

2005 ACCESSORIES & EQUIPMENT

Navigation Systems - SRX

SPECIFICATIONS

FASTENER TIGHTENING SPECIFICATIONS

Fastener Tightening Specifications

Application	Specification	
	Metric	English
Global Position Antenna Mounting Screws	2 N.m	18 lb in
Navigation Data Module Mounting Screws	9 N.m	80 lb in

SCHEMATIC AND ROUTING DIAGRAMS

NAVIGATION SYSTEM SCHEMATIC ICONS

Navigation System Schematic Icons

Icon	Icon Definition
	IMPORTANT: Twisted-pair wires provide an effective "shield" that helps protect sensitive electronic components from electrical interference. If the wires were covered with shielding, install new shielding. In order to prevent electrical interference from degrading the performance of the connected components, you must maintain the proper specification when making any repairs to the twisted-pair wires shown : • The wires must be twisted a minimum of 9 turns per 31 cm (12 in) as measured anywhere along the length of the wires • The outside diameter of the twisted wires must not exceed 6.0 mm (0.25 in)

NAVIGATION SYSTEM SCHEMATICS

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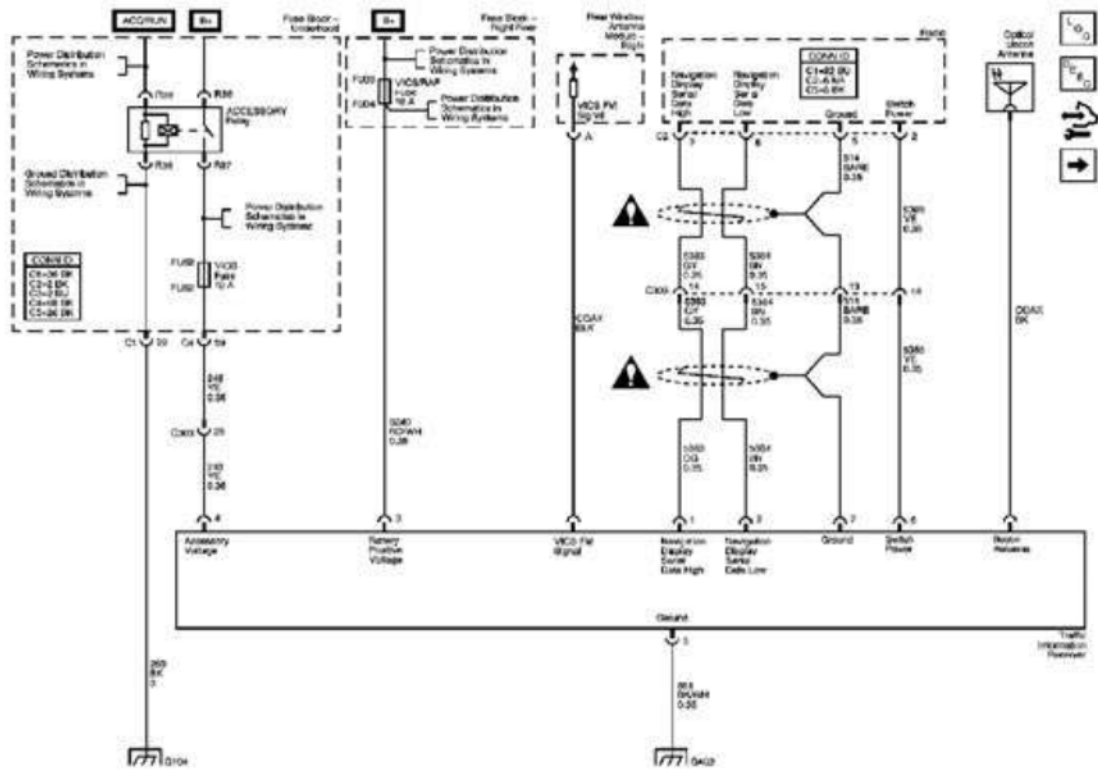


Fig. 1: Traffic Information Receiver Schematics (U2X)
Courtesy of GENERAL MOTORS CORP.

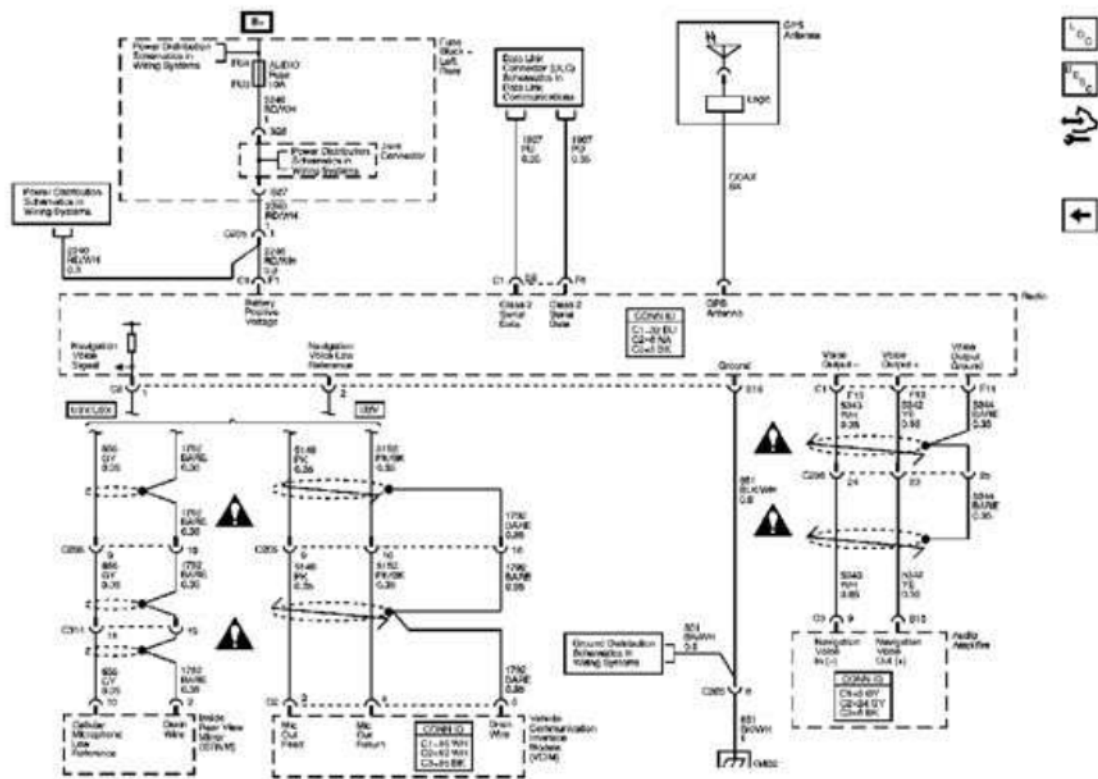
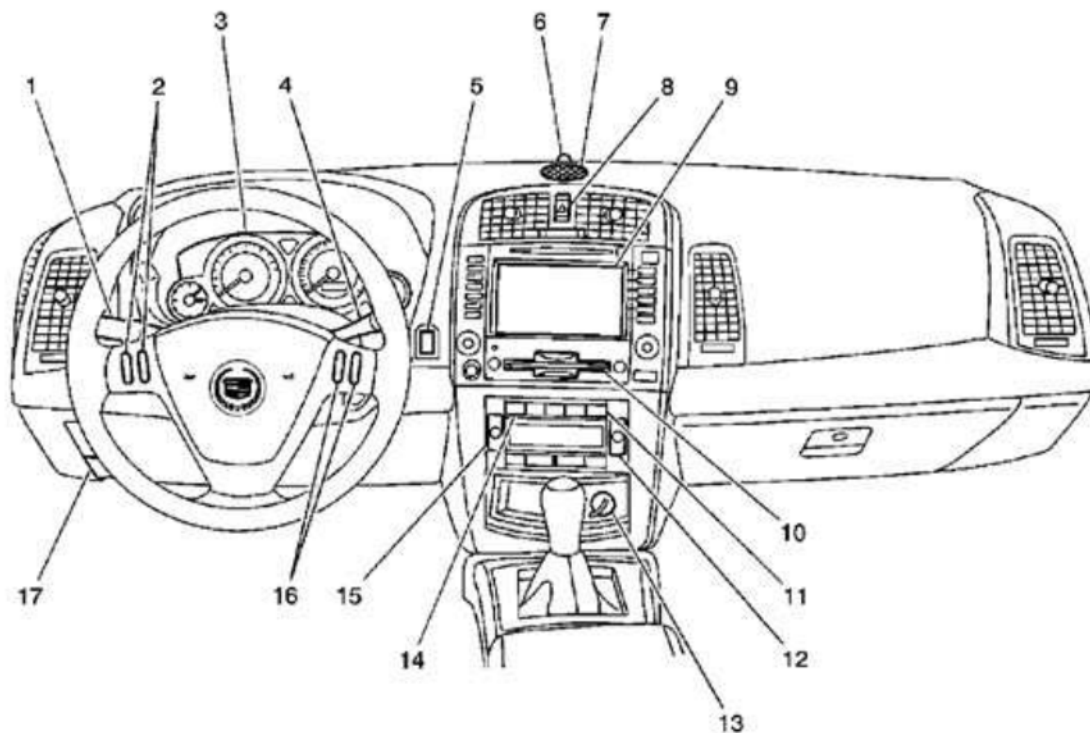


Fig. 2: Navigation Controls Schematics (U2V/U2X/U2Y)

Courtesy of GENERAL MOTORS CORP.

COMPONENT LOCATOR**NAVIGATION SYSTEM COMPONENT VIEWS****Fig. 3: Instrument Panel Component View**

Courtesy of GENERAL MOTORS CORP.

Callouts For Fig. 3

Callout	Component Name
1	Turn Signal/Multifunction Switch
2	Steering Wheel Controls - Left
3	Instrument Panel Cluster
4	Windshield Wiper/Washer Switch
5	Inside Air Temperature Sensor
6	Sunload/Ambient Light Sensor
7	Speaker - Front Midrange (U57)
8	Hazard Switch
9	Radio
10	CD Player
11	HVAC Control Module - Climate Control - Right

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12	Heated Seat Switch - Passenger (KA1)
13	Cigar Lighter
14	Heated Seat Switch - Driver (KA1)
15	HVAC Control Module - Climate Control - Left
16	Steering Wheel Controls - Left
17	Hood Release Lever

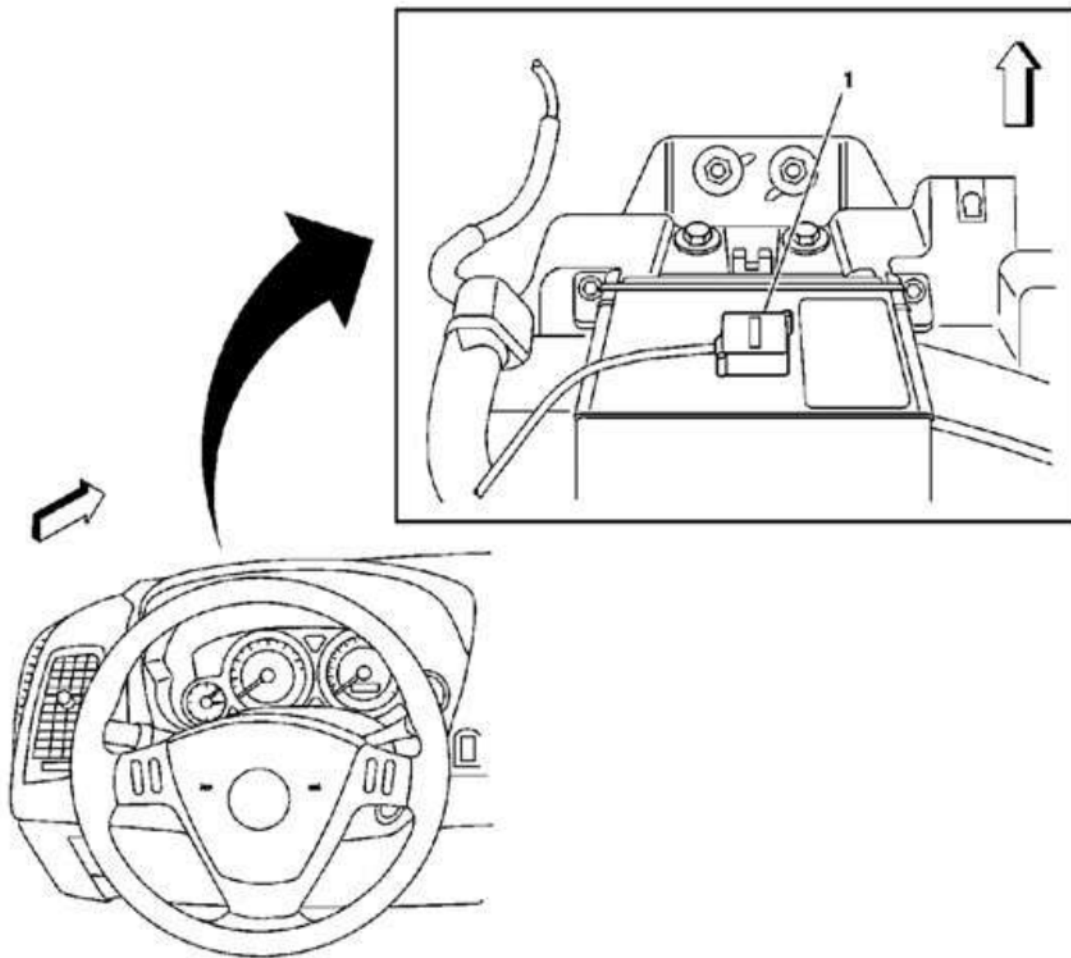


Fig. 4: View Behind the I/P Cluster, Under the Upper Pad
Courtesy of GENERAL MOTORS CORP.

Callouts For Fig. 4

Callout	Component Name
1	Navigation Antenna

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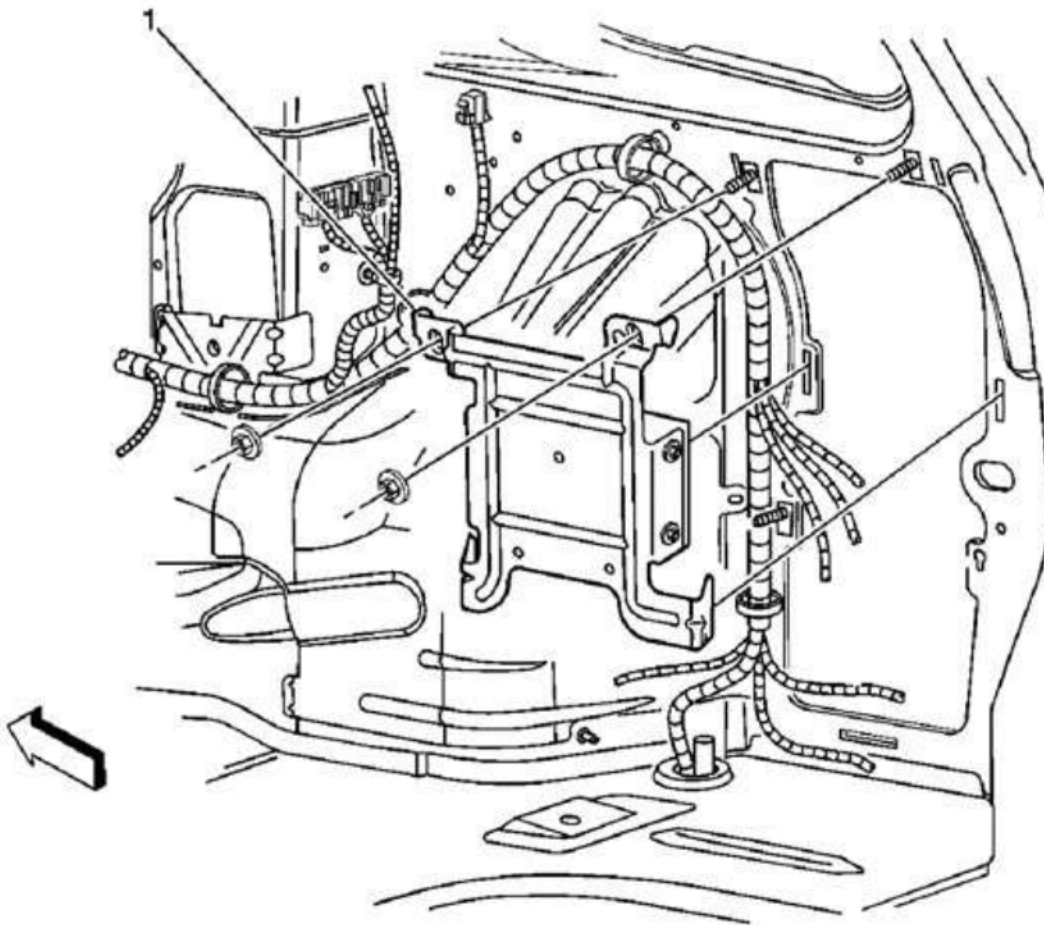


Fig. 5: Right Rear Of Vehicle Behind Trim Panel (U2X) Component View
Courtesy of GENERAL MOTORS CORP.

Callouts For Fig. 5

Callout	Component Name
1	Traffic Information Receiver

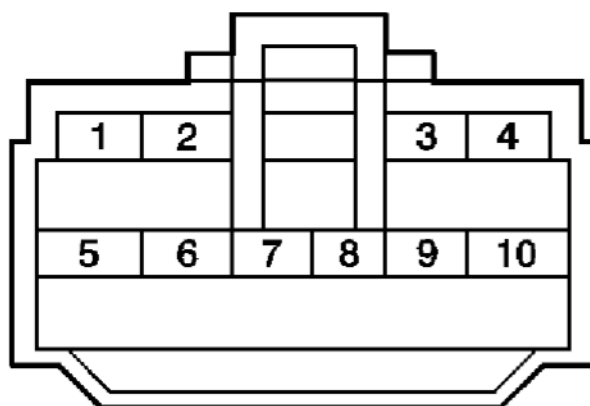
NAVIGATION SYSTEM CONNECTOR END VIEWS

Traffic Information Receiver Connector Terminal Identification (U2X)

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Connector Part Information

- 7283-1701
- 10-Way F Yazaki (BK)

Pin	Wire Color	Circuit No.	Function
1	GY	5383	Navigation Display Serial Data High
2	BN	5384	Navigation Display Serial Data Low
3	RD/WH	3240	Battery Positive Voltage
4	YE	243	Accessory Voltage
5	BK/WH	851	Ground
6	YE	5385	Switch Power
7	Bare	514	Ground
8-10	-	-	Not Used

DIAGNOSTIC INFORMATION AND PROCEDURES

DIAGNOSTIC STARTING POINT - NAVIGATION SYSTEM

Begin the system diagnosis with the **Diagnostic System Check - Vehicle** in Vehicle DTC Information. The Diagnostic System Check - Vehicle will provide the following information:

- The identification of the control modules which command the system.
- The ability of the control modules to communicate through the serial data circuit.
- The identification of any stored DTCs and their status.

The use of the Diagnostic System Check - Vehicle will identify the correct procedure for diagnosing the system and where the procedure is located.

SCAN TOOL DATA LIST

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Scan Tool Data List

Scan Tool Parameter	Data List	Units Displayed	Typical Data Value
Operating Conditions: Ignition ON with engine OFF			
8 Digit GM Part Number	Module Information	Numeric - 8 Digits	XXXXXXXXXX
Calibration ID	Module Information	Numeric - 4 Digits	XXXX
Ignition Cycles Since last	Radio Information	Numeric	Varies
Julian Date of Build	Module Information	Numeric - 3 Digits	XXX
New VIN Counter	Radio Configuration	Numeric	Varies
Point of Sale	System Configuration	-	Varies
PROM ID for Audio	Module Information	Alphanumeric	Varies
PROM ID for Navigation	Module Information	Alphanumeric	Varies
Region Code	System Configuration	-	North America
Signal Strength for TV	Radio Information	dB	Varies
Total CD Hours	Radio Information	Hours	Varies
Total Radio Hours	Radio Information	Hours	Varies
Year Module Built	Module Information	Numeric - 4 Digit Year	2001

SCAN TOOL DATA DEFINITIONS**8-Digit GM Part Number**

The scan tool displays the module GM part number.

Calibration ID

The scan tool displays the calibration ID for the module.

Ignition Cycles Since Last

The scan tool displays the number of ignition cycles since the last DTC was set.

Julian Date of Build

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The scan tool displays the module date of build in total calendar days.

New VIN Counter

The scan tool displays 0-99. The number of times the radio has been in different vehicles.

Point of Sale

The scan tool displays the country the vehicle was sold in.

PROM ID for Audio

The scan tool displays the module PROM ID.

PROM ID for Navigation

The scan tool displays the module PROM ID.

Region Code

The scan tool displays the region the radio is set for.

Signal Strength for TV

The scan tool displays 0-255 decibels. The strength of the tuned TV station.

Total CD Hours

The scan tool displays 0-999 hrs. The total number of hours the CD has been used.

Total Radio Hours

The scan tool displays 0-999 hrs. The total number of hours the radio has been used.

Year Model Built

The scan tool displays the module year built.

DTC B0001

Circuit Description

The navigation radio receives the vehicle speed signal from the engine control module (ECM) through a dedicated circuit shared with the instrument cluster.

DTC Descriptor

This diagnostic procedure supports the following DTC:

DTC B0001 Vehicle Speed Information Circuit Range/Performance

Conditions for Running the DTC

- The navigation radio must detect a power mode transition to ON.
- The radio does not set this DTC if B1327 or B1328 is current.
- The vehicle must drive for 4 km (2.5 mi) after receiving a global positioning system (GPS) signal.

Conditions for Setting the DTC

The navigation radio compares the vehicle speed signal from the ECM to the GPS location signal every second. If the GPS signal indicates that the vehicle has traveled 4 km (2.5 mi) but no vehicle speed signal was received, the radio sets the DTC.

Action Taken When the DTC Sets

The navigation radio uses the GPS signal when the vehicle speed signal from the ECM is unavailable.

The following symptoms may happen if the vehicle speed signal from the ECM is unavailable:

- The vehicle icon may jump to different positions on the map screen.
- The vehicle icon, current position marker may not move on the map screen while the vehicle is being driven.
- The route guidance accuracy may be degraded.

Conditions for Clearing the DTC

- A current DTC clears when the navigation radio detects the vehicle speed signal from the ECM for more than one second.
- A history DTC clears after 50 ignition cycles without a vehicle speed signal failure.

Diagnostic Aids

An intermittent condition may be caused by the following:

- Mis-routed harness
- Rubbed through wire insulation
- Broken wire inside the insulation
- A loose connector pin

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Test Description

The numbers below refer to the step numbers on the diagnostic table.

1: Determines if the malfunction is present.

3: Tests for an open in the vehicle speed signal circuit between the instrument cluster and the navigation radio. A short would cause the instrument cluster to malfunction as well as the navigation system.

DTC B0001

Step	Action	Yes	No
Schematic Reference: <u>Navigation System Schematics</u>			
1	Did you perform the Diagnostic System Check - Vehicle?	Go to Step 2	Go <u>Diagnostic System Check - Vehicle</u> in Vehicle DTC Information
2	Verify the instrument cluster speedometer operation. Does the speedometer work on the instrument cluster?	Go to Step 3	Go to <u>Diagnostic Starting Point - Instrument Panel, Gages and Console</u> in Instrument Panel, Gages, and Console
3	Test the vehicle speed signal circuit for an open between the instrument cluster and the navigation radio. Refer to <u>Circuit Testing</u> and <u>Wiring Repairs</u> in Wiring Systems. Did you find and correct the condition?	Go to Step 6	Go to Step 4
4	Inspect for poor connections at the harness connector of the navigation radio. Refer to <u>Testing for Intermittent Conditions and Poor Connections</u> and <u>Connector Repairs</u> in Wiring Systems. Did you find and correct the condition?	Go to Step 6	Go to Step 5
5	Replace the navigation radio. Refer to <u>Control Module References</u> in Computer/Integrating Systems. Did you complete the replacement?	Go to Step 6	-
	1. Use the scan tool in order to clear the		

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6	DTC.		
	2. Drive the vehicle at least 4 km (2.5 mi) with the global positioning system (GPS) signal received. 3. Leave vehicle running and retrieve DTCs.		
	Does the DTC reset?	Go to Step 2	System OK

DTC B2460

Circuit Description

The navigation radio supplies power to the TV antenna module to permit the selection of the antenna set used. The radio tests the antenna select supply voltage circuit every 500 ms after the ignition is cycled to ON. The radio does this by monitoring the current draw on the antenna select supply voltage circuit.

DTC Descriptor

This diagnostic procedure supports the following DTC:

DTC B2460 Navigation Antenna Selector Circuit High Current

Conditions for Running the DTC

- The navigation radio must detect a power mode transition from OFF-ASLEEP to either:
 - ACC
 - ON
- The vehicle must be equipped with the navigation system with TV option (RPO UE7).
- The navigation radio does not set this DTC if DTC B1327 or DTC B1328 is current.

Conditions for Setting the DTC

- Current draw of the TV antenna module exceeds the regular value.
- The antenna select supply voltage circuit shorted to ground.
- DTC B2460 does not set if DTC B1328 or DTC B1327 is current.

Action Taken When the DTC Sets

- TV video unclear, grey screen
- TV audio unclear, full of static

This failure has no effect outside the TV function of the navigation system.

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Conditions for Clearing the DTC

A current DTC clears when the navigation radio does not detect the failure for more than 500 ms.

Diagnostic Aids

An intermittent condition may be caused by the following:

- Mis-routed harness
- Rubbed through wire insulation

Test Description

The numbers below refer to the step numbers on the diagnostic table.

1: Determines if the malfunction is present.

3: Tests the antenna select supply voltage.

DTC B2460

Step	Action	Value(s)	Yes	No
Schematic Reference: <u>Navigation System Schematics</u>				
1	Did you perform the Diagnostic System Check - Vehicle?	-	Go to Step 2	Go to Diagnostic System Check - Vehicle in Vehicle DTC Information
2	1. Disconnect the TV antenna module. 2. Turn ON the ignition with the engine OFF. 3. Measure the voltage of the antenna select supply voltage circuit. Is the voltage within the specified range?	0.3-1.0 V	Go to Step 5	Go to Step 3
3	Test the antenna select supply voltage circuit for a short to ground. Refer to Circuit Testing and Wiring Repairs in Wiring Systems. Did you find and correct the condition?	-	Go to Step 7	Go to Step 4
	Inspect for poor connections at the			

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4	harness connector of the navigation radio. Refer to Testing for Intermittent Conditions and Poor Connections and Connector Repairs in Wiring Systems. Did you find and correct the condition?	-	Go to Step 7	Go to Step 6
5	Replace the TV antenna module assembly. Refer to TV Antenna Module Replacement . Did you complete the replacement?	-	Go to Step 7	-
6	Replace the navigation radio. Refer to Control Module References in Computer/Integrating Systems. Did you complete the replacement?	-	Go to Step 7	-
7	1. Use the scan tool in order to clear the DTC. 2. Operate the vehicle according to the Conditions for Running the DTC in the supporting text. Does the DTC reset?	-	Go to Step 2	System OK

DTC B2462**Circuit Description**

The global positioning system (GPS) antenna is connected to the navigation radio by a coaxial cable.

DTC Descriptor

This diagnostic procedure supports the following DTC:

DTC B2462 Global Positioning System (GPS) Signal Error

Conditions for Running the DTC

The radio must detect one of the following power modes:

- ACC
- ON
- RAP
- RAP UNLK

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DTC B2462 does not set if DTC B1328 or B1327 is current.

Conditions for Setting the DTC

- The navigation radio test the GPS antenna every 10 seconds.
- The radio determines there is an open in the GPS antenna.
- DTC B2462 does not set if DTC B1328 or B1327 is current.

Action Taken When the DTC Sets

- Unable to get GPS location updated, the radio uses the last reported position and the vehicle speed signal to calculate the vehicle position.
- Route guidance may be inaccurate.
- This failure has no effect outside the navigation system.

Conditions for Clearing the DTC

- A current DTC clears when the radio does not detect the failure for more than 10 seconds.
- A history DTC clears after 50 ignition cycles with no repeat of the failure.

Diagnostic Aids

An intermittent condition may be caused by the following:

- Mis-routed harness
- Rubbed through wire insulation
- Broken wire inside the insulation

Test Description

The numbers below refer to the step numbers on the diagnostic table.

1: Determines if the malfunction is present.

3: Determines if the malfunction is due to an internal fault in the navigation radio or a GPS antenna failure.

DTC B2462

Step	Action	Value(s)	Yes	No
Schematic Reference: <u>Navigation System Schematics</u>				
	Did you perform the Diagnostic System Check - Vehicle?			Go to <u>Diagnostic System</u>

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1		-	Go to Step 2	<u>Check - Vehicle in Vehicle DTC Information</u>
2	1. Turn OFF the ignition. 2. Disconnect the global positioning system (GPS) coaxial cable connector. 3. Measure the voltage between the center conductor and the shield of the coaxial cable still attached to the navigation radio. Is the voltage within the specified range?	4.0-5.5 V	Go to Step 5	Go to Step 3
3	Test the GPS cable for an open or short to ground. Refer to <u>Circuit Testing</u> and <u>Wiring Repairs</u> in Wiring Systems. Did you find and correct the condition?	-	Go to Step 7	Go to Step 4
4	Inspect for poor connections at the harness connector of the GPS cable. Refer to <u>Testing for Intermittent Conditions and Poor Connections</u> and <u>Connector Repairs</u> in Wiring Systems. Did you find and correct the condition?	-	Go to Step 7	Go to Step 6
5	Replace the GPS antenna. Refer to <u>Antenna Replacement - Global Positioning System (GPS)</u> . Did you complete the replacement?	-	Go to Step 7	-
6	Replace the navigation radio. Refer to <u>Control Module References</u> in Computer/Integrating Systems. Did you complete the replacement?	-	Go to Step 7	-
7	1. Use the scan tool in order to clear the DTC. 2. Operate the vehicle within the Conditions for Running the DTC as specified in the supporting text. Does the DTC reset?	-	Go to Step 2	System OK

Circuit Description

The circuitry is internal to the navigation radio.

DTC Descriptor

This diagnostic procedure supports the following DTC:

DTC B2463 Navigation Compact Disk Player - No Disk

Conditions for Running the DTC

The navigation radio runs the DTC when a map DVD is inserted into the radio or when the radio detects a transition from OFF-ASLEEP to ACC, ON or RAP.

DTC B2463 does not set if DTC B1328 or B1327 is current.

Conditions for Setting the DTC

- The navigation radio functions are activated with no navigation DVD in the navigation radio DVD slot.
- DTC B2463 does not set if DTC B1328 or B1327 is current.

Action Taken When the DTC Sets

- No map appears on the navigation radio when the MAP button located beside the display is pressed.
- The PLEASE INSERT MAP DVD message appears on the navigation radio screen.
- The navigation buttons do not function.
- This failure has no effect outside the system navigation functions.

Conditions for Clearing the DTC

A current DTC clears when the navigation radio detects a navigation DVD.

Diagnostic Aids

IMPORTANT: If DTC B2465 is also set, service B2465 before servicing B2463.

Make sure the DVD installed is a navigation system map DVD defined for this system. Also be sure the label is on the top side of the installed DVD.

Test Description

The numbers below refer to the step numbers on the diagnostic table.

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1: Determines if the malfunction is present.

2: Determines if the malfunction was due to no map DVD in the navigation module DVD player.

DTC B2463

Step	Action	Yes	No
1	Did you perform Diagnostic System Check - Vehicle?	Go to Step 2	Go to <u>Diagnostic System Check - Vehicle</u> in Vehicle DTC Information
2	Insert map DVD into DVD player behind the sliding cover on the navigation radio. Make sure the DVD is positioned correctly. Did you complete the installation of the DVD?	Go to Step 3	-
3	1. Use the scan tool in order to clear the DTC. 2. Disconnect the scan tool. 3. Turn OFF the ignition. 4. Open then close the driver door to disable the retained accessory power (RAP) function. 5. Do not activate any vehicle functions for one minute. 6. Turn ON the ignition with the engine OFF. 7. Remove and reinsert the map DVD. 8. Install a scan tool. 9. Check for DTC B2463. Does the DTC reset?	Go to Step 4	Go to Step 5
4	Replace the navigation radio. Refer to <u>Control Module References</u> in Computer/Integrating Systems. Did you complete the repair?	Go to Step 5	-
5	1. Use the scan tool in order to clear the DTC. 2. Operate the vehicle within the Conditions for Running the DTC as specified in the		

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supporting text.			
Does the DTC reset?		Go to Step 2	System OK

DTC B2464

Circuit Description

The circuitry is internal to the navigation radio. The system does not function when the internal temperature reaches 70° C (158° F) or above. This feature prevents heat damage to internal components.

DTC Descriptor

This diagnostic procedure supports the following DTC:

DTC B2464 Navigation Compact Disk Player - Decoding Error

Conditions for Running the DTC

- The navigation radio detects a power mode transition from OFF-ASLEEP to ON.
- The radio attempts a read from the digital video disk (DVD) or when a new DVD is inserted.
- Neither DTC B1328 nor DTC B1327 is current.

Conditions for Setting the DTC

- The navigation radio is unable to read the DVD because of a laser focus error, there is a table of contents error or the DVD laser head temperature is above 70° C (158° F).
- DTC B2464 does not set if DTC B1328 or DTC B1327 is current.

Action Taken When the DTC Sets

- No map or blue screen appears on the display and index is not usable.
- Navigation buttons do not function.
- This failure has no effect outside the navigation system.

Conditions for Clearing the DTC

- A current DTC clears when the navigation radio detects a read from a navigation DVD.
- The laser head temperature cools to less than 70° C (158° F).

Diagnostic Aids

IMPORTANT: If DTC B2463 or B2465 is also set with DTC B2464, service

B2463 and B2465 before DTC B2464.

Make sure the map DVD is the correct one for this system.

Cycle the ignition switch even after a successful inspection with a scan tool so initialization will occur.

Test Description

The numbers below refer to the step numbers on the diagnostic table.

1: Determines if the malfunction is present.

2: Determines if the malfunction was due to no map DVD in the navigation module DVD player.

DTC B2464

Step	Action	Yes	No
1	Did you perform the Diagnostic System Check - Vehicle?	Go to Step 2	Go to <u>Diagnostic System Check - Vehicle</u> in Vehicle DTC Information
2	1. Turn OFF the ignition. 2. Open, then close the driver door to cancel retained accessory power (RAP). 3. Turn ON the ignition with the engine OFF. 4. Use the scan tool in order to clear the DTC. 5. Remove and reinsert the map DVD. 6. Retrieve DTCs from the navigation radio. Does the DTC reset?	Go to Step 3	Go to Step 6
3	1. Turn OFF the ignition. 2. Open, then close the driver door to cancel RAP. 3. Wait one minute. 4. Turn ON the ignition with the engine OFF. 5. Use the scan tool in order to clear the DTC.		

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	6. Install a new map DVD in the radio. 7. Retrieve DTCs from the navigation radio. Does the DTC reset?	Go to Step 4	Go to Step 6
4	1. Turn OFF the ignition. 2. Open, then close the driver door to cancel RAP. 3. Allow the navigation radio to cool for one hour. 4. Turn ON the ignition with the engine OFF. 5. Use the scan tool in order to clear the DTC. 6. Remove, then insert the map DVD. 7. Retrieve DTCs from the navigation radio. Does the DTC reset?	Go to Step 5	Go to Step 6
5	Replace the navigation radio. Refer to <u>Control Module References</u> in Computer/Integrating Systems. Did you complete the repair?	Go to Step 6	-
6	1. Use the scan tool in order to clear the DTC. 2. Operate the vehicle within the Conditions for Running the DTC as specified in the supporting text. Does the DTC reset?	Go to Step 2	System OK

DTC B2465**Circuit Description**

The circuitry is internal to the navigation radio.

DTC Descriptor

This diagnostic procedure supports the following DTC:

DTC B2465 Navigation Compact Disk Player - Data Error

Conditions for Running the DTC

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- The navigation radio detects a power mode transition to awake with a proper map DVD installed or when a CD is inserted.
- DTC B2465 does not set if DTC B1328 or B1327 is current.

Conditions for Setting the DTC

The navigation radio has determined that the incorrect CD has been inserted.

Action Taken When the DTC Sets

- No map appears on the display.
- PLEASE INSERT MAP DVD message appears on the display.
- The navigation buttons do not function.
- This failure has no effect outside the navigation system.

Conditions for Clearing the DTC

A current DTC clears when the navigation radio detects a navigation DVD.

Test Description

The numbers below refer to the step numbers on the diagnostic table.

1: Determines if the malfunction is present.

2: Determines if the malfunction was due to no map DVD in the navigation radio DVD player.

DTC B2465

Step	Action	Yes	No
1	Did you perform Diagnostic System Check - Vehicle?	Go to Step 2	Go to <u>Diagnostic System Check - Vehicle</u> in Vehicle DTC Information
2	IMPORTANT: The CD installed must be a map DVD as defined for this system. 1. Use the scan tool in order to clear the DTC. 2. Turn the ignition ON with the engine OFF.		

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	3. Install a correct map DVD into the navigation radio.		
	Does the DTC reset?	Go to Step 3	Go to Step 4
3	Replace the navigation radio. Refer to Control Module References in Computer/Integrating Systems. Did you complete the repair?	Go to Step 4	-
4	1. Use the scan tool in order to clear the DTC. 2. Operate the vehicle within the Conditions for Running the DTC as specified in the supporting text. Does the DTC reset?	Go to Step 2	System OK

DTC B2466**Circuit Description**

This internal vehicle information communication system (VICS) memory test is internal to the navigation radio.

DTC Descriptor

This diagnostic procedure supports the following DTC:

DTC B2466 Navigation Vehicle Information Communication System (VICS) Memory Error

Conditions for Running the DTC

The navigation radio tests the VICS memory when it detects a power mode transition to ON.

Conditions for Setting the DTC

- The navigation radio determines there is an internal error in the radio.
- DTC B2466 does not set if DTC B1328 or B1327 is current.

Action Taken When the DTC Sets

- Last VICS information is displayed if requested.
- Limited or no VICS information is used in route guidance.
- VICS switch may not be displayed on the screen.
- This failure has no effect outside the navigation system.

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Conditions for Clearing the DTC

A current DTC will clear when the navigation radio does not detect the failure during the last power mode transition.

Diagnostic Aids

Cycle the ignition switch even after a successful inspection with a scan tool in order to initialize the system.

Test Description

The numbers below refer to the step numbers on the diagnostic table.

1: Determines if the malfunction is present.

2: Verifies that the DTC sets under normal operating conditions.

DTC B2466

Step	Action	Yes	No
1	Did you perform the Diagnostic System Check - Vehicle?	Go to Step 2	Go to Diagnostic System Check - Vehicle in Vehicle DTC Information
2	1. Use the scan tool in order to clear the DTC. 2. Disconnect the scan tool. 3. Turn OFF the ignition. 4. Open, then close driver door to cancel retained accessory power (RAP). IMPORTANT: Do not operate any vehicle system for one minute. 5. Connect a scan tool. 6. Turn ON the ignition with the engine OFF. 7. Retrieve DTCs from the navigation radio. Does the DTC reset?	Go to Step 3	Go to Diagnostic System Check - Vehicle in Vehicle DTC Information

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3	Replace the navigation radio. Refer to Control Module References in Computer/Integrating Systems. Did you complete the replacement?	Go to Step 4	-
4	1. Use the scan tool in order to clear the DTC. 2. Operate the vehicle according to the Conditions for Running the DTC in the supporting text. Does the DTC reset?	Go to Step 2	System OK

DTC B2468**Circuit Description**

Internal error detection is determined inside the navigation radio. No external circuits are involved.

DTC Descriptor

This diagnostic procedure supports the following DTC:

DTC B2468 Navigation Display Unit Performance

Conditions for Running the DTC

- The navigation radio performs this test when it detects a power mode transition to one of the following:
 - ACC
 - ON
- The navigation radio does not set this DTC if B1327 or B1328 is current.

Conditions for Setting the DTC

The navigation radio is unable to write to memory and the test detects a computation error.

Action Taken When the DTC Sets

Any of the following may be observed:

- Black screen and the audio cannot be changed.
- The TV screen adjustment settings change to the default settings.
- The navigation screens may still be available.

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Conditions for Clearing the DTC

The navigation radio is able to write to memory and there is no computation error when there is a power mode transition.

Diagnostic Aids

- This DTC may be stored as a history DTC with out affecting the operation of the module. If stored only as a history DTC and not retrieved as a current DTC, do not replace the module.
- If this DTC is retrieved as both a current and history DTC, replace the module.

Test Description

The numbers below refer to the step numbers on the diagnostic table.

1: Determines if the malfunction is present.

2: Verifies that the DTC sets under normal operating conditions.

DTC B2468

Step	Action	Yes	No
1	Did you perform the Diagnostic System Check - Vehicle?	Go to Step 2	Go to <u>Diagnostic System Check - Vehicle</u> in Vehicle DTC Information
2	1. Turn OFF the ignition. 2. Disconnect the scan tool. 3. Open, then close driver door to cancel retained accessory power (RAP). IMPORTANT: Do not operate any vehicle system for one minute. 4. Connect a scan tool. 5. Turn ON the ignition with engine OFF. 6. Retrieve DTCs from the navigation radio. Is DTC B2468 a current DTC?	Go to Step 3	Go to <u>Diagnostic System Check - Vehicle</u> in Vehicle DTC Information
	Replace the navigation radio. Refer to		

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3	Control Module References in Computer/Integrating Systems. Did you complete the replacement?	Go to Step 4	-
4	1. Use the scan tool in order to clear the DTC. 2. Operate the vehicle according to the Conditions for Running the DTC in the supporting text. Does the DTC reset?	Go to Step 2	System OK

DTC B2474**Circuit Description**

The backlighting error detection is determined inside the navigation radio. No external circuits are involved.

DTC Descriptor

This diagnostic procedure supports the following DTC:

DTC B2474 Navigation Display Head (NDH) Backlighting Performance

Conditions for Running the DTC

- The navigation radio checks for a backlighting internal error every 5 seconds during the following power modes:
 - ACC
 - ACC
 - ON
- DTC B2474 does not set if DTC B1328 or DTC B1327 is current.

Conditions for Setting the DTC

A B2474 sets if any of the following conditions are present:

- Backlighting circuit/bulb failure
- Backlighting circuit current consumption is too high.
- Backlighting heater is not providing heat.
- The navigation radio temperature is over 105° C (221° F).

Action Taken When the DTC Sets

Any of the following may be observed:

- Black screen and the audio and navigation functions cannot be controlled.
- The screen brightness is incorrect.
- Changes to the screen brightness are inconsistent.

Conditions for Clearing the DTC

The navigation radio determines that the backlighting fault is not present.

Diagnostic Aids

This DTC may be stored as a history DTC without affecting the operation of the navigation radio. If stored only as a history DTC and not a current DTC, do not replace the radio.

Test Description

The numbers below refer to the step numbers on the diagnostic table.

1: This step determines if the malfunction is present.

2: This step verifies that the DTC sets under normal operating conditions.

DTC B2474

Step	Action	Yes	No
1	Did you perform the Diagnostic System Check - Vehicle?	Go to Step 2	Go to <u>Diagnostic System Check - Vehicle</u> in Vehicle DTC Information
2	1. Turn OFF the ignition. 2. Allow the navigation radio to cool for one hour. 3. Turn ON the ignition with the engine OFF. 4. Retrieve DTCs from the navigation radio. Is B2474 a current DTC?	Go to Step 3	Go to <u>Diagnostic System Check - Vehicle</u> in Vehicle DTC Information
3	Replace the navigation radio. Refer to <u>Control Module References</u> in Computer/Integrating Systems. Did you complete the replacement?	Go to Step 4	-

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4	1. Use the scan tool in order to clear the DTC. 2. Operate the vehicle according to the Conditions for Running the DTC in the supporting text.		
	Does the DTC reset?	Go to Step 2	System OK

DTC U2153

Circuit Description

The traffic information receiver (VICS) communicates with the navigation radio over 3 circuits. These are the traffic information signal (+) circuit, the traffic information signal (-) circuit and the traffic information request signal.

DTC Descriptor

This diagnostic procedure supports the following DTC:

DTC U2153 Navigation Electronic Control Unit (ECU) - VICS Communication Circuit

Conditions for Running the DTC

- The vehicle must be equipped with the VICS. This system is available only on export vehicles (UE9) and is dealer installed.
- The navigation radio must detect a power mode transition from OFF-ASLEEP to ON.
- The navigation radio does not set this DTC if B1327 or B1328 is current.

Conditions for Setting the DTC

There is no response from the VICS module when queried by the navigation radio after successfully initializing the system.

The navigation radio does not receive information from the VICS module when the radio detects a power mode transition to ON.

Action Taken When the DTC Sets

The VICS switch disappears from the navigation system menu.

Conditions for Clearing the DTC

The navigation radio receives a response from the VICS module.

Test Description

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The numbers below refer to the step numbers on the diagnostic table.

1: Determines if the malfunction is present.

2: Verifies that the DTC sets under normal operating systems.

DTC U2153

Step	Action	Yes	No
1	Did you perform the Diagnostic System Check - Vehicle?	Go to Step 2	Go to <u>Diagnostic System Check - Vehicle</u> in Vehicle DTC Information
2	1. Use the scan tool to clear the DTCs. 2. Disconnect the scan tool. 3. Turn OFF the ignition. 4. Open, then close driver door to cancel retained accessory power (RAP). IMPORTANT: Do not operate any vehicle system for one minute. 5. Connect a scan tool. 6. Turn ON the ignition with the engine OFF. 7. Retrieve DTCs from the navigation radio. Does the DTC reset?	Go to Step 3	Go to <u>Diagnostic System Check - Vehicle</u> in Vehicle DTC Information
3	Test the traffic information signal (+) circuit for the following: • An open • A short to ground • A short to voltage • High resistance Refer to <u>Circuit Testing</u> and <u>Wiring Repairs</u> in Wiring Systems.		

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	Did you find and correct the condition?	Go to Step 10	Go to Step 4
4	Test the traffic information signal (-) circuit for the following: • An open • A short to ground • A short to voltage • High resistance Refer to Circuit Testing and Wiring Repairs in Wiring Systems. Did you find and correct the condition?	Go to Step 10	Go to Step 5
5	Test the traffic information request signal circuit for the following: • An open • A short to ground • A short to voltage • High resistance Refer to Circuit Testing and Wiring Repairs in Wiring Systems. Did you find and correct the condition?	Go to Step 10	Go to Step 6
6	Inspect for poor connections at the harness connectors of the traffic information receiver (VICS). Refer to Testing for Intermittent Conditions and Poor Connections and Connector Repairs in Wiring Systems. Did you find and correct the condition?	Go to Step 10	Go to Step 7
7	Inspect for poor connections at the harness connectors of the navigation radio. Refer to Testing for Intermittent Conditions and Poor Connections and Connector Repairs in Wiring Systems. Did you find and correct the condition?	Go to Step 10	Go to Step 8
8	Replace the VICS. Refer to the VICS dealer installation instructions. Did you find and correct the condition?	Go to Step 10	Go to Step 9
	Replace the navigation radio. Refer to		

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9	Control Module References in Computer/Integrating Systems. Did you complete the repair?	Go to Step 10	-
10	1. Use the scan tool to clear the DTCs. 2. Operate the vehicle as specified within the Conditions for Running the DTC in the supporting text. Does the DTC reset?	Go to Step 2	System OK

SYMPTOMS - NAVIGATION SYSTEMS

IMPORTANT: The following steps must be completed before using the symptom tables.

- Perform the **Diagnostic System Check - Vehicle** in Vehicle DTC Information before using the Symptom Tables in order to verify that all of the following are true:
 - There are no DTCs set.
 - The control modules can communicate via the serial data link.
- Review **Navigation System Description and Operation** in order to familiarize yourself with the system functions.

Visual/Physical Inspection

- Inspect for aftermarket devices which could affect the operation of the navigation system components. Refer to **Checking Aftermarket Accessories** in Wiring Systems.
- Inspect the easily accessible or visible system components for obvious damage or conditions which could cause the symptom.

Intermittent

Faulty electrical connections or wiring may be the cause of intermittent conditions. Refer to **Testing for Intermittent Conditions and Poor Connections** in Wiring Systems.

Symptom List

Refer to a symptom diagnostic procedure from the following list in order to diagnose the symptom:

- **No Global Positioning System (GPS) Reception**
- **Navigation System - Poor or Inoperative TV Reception**
- **Navigation System - Voice Recognition Inoperative**

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- For radio/audio related symptoms, refer to **Symptoms - Entertainment** in Entertainment.

NO GLOBAL POSITIONING SYSTEM (GPS) RECEPTION

No Global Positioning System (GPS) Reception

Step	Action	Yes	No
Schematic Reference: <u>Navigation System Schematics</u> DEFINITION: When using the navigation system, the GPS icon does not appear on the navigation radio.			
1	Did you perform Diagnostic System Check - Vehicle?	Go to Step 2	Go to Diagnostic System Check - Vehicle in Vehicle DTC Information
2	1. Move the vehicle to an open area outside of the building. 2. Turn ON the ignition. The Cadillac emblem screen appears on the navigation radio. 3. Press the MAP button on the radio. 4. When the navigation disclaimer screen appears, press the I AGREE button on the display. 5. The display should show the current position of the vehicle. The GPS icon should appear on the upper left corner of the screen, indicating that the navigation system has proper GPS reception. Does the system operate normally?	Go to Testing for Intermittent Conditions and Poor Connections in Wiring Systems	Go to Step 3
3	1. Remove the GPS antenna from its location in the IP. 2. Turn ON the ignition and turn on the navigation system. Does the GPS icon appear on the navigation radio?	Go to Step 4	Go to Step 6
	Inspect the front window glass for tinting or		

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4	any other alterations or obstructions. Is the front window glass OK?	Go to Step 6	Go to Step 5
5	Remove the front window glass tinting or other alterations. Did you complete the repair?	Go to Step 8	-
6	Replace the GPS antenna. Refer to <u>Antenna Replacement - Global Positioning System (GPS)</u> . Did you complete the replacement?	Go to Step 8	Go to Step 7
7	Replace the navigation radio. Refer to <u>Control Module References</u> in Computer/Integrating Systems. Did you complete the replacement?	Go to Step 8	-
8	Operate the system in order to verify the repair. Did you correct the condition?	System OK	Go to Step 3

NAVIGATION SYSTEM - POOR OR INOPERATIVE TV RECEPTION**Navigation System - Poor or Inoperative TV Reception**

Step	Action	Yes	No
Schematic Reference: <u>Navigation System Schematics</u> DEFINITION: When using the navigation radio TV function, the TV reception, TV picture and/or TV sound, is poor or inoperative.			
1	Did you perform Diagnostic System Check - Vehicle?	Go to Step 2	Go to <u>Diagnostic System Check - Vehicle</u> in Vehicle DTC Information
2	1. Turn ON the ignition. The Cadillac emblem screen appears on the navigation radio. 2. Leave the vehicle in PARK. 3. Press the audio MENU button on the radio. The audio menu appears on the display. 4. Press the TV button on the radio audio menu screen. This button is present with UE7 only. 5. Select a TV station. The TV should be	Go to <u>Testing for Intermittent Conditions</u>	

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	clear on the radio display. Does the system operate normally?	<u>and Poor Connections in Wiring Systems</u>	Go to Step 3
3	1. Disconnect the coaxial cable leading to each TV antenna within the rear window glass. 2. Test each TV antenna and coaxial cable for an open, a short to ground or a short to voltage. Ensure the ignition and the rear defog/defrost is turned ON with the engine OFF when testing for a short to voltage. Refer to <u>Circuit Testing</u> and <u>Wiring Repairs</u> in Wiring Systems. Did you find and correct the condition?	Go to Step 14	Go to Step 4
4	1. Disconnect the TV antenna module connector. 2. Turn ON the ignition with the engine OFF. 3. Test each of the following circuits for a short to voltage: • The antenna select Baud 1 signal (+) circuit • The antenna select Baud 2 signal (+) circuit • The antenna select supply voltage circuit • The antenna select signal (-) circuit Refer to <u>Circuit Testing</u> and <u>Wiring Repairs</u> in Wiring Systems. Is voltage present?	Go to Step 6	Go to Step 5
5	Test each of the following circuits for an open or a short to ground. • The antenna select Baud 1 signal (+) circuit • The antenna select Baud 2 signal (+) circuit • The antenna select supply voltage circuit • The antenna select signal (-) circuit		

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	Refer to <u>Circuit Testing</u> and <u>Wiring Repairs</u> in Wiring Systems. Did you find and correct the condition?	Go to Step 14	Go to Step 7
6	Test the TV signal circuit between the TV antenna module and the navigation radio for an open, a short to ground or a short to voltage. Refer to <u>Circuit Testing</u> and <u>Wiring Repairs</u> in Wiring Systems. Did you find and correct the condition?	Go to Step 14	Go to Step 7
7	Test the amplified TV antenna signal circuit between each TV antenna amplifier and the TV antenna module for an open, a short to ground or a short to voltage. Refer to <u>Circuit Testing</u> and <u>Wiring Repairs</u> in Wiring Systems. Did you find and correct the condition?	Go to Step 14	Go to Step 8
8	Inspect for poor connections at the harness connector of the TV antenna amplifiers. Refer to <u>Testing for Intermittent Conditions and Poor Connections</u> and <u>Connector Repairs</u> in Wiring Systems. Did you find and correct the condition?	Go to Step 14	Go to Step 9
9	Replace the TV antenna amplifiers. Refer to <u>TV Antenna Amplifier Replacement (Front)</u> or <u>TV Antenna Amplifier Replacement (Rear)</u> . Did you find and correct the condition?	Go to Step 14	Go to Step 10
10	Inspect for poor connections at the harness connector of the TV antenna module. Refer to <u>Testing for Intermittent Conditions and Poor Connections</u> and <u>Connector Repairs</u> in Wiring Systems. Did you find and correct the condition?	Go to Step 14	Go to Step 11
11	Replace the TV antenna module. Refer to <u>TV Antenna Module Replacement</u> . Did you find and correct the condition?	Go to Step 14	Go to Step 12
12	Inspect for poor connections at the harness connector of the navigation radio. Refer to <u>Testing for Intermittent Conditions and Poor Connections</u> and <u>Connector Repairs</u> in		

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	Wiring Systems. Did you find and correct the condition?	Go to Step 14	Go to Step 13
13	Replace the navigation radio. Refer to Control Module References in Computer/Integrating Systems. Did you complete the replacement?	Go to Step 14	-
14	1. Make sure all connections are tight. 2. Turn ON the ignition with the engine OFF. 3. Select the TV option on the navigation radio. 4. Select a local station.		
	Is the picture strong?	System OK	Go to Step 3

NAVIGATION SYSTEM - VOICE RECOGNITION INOPERATIVE

Navigation System - Voice Recognition Inoperative

Step	Action	Yes	No
Schematic Reference: <u>Navigation System Schematics</u> DEFINITION: The navigation voice recognition is inoperative.			
1	Did you perform Diagnostic System Check - Vehicle?	Go to Step 2	Go to Diagnostic System Check - Vehicle in Vehicle DTC Information
2	1. Turn ON the ignition. The Cadillac emblem screen appears on the navigation radio. 2. Press the radio MENU button on the radio. 3. When the navigation disclaimer screen appears, press the I AGREE button on the display. 4. Press the MAP button on the radio. The display should show the current position of the vehicle. The navigation map should be clear and have clear color. 5. Press the voice switch on the steering	Go to Testing for	

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	wheel. Speak a valid voice command. The system should repeat your command and then perform the function. Does the system operate normally?	<u>Intermittent Conditions and Poor Connections</u> in Wiring Systems	Go to Step 3
3	Test the following circuits for an open, short to ground, or a short to voltage: • The cellular microphone signal circuit • The drain wire Refer to <u>Circuit Testing</u> and <u>Wiring Repairs</u> in Wiring Systems. Did you find and correct the condition?	Go to Step 6	Go to Step 4
4	Inspect for poor connections at the harness connector of the navigation radio. Refer to <u>Testing for Intermittent Conditions and Poor Connections</u> and <u>Connector Repairs</u> in Wiring Systems. Did you find and correct the condition?	Go to Step 6	Go to Step 5
5	Replace the navigation radio. Refer to <u>Control Module References</u> in Computer/Integrating Systems. Did you complete the replacement?	Go to Step 6	
6	Operate the system to verify the repair. Does the system operate properly?	System OK	Go to Step 3

REPAIR INSTRUCTIONS

NAVIGATION DATA PROCESSOR REPLACEMENT

Removal Procedure

1. Remove the left rear body side trim panel. Refer to **Trim Panel Replacement - Body Side Rear** in Interior Trim.

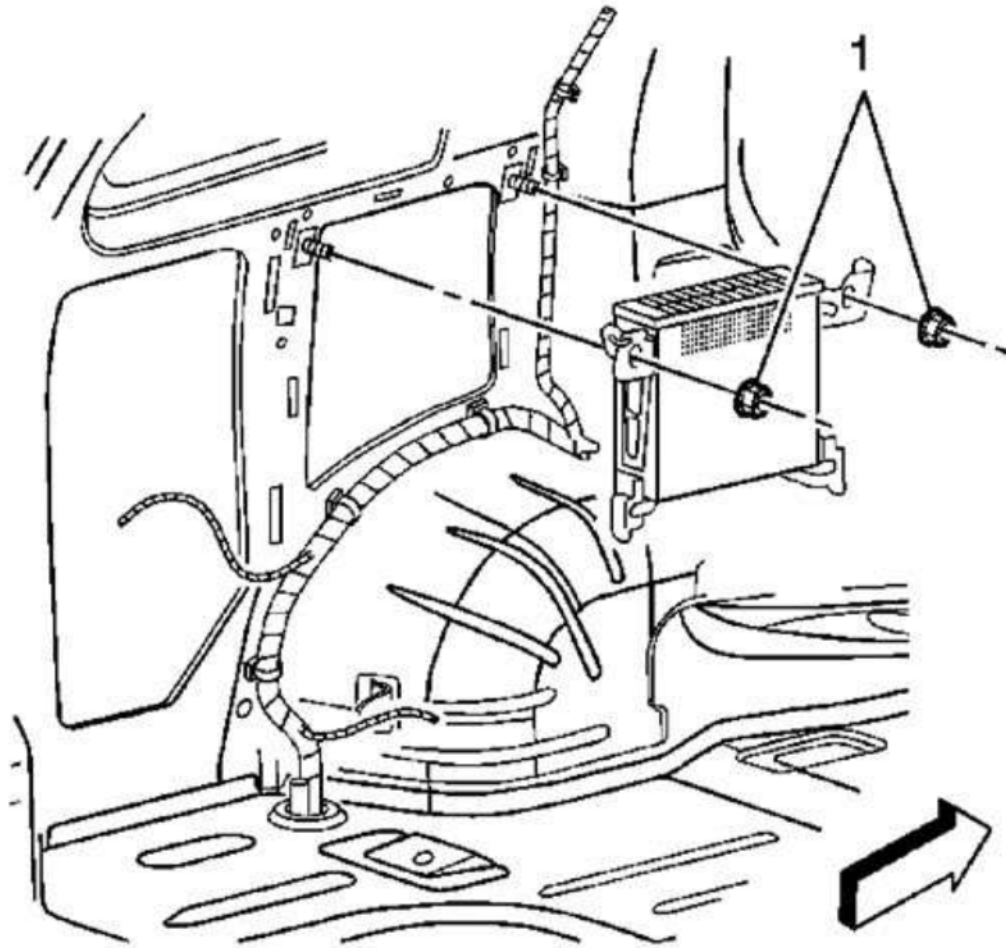


Fig. 6: Locating Navigation Data Processor Nuts
Courtesy of GENERAL MOTORS CORP.

2. Remove the nuts (1) securing the processor to the vehicle.

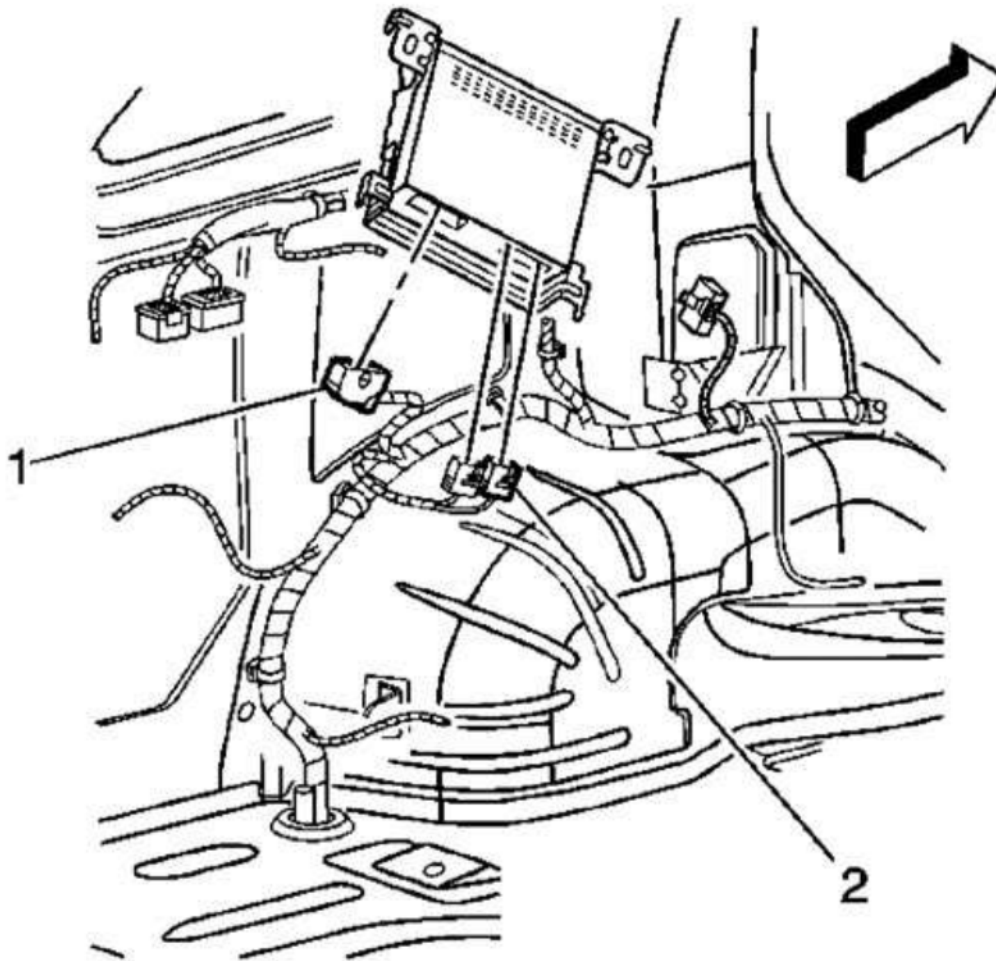


Fig. 7: View Of Navigation Data Processor Electrical Connectors
Courtesy of GENERAL MOTORS CORP.

3. Disconnect the electrical connectors (1,2)
4. Remove the processor.

Installation Procedure

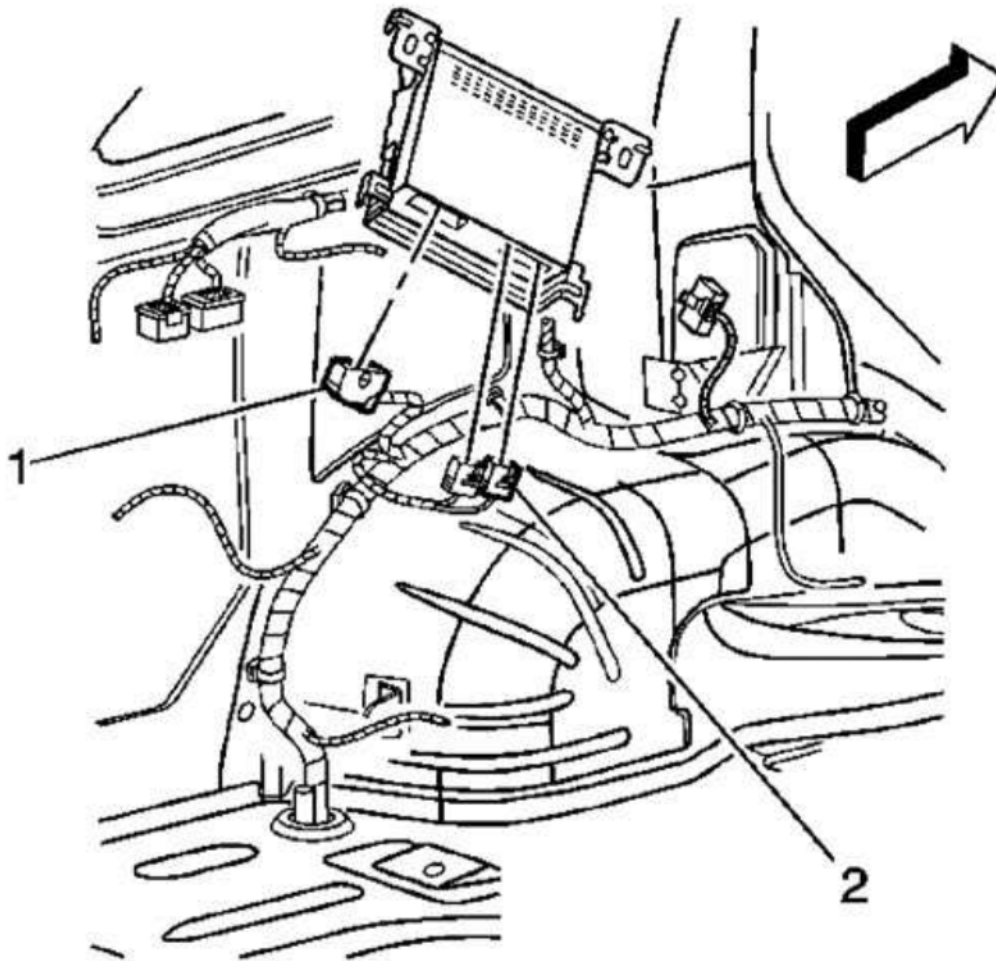


Fig. 8: View Of Navigation Data Processor Electrical Connectors
Courtesy of GENERAL MOTORS CORP.

1. Connect the electrical connectors (1,2)

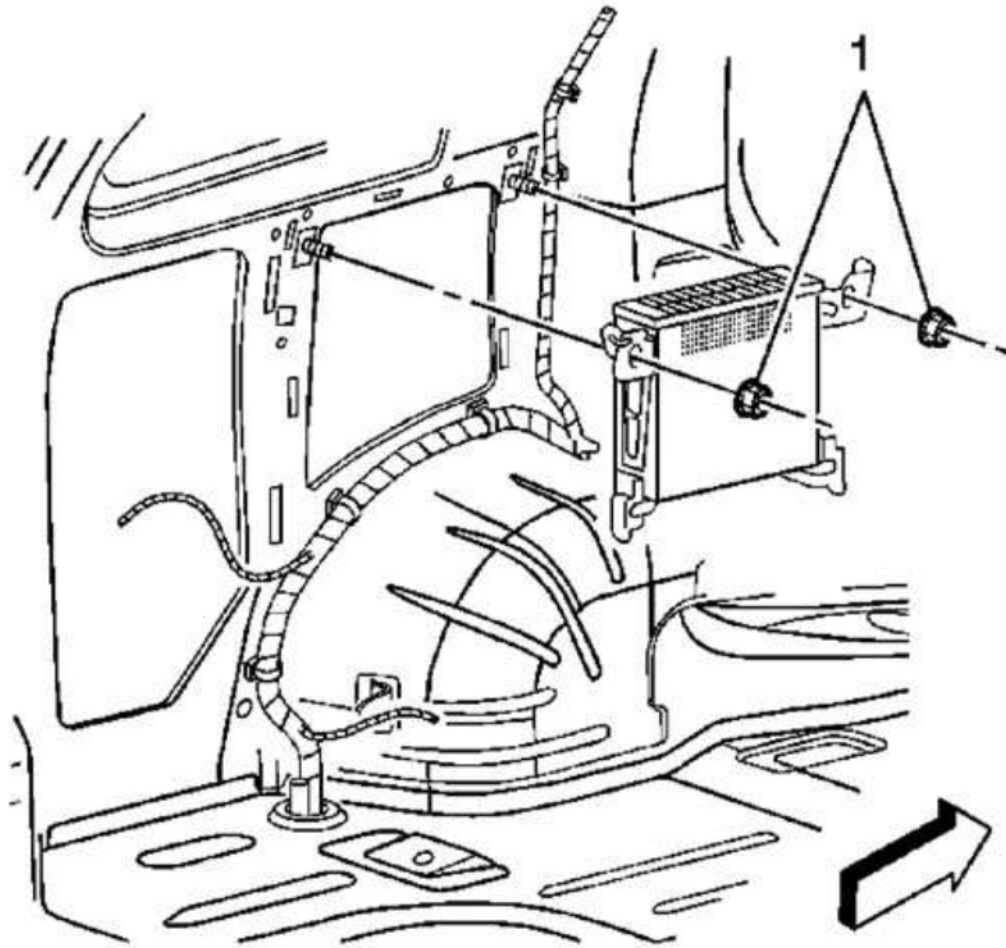


Fig. 9: Locating Navigation Data Processor Nuts
Courtesy of GENERAL MOTORS CORP.

2. Locate the processor the vehicle.

NOTE: Refer to Fastener Notice in Cautions and Notices.

3. Install the nuts (1) securing the processor to the vehicle.

Tighten: Tighten the nuts to 9 N.m (80 lb in).

4. Install the left rear body side trim panel. Refer to Trim Panel Replacement - Body Side Rear in Interior Trim.

Removal Procedure

1. Remove the I/P retainer. Refer to **Instrument Panel (I/P) Retainer Replacement** in Instrument Panel, Gages and Console.

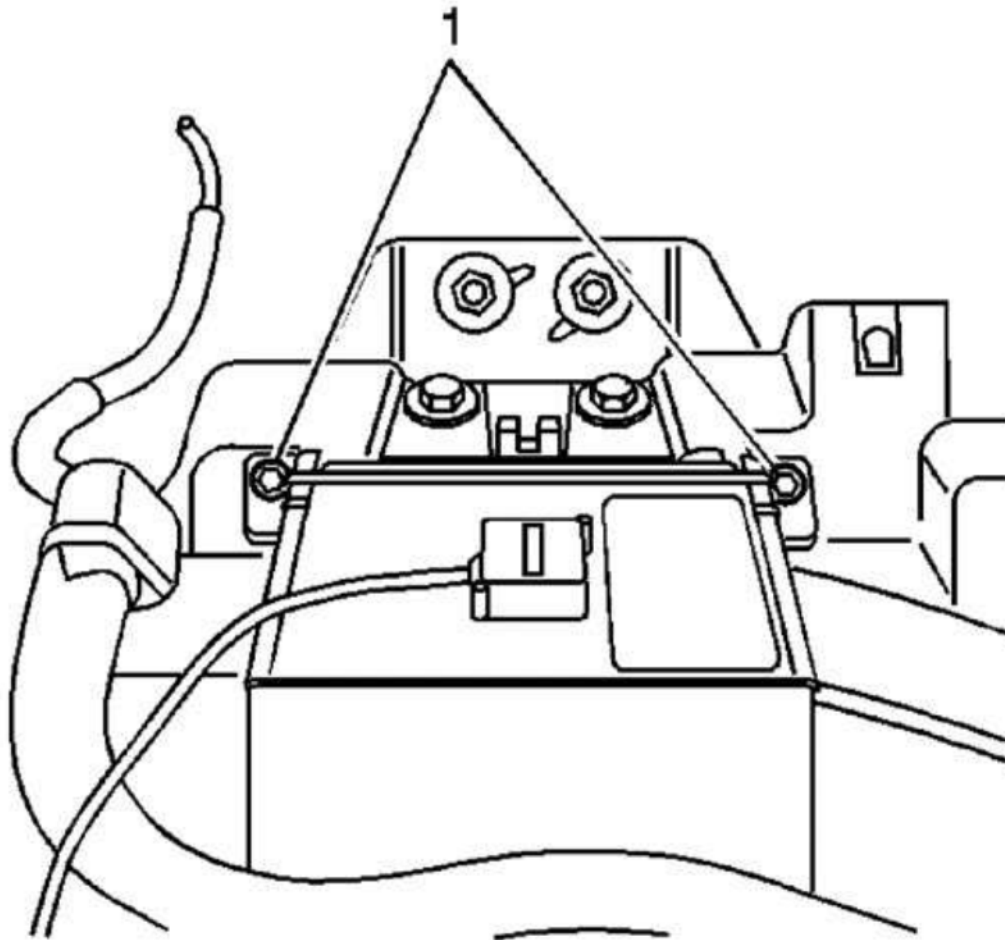


Fig. 10: Locating Global Position Antenna To I/P Carrier Screws
Courtesy of GENERAL MOTORS CORP.

2. Remove the screws (1) securing the global position antenna to the I/P carrier.
3. Remove the wiring from the carrier.

IMPORTANT: Do not splice the wiring or make the antenna lead shorter.

Installation Procedure

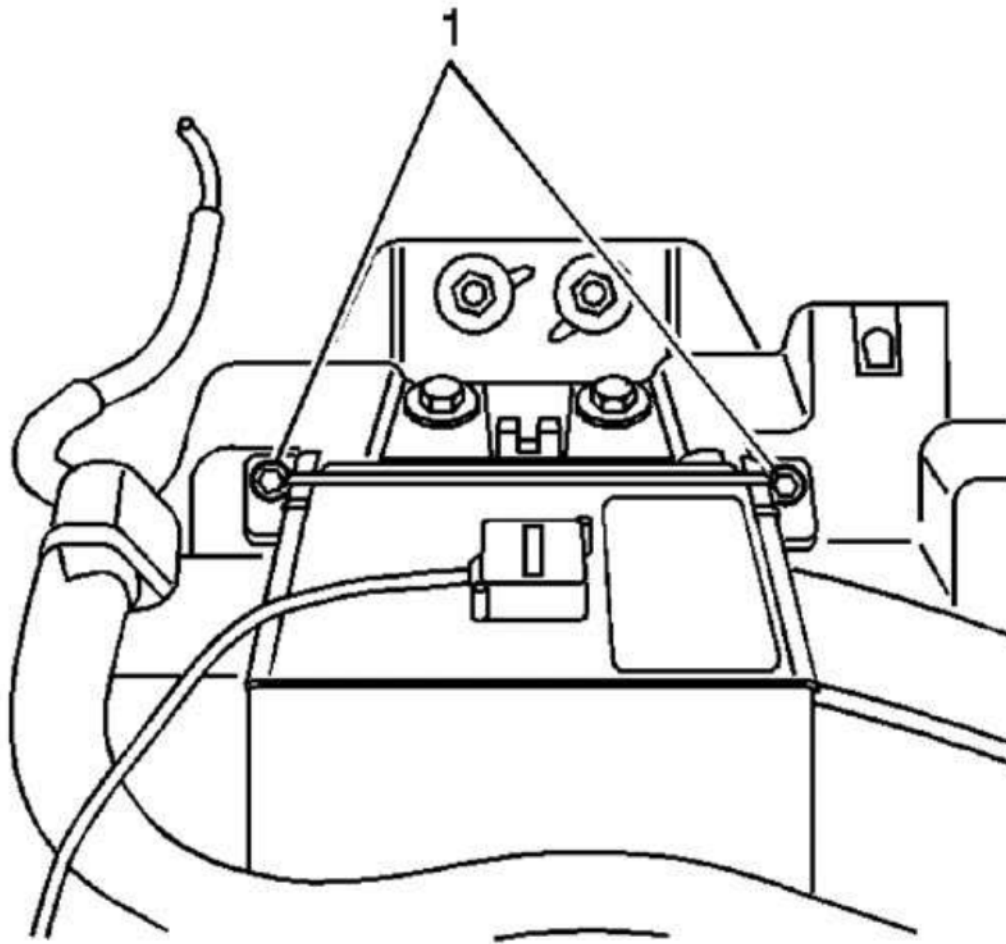


Fig. 11: Locating Global Position Antenna To I/P Carrier Screws
Courtesy of GENERAL MOTORS CORP.

1. Route the antenna wire to the carrier.

NOTE: Refer to Fastener Notice in Cautions and Notices.

2. Install the antenna to the carrier.

Tighten: Tighten the screws (1) to 2 N.m (18 lb in).

3. Install the I/P retainer. Refer to Instrument Panel (I/P) Retainer Replacement in Instrument Panel, Gages and Console.

Removal Procedure

1. Remove the headliner. Refer to **Headliner Replacement** in Interior Trim.

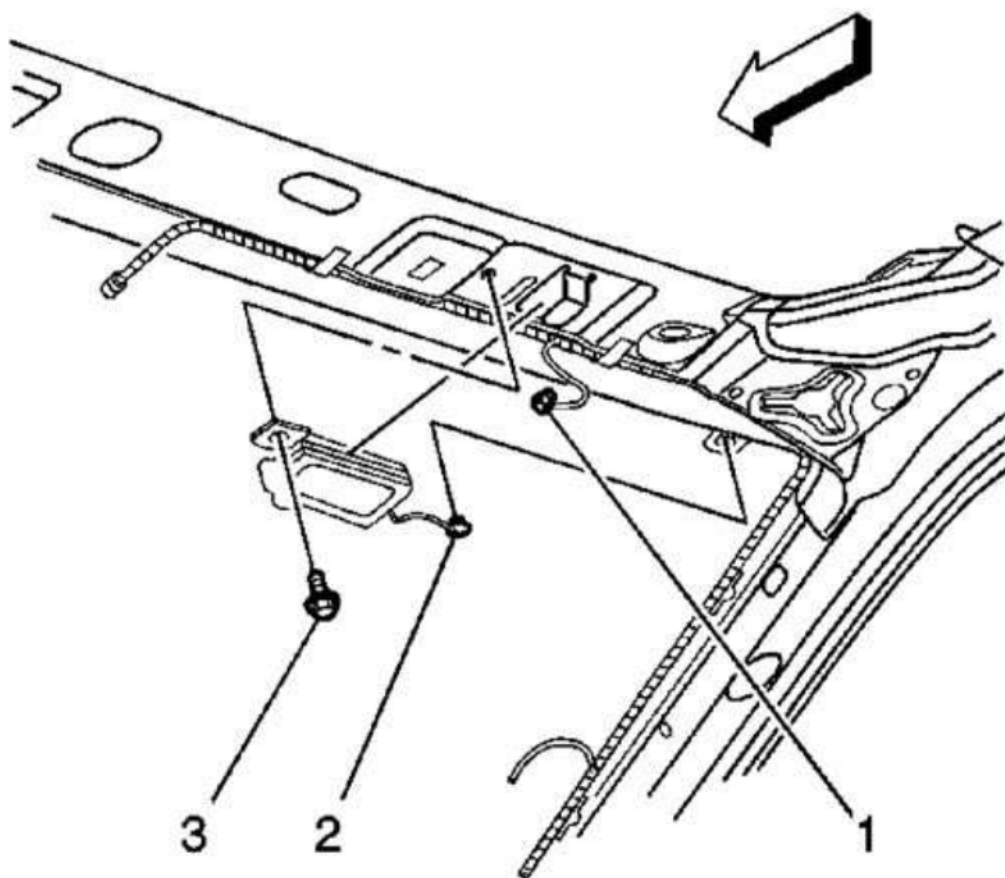


Fig. 12: View Of TV Antenna Amplifier - Front
Courtesy of GENERAL MOTORS CORP.

2. Disconnect the electrical connectors (1,2).
3. Remove the bolt (3) securing the antenna amplifier to the vehicle.
4. Slide the antenna amplifier out of the mounting bracket.

Installation Procedure

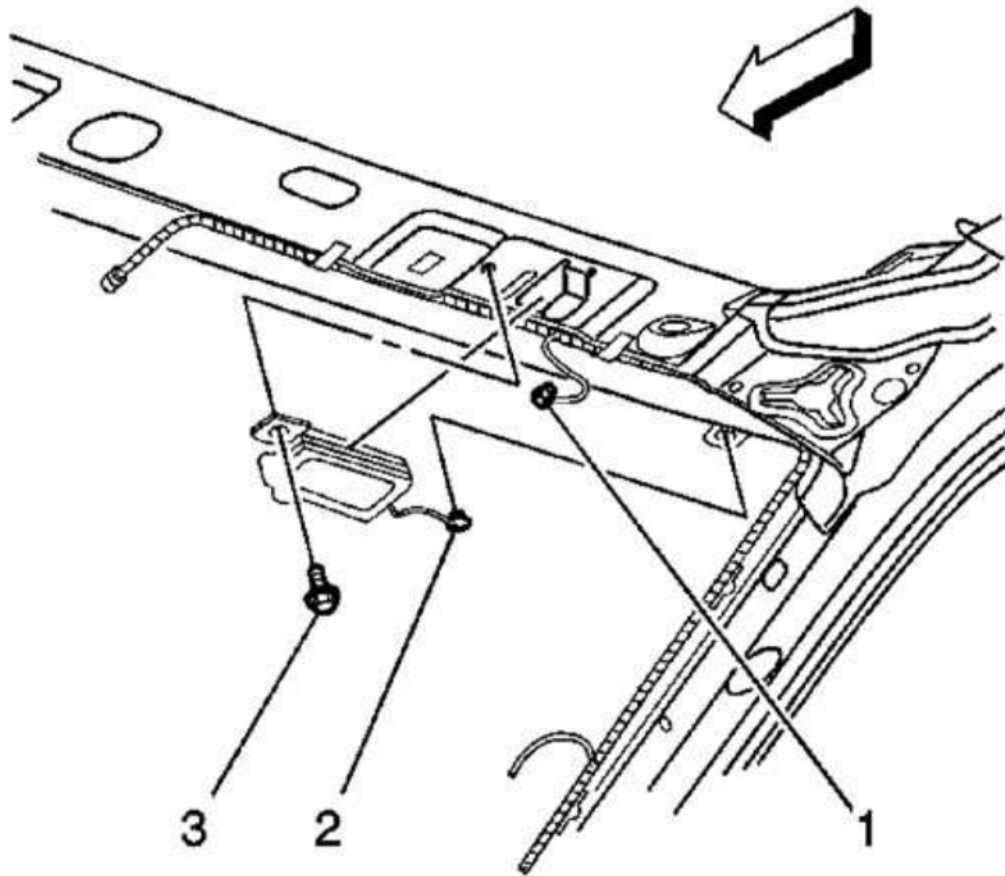


Fig. 13: View Of TV Antenna Amplifier - Front
Courtesy of GENERAL MOTORS CORP.

1. Slide the antenna amplifier into the mounting bracket.

NOTE: Refer to Fastener Notice in Cautions and Notices.

2. Install the bolt (3) securing the antenna amplifier to the vehicle.

Tighten: Tighten the bolt to 9 N.m (80 lb in).

3. Connect the electrical connectors (1,2).
4. Install the headliner. Refer to Headliner Replacement in Interior Trim.

TV ANTENNA AMPLIFIER REPLACEMENT (REAR)

Removal Procedure

1. Remove the headliner. Refer to **Headliner Replacement** in Interior Trim.

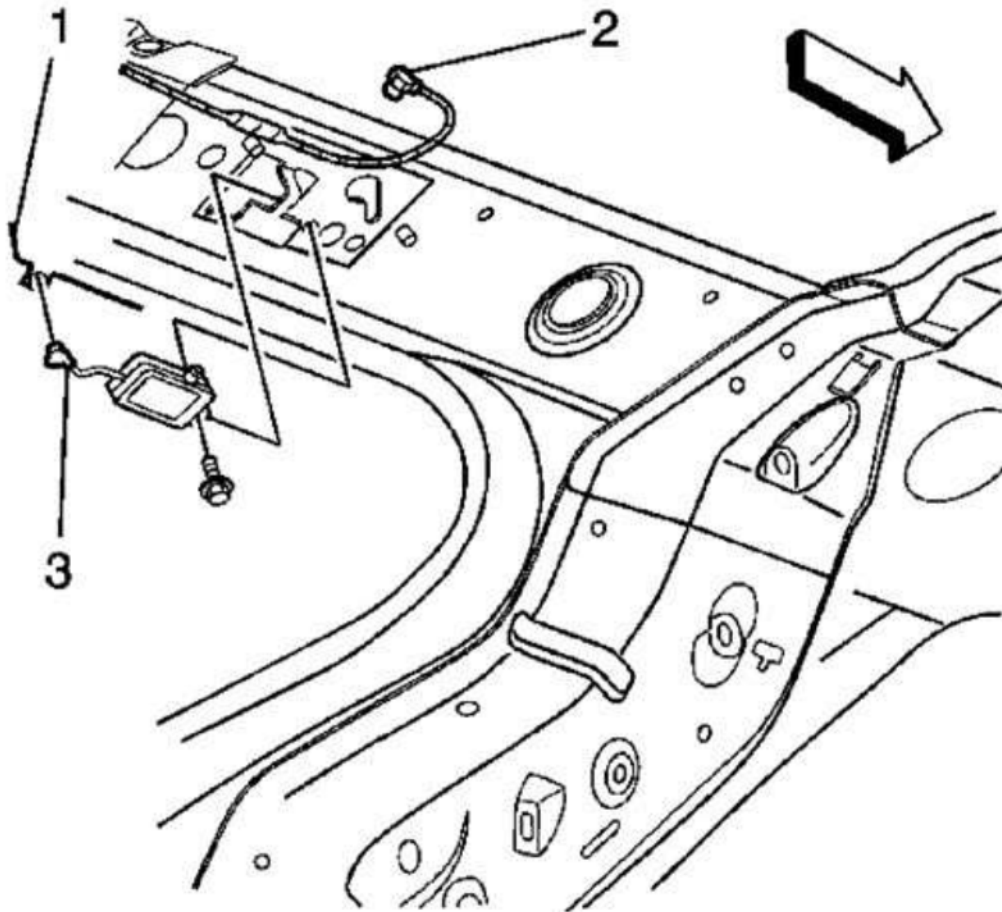


Fig. 14: View Of TV Antenna Amplifier - Rear
Courtesy of GENERAL MOTORS CORP.

2. Disconnect the electrical connectors (2,3).
3. Remove the bolt securing the antenna amplifier to the vehicle.
4. Slide the antenna amplifier out of the mounting bracket.

Installation Procedure

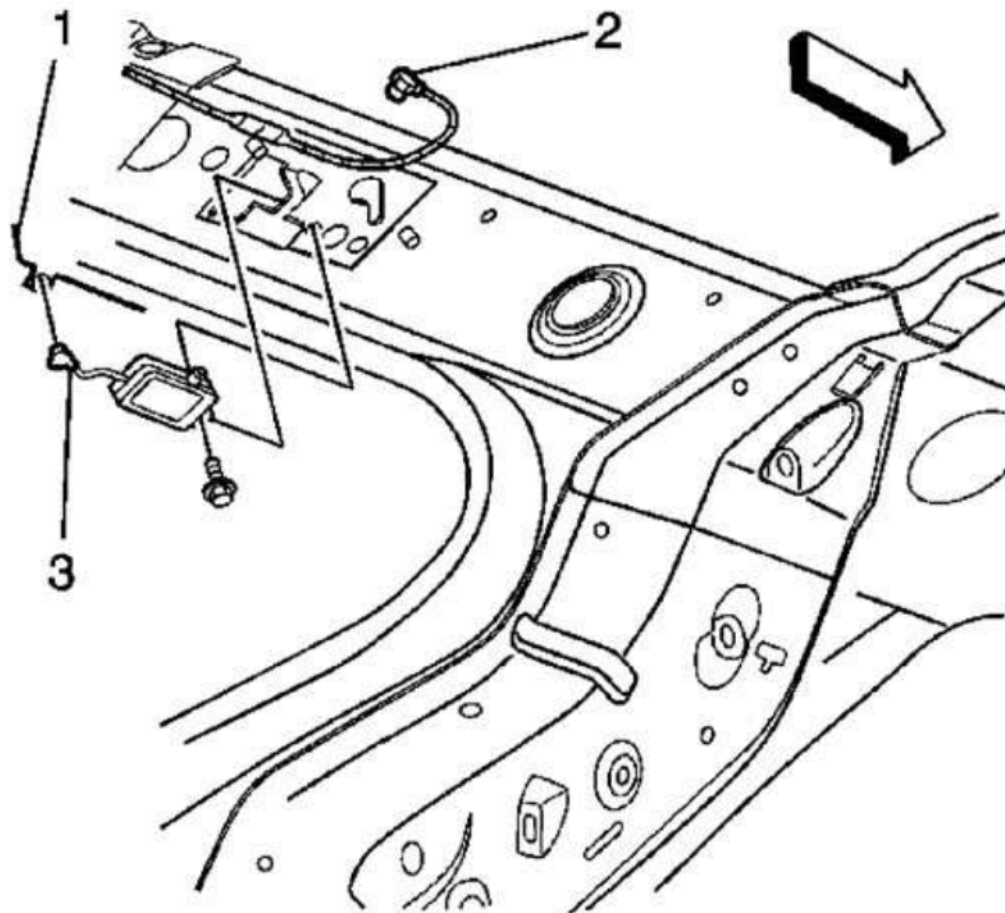


Fig. 15: View Of TV Antenna Amplifier - Rear
 Courtesy of GENERAL MOTORS CORP.

1. Slide the antenna amplifier into the mounting bracket.

NOTE: Refer to Fastener Notice in Cautions and Notices.

2. Install the bolt securing the antenna amplifier to the vehicle.

Tighten: Tighten the bolt to 9 N.m (80 lb in).

3. Connect the electrical connectors (2,3).
4. Install the headliner. Refer to Headliner Replacement in Interior Trim.

Removal Procedure

1. Remove the right rear body side trim panel. Refer to **Trim Panel Replacement - Body Side Rear** in Interior Trim.

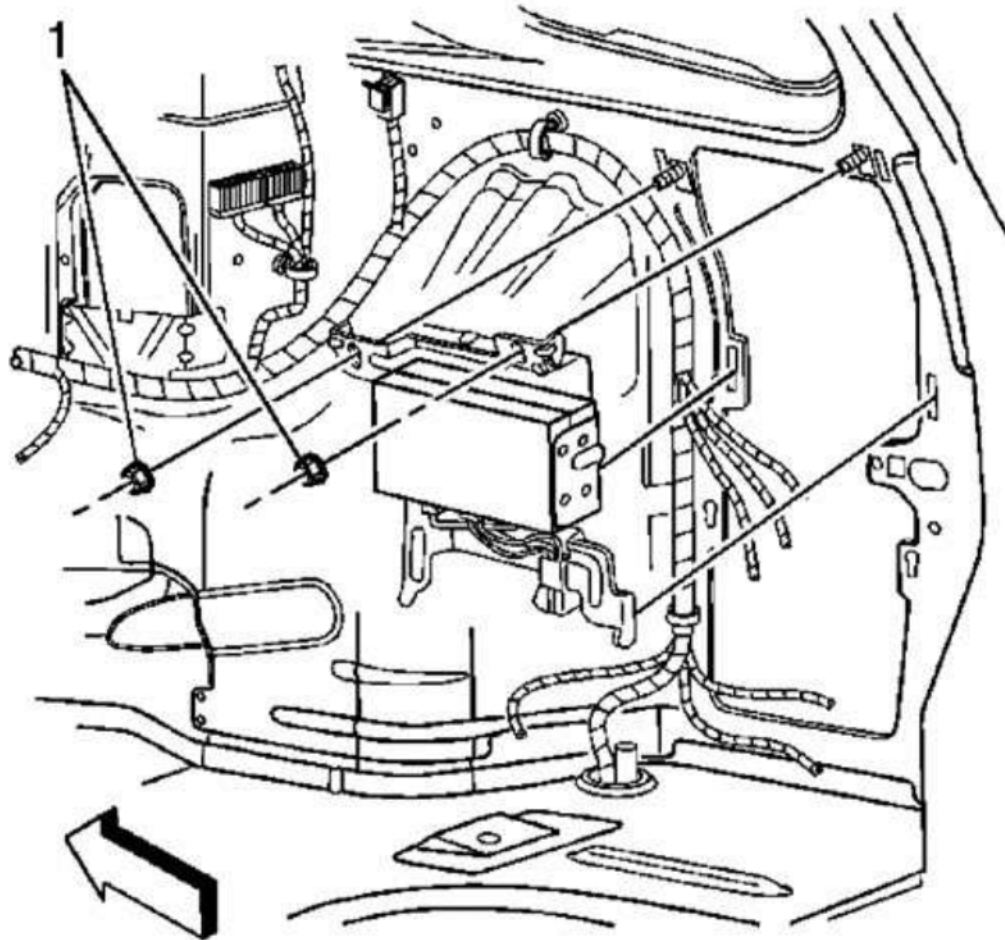


Fig. 16: View Of TV Antenna Module
Courtesy of GENERAL MOTORS CORP.

2. Remove the nuts (1) securing the module to the vehicle.
3. Disconnect the electrical connectors.
4. Remove the module.

Installation Procedure

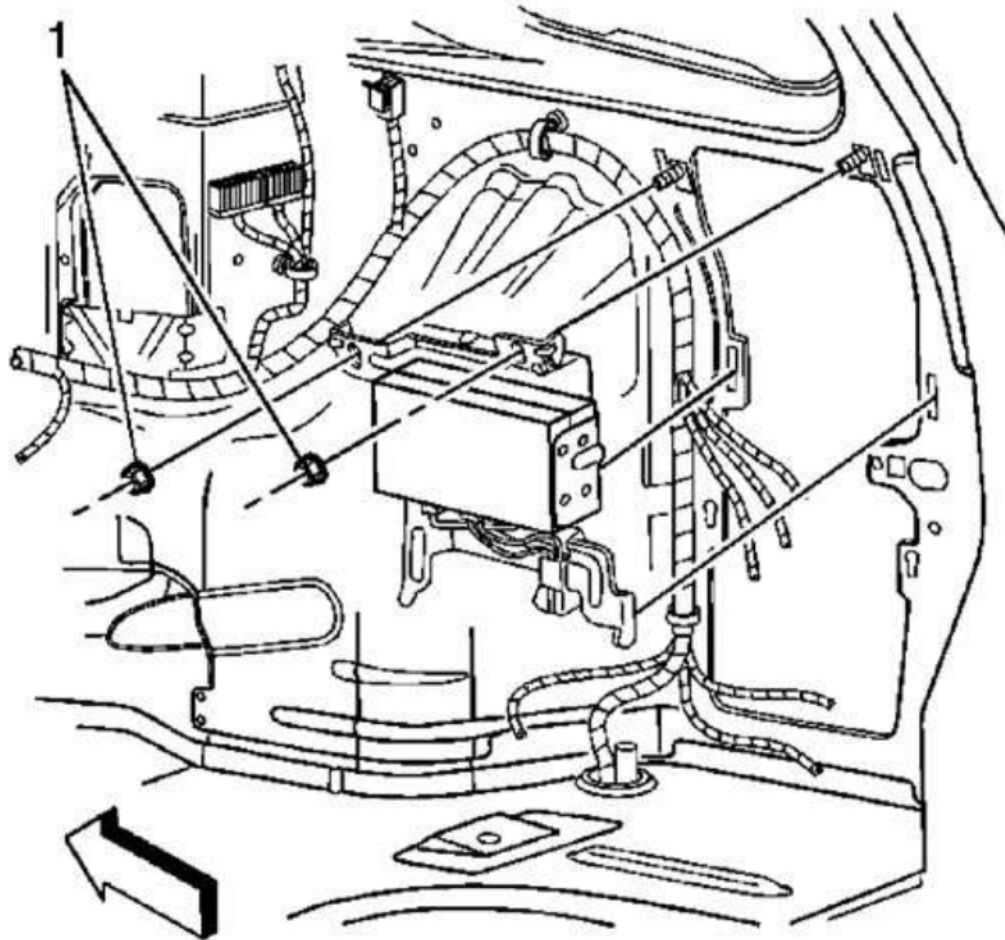


Fig. 17: View Of TV Antenna Module
Courtesy of GENERAL MOTORS CORP.

1. Connect the electrical connectors.
2. Locate the module the vehicle.

NOTE: Refer to Fastener Notice in Cautions and Notices.

3. Install the nuts (1) securing the processor to the vehicle.

Tighten: Tighten the nuts to 9 N.m (80 lb in).

4. Install the right rear body side trim panel. Refer to Trim Panel Replacement - Body Side Rear in Interior Trim.

DESCRIPTION AND OPERATION

NAVIGATION SYSTEM DESCRIPTION AND OPERATION

Operator Controls

Controls	US	Export
Band	Changes between AM/FM1/FM2/WX	
CD	Displays the CD control screen	
DVD	Displays the DVD control screen	Changes to TV mode
Tune/Seek	Allows the system to tune to the next preprogrammed station or to seek stations in the area	
Audio Adjust	Displays the audio adjust screen	Displays the audio/TV adjust screen
RPT	Press to repeat the last voice guidance	
Map	Press to enter map mode	
Route	Initiates the route planning routine	
Menu	Press to change system settings	
Tilt	Press and hold to access DVD	Press and hold to access DVD. Momentarily depress to tilt the display screen.

Navigation System Components

The navigation system contains the following components:

- Navigation radio
- Global positioning system (GPS) antenna

The export navigation system contains the following additional components:

- Vehicle information communication system (VICS) microprocessor card
- VICS optical/microwave beacon antenna
- Four TV antennae integrated into the rear window glass
- VICS FM antenna integrated into the rear glass
- TV antenna module to control antenna selection
- Two TV antenna amplifiers

Navigation Radio

This component acts as the operator interface for the navigation system, provides the data input from the operator to the navigation system and provides navigation information to the operator via the display screen. The navigation radio is located in the center of the instrument

panel. The navigation radio provides the following:

- A display screen-All navigation, audio and TV functions are displayed on this screen.
- Soft key buttons on the display to allow selection from menus and to operate the navigation system, the audio system and the export TV system
- The navigation system map with routing information displayed on the navigation radio screen
- The navigation system map with routing information displayed on the navigation radio screen
- Provides verbal guidance to the operator

Global Positioning System (GPS) Antenna

The global positioning system (GPS) antenna receives data from the GPS satellites and routes this information to the navigation radio to be processed into positional data. The GPS antenna is powered through the same coaxial cable.

TV and VICS Antenna - Export

These several antennae are conductive traces placed on the inside of the rear window glass.

TV Antenna Module - Export

The TV antenna module is located behind the trim on the right rear side of the passenger compartment. The TV antenna module is used by the navigation radio to automatically select the antenna combination that provides the strongest TV signal to the navigation radio. The TV antenna module also provides the vehicle information communication system (VICS) FM signal to the VICS card (export, w/UE9).

TV Antenna Amplifiers - Export

The TV antenna amplifiers are mounted behind the trim on each side of the rear window. The TV antenna amplifiers are powered by the TV antenna module through the same coaxial cable used to carry their signals to the TV antenna module. They are attached to 2 of the 4 TV antenna trace patterns in the rear window glass.

Auxiliary RCA Video Jacks - Export

The auxiliary RCA video jacks, used to attach a remote video device, are located at the rear of the center console. These connections may be used to provide audio and video input from a video player or camera to the navigation radio.

VICS Module - Export

The vehicle information communication system (VICS) card, an export only dealer-installed

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option, is installed inside the navigation radio. The VICS card uses signals from the optical/microwave beacon antenna and the rear glass VICS antenna via the TV antenna module to convey routing information to the navigation (NAV). The NAV either revises planned routing or relays the VICS information to the operator through the screen of the navigation radio and the voice guidance system.

VICS Optical/Microwave Beacon Antenna - Export

The vehicle information communication system (VICS) optical/microwave beacon antenna (export, w/UE9) is a dealer-installed option. The antenna, which is mounted on the right side of the instrument panel, picks up signals through the front window glass. A coaxial cable carries the power to and signals from this antenna to the navigation radio.

Audio System Interface

The navigation radio controls the audio system by sending key-pressed messages to the remote radio and displaying audio information.

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