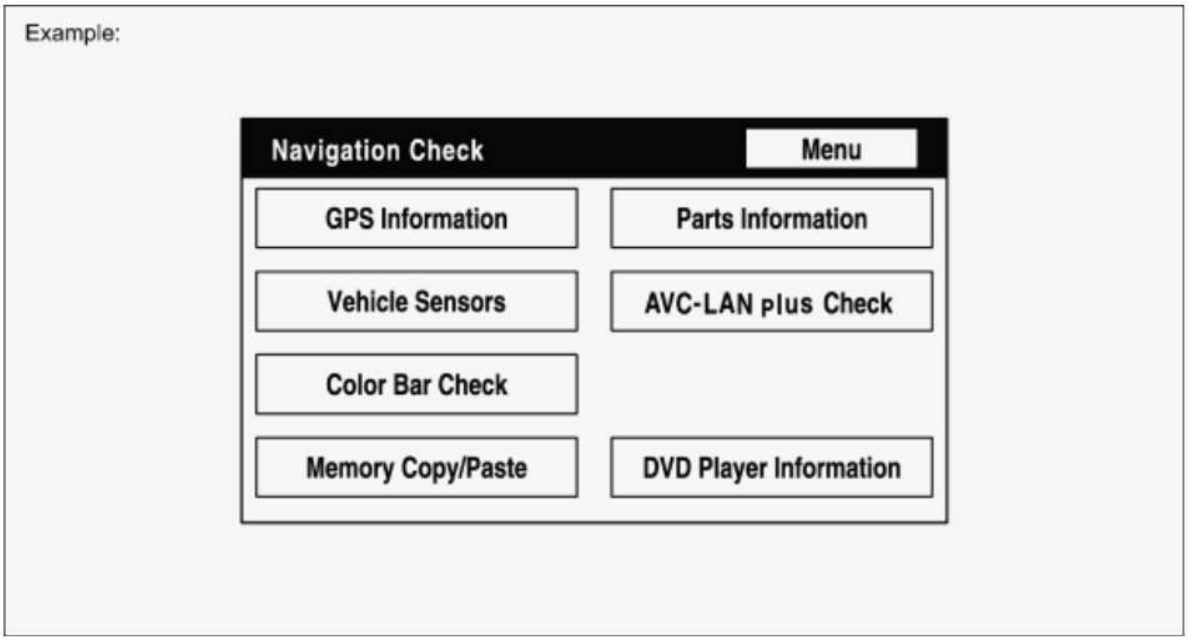
HINT:

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

(c) NAVIGATION CHECK

(1) Navigation Check Screen

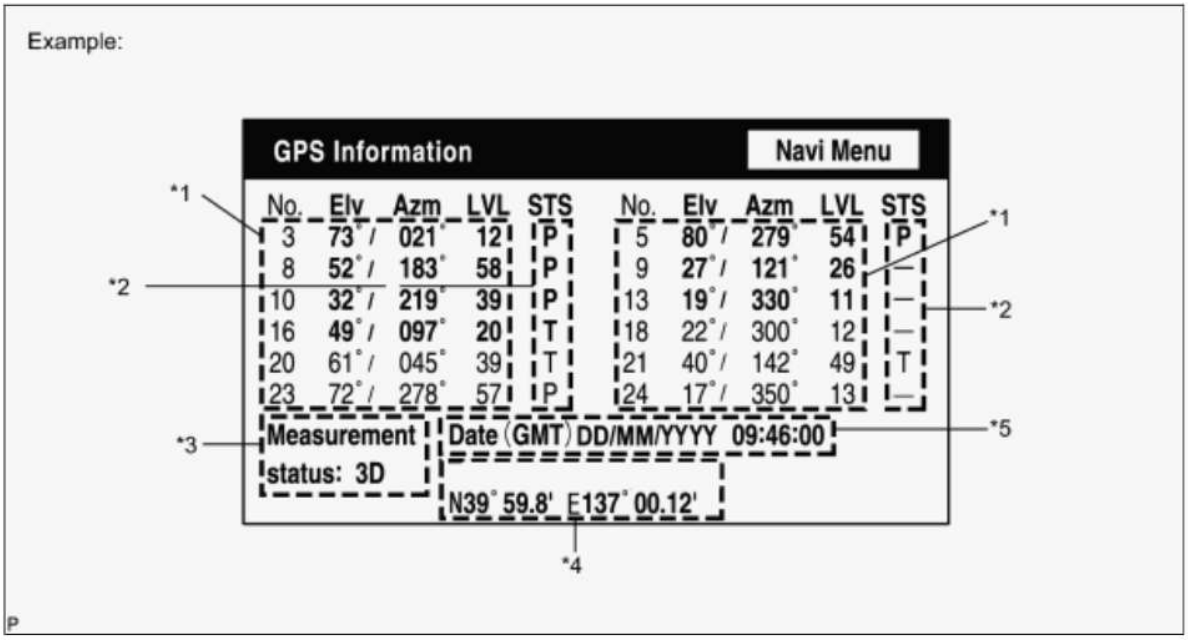
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HINT:

Some items may be grayed out or not displayed, as the functions are different depending on the vehicle.

(2) GPS Information Screen



*1: Satellite information

Information from a maximum of 12 satellites is displayed on the screen. This information includes the target GPS satellite number, elevation angle, direction, and signal level.

*2: Receiving condition

DENSO Model

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DISPLAY	CONTENT
T	System is receiving GPS signal, but is not using it for location.
P	System is using GPS signal for location.
-	System cannot receive GPS signal.

AISIN AW Model

DISPLAY	CONTENT
01H	System cannot receive a GPS signal.
02H	System is tracing a satellite.
03H	System is receiving a GPS signal, but is not using it for location.
04H	System is using the GPS signal for location.

*3: Measurement information

DISPLAY	CONTENT
2D	2-dimensional location method is being used.
3D	3-dimensional location method is being used.
NG	Location data cannot be used.
Error	Reception error has occurred.
-	Any other state.

*4: Position information

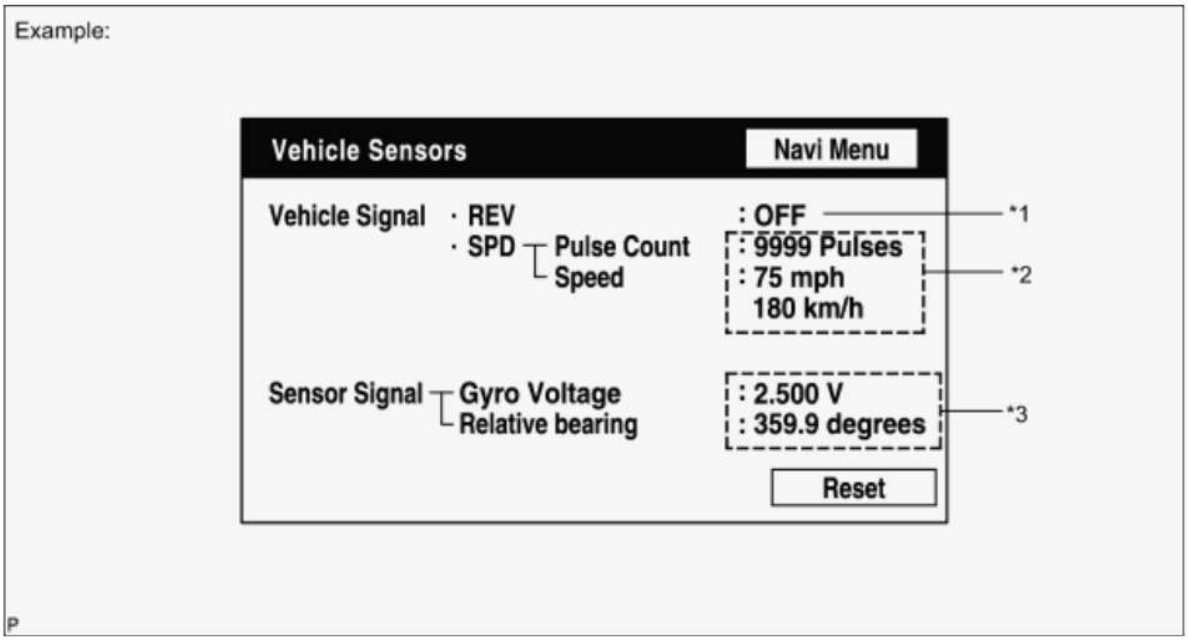
DISPLAY	CONTENT
Position	Latitude and longitude information on current position is displayed.

*5: Date information

DISPLAY	CONTENT
Date	Date/time information obtained from GPS signal is displayed in Greenwich mean time (GMT). Last 4 digits are displayed.

(3) Vehicle Sensors Screen

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Vehicle Signal

DISPLAY	CONTENT
*1: REV	REV signal ON/OFF state is displayed.
*2: SPD	SPD signal condition is displayed.

Sensor Signal

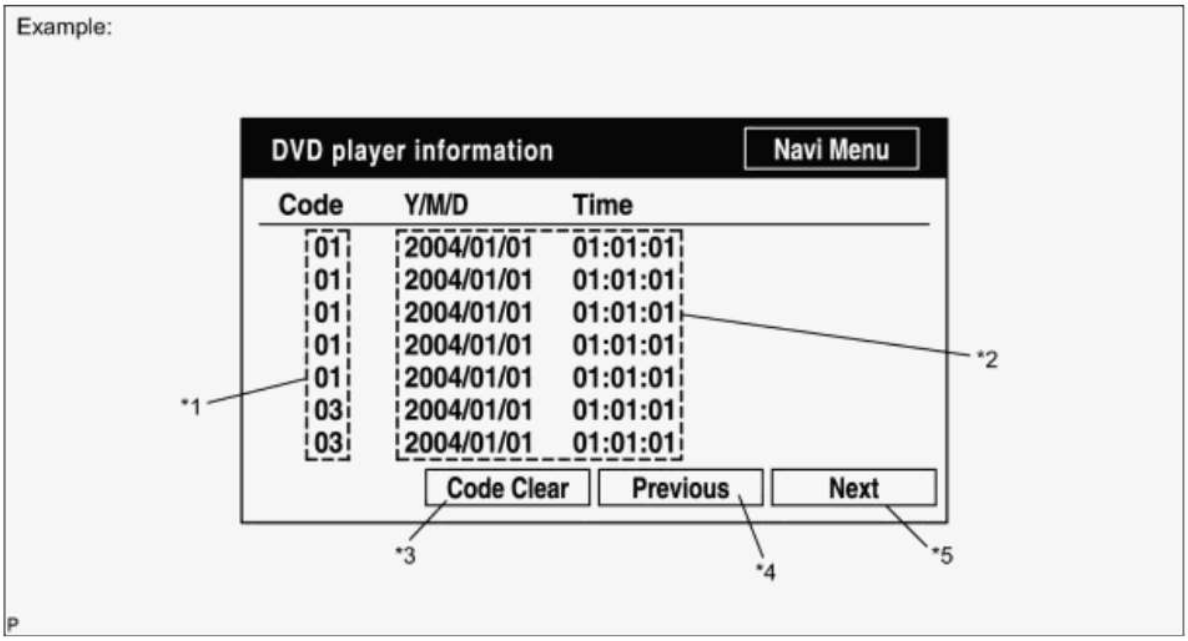
DISPLAY	CONTENT
*3: Gyro sensor	Gyro sensor output condition is displayed (when vehicle is driven straight or is stationary, voltage is approximately 2.5 V).

HINT:

Signals are updated once per second only when vehicle sensor signals are changed.

(4) DVD player information Screen

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Screen Description

DISPLAY	CONTENTS
*1: Trouble code	Each code corresponding to malfunctions is displayed. For details, refer to "Trouble Code Description".
*2: Occurrence time	• Date (year, month, day) and time (hour, minute, second) when trouble code was stored are displayed as time stamp (Greenwich mean time). • Time data to be displayed is received from GPS receiver.
*3: Trouble code clear switch	All code data being displayed is cleared by pushing this switch for 3 seconds.
*4: Returning switch	Previous page is displayed. If current displayed page is first page, this switch cannot be operated.
*5: Proceeding switch	Next page is displayed. If current displayed page is last page, this switch cannot be operated.

Trouble Code Description

CODE	MALFUNCTION	COUNTERMEASURE
01	Cannot be recognized	Replace navigation receiver assembly.
03	Cannot be read	Follow inspection procedure for DTC 58-42 INFO .

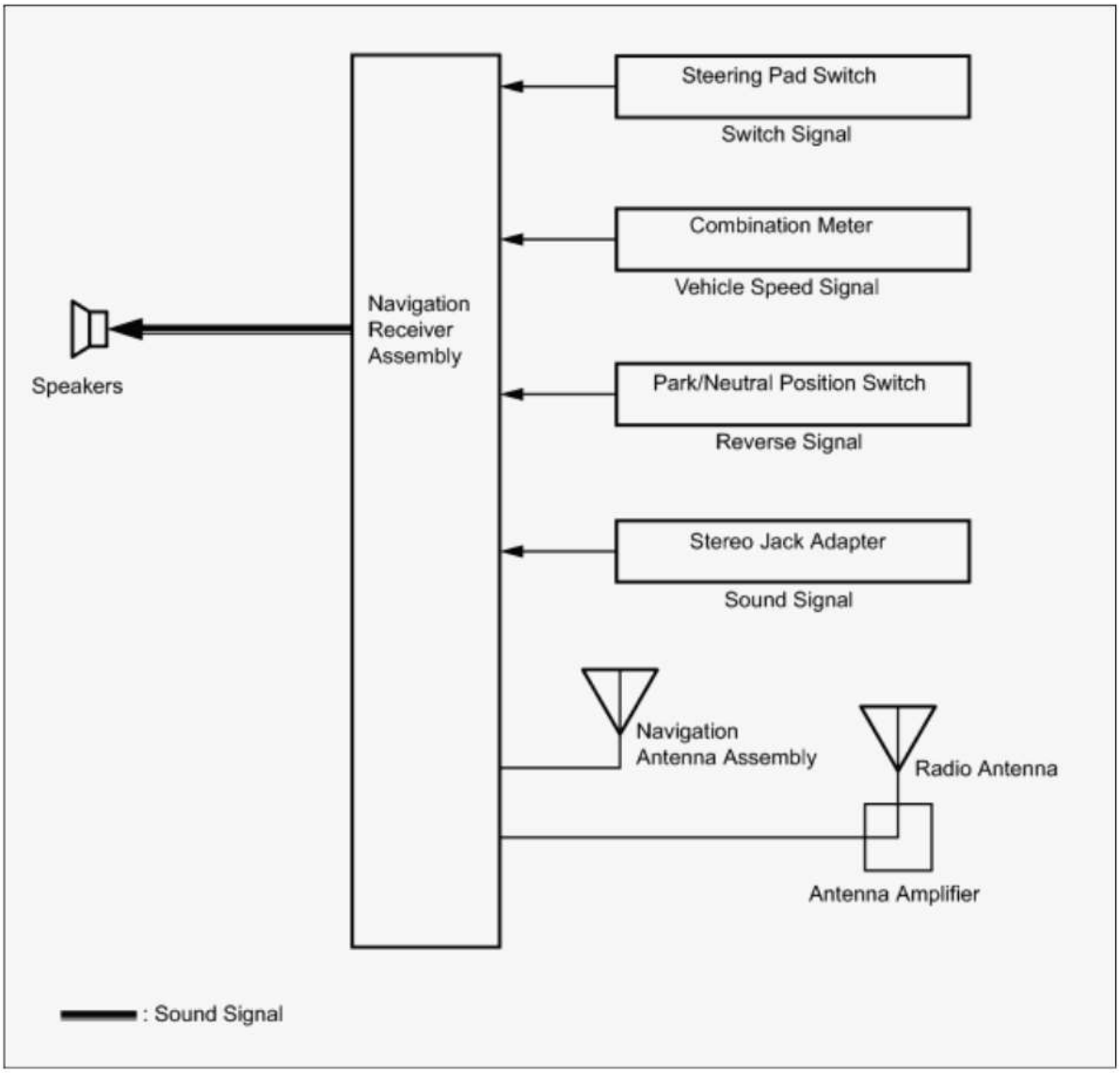
HINT:

There is a DVD player check function in the navigation ECU.

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Last Modified: 9-7-2011	6.4 U	**From:** 201008
Model Year: 2011	**Model:** RAV4	**Doc ID:** RM0000011BX05ZX
Title: NAVIGATION: NAVIGATION SYSTEM (w/ CD Player): SYSTEM DIAGRAM (2011 RAV4)		

SYSTEM DIAGRAM

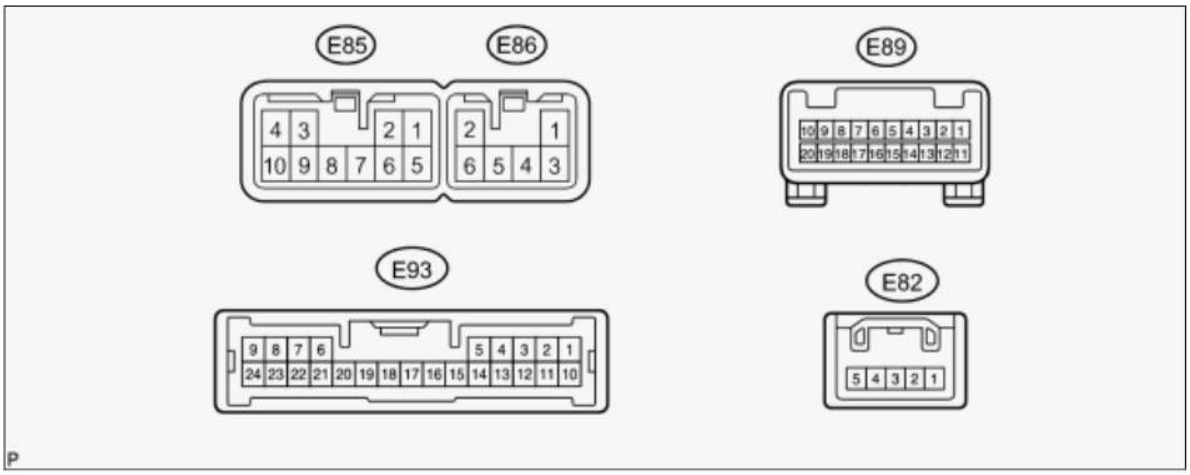


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Last Modified: 9-7-2011	6.4 U	**From:** 201008
Model Year: 2011	**Model:** RAV4	**Doc ID:** RM0000011BQ093X
Title: NAVIGATION: NAVIGATION SYSTEM (w/ CD Player): TERMINALS OF ECU (2011 RAV4)		

TERMINALS OF ECU

1. NAVIGATION RECEIVER ASSEMBLY



TERMINAL NO. (SYMBOL)	WIRING COLOR	TERMINAL DESCRIPTION	CONDITION	SPECIFICATION
E82-1 (PKB) - E85-7 (GND)	B - BR	Parking brake signal	See "Vehicle Signal Check" INFO	-
E82-3 (SPD) - E85-7 (GND)	V - BR	Speed signal from combination meter	See "Vehicle Signal Check" INFO	-
E82-5 (REV) - E85-7 (GND)	R - BR	Reverse signal	See "Vehicle Signal Check" INFO	-
E85-1 (FR+) - E85-7 (GND)	LG - BR	Sound signal (Front Right)	Audio system is playing	A waveform synchronized with sounds is output
E85-2 (FL+) - E85-7 (GND)	P - BR	Sound signal (Front Left)	Audio system is playing	A waveform synchronized with sounds is output
E85-3 (ACC) - E85-7 (GND)	GR - BR	Accessory (ON)	Ignition switch off → ACC	Below 1 V → 11 to 14 V
E85-4 (B) - E85-7 (GND)	L - BR	Battery	Always	11 to 14 V
E85-5 (FR-) - E85-7 (GND)	L - BR	Sound signal (Front Right)	Audio system is playing	A waveform synchronized with sounds is output
E85-6 (FL-) - E85-7 (GND)	V - BR	Sound signal (Front Left)	Audio system is playing	A waveform synchronized with sounds is output
E85-7 (GND) - Body ground	BR - Body ground	Ground	Always	Below 1 V

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TERMINAL NO. (SYMBOL)	WIRING COLOR	TERMINAL DESCRIPTION	CONDITION	SPECIFICATION
E85-8 (ANT) - E85-7 (GND)	B - BR	Power source of antenna	Radio switch ON and AM or FM	11 to 14 V
E85-10 (ILL+) - E85-7 (GND)	G - BR	Illumination signal	Light control switch OFF → TAIL or HEAD	Below 1 V → 11 to 14 V
E86-1 (RR+) - E85-7 (GND)	R - BR	Sound signal (Rear Right)	Audio system is playing	A waveform synchronized with sounds is output
E86-2 (RL+) - E85-7 (GND)	B - BR	Sound signal (Rear Left)	Audio system is playing	A waveform synchronized with sounds is output
E86-3 (RR-) - E85-7 (GND)	W - BR	Sound signal (Rear Right)	Audio system is playing	A waveform synchronized with sounds is output
E86-6 (RL-) - E85-7 (GND)	Y - BR	Sound signal (Rear Left)	Audio system is playing	A waveform synchronized with sounds is output
E87-6 (SWG) - Body ground	B - Body ground	Steering pad switch ground	Always	Below 1 V
E87-7 (SW1) - E87-6 (SWG)	W - B	Steering pad switch signal	No switch is pushed → SEEK+ switch pushed → SEEK- switch pushed → VOL+ switch pushed → VOL- switch pushed	2.7 to 3.1 V → Below 0.3 V → 0.4 to 0.6 V → 1.1 to 1.3 V 1.9 to 2.2 V
E87-8 (SW2) - E87-6 (SWG)	R - B	Steering pad switch signal	No switch is pushed → MODE switch pushed	2.7 to 3.1 V → Below 0.3 V
E89-15 (ARI) - E85-7 (GND)	W - BR	Sound signal (Right)	Eternal device playing (When stereo jack used)	A waveform synchronized with the sound is output
E89-16 (ASGN) - E85-7 (GND)	R - BR	Shielded ground	Always	Below 1 V
E89-17 (ALI) - E85-7 (GND)	B - BR	Sound signal (Left)	Eternal device playing (When stereo jack used)	A waveform synchronized with the sound is output
E89-18 (AGND) - E85-7 (GND)	Shielded - BR	External device connection detection signal	Always	Below 1 V
E89-19 (AUXI) - E85-7 (GND)	R - BR	External device connection detection signal	External device connected	1.1 to 1.5 V
			External device is not connected	2.0 to 2.4 V

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Last Modified: 9-7-2011	6.4 J	**From:** 201008
Model Year: 2011	**Model:** RAV4	**Doc ID:** RM000000PNL072X
Title: NAVIGATION: NAVIGATION SYSTEM (w/ CD Player): Touch Panel Switch does not Function (2011 RAV4)		

Touch Panel Switch does not Function

INSPECTION PROCEDURE

PROCEDURE

1.	**CHECK TOUCH PANEL**

(a) Check for foreign matter on the display.

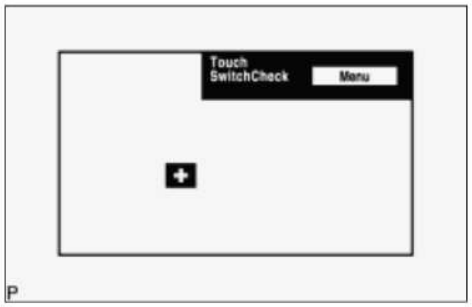
OK:

The display is clean.

NG ▶ **CLEAN DISPLAY AND RECHECK TOUCH PANEL**

OK
▼

2.	**CHECK TOUCH SWITCH (DISPLAY CHECK MODE)**



(a) Enter the "Display Check" mode and select "Touch Switch 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**

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TABLE

OK ▶ REPLACE NAVIGATION RECEIVER ASSEMBLY

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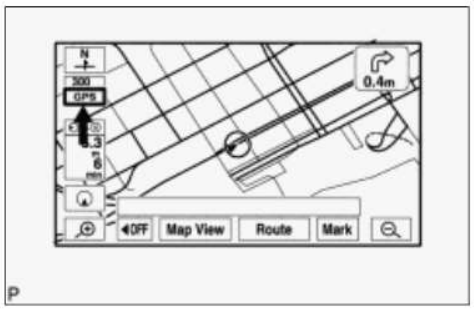
Last Modified: 9-7-2011	6.4 J	**From:** 201008
Model Year: 2011	**Model:** RAV4	**Doc ID:** RM000000POE08PX
Title: NAVIGATION: NAVIGATION SYSTEM (w/ CD Player): Vehicle Position Mark Deviates Greatly (2011 RAV4)		

Vehicle Position Mark Deviates Greatly

INSPECTION PROCEDURE

PROCEDURE

1.	**CHECK GPS MARK**



(a) Check that the GPS mark is displayed.

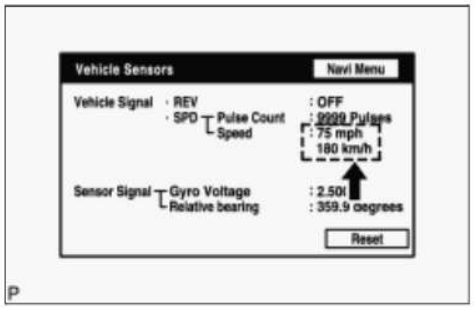
OK:

GPS mark is displayed.

NG ▶ **PROCEED TO "GPS MARK IS NOT DISPLAYED"**

OK ▼

2.	**CHECK VEHICLE SENSOR (NAVIGATION CHECK MODE)**



(a) Enter the "Navigation Check" mode and select "Vehicle Sensors" INFO .

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

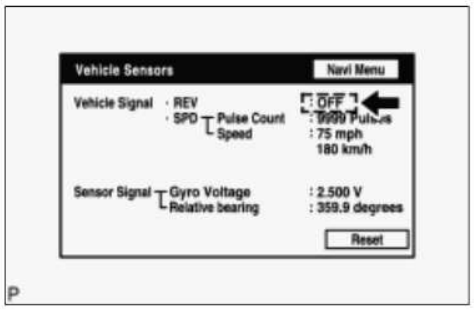
OK:

The readings are almost equal.

NG ▶ **GO TO "Speed Signal Circuit"**

OK ▼

3.	CHECK VEHICLE SENSOR (NAVIGATION CHECK MODE)



(a) Check that the display changes between ON and OFF according to the shift lever operation.

OK:

SHIFT LEVER POSITION	DISPLAY
Except Reverse	OFF
Reverse	ON

HINT:

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

NG ▶ **PROCEED TO "REVERSE SIGNAL DOES NOT CHANGE IN NAVIGATION CHECK MODE" IN PROBLEM SYMPTOMS TABLE**

OK ▶ **END**

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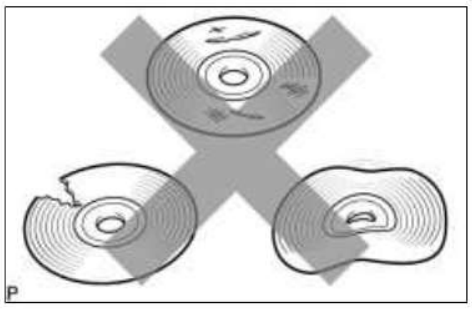
Last Modified: 9-7-2011	6.4 J	**From:** 201008
Model Year: 2011	**Model:** RAV4	**Doc ID:** RM000000POC08PX
Title: NAVIGATION: NAVIGATION SYSTEM (w/ CD Player): Vehicle Position Mark is not Updated (2011 RAV4)		

Vehicle Position Mark is not Updated

INSPECTION PROCEDURE

PROCEDURE

1.	**CHECK MAP DISC**



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

OK:

No deformations or cracks on map disc.

NG ▶ **REPLACE MAP DISC**

OK ▼

2.	**CHECK NAVIGATION DISPLAY**

(a) Check if touch scroll can be performed on the map display.

OK:

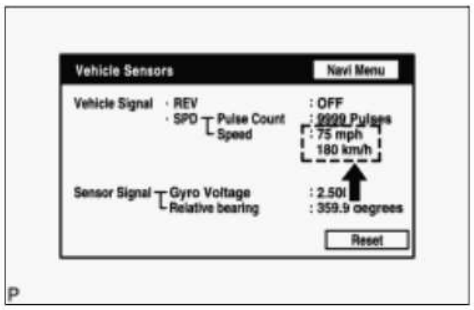
Touch scroll can be performed.

NG ▶ **REPLACE NAVIGATION RECEIVER ASSEMBLY**

OK

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3.	CHECK VEHICLE SENSOR (NAVIGATION CHECK MODE)



(a) Enter the "Navigation Check" mode and select "Vehicle Sensors" 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 almost equal.

NG ▶ **GO TO "Speed Signal Circuit"**

OK ▶ **END**

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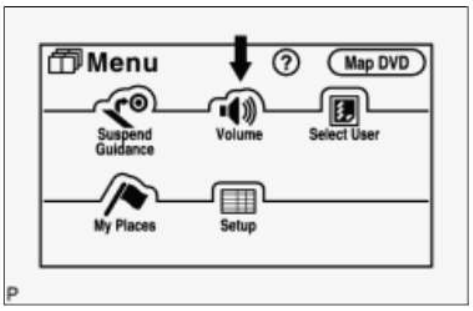
Last Modified: 9-7-2011	6.4 J	**From:** 201008
Model Year: 2011	**Model:** RAV4	**Doc ID:** RM000000PNM071X
Title: NAVIGATION: NAVIGATION SYSTEM (w/ CD Player): Voice Guidance does not Function (2011 RAV4)		

Voice Guidance does not Function

INSPECTION PROCEDURE

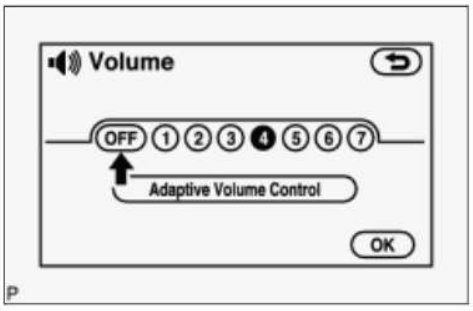
PROCEDURE

1.	**CHECK NAVIGATION SETTING**



(a) Enter the "Menu" screen by pressing the "MENU" switch.

(b) Select "Volume".



(c) Check that "OFF" is not selected.

OK:

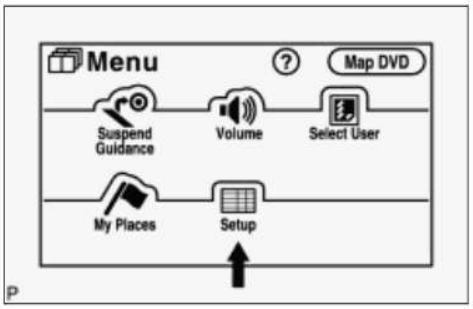
OFF is not selected.

NG ▶ **TURN AUTO VOICE GUIDANCE "ON"**

OK ▼

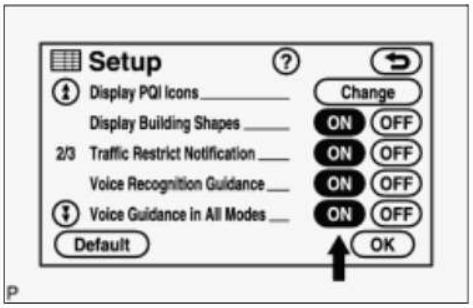
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2.	CHECK NAVIGATION SETTING



(a) Enter the "Menu" screen by pressing the "MENU" switch.

(b) Select "Setup".



(c) Check that "Voice Guidance in All Modes" is not OFF.

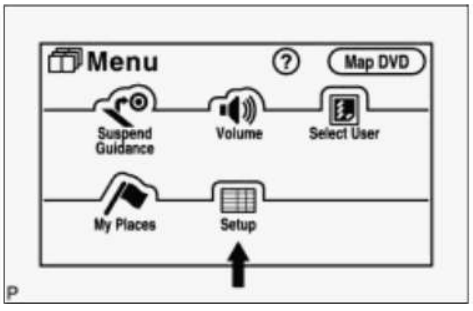
OK:

"Voice Guidance in All Modes" is not OFF.

NG ▶ **TURN VOICE GUIDANCE IN ALL MODES "ON"**

OK ▼

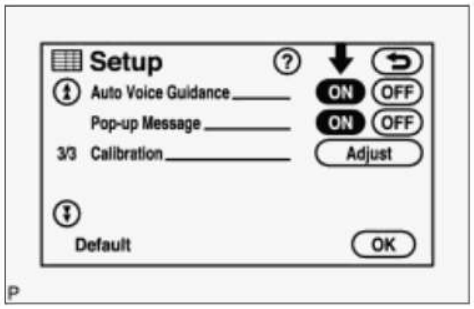
3.	CHECK NAVIGATION SETTING



(a) Enter the "Menu" screen by pressing the "MENU" switch.

(b) Select "Setup".

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(c) Check that "Auto Voice Guidance" is not OFF.

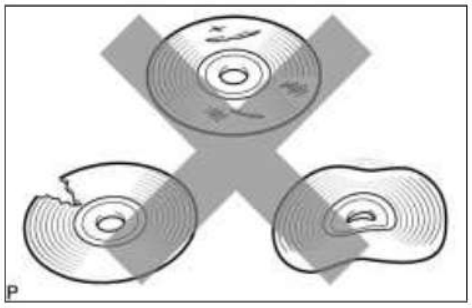
OK:

"Auto Voice Guidance" is not OFF.

NG ▶ **TURN AUTO VOICE GUIDANCE "ON"**

OK ▼

4.	**CHECK MAP DISC**



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

OK:

No deformations or cracks on the map disc.

NG ▶ **REPLACE MAP DISC**

OK ▼

5.	**CHECK NAVIGATION RECEIVER ASSEMBLY**

(a) Check that audio can be heard from the speakers.

OK:

Audio can be heard.

NG ▶ **GO TO "Speaker Circuit"**

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OK ▶ REPLACE NAVIGATION RECEIVER ASSEMBLY

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Last Modified: 9-7-2011	6.4 C	**From:** 201008
Model Year: 2011	**Model:** RAV4	**Doc ID:** RM00000182L095X
Title: NAVIGATION: NAVIGATION SYSTEM (w/ DVD Player): B15A0,B15AD,B15B0,B15B3,B15B7: LAN Master Malfunction (2011 RAV4)		

DTC	**B15A0**	**LAN Master Malfunction**

DTC	**B15AD**	**Navigation Processor Malfunction**

DTC	**B15B0**	**Display Screen Malfunction**

DTC	**B15B3**	**Radio Tuner Malfunction**

DTC	**B15B7**	**Bluetooth Module Malfunction**

DESCRIPTION

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

DTC CODE	DTC DETECTION CONDITION	TROUBLE AREA
B15A0	When either condition below is met: • Bus malfunction • EEPROM error	Navigation receiver assembly
B15AD	When either condition below is met: • A short to ground, short to +B or open occurs in the gyro signal circuit • Gyro sensor malfunction	
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	

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DTC CODE	DTC DETECTION CONDITION	TROUBLE AREA
B15B7	"Bluetooth" module malfunction	

INSPECTION PROCEDURE

PROCEDURE

1.	**CHECK DTC**

(a) Clear the DTCs INFO .

(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**

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Last Modified: 9-7-2011	6.4 C	**From:** 201008
Model Year: 2011	**Model:** RAV4	**Doc ID:** RM00000182T0ASX
Title: NAVIGATION: NAVIGATION SYSTEM (w/ DVD Player): B15C0,B15C1: Short in GPS Antenna (2011 RAV4)		

DTC	**B15C0**	**Short in GPS Antenna**

DTC	**B15C1**	**Open in GPS Antenna**

DESCRIPTION

This DTC is stored when a malfunction occurs in the GPS antenna.

DTC CODE	DTC DETECTION CONDITION	TROUBLE AREA
B15C0	GPS antenna error.	• Navigation antenna assembly • Navigation receiver assembly
B15C1	Error of the power source to the GPS antenna.	

INSPECTION PROCEDURE

PROCEDURE

1.	**CHECK NAVIGATION ANTENNA ASSEMBLY**

(a) Check if the navigation antenna is securely connected to the navigation receiver assembly.

OK:
Navigation antenna is securely connected.

NG ▶ **SECURELY CONNECT NAVIGATION ANTENNA ASSEMBLY**

OK ▼

2.	**REPLACE NAVIGATION ANTENNA ASSEMBLY**

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(a) Replace the navigation antenna assembly with a normal one and check if the same problem occurs again INFO .

(1) Clear the DTCs INFO .

(2) Recheck for DTCs and check if the same trouble occurs again.

OK:
No DTCs are output.

NG ▶ **REPLACE NAVIGATION RECEIVER ASSEMBLY**

OK ▶ **END**

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Last Modified: 9-7-2011	6.4 C	**From:** 201008
Model Year: 2011	**Model:** RAV4	**Doc ID:** RM00000182V099X
Title: NAVIGATION: NAVIGATION SYSTEM (w/ DVD Player): B15C2: Speed Signal Malfunction (2011 RAV4)		

DTC	**B15C2**	**Speed Signal Malfunction**

DESCRIPTION

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

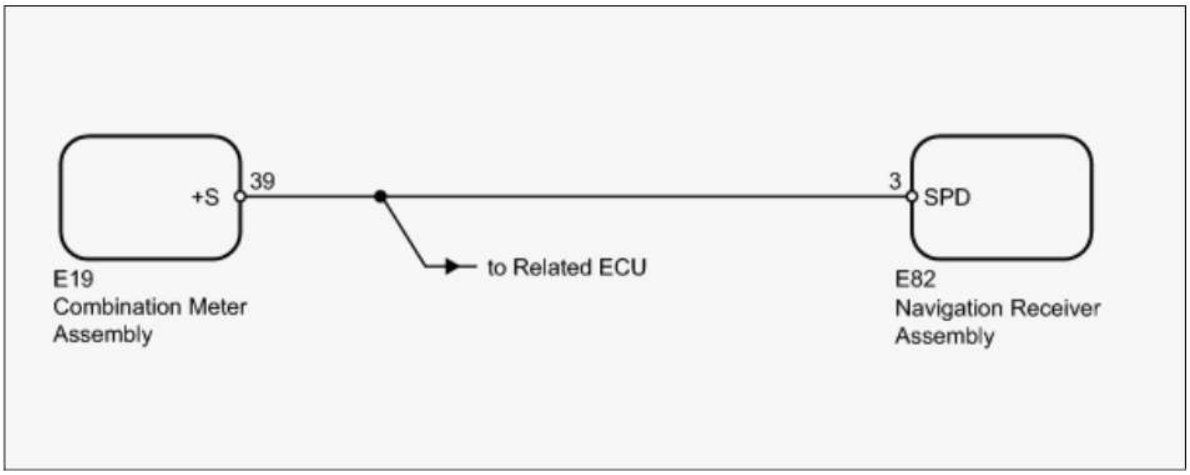
The navigation receiver assembly stores this DTC when the difference between the speed information that the navigation antenna receives and the SPD pulse received from the combination meter assembly becomes large.

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.	• Combination meter assembly • Harness or connector • Navigation receiver assembly

WIRING DIAGRAM

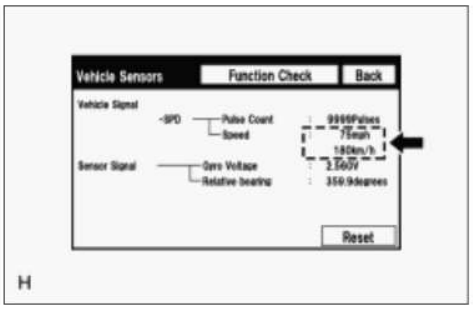


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INSPECTION PROCEDURE

PROCEDURE

1.	CHECK VEHICLE SENSOR (OPERATION CHECK)



(a) Enter the "GPS & Vehicle Sensor" (Vehicle Sensors) INFO .

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

OK:

The readings are equal or almost equal.

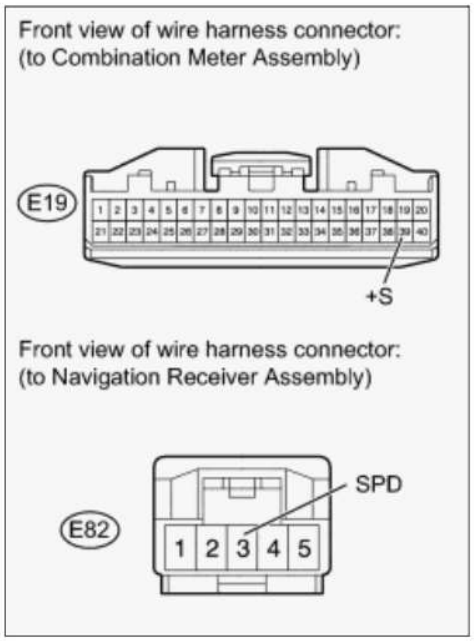
NG ▶ GO TO METER / GAUGE SYSTEM

OK ▼

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

(a) Disconnect the E19 combination meter assembly connector.

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(b) Disconnect the E82 navigation receiver assembly connector.

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

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
E82-3 (SPD) - E19-39 (+S)	Always	Below 1 Ω
E82-3 (SPD) - Body ground	Always	10 kΩ or higher

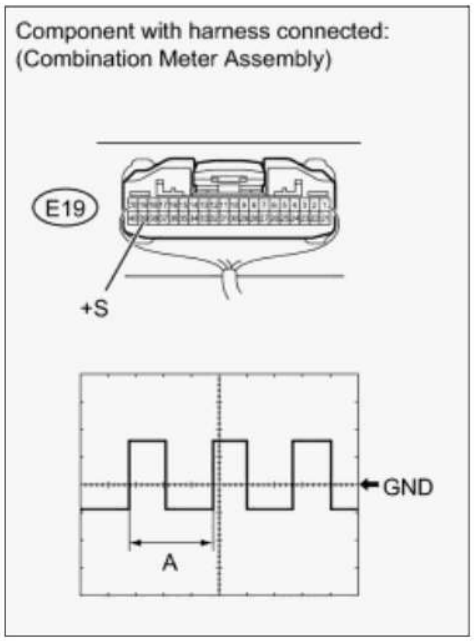
NG ▶ **REPAIR OR REPLACE HARNESS OR CONNECTOR**

OK ▼

3.	**CHECK COMBINATION METER ASSEMBLY (SPEED SIGNAL)**

(a) Remove the combination meter assembly with the connector(s) still connected.

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(b) Connect an oscilloscope to terminal E19-39 (+S) and body ground.

(c) Turn the engine switch to ON.

(d) Check the signal waveform according to the condition(s) in the table below.

Measurement Condition

ITEM	CONDITION
Terminal No. (Symbols)	E19-39 (+S) - Body ground
Tool setting	5 V/DIV., 20 ms./DIV.
Condition	Vehicle being driven at approx, 20 km/h (12 mph)

OK:

The waveform display is as shown in the illustration.

HINT:

When the system is function normally, one wheel revolution generates 4 pulses.

As the vehicle speed increases, the width indicated by (A) in the illustration narrows.

NG ▶ **REPLACE COMBINATION METER ASSEMBLY**

OK ▶ **REPLACE NAVIGATION RECEIVER ASSEMBLY**

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Last Modified: 9-7-2011	6.4 C	**From:** 201008
Model Year: 2011	**Model:** RAV4	**Doc ID:** RM0000020NE057X
Title: NAVIGATION: NAVIGATION SYSTEM (w/ DVD Player): B15E1: Media Malfunction (2011 RAV4)		

DTC	**B15E1**	**Media Malfunction**

DESCRIPTION

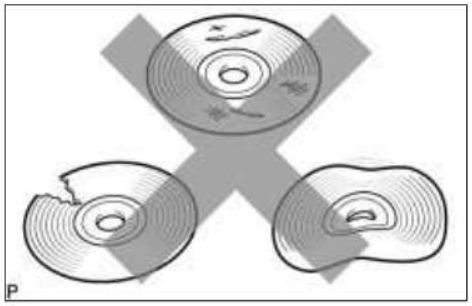
This DTC is output when signals from the disc in the navigation receiver assembly cannot be read.

DTC CODE	DTC DETECTION CONDITION	TROUBLE AREA
B15E1	When one of the conditions below is met: • An unsuitable disc is inserted. • 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.	• Disc • Navigation receiver assembly

INSPECTION PROCEDURE

PROCEDURE

1.	**CHECK DISC**



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

OK:

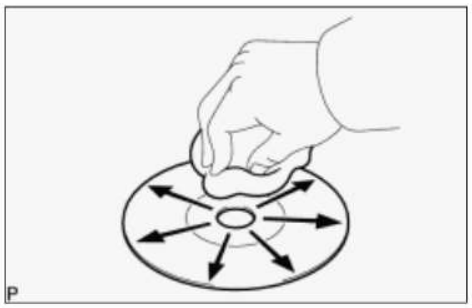
No deformation or cracks in the disc.

NG ▶ **CHANGE DISC**

OK

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2.	DISC CLEANING



(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.

NOTICE:

Do not use a conventional record cleaner or antistatic preservative.

NEXT

3.	REPLACE DISC WITH ANOTHER AND RECHECK

(a) Replace the disc with another and recheck.

(b) Clear the DTCs INFO .

(c) Recheck for DTCs and check if the same trouble occurs again.

OK:
No DTC is output.

NG ▶ **REPLACE NAVIGATION RECEIVER ASSEMBLY**

OK ▶ **END**

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Last Modified: 9-7-2011	6.4 C	**From:** 201008
Model Year: 2011	**Model:** RAV4	**Doc ID:** RM00000182U07PX
Title: NAVIGATION: NAVIGATION SYSTEM (w/ DVD Player): B1582: Map Disk Reading Malfunction (2011 RAV4)		

DTC	**B1582**	**Map Disk Reading Malfunction**

DESCRIPTION

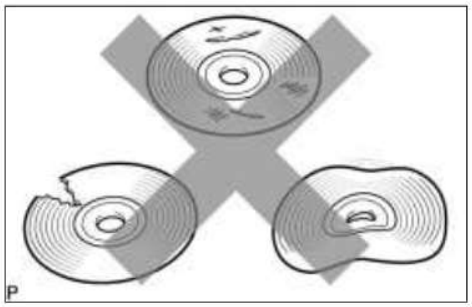
This DTC is stored when the navigation receiver assembly cannot read the map disc.

DTC CODE	DTC DETECTION CONDITION	TROUBLE AREA
B1582	• Player error • Scratches or dirt on the disc • Access to an invalid address due to software error	• Map disc • Navigation receiver assembly

INSPECTION PROCEDURE

PROCEDURE

1.	**CHECK MAP DISC**



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

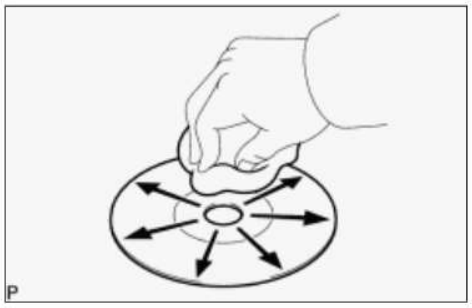
OK:
No deformations or cracks on the map disc

NG ▶ **REPLACE MAP DISC**

OK ▼

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2.	DISC CLEANING



(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.

NOTICE:

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

NEXT

3.	CHECK DTC

(a) Clear the DTC INFO .

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

OK:

No DTCs are output.

NG ▶ **REPLACE MAP DISC**

OK ▶ **END**

4.	REPLACE MAP DISC

(a) Replace the map disc.

(b) Clear the DTC INFO .

(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**

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Last Modified: 9-7-2011	6.4 J	**From:** 201008
Model Year: 2011	**Model:** RAV4	**Doc ID:** RM0000020RR069X
Title: NAVIGATION: NAVIGATION SYSTEM (w/ DVD Player): Black Screen (2011 RAV4)		

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 ▶ **CHECK CABIN**

OK ▶ **PRESS PANEL SWITCH "DISPLAY" AND SET SCREEN COLOR QUALITY TO NORMAL**

3.	**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.

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HINT:

- A humid cabin and a rapid change in temperature may lead to condensation. Condensation in the cabin may cause a short circuit.
- The appropriate cabin temperature is 20 to 30°C (68 to 86°F).

OK:
Condensation is not likely and temperature is not high or extremely low.

NG ▶ **SET CABIN TO APPROPRIATE TEMPERATURE**

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

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Last Modified: 9-7-2011	6.4 J	**From:** 201008
Model Year: 2011	**Model:** RAV4	**Doc ID:** RM000000PO907SX
Title: NAVIGATION: NAVIGATION SYSTEM (w/ DVD Player): Cannot Call in a Certain Place (2011 RAV4)		

Cannot Call in a Certain Place

INSPECTION PROCEDURE

PROCEDURE

1.	**CHECK SURROUNDING CONDITIONS**

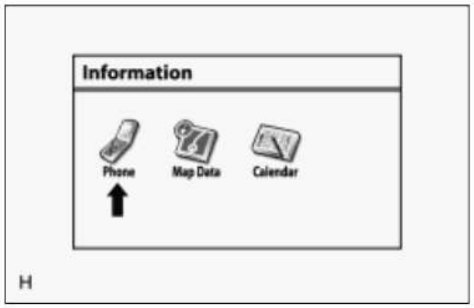
(a) Check if the cellular phone can make calls in the place where the problem occurred.

OK:
The cellular phone can make calls.

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

OK ▼

2.	**CHECK RECEPTION**



(a) Press the "INFO" switch and then select "Phone".

(b) Check the "Bluetooth" connection indicator ("BT" indicator).

Result

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RESULT	PROCEED TO
Yellow color	Bring the cellular phone to a location where the "BT" indicator turns blue.
Blue color	Replace navigation receiver assembly.
No connection indicator is displayed	Select a registered cellular phone or register a "Bluetooth" compatible phone.

NEXT END

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Last Modified: 9-7-2011	6.4 J	**From:** 201008
Model Year: 2011	**Model:** RAV4	**Doc ID:** RM0000020N503SX
Title: NAVIGATION: NAVIGATION SYSTEM (w/ DVD Player): CD cannot be Ejected (2011 RAV4)		

CD cannot be Ejected

INSPECTION PROCEDURE

PROCEDURE

1.	**CHECK OPERATION**

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

OK:

The CD is ejected.

NG ▶ **REPLACE NAVIGATION RECEIVER ASSEMBLY**

OK ▼

2.	**REPLACE CD WITH ANOTHER AND RECHECK**

(a) Insert another CD and check if it can be ejected.

OK:

The CD can be ejected.

NG ▶ **REPLACE NAVIGATION RECEIVER ASSEMBLY**

OK ▶ **CD IS FAULTY**

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Last Modified: 9-7-2011	6.4 J	**From:** 201008
Model Year: 2011	**Model:** RAV4	**Doc ID:** RM0000020N403WX
Title: NAVIGATION: NAVIGATION SYSTEM (w/ DVD Player): CD cannot be Inserted / Played or CD is Ejected Right After Insertion (2011 RAV4)		

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 or WMA file, and that it is not deformed, flawed, stained, burred, or otherwise defective.

OK:

The CD is normal.

HINT:

- Translucent or uniquely-shaped CDs cannot 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**

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OK



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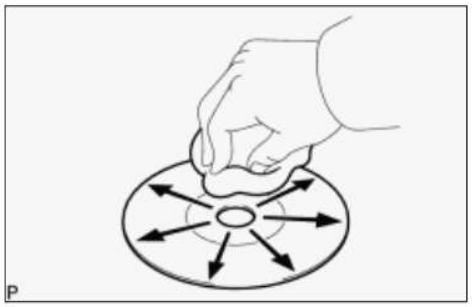
Last Modified: 9-7-2011	6.4 J	**From:** 201008
Model Year: 2011	**Model:** RAV4	**Doc ID:** RM0000020N303WX
Title: NAVIGATION: NAVIGATION SYSTEM (w/ DVD Player): CD Sound Skips (2011 RAV4)		

CD Sound Skips

INSPECTION PROCEDURE

PROCEDURE

1.	**CHECK CD**



(a) Check the CD.

OK:

The CD is clean.

HINT:

If dirt is on the CD surface, wipe it clean with a soft cloth from the inside to the outside in a radial direction.

NOTICE:

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

NG ▶ **CLEAN CD**

OK ▼

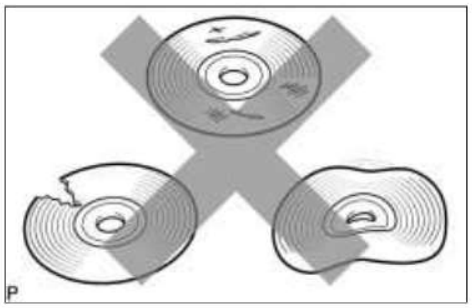
2.	**CHECK CD**

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

OK:

No deformation or cracks on the CD.

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NG ▶ **CD IS FAULTY**

OK ▼

3.	CHECK OPERATION OF ANOTHER CD

(a) Check using another CD.

(1) Check if the problem recurs using another CD.

OK:
The problem does not occur.

NG ▶ **CHECK NAVIGATION RECEIVER ASSEMBLY**

OK ▶ **CD IS 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**

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Last Modified: 9-7-2011	6.4 J	**From:** 201008
Model Year: 2011	**Model:** RAV4	**Doc ID:** RM000000POK0A9X
Title: NAVIGATION: NAVIGATION SYSTEM (w/ DVD Player): Cellular Phone cannot Send/Receive (2011 RAV4)		

Cellular Phone cannot Send/Receive

INSPECTION PROCEDURE

PROCEDURE

1.	**CHECK "BLUETOOTH" SETTINGS**

(a) Check if the "Bluetooth" settings are correct.

OK:
"Bluetooth" settings are correct.

NG ▶ **SET SETTINGS CORRECTLY**

OK ▼

2.	**CHECK CELLULAR PHONE**

(a) Check if the cellular phone is "Bluetooth" compatible.

HINT:

Some versions of "Bluetooth" compatible cellular phones may not function.

OK:
Cellular phone is "Bluetooth" compatible.

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

OK ▼

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3.	**CHECK SETTINGS**

HINT:

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

- The cellular phone is locked.
- The directory is being transferred.
- The line is crossed.
- Outside service range
- The power is off.
- The cellular phone is not connected to "Bluetooth" ("BT" is displayed while connected).

(a) Check the cellular phone functions.

OK:
Cellular phone settings are set correctly.

NG ▶ **SET SETTINGS CORRECTLY**

OK ▼

4.	**CHECK CELLULAR PHONE**

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

OK:
Cellular phone can make a call.

NG ▶ **REPAIR OR REPLACE CELLULAR PHONE**

OK ▼

5.	**CHECK RECEPTION**

(a) Set the cellular phone so that it can receive calls.

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

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(c) Check if the navigation receiver to confirm that a "Bluetooth" connection exists between the navigation receiver and phone.

OK:

Cellular phone has reception.

NG ▶ **REPLACE NAVIGATION RECEIVER ASSEMBLY**

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

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Last Modified: 9-7-2011	6.4 J	**From:** 201008
Model Year: 2011	**Model:** RAV4	**Doc ID:** RM0000011FD09YX
Title: NAVIGATION: NAVIGATION SYSTEM (w/ DVD Player): Cellular Phone Registration Failure, Phone Directory Transfer Failure (2011 RAV4)		

Cellular Phone Registration Failure, Phone Directory Transfer Failure

INSPECTION PROCEDURE

PROCEDURE

1.	**CHECK CURRENT CONDITIONS**

(a) Proceed according to the table below.

Result

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

B ▶ **CHECK USING ANOTHER "BLUETOOTH" COMPATIBLE VEHICLE**

C ▶ **CHECK CELLULAR PHONE**

A ▼

2.	**CHECK USING ANOTHER CELLULAR PHONE**

(a) Check if the system functions using another "Bluetooth" compatible cellular phone.

HINT:

- Confirm that the other cellular phone is "Bluetooth" compatible, and uses either the same "Bluetooth" version or a version of "Bluetooth" that complies with the system.
- Some "Bluetooth" compatible cellular phones may not function.

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OK:
The system functions.

NG ▶ **REPLACE NAVIGATION RECEIVER ASSEMBLY**

OK ▶ **USE A "BLUETOOTH" COMPATIBLE CELLULAR PHONE**

3.	**CHECK USING ANOTHER "BLUETOOTH" COMPATIBLE VEHICLE**

(a) Register the cellular phone with another vehicle and check if the system functions normally.

HINT:

Some "Bluetooth" compatible cellular phones may not function.

OK:
The system functions.

NG ▶ **USE A "BLUETOOTH" COMPATIBLE CELLULAR PHONE**

OK ▶ **REPLACE NAVIGATION RECEIVER ASSEMBLY**

4.	**CHECK CELLULAR PHONE**

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

OK:
A call can be made from the cellular phone.

HINT:

- Make sure the "Bluetooth" function is on.
- Make sure the handsfree function is selected when profiles can be selected.

NG ▶ **USE A "BLUETOOTH" COMPATIBLE CELLULAR PHONE**

OK ▼

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5.	**CHECK CELLULAR PHONE**

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

HINT:

When the battery is low, registration or directory transfer cannot be performed.

OK:
A call can be made from the cellular phone.

NG ▶ **CELLULAR PHONE IS FAULTY**

OK ▶ **REPLACE NAVIGATION RECEIVER ASSEMBLY**

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Last Modified: 9-7-2011	6.4 J	**From:** 201008
Model Year: 2011	**Model:** RAV4	**Doc ID:** RM000000POF07ZX
Title: NAVIGATION: NAVIGATION SYSTEM (w/ DVD Player): Current Position Display does not Appear (2011 RAV4)		

Current Position Display does not Appear

INSPECTION PROCEDURE

PROCEDURE

1.	**CHECK NAVIGATION RECEIVER ASSEMBLY**

(a) Check if a map disc is inserted into the map disc slot.

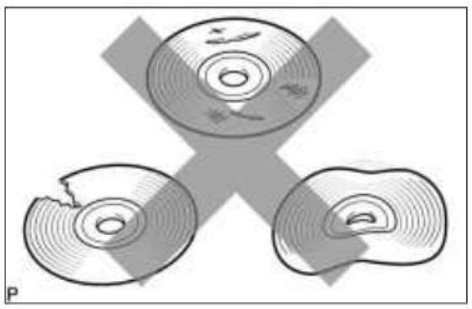
OK:

A map disc is inserted.

NG ▶ **INSERT MAP DISC IN MAP SIDE SLOT**

OK ▼

2.	**CHECK MAP DISC**



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

OK:

No deformations or cracks on the map disc.

NG ▶ **REPLACE MAP DISC**

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

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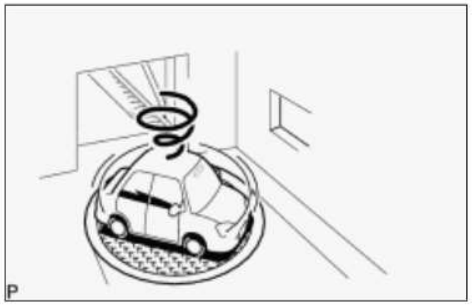
Last Modified: 9-7-2011	6.4 J	**From:** 201008
Model Year: 2011	**Model:** RAV4	**Doc ID:** RM000000POD071X
Title: NAVIGATION: NAVIGATION SYSTEM (w/ DVD Player): Cursor or Map Rotates when Vehicle Stopped (2011 RAV4)		

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 turntable.

HINT:

If the vehicle is turned on a turntable with the engine switch ON, the system may store the angular velocity. As a result, the vehicle position cursor may deviate.

NG ▶ **TURN ENGINE SWITCH TO ON WHEN VEHICLE IS COMPLETELY STOPPED**

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

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Last Modified: 9-7-2011	6.4 S	**From:** 201008
Model Year: 2011	**Model:** RAV4	**Doc ID:** RM0000011BO07HX
Title: NAVIGATION: NAVIGATION SYSTEM (w/ DVD Player): DIAGNOSTIC TROUBLE CODE CHART (2011 RAV4)		

DIAGNOSTIC TROUBLE CODE CHART

HINT:

If a trouble code is output during the DTC check, inspect the trouble areas.

Navigation System

DTC CODE	DETECTION ITEM	TROUBLE AREA	SEE PAGE
B1582	Map Disk Reading Malfunction	- Map disc - Navigation receiver assembly	INFO
B15A0	LAN Master Malfunction	Navigation receiver assembly	INFO
B15AD	Navigation Processor Malfunction	Navigation receiver assembly	INFO
B15B0	Display Screen Malfunction	Navigation receiver assembly	INFO
B15B3	Radio Tuner Malfunction	Navigation receiver assembly	INFO
B15B7	Bluetooth Module Malfunction	Navigation receiver assembly	INFO
B15C0	Short in GPS Antenna	- Navigation antenna assembly - Navigation receiver assembly	INFO
B15C1	Open in GPS Antenna	- Navigation antenna assembly - Navigation receiver assembly	INFO
B15C2	Speed Signal Malfunction	- Combination meter assembly - Harness or connector - Navigation receiver assembly	INFO
B15E1	Media Malfunction	- Disc - navigation receiver assembly	INFO

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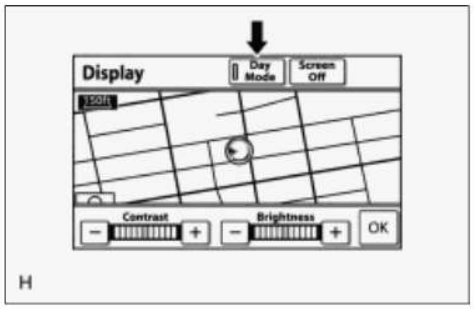
Last Modified: 9-7-2011	6.4 J	**From:** 201008
Model Year: 2011	**Model:** RAV4	**Doc ID:** RM000000PNK07RX
Title: NAVIGATION: NAVIGATION SYSTEM (w/ DVD Player): Display does not Dim when Light Control Switch is Turned ON (2011 RAV4)		

Display does not Dim when Light Control Switch is Turned ON

INSPECTION PROCEDURE

PROCEDURE

1.	**CHECK IMAGE QUALITY SETTING**



(a) Enter the display adjustment screen by pressing the "DISPAY" switch.

(b) Turn the light control switch to the TAIL position.

(c) Check if "Day Mode" on the display adjustment is ON.

OK:
"Day Mode" is ON.

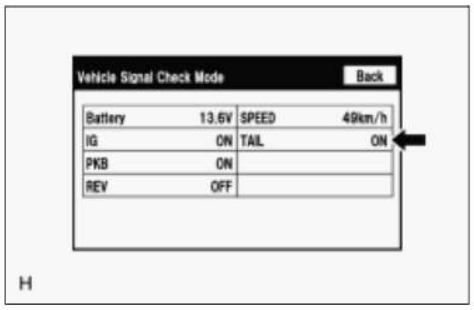
NG ▶ **CHECK VEHICLE SIGNAL (DISPLAY CHECK MODE)**

OK ▶ **TURN "DAY MODE" SETTING OFF**

2.	**CHECK VEHICLE SIGNAL (DISPLAY CHECK MODE)**

(a) Enter the "Display Check" mode and select "Vehicle Signal Check" INFO .

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

OK:

LIGHT CONTROL SWITCH CONDITION	DISPLAY CONDITION
TAIL or ON	ON
OFF	OFF

HINT:

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

NG ▶ **GO TO "Illumination Circuit"**

OK ▶ **REPLACE NAVIGATION RECEIVER ASSEMBLY**

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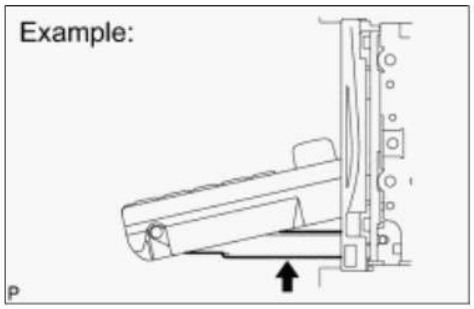
Last Modified: 9-7-2011	6.4 J	**From:** 201008
Model Year: 2011	**Model:** RAV4	**Doc ID:** RM0000020N7045X
Title: NAVIGATION: NAVIGATION SYSTEM (w/ DVD Player): Display Panel does not Open, Tilt or Tilts Improperly (2011 RAV4)		

Display Panel does not Open, Tilt or Tilts Improperly

INSPECTION PROCEDURE

PROCEDURE

1.	**CHECK NAVIGATION RECEIVER ASSEMBLY**



(a) Check for foreign matter or obstructions caught in the moving parts of the panel.

OK:

No obstruction or foreign matter found.

NG ▶ **REMOVE ANY OBSTRUCTION OR FOREIGN MATTER FOUND**

OK ▼

2.	**CHECK OPERATION**

(a) Check if the navigation and audio systems function properly.

OK:

Navigation and audio systems function properly.

NG ▶ **GO TO "Navigation Receiver Assembly Power Source Circuit"**

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OK ▶ **REPLACE NAVIGATION RECEIVER ASSEMBLY**

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Last Modified: 9-7-2011	6.4 D	**From:** 201008
Model Year: 2011	**Model:** RAV4	**Doc ID:** RM0000011BU0A5X
Title: NAVIGATION: NAVIGATION SYSTEM (w/ DVD Player): DTC CHECK / CLEAR (2011 RAV4)		

DTC CHECK / CLEAR

HINT:

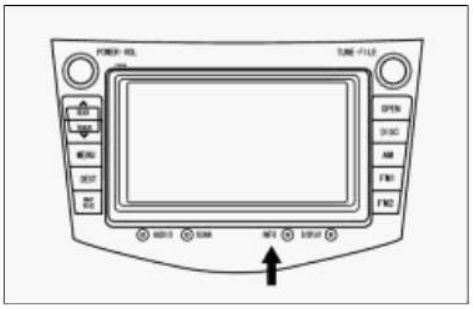
- Illustrations may differ from the actual vehicle depending on the device settings and options. Therefore, some detailed areas may not be shown exactly the same as on the actual vehicle.
- After the engine switch is turned to ON, check that the map is displayed before starting the diagnostic mode. Otherwise, some items cannot be checked.

1. START DIAGNOSTIC MODE

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

(b) Method 1

(1) Start the engine.

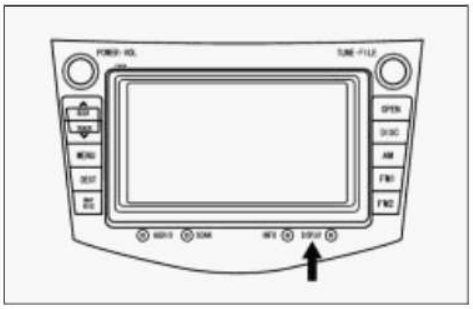


(2) While pressing and holding the "INFO" switch, operate the light control switch: OFF → Turn ON → Turn OFF → Turn ON → Turn OFF → Turn ON → Turn OFF.

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

(c) Method 2

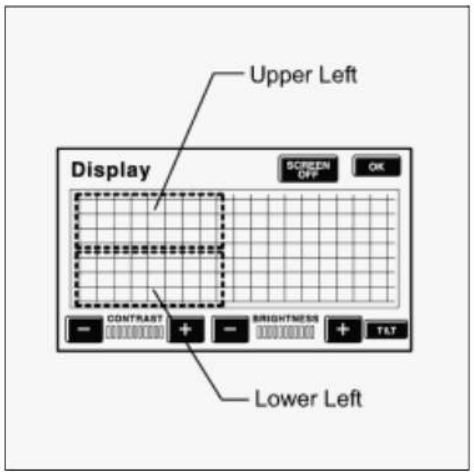
(1) Start the engine.



(2) Press the "DISPLAY" switch.

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

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

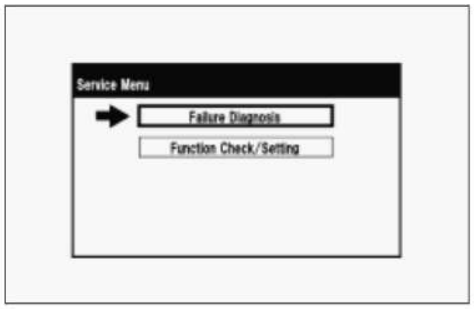
2. FINISH DIAGNOSTIC MODE

(a) There are 2 methods to end diagnostic mode. Use one of them.

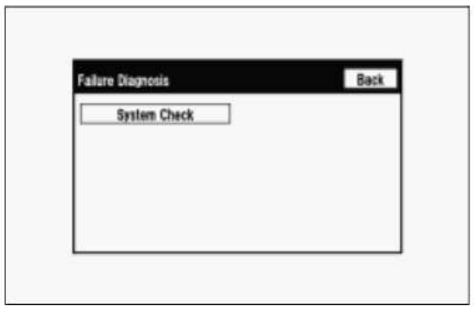
(1) Turn the engine switch off.

(2) Press and hold the "DISP" switch for 3 seconds.

3. FAILURE DIAGNOSIS



(a) Press the "Failure Diagnosis" switch on the "Service Menu" screen.

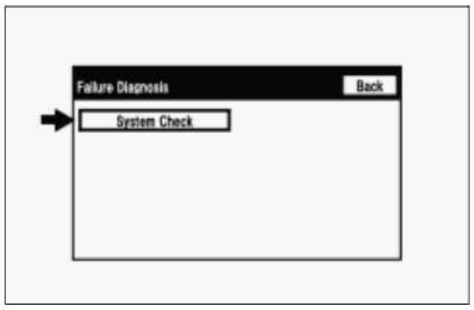


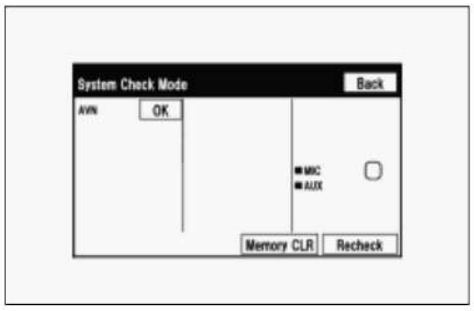
(b) The "Failure Diagnosis" will be displayed.

4. SYSTEM CHECK

(a) Press the "System Check" switch on the "Failure Diagnosis" screen.

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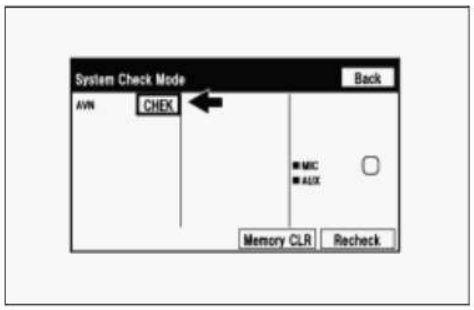




(b) The "System Check Mode" screen will be displayed.

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

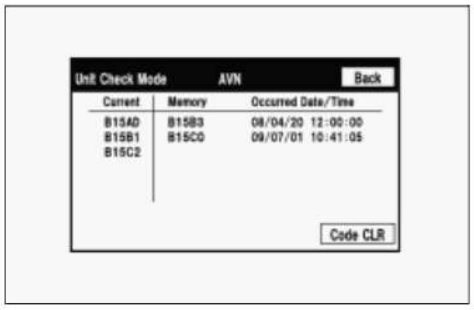
(a) Read the system check result.



(1) If the check result is "EXCH" or "CHEK", touch the displayed check result.

HINT:

When all the results are "OK", this means that no DTCs are present.

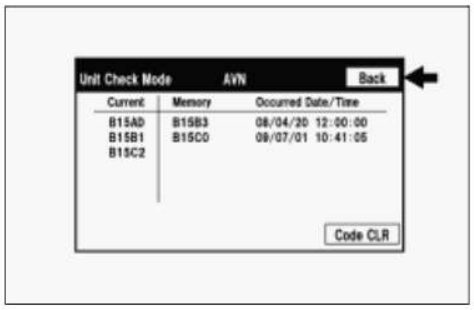


(2) View the results on the "Unit Check Mode" screen and record them.

(3) When proceeding to view the results of another device, press the "Back" switch to return to the "System Check Mode" screen.

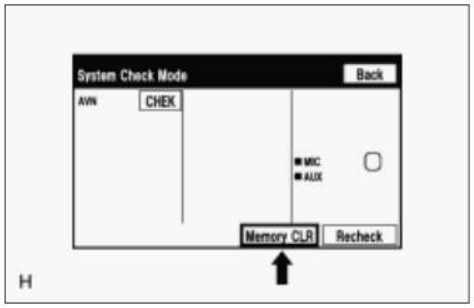
HINT:

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To check other items, repeat from the first step.

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



(a) Clear DTC

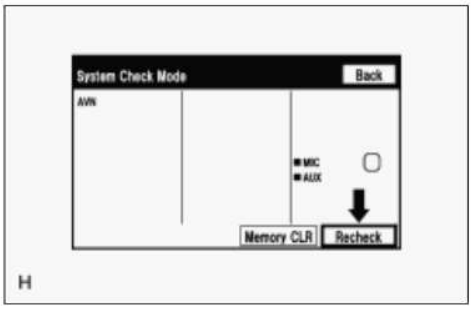
(1) Press the "Memory CLR" switch for 3 seconds.

(2) Confirm that the check results are cleared.

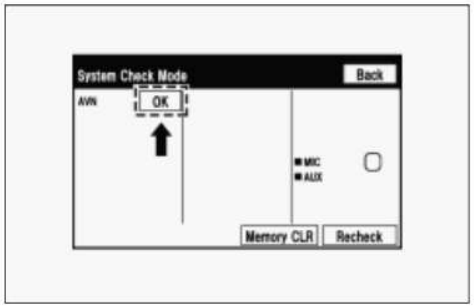
HINT:

- 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 check results are "OK" when the check results are displayed. If a result 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.

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Last Modified: 9-7-2011	6.4 J	**From:** 201008
Model Year: 2011	**Model:** RAV4	**Doc ID:** RM000000PN608WX
Title: NAVIGATION: NAVIGATION SYSTEM (w/ DVD Player): GPS Mark is not Displayed (2011 RAV4)		

GPS Mark is not Displayed

INSPECTION PROCEDURE

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 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:
Mark appears.

NG ▶ **CHECK SURROUNDINGS**

OK ▶ **NORMAL OPERATION**

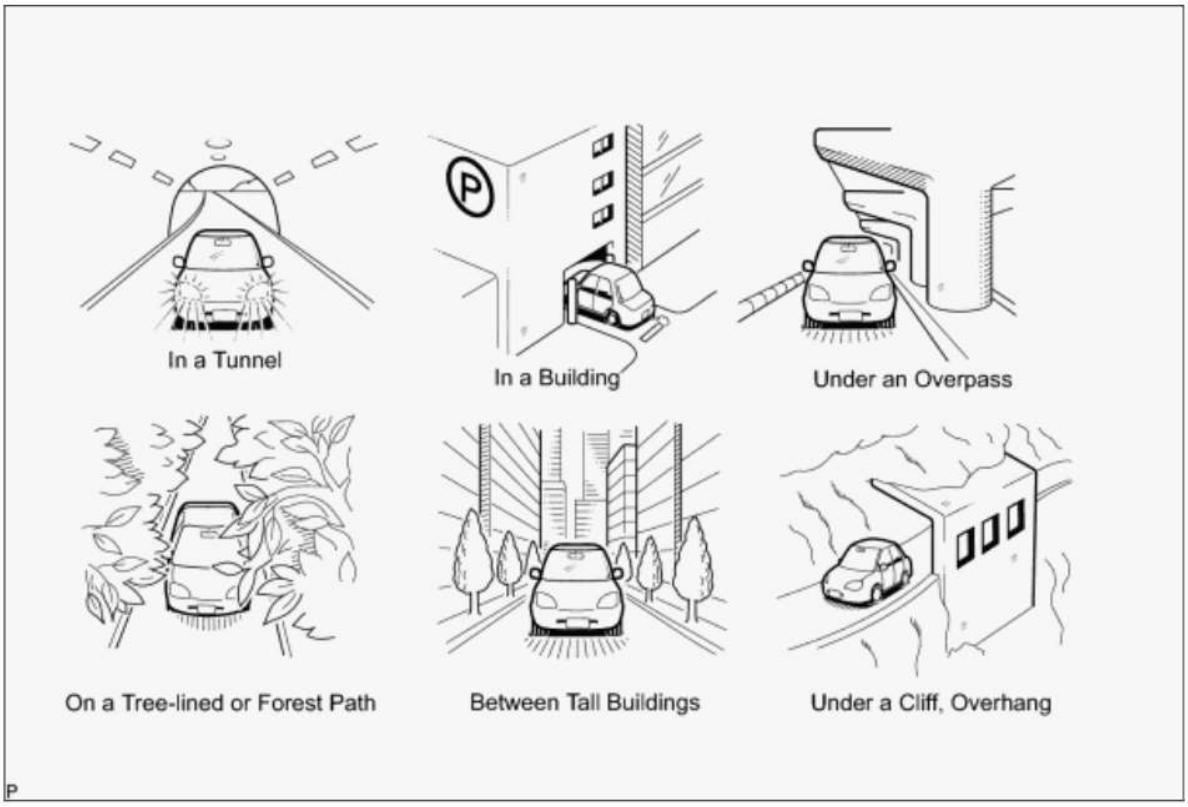
2.	**CHECK SURROUNDINGS**

(a) Check if the vehicle is in a location where GPS signal reception is poor. If the vehicle is in such a place, relocate 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 the vehicle. However, GPS signals may not reach the vehicle due to influence from the surroundings, vehicle direction, and time. For examples, see illustration below.

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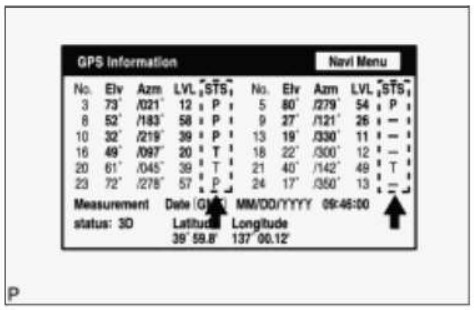
OK:
GPS mark is displayed.

NG ▶ **CHECK GPS INFORMATION (NAVIGATION CHECK MODE)**

OK ▶ **SYSTEM RETURN TO NORMAL**

3.	**CHECK GPS INFORMATION (NAVIGATION CHECK MODE)**

(a) Enter the "Navigation Check" mode and select "GPS Information" INFO .



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

HINT:

T or P appears.

OK:
At least 3 codes appear.

NG ▶ **REPLACE NAVIGATION**

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ANTENNA ASSEMBLY

OK ▶ REPLACE NAVIGATION RECEIVER ASSEMBLY

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Last Modified: 9-7-2011	6.4 D	**From:** 201008
Model Year: 2011	**Model:** RAV4	**Doc ID:** RM00000102A06AX
Title: NAVIGATION: NAVIGATION SYSTEM (w/ DVD Player): HOW TO PROCEED WITH TROUBLESHOOTING (2011 RAV4)		

HOW TO PROCEED WITH TROUBLESHOOTING

HINT:

Use these procedures to troubleshoot the navigation system.

1.	**VEHICLE BROUGHT TO WORKSHOP**

NEXT

2.	**INSPECT BATTERY VOLTAGE**

Standard voltage:
11 to 14 V

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

NEXT

3.	**BASIC INSPECTION**

(a) Turn the engine switch to ACC.

(b) Check whether or not the display appears on the navigation receiver assembly.

Result

RESULT	PROCEED TO
Display appears	A
Display does not appear	B

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B ▶ Go to step 6

4.	CHECK FOR DTC

(a) Check for DTCs and note any codes that are output.

(b) Clear the DTCs.

(c) Recheck for DTCs. Based on the DTC output in the first step, try to force output of the navigation system DTC by simulating the conditions indicated by the DTC.

HINT:

- If the system cannot enter the diagnosis mode, inspect each AVC-LAN communication signal and repair or replace problem parts.
- Even if the malfunction symptom is not confirmed, check for DTCs. This is because the system stores past DTCs.
- Refer to the detailed description on the diagnostic screen, as necessary INFO .
- Check and clear past diagnostic trouble codes. Check the diagnostic trouble code and inspect the area the code indicates.

Result

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

B ▶ Go to step 7

A ▼

5.	PROBLEM SYMPTOMS TABLE

Result

RESULT	PROCEED TO
Fault is not listed in problem symptoms table	A
Fault is listed in problem symptoms table	B

B ▶ Go to step 7

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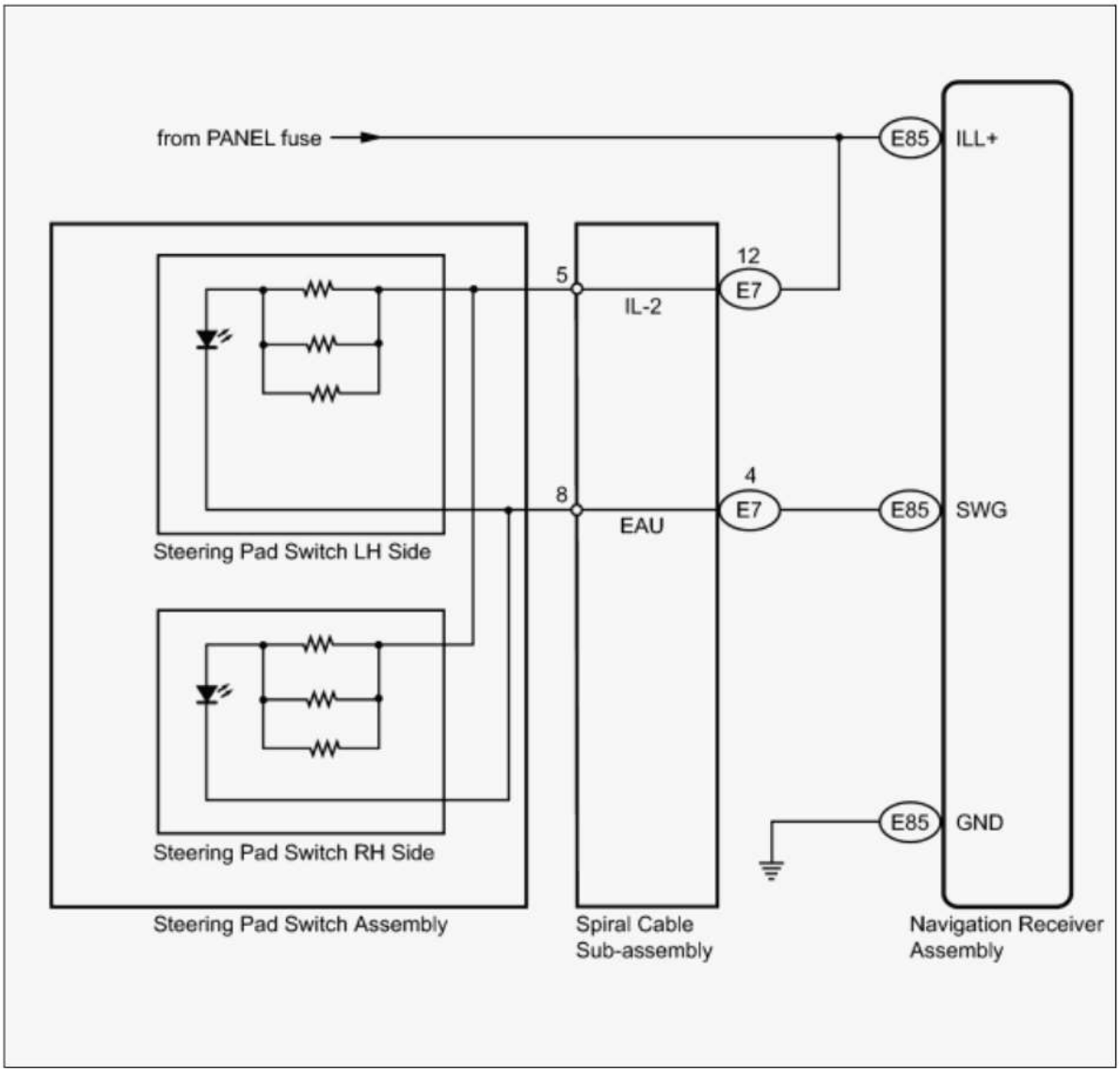
Last Modified: 9-7-2011	6.4 J	**From:** 201008
Model Year: 2011	**Model:** RAV4	**Doc ID:** RM0000011EZ0AZX
Title: NAVIGATION: NAVIGATION SYSTEM (w/ DVD Player): Illumination Circuit (2011 RAV4)		

Illumination Circuit

DESCRIPTION

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

WIRING DIAGRAM



INSPECTION PROCEDURE

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NOTICE:

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

PROCEDURE

1.	**CHECK ILLUMINATION**

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

Result

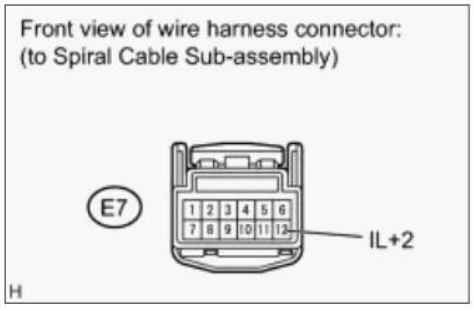
RESULT	PROCEED TO
Illumination comes on for all components except steering pad switch.	A
Illumination comes on for all components except navigation receiver assembly.	B
No illumination comes on (navigation receiver assembly, hazard switch, glove box, etc.).	C

B ▶ **CHECK HARNESS AND CONNECTOR (NAVIGATION RECEIVER - BATTERY AND BODY GROUND)**

C ▶ **GO TO LIGHTING SYSTEM**

A ▼

2.	**CHECK HARNESS AND CONNECTOR (SPIRAL CABLE - BATTERY AND BODY GROUND)**



(a) Disconnect the E7 spiral cable connector.

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

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Standard Voltage:

TESTER CONNECTION	SWITCH CONDITION	SPECIFIED CONDITION
E7-12 (IL+2) - Body ground	Light control switch in TAIL or HEAD	11 to 14 V

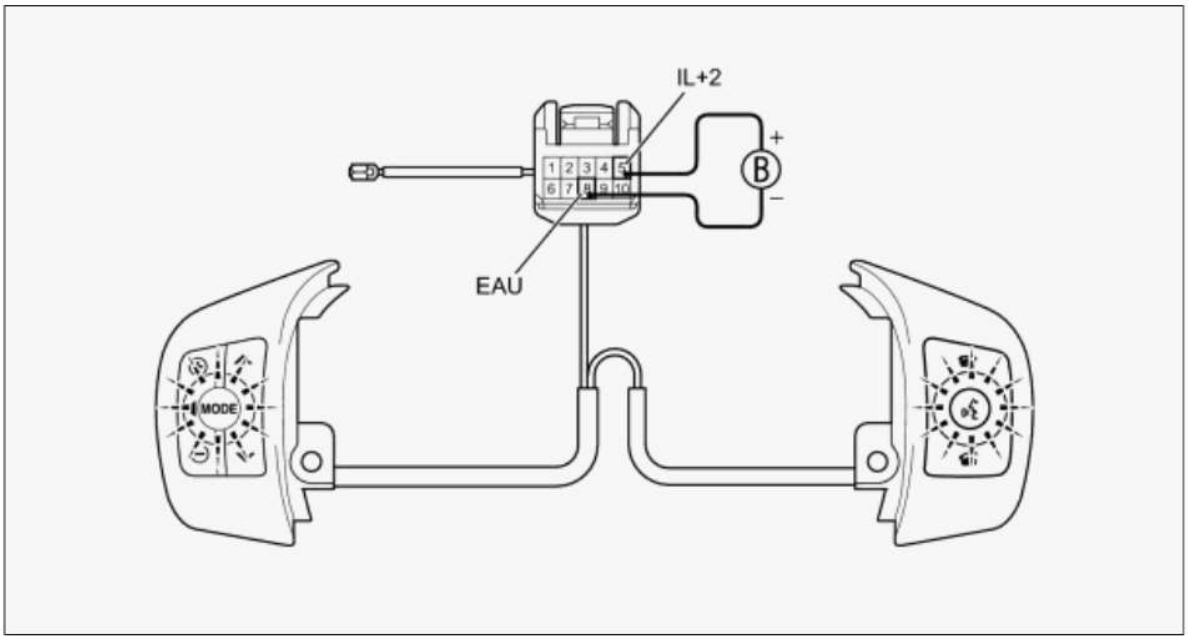
NG ▶ **REPAIR OR REPLACE HARNESS OR CONNECTOR**

OK ▼

3.	**INSPECT STEERING PAD SWITCH ASSEMBLY**

(a) Remove the steering pad switch assembly INFO .

(b) Connect the positive (+) lead of the battery to terminal 5 (IL+2) and the negative (-) lead to terminal 8 (EAU) of the steering pad switch connector.



(c) Check if the illumination for the steering pad switch comes on.

OK:

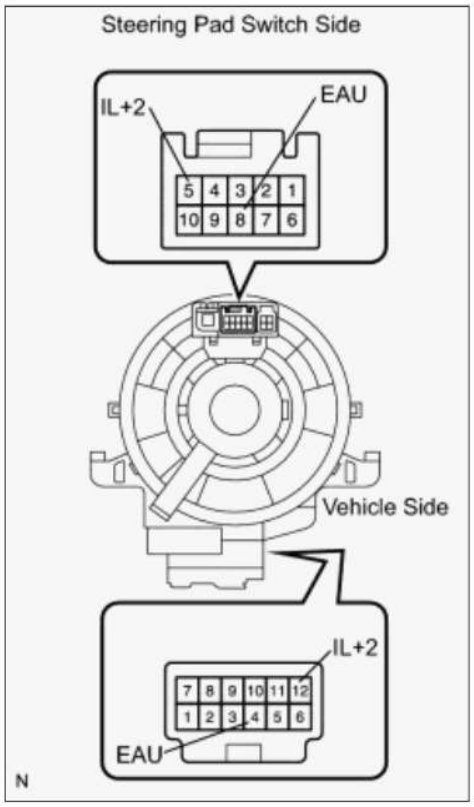
Illumination for the steering pad switch assembly comes on.

NG ▶ **REPLACE STEERING PAD SWITCH ASSEMBLY**

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OK

4.	**INSPECT SPIRAL CABLE SUB-ASSEMBLY**



(a) Remove the spiral cable sub-assembly INFO .

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

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
8 (EAU) - 4 (EAU)	Spiral cable is turned 2.5 rotations counterclockwise	Below 1 Ω
	Spiral cable is centered	
	Spiral cable is turned 2.5 rotations clockwise	
5 (IL+2) - 12 (IL+2)	Spiral cable is turned 2.5 rotations counterclockwise	Below 1 Ω
	Spiral cable is centered	
	Spiral cable is turned 2.5 rotations clockwise	

CAUTION:

The spiral cable is an important part of the SRS airbag system. Incorrect removal or installation of the spiral cable may prevent the airbag from deploying. Be sure to read the Precaution in the Supplemental

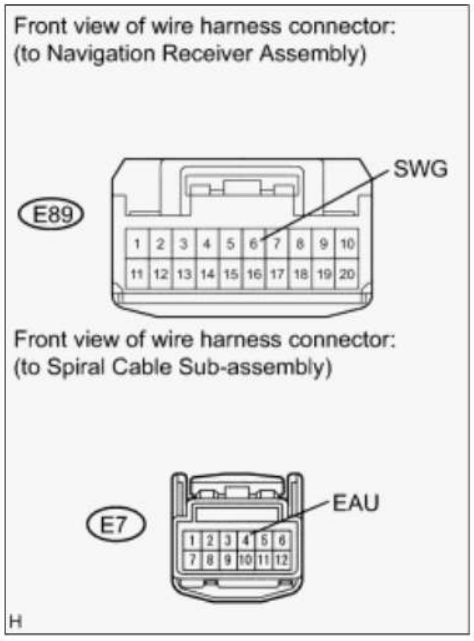
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Restraint System INFO .

NG ▶ REPLACE SPIRAL CABLE SUB-ASSEMBLY

OK ▼

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



(a) Disconnect the E89 navigation receiver assembly connector.

(b) Disconnect the E7 spiral cable connector.

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

Standard Resistance:

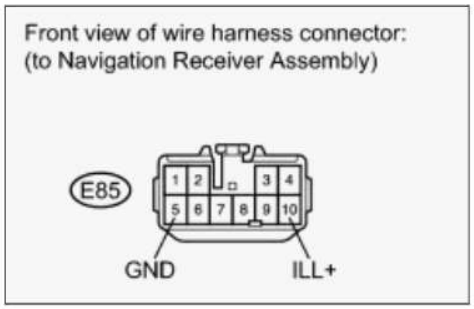
TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
E89-6 (SWG) - E7-4 (EAU)	Always	Below 1 Ω
E89-6 (SWG) - Body ground	Always	10 kΩ or higher

NG ▶ REPAIR OR REPLACE HARNESS OR CONNECTOR

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

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6.	**CHECK HARNESS AND CONNECTOR (NAVIGATION RECEIVER - BATTERY AND BODY GROUND)**



(a) Disconnect the E85 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
E85-10 (ILL+) - Body ground	Light control switch in TAIL or HEAD	11 to 14 V

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

Standard Resistance:

TESTER CONNECTION	SWITCH CONDITION	SPECIFIED CONDITION
E85-5 (GND) - Body ground	Always	Below 1 Ω

NG ▶ **REPAIR OR REPLACE HARNESS OR CONNECTOR**

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

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Last Modified: 9-7-2011	6.4 J	**From:** 201008
Model Year: 2011	**Model:** RAV4	**Doc ID:** RM000000PNJ076X
Title: NAVIGATION: NAVIGATION SYSTEM (w/ DVD Player): Illumination for Panel Switch does not Come on with Tail Switch ON (2011 RAV4)		

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

INSPECTION PROCEDURE

PROCEDURE

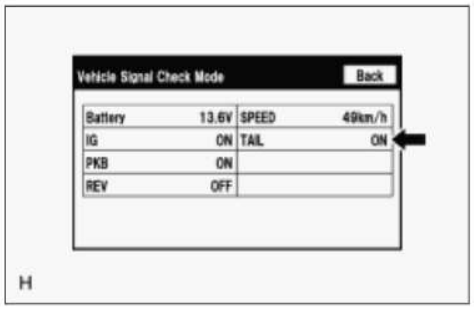
1.	**CHECK VEHICLE SIGNAL (DISPLAY CHECK MODE)**

(a) Enter the "Display Check" mode and select "Vehicle Signal Check Mode" INFO .

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

OK:

LIGHT CONTROL SWITCH CONDITION	DISPLAY CONDITION
TAIL or ON	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 change in the switch.

NG ▶ **GO TO "Illumination Circuit"**

OK ▶ **REPLACE NAVIGATION RECEIVER ASSEMBLY**

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Last Modified: 9-7-2011	6.4 J	**From:** 201008
Model Year: 2011	**Model:** RAV4	**Doc ID:** RM000000PN7074X
Title: NAVIGATION: NAVIGATION SYSTEM (w/ DVD Player): Map Disc cannot be Inserted (2011 RAV4)		

Map Disc cannot be Inserted

INSPECTION PROCEDURE

PROCEDURE

1.	**CHECK NAVIGATION RECEIVER ASSEMBLY**

(a) Check if a disc is inserted into the MAP disc slot.

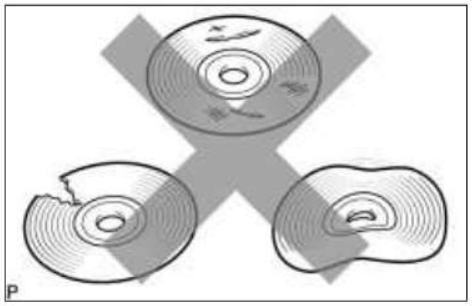
(1) Check if "DISC IN" comes on.

OK:
"DISC IN" comes on.

NG ▶ **EJECT DISC**

OK ▼

2.	**CHECK MAP DISC**



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

OK:
No deformations or cracks on the map disc.

NG ▶ **REPLACE MAP DISC**

OK ▶ **GO TO "Navigation Receiver Assembly Power**

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Source Circuit"

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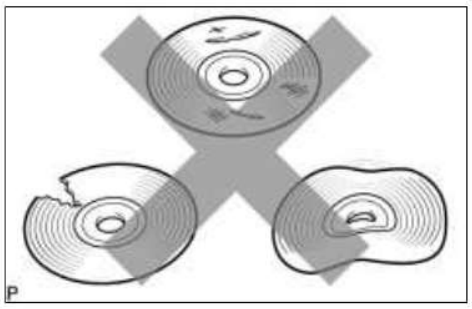
Last Modified: 9-7-2011	6.4 J	**From:** 201008
Model Year: 2011	**Model:** RAV4	**Doc ID:** RM000000POG083X
Title: NAVIGATION: NAVIGATION SYSTEM (w/ DVD Player): Map Display Incomplete (2011 RAV4)		

Map Display Incomplete

INSPECTION PROCEDURE

PROCEDURE

1.	**CHECK MAP DISC**



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

OK:

No deformations or cracks on the map disc.

NG ▶ **REPLACE MAP DISC**

OK ▼

2.	**CHECK NAVIGATION DISPLAY**

(a) Check that displays other than the navigation display are complete.

OK:

No other incomplete displays are found.

NG ▶ **REPLACE NAVIGATION RECEIVER ASSEMBLY**

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

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Last Modified: 9-7-2011	6.4 J	**From:** 201008
Model Year: 2011	**Model:** RAV4	**Doc ID:** RM000003V7I00FX
Title: NAVIGATION: NAVIGATION SYSTEM (w/ DVD Player): Microphone Circuit between Microphone and Navigation Receiver Assembly (2011 RAV4)		

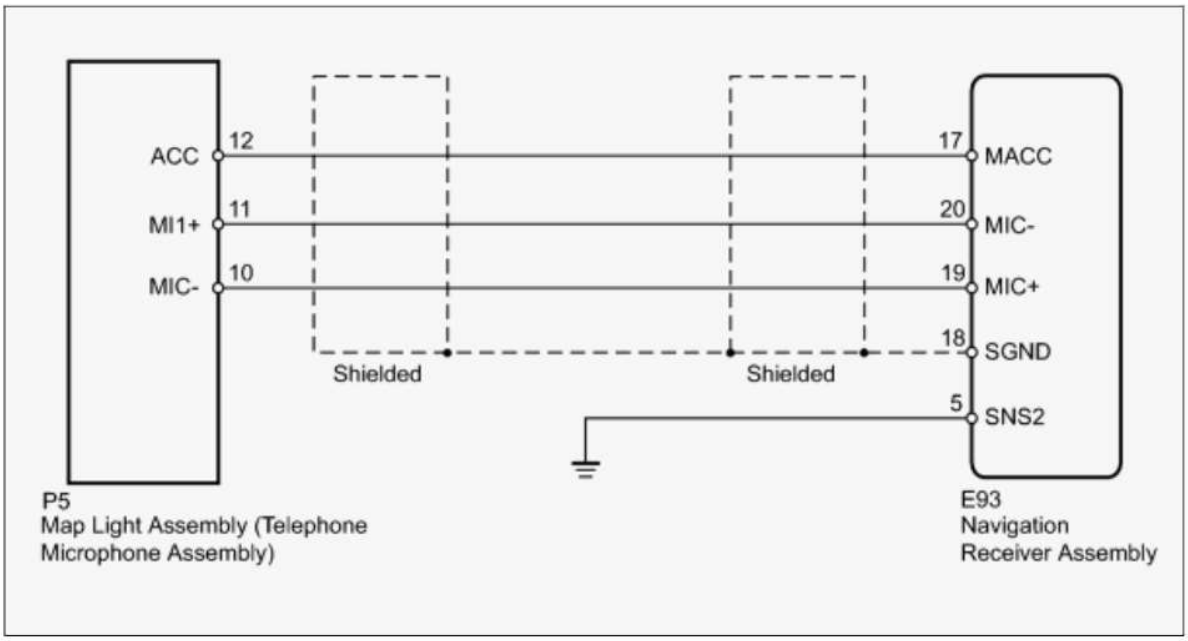
Microphone Circuit between Microphone and Navigation Receiver Assembly

DESCRIPTION

This circuit sends a microphone signal from the telephone microphone assembly to the navigation receiver assembly.

It also supplies power from the navigation receiver assembly to the telephone microphone assembly.

WIRING DIAGRAM



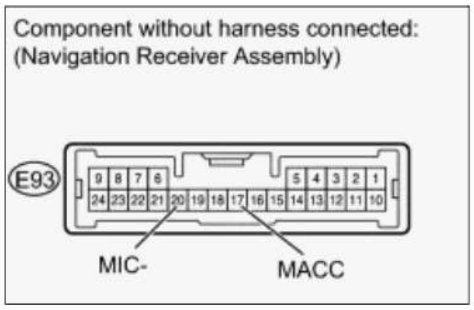
INSPECTION PROCEDURE

PROCEDURE

1.	**CHECK NAVIGATION RECEIVER ASSEMBLY**

(a) Disconnect the E93 navigation receiver assembly connector.

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

Standard Resistance:

TESTER CONNECTION	SWITCH CONDITION	SPECIFIED CONDITION
E93-20 (MIC-) - 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
E93-17 (MACC) - Body ground	Engine switch on (ACC)	4.75 to 5.25 V

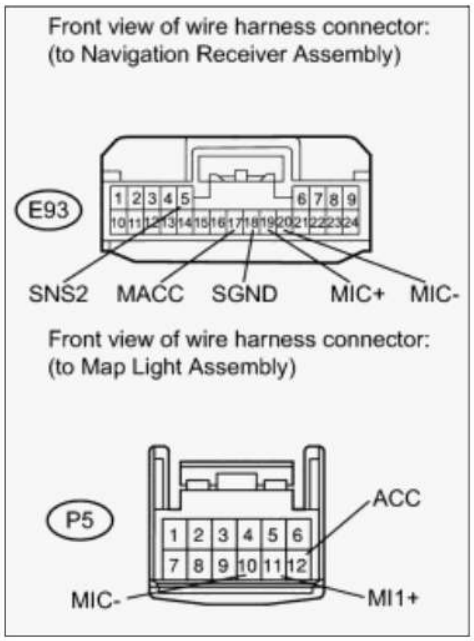
NG ▶ **REPLACE NAVIGATION RECEIVER ASSEMBLY**

OK ▼

2.	**CHECK HARNESS AND CONNECTOR (NAVIGATION RECEIVER - MAP LIGHT)**

(a) Disconnect the E93 navigation receiver assembly connector.

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(b) Disconnect the P5 map light connector.

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

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
E93-17 (MACC) - P5-12 (ACC)	Always	Below 1 Ω
E93-19 (MIC+) - P5-10 (MIC-)	Always	Below 1 Ω
E93-20 (MIC-) - P5-11 (MI1+)	Always	Below 1 Ω
E93-5 (SNS2) - Body ground	Always	Below 1 Ω
E93-17 (MACC) - Body ground	Always	10 kΩ or higher
E93-18 (SGND) - Body ground	Always	Below 1 Ω
E93-19 (MIC+) - Body ground	Always	10 kΩ or higher
E93-20 (MIC-) - Body ground	Always	10 kΩ or higher

NG ▶ **REPAIR OR REPLACE HARNESS OR CONNECTOR**

OK ▼

3.	**REPLACE TELEPHONE MICROPHONE ASSEMBLY WITH ANOTHER AND CHECK**

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(a) Replace the telephone microphone assembly with a new or normally functioning one INFO .

(b) Check if the same problem occurs again.

NG ▶ **REPLACE MAP LIGHT ASSEMBLY**

OK ▶ **END (TELEPHONE MICROPHONE ASSEMBLY IS FAULTY)**

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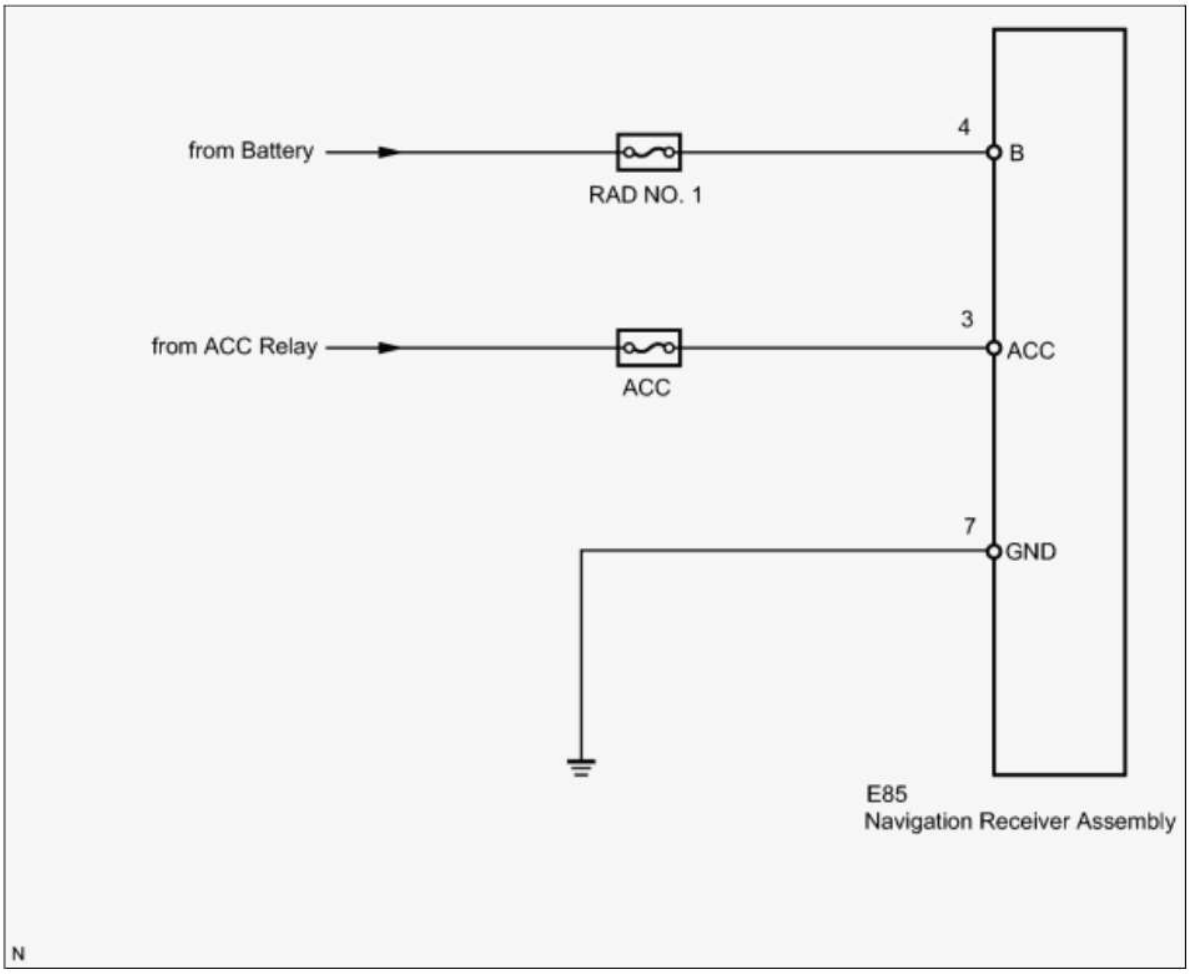
Last Modified: 9-7-2011	6.4 J	**From:** 201008
Model Year: 2011	**Model:** RAV4	**Doc ID:** RM000002NNF053X
Title: NAVIGATION: NAVIGATION SYSTEM (w/ DVD Player): Navigation Receiver Assembly Power Source Circuit (2011 RAV4)		

Navigation Receiver Assembly Power Source Circuit

DESCRIPTION

This is the power source circuit to operate the navigation receiver assembly.

WIRING DIAGRAM



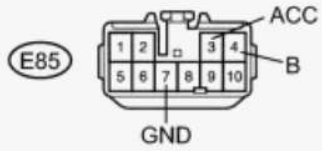
INSPECTION PROCEDURE

PROCEDURE

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1.	**CHECK HARNESS AND CONNECTOR (NAVIGATION RECEIVER ASSEMBLY - BATTERY, BODY GROUND)**

Front view of wire harness connector:
(to Navigation Receiver Assembly)



(a) Disconnect the E85 navigation receiver assembly connector.

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

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
E85-7 (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
E85-4 (B) - E85-7 (GND)	Always	11 to 14 V
E85-3 (ACC) - E85-7 (GND)	Engine switch on (ACC)	11 to 14 V

NG ▶ **REPAIR OR REPLACE HARNESS OR CONNECTOR**

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

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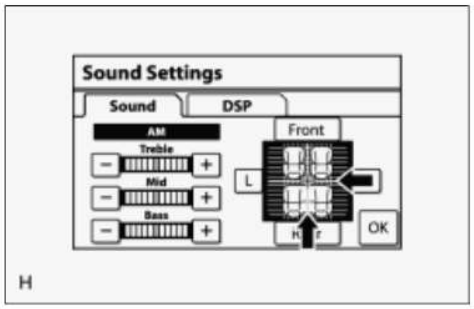
Last Modified: 9-7-2011	6.4 J	**From:** 201008
Model Year: 2011	**Model:** RAV4	**Doc ID:** RM0000020N803SX
Title: NAVIGATION: NAVIGATION SYSTEM (w/ DVD Player): No Sound can be Heard from Speakers (2011 RAV4)		

No Sound can be Heard from Speakers

INSPECTION PROCEDURE

PROCEDURE

1.	**CHECK AUDIO SETTINGS**



(a) Enter the sound adjustment screen by pressing the "SOUND" switch on the AUDIO display.

(b) Set volume, fader, and balance to the initial values and check that the sound is normal.

OK:

Audio system returns to normal.

HINT:

Sound quality adjustment items vary depending on the type of the amplifier.

NG ▶ **GO TO "Speaker Circuit"**

OK ▶ **END**

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Last Modified: 9-7-2011	6.4 J	**From:** 201008
Model Year: 2011	**Model:** RAV4	**Doc ID:** RM000000NL50BIX
Title: NAVIGATION: NAVIGATION SYSTEM (w/ DVD Player): Noise Occurs (2011 RAV4)		

Noise Occurs

INSPECTION PROCEDURE

PROCEDURE

1.	**NOISE CONDITION**

(a) Check from which direction the noise comes.

- Front No. 1 speaker LH
- Front No. 1 speaker RH
- Rear No. 1 speaker LH
- Rear No. 1 speaker RH
- Front No. 2 speaker LH
- Front No. 2 speaker RH

(1) Check from which direction the noise comes.

OK:

The location of the noise source can be determined.

NG ▶ **CHECK NOISE CONDITIONS**

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 malfunctions.

Result

RESULT	PROCEED TO
A speaker is installed incorrectly	A

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

A ▶ **REINSTALL SPEAKER**

B ▶ **REMOVE FOREIGN OBJECT**

C ▶ **REPLACE SPEAKER**

D ▼

3.	**CHECK NOISE CONDITIONS**

(a) Check the noise condition.

HINT:

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

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 blink of the turn signal.	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:

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

OK:
The noise source cannot be determined.

NG ▶ **REPAIR OR REPLACE NOISE SOURCE**

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

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Last Modified: 9-7-2011	6.4 D	**From:** 201008
Model Year: 2011	**Model:** RAV4	**Doc ID:** RM000003A3N01AX
Title: NAVIGATION: NAVIGATION SYSTEM (w/ DVD Player): OPERATION CHECK (2011 RAV4)		

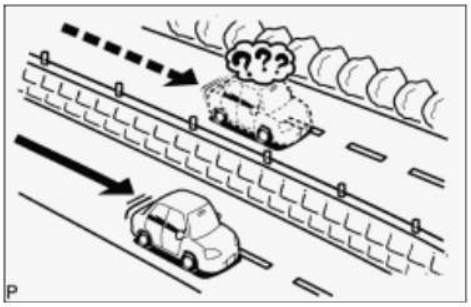
OPERATION CHECK

1. Check system normal condition

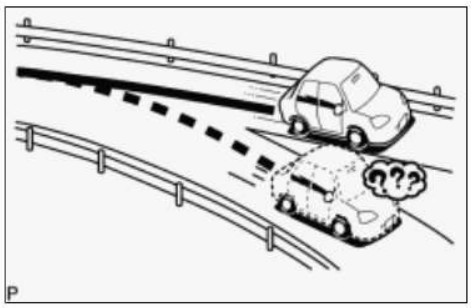
(a) If the cause of a symptom is any of the following, the corresponding symptom is normal, it is not a malfunction.

SYMPTOM	ANSWER
A longer route than expected is chosen.	Depending on the road conditions, the navigation ECU may determine that a longer route is quicker.
Even when distance priority is high, the shortest route is not shown.	Some paths 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 actual position.	If the vehicle starts before the navigation system activates, the system may not react.
When running on certain types of roads, especially new roads, the vehicle position deviates from the actual position.	When the vehicle is driving on new roads not available on the map disc, the system attempts to match it to another nearby road, causing the position mark to deviate.

(b) The following symptoms are not a malfunction, but are caused by errors inherent in the GPS, gyro sensor, speed sensor, and navigation ECU.

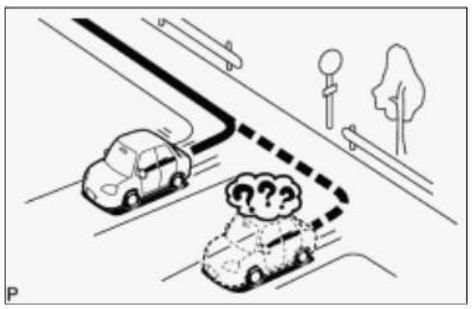


(1) The current position mark may be displayed on a nearby parallel road.

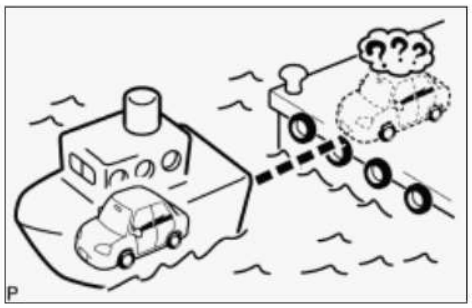


(2) Immediately after a fork in the road, the current vehicle position mark may be displayed on the wrong road.

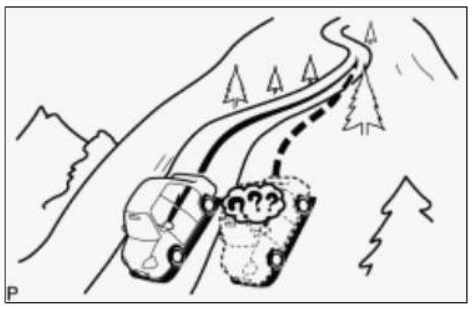
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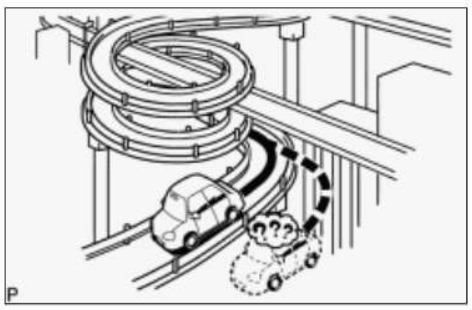
(3) When the vehicle turns right or left at an intersection, the current vehicle position mark may be displayed on a nearby parallel road.



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



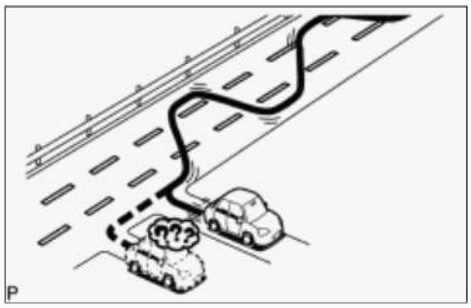
(5) When the vehicle is driven on a steep hill, the current vehicle position mark may deviate from the correct position.

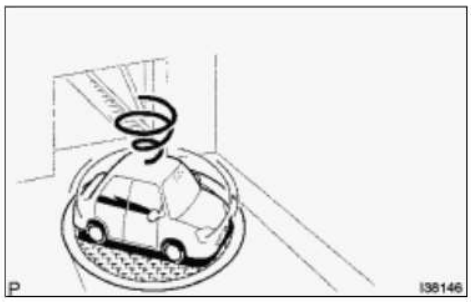


(6) When the vehicle makes a continuous turn of 360°, 720°, 1080°, etc., the current vehicle position mark may deviate from the correct position.

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

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(8) When the engine switch is turned to ACC or ON on a turntable while parking, the current vehicle position mark may not point in the correct direction. The same will occur when the vehicle starts to move.



(9) When the vehicle is driven 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 a tire is changed, the current vehicle position mark may deviate from the correct position.

HINT:

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

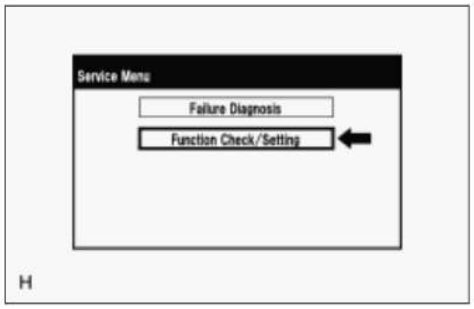
2. CHECK PANEL & STEERING SWITCH

HINT:

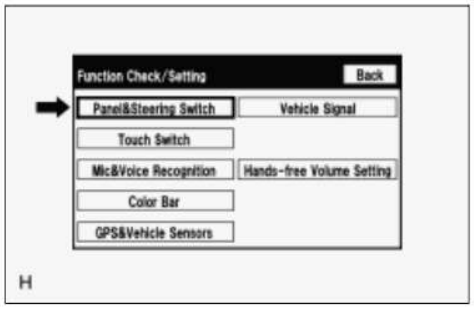
- The navigation receiver assembly panel switches and steering switch are checked in the following procedure.
- Illustrations may differ from the actual vehicle screen depending on the device settings and options. Therefore, some detailed areas may not be shown exactly the same as on the actual vehicle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

(a) Enter diagnostic mode INFO .

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

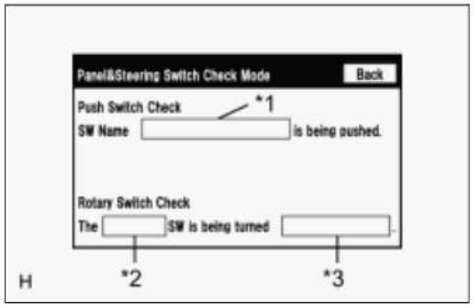


(c) Select "Panel&Steering Switch" from the "Function Check/Setting" screen.

(d) Panel&Steering Switch Check Mode

(1) Operate each switch and check that the switch names and condition are correctly displayed.

Screen Description



DISPLAY	CONTENT
*1: Push switch name	• Name of the pressed switch is displayed. • If more than one switch is pressed, "MULTIPLE" will be displayed.
*2: Rotary switch name	Name of the rotary switch is displayed.
*3: Rotary switch direction	Direction of the rotary switch is displayed.

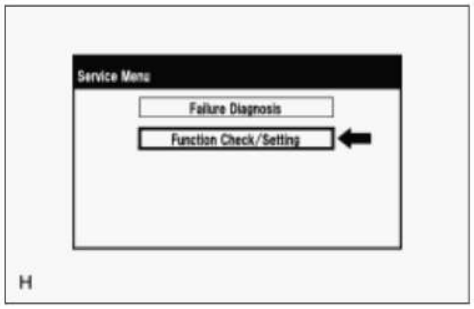
3. CHECK TOUCH SWITCH

HINT:

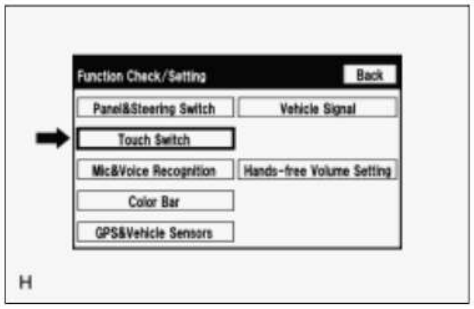
- The touch switches on the screen are checked in the following procedure.
- Illustrations may differ from the actual vehicle screen depending on the device settings and options. Therefore, some detailed areas may not be shown exactly the same as on the actual vehicle screen.

(a) Enter diagnostic mode INFO .

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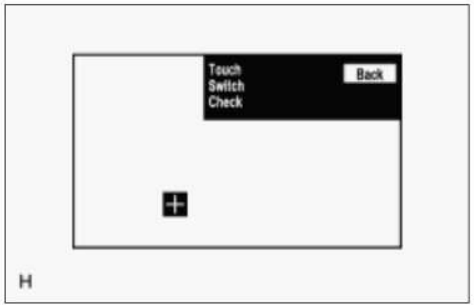


(b) Select "Function Check/Setting" from the "Service Menu" screen.



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

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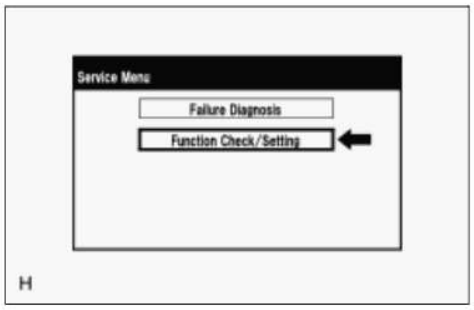
4. CHECK MIC & VOICE RECOGNITION

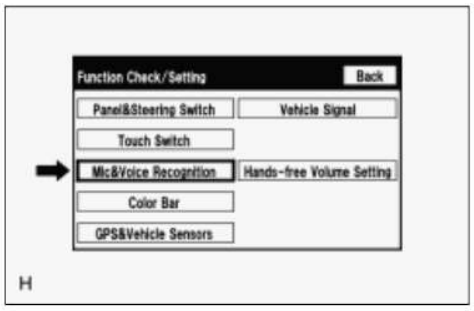
HINT:

- 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 INFO .

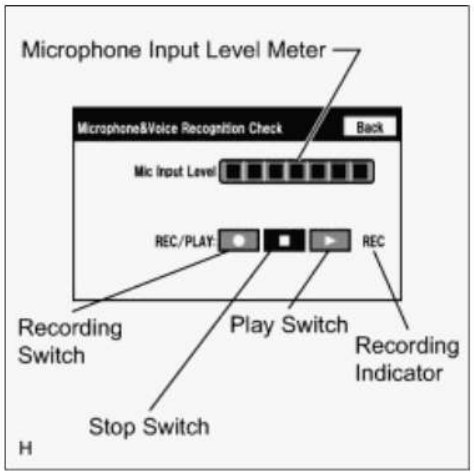
(b) Select "Function Check/Setting" from the "Service Menu" screen.





(c) Select "Mic&Voice Recognition" from the "Function Check/Setting" screen.

(d) Microphone&Voice Recognition Check



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

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

(3) Check that the recording indicator remains on while recording and that the recording can be played normally.

HINT:

- For details of this function, refer to Diagnosis Display Detailed Description INFO .
- This function is controlled by the built-in navigation ECU.

5. CHECK COLOR BAR

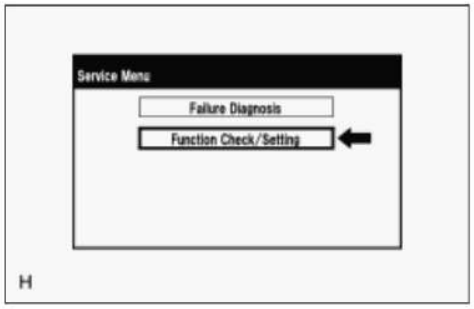
HINT:

- The display color on the screen is checked in the following procedure.

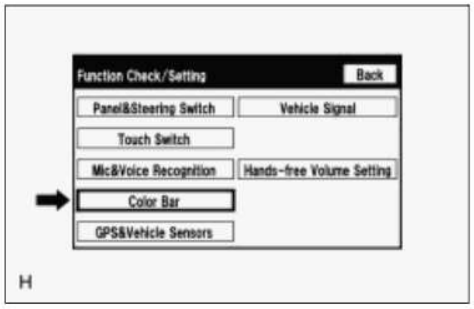
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- Illustrations may differ from the actual vehicle screen depending on the device settings and options. Therefore, some detailed areas may not be shown exactly the same as on the actual vehicle screen.

(a) Enter diagnostic mode INFO .

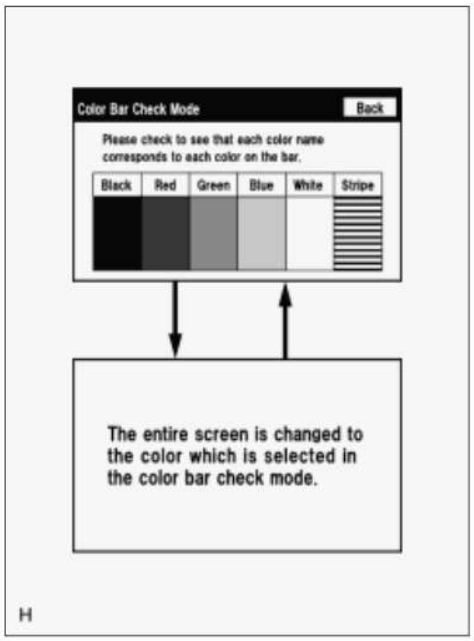


(b) Select "Function Check/Setting" from the "Service Menu" screen.



(c) Select "Color Bar" from the "Function Check/Setting" screen.

(d) Color Bar Check Mode



(1) Select a color bar from the "Color Bar Check Mode" screen.

(2) Check the display color.

HINT:

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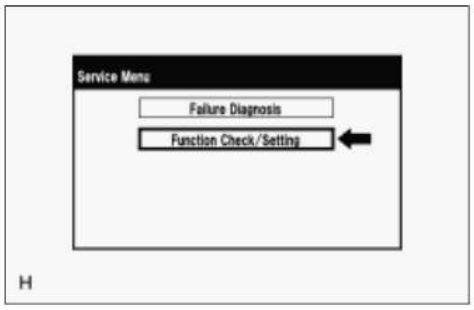
- The entire screen turns to the color or stripe selected.
- Touch the display to return to the "Color Bar Check" screen.

6. CHECK GPS & VEHICLE SENSORS

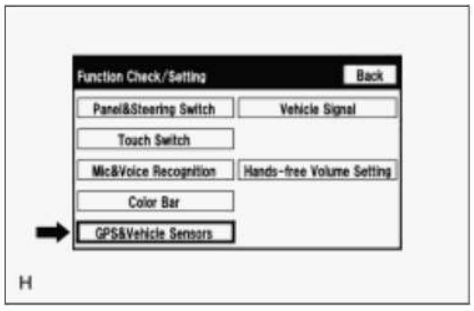
HINT:

- 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 INFO .

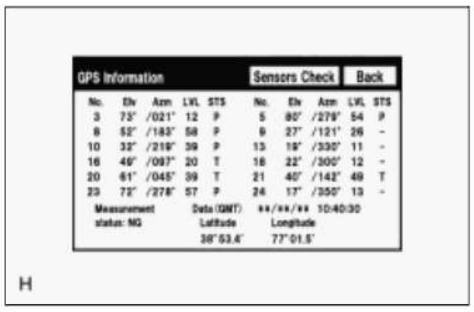


(b) Select "Function Check/Setting" from the "Service Menu" screen.



(c) Select "GPS&Vehicle Sensors" from the "Function Check/Setting" screen.

(d) GPS information



(1) When GPS information is displayed, check the GPS conditions.

HINT:

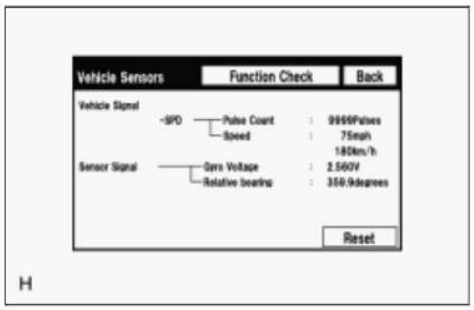
- This screen is updated once per second when input signals to the vehicle are changed.
- For details of this function, refer to Diagnosis Display Detailed Description INFO .

(e) Select "Sensors Check" from the "GPS & Vehicle Sensors" screen.

(f) Vehicle Sensors

(1) Check all the signals and sensors when vehicle signal

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information is displayed.

HINT:

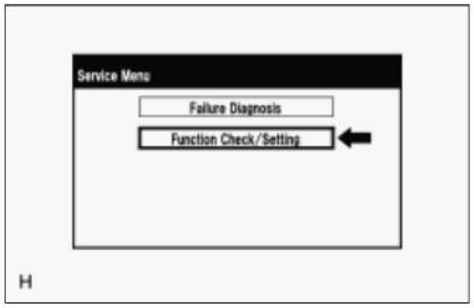
- The input signals from the vehicle are updated once per second and if any have changed, the screen is updated.
- This screen displays vehicle signals input to the built-in navigation ECU.
- For details of this function, refer to Diagnosis Display Detailed Description INFO .

7. CHECK VEHICLE SIGNAL

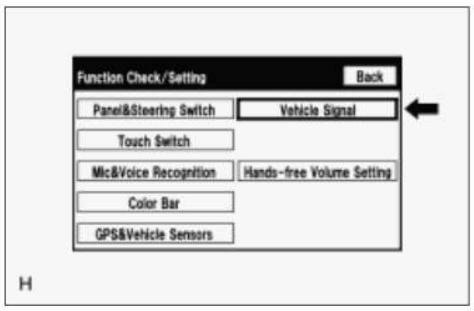
HINT:

- 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" screen.

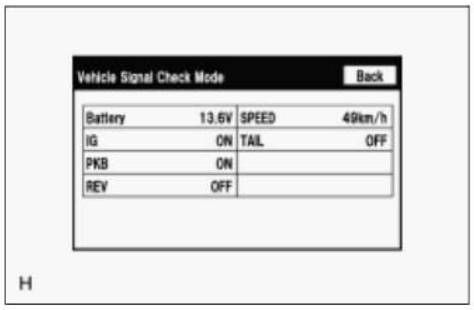
(d) Vehicle Signal Check Mode

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

HINT:

- Only conditions having inputs are displayed.
- This screen displays vehicle signals input to the navigation receiver assembly.

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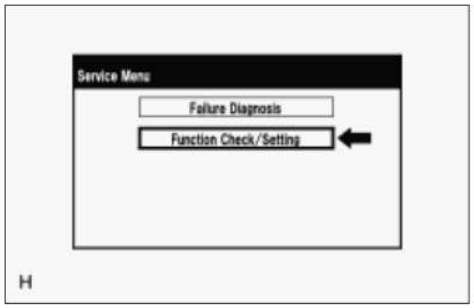
- For details of this function, refer to Diagnosis Display Detailed Description INFO .

8. CHECK HANDSFREE VOLUME SETTING

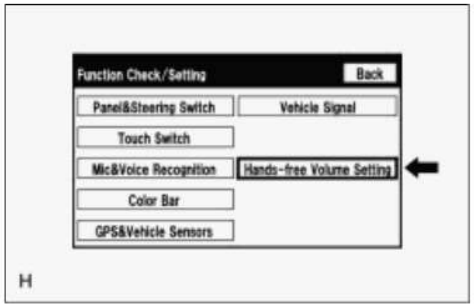
HINT:

- The handsfree volume 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 "Hands-free Volume Setting" from the "Function Check/Setting" screen.

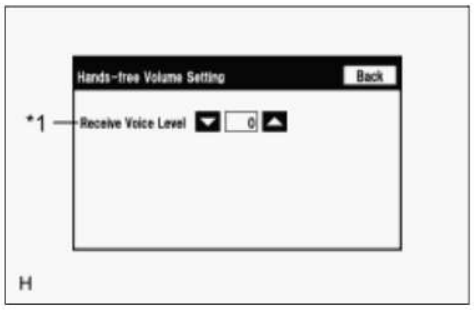
(d) Handsfree Volume Setting

(1) Check the handsfree volume level.

Screen Description

DISPLAY	CONTENT
*1: Receive voice level	Setting possible for the voice level received

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adjustment	from "Bluetooth" compatible phones.

NOTICE:

Sound quality may deteriorate when the receive voice level is changed more than necessary. For this reason, check that the received voice quality is still acceptable after changing this setting.

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Last Modified: 9-7-2011	6.4 J	**From:** 201008
Model Year: 2011	**Model:** RAV4	**Doc ID:** RM000000PN807NX
Title: NAVIGATION: NAVIGATION SYSTEM (w/ DVD Player): Panel Switches do not Function (2011 RAV4)		

Panel Switches do not Function

INSPECTION PROCEDURE

PROCEDURE

1.	**CHECK PANEL SWITCH**

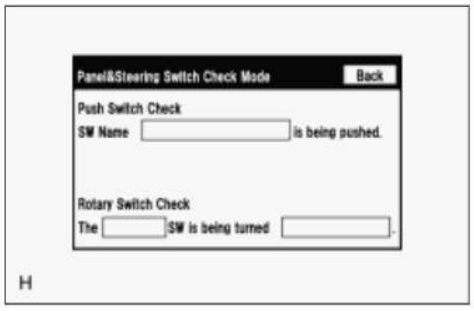
(a) Check for foreign matter around the switches that might prevent operation.

OK:
No foreign matter is found.

NG ▶ **REMOVE ANY FOREIGN MATTER FOUND**

OK ▼

2.	**CHECK PANEL SWITCH (DISPLAY CHECK MODE)**



(a) Enter the "Display Check" mode and select "Panel Switch Check" INFO .

(b) Operate the abnormal switch and check if the switch name and status are correctly displayed.

OK:
The switch name and status are correctly displayed as operated.

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

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TABLE

OK ▶ REPLACE NAVIGATION RECEIVER ASSEMBLY

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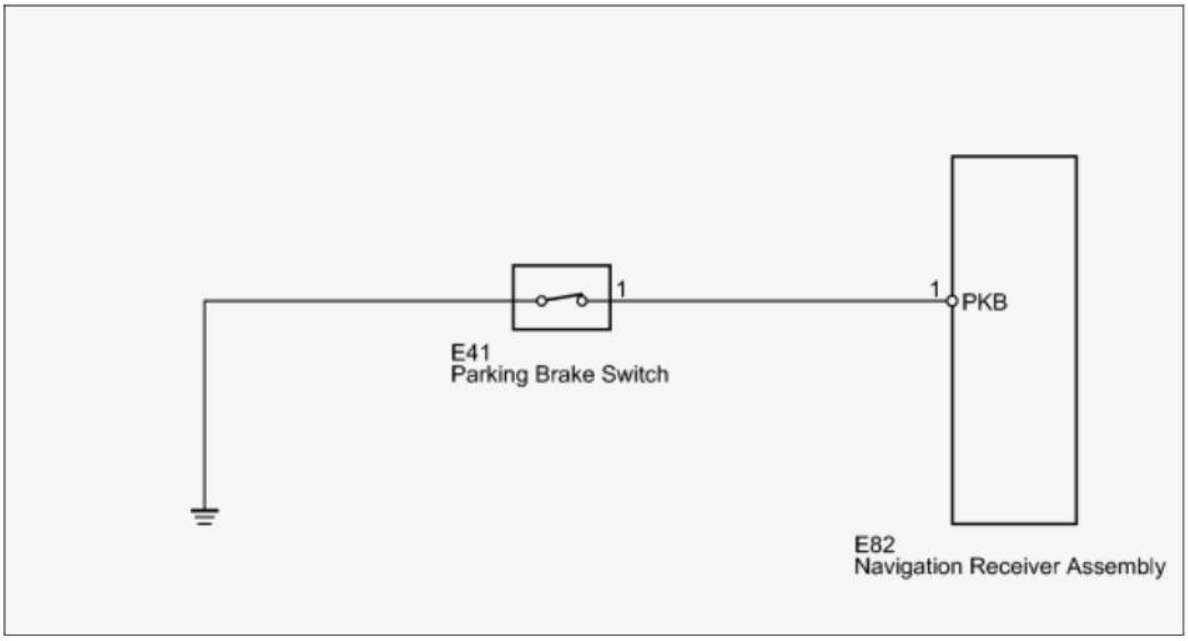
Last Modified: 9-7-2011	6.4 J	**From:** 201008
Model Year: 2011	**Model:** RAV4	**Doc ID:** RM0000011F307VX
Title: NAVIGATION: NAVIGATION SYSTEM (w/ DVD Player): Parking Brake Switch Circuit (2011 RAV4)		

Parking Brake Switch Circuit

DESCRIPTION

This circuit is from the parking brake switch to the navigation receiver assembly.

WIRING DIAGRAM



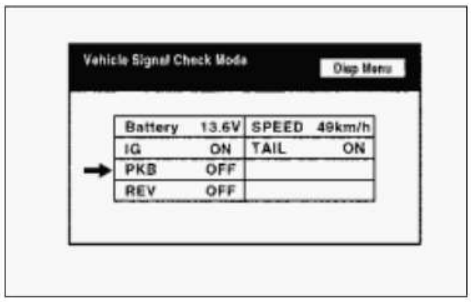
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INSPECTION PROCEDURE

PROCEDURE

1.	**CHECK PARKING BRAKE SWITCH ASSEMBLY (DISPLAY CHECK MODE)**

(a) Enter the "Display Check" mode and select "Vehicle Signal Check" INFO .



(b) Check that the display changes between ON and OFF according to the parking brake operation.

OK:

PARKING BRAKE POSITION	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 change in the switch.

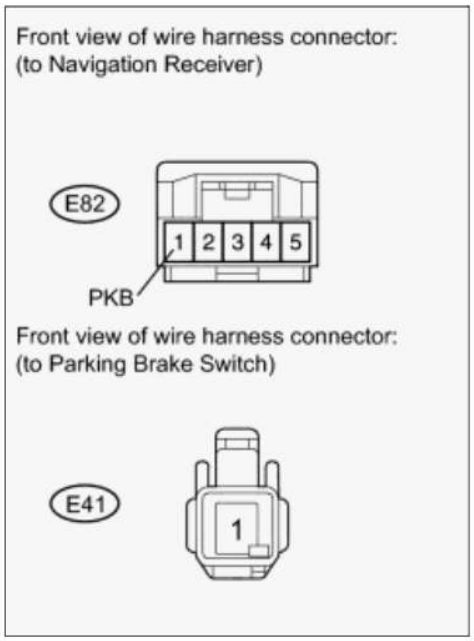
NG ▶ **CHECK HARNESS AND CONNECTOR (NAVIGATION RECEIVER - PARKING BRAKE SWITCH)**

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

2.	**CHECK HARNESS AND CONNECTOR (NAVIGATION RECEIVER - PARKING BRAKE SWITCH)**

(a) Disconnect the E82 navigation receiver assembly connector.

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(b) Disconnect the E41 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
E82-1 (PKB) - E41-1	Always	Below 1 Ω
E82-1 (PKB) - Body ground	Always	10 kΩ or higher

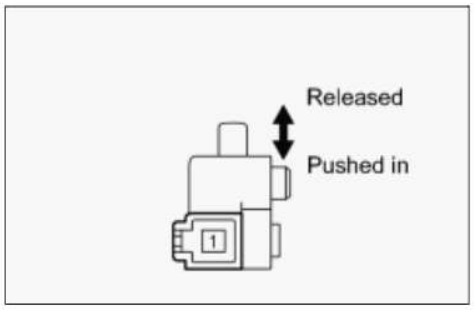
NG ▶ **REPAIR OR REPLACE HARNESS OR CONNECTOR**

OK ▼

3.	**INSPECT PARKING BRAKE SWITCH ASSEMBLY**

(a) Remove the parking brake switch assembly connector INFO .

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

Standard Resistance:

TESTER CONNECTION	SWITCH CONDITION	SPECIFIED CONDITION
1 - Body ground	Parking brake switch ON (Switch pin released)	Below 1 Ω
	Parking brake switch OFF (Switch pin pushed in)	10 kΩ or higher

NG ▶ **REPLACE PARKING BRAKE SWITCH ASSEMBLY**

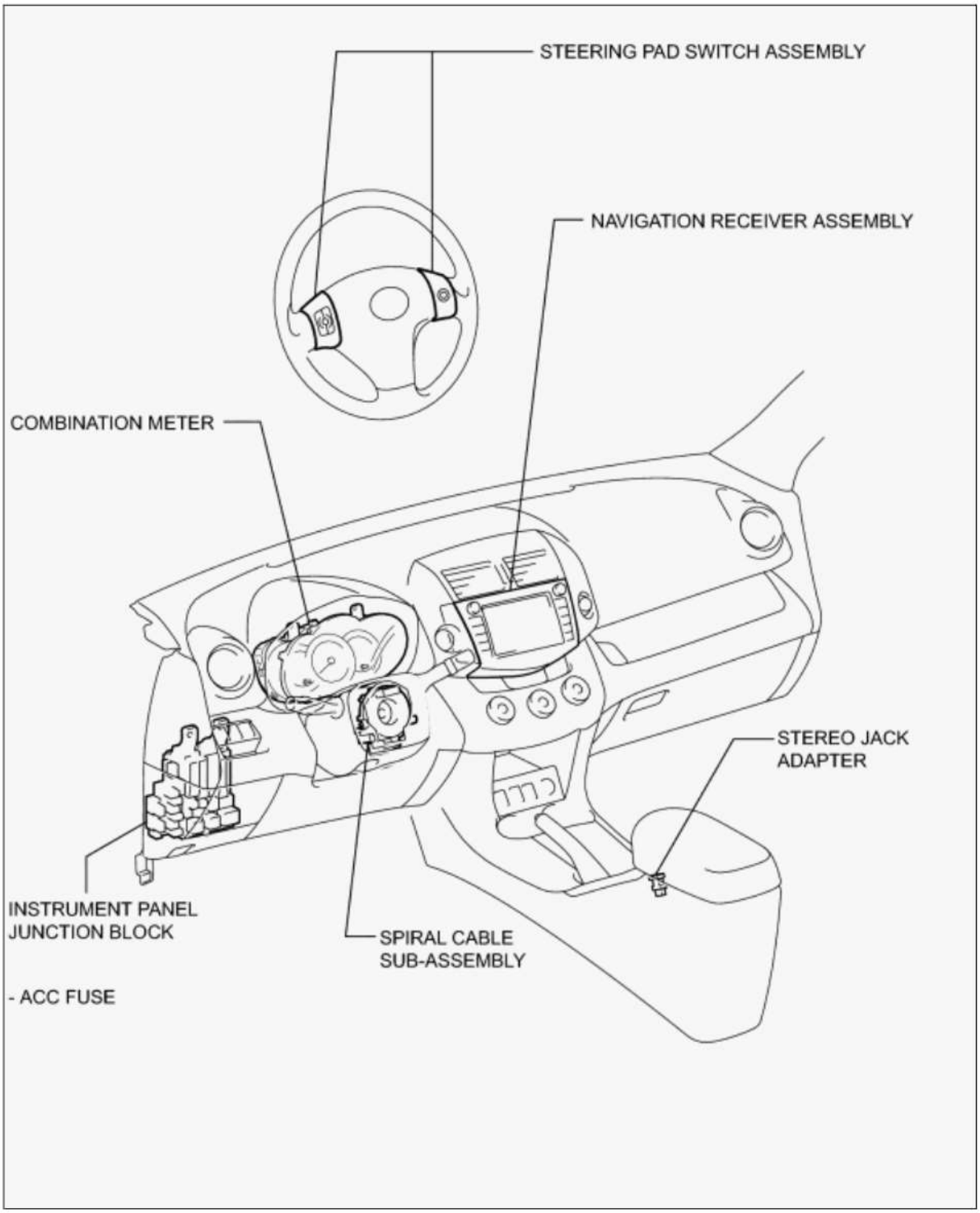
OK ▶ **PROCEED TO NEXT SUSPECTED AREA SHOWN IN PROBLEM SYMPTOMS TABLE**

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Last Modified: 9-7-2011	6.4 R	**From:** 201008
Model Year: 2011	**Model:** RAV4	**Doc ID:** RM0000033SW02XX
Title: NAVIGATION: NAVIGATION SYSTEM (w/ DVD Player): PARTS LOCATION (2011 RAV4)		

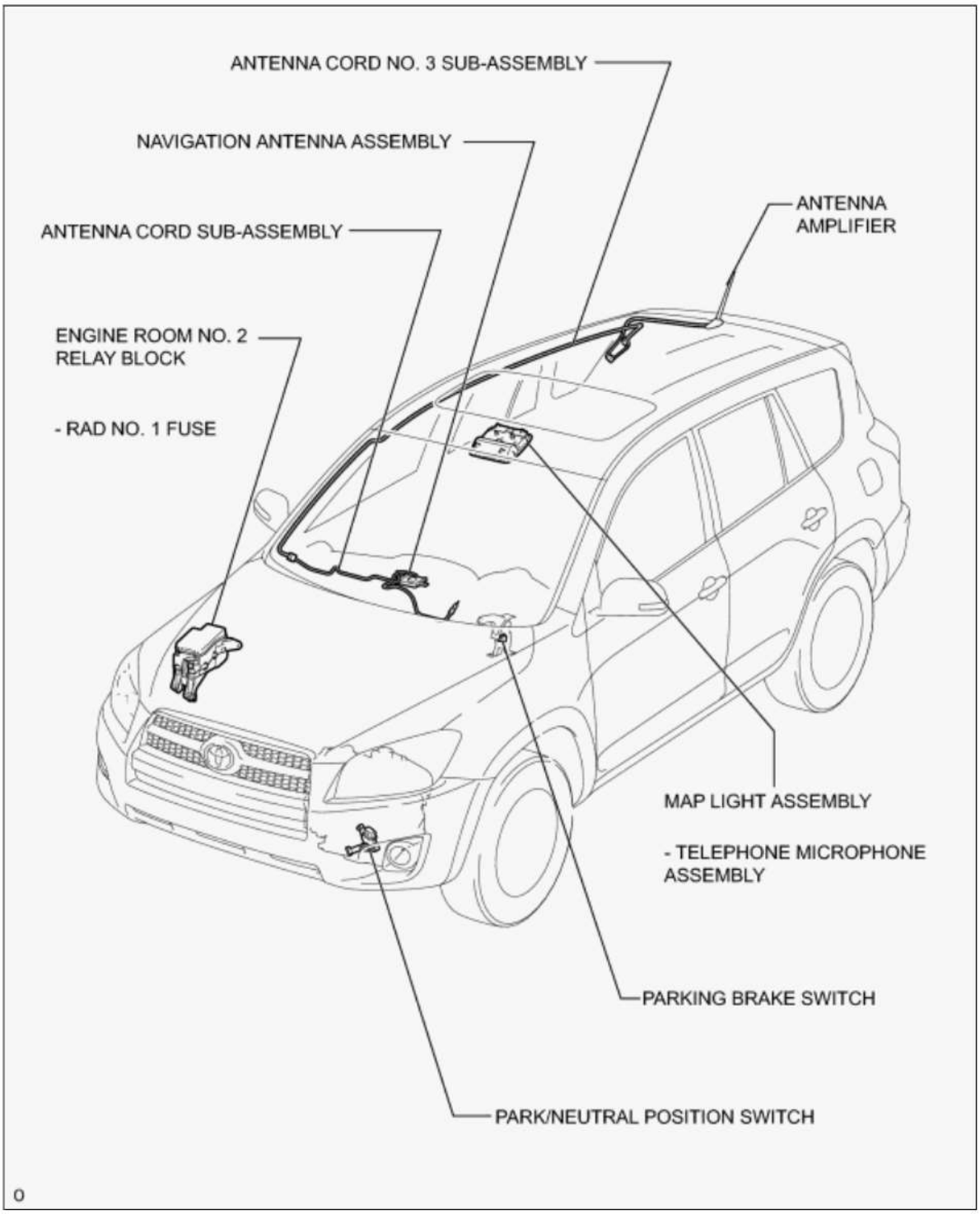
PARTS LOCATION

ILLUSTRATION



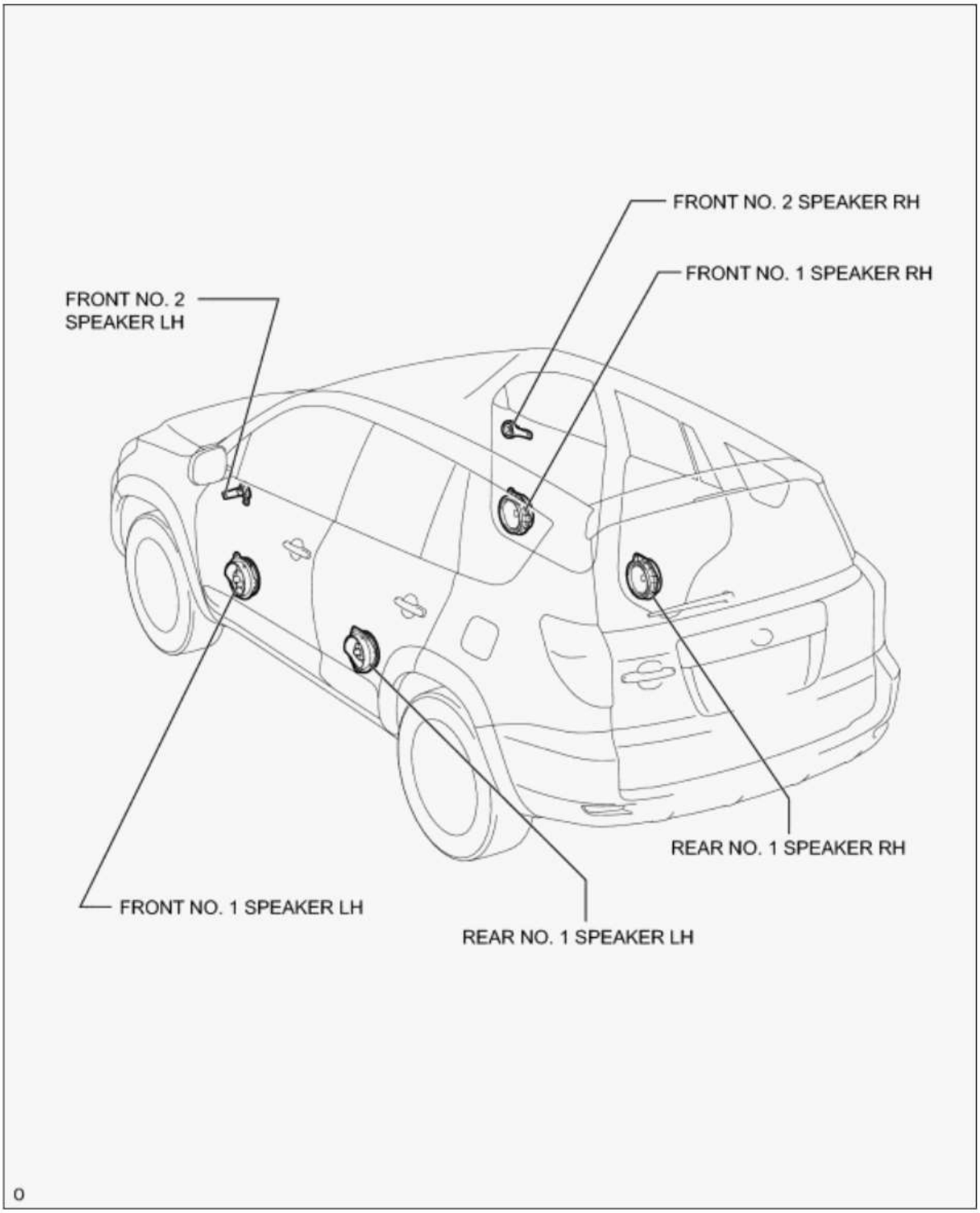
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ILLUSTRATION



ILLUSTRATION

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Last Modified: 9-7-2011	6.4 J	**From:** 201008
Model Year: 2011	**Model:** RAV4	**Doc ID:** RM0000020N903TX
Title: NAVIGATION: NAVIGATION SYSTEM (w/ DVD Player): Poor Sound Quality in All Modes (Low Volume) (2011 RAV4)		

Poor Sound Quality in All Modes (Low Volume)

INSPECTION PROCEDURE

PROCEDURE

1.	**CHECK AUDIO SETTINGS**

(a) Set "BASS" and "TREB" to the initial values and check that sound is normal.

OK:
Malfunction disappears.

NG ▶ **COMPARE WITH ANOTHER VEHICLE OF SAME MODEL**

OK ▶ **END**

2.	**COMPARE WITH ANOTHER VEHICLE OF SAME MODEL**

(a) Compare with another vehicle of the same model.

(1) 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 ▶ **GO TO "Navigation Receiver Assembly Power Source Circuit"**

OK ▶ **END**

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Last Modified: 9-7-2011	6.4 J	**From:** 201008
Model Year: 2011	**Model:** RAV4	**Doc ID:** RM000001WU4052X
Title: NAVIGATION: NAVIGATION SYSTEM (w/ DVD Player): Pressing Power Switch does not Turn on System (2011 RAV4)		

Pressing Power Switch does not Turn on System

INSPECTION PROCEDURE

PROCEDURE

1.	**CHECK CABIN**

(a) Check that conditions in the cabin are not likely to cause condensation.

HINT:

This problem occurs when the cabin is humid and the temperature rapidly changes. This condition may produce condensation, resulting in a short circuit.

OK:
Condensation is not likely to occur.

NG ▶ **DRY CABIN AND RECHECK CONDITIONS**

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

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Last Modified: 9-7-2011	6.4 T	**From:** 201008
Model Year: 2011	**Model:** RAV4	**Doc ID:** RM0000011BR087X
Title: NAVIGATION: NAVIGATION SYSTEM (w/ DVD Player): PROBLEM SYMPTOMS TABLE (2011 RAV4)		

PROBLEM SYMPTOMS TABLE

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 "Pressing Power Switch does not Turn on System"	INFO
	Proceed to "Navigation receiver assembly power source circuit"	INFO
	Replace navigation receiver assembly	INFO
Black screen (No image appears on navigation/audio screen).	Proceed to "Black Screen"	INFO
	Proceed to "Illumination circuit"	INFO
	Replace navigation receiver assembly	INFO
Illumination for panel switch does not come on with TAIL switch on.	Proceed to "Illumination for Panel Switch does not Come on with TAIL Switch ON"	INFO
	Proceed to "Illumination circuit"	INFO
	Replace navigation receiver assembly	INFO
Display does not dim (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
	Replace navigation receiver assembly	INFO
Power does not turn off (The screen remains on).	Proceed to "Navigation receiver assembly power source circuit"	INFO
	Replace navigation receiver assembly	INFO
Panel switches do not function.	Proceed to "Panel Switch does not Function"	INFO
	Proceed to "Steering pad switch circuit"	INFO
	Proceed to "Navigation receiver assembly power source circuit"	INFO
	Replace navigation receiver assembly	INFO

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SYMPTOM	SUSPECTED AREA	SEE PAGE
Touch panel switch does not function.	Proceed to "Touch Panel Switch does not Function"	INFO
	Proceed to "Steering pad switch circuit"	INFO
	Proceed to "Navigation receiver assembly power source circuit"	INFO
	Replace navigation receiver assembly	INFO
Display panel does not open, tilt, or tilts improperly.	Proceed to "Display Panel does not Open, Tilt, or Tilts Improperly"	INFO
	Proceed to "Navigation receiver assembly power source circuit"	INFO
	Replace navigation receiver assembly	INFO
Screen is distorted.	Proceed to "Navigation receiver assembly power source circuit"	INFO
	Replace navigation receiver assembly	INFO
Screen flicker or color distortion.	Proceed to "Screen Flicker or Color Distortion"	INFO
	Proceed to "Navigation receiver assembly power source circuit"	INFO
	Replace navigation receiver assembly	INFO
Navigation function switches can be operated while vehicle is running.	Proceed to "Speed Signal Circuit"	INFO

Audio Function

SYMPTOM	SUSPECTED AREA	SEE PAGE
No sound can be heard from speakers (audio is mute).	Proceed to "No Sound can be Heard from Speakers"	INFO
	Proceed to "Speaker Circuit"	INFO
	Replace navigation receiver assembly	INFO
Radio broadcast cannot be received or poor reception.	Proceed to "Radio Broadcast cannot be Received or Poor Reception"	INFO
	Replace antenna cord sub-assembly	INFO
	Replace antenna cord No. 3 sub-assembly	INFO
	Replace antenna amplifier	INFO
CD cannot be inserted/played or CD is ejected right after insertion.	Proceed to "CD cannot be Inserted / Played or CD is Ejected Right After Insertion"	INFO
CD cannot be ejected.	Proceed to "CD cannot be Ejected"	INFO
CD sound skips.	Proceed to "CD Sound Skips"	INFO
Abnormal noise occurs.	Proceed to "Noise Occurs"	INFO

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SYMPTOM	SUSPECTED AREA	SEE PAGE
Poor sound quality in all modes (low volume).	Proceed to "Poor Sound Quality in All Modes (Low Volume)"	INFO
	Proceed to "Navigation receiver assembly power source circuit"	INFO
	Replace navigation receiver assembly	INFO
External device sound cannot be heard or sound quality is bad (Stereo jack is used).	Proceed to "Navigation receiver assembly power source circuit"	INFO
	Proceed to "Sound Signal Circuit between Navigation Receiver Assembly and Stereo Jack Adapter"	INFO
	Replace stereo jack adapter	INFO
	Replace navigation receiver assembly	INFO
DVD image cannot be displayed on screen (Parking brake is on).	Proceed to "Parking Brake Switch Signal Circuit"	INFO
	Replace navigation receiver assembly	INFO
Navigation function switches can be operated while vehicle is running.	Replace navigation receiver assembly	INFO

Navigation Function

SYMPTOM	SUSPECTED AREA	SEE PAGE
Map disc cannot be inserted.	Proceed to "Map Disc cannot be Inserted"	INFO
	Proceed to "Navigation receiver assembly power source circuit"	INFO
	Replace navigation receiver assembly	INFO
Map disc cannot be ejected.	Proceed to "Navigation receiver assembly power source circuit"	INFO
	Replace navigation receiver assembly	INFO
Vehicle position mark deviates.	Proceed to "Vehicle Position Mark Deviates Greatly"	INFO
	Proceed to "Speed Signal Circuit"	INFO
	Proceed to "Reverse Signal Circuit"	INFO
	Replace navigation antenna assembly	INFO
	Replace navigation receiver assembly	INFO
Cursor or map rotates when vehicle is stopped.	Proceed to "Cursor or Map Rotates When Vehicle is Stopped"	INFO
	Proceed to "Speed Signal Circuit"	INFO
	Replace navigation receiver assembly	INFO
Vehicle position mark is not updated.	Proceed to "Vehicle Position Mark is not Updated"	INFO

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SYMPTOM	SUSPECTED AREA	SEE PAGE
	Proceed to "Speed Signal Circuit"	INFO
	Map disc	-
	Replace navigation receiver assembly	INFO
Current position display does not appear.	Proceed to "Current Position Display does not Appear"	INFO
	Map disc	-
	Replace navigation antenna assembly	INFO
	Replace navigation receiver assembly	INFO
GPS mark is not displayed.	Proceed to "GPS Mark is not Displayed"	INFO
	Replace navigation antenna assembly	INFO
	Replace navigation receiver assembly	INFO
Voice guidance does not function.	Proceed to "Voice Guidance does not Function"	INFO
	Proceed to "Speaker Circuit"	INFO
	Replace map disc	-
	Replace navigation receiver assembly	INFO
Map display incomplete.	Proceed to "Map Display Incomplete"	INFO
	Map disc	-
	Replace navigation receiver assembly	INFO
Route cannot be calculated.	Proceed to "Route cannot be Calculated"	INFO
	Map disc	-
	Replace navigation receiver assembly	INFO
Voice recognition difficulty	Proceed to "Voice Recognition Difficulty"	INFO
	Proceed to "Microphone Circuit between Microphone and Navigation Receiver Assembly"	INFO
	Replace telephone microphone assembly	INFO
	Replace navigation receiver assembly	INFO
Voice is not recognized	Proceed to "Voice is not Recognized"	INFO
	Proceed to "Microphone Circuit between Microphone and navigation Receiver Assembly"	INFO
	Proceed to "Steering Pad Switch Circuit"	INFO
	Replace telephone microphone assembly	INFO
	Replace navigation receiver assembly	INFO
Speed signal does not change in the navigation check mode.	Proceed to "Speed Signal Circuit"	INFO

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SYMPTOM	SUSPECTED AREA	SEE PAGE
Reverse signal does not change in the navigation check mode.	Proceed to "Reverse signal circuit"	INFO

Steering Pad Switch Function

SYMPTOM	SUSPECTED AREA	SEE PAGE
The system cannot be operated by the steering pad switch.	Proceed to "Steering pad switch circuit"	INFO
	Replace navigation receiver assembly	INFO
Illumination for steering pad switch does not come on with TAIL switch on.	Proceed to "Illumination circuit"	INFO
	Replace navigation receiver assembly	INFO

"Bluetooth" Function

SYMPTOM	SUSPECTED AREA	SEE PAGE
Cellular phone registration failure, phone directory transfer failure	Proceed to "Cellular Phone Registration Failure, Phone Directory Transfer Failure"	INFO
Cellular phone cannot send/receive	Proceed to "Cellular Phone cannot Send / Receive"	INFO
	Proceed to "Steering Pad Switch Circuit"	INFO
	Replace navigation receiver assembly	INFO
Cannot call in certain place	Proceed to "Cannot Call in a Certain Place"	INFO
Other caller's voice cannot be heard, is too quiet, or distorted	Proceed to "The Other Caller's Voice cannot be Heard, is too Quiet, or Distorted"	INFO
	Replace navigation receiver assembly	INFO
Other caller cannot hear your voice, or your voice is too quiet or distorted	Proceed to "The Other Caller cannot Hear Your Voice, or Your Voice is too Quiet or Distorted"	INFO
	Proceed to "Microphone Circuit between Microphone and Navigation Receiver Assembly"	INFO
	Replace telephone microphone assembly	INFO
	Replace navigation receiver assembly	INFO

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Last Modified: 9-7-2011	6.4 J	**From:** 201008
Model Year: 2011	**Model:** RAV4	**Doc ID:** RM0000012CN0APX
Title: NAVIGATION: NAVIGATION SYSTEM (w/ DVD Player): Radio Broadcast cannot be Received or Poor Reception (2011 RAV4)		

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.

OK:
The radio automatic station search function works properly.

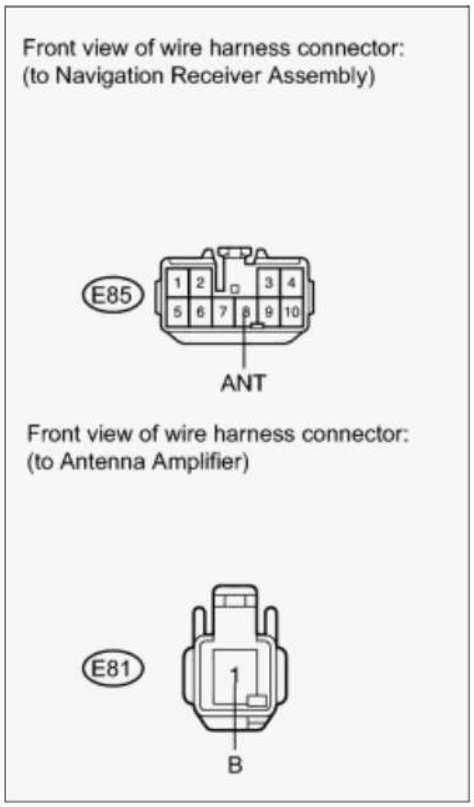
NG ▶ **CHECK HARNESS AND CONNECTOR (NAVIGATION RECEIVER ASSEMBLY - ANTENNA AMPLIFIER)**

OK ▶ **REPLACE NAVIGATION RECEIVER ASSEMBLY**

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

(a) Disconnect E85 navigation receiver assembly connector.

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(b) Disconnect E81 antenna amplifier connector.

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

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
E85-8 (ANT) - E81-1 (B)	Always	Below 1 Ω
E85-8 (ANT) - Body ground	Always	10 kΩ or higher

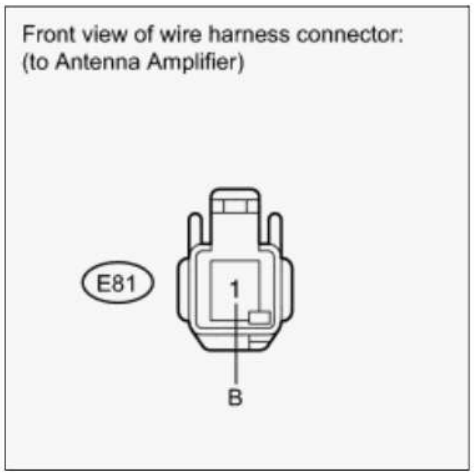
NG ▶ **REPAIR OR REPLACE HARNESS OR CONNECTOR**

OK ▼

3.	**INSPECT NAVIGATION RECEIVER ASSEMBLY**

(a) Reconnect navigation receiver assembly connector.

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

Standard Voltage:

TESTER CONNECTION	SWITCH CONDITION	SPECIFIED CONDITION
E81-1 (B) - Body ground	engine switch ON, radio switch ON	11 to 14 V

NG ▶ **REPLACE NAVIGATION RECEIVER ASSEMBLY**

OK ▼

4.	**CHECK OPTIONAL COMPONENTS**

(a) Check optional components (sun-shade film, telephone antenna, etc.).

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

OK:

Optional components are installed.

NOTICE:

Do not remove any optional components installed by the customer without his or her consent.

NG ▶ **CHECK ANTENNA FOR NOISE PRODUCTION**

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

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5.	CHECK ANTENNA FOR NOISE PRODUCTION

(a) With the engine switch ON, turn on the radio and choose the AM mode.

(b) Place the tip of a screwdriver on the antenna and check that noise is heard from the speakers.

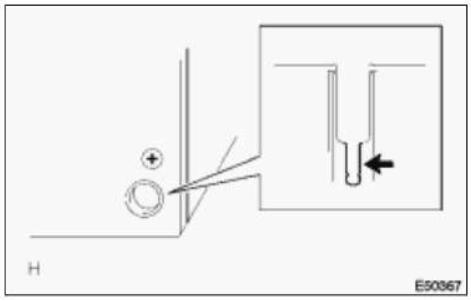
OK:

Noise is heard.

NG ▶ **CHECK NAVIGATION RECEIVER ASSEMBLY**

OK ▶ **REPLACE NAVIGATION RECEIVER ASSEMBLY**

6.	CHECK NAVIGATION RECEIVER ASSEMBLY



(a) Preparation for check

(1) Remove the antenna plug from the navigation receiver assembly.

(b) Check for noise

(1) Turn the engine 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 speaker.

OK:

Noise occurs.

NG ▶ **REPLACE NAVIGATION RECEIVER ASSEMBLY**

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

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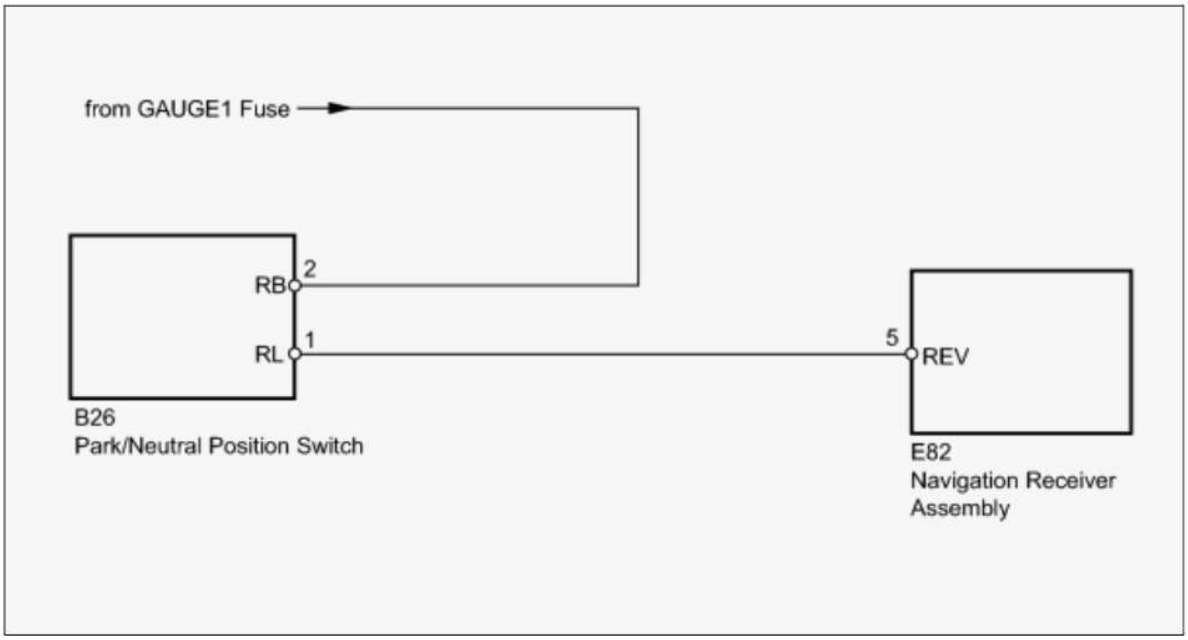
Last Modified: 9-7-2011	6.4 J	**From:** 201008
Model Year: 2011	**Model:** RAV4	**Doc ID:** RM0000020O105YX
Title: NAVIGATION: NAVIGATION SYSTEM (w/ DVD Player): Reverse Signal Circuit (2011 RAV4)		

Reverse Signal Circuit

DESCRIPTION

The navigation receiver assembly receives a reverse signal from the park/neutral position switch and information about the GPS antenna, and then adjusts the vehicle position.

WIRING DIAGRAM



INSPECTION PROCEDURE

PROCEDURE

1.	**INSPECT NAVIGATION RECEIVER ASSEMBLY**

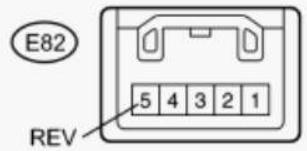
(a) Measure the voltage according to the value(s) in the table below.

Standard Voltage:

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TESTER CONNECTION	SWITCH CONDITION	SPECIFIED CONDITION
E82-5 (REV) - Body ground	Engine switch on (IG) Shift lever is in R	11 to 14 V
E82-5 (REV) - Body ground	Engine switch on (IG) Shift lever is in any position except R	Below 1 V

Component with harness connected:
(Navigation Receiver Assembly)



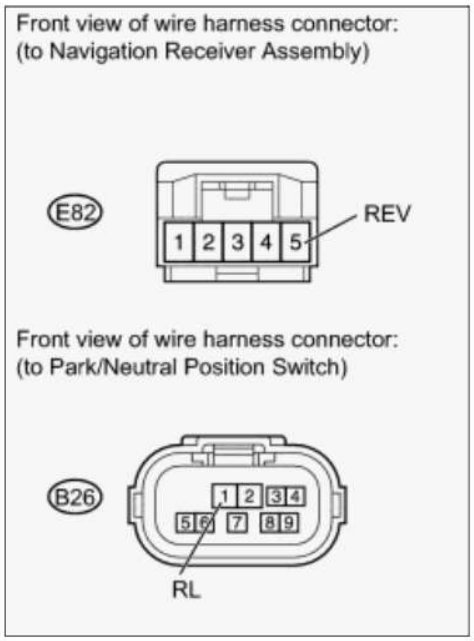
NG ▶ **CHECK HARNESS AND CONNECTOR (NAVIGATION RECEIVER ASSEMBLY- PARK / NEUTRAL POSITION SWITCH)**

OK ▶ **REPLACE NAVIGATION RECEIVER ASSEMBLY**

2.	**CHECK HARNESS AND CONNECTOR (NAVIGATION RECEIVER ASSEMBLY- PARK / NEUTRAL POSITION SWITCH)**

(a) Disconnect the E82 navigation receiver assembly connector.

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(b) Disconnect the B26 park/neutral position switch.

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

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
E82-5 (REV) - B26-1 (RL)	Always	Below 1 Ω
E82-5 (REV) - Body ground	Always	10 kΩ or higher

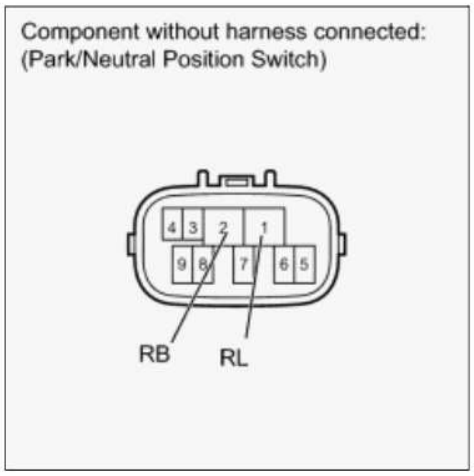
NG ▶ **REPAIR OR REPLACE HARNESS OR CONNECTOR**

OK ▼

3.	**INSPECT PARK/NEUTRAL POSITION SWITCH**

(a) Disconnect the B26 switch connector.

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

Standard Resistance:

TESTER CONNECTION	SWITCH CONDITION	SPECIFIED CONDITION
2 (RB) - 1 (RL)	Engine switch on (IG), shift lever is in R	Below 1 Ω
2 (RB) - 1 (RL)	Engine switch on (IG), shift lever is in P	10 kΩ or higher

Result

RESULT	PROCEED TO
OK	A
NG (U140F)	B
NG (U151F)	C
NG (U241E)	D
NG (U151E)	E

B ▶ **REPLACE PARK/NEUTRAL POSITION SWITCH**

C ▶ **REPLACE PARK/NEUTRAL POSITION SWITCH**

D ▶ **REPLACE PARK/NEUTRAL POSITION SWITCH**

E ▶ **REPLACE PARK/NEUTRAL POSITION SWITCH**

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

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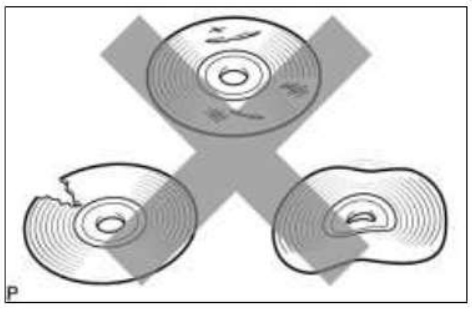
Last Modified: 9-7-2011	6.4 J	**From:** 201008
Model Year: 2011	**Model:** RAV4	**Doc ID:** RM000000PNN08QX
Title: NAVIGATION: NAVIGATION SYSTEM (w/ DVD Player): Route cannot be Calculated (2011 RAV4)		

Route cannot be Calculated

INSPECTION PROCEDURE

PROCEDURE

1.	**CHECK MAP DISC**



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

OK:

No deformations or cracks on map disc.

NG ▶ **REPLACE MAP DISC**

OK ▼

2.	**SET DESTINATION**

(a) Set another destination and check if the system can calculate the route correctly.

OK:

Route can be correctly calculated.

NG ▶ **REPLACE NAVIGATION RECEIVER ASSEMBLY**

OK ▶ **END**

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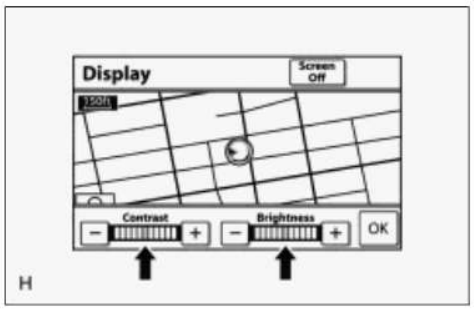
Last Modified: 9-7-2011	6.4 J	**From:** 201008
Model Year: 2011	**Model:** RAV4	**Doc ID:** RM000000POJ09IX
Title: NAVIGATION: NAVIGATION SYSTEM (w/ DVD Player): Screen Flicker or Color Distortion (2011 RAV4)		

Screen Flicker or Color Distortion

INSPECTION PROCEDURE

PROCEDURE

1.	**CHECK DISPLAY SETTING**



(a) Enter the display adjustment screen by pressing the "DISPLAY" switch.

OK:

The display returns to normal.

NG ▶ **CHECK CABIN**

OK ▶ **END**

2.	**CHECK CABIN**

(a) Check that the cabin temperature is higher than -20°C (-4°F).

OK:

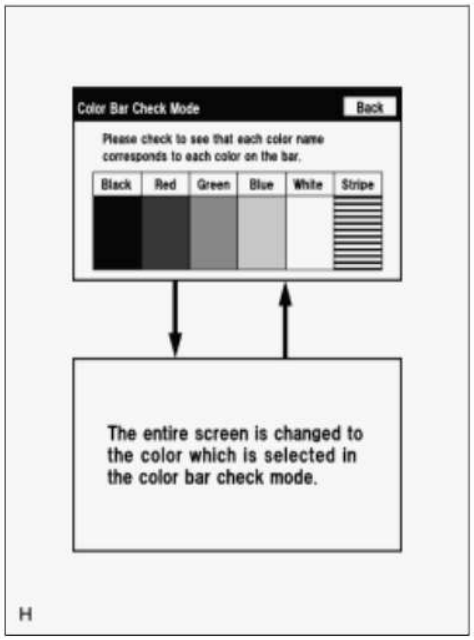
The cabin temperature is higher than -20°C (-4°F).

NG ▶ **HEAT CABIN AND RECHECK TEMPERATURE**

OK ▼

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3.	**CHECK COLOR BAR (DISPLAY CHECK MODE)**



(a) Enter the "Display Check" mode and select "Color Bar Check" INFO .

(b) Check that the color bars match the displayed names.

OK:
Color bars match the displayed names.

NG ▶ **REPLACE NAVIGATION RECEIVER ASSEMBLY**

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

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Last Modified: 9-7-2011	6.4 J	**From:** 201008
Model Year: 2011	**Model:** RAV4	**Doc ID:** RM0000020QE02UX
Title: NAVIGATION: NAVIGATION SYSTEM (w/ DVD Player): Sound Signal Circuit between Navigation Receiver Assembly and Stereo Jack Adapter (2011 RAV4)		

Sound Signal Circuit between Navigation Receiver Assembly and Stereo Jack Adapter

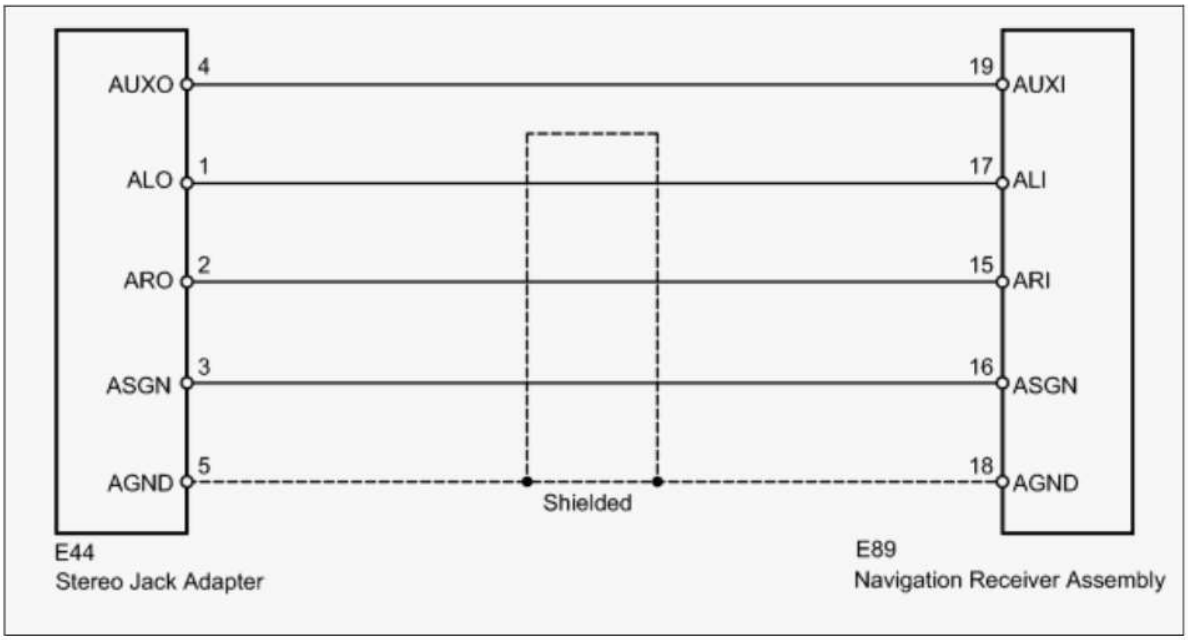
DESCRIPTION

The stereo jack adapter sends an external device sound signal to the navigation receiver assembly through this circuit.

The sound signal that has been sent is amplified by the stereo component amplifier and then is sent to the speakers.

If there is an open or short in the circuit, sound cannot be heard from the speakers even if there is no malfunction in the stereo component amplifier, navigation receiver assembly, or speakers.

WIRING DIAGRAM

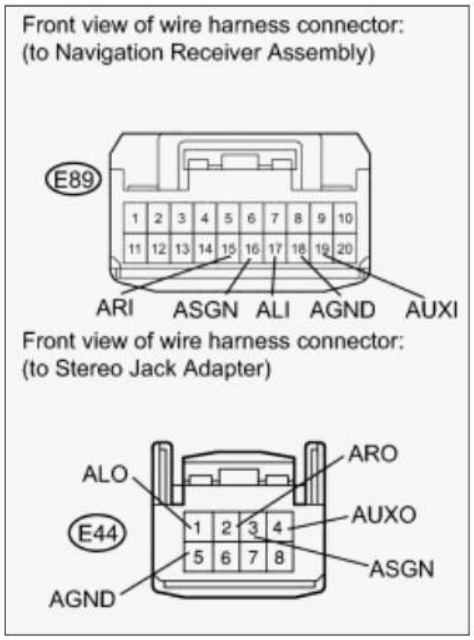


INSPECTION PROCEDURE

PROCEDURE

1.	**CHECK HARNESS AND CONNECTOR (STEREO JACK ADAPTER - NAVIGATION RECEIVER ASSEMBLY)**

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(a) Disconnect the E89 navigation receiver assembly connector.

(b) Disconnect the E44 stereo jack adapter connector.

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

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
E44-1 (ALO) - E89-17 (ALI)	Always	Below 1 Ω
E44-2 (ARO) - E89-15 (ARI)	Always	Below 1 Ω
E44-3 (ASGN) - E89-16 (ASGN)	Always	Below 1 Ω
E44-4 (AUXO) - E89-19 (AUXI)	Always	Below 1 Ω
E44-5 (AGND) - E89-18 (AGND)	Always	Below 1 Ω
E44-1 (ALO) - Body ground	Always	10 kΩ or higher
E44-2 (ARO) - Body ground	Always	10 kΩ or higher
E44-3 (ASGN) - Body ground	Always	10 kΩ or higher
E44-4 (AUXO) - Body ground	Always	10 kΩ or higher
E44-5 (AGND) - Body ground	Always	10 kΩ or higher

NG ▶ **REPAIR OR REPLACE HARNESS OR CONNECTOR**

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

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Last Modified: 9-7-2011	6.4 J	**From:** 201008
Model Year: 2011	**Model:** RAV4	**Doc ID:** RM000001VBY00PX
Title: NAVIGATION: NAVIGATION SYSTEM (w/ DVD Player): Speaker Circuit (2011 RAV4)		

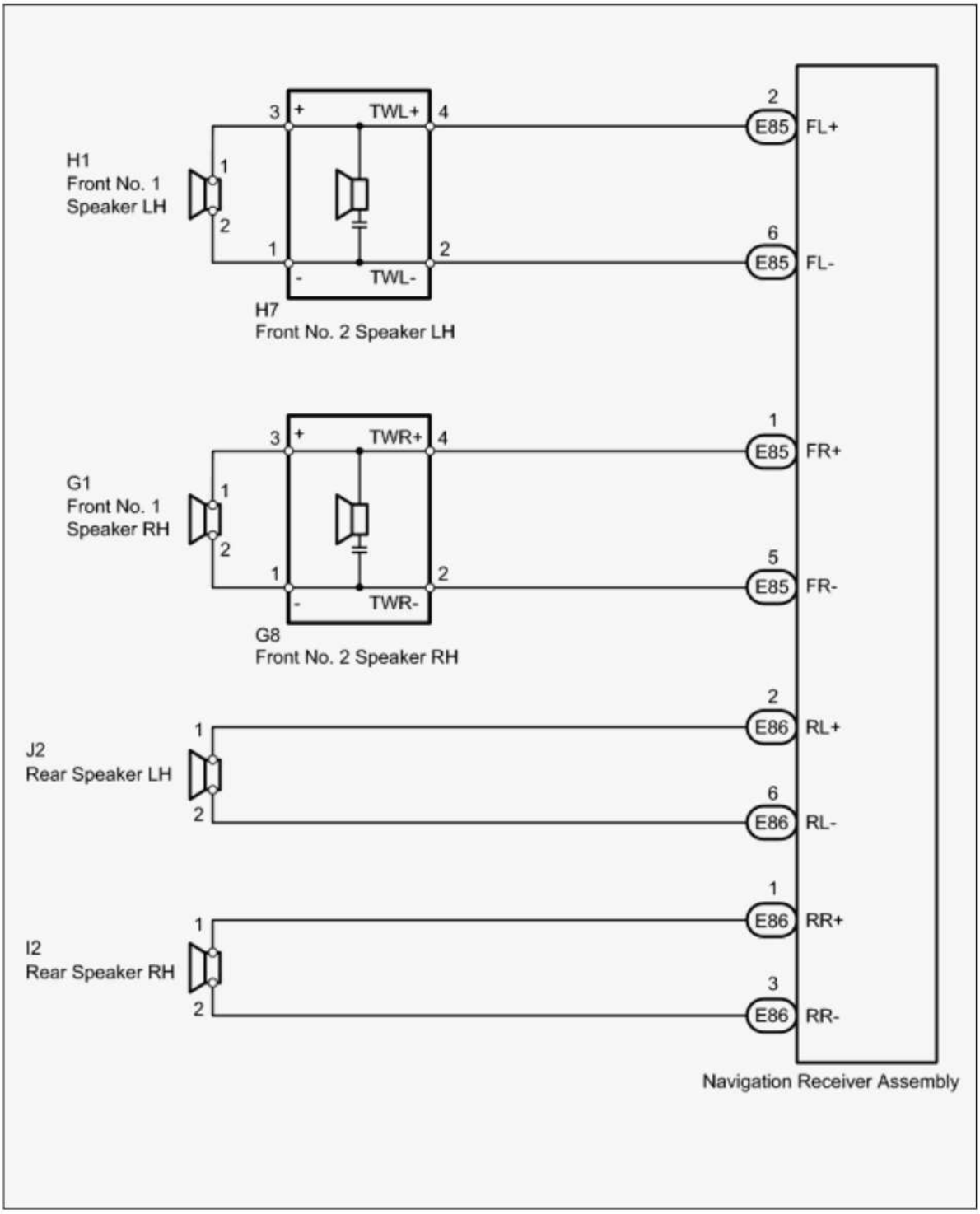
Speaker Circuit

DESCRIPTION

When the vehicle has a built-in type amplifier, a sound signal is sent from the navigation receiver assembly to the speakers through this circuit.

WIRING DIAGRAM

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INSPECTION PROCEDURE

PROCEDURE

1.	**CHECK SPEAKER**

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(a) Check that the speakers sound.

Result

RESULT	PROCEED TO
Front No. 1 speakers do not operate	A
Front No. 2 speakers do not operate	B
Rear No. 1 speakers do not operate	C
All speakers do not operate	D

B ▶ **CHECK HARNESS AND CONNECTOR (NAVIGATION RECEIVER ASSEMBLY - FRONT NO. 2 SPEAKER)**

C ▶ **CHECK HARNESS AND CONNECTOR (NAVIGATION RECEIVER ASSEMBLY - REAR NO. 1 SPEAKER)**

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

A ▼

2.	**CHECK FRONT NO. 2 SPEAKER ASSEMBLY**

(a) Check that the front No. 2 speakers sound.

OK:
Speakers sound.

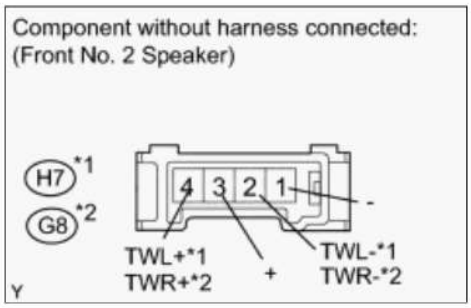
NG ▶ **CHECK HARNESS AND CONNECTOR (NAVIGATION RECEIVER ASSEMBLY - FRONT NO. 2 SPEAKER)**

OK ▼

3.	**INSPECT FRONT NO. 2 SPEAKER ASSEMBLY**

(a) Disconnect the H7 or G8 speaker connector.

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(b) Measure the resistance of the speaker.

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
1 (-) - 2 (TWL-)*1 or (TWR-)*2	Always	Below 1 Ω
3 (+) - 4 (TWL+)*1 or (TWR+)*2	Always	Below 1 Ω
1 (-) - Body ground	Always	10 kΩ or higher
3 (+) - Body ground	Always	10 kΩ or higher

HINT:

***1: for LH**

***2: for RH**

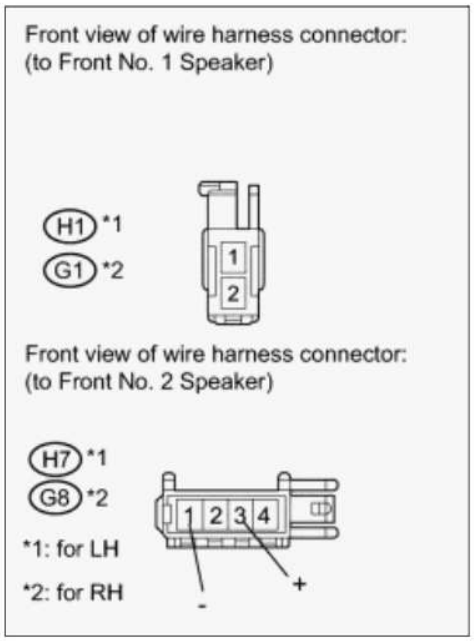
NG ▶ **REPLACE FRONT NO. 2 SPEAKER ASSEMBLY**

OK ▼

4.	**CHECK HARNESS AND CONNECTOR (FRONT NO. 1 SPEAKER - FRONT NO. 2 SPEAKER)**

(a) Disconnect the H1 and H7, or G1 and G8 speaker connectors.

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

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
H1-1 - H7-3 (+)	Always	Below 1 Ω
H1-1 - Body ground	Always	10 kΩ or higher
H1-2 - H7-1 (-)	Always	Below 1 Ω
H1-2 - Body ground	Always	10 kΩ or higher
G1-1 - G8-3 (+)	Always	Below 1 Ω
G1-1 - Body ground	Always	10 kΩ or higher
G1-2 - G8-1 (-)	Always	Below 1 Ω
G1-2 - Body ground	Always	10 kΩ or higher

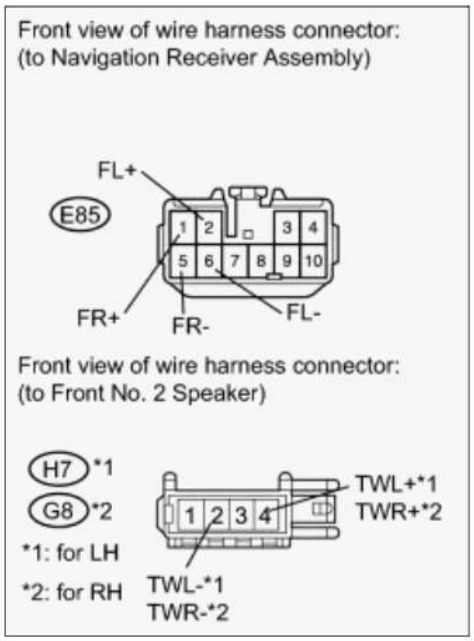
NG ▶ **REPAIR OR REPLACE HARNESS OR CONNECTOR**

OK ▶ **REPLACE FRONT NO. 1 SPEAKER ASSEMBLY**

5.	**CHECK HARNESS AND CONNECTOR (NAVIGATION RECEIVER ASSEMBLY - FRONT NO. 2 SPEAKER)**

(a) Disconnect the E85 receiver connector.

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(b) Disconnect the H7 or G8 speaker connector.

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

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
E85-1 (FR+) - G8-4 (TWR+)	Always	Below 1 Ω
E85-5 (FR-) - G8-2 (TWR-)	Always	Below 1 Ω
E85-1 (FR+) - Body ground	Always	10 kΩ or higher
E85-5 (FR-) - Body ground	Always	10 kΩ or higher
E85-2 (FL+) - H7-4 (TWL+)	Always	Below 1 Ω
E85-6 (FL-) - H7-2 (TWL-)	Always	Below 1 Ω
E85-2 (FL+) - Body ground	Always	10 kΩ or higher
E85-6 (FL-) - Body ground	Always	10 kΩ or higher

NG ▶ **REPAIR OR REPLACE HARNESS OR CONNECTOR**

OK ▼

6.	**INSPECT FRONT NO. 2 SPEAKER ASSEMBLY**

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(a) Check that the malfunction disappears when another speaker in good condition is installed.

OK:

Malfunction disappears.

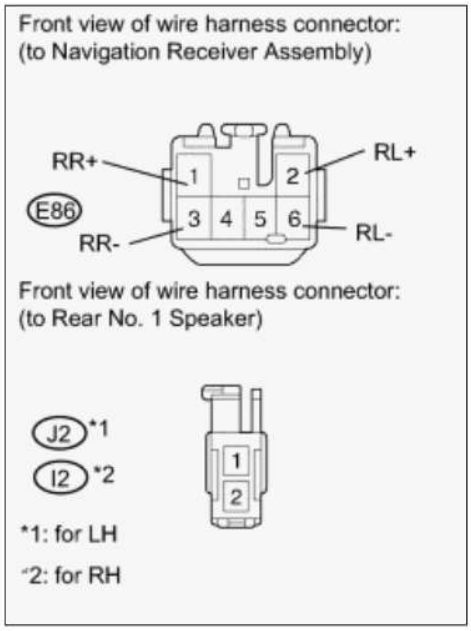
HINT:

- Connect all connectors to speakers.
- When there is a possibility that either the right or left front speaker is defective, inspect by interchanging the right one with the left one.

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

OK ▶ **REPLACE FRONT NO. 2 SPEAKER ASSEMBLY**

7.	**CHECK HARNESS AND CONNECTOR (NAVIGATION RECEIVER ASSEMBLY - REAR NO. 1 SPEAKER)**



(a) Disconnect the E86 receiver connector.

(b) Disconnect the J2 or I2 receiver connector.

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

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
E86-1 (RR+) - I2-1	Always	Below 1 Ω
E86-3 (RR-) - I2-2	Always	Below 1 Ω

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TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
E86-1 (RR+) - Body ground	Always	10 kΩ or higher
E86-3 (RR-) - Body ground	Always	10 kΩ or higher
E86-2 (RL+) - J2-1	Always	Below 1 Ω
E86-6 (RL-) - J2-2	Always	Below 1 Ω
E86-2 (RL+) - Body ground	Always	10 kΩ or higher
E86-6 (RL-) - Body ground	Always	10 kΩ or higher

NG ▶ **REPAIR OR REPLACE HARNESS OR CONNECTOR**

OK ▼

8.	**INSPECT REAR NO. 1 SPEAKER ASSEMBLY**

(a) Check the rear No. 1 speakers INFO .

OK:

Rear No. 1 speakers are normal.

NG ▶ **REPLACE REAR NO. 1 SPEAKER ASSEMBLY**

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

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Last Modified: 9-7-2011	6.4 J	**From:** 201008
Model Year: 2011	**Model:** RAV4	**Doc ID:** RM000002NNE0A7X
Title: NAVIGATION: NAVIGATION SYSTEM (w/ DVD Player): Speed Signal Circuit (2011 RAV4)		

Speed Signal Circuit

DESCRIPTION

Navigation function:

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

ASL function:

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

HINT:

- A voltage of 12 V or 5 V is output from each ECU and then input to the combination meter. The signal is changed to a pulse signal at the transistor in the combination meter. 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, all systems in the diagram will not operate normally.

WIRING DIAGRAM



INSPECTION PROCEDURE

PROCEDURE

1.	**CHECK OPERATION OF SPEEDOMETER**

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(a) Drive the vehicle and check if the function of the speedometer in the combination meter is normal.

OK:

Actual vehicle speed and the speed indicated on the speedometer are the same.

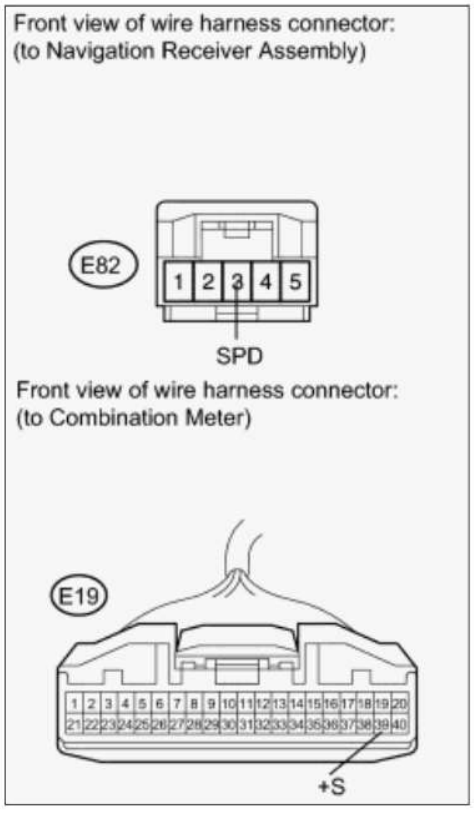
HINT:

The vehicle speed sensor is functioning normally when the indication on the speedometer is normal.

NG ▶ **GO TO METER / GAUGE SYSTEM**

OK ▼

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



(a) Disconnect the E82 navigation receiver assembly connector.

(b) Disconnect the E19 combination meter connector.

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

Standard Resistance:

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TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
E82-3 (SPD) - E19-39 (+S)	Always	Below 1 Ω

NG ▶ **REPAIR OR REPLACE HARNESS OR CONNECTOR**

OK ▶ **REPLACE NAVIGATION RECEIVER ASSEMBLY**

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Last Modified: 9-7-2011	6.4 J	**From:** 201008
Model Year: 2011	**Model:** RAV4	**Doc ID:** RM0000011FP0AWX
Title: NAVIGATION: NAVIGATION SYSTEM (w/ DVD Player): Steering Pad Switch Circuit (2011 RAV4)		

Steering Pad Switch Circuit

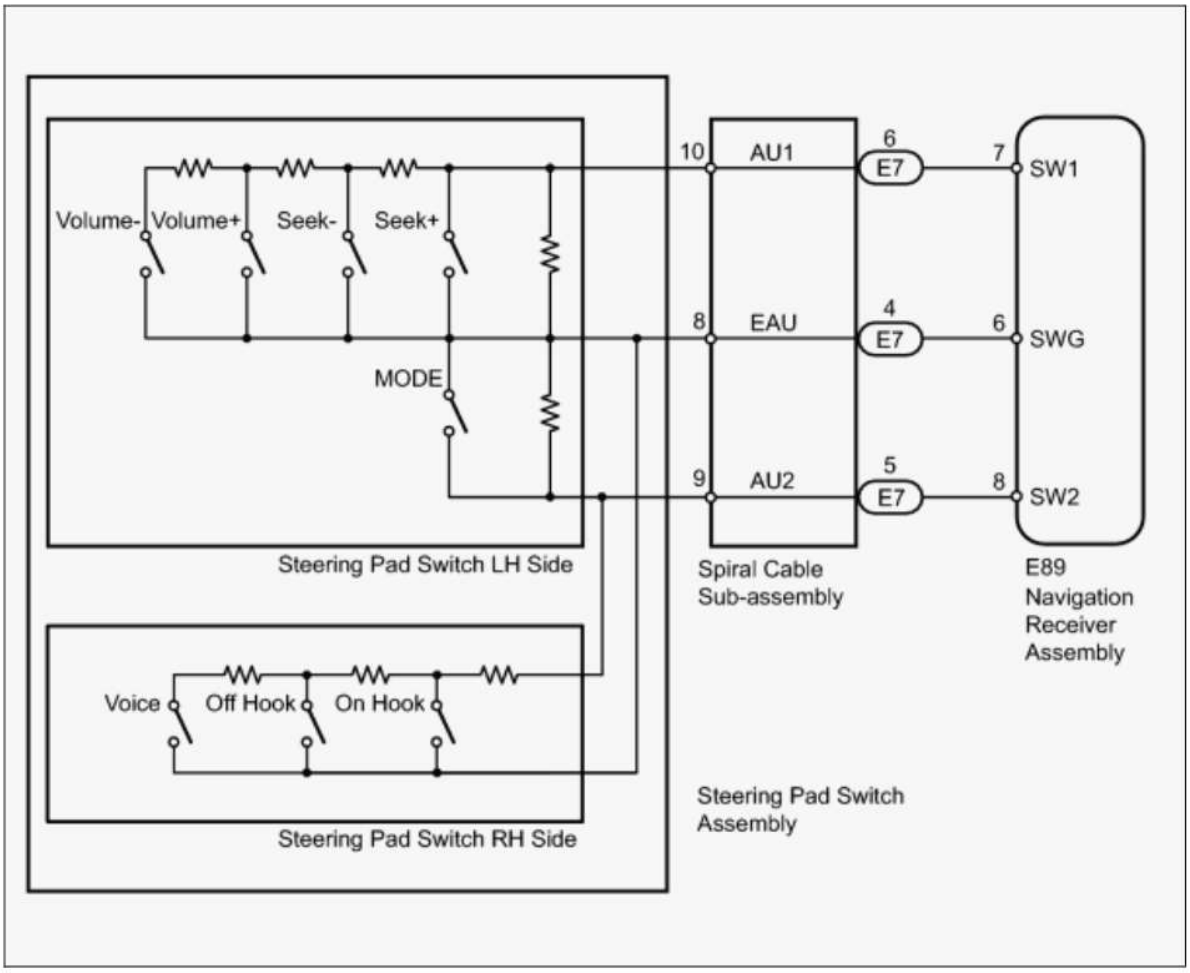
DESCRIPTION

This circuit sends an operation signal from the steering pad switch to the navigation receiver assembly.

If there is an open in the circuit, the navigation system cannot be operated using the steering pad switch.

If there is a short in the circuit, the resulting condition is the same as that when the switch were continuously pressed. Therefore, the navigation receiver assembly cannot be operated using the steering pad switch, and the navigation receiver assembly itself cannot function.

WIRING DIAGRAM



INSPECTION PROCEDURE

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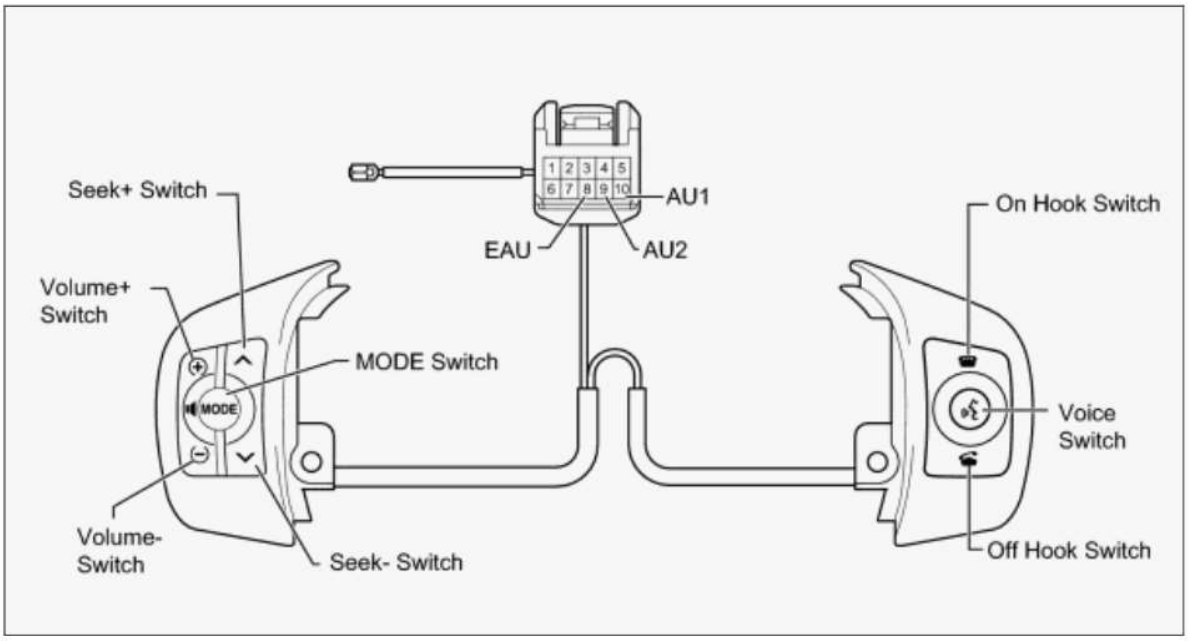
CAUTION:

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

PROCEDURE

1.	**INSPECT STEERING PAD SWITCH ASSEMBLY**

(a) Remove the steering pad switch assembly INFO .



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

Standard Resistance:

TESTER CONNECTION	SWITCH CONDITION	SPECIFIED CONDITION
10 (AU1) - 8 (EAU)	No switch is pushed	95 to 105 kΩ
	Seek+ switch is pushed	Below 2.5 Ω
	Seek- switch is pushed	312 to 345 Ω
	Volume+ switch is pushed	950 to 1050 Ω
	Volume- switch is pushed	2954 to 3265 Ω
9 (AU2) - 8 (EAU)	No switch is pushed	95 to 105 kΩ
	MODE switch is pushed	Below 2.5 Ω
	On Hook switch is pushed	312 to 345 Ω
	Off Hook switch is pushed	950 to 1050 Ω

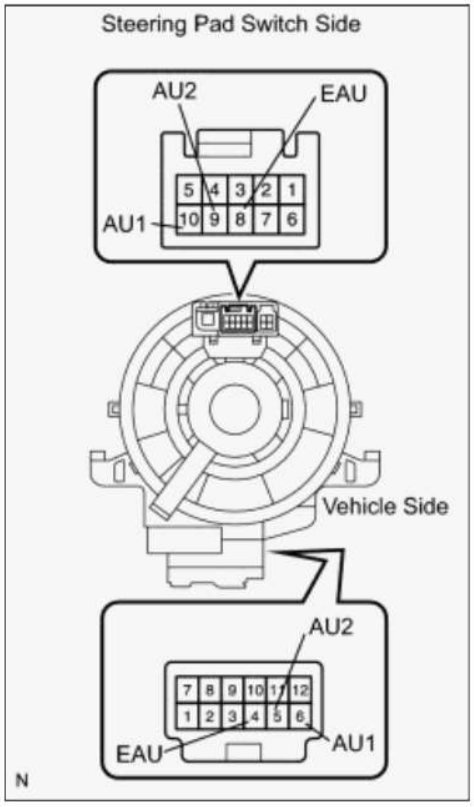
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TESTER CONNECTION	SWITCH CONDITION	SPECIFIED CONDITION
	Voice switch is pushed	2954 to 3265 Ω

NG ▶ **REPLACE STEERING PAD SWITCH ASSEMBLY**

OK ▼

2.	**INSPECT SPIRAL CABLE SUB-ASSEMBLY**



(a) Remove the spiral cable sub-assembly INFO .

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

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
8 (EAU) - 4 (EAU)	Spiral cable is turned 2.5 rotations counterclockwise	Below 1 Ω
	Spiral cable is centered	
	Spiral cable is turned 2.5 rotations clockwise	

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TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
10 (AU1) - 6 (AU1)	Spiral cable is turned 2.5 rotations counterclockwise	
	Spiral cable is centered	
	Spiral cable is turned 2.5 rotations clockwise	
9 (AU2) - 5 (AU2)	Spiral cable is turned 2.5 rotations counterclockwise	
	Spiral cable is centered	
	Spiral cable is turned 2.5 rotations clockwise	

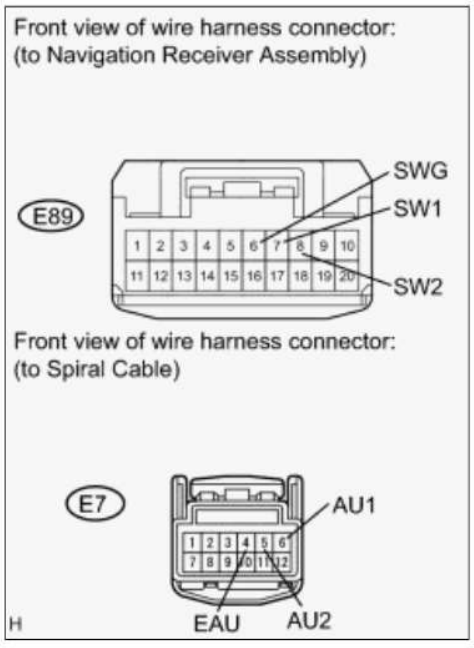
CAUTION:

The spiral cable is an important part of the SRS airbag system. Incorrect removal or installation of the spiral cable may prevent the airbag from deploying. Be sure to read the Precaution in the Supplemental Restraint System INFO .

NG ▶ **REPLACE SPIRAL CABLE SUB-ASSEMBLY**

OK
▼

3.	**CHECK HARNESS AND CONNECTOR (NAVIGATION RECEIVER ASSEMBLY - SPIRAL CABLE)**



(a) Disconnect the E89 navigation receiver connector.

(b) Disconnect the E7 spiral cable connector.

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

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
E89-7 (SW1) - E7-6 (AU1)	Always	Below 1 Ω
E89-8 (SW2) - E7-5 (AU2)		
E89-6 (SWG) - E7-4 (EAU)		
E89-7 (SW1) - Body ground	Always	10 kΩ or higher
E89-8 (SW2) - Body ground		
E89-6 (SWG) - Body ground		

NG ▶ **REPAIR OR REPLACE HARNESS OR CONNECTOR**

OK ▶ **REPLACE NAVIGATION RECEIVER ASSEMBLY**

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Last Modified: 9-7-2011	6.4 D	**From:** 201008
Model Year: 2011	**Model:** RAV4	**Doc ID:** RM000000NY602SX
Title: NAVIGATION: NAVIGATION SYSTEM (w/ DVD Player): SYSTEM DESCRIPTION (2011 RAV4)		

SYSTEM DESCRIPTION

1. NAVIGATION SYSTEM OUTLINE

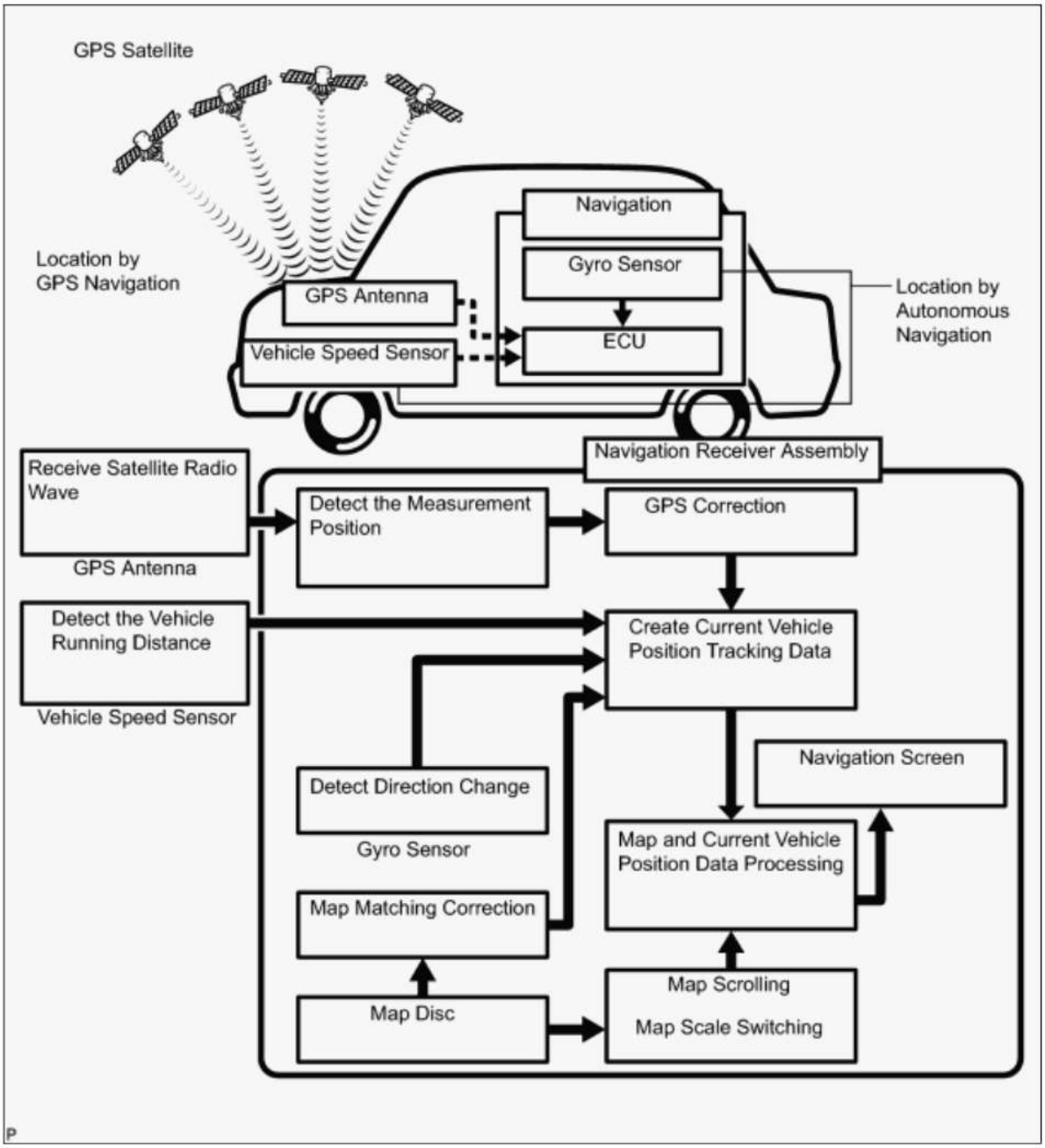
(a) Vehicle position tracking methods

(1) 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.

HINT:

***: GPS (Global Positioning System)**

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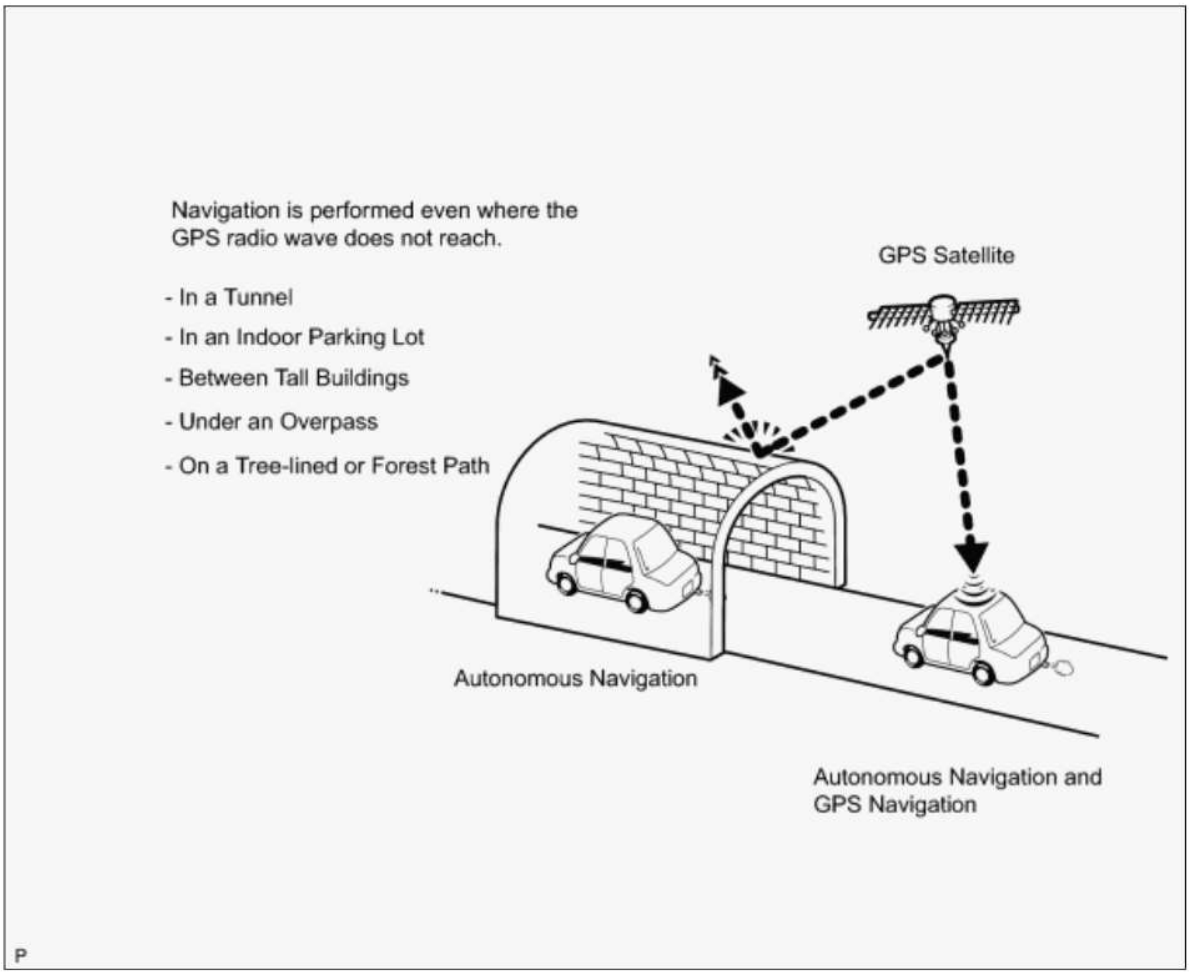
OPERATION	DESCRIPTION
Vehicle Position Calculation	The navigation receiver assembly calculates the current vehicle position (direction and current position) using the direction deviation signal from the gyro sensor and running distance signal from the vehicle speed sensor and creates the driving route.
Map Display Processing	The navigation receiver assembly processes the vehicle position data, vehicle running track, and map data from the map disc.
Map Matching	The map data from the map disc is compared to the vehicle position and running 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 measurement position data from the GPS unit is compared with the vehicle position and running track data. If the position is very different, the GPS measurement position is used.

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OPERATION	DESCRIPTION
Distance Correction	The running distance signal from the vehicle speed sensor includes error caused by tire wear and slippage between the tires and road surface. Distance correction is performed to account for this. The navigation ECU automatically offsets the running distance 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 the GPS radio wave cannot be received. When only autonomous navigation is used, the mapping accuracy may slightly decline.



(b) Autonomous navigation

This method determines the relative vehicle position based on the running track determined by the gyro and vehicle speed sensors located in the navigation receiver assembly.

(1) Gyro sensor

Calculates the direction by detecting angular velocity. It is located in the navigation receiver assembly.

(2) Vehicle speed sensor

Used to calculate the vehicle running distance.

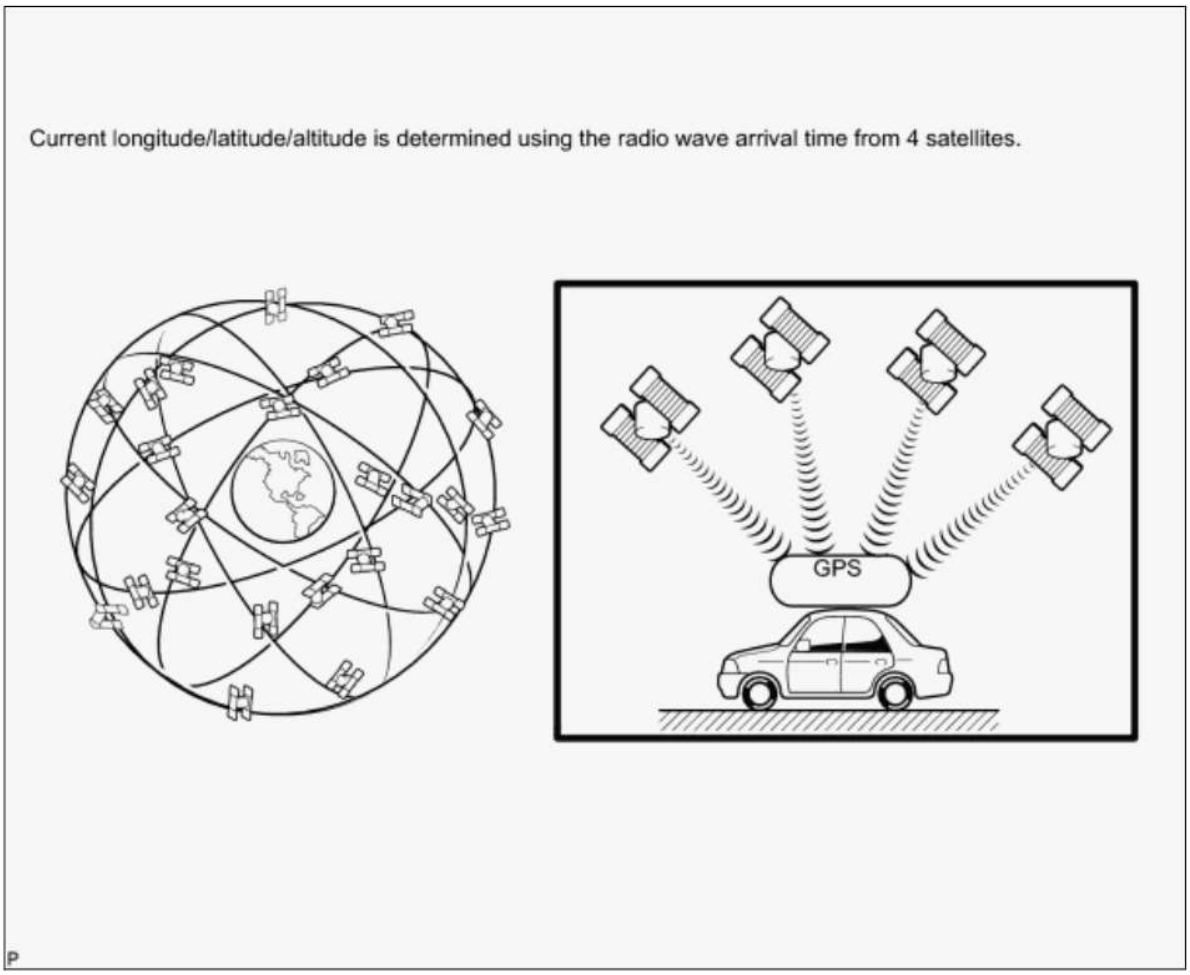
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(c) GPS navigation (satellite navigation)

This method detects the absolute vehicle position using radio waves from a GPS satellite*.

HINT:

***: GPS satellites were launched by the U.S. Department of Defense for military purposes.**

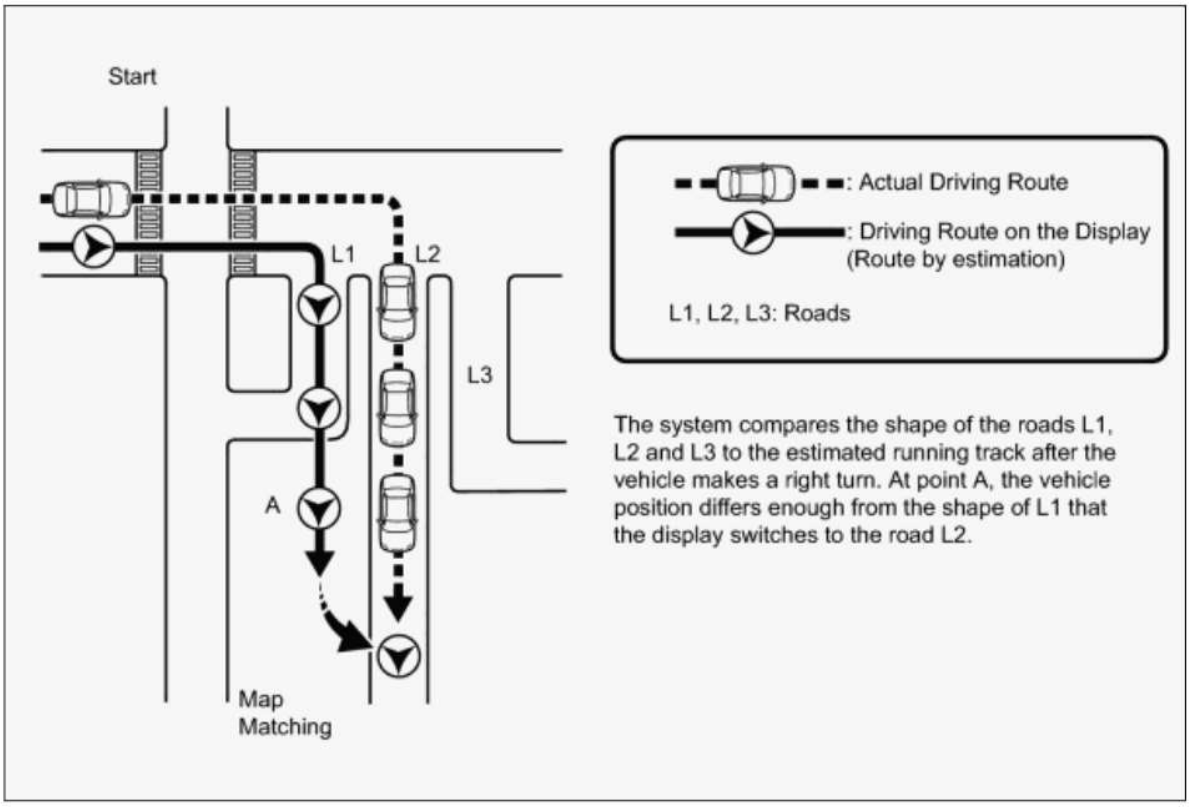


NUMBER OF SATELLITES	MEASUREMENT	DESCRIPTION
2 or less	Measurement impossible	The vehicle position cannot be obtained because the number of satellites is not enough.
3	2-dimensional measurement is possible	The vehicle position is obtained based on current longitude and latitude (this is less precise than 3-dimensional measurement).
4	3-dimensional measurement is possible	The vehicle position is obtained based on current longitude, latitude and altitude.

(d) Map matching

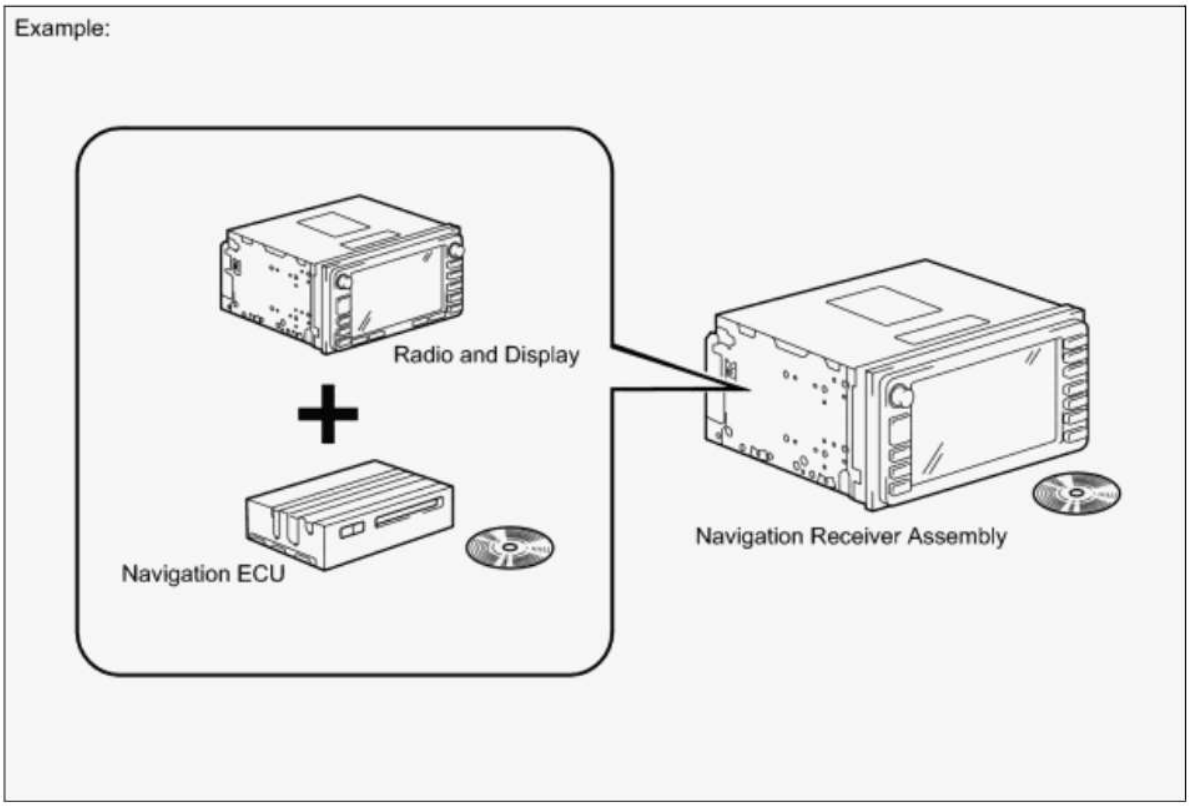
The current driving route is calculated by autonomous navigation (according to the gyro sensor and vehicle speed sensor) and GPS navigation. This information is then compared with possible road shapes from the map data in the map disc and the vehicle position is set onto the most appropriate road.

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2. NAVIGATION RECEIVER ASSEMBLY OUTLINE

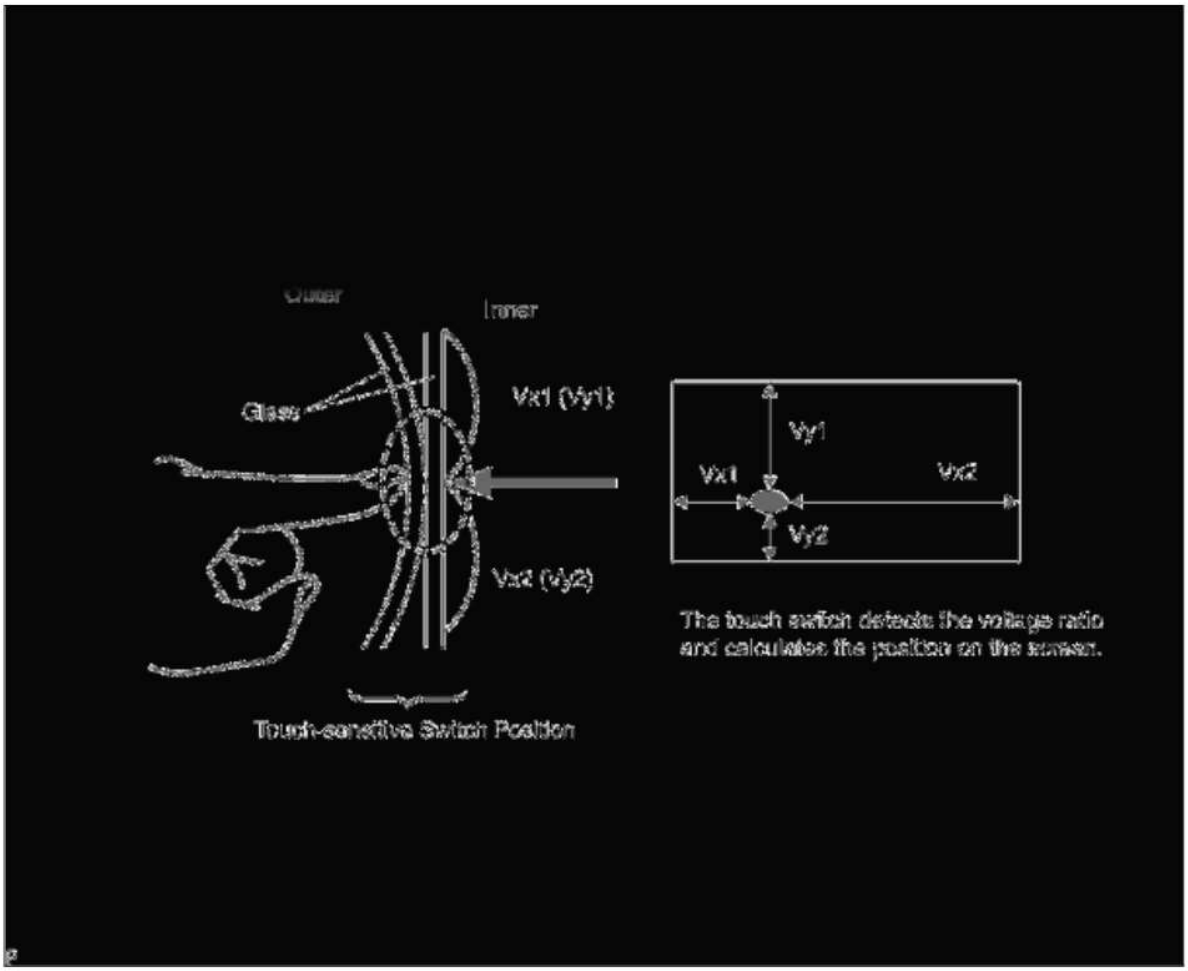
(a) Conventionally, 2 separate devices, a "radio and display" and a "navigation ECU" are used. This model combines these devices into a signal unit.



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3. TOUCH SCREEN OUT LINE

(a) Touch switches are touch-sensitive (interactive) switches operated by touching the screen. When a switch is pressed, the outer glass bends to contact the inner glass at the pressed position. By doing this, the voltage ratio is measured and the pressed position is detected.



4. DVD (Digital Versatile Disc) PLAYER OUTLINE (for Navigation Map)

(a) The navigation receiver assembly (built-in navigation ECU) uses a laser pickup to read the digital signals recorded on a DVD.

CAUTION:

Because the navigation system uses an invisible laser beam, do not look directly at the laser pickup. Be sure to only operate the navigation as instructed.

NOTICE:

- Do not disassemble any part of the navigation receiver assembly (built-in navigation ECU).
- Do not apply oil to the navigation receiver assembly (built-in navigation ECU).
- Do not insert anything but a DVD into the navigation receiver assembly (built-in navigation ECU).

5. DISC PLAYER OUTLINE

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

CAUTION:

Do not look directly at the laser pickup because the disc player uses an invisible laser beam. Be sure to

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operate the player only as instructed.

NOTICE:

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

(b) Usable discs

(1) Disc player

This player can only play audio CDs, CD-Rs (CD-Recordable), CD-RWs (CD-Re Writable), DVD videos, and video CDs that have any of the following marks:



(c) Precautions for handling disc

NOTICE:

- Copy-controlled CDs maynot be used.
- Some discs are not playable as a result of: 1) the type of recording method used, 2) the type of disc, 3) scratches, 4) contamination, or 5) the disc being in the vehicle for an extended amount of time, leading to deterioration.
- Discs that have not been finalized cannot be played.
- PAL or SECAM color television standard discs cannot be played (only NTSC discs can be played).
- DualDiscs that mate DVD recorded material on one side with CD digital audio material on the other cannot be played.
- When handling a disc, be careful not to put fingerprints, stains or scratches on the disc.
- When holding a disc, pinch the center hole and edge of the disc with your fingers. Face the printed side upward.
- If a disc is ejected by pressing the eject button and left partially ejected for an extended period of time, the disc may become deformed and unusable.
- A disc may not be able to be ejected or the player may become damaged if: 1) cellophane tape, stickers, disc labels or rental disc labels are attached; or 2) residue from removed tape, stickers or labels remains.
- Avoid direct sunlight when storing discs as they may become deformed and unusable.
- Do not use uniquely-shaped discs as they may damage the player.
- Do not use discs where part of the recording surface is transparent or translucent. if used, the disc may become unable to be inserted, ejected and played.

HINT:

- Just as condensation fogs the vehicle windows during wet or cold weather, condensation may also form inside the player. If condensation forms, disc skipping or playback stoppage may occur. Ventilate or

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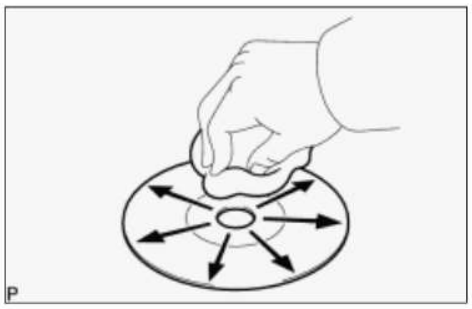
dehumidify the vehicle for a while before using the player.

- If the player vibrates severely due to driving on a rough road, the disc may skip.

(d) Cleaning

NOTICE:

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



(1) To clean dirty discs, use a dry, soft cloth such as those used for glasses with plastic lenses.

Lightly wipe radially from the center of the disc.

NOTICE:

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

6. MP3/WMA OUTLINE

(a) Playable MP3 file standards

COMPATIBLE STANDARD	MP3 (MPEG1 LAYER3, MPEG2 LSF LAYER 3)
Compatible sampling frequency	• MPEG1 LAYER3: 44.1, 48 (kHz) • MPEG2 LSF LAYER3: 16, 22.05, 24 (kHz)
Compatible bit rate	• MPEG1 LAYER3: 64, 80, 96, 112, 128, 160, 192, 224, 256, 320 (kbps) • MPEG2 LSF LAYER3: 64, 80, 96, 112, 128, 144, 160 (kbps) • Compatible with VBR
Compatible channel mode	Stereo, joint stereo, dual channel, monaural

(b) Playable WMA file standards

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

(c) ID3 tag and WMA tag

(1) Additional textual information called ID3 tag can be input to MP3 files. Information such as song titles and artist names can be stored.

HINT:

This player is compatible with the ID3 tags of ID3 Ver. 1.0 and 1.1, and ID3 Ver. 2.2 and 2.3. (Number of

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characters complies with ID3 Ver. 1.0 and 1.1.)

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

(d) Usable media

(1) Only CD-ROMs, CD-Rs (CD-Recordable), and CD-RWs (CD-ReWritable) can be used to play MP3/WMA files.

NOTICE:

- CD-Rs and CD-RWs are more easily affected by a hot and humid environment than discs used for normal audio CDs. For this reason, some CD-Rs and CD-RWs may not be played.
- If there are fingerprints or scratches on the disc, the disc may not be played or the CD may skip.
- Some CD-Rs and CD-RWs deteriorate if they are left in the cabin for a long time.
- Keep CD-Rs and CD-RWs in a storage case that is impenetrable to light.

(e) Usable media format

(1) Usable media format

Disc format	CD-ROM Mode 1, CD-ROM XA Mode 2 Form 1
File format	ISO 9660 Level 1 and Level 2 (Joliet, Romeo)

HINT:

- As for MP3/WMA files written in any format other than those above, the contents of the files may not be 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 files are added. However, only the first session can be played.
- Discs whose first session includes both music data and MP3 or WMA format data cannot be played.

(2) Standard 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, route folders, and folders that do not contain MP3/WMA files)
Maximum number of files in a disc	255 (Including non-MP3/WMA files)

(f) File names

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

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

NOTICE:

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

7. "BLUETOOTH" OUTLINE

(a) "Bluetooth" is a trademark owned by Bluetooth SIG, Inc.

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(b) "Bluetooth" is a new wireless connection technology that uses the 2.4 GHz frequency band.

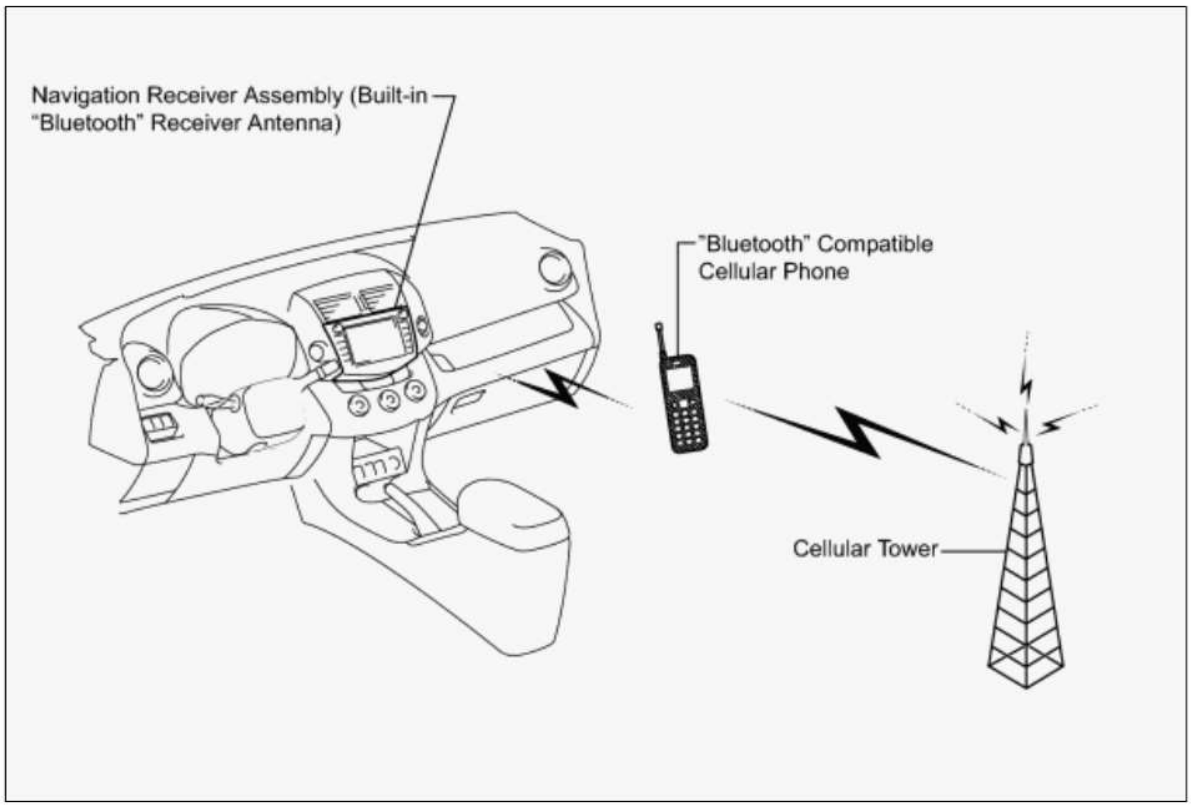
HINT:

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

(c) Handsfree function

(1) The "Bluetooth" built into the navigation receiver assembly and a "Bluetooth" compatible cellular phone* can be connected using a "Bluetooth" wireless connection. This enables use of the handsfree function on the cellular phone even though the phone may be in a pocket or bag. For this reason, it is not necessary to use a connector or cable to connect the cellular phone.

*: Some versions of "Bluetooth" compatible cellular phones may not function.

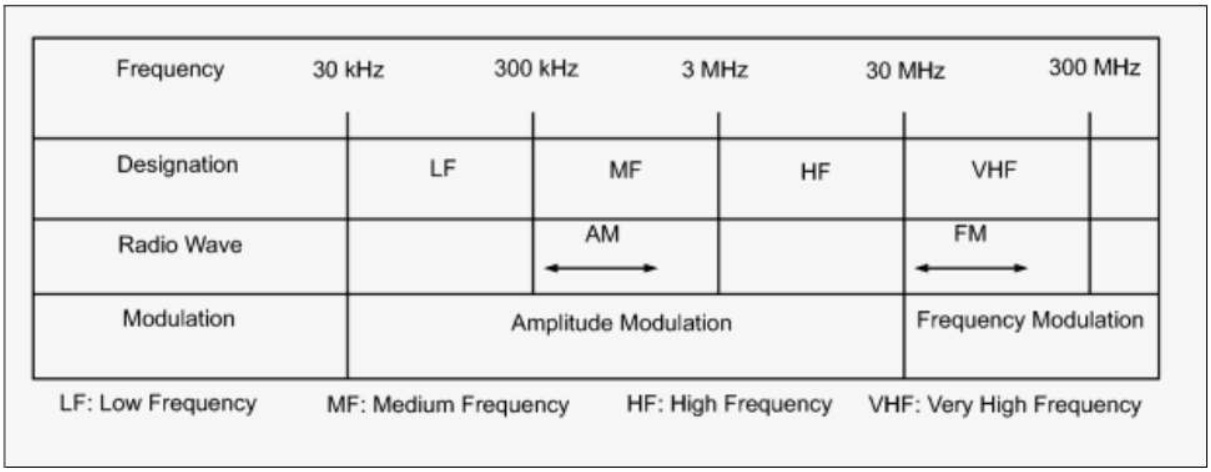


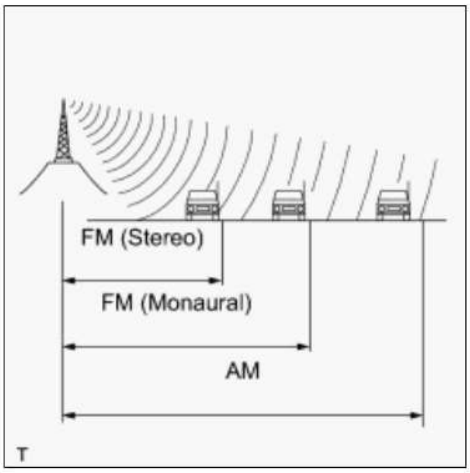
8. RADIO DESCRIPTION

(a) Radio frequency band

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

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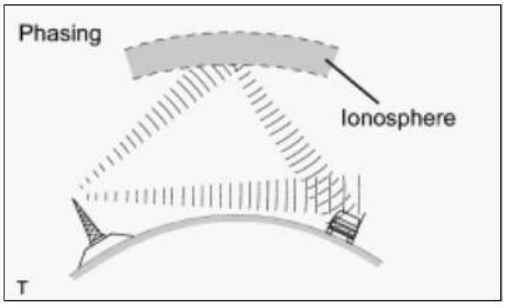
(b) Service area

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

(c) Radio reception problems

HINT:

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



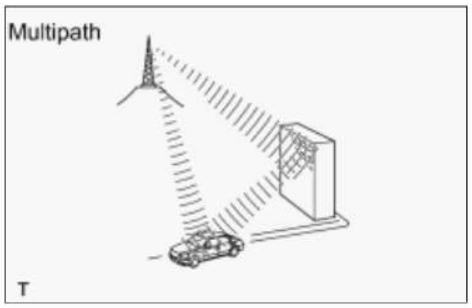
(1) Phasing

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

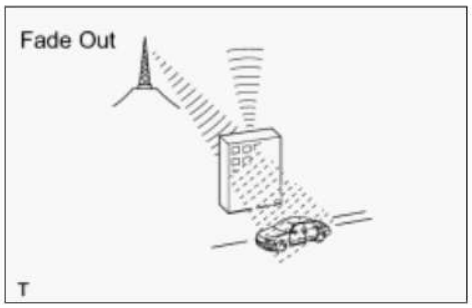
(2) Multipath

Multipath is a type of interference created when a vehicle receives 2 radio wave signals from the same transmitter.

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One signal is reflected off buildings or mountains and the other signal is received directly from the transmitter.



(3) Fade out

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

(d) Noise problem

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

RADIO FREQUENCY	NOISE OCCURRENCE CONDITION	PRESUMABLE CAUSE
AM	Noise occurs in a specified area	Foreign noise
AM	Noise occurs when listening to an intermittent broadcast	An identical program transmitted from multiple towers can cause noise where the signals overlap
AM	Noise occurs only at night	Music beat from a distant broadcast
FM	Noise occurs while driving in a specified area	Multipath or phasing noise resulting from a change in FM frequency

HINT:

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

9. AUTOMATIC SOUND LEVELIZER (ASL) FUNCTION OUTLINE

(a) The ASL function automatically adjusts the sound volume in order to enable clear audio quality even when vehicle noise increases (as vehicle speed increases, the volume is turned up, etc.).

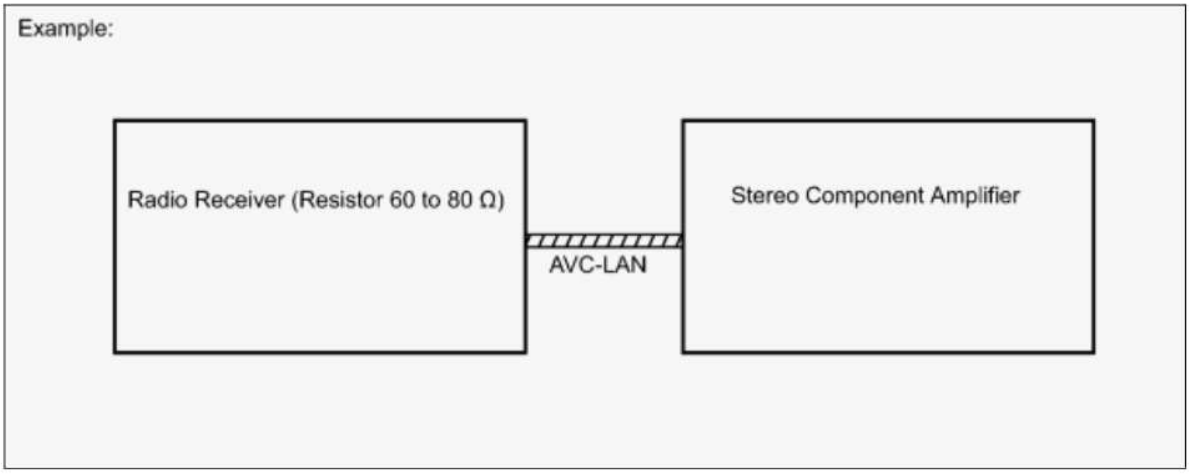
Vehicle speed signals are received from the combination meter assembly and used for ASL control.

10. AVC-LAN DESCRIPTION

(a) What is AVC-LAN?

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

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(b) Purpose:

Recently, car audio systems have rapidly developed and the functions have vastly changed. The conventional car audio system is being integrated with multimedia interfaces similar to those in navigation systems. At the same time, customers are demanding higher quality from their audio systems. This is merely an overview of the standardization background. The specific purposes are as follows:

(1) To solve sound problems, etc. caused by using components of different manufacturers through signal standardization.

(2) To allow each manufacturer to concentrate on developing products they do best. From this, reasonably priced products can be produced.

HINT:

- If a short to +B or short to ground is detected in the AVC-LAN circuit, communication is interrupted and the navigation system will stop functioning.
- The multi-display unit acts as the master unit.

11. COMMUNICATION SYSTEM OUTLINE

(a) Components of the navigation system communicate with each other via the AVC-LAN.

(b) The navigation receiver assembly has enough resistance (60 to 80 Ω) necessary for transmitting communication signals. This is essential for communication.

(c) If a short circuit or open circuit occurs in the AVC-LAN circuit, communication is interrupted and the navigation system will stop functioning.

12. DIAGNOSTIC FUNCTION OUTLINE

(a) The navigation system has a diagnostic function (the result is indicated on the master unit).

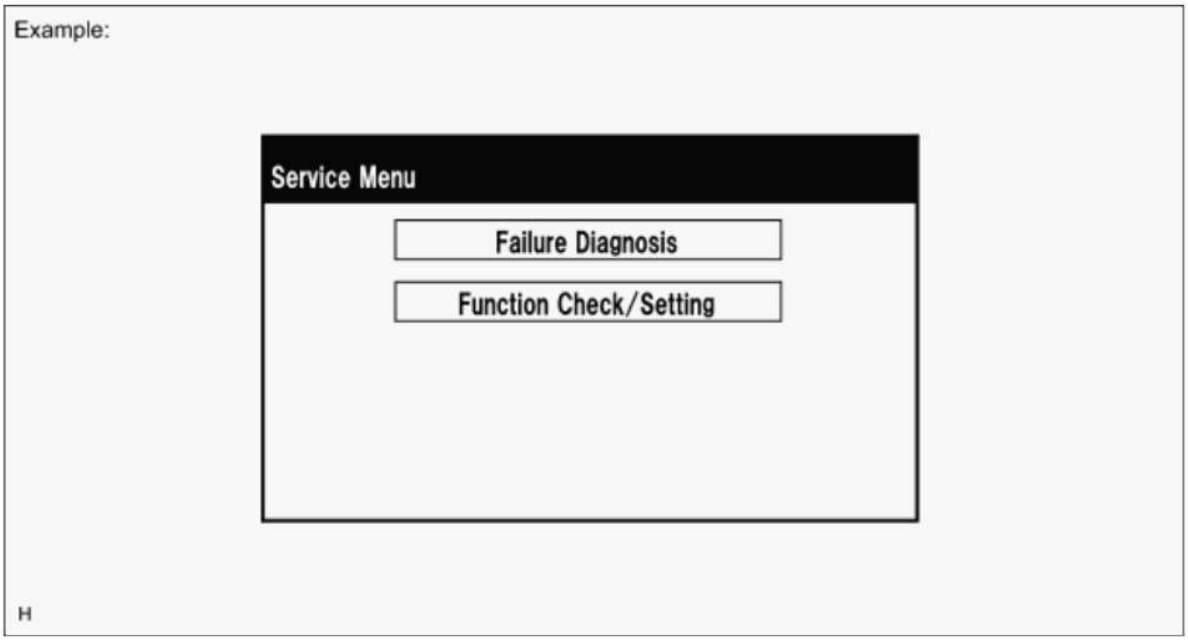
13. DIAGNOSIS DISPLAY DETAILED DESCRIPTION

HINT:

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

(a) Service Menu Screen

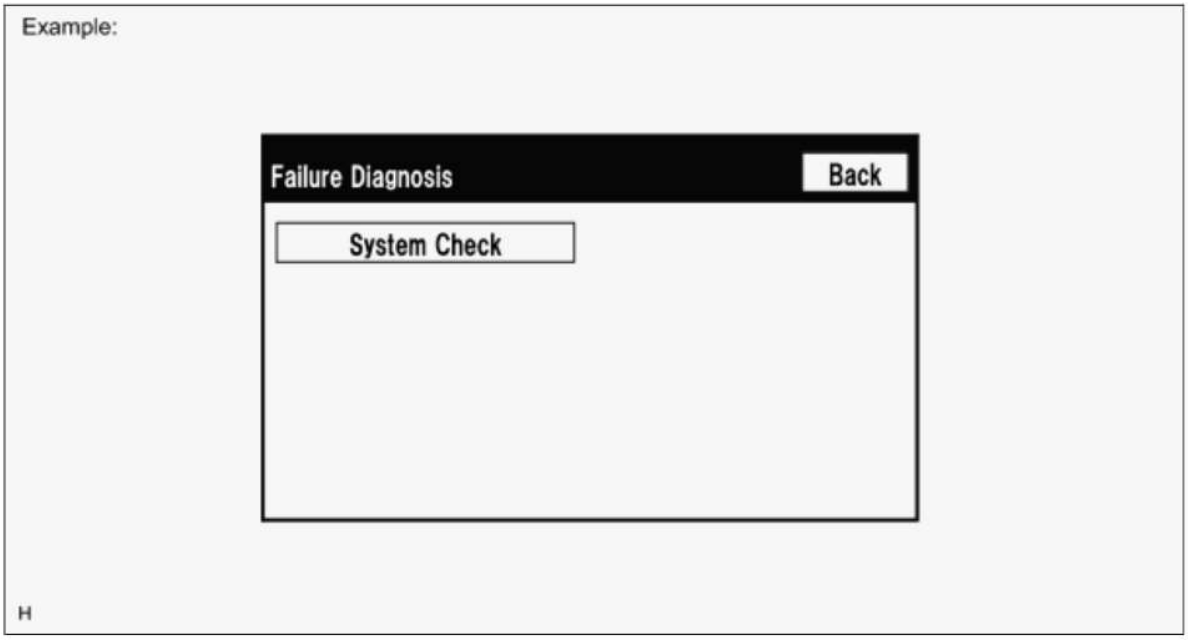
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HINT:

Some items may be grayed out or not displayed based on the device settings.

(b) Failure Diagnosis Screen



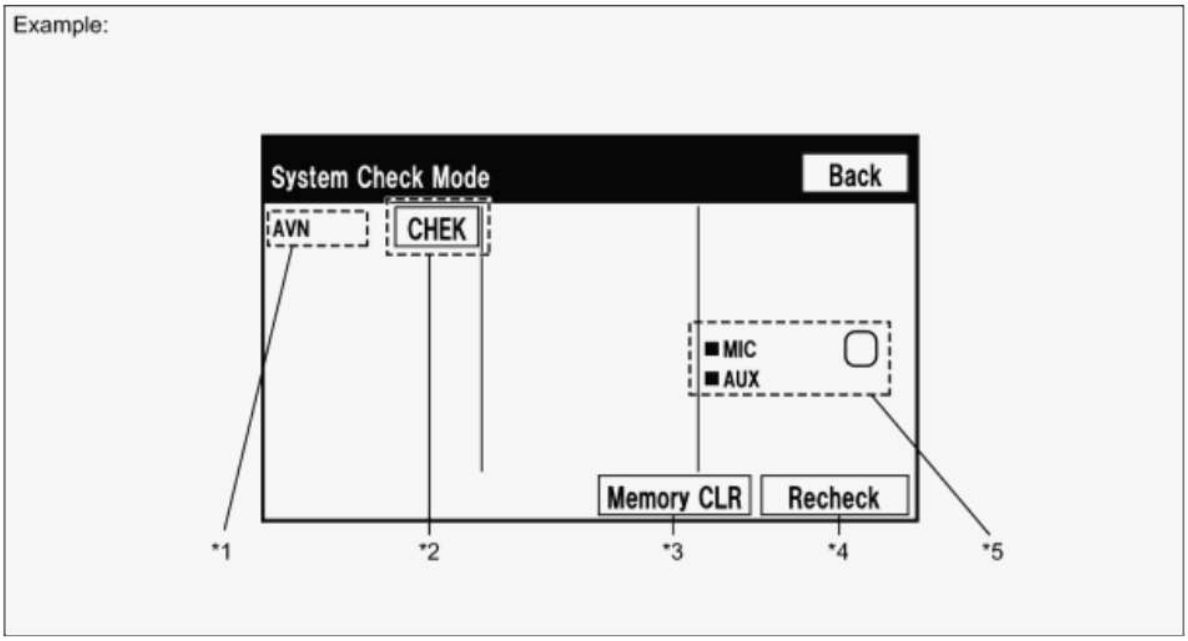
HINT:

Some items may be grayed out or not displayed based on the device settings.

(1) System Check Mode Screen

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Example:



*1: Device Name List No. 1

HINT:

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.

NAME	COMPONENT	CONNECTION METHOD
AVN	Navigation receiver assembly	-

*2: Check Result

HINT:

Result codes for all devices are displayed.

RESULT	MEANING	ACTION
OK	The device does not respond with a DTC.	-
EXCH	The device responds with a "replace"-type DTC.	Look up the DTC in "Unit Check Mode" and replace the device.
CHEK	The device responds with a "check"-type 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.

*3: Memory Clear

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HINT:

Present and past DTCs and registered connected device names are cleared.
Data is cleared by pressing the "Memory CLR" switch for 3 seconds.

*4: Recheck

HINT:

A system check will be performed again after the memory is cleared.
The Recheck switch will dim during a system check.

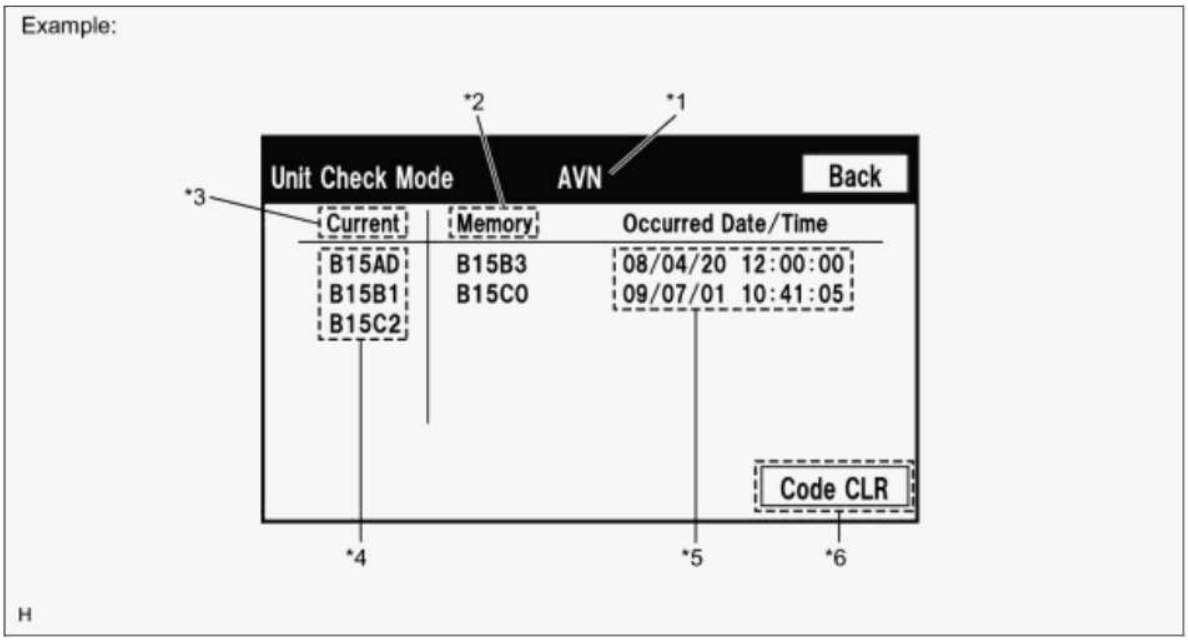
*5: Device Name List No. 2

HINT:

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.

NAME	COMPONENT	CONNECTION METHOD
MIC	Telephone microphone assembly	Vehicle wire harness
AUX	Stereo jack adapter assembly	Vehicle wire harness

(2) Unit Check Mode Screen



Screen Description

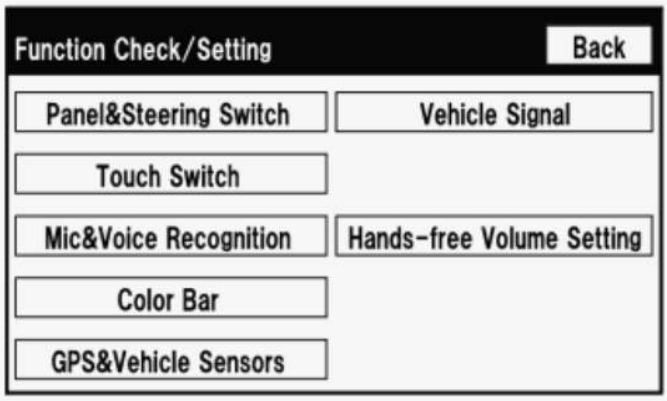
DISPLAY	CONTENT
*1: Device name	Target device
*2: Past DTC	Diagnostic memory results and stored DTCs are output.
*3: Present DTC	DTCs output in the service check are output.

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DISPLAY	CONTENT
*4: DTC	DTC (Diagnostic Trouble Code)
*5: Timestamp	The time and date of history DTCs are displayed. (The year is displayed in 2-digit format.)
*6: Diagnosis clear switch	Pushing this switch for 3 seconds clears diagnostic memory data of target device (responses to diagnostic system check result and displayed data are cleared)

(c) Function Check/Setting Screen

Example:



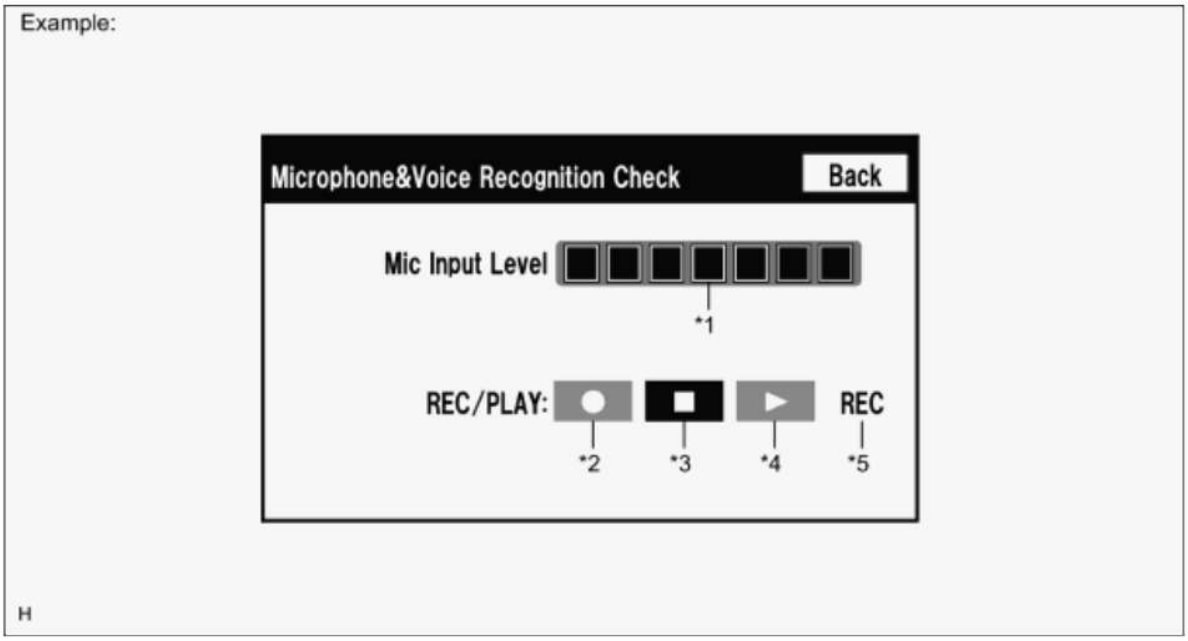
H

HINT:

Some items may be grayed out or not displayed based on the device settings.

(1) Microphone&Voice Recognition Check Screen

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Screen Description

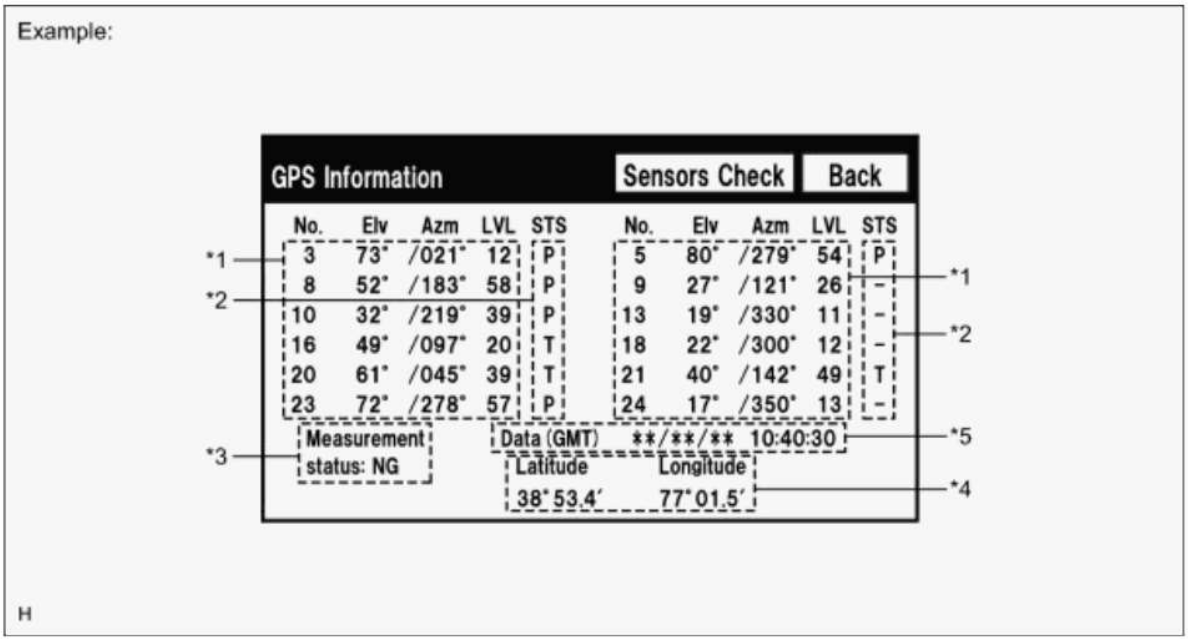
DISPLAY	CONTENT
*1: Microphone input level meter	Monitors the microphone input level every 0.1 sec. and displays the results in 8 different levels.
*2: Recording switch	Starts recording.
*3: Stop switch	Stops recording.
*4: Play switch	Plays the recorded voice.
*5: Recording indicator	Comes on while recording.

HINT:

- The microphone is active at all times when this screen is displayed.
- While recording or playing, switches other than the stop switch cannot be pushed.
- When no recording is present, the play switch cannot be pushed.
- Recording will stop after 5 seconds or when the stop switch is pushed.

(2) GPS Information Screen

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*1: Satellite information

Information from a maximum of 12 satellites is displayed on the screen. This information includes the target GPS satellite number, elevation angle, direction and signal level.

*2: Receiving condition

Screen Description

DISPLAY	CONTENT
T	The system is receiving a GPS signal, but is not using it for location.
P	The system is using the GPS signal for location.
-	The system cannot receive a GPS signal.

*3: Measurement information

Screen Description

DISPLAY	CONTENT
2D	2-dimensional location method is being used.
3D	3-dimensional location method is being used.
NG	Location data cannot be used.
Error	Reception error has occurred.
-	Any other state.

*4: Position information

Screen Description

DISPLAY	CONTENT

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DISPLAY	CONTENT
Position	Latitude and longitude information on the current position is displayed.

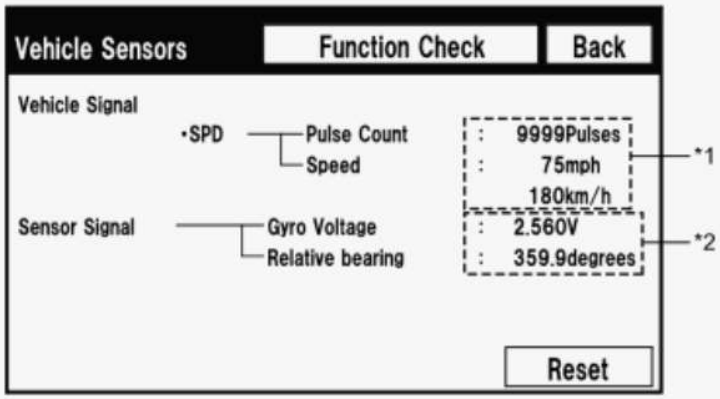
*5: Date information

Screen Description

DISPLAY	CONTENT
Date	The date/time information obtained from GPS signal is displayed in Greenwich Mean Time (GMT).

(3) Vehicle Sensors Screen

Example:



H

Vehicle Signal

DISPLAY	CONTENT
*1: SPD	SPD signal condition is displayed.

Sensor Signal

DISPLAY	CONTENT
*2: Gyro sensor	Gyro sensor output condition is displayed. 2.1 to 2.9 V

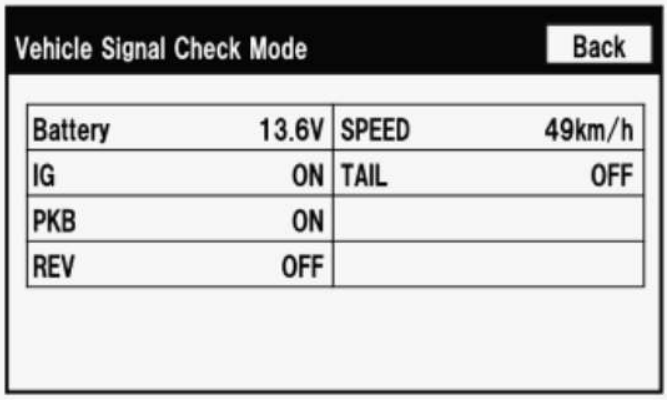
HINT:

The signals from the vehicle sensors are updated once per second and if any have changed, the screen is updated.

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(4) Vehicle Signal Check Mode Screen

Example:



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Screen Description

DISPLAY	CONTENT
Battery	Battery voltage is displayed.
IG	engine 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.

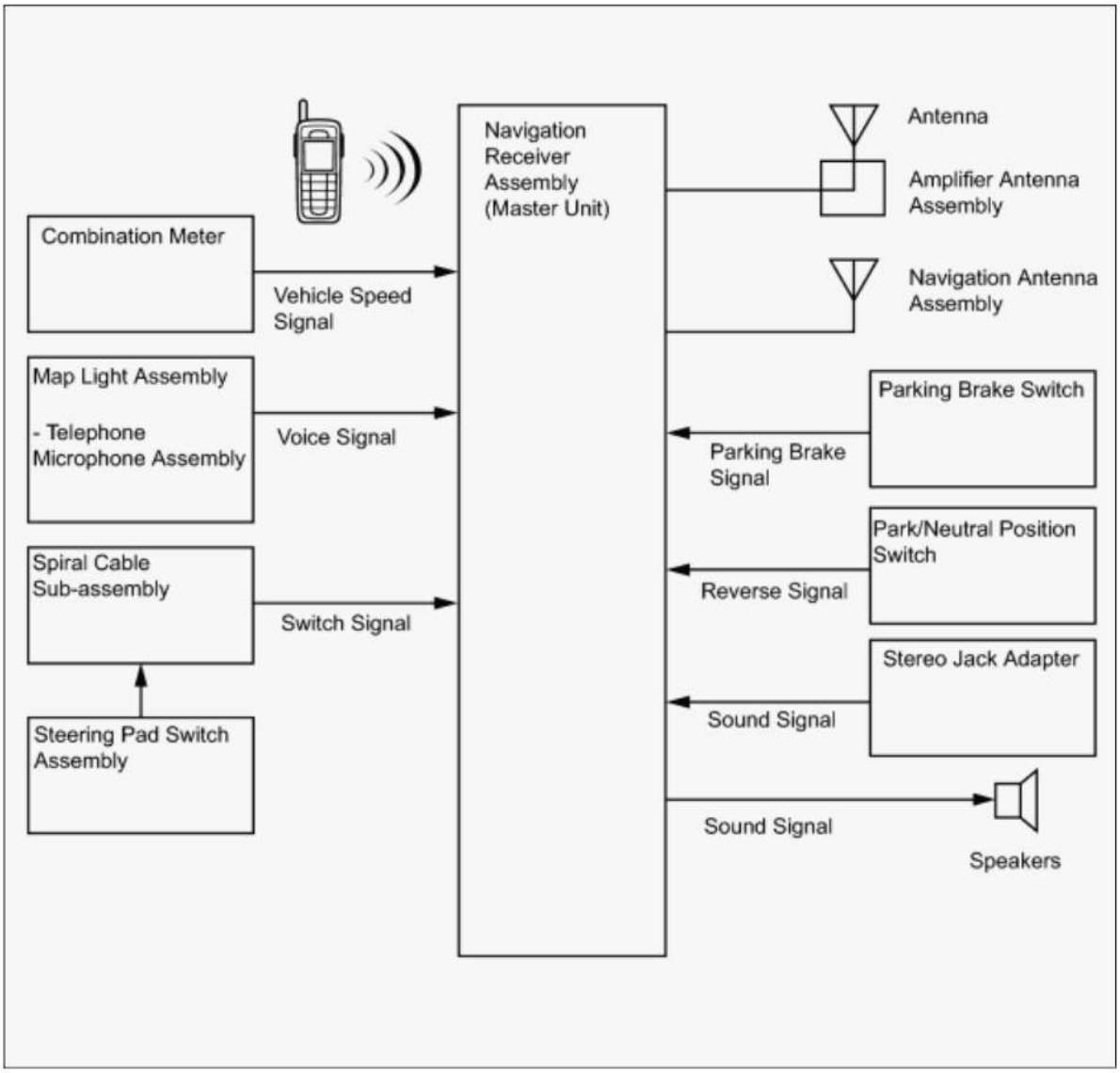
HINT:

- Only items sending vehicle signals will be displayed.
- The input signals from the vehicle are updated once per second and if any have changed, the screen is updated.

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Last Modified: 9-7-2011	6.4 U	**From:** 201008
Model Year: 2011	**Model:** RAV4	**Doc ID:** RM0000011BX060X
Title: NAVIGATION: NAVIGATION SYSTEM (w/ DVD Player): SYSTEM DIAGRAM (2011 RAV4)		

SYSTEM DIAGRAM

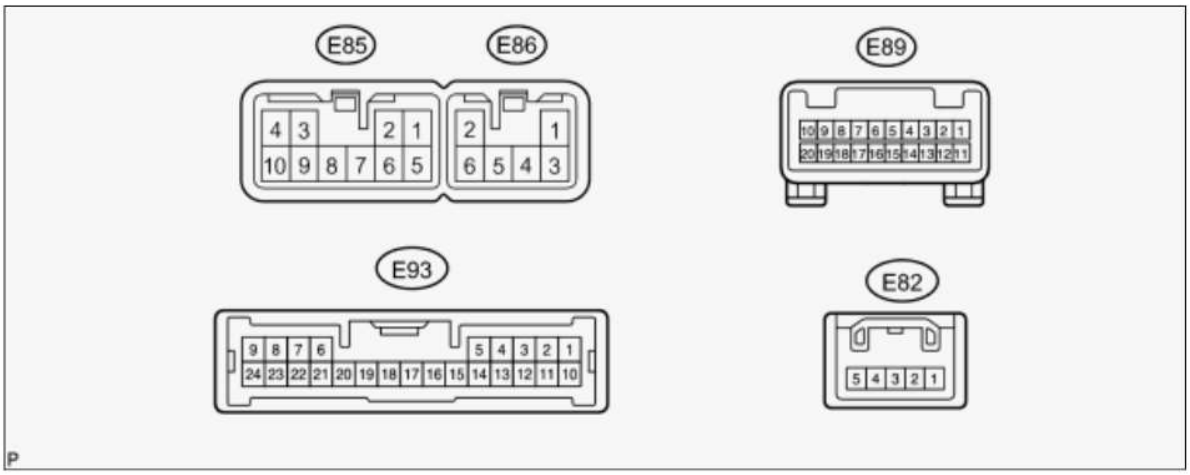


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Last Modified: 9-7-2011	6.4 U	**From:** 201008
Model Year: 2011	**Model:** RAV4	**Doc ID:** RM0000011BQ094X
Title: NAVIGATION: NAVIGATION SYSTEM (w/ DVD Player): TERMINALS OF ECU (2011 RAV4)		

TERMINALS OF ECU

1. NAVIGATION RECEIVER ASSEMBLY



TERMINAL NO. (SYMBOL)	WIRING COLOR	TERMINAL DESCRIPTION	CONDITION	SPECIFICATION
E82-1 (PKB) - E85-7 (GND)	B - BR	Parking brake signal	See "Vehicle Signal Check" INFO	-
E82-3 (SPD) - E85-7 (GND)	V - BR	Speed signal from combination meter	See "Vehicle Signal Check" INFO	-
E82-5 (REV) - E85-7 (GND)	R - BR	Reverse signal	See "Vehicle Signal Check" INFO	-
E85-1 (FR+) - E85-7 (GND)	LG - BR	Sound signal (Front Right)	Audio system is playing	A waveform synchronized with sounds is output
E85-2 (FL+) - E85-7 (GND)	P - BR	Sound signal (Front Left)	Audio system is playing	A waveform synchronized with sounds is output
E85-3 (ACC) - E85-7 (GND)	GR - BR	Accessory (ON)	engine switch off → on (ACC)	Below 1 V → 11 to 14 V
E85-4 (B) - E85-7 (GND)	L - BR	Battery	Always	11 to 14 V
E85-5 (FR-) - E85-7 (GND)	L - BR	Sound signal (Front Right)	Audio system is playing	A waveform synchronized with sounds is output
E85-6 (FL-) - E85-7 (GND)	V - BR	Sound signal (Front Left)	Audio system is playing	A waveform synchronized with sounds is output
E85-7 (GND) - Body ground	BR - Body ground	Ground	Always	Below 1 V

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TERMINAL NO. (SYMBOL)	WIRING COLOR	TERMINAL DESCRIPTION	CONDITION	SPECIFICATION
E85-8 (ANT) - E85-7 (GND)	B - BR	Power source of antenna	Radio switch ON and AM or FM	11 to 14 V
E85-10 (ILL+) - E85-7 (GND)	G - BR	Illumination signal	Light control switch OFF → TAIL or HEAD	Below 1 V → 11 to 14 V
E86-1 (RR+) - E85-7 (GND)	R - BR	Sound signal (Rear Right)	Audio system is playing	A waveform synchronized with sounds is output
E86-2 (RL+) - E85-7 (GND)	B - BR	Sound signal (Rear Left)	Audio system is playing	A waveform synchronized with sounds is output
E86-3 (RR-) - E85-7 (GND)	W - BR	Sound signal (Rear Right)	Audio system is playing	A waveform synchronized with sounds is output
E86-6 (RL-) - E85-7 (GND)	Y - BR	Sound signal (Rear Left)	Audio system is playing	A waveform synchronized with sounds is output
E89-6 (SWG) - Body ground	B - Body ground	Steering pad switch ground	Always	Below 1 V
E89-7 (SW1) - E89-6 (SWG)	W - B	Steering pad switch signal	No switch is pushed → SEEK+ switch pushed → SEEK- switch pushed → VOL+ switch pushed → VOL- switch pushed	2.7 to 3.1 V → Below 0.3 V → 0.4 to 0.6 V → 1.1 to 1.3 V 1.9 to 2.2 V
E89-8 (SW2) - E89-6 (SWG)	R - B	Steering pad switch signal	No switch is pushed → MODE switch pushed	2.7 to 3.1 V → Below 0.3 V
E89-15 (ARI) - E85-7 (GND)	W - BR	Sound signal (Right)	Eternal device playing (When stereo jack used)	A waveform synchronized with the sound is output
E89-16 (ASGN) - E85-7 (GND)	R - BR	Shielded ground	Always	Below 1 V
E89-17 (ALI) - E85-7 (GND)	B - BR	Sound signal (Left)	Eternal device playing (When stereo jack used)	A waveform synchronized with the sound is output
E89-18 (AGND) - E85-7 (GND)	Shielded - BR	External device connection detection signal	Always	Below 1 V
E89-19 (AUXI) - E85-7 (GND)	R - BR	External device connection detection signal	External device connected	1.1 to 1.5 V
			External device is not connected	2.0 to 2.4 V
E93-5 (SNS2) - E85-7 (GND)	W-B - BR	Microphone connection detection signal	Always	Below 1 Ω
E93-17 (MACC) - E85-7 (GND)	B - BR	Microphone AMP power source	engine switch off	Below 1 V
			engine switch on (ACC)	4.75 to 5.25 V

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TERMINAL NO. (SYMBOL)	WIRING COLOR	TERMINAL DESCRIPTION	CONDITION	SPECIFICATION
E93-18 (SGND) - E85-7 (GND)	Shielded - BR	Shielded ground	Always	Below 1 V
E93-19 (MIC+) - E85-7 (GND)	W - BR	Microphone voice signal	See "Microphone & Voice Recognition Check" INFO	-
E93-20 (MIC-) - E85-7 (GND)	R - BR	Microphone voice signal	See "Microphone & Voice Recognition Check" INFO	-





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Last Modified: 9-7-2011	6.4 J	**From:** 201008
Model Year: 2011	**Model:** RAV4	**Doc ID:** RM0000014SV0D0X
Title: NAVIGATION: NAVIGATION SYSTEM (w/ DVD Player): The Other Caller cannot Hear Your Voice, or Your Voice is too Quiet or Distorted (2011 RAV4)		

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

INSPECTION PROCEDURE

PROCEDURE

1.	**CHECK CELLULAR PHONE**

(a) Check if the other caller can hear your voice properly.

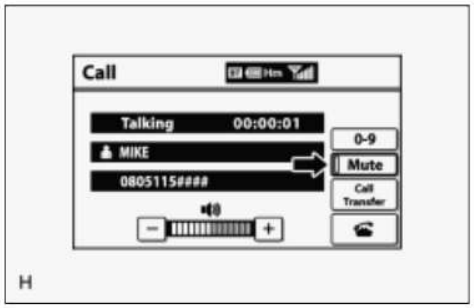
OK:

Your voice can be heard correctly.

NG ▶ **CELLULAR PHONE IS FAULTY**

OK ▼

2.	**CHECK SETTINGS**



(a) Check if the mute switch is set to on.

OK:

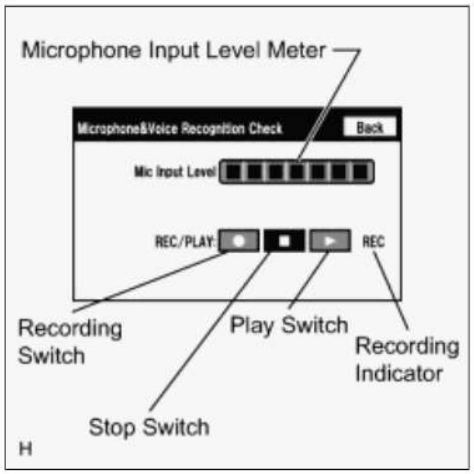
Mute switch is not set to on.

NG ▶ **TURN MUTE SWITCH OFF**

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OK

3.	CHECK MICROPHONE (NAVIGATION CHECK MODE)



(a) Enter the "Microphone & Voice Recognition Check" (Check Mic & Voice Recognition) INFO .

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

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

HINT:

Voice can be recorded up to 5 seconds.

(d) Check that the recording indicator remains on while recording and that the recorded voice is played normally without noise or distortion.

OK:
All check results are normal.

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

OK ▶ **REPLACE NAVIGATION RECEIVER ASSEMBLY**

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Last Modified: 9-7-2011	6.4 J	**From:** 201008
Model Year: 2011	**Model:** RAV4	**Doc ID:** RM0000014SU0CZX
Title: NAVIGATION: NAVIGATION SYSTEM (w/ DVD Player): The Other Caller's Voice cannot be Heard, is too Quiet, or Distorted (2011 RAV4)		

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

INSPECTION PROCEDURE

PROCEDURE

1.	**CHECK CELLULAR PHONE**

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

OK:

The voice can be heard.

NG ▶ **CELLULAR PHONE IS FAULTY**

OK ▼

2.	**CHECK NAVIGATION SYSTEM**

(a) Check that navigation sound can be heard from the front speaker.

OK:

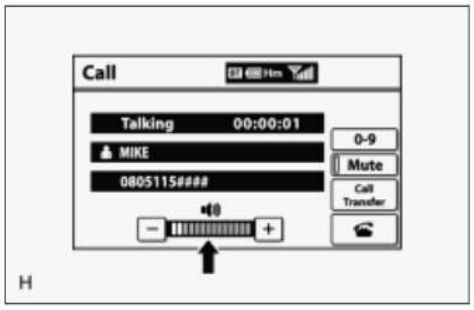
The voice guidance can be heard.

NG ▶ **GO TO "VOICE GUIDANCE DOES NOT FUNCTION" IN PROBLEM SYMPTOMS TABLE**

OK ▼

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3.	CHECK SETTINGS



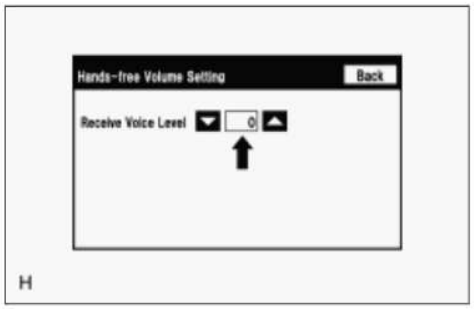
(a) Check if the volume level is low on the "Call" screen.

OK:
The level is not low.

NG ▶ **TURN VOLUME UP**

OK ▼

4.	CHECK SETTINGS (OPERATION CHECK)



(a) Enter the "Hands-free Volume Setting" (Check Hands-free Volume Setting) INFO .

(b) Check if the Receive Voice Level is set to "0".

HINT:

The Receive Voice Level can be set to 11 different levels, -5 to +5, each with a 3 dB difference.

(c) Check if the Receive Voice Level is set to the minimum or maximum level.

HINT:

When the Receive Voice Level is set to the minimum or maximum level, the sound may be distorted.

OK:
The Receive Voice Level is set to "0".

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NG	SET RECEIVE VOICE LEVEL TO "0"
OK	PROCEED TO NEXT SUSPECTED AREA SHOWN IN PROBLEM SYMPTOMS TABLE

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Last Modified: 9-7-2011	6.4 J	**From:** 201008
Model Year: 2011	**Model:** RAV4	**Doc ID:** RM000000PNL073X
Title: NAVIGATION: NAVIGATION SYSTEM (w/ DVD Player): Touch Panel Switch does not Function (2011 RAV4)		

Touch Panel Switch does not Function

INSPECTION PROCEDURE

PROCEDURE

1.	**CHECK TOUCH PANEL**

(a) Check for foreign matter on the display.

OK:

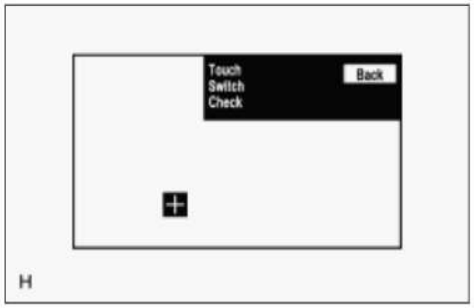
The display is clean.

NG ▶ **CLEAN DISPLAY AND RECHECK TOUCH PANEL**

OK

▼

2.	**CHECK TOUCH SWITCH (DISPLAY CHECK MODE)**



(a) Enter the "Display Check" mode and select "Touch Switch 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**

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TABLE

OK ▶ REPLACE NAVIGATION RECEIVER ASSEMBLY

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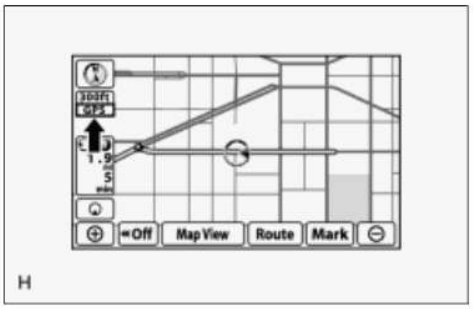
Last Modified: 9-7-2011	6.4 J	**From:** 201008
Model Year: 2011	**Model:** RAV4	**Doc ID:** RM000000POE08QX
Title: NAVIGATION: NAVIGATION SYSTEM (w/ DVD Player): Vehicle Position Mark Deviates Greatly (2011 RAV4)		

Vehicle Position Mark Deviates Greatly

INSPECTION PROCEDURE

PROCEDURE

1.	**CHECK GPS MARK**



(a) Check that the GPS mark is displayed.

OK:

GPS mark is displayed.

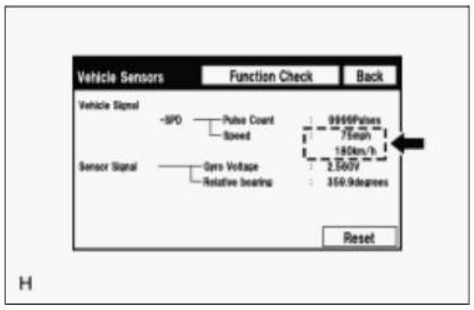
NG ▶ **PROCEED TO "GPS MARK IS NOT DISPLAYED"**

OK ▼

2.	**CHECK VEHICLE SENSOR (NAVIGATION CHECK MODE)**

(a) Enter the "Navigation Check" mode and select "Vehicle Sensors" INFO .

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

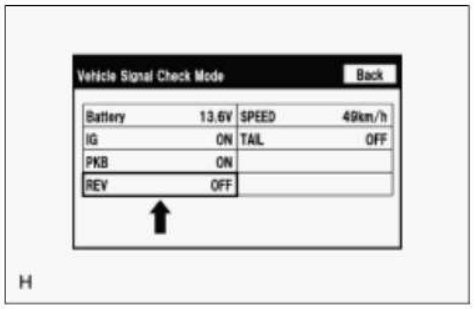
OK:

The readings are almost equal.

NG ▶ **GO TO "Speed Signal Circuit"**

OK ▼

3.	CHECK VEHICLE SENSOR (NAVIGATION CHECK MODE)



(a) Check that the display changes between ON and OFF according to the shift lever operation.

OK:

SHIFT LEVER POSITION	DISPLAY
Except Reverse	OFF
Reverse	ON

HINT:

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

NG ▶ **PROCEED TO "REVERSE SIGNAL DOES NOT CHANGE IN NAVIGATION CHECK MODE" IN PROBLEM SYMPTOMS TABLE**

OK ▶ **END**

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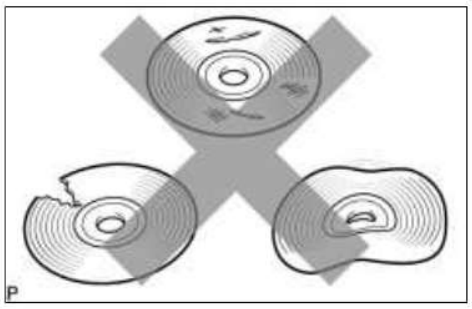
Last Modified: 9-7-2011	6.4 J	**From:** 201008
Model Year: 2011	**Model:** RAV4	**Doc ID:** RM000000POC08QX
Title: NAVIGATION: NAVIGATION SYSTEM (w/ DVD Player): Vehicle Position Mark is not Updated (2011 RAV4)		

Vehicle Position Mark is not Updated

INSPECTION PROCEDURE

PROCEDURE

1.	**CHECK MAP DISC**



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

OK:

No deformations or cracks on map disc.

NG ▶ **REPLACE MAP DISC**

OK

▼

2.	**CHECK NAVIGATION DISPLAY**

(a) Check if touch scroll can be performed on the map display.

OK:

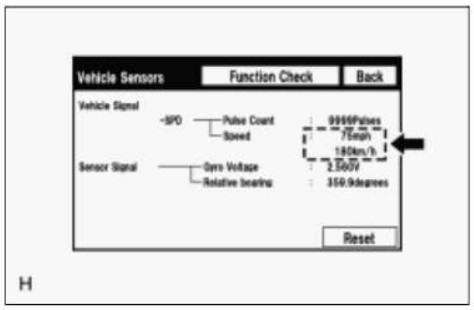
Touch scroll can be performed.

NG ▶ **REPLACE NAVIGATION RECEIVER ASSEMBLY**

OK

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3.	CHECK VEHICLE SENSOR (NAVIGATION CHECK MODE)



(a) Enter the "Navigation Check" mode and select "Vehicle Sensors" 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 almost equal.

NG ▶ **GO TO "Speed Signal Circuit"**

OK ▶ **END**

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Last Modified: 9-7-2011	6.4 J	**From:** 201008
Model Year: 2011	**Model:** RAV4	**Doc ID:** RM000000PNM072X
Title: NAVIGATION: NAVIGATION SYSTEM (w/ DVD Player): Voice Guidance does not Function (2011 RAV4)		

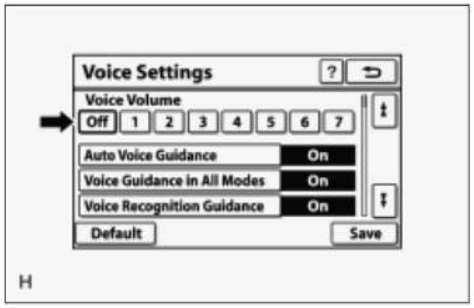
Voice Guidance does not Function

INSPECTION PROCEDURE

PROCEDURE

1.	**CHECK NAVIGATION SETTING**

(a) Display the "Voice Settings" screen.



(b) Check that "Off" is not selected.

OK:
OFF is not selected.

NG ▶ **TURN AUTO VOICE GUIDANCE "ON"**

OK
▼

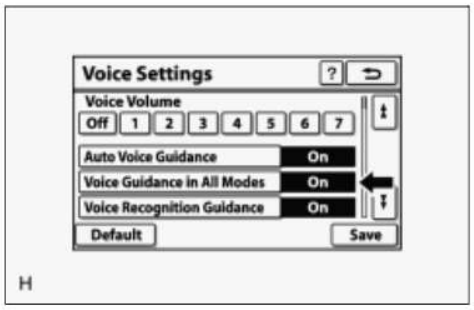
2.	**CHECK NAVIGATION SETTING**

(a) Display the "Voice Settings" screen.

(b) Check that "Voice Guidance in All Modes" is not OFF.

OK:
"Voice Guidance in All Modes" is not OFF.

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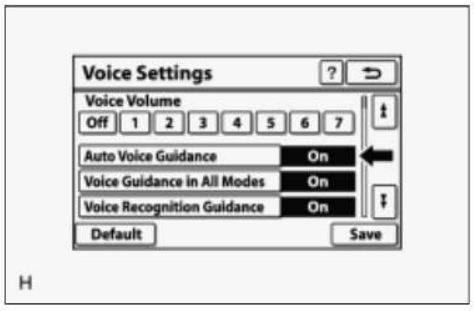


NG ▶ **TURN VOICE GUIDANCE IN ALL MODES "ON"**

OK ▼

3.	**CHECK NAVIGATION SETTING**

(a) Display the "Voice Settings" screen.



(b) Check that "Auto Voice Guidance" is not OFF.

OK:

"Auto Voice Guidance" is not OFF.

NG ▶ **TURN AUTO VOICE GUIDANCE "ON"**

OK ▼

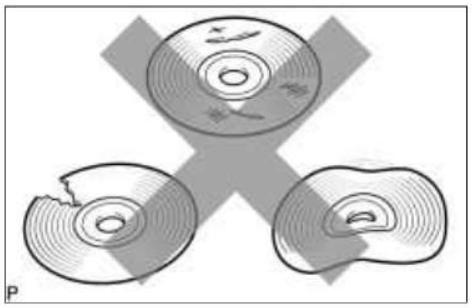
4.	**CHECK MAP DISC**

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

OK:

No deformations or cracks on the map disc.

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NG ▶ **REPLACE MAP DISC**

OK ▼

5.	CHECK NAVIGATION RECEIVER ASSEMBLY

(a) Check that audio can be heard from the speakers.

OK:

Audio can be heard.

NG ▶ **GO TO "Speaker Circuit"**

OK ▶ **REPLACE NAVIGATION RECEIVER ASSEMBLY**

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Last Modified: 9-7-2011	6.4 J	**From:** 201008
Model Year: 2011	**Model:** RAV4	**Doc ID:** RM000000PO708IX
Title: NAVIGATION: NAVIGATION SYSTEM (w/ DVD Player): Voice is not Recognized (2011 RAV4)		

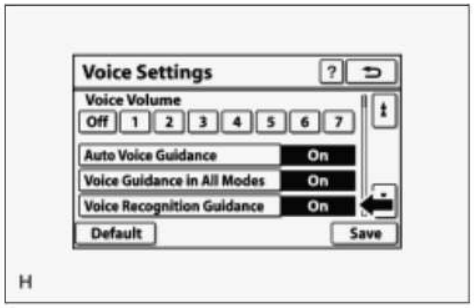
Voice is not Recognized

INSPECTION PROCEDURE

PROCEDURE

1.	**CHECK NAVIGATION SETTING**

(a) Display the "Voice Settings" screen.



(b) Check that "Voice Recognition Guidance" is not "Off".

OK:

"Voice Recognition Guidance" is not off.

NG ▶ **TURN "Voice Recognition Guidance" ON**

OK ▼

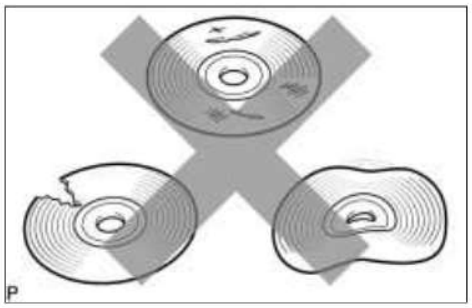
2.	**CHECK MAP DISC**

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

OK:

No deformations or cracks in the map disc.

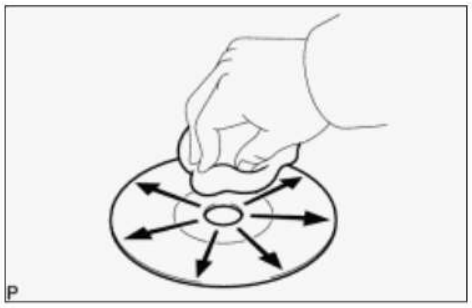
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NG ▶ REPLACE MAP DISC

OK ▼

3.	CHECK MAP DISC



(a) Check for dirt on the map disc surface.

OK:

No dirt is on the map disc surface.

HINT:

If the disc is dirty, clean the disc by wiping the disc surface radially with a soft cloth.

NOTICE:

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

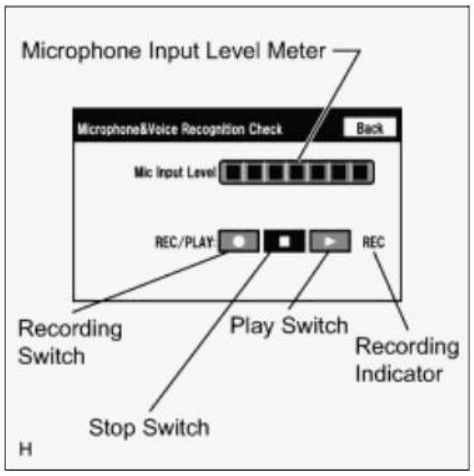
NG ▶ CLEAN MAP DISC

OK ▼

4.	CHECK MICROPHONE (OPERATION CHECK)

(a) Enter "Microphone&Voice Recognition Check" (Check Mic & Voice Recognition) INFO .

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

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

HINT:

Voice can be recorded for up to 5 seconds.

(d) Check that the recording indicator remains on while recording and that the recorded voice is played normally without noise or distortion.

OK:

All check results are normal.

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

OK ▶ **REPLACE NAVIGATION RECEIVER ASSEMBLY**

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Last Modified: 9-7-2011	6.4 J	**From:** 201008
Model Year: 2011	**Model:** RAV4	**Doc ID:** RM000000PO6088X
Title: NAVIGATION: NAVIGATION SYSTEM (w/ DVD Player): Voice Recognition Difficulty (2011 RAV4)		

Voice Recognition Difficulty

INSPECTION PROCEDURE

PROCEDURE

1.	**CHECK CONDITION**

(a) Check if the system's voice recognition level is low when recognizing a particular voice.

OK:

System's voice recognition level is low with any voice.

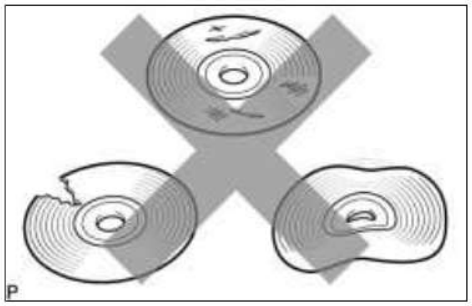
HINT:

System's voice recognition level varies depending on voice and pronunciation. This is not a malfunction.

NG ▶ **END**

OK
▼

2.	**CHECK MAP DISC**



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

OK:

No deformations or cracks on the map disc

NG ▶ **REPLACE MAP DISC**

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