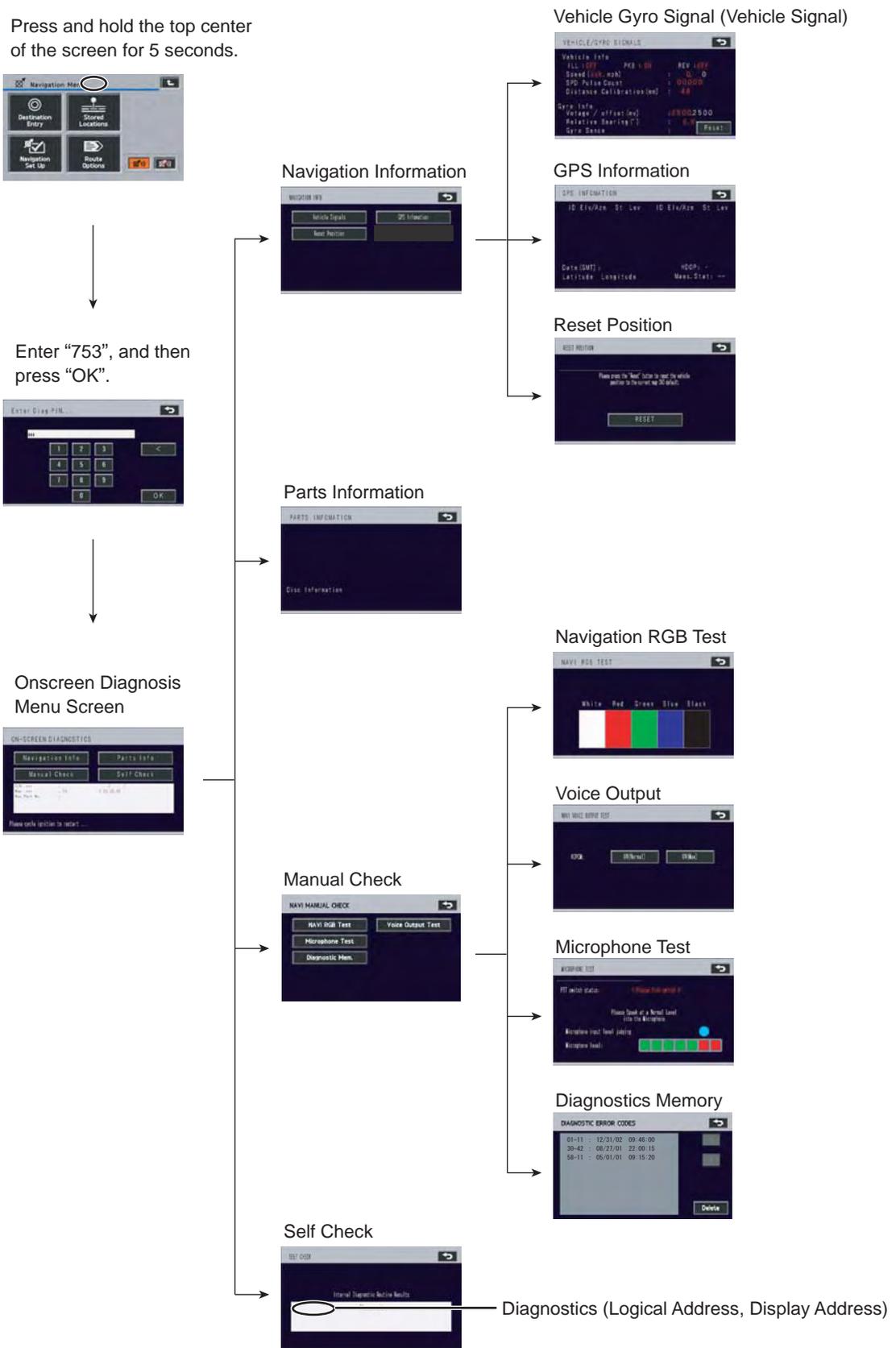


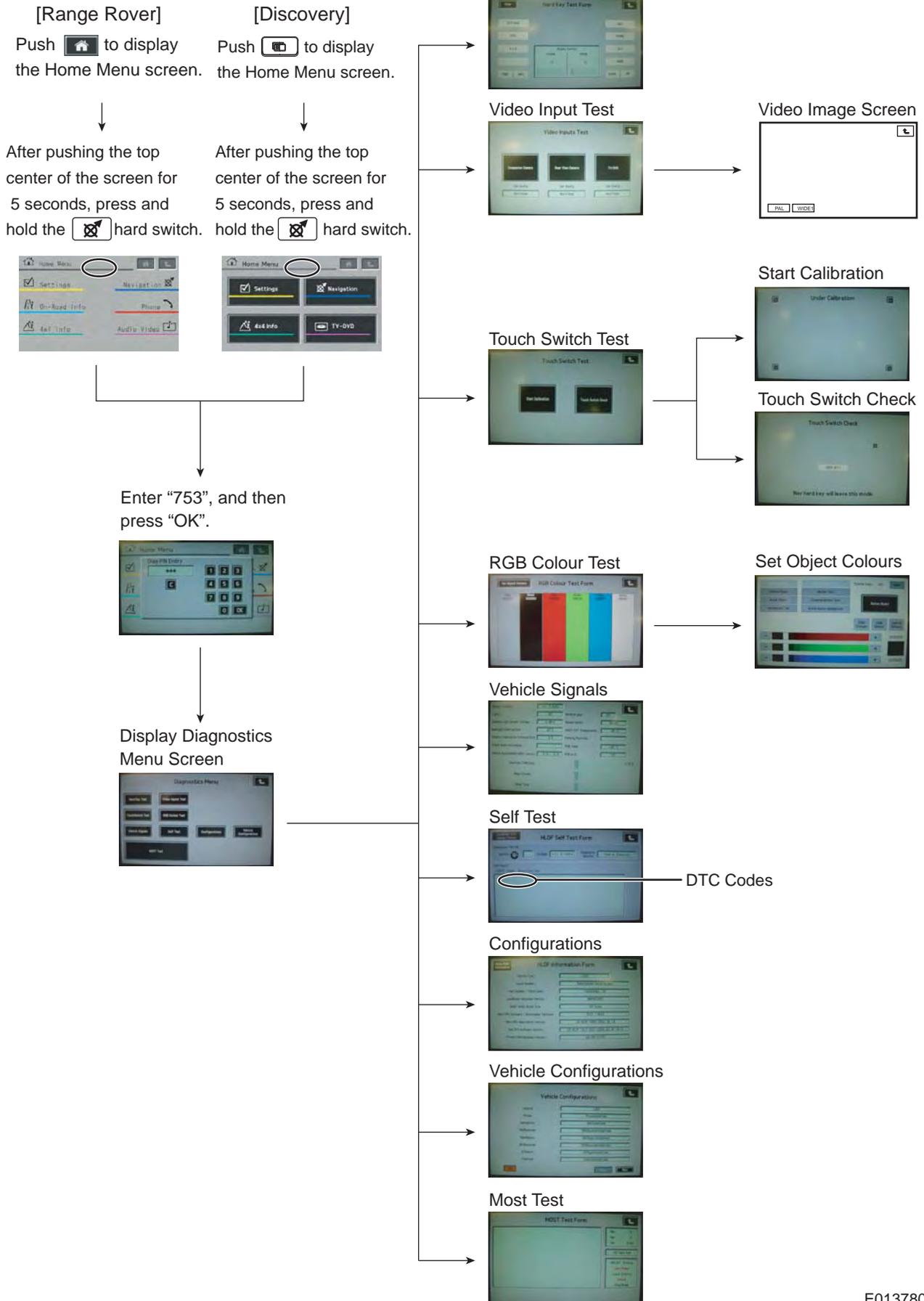
# DIAGNOSIS

There are two types of diagnosis; navigation diagnosis and display diagnosis.

## 1. Navigation Diagnosis Flowchart



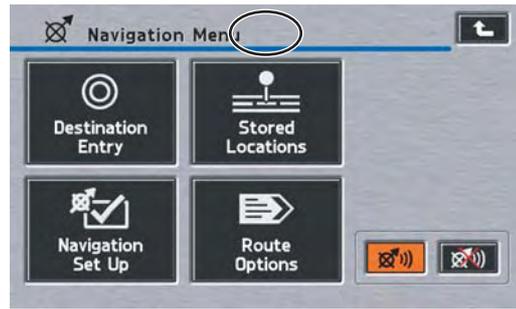
## 2. Display Diagnosis Flowchart



E013780E

### 3. NAVIGATION DIAGNOSIS SCREEN DISPLAY METHOD

- Start the vehicle engine. Push the top center area of the menu screen for 5 seconds.



E014298

- This displays the diagnostics screen. Enter "753" and then press "OK".



E013723

#### 4. NAVIGATION DIAGNOSTICS SCREEN DISPLAY

The navigation diagnostic menu screen is displayed. It has the following diagnosis functions.

##### (1) Navigation Info

Shows the vehicle signal, GPS information, and the current location correction.

##### (2) Parts Info

Map disc information and so on is displayed.

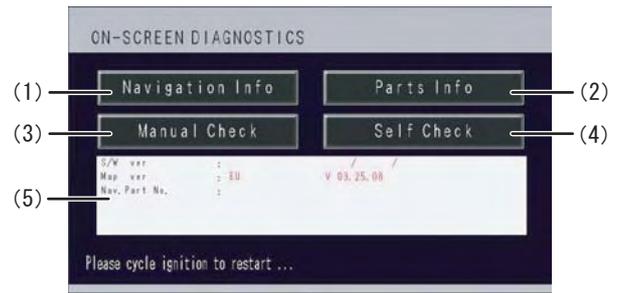
##### (3) Manual Check

Used to manually check operation.

##### (4) Self Check

Performs a self-check and displays the diagnosis codes for malfunctions.

##### (5) Displays the software version, map disc version, and navigation part number.



E013998

##### (1) NAVIGATION INFO

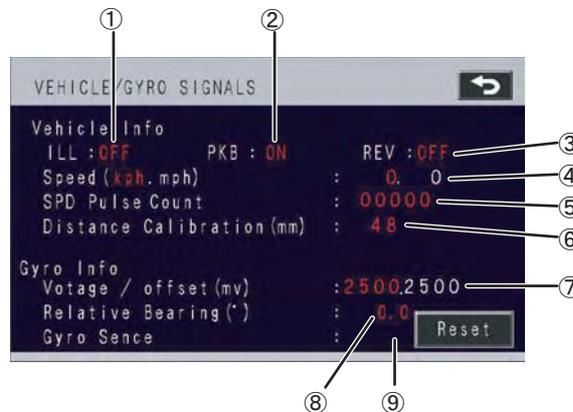
Shows the status of the navigation unit.

1	Vehicle Signals	(Vehicle Signals)
2	GPS Information	(GPS Information)
3	Reset Position	(Reset Position)



E014299

##### [1] Vehicle Signals



E003725

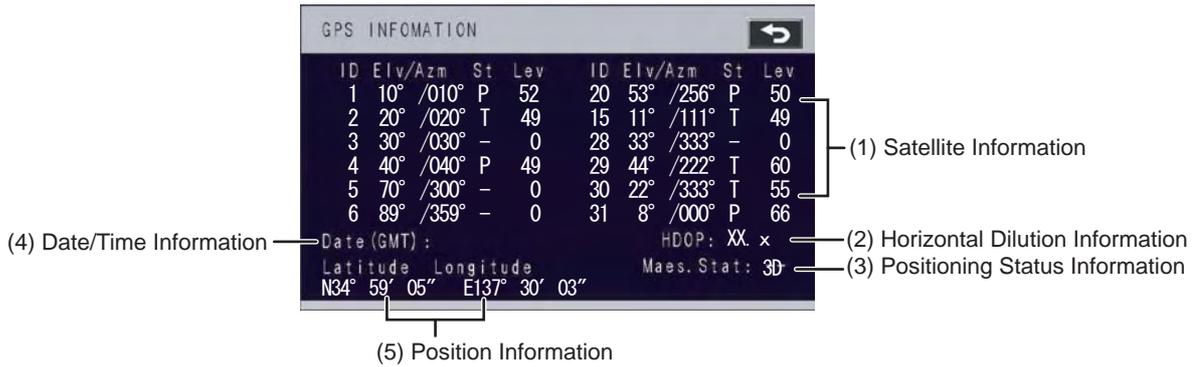
##### Vehicle Signals

1	Tail Signal (ILL)	Shows whether the tail light signal is ON or OFF.
2	Parking Brake Signal (PKB)	Shows whether the parking brake signal is ON or OFF.
3	Reverse Signal (REV)	Shows whether the reverse signal is ON or OFF.
4	Vehicle Speed Signal (SPD)	Shows the vehicle speed (kph/mpH).
5	Speed Pulse Count (SPD Pulse Count)	Shows the cumulative number of pulses since the start of screen display.
6	Distance Calibration	Shows the distance correction coefficient. (Based on 200.)

##### Gyro Signal

7	Gyro Voltage	Check that the gyro voltage is within 2000 to 3000mV (static).
8	Relative Bearing	The relative bearing is set to "0" when the system enters diagnostic mode.
9	Sensor Sensitivity Coefficient (Gyro Sense)	Changes when the vehicle makes a turn. (Based on 1.00.)

[2] GPS Information



EE013727E

(1) Satellite Information

Displays up to 12 GPS satellite search targets.

ID	The individual number of the satellite.	
Elv/Azm	Elevation / azimuth.	
St	Reception status.	
	P	Data is being received from an applicable satellite and used for positioning.
	T	Data is being received from an applicable satellite but is not being used for positioning.
	—	No data is being received from an applicable satellite.
Lev	(Signal level) The normal signal level is about 40 to 60. It becomes 0 when there is no reception due to obstacles such as buildings.	

(2) Horizontal Dilution of Precision

This index represents the dilution of precision on a horizontal plane. It is usually five or less, so the greater the value, the poorer the positioning accuracy. Shows the satellite judgment index. (The greater the value, the poorer the positioning accuracy.) If it exceeds 99.9 or is not positioning, "-" is displayed.

(3) Positioning Status

Displays the positioning status.

2D	Two-dimensional positioning (receiving signals from 3 satellites).
3D	Three-dimensional positioning (receiving signals from 4 satellites).
NG	Unusable positioning data: → Inaccuracy due to a large positioning data error (approximately 500m or more).
error	Reception error: → Error in communication between the GPS receiver and the navigation unit.
—	Condition other than those above: → Two-dimensional positioning is not possible (signals are being received from 2 or less satellites).

(4) Date and Time (Greenwich Mean Time)

Displays the date and time data obtained from the GPS satellites by 'month', 'date', 'year', 'hour' 'minute' and 'second'.

(5) Position Data

Displays the current latitude/longitude information in degrees, minutes and seconds.

### [3] RESET POSITION

Resets the current location to the (default) coordinates registered on the map DVD.



E013726

### (2) PARTS INFO

Displays the following information.

- Map Disc Information
- GPS Antenna Connection Status
- TMC Tuner Connection Status
- Various Navigation Versions

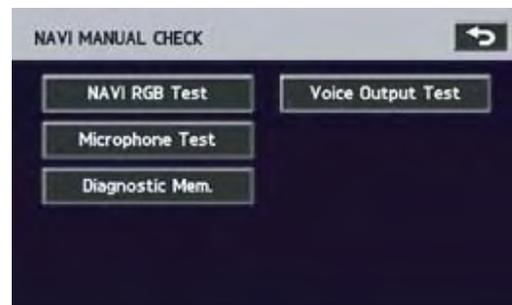


E013732

### (3) MANUAL CHECK

This function is used to manually check operation.

1	NAVI RGB Test
2	Voice Output Test
3	Microphone Test



E013733

### [1] NAVI RGB Test

Checks the navigation ECU color display.

Touching one of the title colors will display the entire screen in the selected color. To return to the test screen, touch anywhere on the screen.

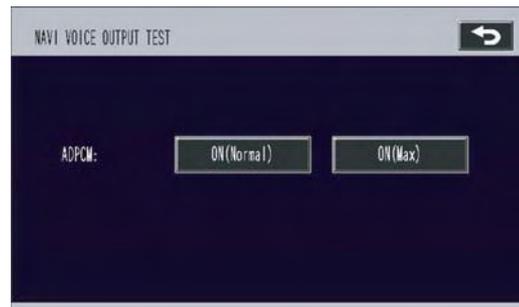


E013734

**[2] Voice Output Test**

Inspects the ADPCM (1kHz sine wave) output.

ON (Normal)	ADPCM Voice (1kHz sine wave) outputs for 5 seconds.
ON (Max)	ADPCM Voice (maximum 1kHz sine wave) outputs for 5 seconds.



E013735

**[3] Microphone Test**

This function enables a voice recognition type microphone PTT connection check or microphone check.

1	PTT Switch Status	Press and hold the PTT switch. If "OK" is not displayed on the screen, the PTT switch is faulty.
2	Microphone Input Level Judging	Samples a spoken word, and then displays values over the threshold as a blue indicator.
3	Microphone Level	The indicator changes if someone speaks into the microphone.

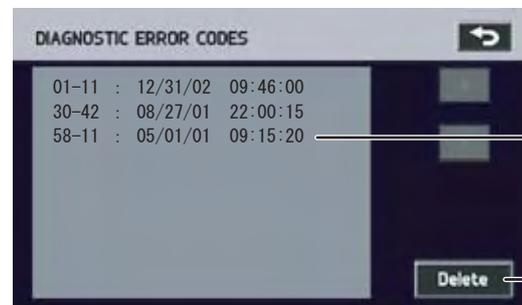


E013736

**[4] Diagnostic Error Codes (Diagnostics History)**

Displays the diagnostics information for past malfunctions.

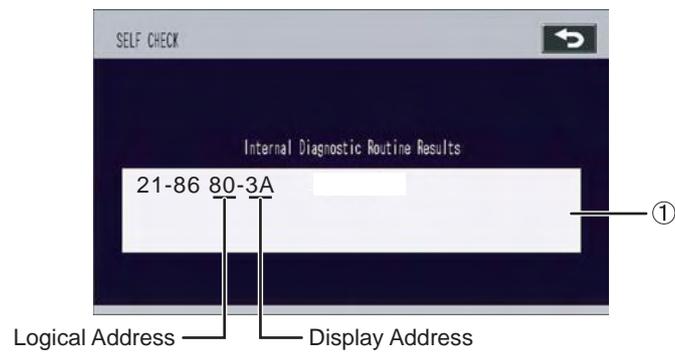
1	Diagnostics Information	Displays the logical address, display address and time of occurrence (Greenwich time). (Month/Day/Year Hour: Minutes: Seconds)
2	Delete	Deletes the diagnostics information.



E017600

**(4) SELF CHECK**

Performs a self check and displays the diagnostic error codes for current malfunctions. Displays the logical addresses and display addresses as hexadecimal (base 16) numbers.

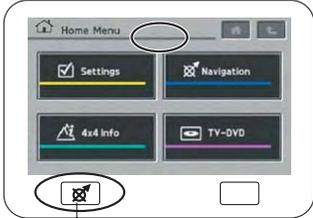


E013737E

1	Inspection Results Screen	During System Inspection	"Please wait" will be displayed until the end of the inspection.
		Error Detected	Displays the malfunction code.
		No Errors	"No Errors Detected" will be displayed.

## 5. DIAGNOSIS SCREEN DISPLAY METHOD

- Start the vehicle engine.

[Range Rover]	[Discovery]
<p>Push  to display the Home Menu screen.</p> <p>↓</p> <p>After pushing the top center of the screen for 5 seconds, press and hold the  hard switch.</p>  <p style="text-align: right;"> Navigation Button</p> <p style="text-align: right;">E019949</p>	<p>Push  to display the Home Menu screen.</p> <p>↓</p> <p>After pushing the top center of the screen for 5 seconds, press and hold the  hard switch.</p>  <p style="text-align: right;"> Navigation Button</p> <p style="text-align: right;">E019950</p>

- This displays the diagnostics screen. Enter “753” and then press “OK”.



E013982

## 6. DIAGNOSTICS SCREEN DISPLAY

The diagnostic menu screen is displayed. It has the following diagnosis functions.

### (1) Hard Key Test

Checks hard switch operation.

### (2) Video Input Test

Checks the TV/DVD input signals.

### (3) Touch Switch Test

Checks touch switch operation.

### (4) RGB Color Test

Checks the color display.

### (5) Vehicle Signals

Displays information of various vehicle devices.

### (6) Self Test

Performs a self inspection of the display.

### (7) Configuration (System Environment)

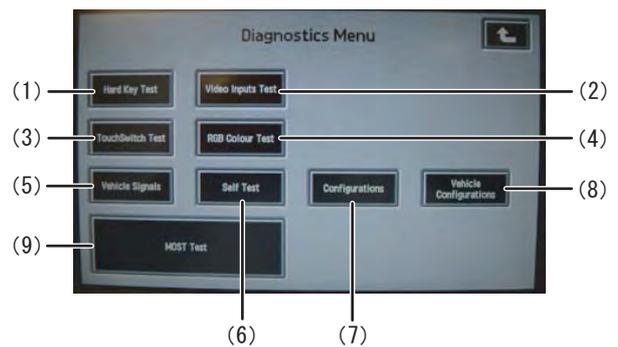
Displays the vehicle model, part number, CPU information, and so on.

### (8) Vehicle Configuration (Vehicle System Configuration)

Displays system configuration for the entire vehicle.

### (9) MOST Test

Displays error data.

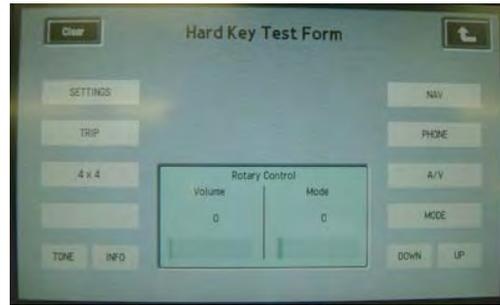


E015428

**(1) Hard Key Test**

Checks hard switch operation.

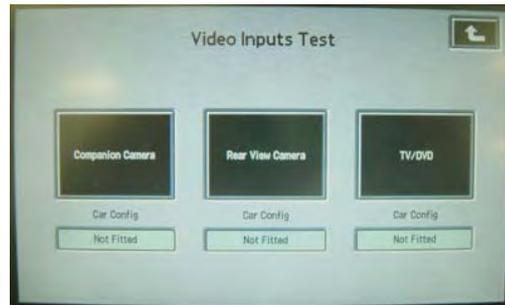
Under normal operation, the switch on the screen changes color when the hard key is pressed. In addition, when a rotary switch is turned, the switch on the screen also rotates. (The press function of the left-side rotary switch cannot be checked here).



E013983

**(2) Video Input Test**

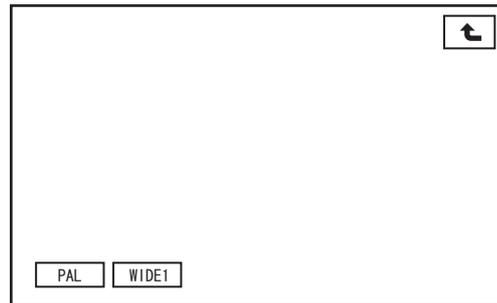
If all devices are not connected, "Not Fitted" will be displayed. Touching the "Companion Camera", "Rear View Camera" or "TV/DVD" buttons will display the video image screen.



E013984

**[1] Video Image Screen**

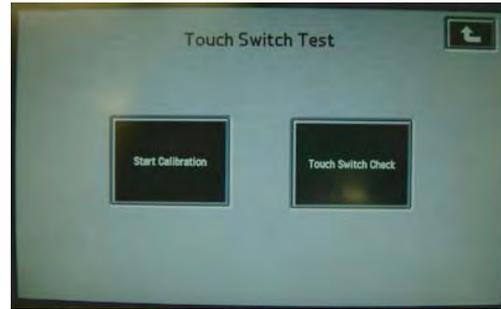
From the Diagnostics screen, select the picture type. If there is no synchronization signal being output, "No signal" will be displayed.



E013985

### (3) Touch Switch Test

Checks touch switch coordinate correction and operation.



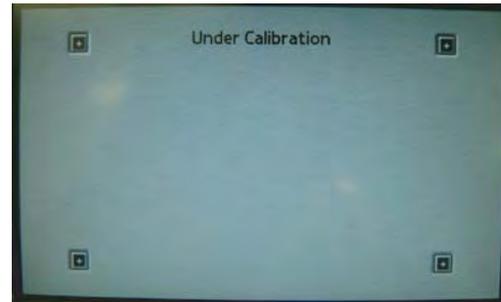
E013986

#### [1] Start Calibration

Coordinate correction is performed by touching the “+” points in all four the corners of the screen.

##### <Caution>

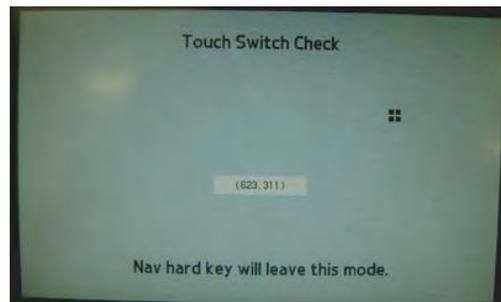
\*1: Do not touch a completely different area. (This may prevent correction.)



E013987

#### [2] Touch Switch Check

The touched coordinates are displayed, allowing a check for coordinate misalignment. Push the navigation button to return to the original screen. If there is a large amount of misalignment, correct by using “Start Calibration”.

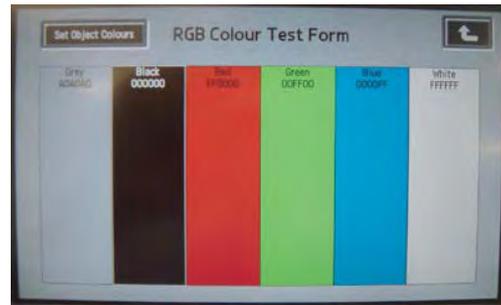


E013988

**(4) RGB Color Test**

Checks the color display.

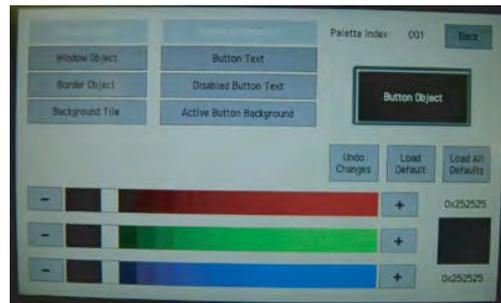
Touching a color will display the entire screen in the selected color. Press any area of the screen to return to the original screen. Alternatively, touch “Set Object Colours” to display the color adjustment screen.



E013989

**[1] Set Object Colors**

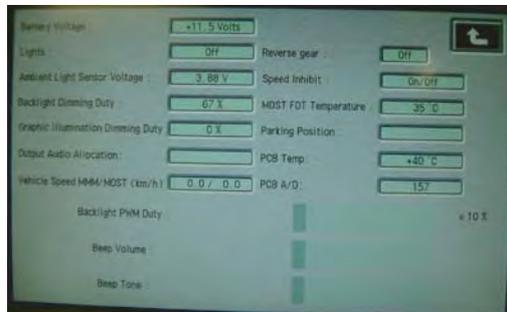
This function enables adjustment of the switch color, background color and so on. Turning OFF the ACC will return the screen to the original colors.



E013990

**(5) Vehicle Signals**

Displays information of various vehicle devices.

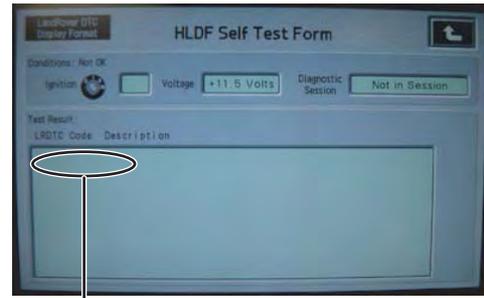


E013991

1	Battery Voltage	9	Speed Inhibit
2	Lights	10	MOST FOT Temperature
3	Ambient Light Sensor Voltage	11	Parking Position
4	Backlight Dimming Duty	12	PCB Temp
5	Graphic Illumination Dimming Duty	13	PCB A/D
6	Output Audio Allocation	14	Backlight PWM Duty
7	Vehicle Speed MMM/MOST(km/h)	15	Beep Volume
8	Reverse Gear	16	Beep Tone

**(6) Self Test**

Starts the display self inspection and displays the results on the screen.

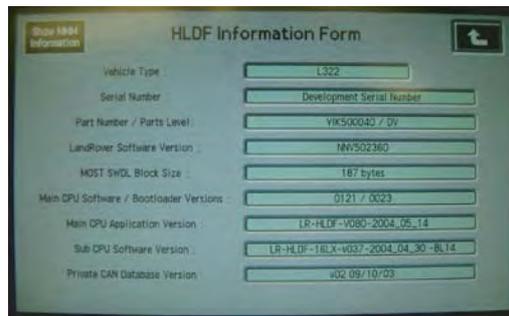


DTC Codes

E013992E

**(7) Configuration (System Configuration)**

Displays the vehicle model, part number, CPU information, and so on.

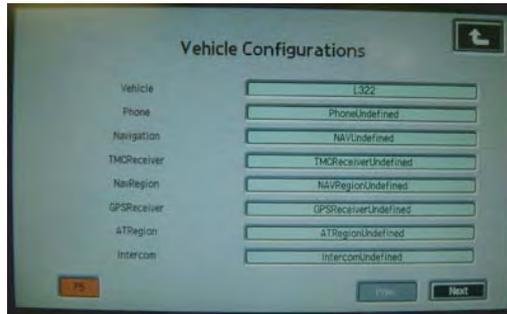


E013993

1	Vehicle Type	6	Main CPU Software/Bootloader Versions
2	Serial Number	7	Main CPU Application Version
3	Parts Number/Parts Level	8	Sub CPU Software Version
4	Land Rover Software Version	9	Private CAN Database Version
5	MOST SWDL Block Size		

**(8) Vehicle Configuration (Vehicle System Configuration)**

Displays system configuration for the entire vehicle.

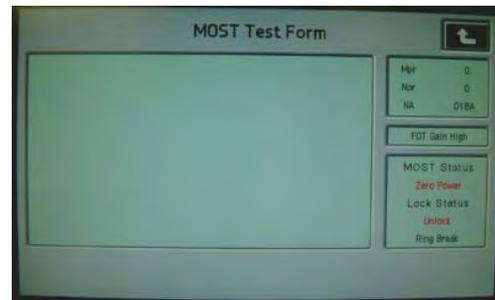


E013994

1	Vehicle	11	PDC Channels	21	Parking Aid Display
2	Phone	12	VICS	22	IHU Features
3	Navigation	13	RSE Display	23	Amplifier Type
4	TMC Receiver	14	RSE DVD Audio	24	Subwoofer Status
5	Nav Region	15	RSE DVD Player	25	IBus Equipment
6	GPS Receiver	16	RSE Interface Module	26	HLDF Current User
7	AT Region	17	SDAR Fitment	27	MMM Type
8	Intercom	18	AV2	28	MMM Japan
9	Voice Rec Location	19	Companion	29	TV Variant
10	To Fitted	20	Parking Camera		

**(9) MOST Test**

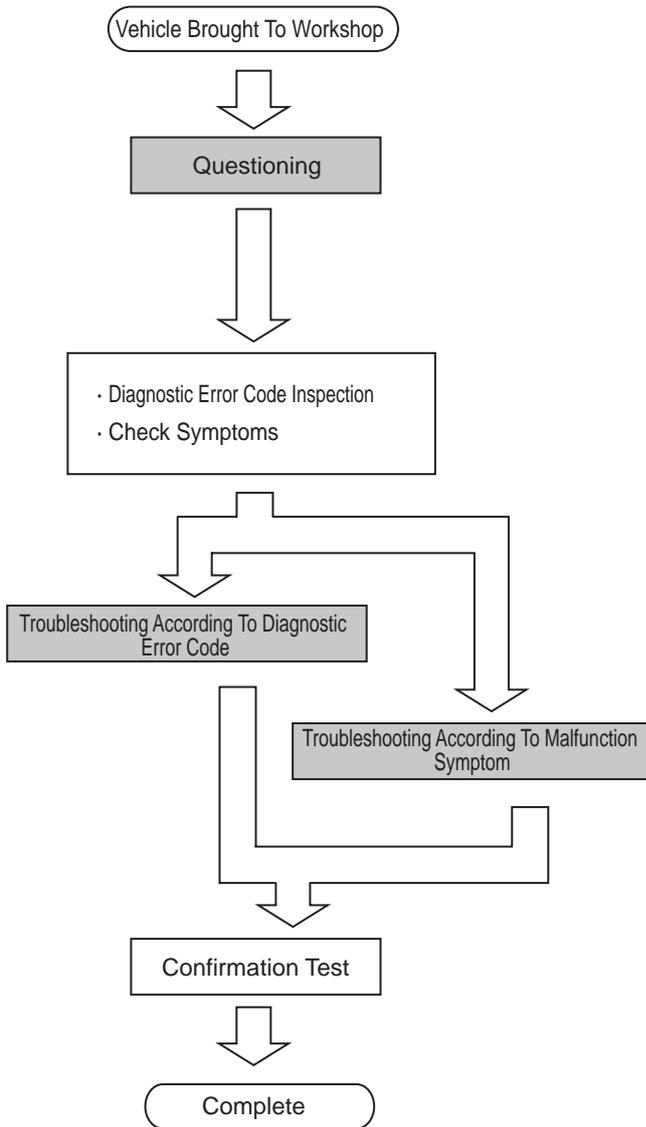
Displays all the messages received/sent by the display (HLDF).



E013995

# ■TROUBLESHOOTING

## 1 . TROUBLESHOOTING STEPS



**Step 1**  
Enquire in detail about the conditions and environment in which the malfunction occurs, and then confirm the actual malfunction.

**Step 2**  
Perform a diagnostic error code inspection and confirm the symptoms to establish the malfunction conditions.

**Step 3**  
Organise the inspection results gained in **step 2**, and examine the systems according to the troubleshooting procedures for either diagnostic error code or malfunction symptom.

**Step 4**  
Check whether the malfunction reoccurs following repair.  
  
( For malfunctions that are unlikely to reoccur, perform the confirmation test under the same conditions and environment in which the malfunction occurred. )

E009265E

### (1) Confirmation Test

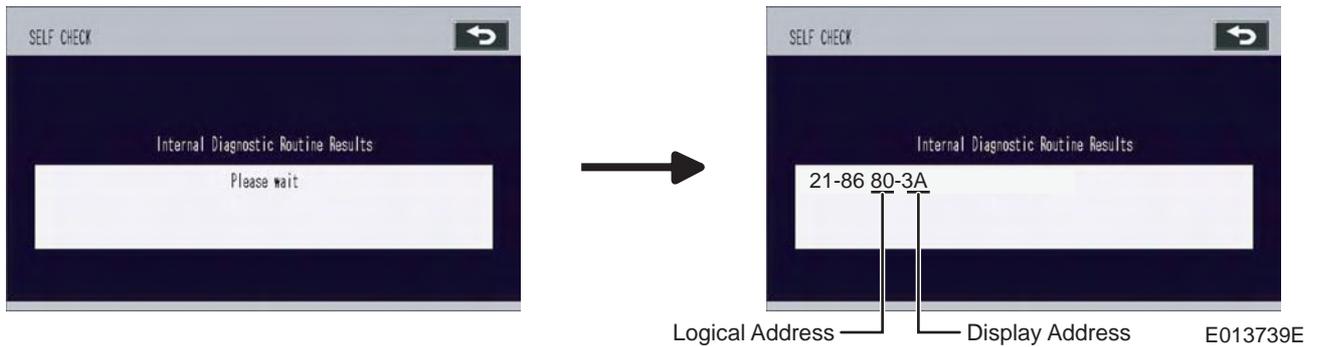
#### Confirmation Test Procedures

- Move the vehicle to an open space with good GPS radio wave reception.
- Perform a self-check following deletion of the diagnostic memory to confirm that no diagnostic error codes are output.
- Confirm that the “GPS reception” mark appears from the navigation screen, and that the current location is being displayed.
- Confirm that the map can be scrolled.
- Confirm the audio system and air conditioning operate normally.
- End

## ■CONFIRMING DIAGNOSTIC CODES

### 1. NAVIGATION DIAGNOSTICS

Diagnostic error codes concerning navigation can be checked.



#### (1) Table of Navigation Diagnostic Error Codes

These are the diagnostic error codes detected from the diagnostics memory (Diagnostics Error Code) screen, and from running the navigation diagnostics “SELF CHECK”.

Logical Address	Display Address	DTC Code	Diagnostic Error Code Description	Detection Conditions	Inspection Area	Malfunction Part
80	3A	0×9A8913	GPS Antenna Open Circuit (OPEN)	<ul style="list-style-type: none"> <li>During a GPS antenna open circuit.</li> <li>When the GPS antenna is not connected to the navigation ECU.</li> </ul>	<ul style="list-style-type: none"> <li>Check whether the GPS antenna is properly installed.</li> <li>Check whether there is an open circuit in the GPS antenna line.</li> <li>Check whether the connectors between the vehicle and the GPS, and the vehicle and the navigation ECU are properly connected.</li> </ul>	(1) Disconnected GPS Antenna Cable (2) Faulty GPS Antenna Cable (3) Faulty GPS Antenna
	3B	0×9A8911	GPS Antenna Short Circuit (SHORT).	During a GPS antenna short circuit.	<ul style="list-style-type: none"> <li>Check whether the GPS antenna is properly installed.</li> <li>Check whether there is an open circuit in the GPS antenna line.</li> <li>Check whether the connectors between the vehicle and the GPS, and the vehicle and the navigation ECU are properly connected.</li> </ul>	(1) Faulty GPS Antenna Cable (2) Faulty GPS Antenna
	11	0×9B0049	TCXO Malfunction	When a malfunction is detected in the GPS receiver inside the navigation ECU.	Check whether the GPS antenna is properly installed.	(1) Faulty Navigation ECU
	03	0×E00531	Vehicle Speed Signal Malfunction	When the movement speed obtained from the GPS receiver is over 36km/h, but there is no vehicle speed pulse input.	<ul style="list-style-type: none"> <li>Vehicle Speed Signal Open Circuit</li> <li>Check whether the navigation ECU connectors are properly connected.</li> </ul>	(1) Faulty Vehicle Speed Signal Cable (2) Faulty Navigation Connector Connection

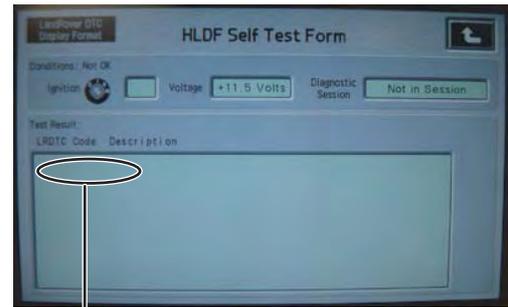
Logical Address	Display Address	DTC Code	Diagnostic Error Code Description	Detection Conditions	Inspection Area	Malfunction Part
0B	41	—	Map Disc Malfunction	When there is a read error due to disc scratches or vibration etc., and data cannot be read for a certain period of time.	Check the condition of the map disc.	(1) Faulty Map Disc (2) Faulty Navigation ECU
	42	0×9B0049	Player Malfunction	When abnormal player operation continues for a certain period of time.	Check the navigation ECU installation.	(1) Faulty Navigation ECU
	43	0×9B0049	Player High Temperature Detection	When high player temperature is detected (player ambient temperature is over 80°C).	Check the navigation ECU surrounding temperature.	(1) If the navigation ECU surrounding temperature is too high, lower the surrounding temperature. (2) Navigation ECU

## 2. DISPLAY DIAGNOSTICS

All main system diagnostic trouble codes can be checked.



Self Test  
→



DTC Codes

E013996E

### (1) Table of Display Diagnostic Trouble Codes

These are the diagnostic trouble codes detected from running the display “SELF TEST”.

DTC Codes	Diagnostics Trouble Code Description	Detection Conditions	Inspection Area	Malfunction Part
0x910E25	No Video Signal Input (TV/RSE)	When there is no video signal input.	<ul style="list-style-type: none"> <li>Check whether the video cable to the display is properly connected.</li> <li>Check whether there is a video signal cable open circuit.</li> <li>Check the camera, TV, RSE device connections and operation.</li> </ul>	(1) Connectors are Disconnected (Green) (2) Faulty Cable (3) Faulty TV, DVD Playback Equipment
0x910F25	No Video Signal Input (Companion Camera)	When there is no video signal input.		(1) Connectors are Disconnected (Light Yellow) (2) Faulty Cable (3) Faulty Companion Camera
0x911025	No Video Signal Input (Rearview Camera)	When there is no video signal input.		(1) Connectors are Disconnected (Brown) (2) Faulty Cable (3) Faulty Rearview Camera
0x9A0049	Backlight Malfunction 2	When the backlight in the display is malfunctioning.	—	Faulty Display
	Switchboard Disconnected	When the switchboard in the display is not connected.	—	
0x9A8911	GPS Antenna Short Circuit (SHORT).	During a GPS antenna short circuit.	<ul style="list-style-type: none"> <li>Check whether the GPS antenna is properly installed.</li> <li>Check whether there is an open circuit in the GPS antenna line.</li> <li>Check whether the connectors between the vehicle and the GPS, and the vehicle and the navigation ECU are properly connected.</li> </ul>	(1) Faulty GPS Antenna Cable (2) Faulty GPS Antenna

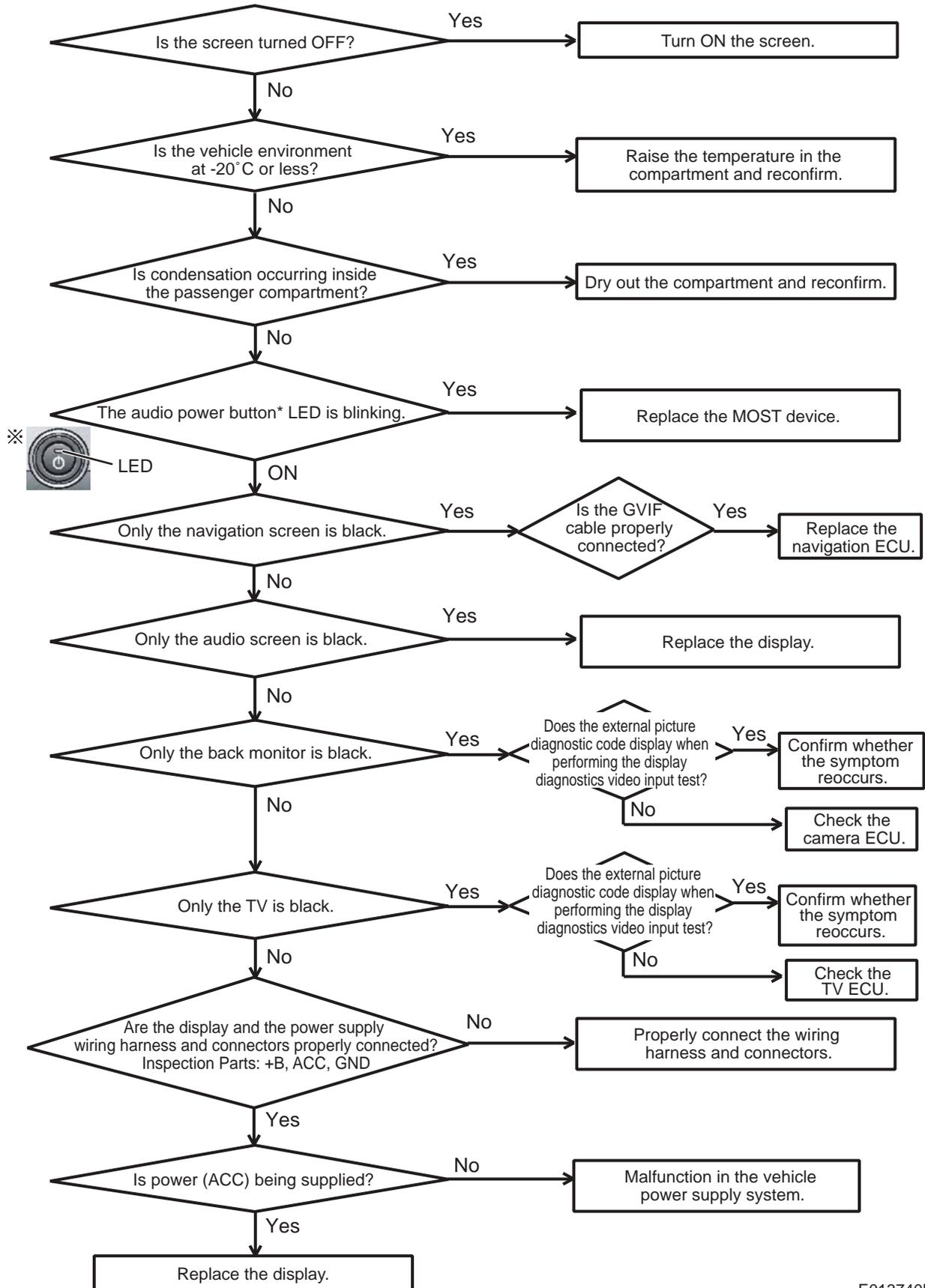
DTC Codes	Diagnostics Trouble Code Description	Detection Conditions	Inspection Area	Malfunction Part
0x9A8913	GPS Antenna Open Circuit (OPEN)	<ul style="list-style-type: none"> <li>During a GPS antenna open circuit.</li> <li>When the GPS antenna is not connected to the navigation ECU.</li> </ul>	<ul style="list-style-type: none"> <li>Check whether the GPS antenna is properly installed.</li> <li>Check whether there is an open circuit in the GPS antenna line.</li> <li>Check whether the connectors between the vehicle and the GPS, and the vehicle and the navigation ECU are properly connected.</li> </ul>	(1) Disconnected GPS Antenna Cable (2) Faulty GPS Antenna Cable (3) Faulty GPS Antenna
0x9B0049	Player High Temperature Detection	When high temperature is detected in the navigation ECU unit (player ambient temperature is over 80°C).	Check the navigation ECU surrounding temperature. (Check whether it is within the operational temperature range.)	(1) If the navigation ECU surrounding temperature is too high, lower the surrounding temperature.
	TCXO Malfunction	When a malfunction is detected in the GPS receiver inside the navigation ECU.	Check the navigation ECU installation.	(1) Faulty Navigation ECU
	Gyro Malfunction	A malfunction is determined when the gyro voltage is equivalent to that at 60 deg/sec or more for a 3 second interval when the vehicle is stopped, or for 180 seconds when driving.		
	Player Malfunction	When abnormal player operation continues for a certain period of time.		
CAN Communication Malfunction 1	When CAN communication cannot be received from the display.	<ul style="list-style-type: none"> <li>Faulty vehicle cable between the display and the navigation.</li> </ul>		
CAN Communication Malfunction 2	When there is a malfunction in the communication baud rate, etc.			
CAN Communication Failure	When CAN communication cannot be received from the navigation ECU.		<ul style="list-style-type: none"> <li>Faulty vehicle cable between the display and the navigation.</li> <li>Faulty navigation ECU power supply.</li> </ul>	
0xDA0187	GVIF Signal Malfunction	When there is no GVIF signal input from the navigation ECU.	<ul style="list-style-type: none"> <li>Display GVIF cable disconnected.</li> <li>Navigation ECU GVIF cable disconnected.</li> </ul>	(1) GVIF Cable Disconnected (2) Faulty GVIF Cable (3) Navigation ECU
0xE00531	Vehicle Speed Signal Malfunction	When the movement speed obtained from the GPS receiver is over 36km/h, but there is no vehicle speed pulse input.	<ul style="list-style-type: none"> <li>Vehicle speed signal open circuit.</li> <li>Check whether the navigation ECU connectors are properly connected.</li> </ul>	(1) Faulty Vehicle Speed Signal Cable (2) Faulty Navigation Connector Connection
0xF00068	MOST High Temperature Detection	When a high temperature error is detected in the MOST communication section of the display unit.	Check the navigation ECU surrounding temperature. (Check whether it is within the operational temperature range.)	(1) If the navigation ECU surrounding temperature is too high, lower the surrounding temperature.

## ■TROUBLESHOOTING FROM SYMPTOM

### 1. TROUBLESHOOTING

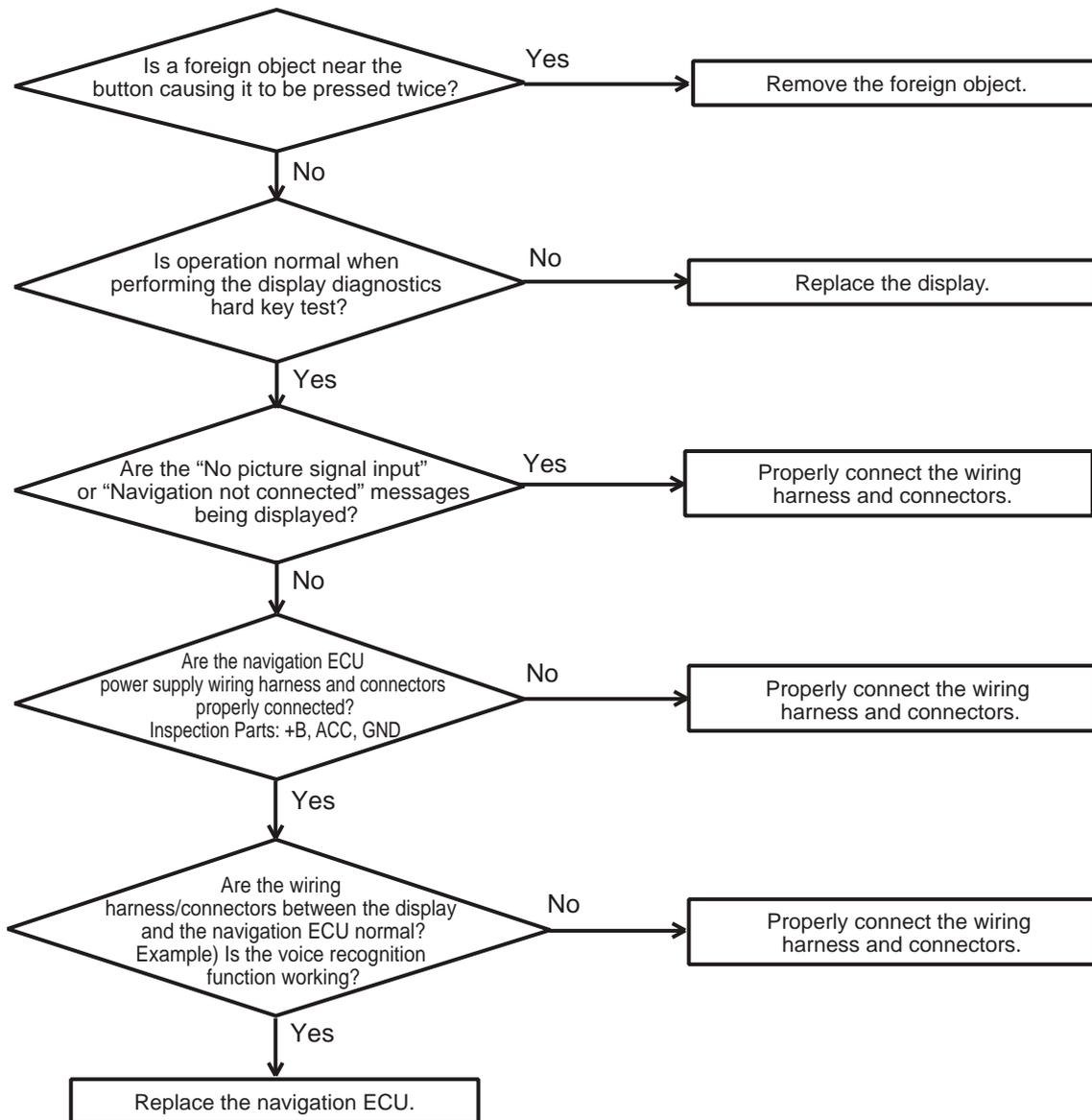
- (1) Black Screen (Navigation Screen and Audio Screen Do Not Display)
- (2) Navigation Screen Does Not Display Even When the Navigation Button is Pressed (Screen Does Not Change)
- (3) Hard Switches Do Not Respond
- (4) Radio Screen Will Not Display
- (5) CD Screen Will Not Display
- (6) TV/DVD Screen Will Not Display
- (7) AUX Screen Will Not Display
- (8) Screen Will Not Switch to Low Light
- (9) Noise Interferes on Each Screen and the Colors are Abnormal
- (10) Disturbance on Screen (Synchronization Abnormal)
- (11) Screen Color is Abnormal
- (12) Map Disc Will Not Insert
- (13) Touch Switches Do Not Respond
- (14) Considerable Deviation Between the Vehicle's Displayed Position and Actual Location
- (15) GPS Mark Does Not Appear
- (16) No Sound
- (17) No Voice Recognition
- (18) Vehicle's Current Position Mark Turns on its Own
- (19) Vehicle Position Does Not Renew
- (20) Route Calculations Cannot Be Performed
- (21) Map Display is Incomplete
- (22) Vehicle Position Mark Moves in the Opposite Direction to the Direction of Travel
- (23) Cannot Make or Receive Phone Calls with the Bluetooth Phone; Cannot Connect with the Vehicle

**(1) Black Screen (Navigation Screen and Audio Screen Do Not Display)**



E013740E

**(2) Navigation Screen Does Not Display Even When the Navigation Button is Pressed (Screen Does Not Change)**

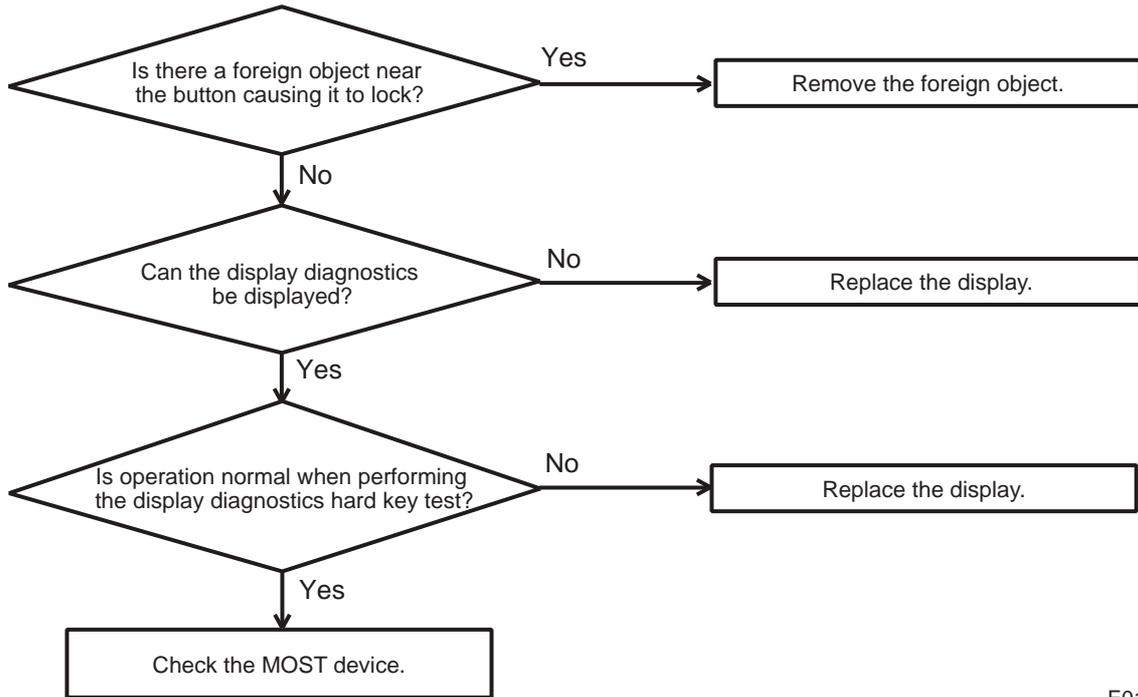


E013741E

**<Reference>**

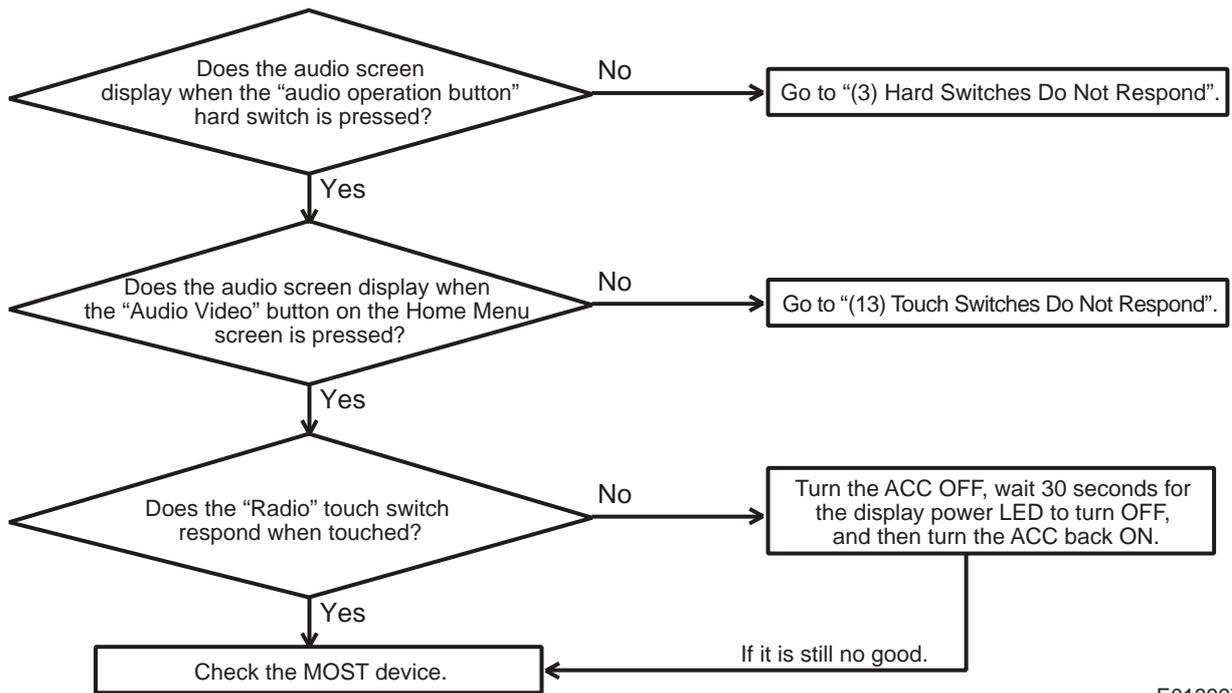
\*2: When reconfirming the symptoms after inspecting the wiring harness/connector, turn the ignition switch OFF, and wait for the audio power button LED on the display to turn OFF. Then, turn the ignition back ON and run the diagnosis again from the beginning.

### (3) Hard Switches Do Not Respond



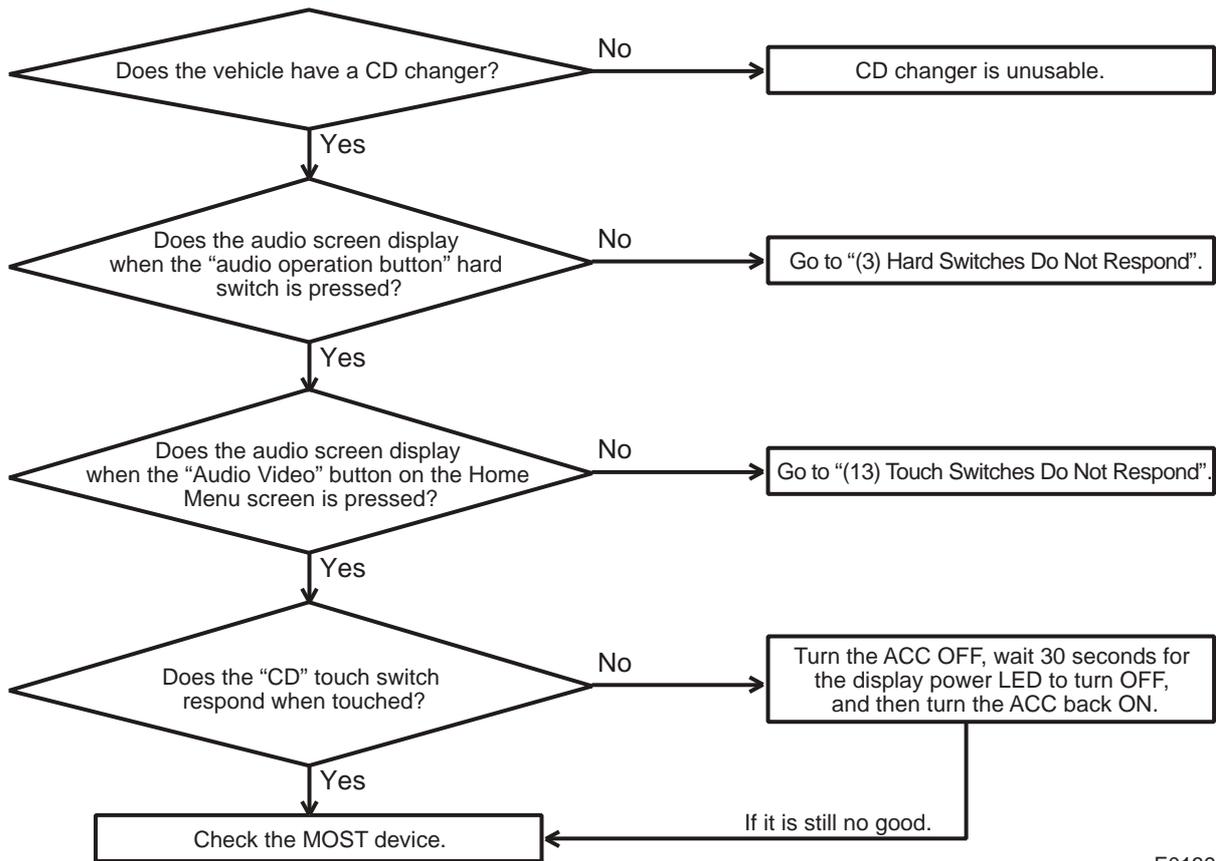
E013742E

### (4) Radio Screen Will Not Display



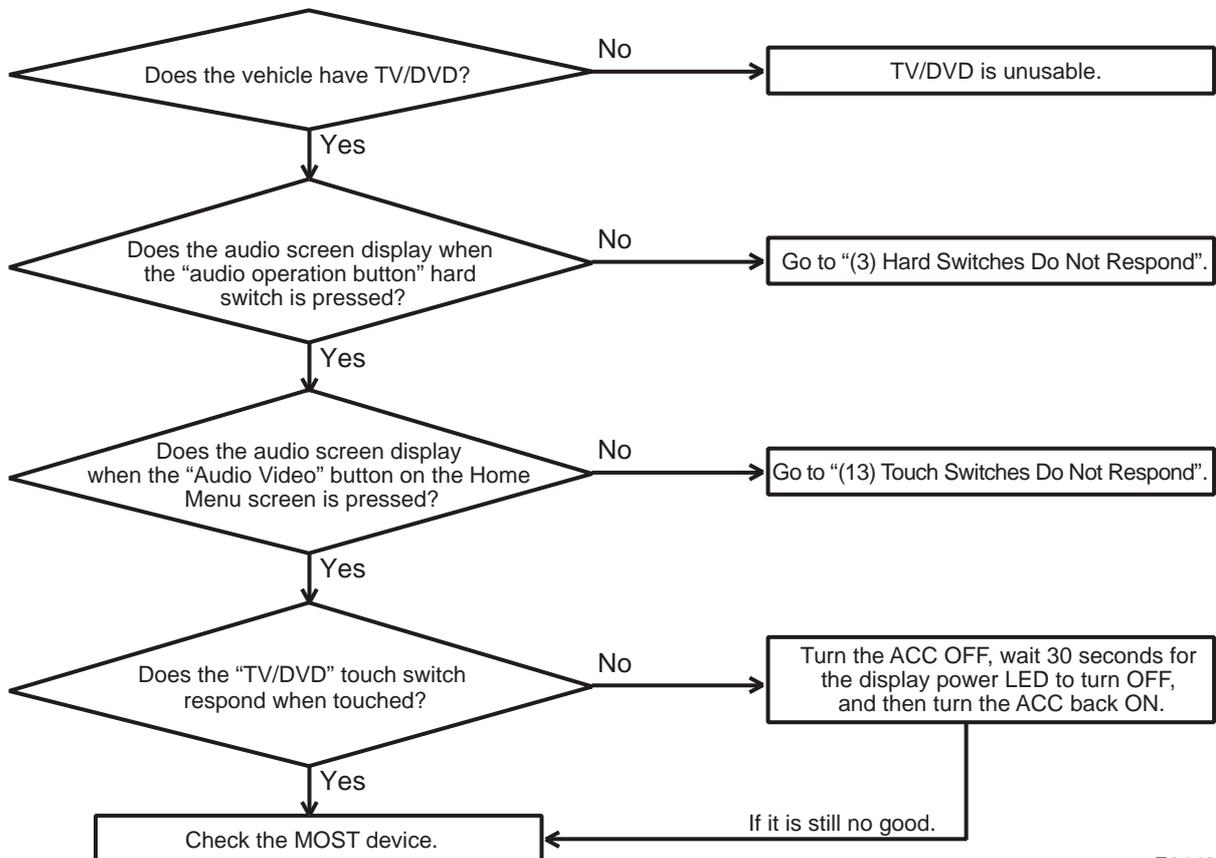
E013997E

**(5) CD Screen Will Not Display**



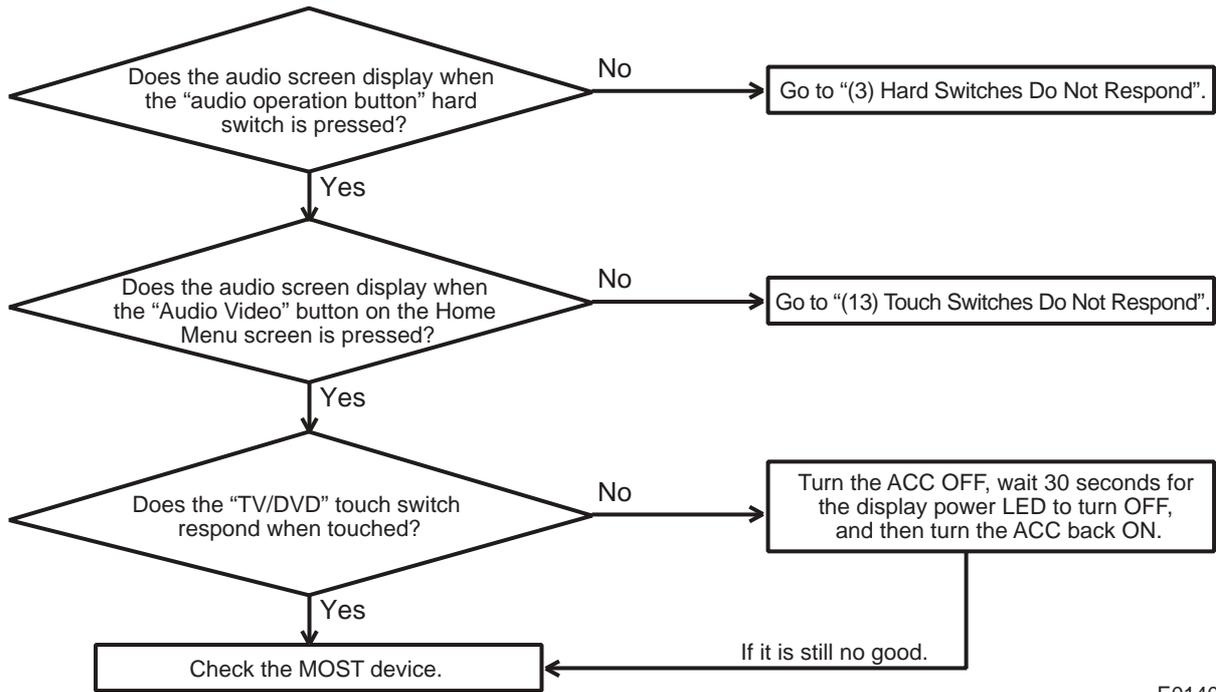
E013999E

**(6) TV/DVD Screen Will Not Display**



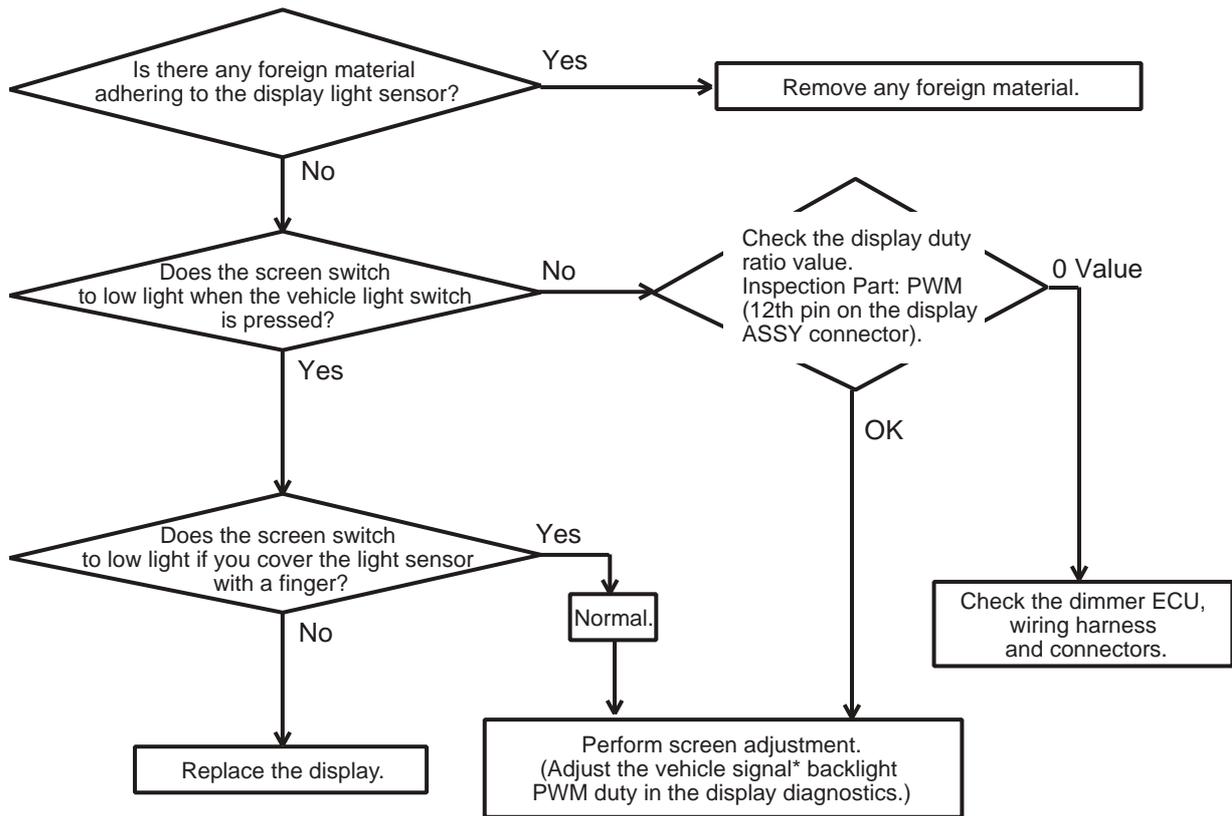
E014000E

**(7) AUX Screen Will Not Display**

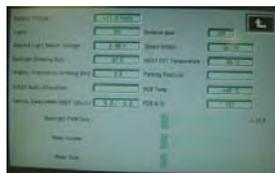


E014001E

**(8) Screen Will Not Switch to Low Light**

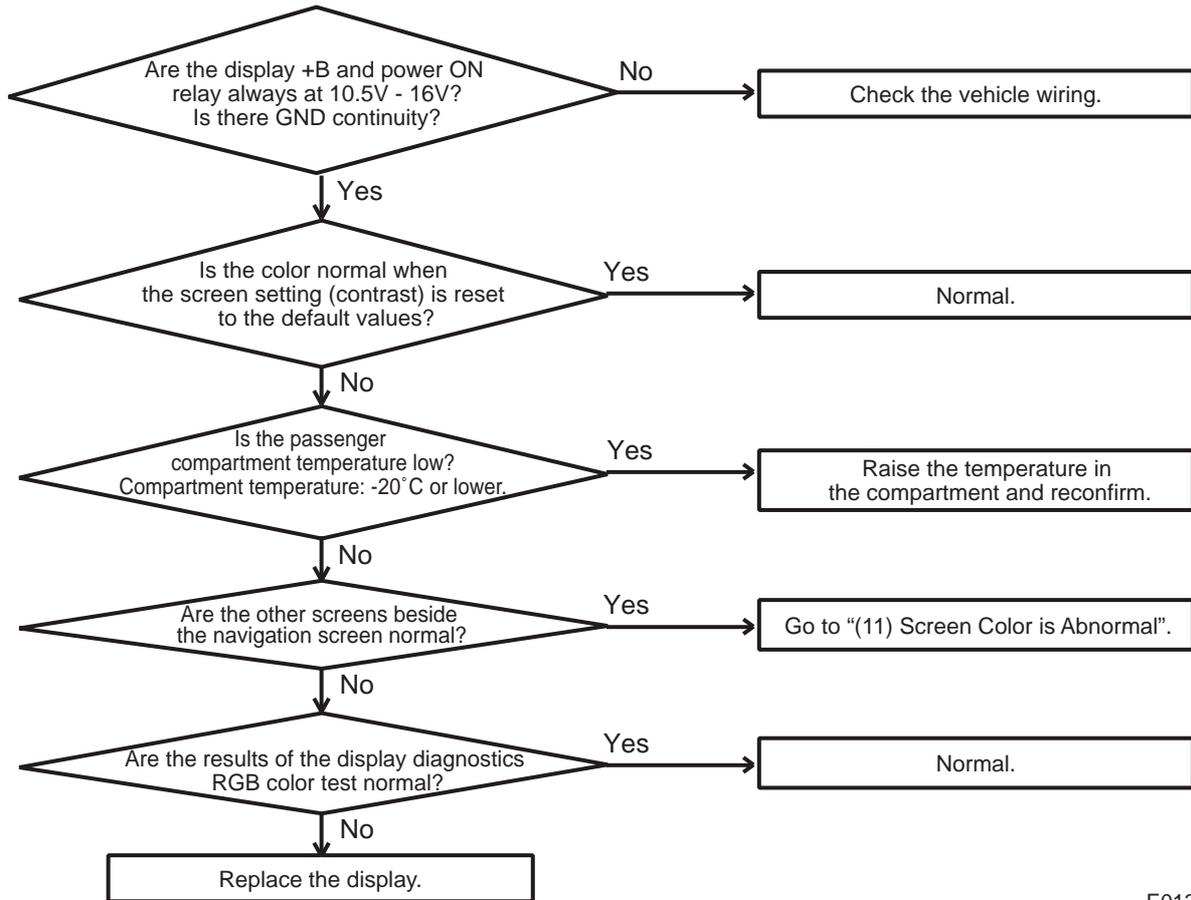


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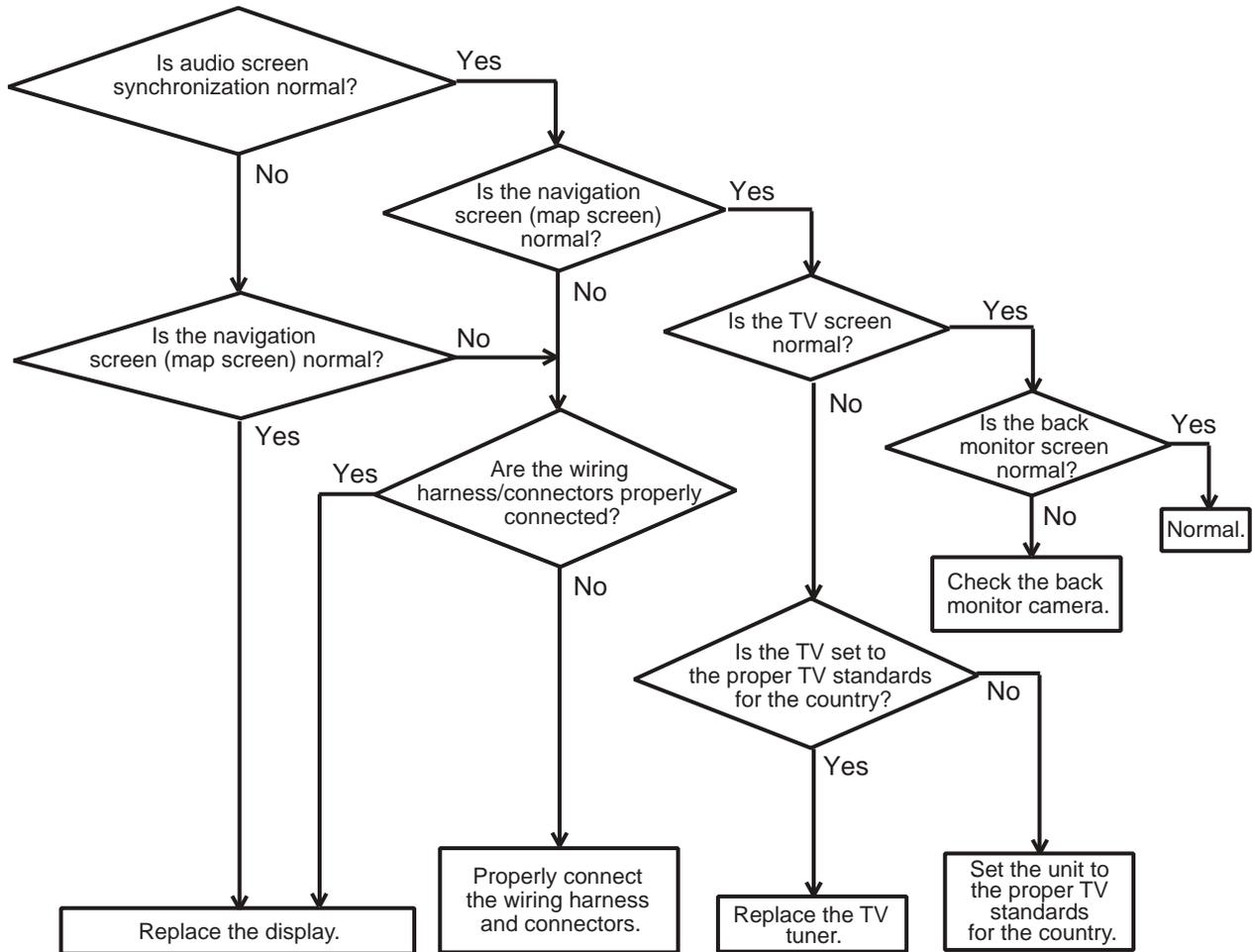
E013744E

**(9) Noise Interferes on Each Screen and the Colors are Abnormal**



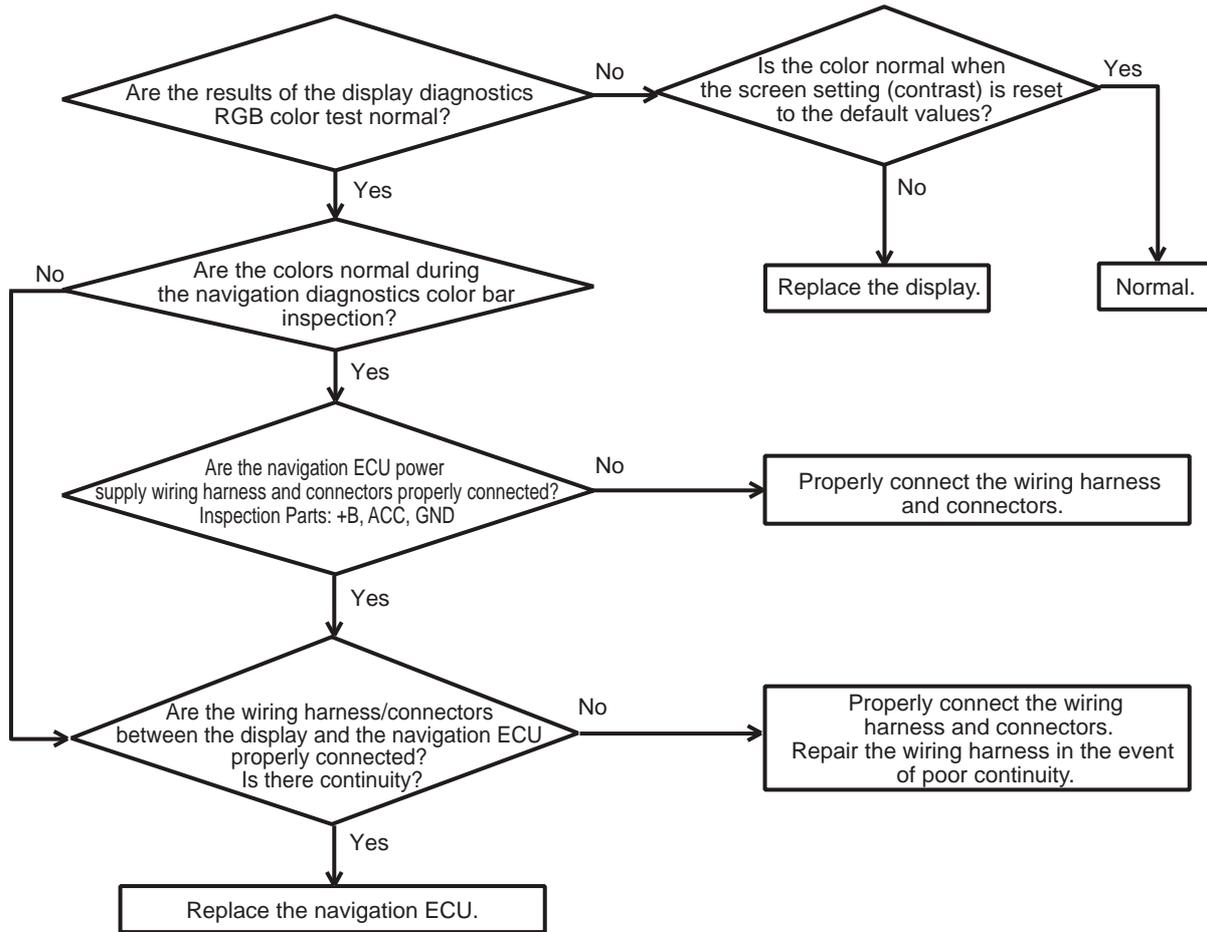
E013746E

**(10) Disturbance on Screen (Synchronization Abnormal)**



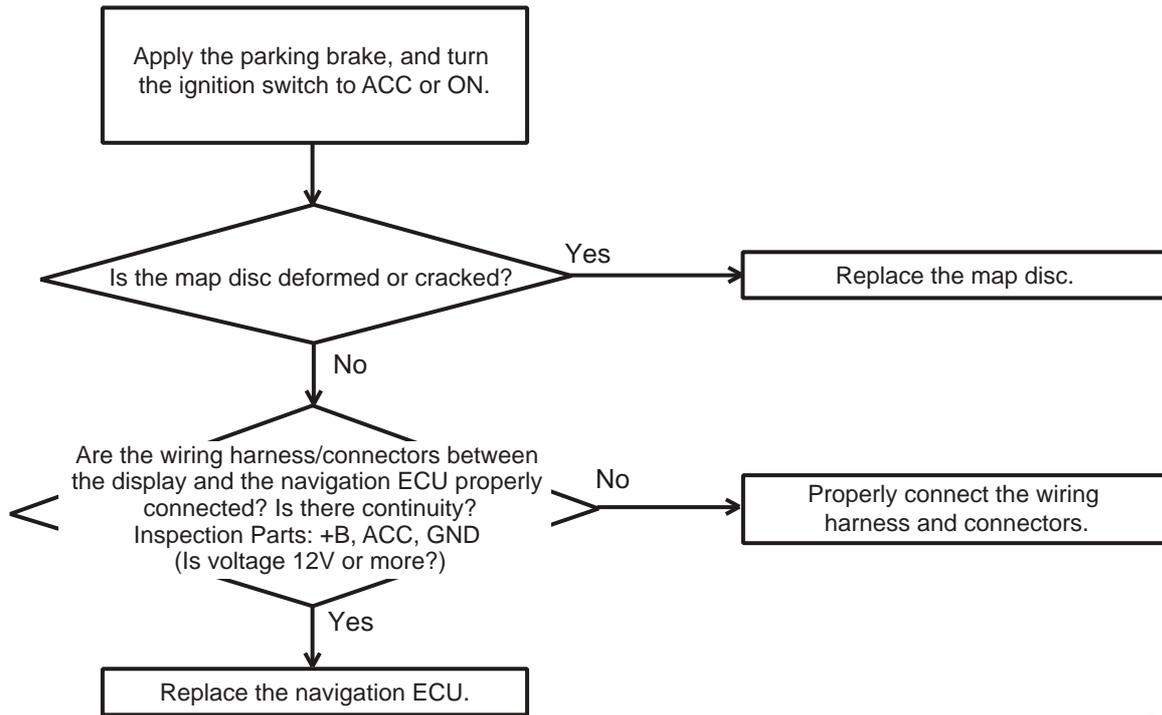
E017607E

**(11) Screen Color is Abnormal**



E013748E

**(12) Map Disc Will Not Insert**

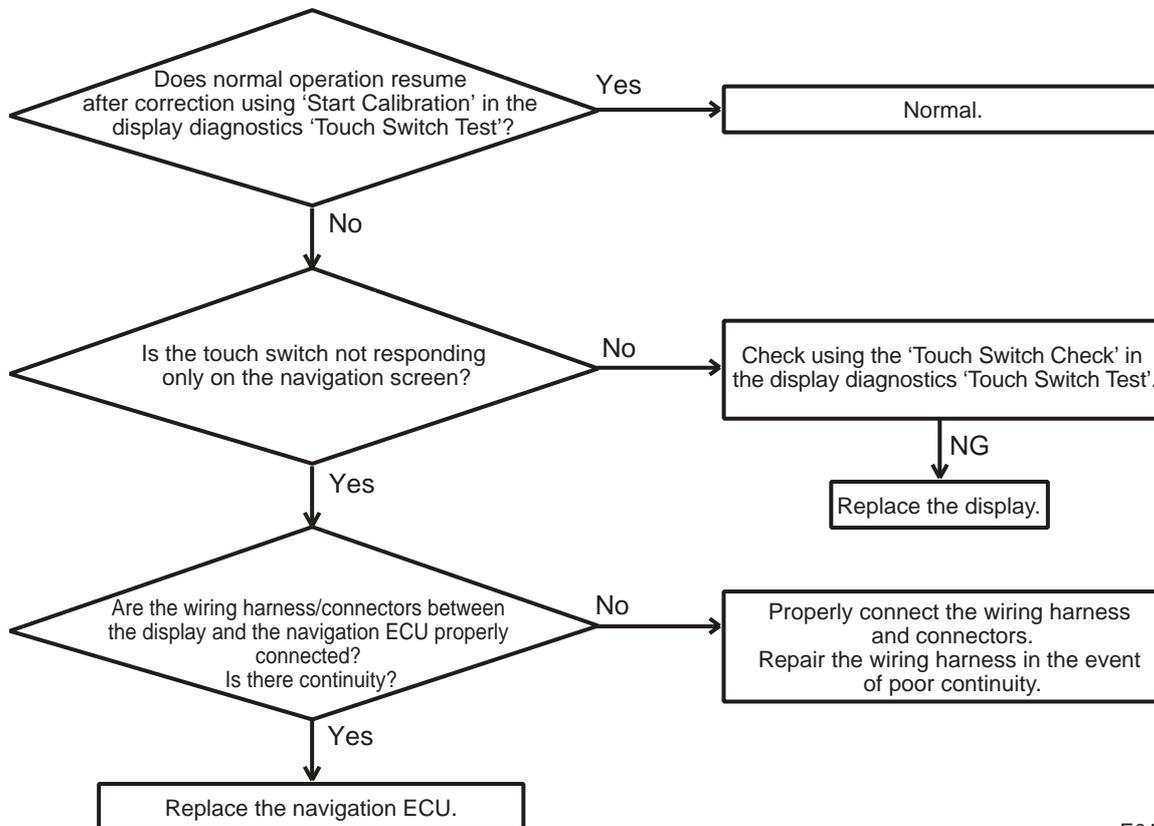


E013750E

**<Reference>**

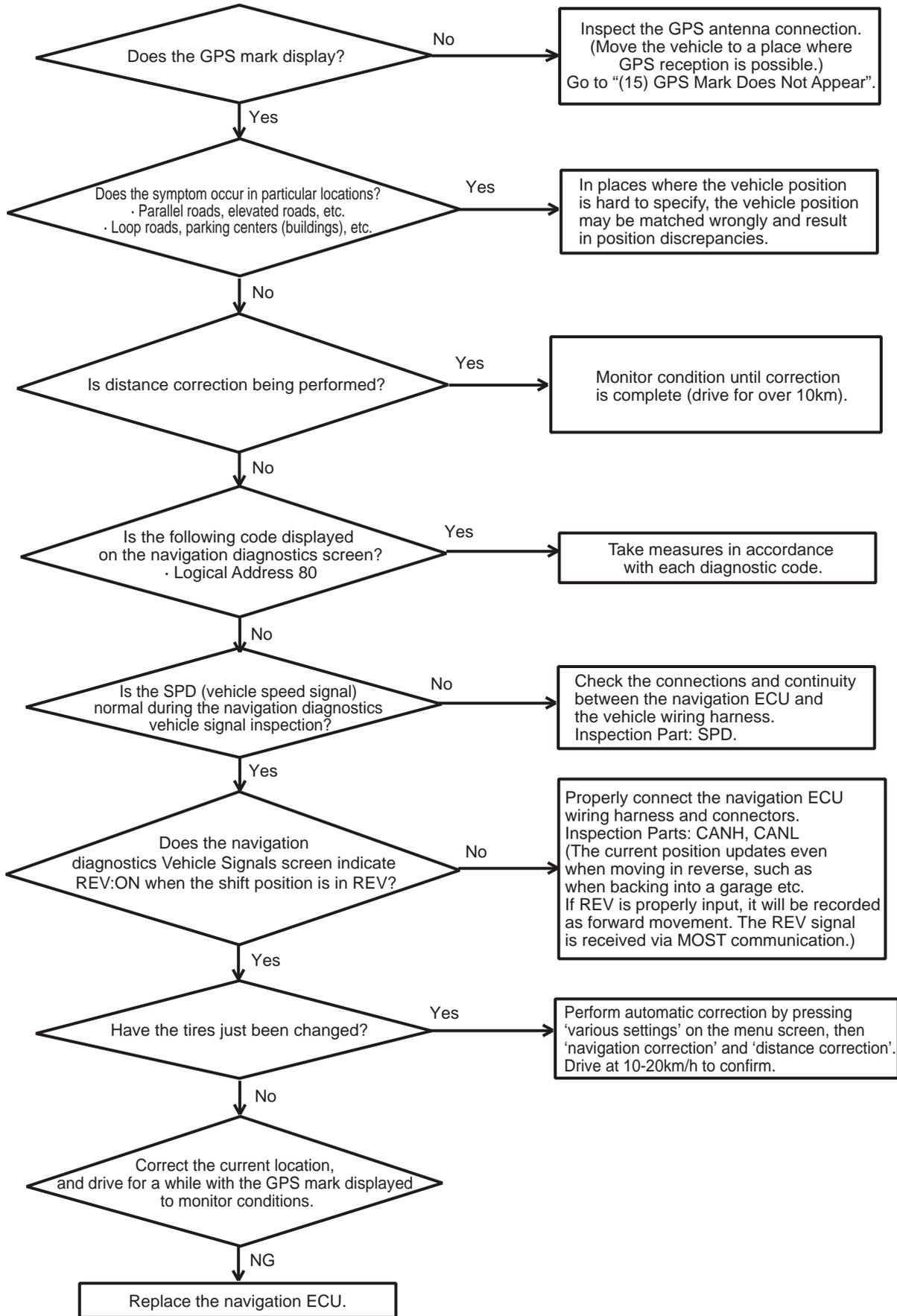
\*3: When inserting the map disc, make sure it is inserted horizontal to the top of the navigation ECU. The disc may catch if positioned on an angle, preventing insertion.

**(13) Touch Switches Do Not Respond**

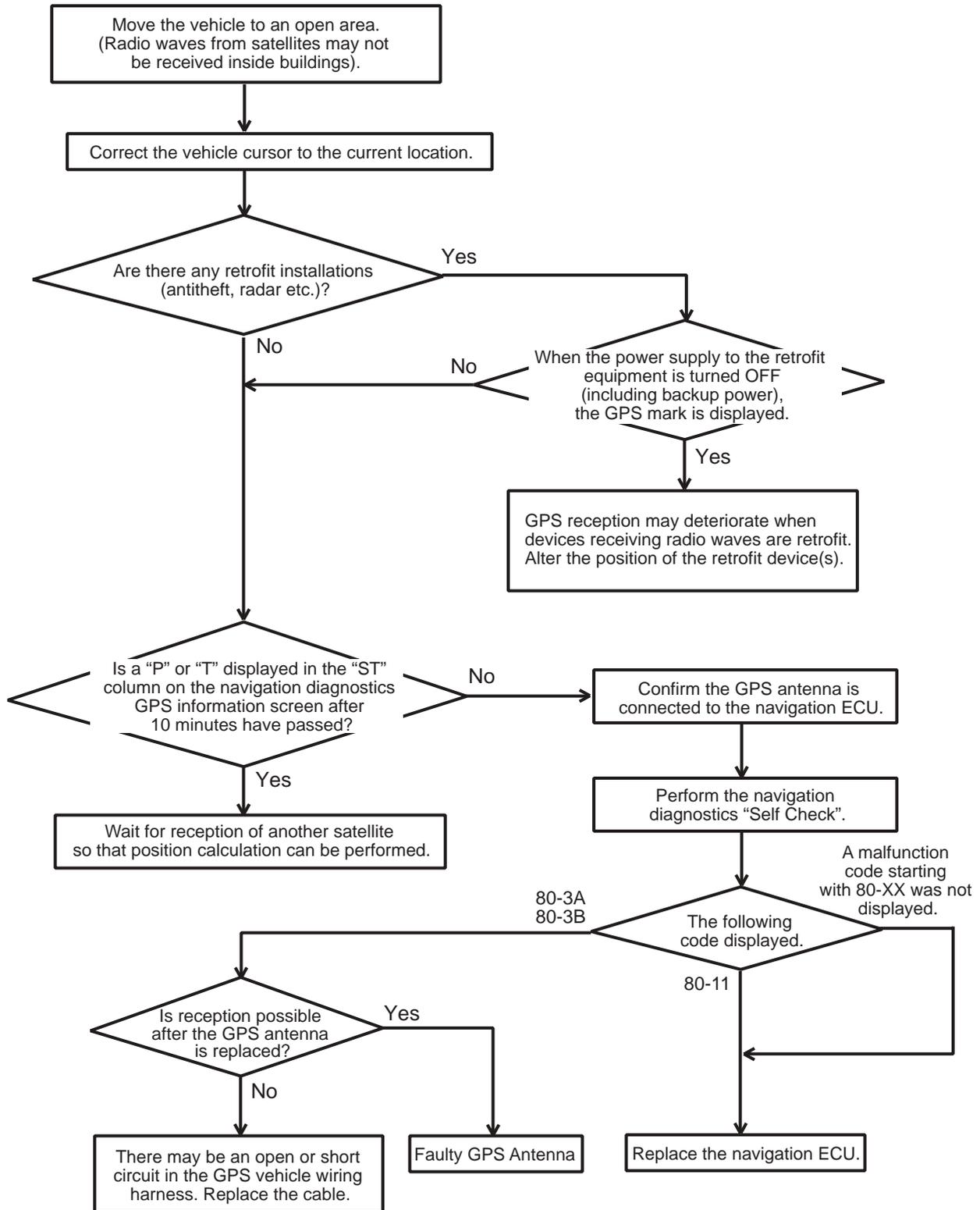


E013751E

**(14) Considerable Deviation Between the Vehicle's Displayed Position and Actual Location**

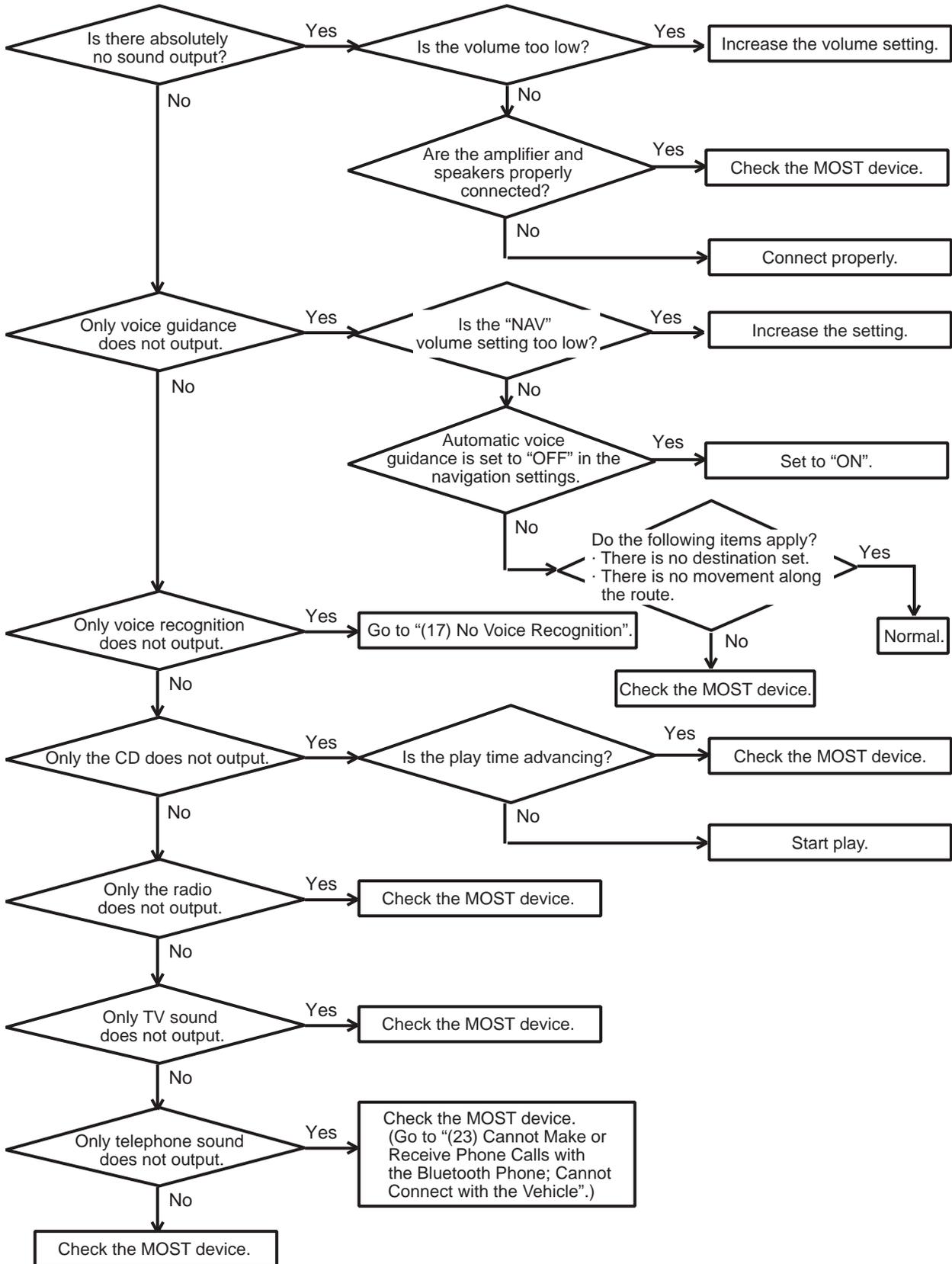


**(15) GPS Mark Does Not Appear**



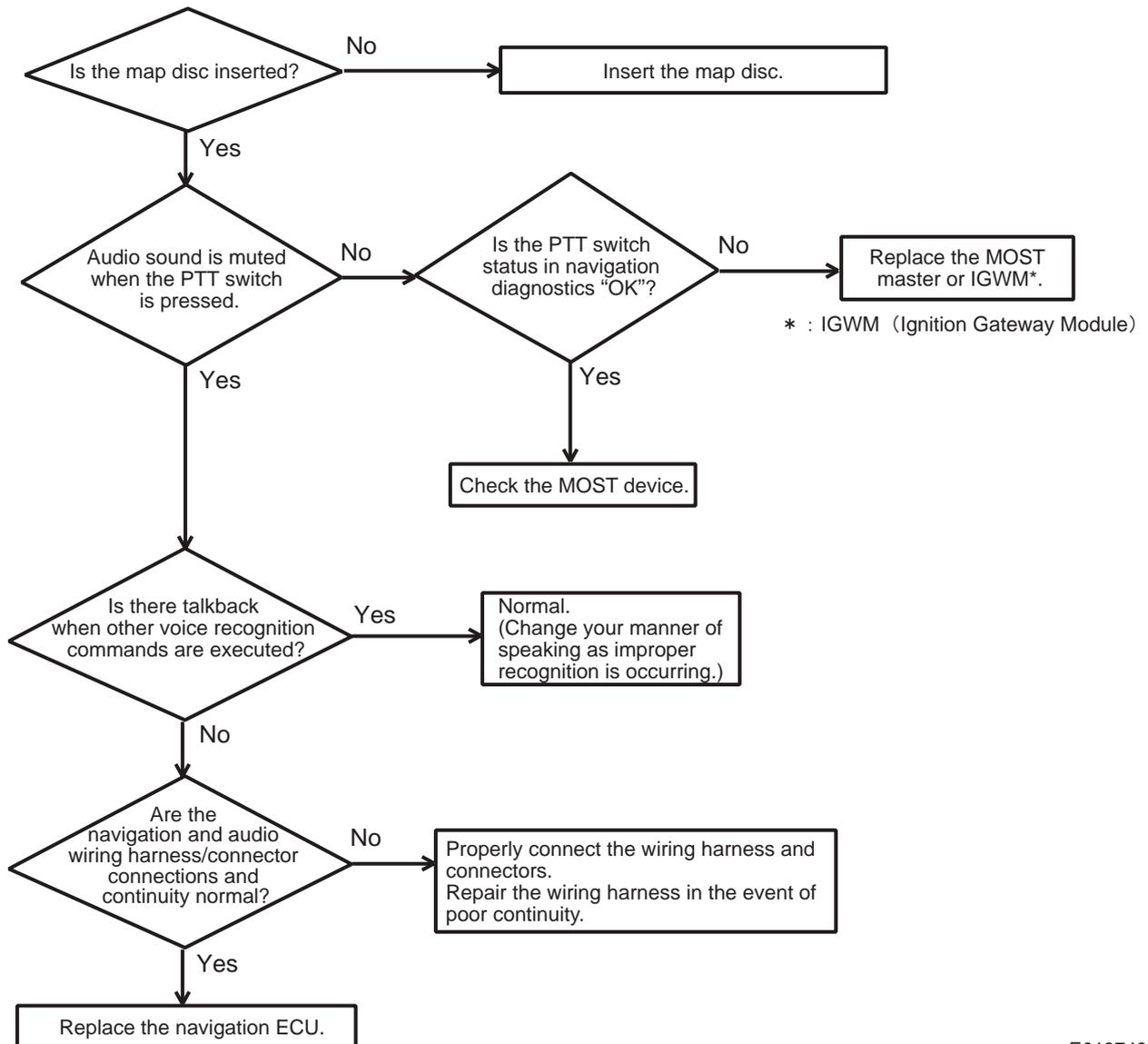
E013753E

**(16) No Sound**



E013754E

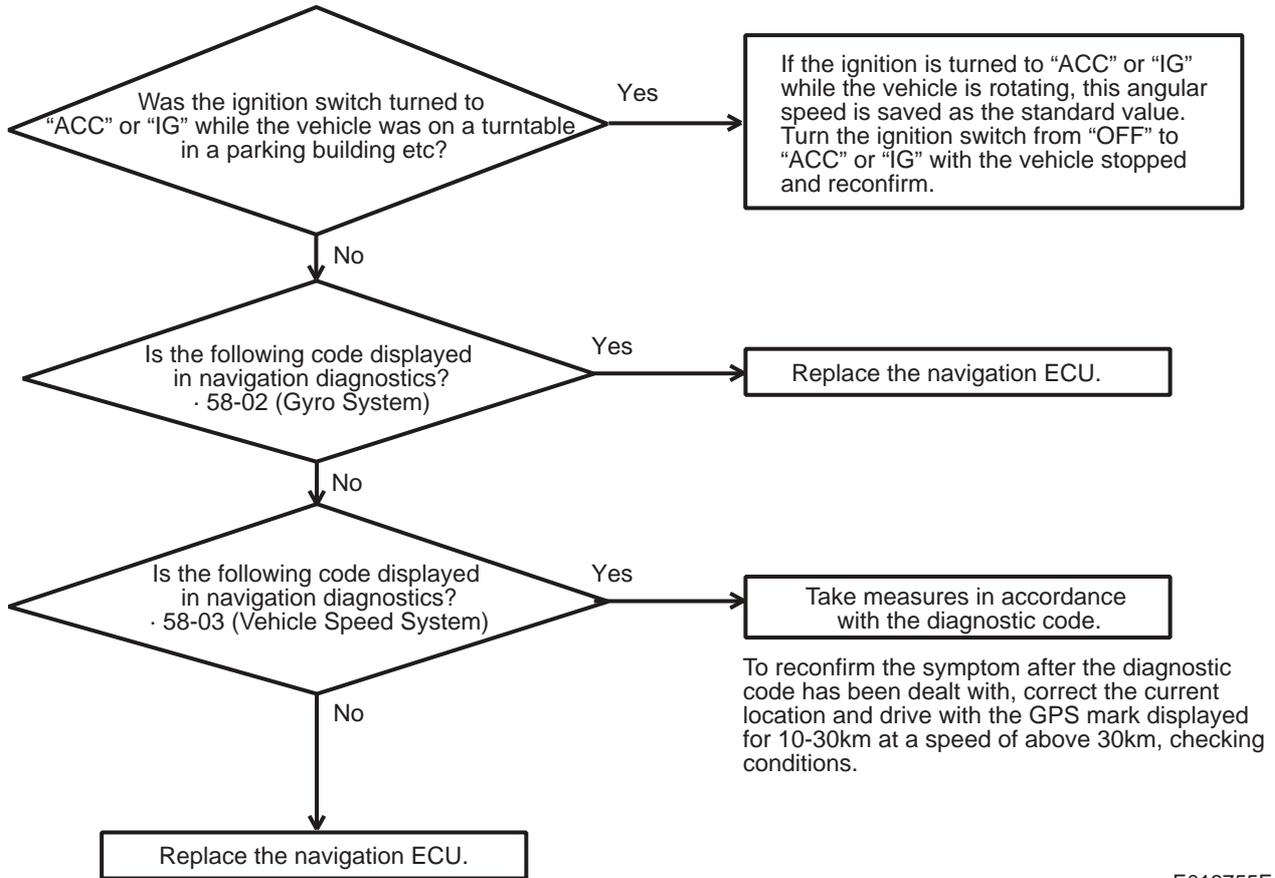
### (17) No Voice Recognition



E013749E

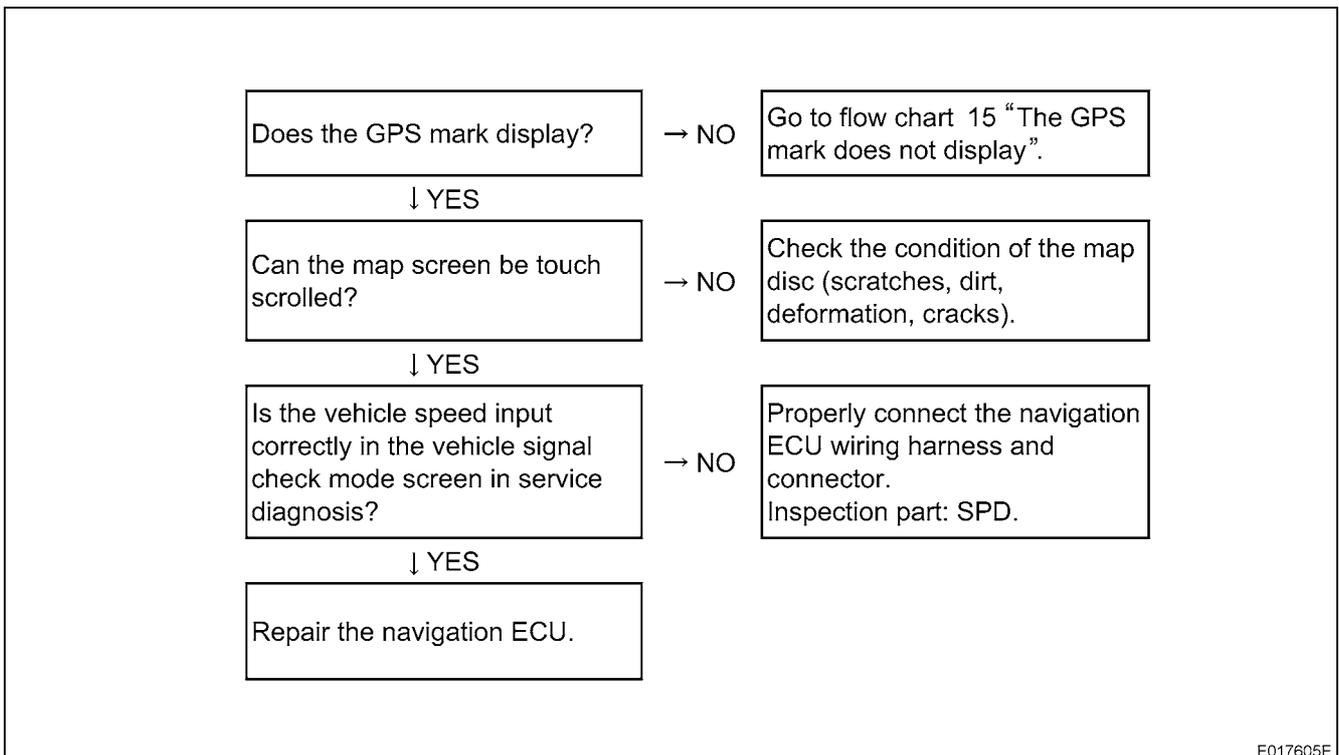
**(18) Vehicle's Current Position Mark Turns on its Own**

Cursor rotates when the vehicle is stopped (in north-up mode).  
 Map rotates when the vehicle is stopped (in heading-up mode).



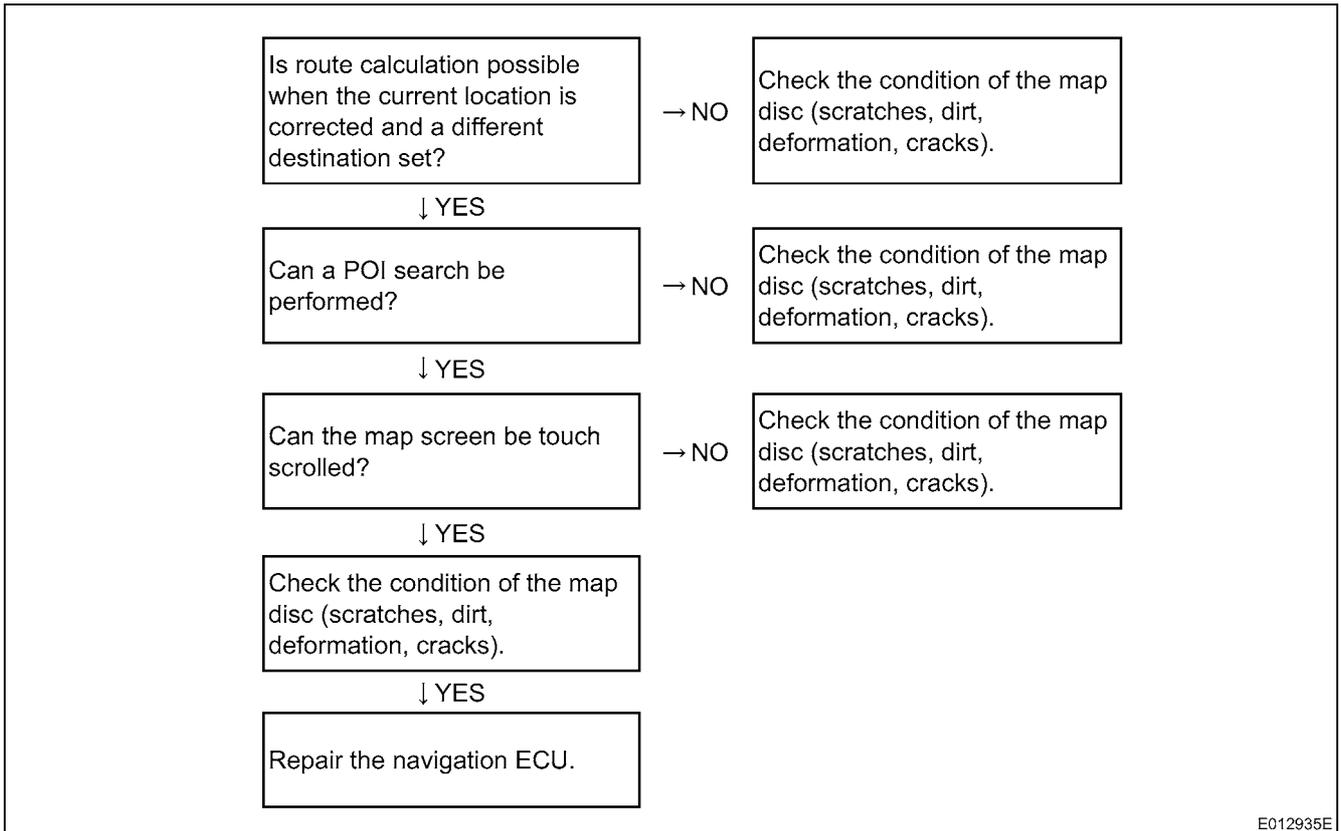
E013755E

**(19) Vehicle Position Does Not Update**

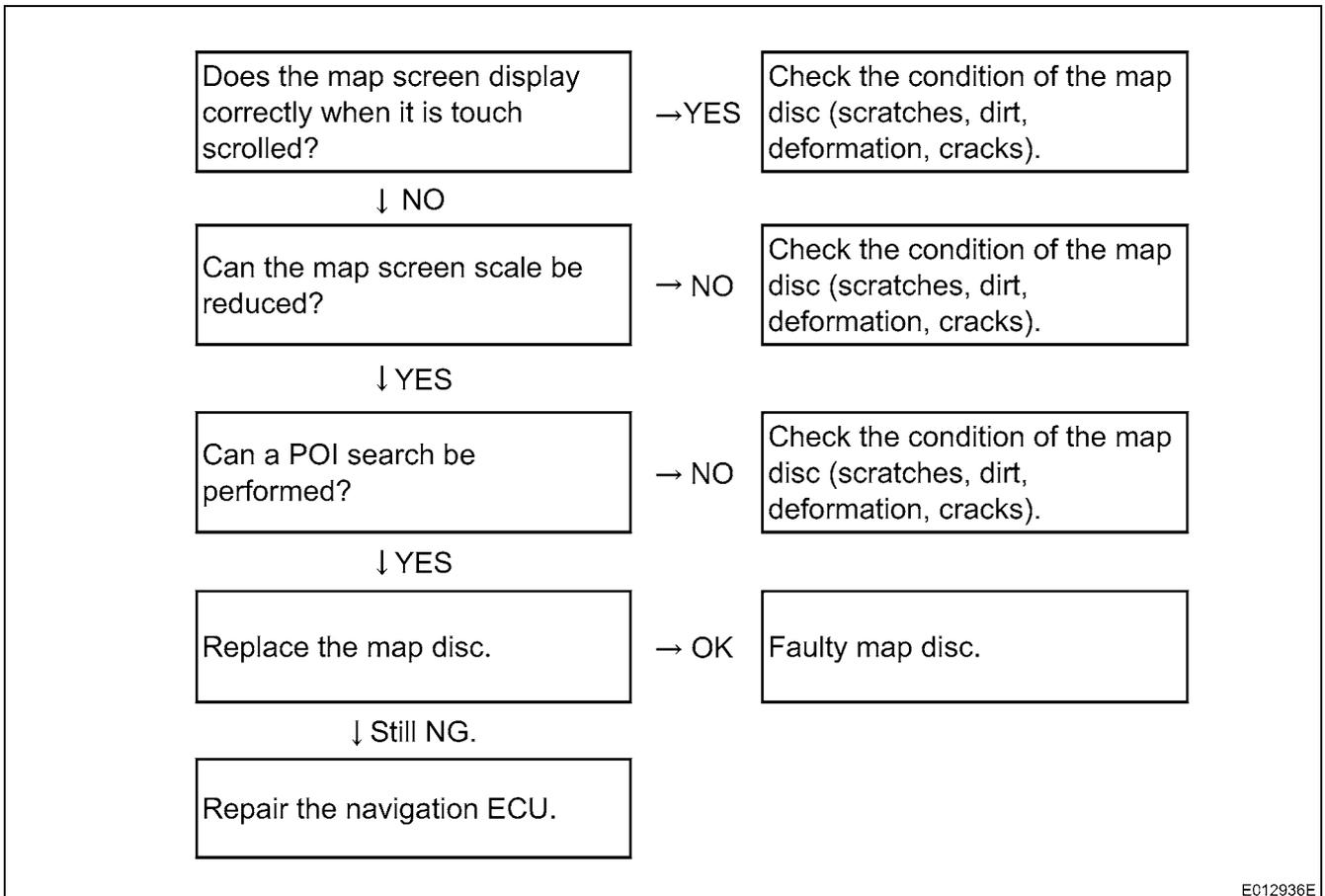


E017605E

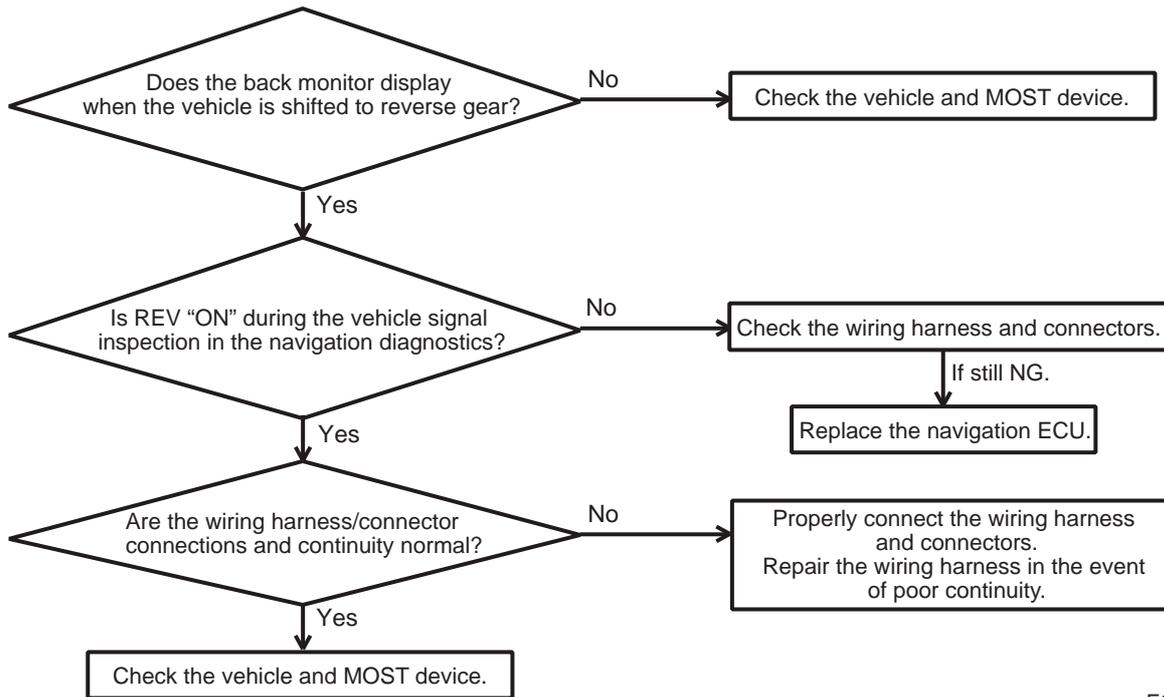
## (20) Route Calculations Cannot Be Performed



## (21) Map Display is Incomplete

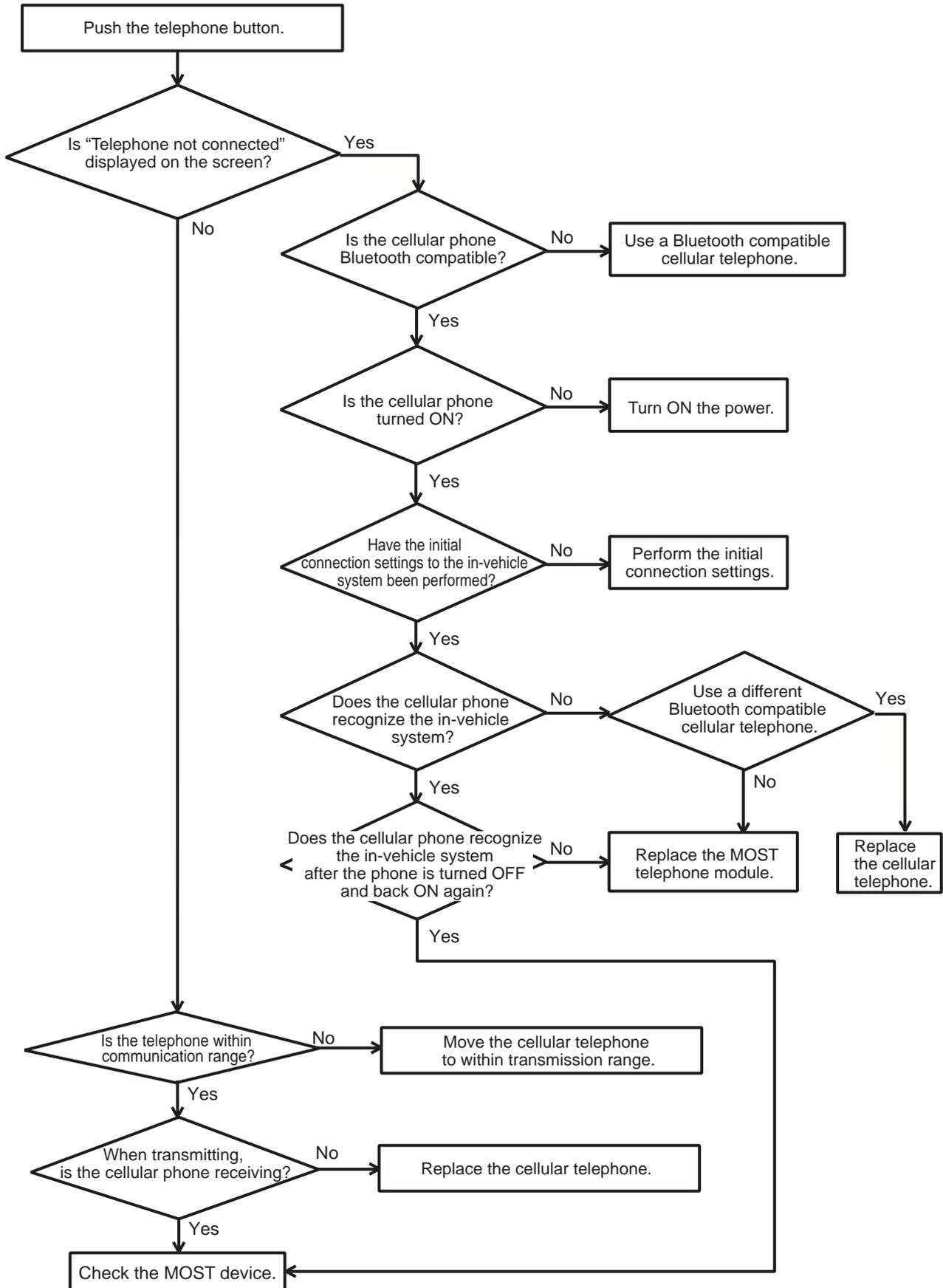


**(22) Vehicle Position Mark Moves in the Opposite Direction to the Direction of Travel**



E013759E

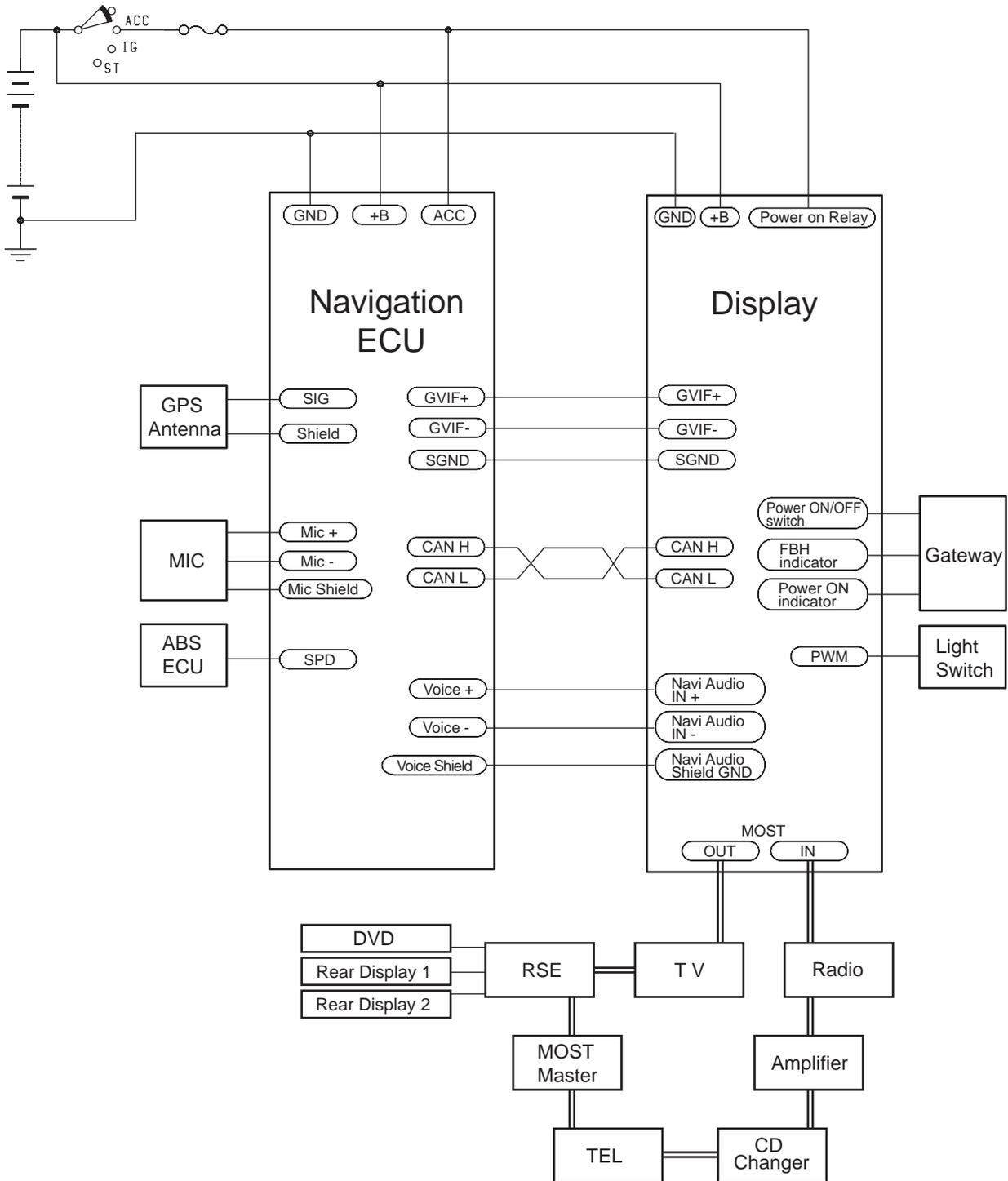
**(23) Cannot Make or Receive Phone Calls with the Bluetooth Phone; Cannot Connect with the Vehicle**



E013763E

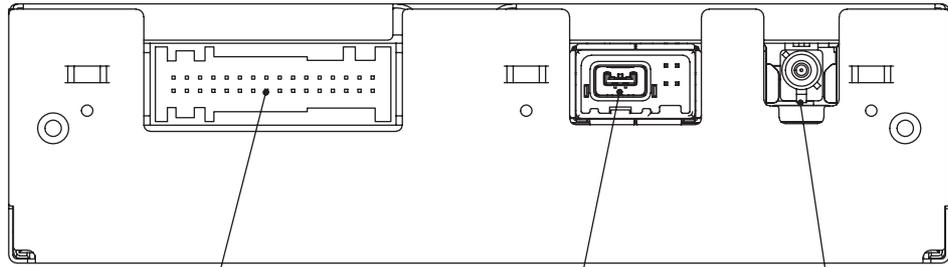
# ■ WIRING DIAGRAM

## 1. SYSTEM WIRING DIAGRAM



E014300E

## 2. NAVIGATION ECU (PART NUMBER 462100-831\*)



Main Connector

32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17
16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1

Pin No.	Signal Name	Pin No.	Signal Name
1	(Reserved)	17	+B
2	(Reserved)	18	Acc
3	GND	19	GND
4	NC	20	(Reserved)
5	(Reserved)	21	SPD
6	CAN L(Disp)	22	CAN H(Disp)
7	(Reserved)	23	(Reserved)
8	HIT-GND	24	HIT-BRQ
9	HIT-	25	HIT+
10	(AVC-)	26	(AVC+)
11	NC	27	NC
12	NC	28	NC
13	NC	29	NC
14	VOICE-	30	VOICE+
15	MIC Shield	31	VOICE Shield
16	MIC-	32	MIC+

Digital Picture (VGA) Output Connector

5	4	2	1
7	6	3	

Pin No.	Signal Name
1	GVIF+
2	GVIF-
3	SGND
4	NC
5	NC
6	(Reserved)
7	(Reserved)

GPS Connector

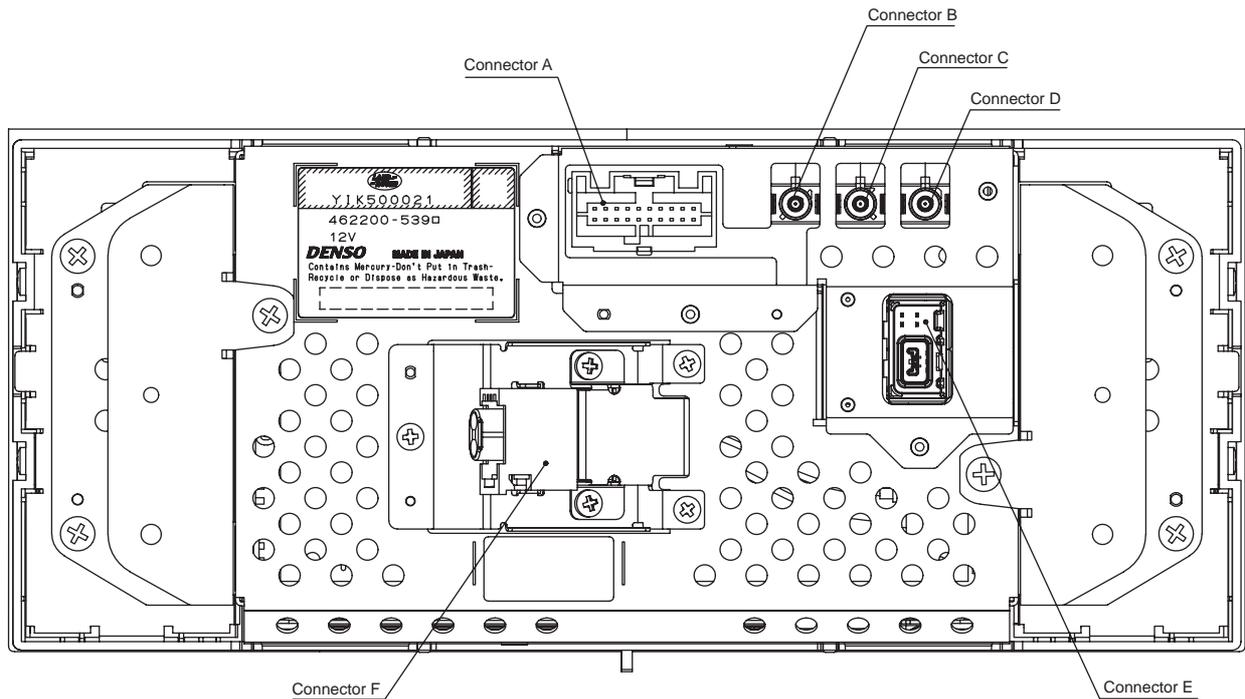


Pin No.	Signal Name
1	SIG
2	Shield

E013765E

### 3. DISPLAY ASSY

#### (1) RANGE ROVER (Part Number 462200-539\*)



Terminal No.	Signal Name
1	+B
2	GND
3	GND
4	(*GND)
5	(*GND)
6	NAVI AUDIO Shield GND
7	NAVI AUDIO IN-
8	(**GND)
9	POWER ON/OFF SWITCH
10	GND
11	POWER ON RELAY
12	PWM
13	(*GND)
14	CANH
15	CANL
16	(*GND)
17	NAVI AUDIO IN+
18	FBH INDICATOR
19	POWER ON INDICATOR
20	NC

Terminal No.	Signal Name
B1	GND for Comp-IN1
B2	Comp-IN1 Companion

Terminal No.	Signal Name
C1	GND for Comp-IN2
C2	Comp-IN2 Rear View

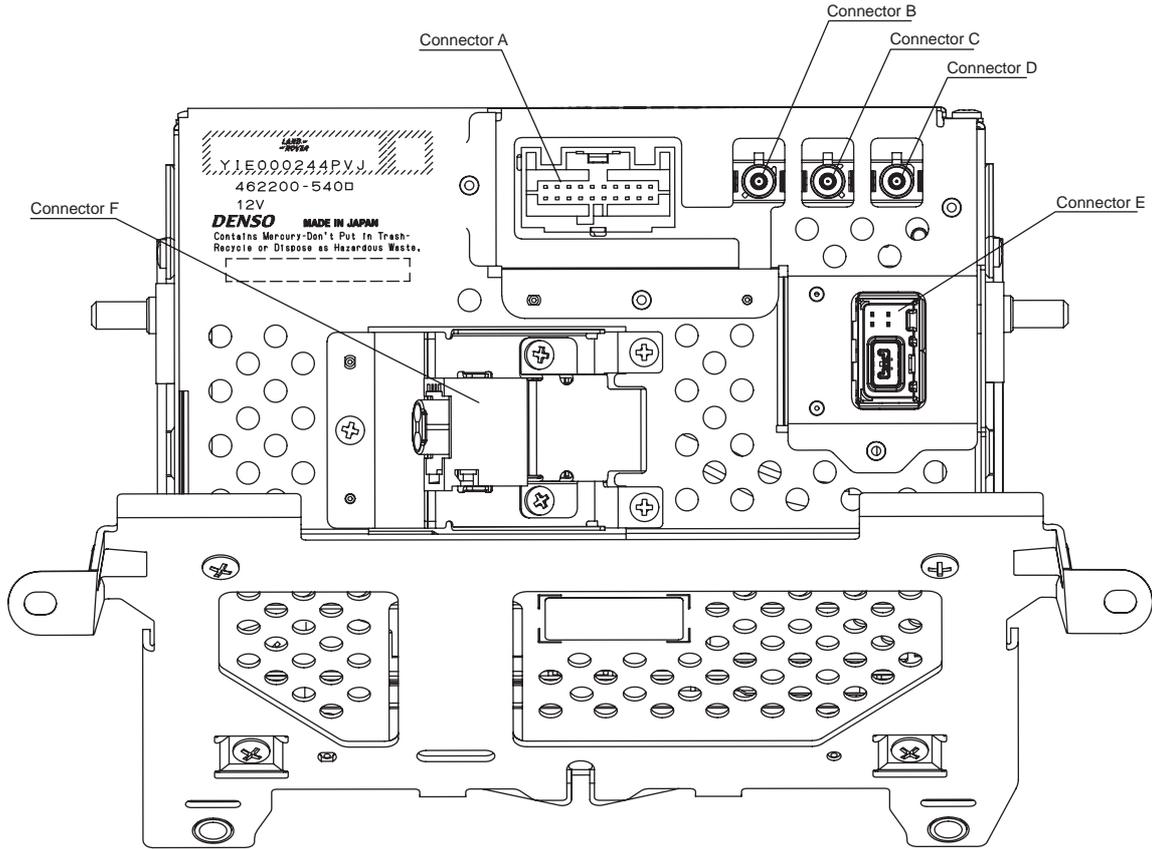
Terminal No.	Signal Name
D1	GND for Comp-IN3
D2	Comp-IN3 TV/DVD

Terminal No.	Signal Name
1	IN
2	OUT

Terminal No.	Signal Name
1	GVI+
2	GVI-
3	SGND
4	NC
5	NC
6	NC
7	NC

E013766E

(2) DISCOVERY (Part Number 462200-540\*)



Connector A  
(Vehicle Connector)

Terminal No.	Signal Name
1	+B
2	GND
3	GND
4	(*GND)
5	(*GND)
6	NAVI AUDIO Shield GND
7	NAVI AUDIO IN-
8	(**GND)
9	POWER ON/OFF SWITCH
10	GND
11	POWER ON RELAY
12	PWM
13	(*GND)
14	CANH
15	CANL
16	(*GND)
17	NAVI AUDIO IN+
18	FBH INDICATOR
19	POWER ON INDICATOR
20	NC

Connector B  
(NTSC/PAL Composite Signal Connector)

Terminal No.	Signal Name
B1	GND for Comp-IN1
B2	Comp-IN1 Companion

Connector C  
(NTSC/PAL Composite Signal Connector)

Terminal No.	Signal Name
C1	GND for Comp-IN2
C2	Comp-IN2 Rear View

Connector D  
(NTSC/PAL Composite Signal Connector)

Terminal No.	Signal Name
D1	GND for Comp-IN3
D2	Comp-IN3 TV/DVD

Connector F  
(MOST Signal Connector)

Terminal No.	Signal Name
1	IN
2	OUT

Connector E  
(GVIF Connector)

Terminal No.	Signal Name
1	GV1+
2	GV1-
3	SGND
4	NC
5	NC
6	NC
7	NC