

2-Way Remote Start and Door Lock Transmitter Package Installation (AP3)

[Accessories Part Number](#)

19213692

[Kit Usage](#)

This kit is designed to add 2-Way remote start with extended range and enhanced functionality. It is for vehicles equipped with remote vehicle start from the factory, for vehicles with option code AP3. If the vehicle is not equipped with remote vehicle start, it doesn't have the hardware needed. (The hood ajar switch and wiring is not installed.) Use a kit for vehicles equipped with option code AU0.

The 2-Way RCDLR has been designed to operate with the antenna included in the kit. The antenna type, gain, cable loss, and impedance have been chosen to meet FCC and Industry Canada requirements for radio communication equipment. Do not substitute the antenna supplied with any other part. Any modifications to the antenna or use of an antenna not designed for this system could void authorization to use this equipment.

[Kit Contents](#)

Qty	Description
1	Remote Control Door Lock, 2-Way Remote Start and Information Display Receiver (2-Way RCDLR)
1	2-Way Remote Start and Door Lock Transmitter (With Information Display)
1	2-Way Remote Start, Door Lock and Information Display Antenna
1	Factory Style 1-Way Transmitter
1	Service Part ID Label
1	2-Way Advanced Remote Start Owner Manual

[Special Tools](#)

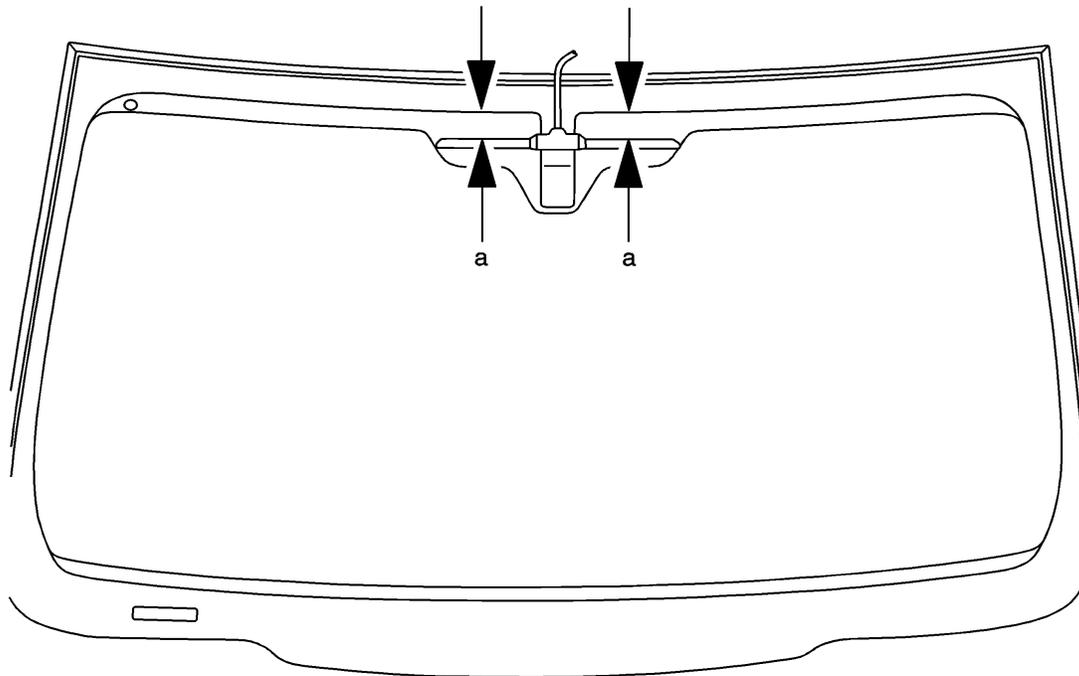
- Scan Tool with capability of communicating on GMLAN
- Service Programming System (SPS - TIS2WEB or equivalent)
- [J-46079](#) Tire Pressure Monitor Diagnostic Tool, if the vehicle is equipped with the tire pressure monitoring system (TPMS)
- Surface Cleaner (50 percent isopropyl alcohol, FS-1082 hi-flash naphtha or equivalent)
- Glass Primer and Adhesion Promoter GM P/N 12378555 (Canadian P/N 88901239)

[Procedure](#)

Note: Please review this entire procedure before trying to perform it.

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1. If the vehicle is equipped with the tire pressure monitoring system (TPMS), use the scan tool to perform the copy and paste TPM Information procedure. This will extract the TPM tire type information as well as the sensor data from the existing RCDLR prior to its replacement and store this information in the scan tool. After RCDLR replacement, the tire type and sensor data stored in the scan tool is written to the new RCDLR, negating the need to perform the tire type setup and sensor learn procedure. This must be performed BEFORE removing the old RCDLR. Refer to [Remote Control Door Lock Receiver Programming and Setup](#).
2. Physically replace the factory remote control door lock receiver (RCDLR) with the 2-Way RCDLR included in the kit. Refer to [Remote Control Door Lock Receiver Replacement](#). Do not program or reassemble yet.
3. Lower the front of the headliner to access the antenna cable routing path. Refer to [Headlining Trim Panel Replacement](#).
4. Remove the wiring cover for the rear view mirror, if equipped. It will not be reinstalled.
5. Clean the inside of the windshield above the rear view mirror where the antenna will be mounted with a surface cleaner (50 percent isopropyl alcohol, FS-1082 hi-flash naphtha or equivalent).
6. Dry the glass thoroughly using a lint-free cloth.

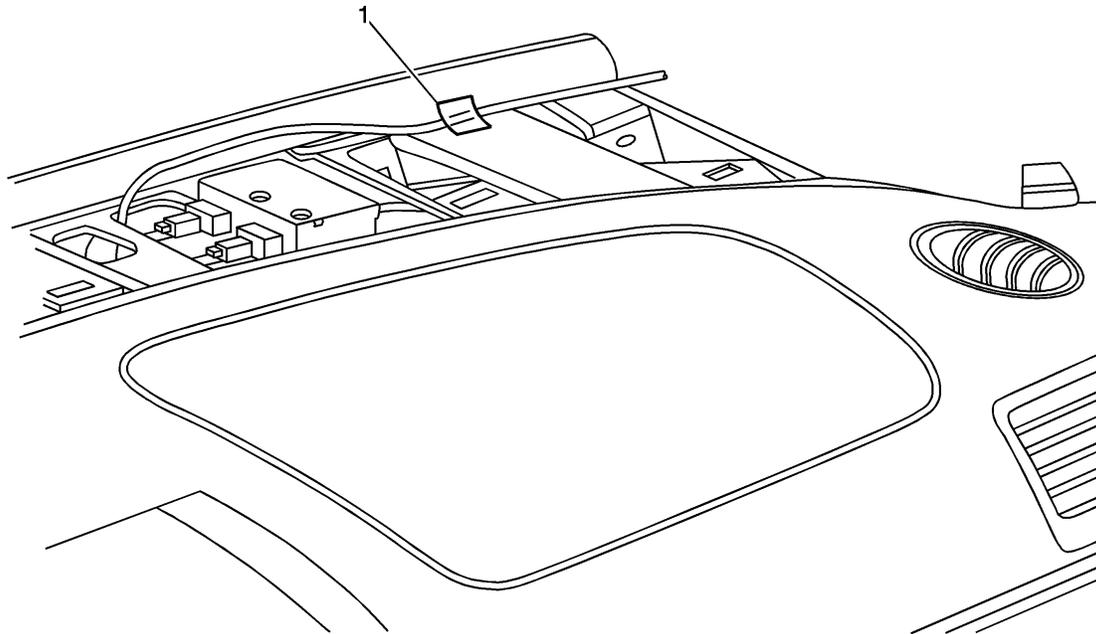
**Note:**

- The adhesion promoter must be used to assure adequate bonding of the antenna.
- Mask off or protect areas before applying the adhesion promoter.

7. Apply Glass Adhesion Promoter GM P/N 12378555 (Canadian P/N 88901239) to the windshield in the area where you will install the antenna. Follow the glass adhesion promoter instructions on the product label. The antenna will be mounted at a=28 mm (1 1/8 in) from the bottom of the solid blackout area.

Note:

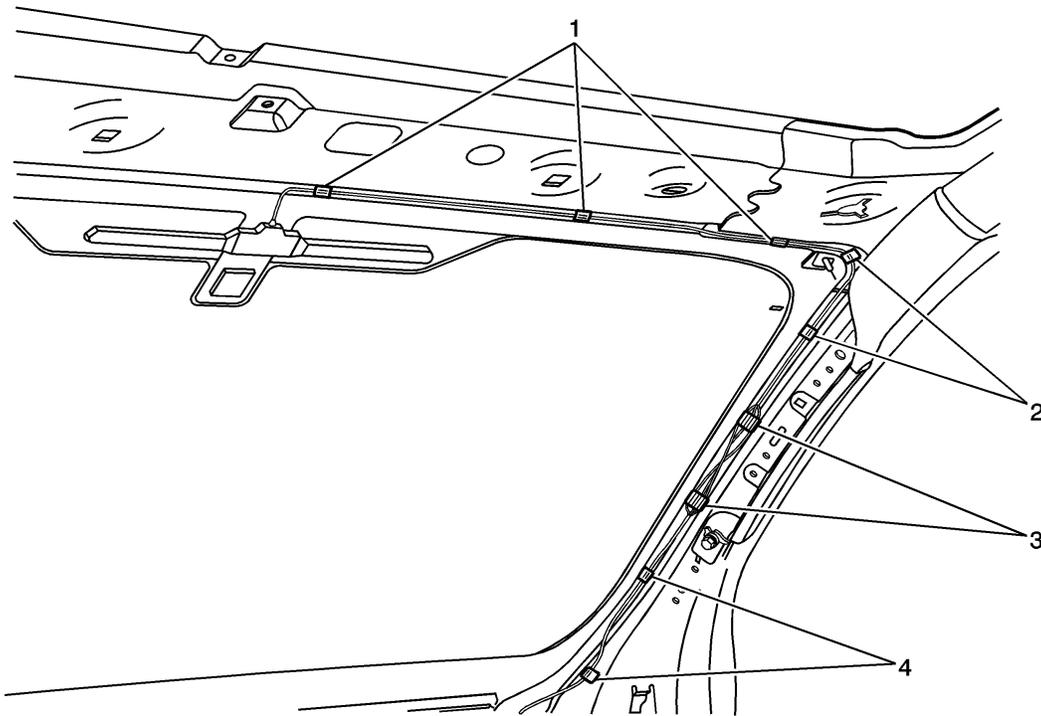
- Position the antenna according to the figure provided. A small change in placement will decrease the operating range of the system.
 - Do not touch the adhesive pad on the antenna.
8. Remove the protective film from the adhesive pad on the antenna.
 9. Align the antenna at the center of the windshield according to the figure, using a=28 mm (1 1/8 in) from the bottom of the solid blackout area.
 10. Press firmly all along the antenna, including all four corners of the adhesive pad, in order to ensure proper adhesion to the window.
 11. Hold pressure on the antenna for 10-30 seconds.
 12. Ensure that no gaps occur between the antenna adhesive pad and the windshield.



13. Connect the antenna to the 2-Way RCDLR.

Note: Ensure the antenna cable is routed away from the clip slots to avoid pinching the cable with the defroster grille clips.

14. Secure the antenna cable to the instrument panel upper trim panel as far forward as possible to avoid the defroster grille attachments with one adhesive wire wrap (1).



15. Leave some slack in the cable for the defroster grille to be installed and if the vehicle is not equipped with a sunroof, secure the antenna cable to the windshield inner side frame flange with two adhesive wire-wraps (4). If the vehicle is equipped with a sunroof, secure the antenna cable to the sunroof drain hose with two tie wraps (4).

Note: The antenna cable must be routed as far forward as possible to ensure the cable does not interfere with the roof rail airbag.

16. Route the antenna cable on the windshield mounting flange to the passenger side, and secure the cable to the windshield inner upper frame flange with three adhesive wire wraps (1).
17. If the vehicle is not equipped with a sunroof, secure the antenna cable to the windshield inner side frame flange with two adhesive wire-wraps (2). If the vehicle is equipped with a sunroof, secure the antenna cable to the sunroof drain hose with two tie wraps (2).

Note: Excess antenna cable length must be looped in a "Figure 8" no less than 100 mm (4 in) in length for the best performance of the system.

18. Loop the excess antenna cable length into a "figure 8" at least 100 mm (4 in) long and adhere the antenna cable to the windshield inner side frame flange with two adhesive wire-wraps (3). If the vehicle is equipped with a sunroof, secure the "figure 8" to the sunroof drain hose with two tie wraps (3).
19. The 2-Way RCDLR will not work until it is programmed. Using the Scan Tool and SPS terminal, program the 2-Way RCDLR. Select the controller "RCDLR Remote Control Door Lock Receiver 2 Way - with Yellow Label". Select the options that the VIN is equipped with. After the 2-Way RCDLR is programmed, if the vehicle is equipped with TPMS, perform the Paste TPM Information procedure or perform the tire type and pressure setup and sensor learn procedure. Refer to [Remote Control Door Lock Receiver Programming and Setup](#).
20. Check the 2-Way transmitter battery for full charge. Press the unlock button on the 2-Way

transmitter eight times consecutively and then check the battery gauge in the upper right corner of the LCD display. If the battery icon is flashing, shows two bars or less, or the display flickers or fades out, replace the battery. Only if the gauge reads full (three bars), the transmitter can be released to the customer. To replace the battery:

- 20.1. Use a lithium coin cell battery, type CR2450 (GM P/N 12493150).
- 20.2. Gently pry the transmitter halves apart all the way around, using a nylon trim panel tool or similar object, starting at the notch at the bottom.
- 20.3. Remove the battery and insert a new one, making sure the positive side is down (towards the back of the transmitter).
- 20.4. Snap the transmitter halves together, making sure the gap is even all the way around.
- 20.5. Check the new battery. Press the unlock button 8 times consecutively and then check the battery gauge.
21. Program the 2-Way transmitter to the new 2-Way RCDLR.
22. Press and release the left side button on the 2-Way transmitter twice within 1 second. The 2nd vehicle mode icon should appear on the LCD display (flashing 2).
23. Program the 2-Way transmitter to the new 2-Way RCDLR (second ID).
24. Press and release the left side button on the 2-Way transmitter twice within 1 second to exit 2nd vehicle mode.
25. Program the factory styled 1-Way transmitter included in the kit to the 2-Way RCDLR.
26. Turn the ignition off for 1 minute.
27. Discard the vehicle factory transmitters, as they will no longer be functional.
28. Apply the service part ID label to the bottom of the existing service parts ID label. This label is for future transmitter service part identification.
 - 28.1. The surface temperature should not be less than 65°F (21°C).
 - 28.2. Clean the surface with a suitable solvent (50 percent isopropyl alcohol, FS-1062 hi-flash naphtha or equivalent).
 - 28.3. Dry the surface with a clean cloth.
 - 28.4. Peel the liner from the backside of the label, being careful not to touch the adhesive or allow dirt or any foreign material to come in contact with it.
 - 28.5. Carefully align the label to the surface, press firmly, and smooth out.
29. Turn the ignition on.
30. Using the scan tool, retrieve any diagnostic trouble codes (DTCs) from all of the modules.
31. Clear all DTCs.
32. Remove the scan tool.
33. Operate the 2-Way and factory style 1-Way transmitters in order to verify correct system operation. Refer to [Keyless Entry System Description and Operation](#). Press a command button with the vehicle ignition ON in order to synchronize the 2-Way transmitter clock (if equipped) to the vehicle clock.
34. Reassemble. Refer to [Remote Control Door Lock Receiver Replacement](#) and [Headlining Trim Panel Replacement](#).
35. If the vehicle is equipped with TPMS, drive the vehicle above 25 mph for at least 2 minutes. This is to update the tire pressure displays.
36. Add the transmitters to the customer key rings.
37. Place the 2-Way Advanced Remote Start owner manual in instrument panel compartment.
38. Keep the vehicle dry. Allow 6-8 hours, at 15°C (60°F), for the antenna adhesive to cure after installation.

Remote Control Door Lock Receiver Programming and Setup (with Accessory 2 Way Remote)

Important:

- When replacing the remote control door lock receiver (RCDLR), the tire pressure monitoring (TPM) information can be learned to the new RCDLR in one of two ways. These two methods are reflected in the selections below. Only choose one of the methods; it is not required to do both methods when replacing the RCDLR.
- If you choose to perform the Copy and Paste TPM Information procedure, Step 1 must be performed BEFORE removing the old RCDLR. This procedure requires that specific TPM information be extracted from the old RCDLR prior to its removal.

Remote Control Door Lock Receiver Replacement -- Copy and Paste TPM Information

This procedure will learn the TPM information to the new RCDLR using the Copy and Paste function on the scan tool. This procedure will extract the TPM Tire Type information as well as the sensor data from the existing RCDLR prior to its replacement and store this information in the scan tool. After RCDLR replacement and SPS programming, the tire type and sensor data stored in the scan tool is written to the new RCDLR, negating the need to perform the tire type setup and sensor learn procedure.

This procedure should be considered as the first programming choice when replacing an RCDLR. The Copy and Paste procedure eliminates the possibility of incorrectly inputting the tire type or learning stray TPM sensors.

Important: This step must be performed prior to the removal or replacement of the old RCDLR.

1. Using a scan tool, navigate to the Copy and Paste TPM Information procedure and copy the existing TPM information from the RCDLR using the outline below. Follow the on-screen instructions after selecting Step 1:
 - Vehicle Control Systems
 - Module Setup
 - Remote Control Door Lock Receiver
 - Copy and Paste TPM Information
 - Step 1
2. At this point, install the new RCDLR.
3. Program the RCDLR - Refer to [Service Programming System \(SPS\)](#).
4. Using a scan tool, navigate to the Copy and Paste TPM Information procedure to paste the stored TPM information using the outline below. Follow the on-screen instructions after selecting Step 2:
 - Vehicle Control Systems
 - Module Setup
 - Remote Control Door Lock Receiver
 - Copy and Paste TPM Information

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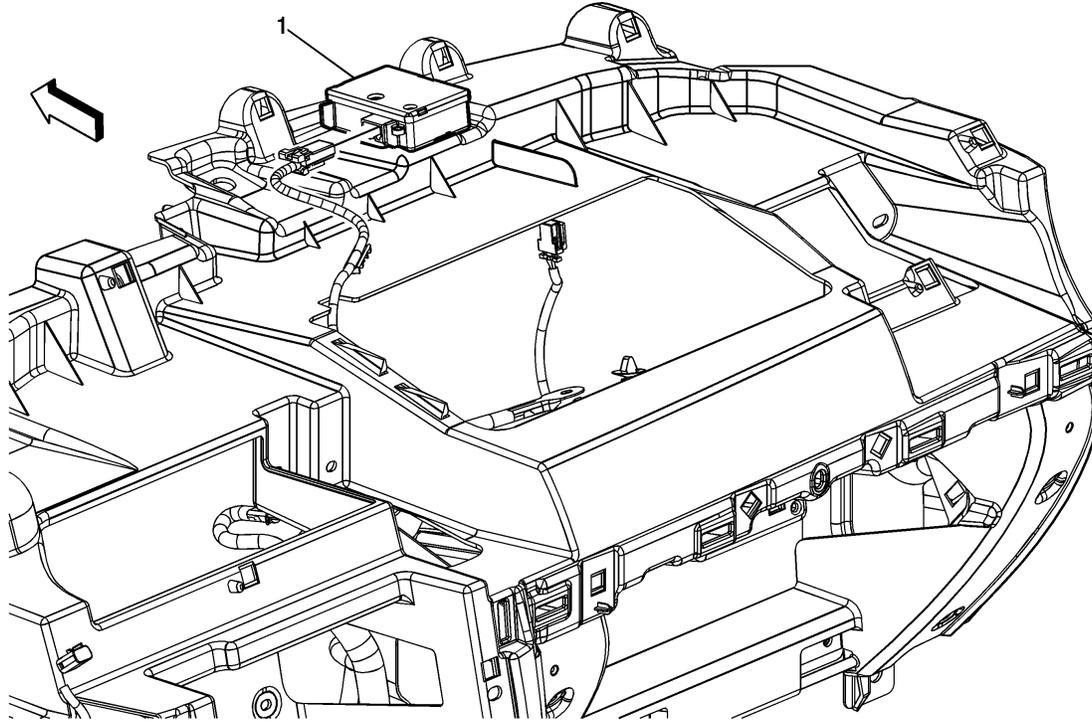
- Step 2
5. Program the keyless entry transmitters - Refer to [Remote Control Door Lock Transmitter Programming](#).

Remote Control Door Lock Receiver Replacement -- TPM Sensor Learn

This procedure will learn TPM information to the new RCDLR by manually inputting the tire type using the scan tool and performing the TPM sensor learn. This procedure should be performed if the above Copy and Paste procedure can not be completed. An example of this would be an RCDLR that is unable to communicate with the scan tool and is required to be replaced.

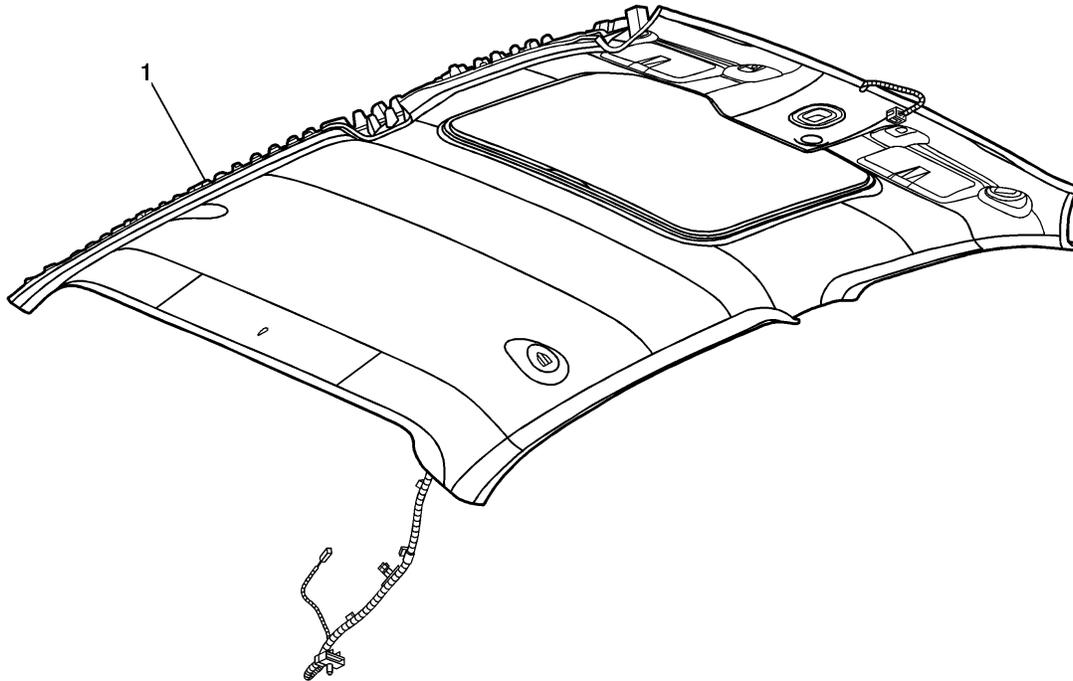
1. RCDLR Programming--Refer to [Service Programming System \(SPS\)](#).
2. Keyless Entry Transmitter Programming--Refer to [Remote Control Door Lock Transmitter Programming](#).
3. Tire Type Setup:
 - 3.1. Install a scan tool.
 - 3.2. Select Remote Control Door Lock Receiver under Module Setup in the Vehicle Control System menu.
 - 3.3. Select Tire Type/Pressure Selection.
 - 3.4. Follow the on-screen instructions.
4. Tire Pressure Monitoring Sensor Learn--Refer to [Tire Pressure Indicator Sensor Learn](#).

Remote Control Door Lock Receiver Replacement



Callout	Component Name
Preliminary Procedure	
Remove the defroster grille. Refer to Defroster Grille Replacement .	
1	Remote Keyless Entry Module Tip Disconnect the electrical connector. Refer to Control Module References for programming and setup information.

Headlining Trim Panel Replacement

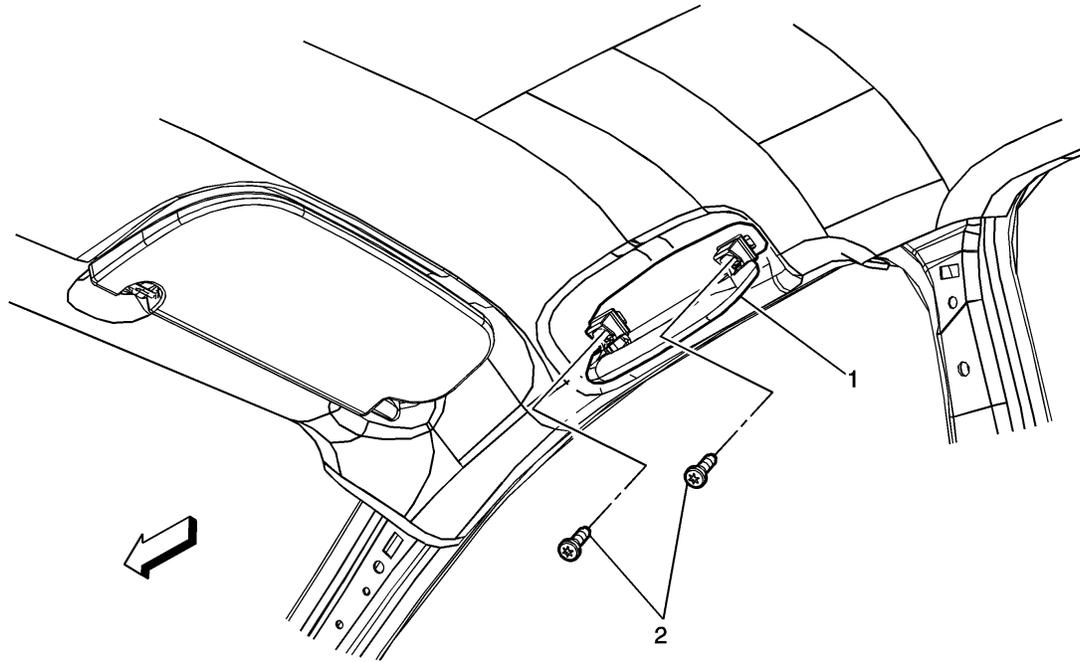


Callout	Component Name
<p>Warning: Do not attempt to repair or alter the head impact energy-absorbing material glued to the headliner or to the garnish trims. If the material is damaged, replace the headliner and/or the garnish trim. Failure to do so could result in personal injury.</p>	
<p>Caution: Use care when working around the head curtain inflator module. Sharp tools may puncture the curtain airbag. If the head curtain inflator module is damaged in any way, it must be replaced.</p>	
<p>Caution: If a vehicle is equipped with a head curtain inflator module ensure that the inflator module and tether are undamaged. If tether or curtain airbag are damaged in any way, they must be replaced.</p>	
<p>Preliminary Procedures</p> <ol style="list-style-type: none"> 1. Remove the assist handles. Refer to Assist Handle Replacement. 2. Remove the sunshades. Refer to Sunshade Replacement. 3. Remove the sunshade retainer. Refer to Sunshade Retainer Bezel Replacement. 4. Remove the A pillar trim panels. Refer to Windshield Garnish Molding Replacement. 5. Remove the coat hooks. Refer to Coat Hook Replacement. 6. Remove the upper B or lock pillar trim. Refer to Center Pillar Upper Garnish Molding Replacement or Lock Pillar Upper Garnish Molding Replacement. 	

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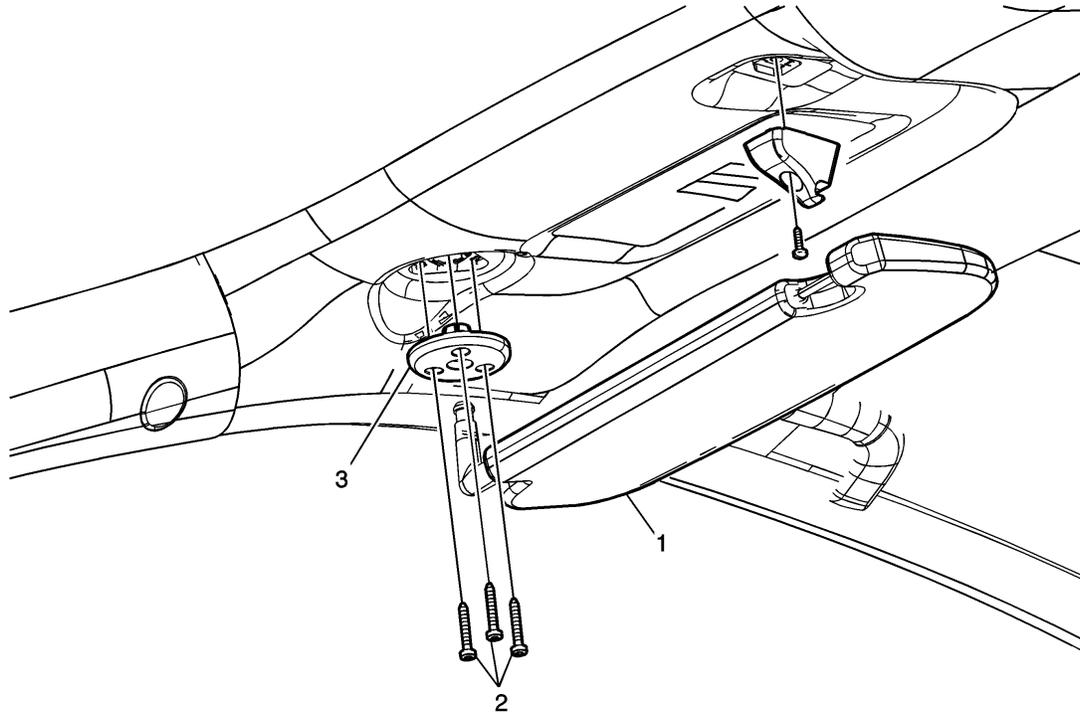
1	<p>Headliner Assembly</p> <ol style="list-style-type: none">1. Disconnect the electrical connections.2. Fully recline the front seats and move to most rearward position.3. Cover the instrument panel to protect from damage.4. Remove through the front passenger door opening.
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Assist Handle Replacement



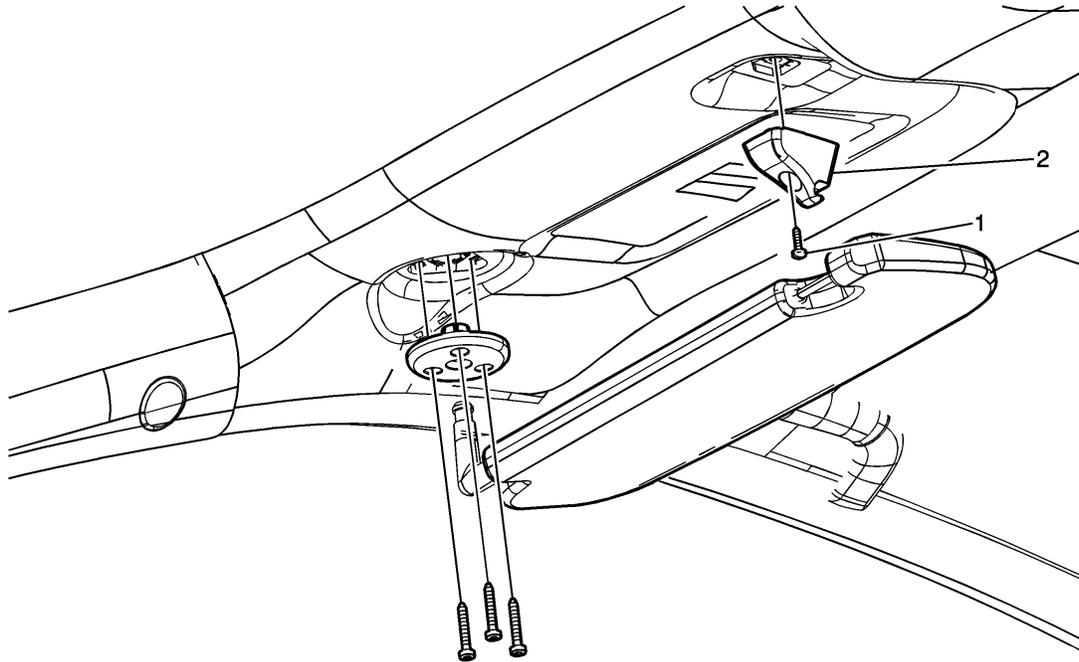
Callout	Component Name
1	Assist Handle
2	Assist Handle Screw Caution: Refer to Fastener Caution in the Preface section. Tighten 6 N·m (53 lb in)

Sunshade Replacement



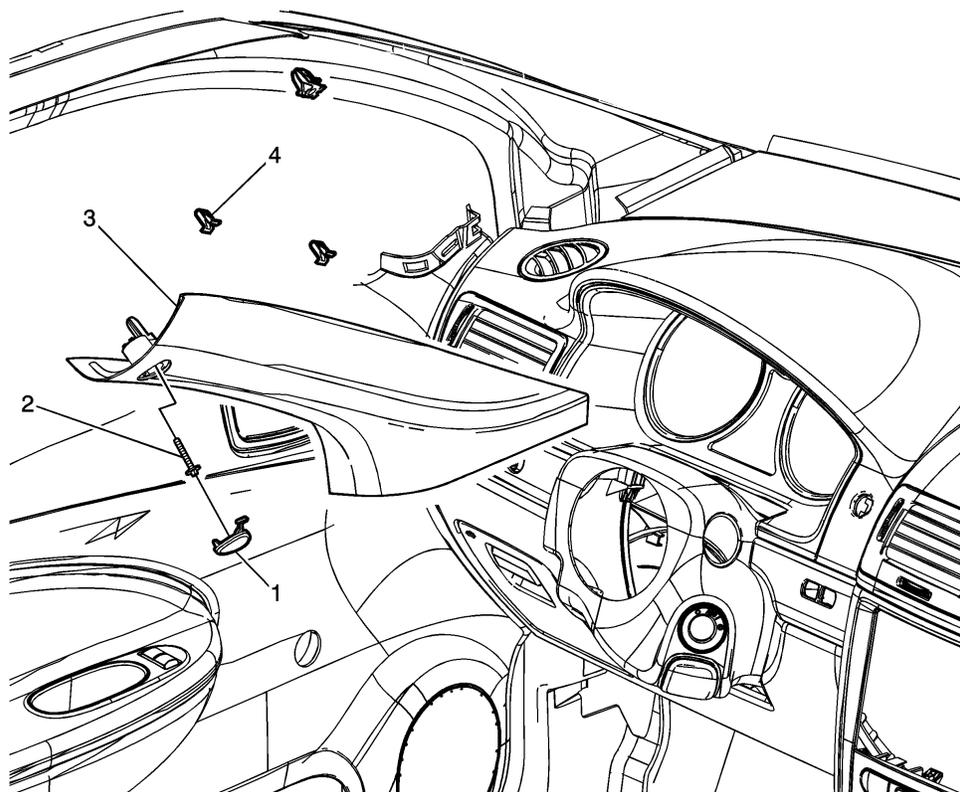
Callout	Component Name
1	Sunshade Assembly
2	Sunshade Support Screw Caution: Refer to Fastener Caution in the Preface section. Tighten 6 N·m (53 lb in)
3	Sunshade Support Bezel

Sunshade Retainer Bezel Replacement



Callout	Component Name
1	Sunshade Retainer
2	Sunshade Retainer Screw Caution: Refer to Fastener Caution in the Preface section. Tighten 6 N·m (53 lb in)

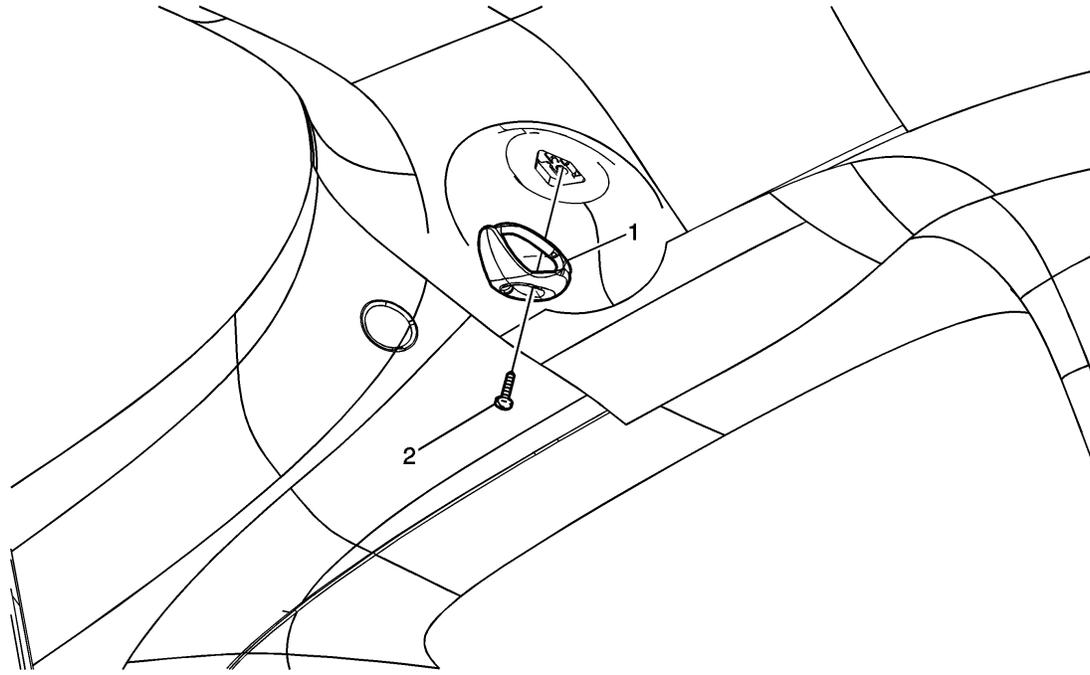
Windshield Garnish Molding Replacement



Callout	Component Name
1	Windshield Garnish Molding Bolt Hole Finish Plug
2	Windshield Garnish Molding Screw Caution: Refer to Fastener Caution in the Preface section. Tighten 2 N·m (18 lb in)
3	Windshield Garnish Molding Assembly Procedure Disconnect the electrical connector, if equipped.
4	Windshield Garnish Molding Retaining Clip

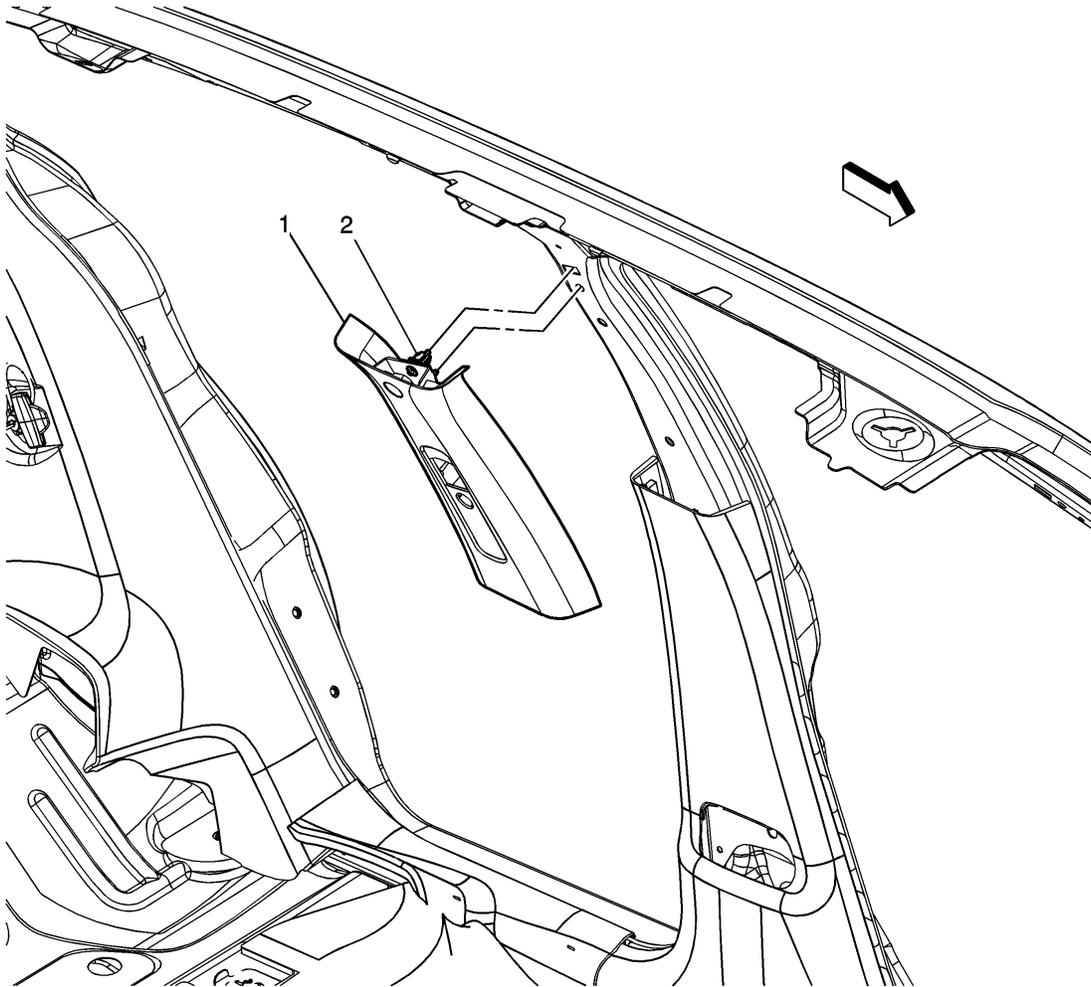
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Coat Hook Replacement



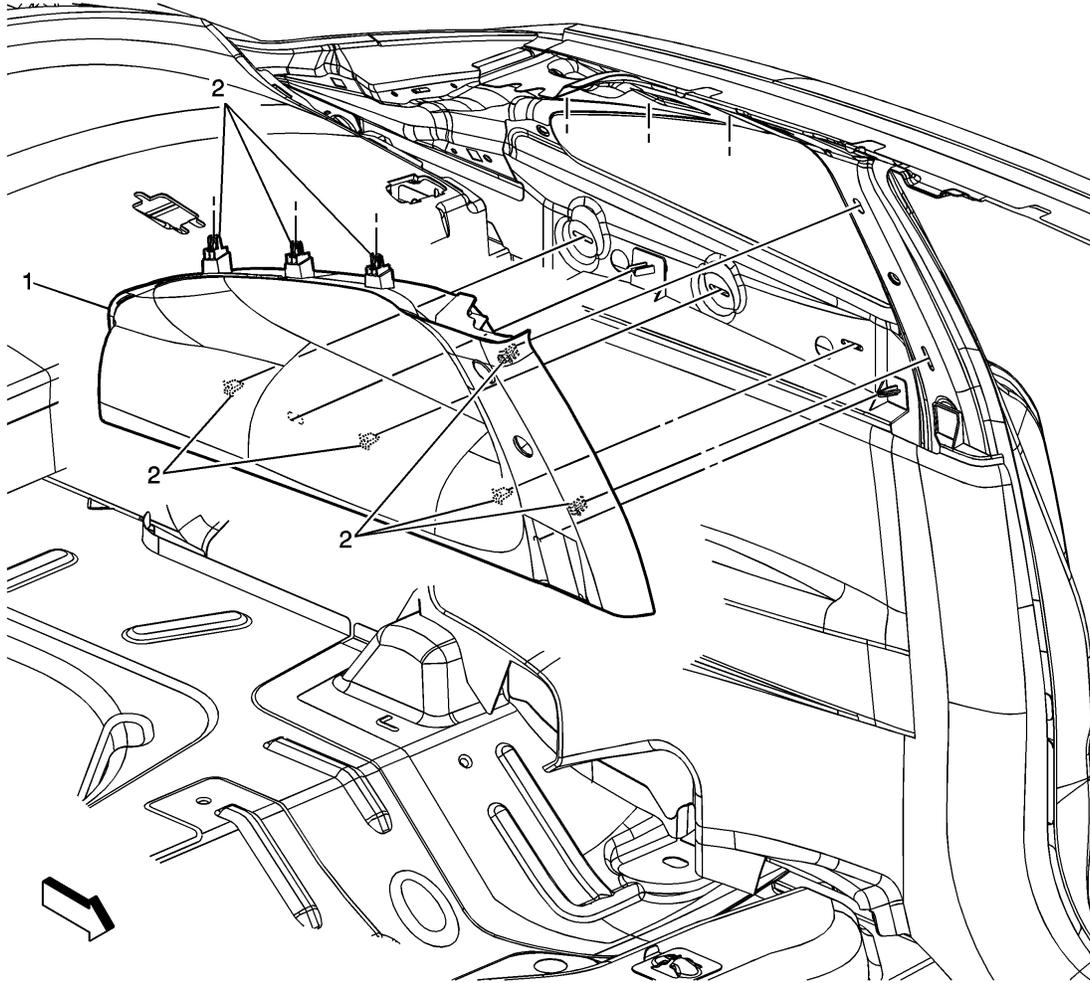
Callout	Component Name
1	Coat Hook
2	Coat Hook Screw Caution: Refer to Fastener Caution in the Preface section. Tighten 6 N·m (53 lb in)

Center Pillar Upper Garnish Molding Replacement (Sedan)



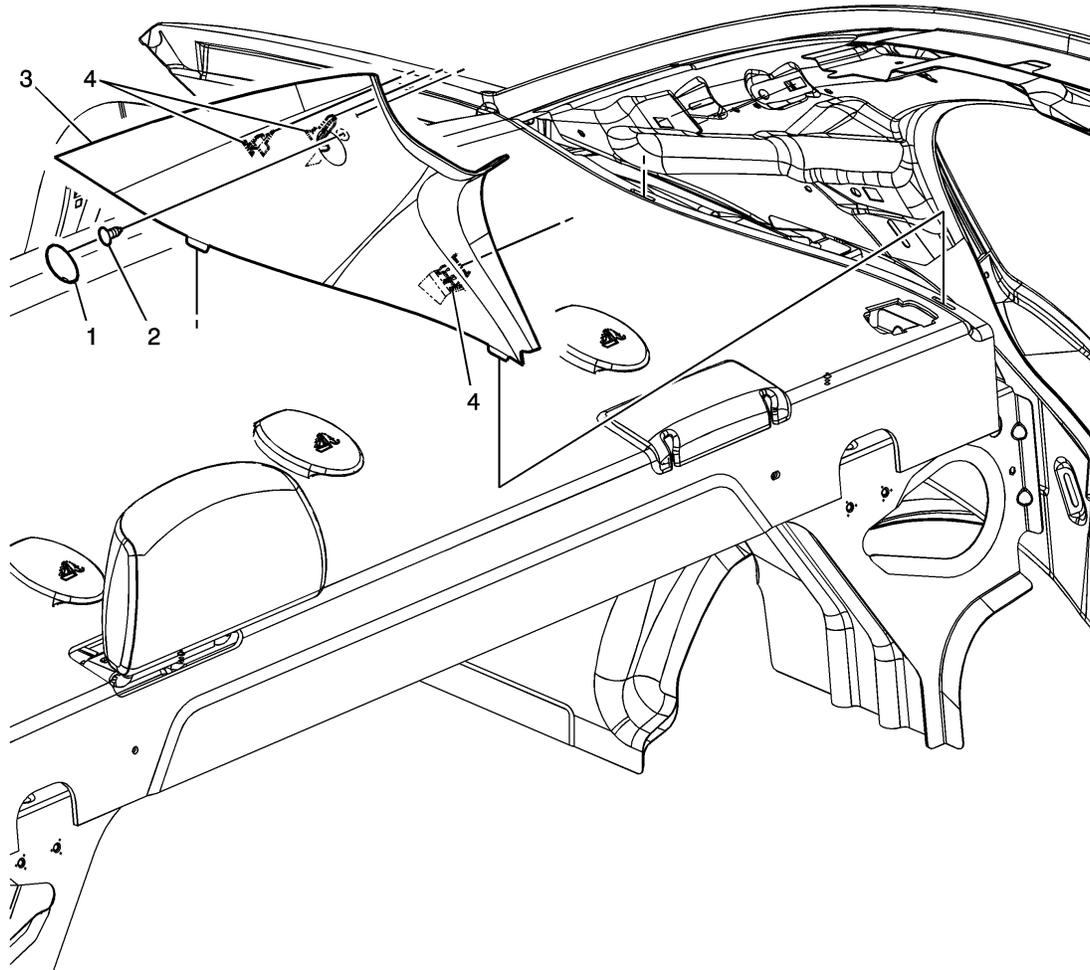
Callout	Component Name
<i>Fastener Tightening Specifications:</i> Refer to Fastener Tightening Specifications .	
1	Panel Assembly, Center Pillar Upper Tip Remove the upper seat belt bolt.
2	Screw, Panel Assembly Center Pillar Upper

Lock Pillar Upper Garnish Molding Replacement (Coupe)



Callout	Component Name
<i>Fastener Tightening Specifications:</i> Refer to Fastener Tightening Specifications .	
1	Panel Assembly, C Pillar Trim Upper
2	Clip, Retainer (Qty: 9)

Lock Pillar Upper Garnish Molding Replacement (Sedan)



Callout	Component Name
1	Screw Upper Quarter Trim Cover
2	Upper Quarter Trim Screw Caution: Refer to Fastener Caution in the Preface section. Tighten 2 N·m (18 lb in)
3	Upper Quarter Trim Panel Assembly
4	Upper Quarter Trim Clip

Keyless Entry System Description and Operation (with Accessory 2 Way Remote)

The keyless entry system is a vehicle entry device. The keyless entry system is used in conjunction with the body control module (BCM) to remotely activate certain vehicle features. Keyless entry will lock/unlock the doors or release the rear compartment lid when a corresponding button on the keyless entry transmitter is pressed. This is accomplished by the transmitter sending a radio frequency to the remote control door lock receiver (RCDLR). The RCDLR interprets the signal and activates the requested function via a serial data message to the BCM. A low transmitter or vehicle battery or radio frequency (RF) interference from aftermarket devices, such as 2-way radios, power inverters, computers, etc., may cause a system malfunction. High RF traffic areas may also cause interference that could lead to a malfunction. Keyless entry allows you to operate the following components:

- Door locks
- Rear compartment lid release
- Remote vehicle starting
- Illuminated entry lamps
- Vehicle locator/Panic alarm

The keyless entry system has the following components:

- Keyless entry transmitters
- BCM
- 2 Way Advanced Remote Start RCDLR
- 2 Way Advanced Remote Start Antenna

Keyless Entry Transmitters

Important: The keyless entry transmitter used in the 2 Way Advanced Remote Start System is unique to the system. When servicing or replacing a transmitter, ensure that the correct transmitter is used. The correct transmitter part number can be found in the Accessory section of the parts catalog. Attempting to replace an 2 Way Advanced Remote Start transmitter with a regular service part may result in a failure to program the transmitter.

The keyless entry transmitters are used to lock and unlock the vehicle door while away from the immediate area of the vehicle. The 2 Way Advanced Remote Start System is designed to operate at distances of up to three times that of the factory remote start system. Up to 4 transmitters may be programmed to a single vehicle. A single 2 Way Advanced Remote Start transmitter may be programmed to two vehicles, provided both vehicle have the 2 Way Advanced Remote Start System installed.

The 2 Way Advanced Remote Start transmitter acts as both a transmitter and a receiver. As a transmitter, it sends commands which are received by the RCDLR. As a receiver, various vehicle information is received by the transmitter and displayed on the LCD.

The 2 Way Advanced Remote Start transmitter can display the following information on the LCD:

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- Date and time (+/- 2 minutes)
- Current radio station settings
- Approximate fuel level
- Odometer (+/-1 mile)
- Tire pressure

To verify all LCD display segments are operating properly, pressing the left transmitter button for 10 seconds will briefly display all LCD segments. In some situations, it is possible for a transmitter to operate vehicle devices such as door lock or remote start, but is unable to receive information from the RCDLR for display on the LCD. This may be a normal occurrence based on conditions and no attempt should be made to correct it.

2 Way Advanced Remote Start Antenna

The 2 Way Advanced Remote Start antenna sends and receives radio frequency (RF) communications between the keyless entry transmitters and the remote control door lock receiver (RCDLR). The keyless entry antenna also receives RF signals from the tire pressure monitoring (TPM) sensors located at each wheel and sends this information to the RCDLR.

A coax antenna lead connects the antenna to the RCDLR. When a transmitter button is pressed, the RF signal sent by the transmitter is received by the antenna and the communications are inputted to the RCDLR. The RCDLR also sends information to the transmitters via the antenna.

Remote Control Door Lock Receiver (RCDLR)

The remote control door lock receiver (RCDLR) is a multifunction module that operates both the keyless entry system as well as the tire pressure monitoring (TPM) system. When an RF message is received from a keyless entry transmitter, the RCDLR interprets this signal and will request via serial data that the body control module (BCM) perform the specific function, i.e. door lock, door unlock, or vehicle locate. The RCDLR also sends messages out to the 2 Way Advanced Remote Start transmitter.

Unlock Driver Door Only

Momentarily press the transmitter UNLOCK button in order to perform the following functions:

- Unlock only the driver door.
- Illuminate the interior lamps for a determined length of time, or until the ignition is turned ON.
- Flash the exterior lights, if enabled through personalization.
- Disarm the Content Theft Deterrent (CTD) System, if equipped.
- Deactivate the CTD system when in the alarm mode.
- Indicate the driver door is unlocked on the transmitter LCD - The LCD driver door segment will disappear

Unlock All Doors - Second Operation

Momentarily press the transmitter UNLOCK button a second time, within 5 seconds of the first

press, to perform the following function:

- Unlock the remaining doors.
- Indicate all doors are unlocked on the transmitter LCD - All LCD door segments will disappear

Lock All Doors

Press the transmitter LOCK button to perform the following functions:

- Lock all vehicle doors.
- Immediately turn OFF the interior lamps.
- Flash the exterior lights, if enabled through personalization.
- Chirp the horn, if enabled through personalization.
- Arm the CTD System, if equipped.
- Indicate all doors are locked on the transmitter LCD - All LCD door segments will appear

Rear Compartment Lid Release

Press the transmitter rear compartment lid release button to perform the following function:

- Open the rear compartment lid
- Indicate the rear compartment lid is ajar on the transmitter LCD - Circular trunk ajar LCD segment will appear

Vehicle Locator/Panic Alarm

A single press of the panic button performs the following functions. Some functions may be dependent on personalization settings:

- Pulse the horn three times
- Flash the exterior lamps three times
- Display the horn segment on the transmitter LCD

A press and hold of the panic button performs the following functions:

- Illuminate the interior lamps
- Flash the horn segment on the transmitter LCD
- Pulse the horn and flash the exterior lamps for 30 second or until the following conditions occur:
 - The panic button is pressed
 - The ignition switch is turned to the RUN position with a valid key

Remote Vehicle Start (RVS)

The remote vehicle start (RVS) function allows engine starting while not in the vehicle. It also

allows the vehicle HVAC system and other vehicle systems to enable, providing a comfortable vehicle upon entry. The RVS sequence begins by pressing and releasing the lock button and then pressing and holding the RVS buttons on the keyless entry transmitter. The turn signal lamps will illuminate to indicate the vehicle has received the remote start request. Each time an RVS is performed, the vehicle doors are locked, however they may then be unlocked/locked with the transmitter or vehicle key at any time. Once activated, the engine is allowed to run for 10 minutes. The RVS time may be extended by an additional 10 minutes by again pressing and releasing the lock button and then pressing and holding the RVS buttons on the transmitter. This feature is called a RVS continue and allows a maximum of 20 minutes of engine running. If the RVS continue is performed at 7 minutes into the initial 10 minute time-out, a total of 17 minutes of engine running would occur. The RVS event may be suspended at any time by pressing only the RVS button on the transmitter or by entering the vehicle and turning ON the hazard lamps.

In between ignition cycles, only 2 RVS events may occur or be attempted. Once 2 events or attempts have been made, future RVS events will be suspended until the vehicle is started using the ignition. The LCD display on the 2 Way Advanced Remote Start transmitter will count down the remaining minutes in the RVS sequence. If an RVS attempt is not allowed, the LCD will flash all dashes when pressing the remote start button on the transmitter.

Enable/Disable RVS

Using the driver information center (DIC), RVS may be enabled or disabled as a part of vehicle personalization. Refer to the vehicle owners manual for more information.

Hood Ajar Switch

The hood switch provides status of the hood to the BCM for RVS purposes. The switch is integrated into the hood latch assembly. The hood ajar switch provides 2 separate inputs to the BCM. These separate inputs allow the BCM to actively monitor for a hood ajar switch fault.

RVS Circuit Description

The RCDLR receives a signal from the keyless entry transmitter indicating a RVS request. A message is then sent to the BCM which determines if a crank request message will be sent to the ECM to allow engine starting. To determine if conditions are correct for an RVS event, the BCM will ensure the following conditions are met:

- All vehicle doors are closed.
- A valid hood ajar switch closed signal is present.
- The doors are locked.
- The hazard switch is OFF.
- The vehicle power mode is correct.
- No content theft deterrent (CTD) alarm triggers are present.
- The vehicle is not in valet mode, if equipped.

When the BCM determines all conditions meet those required for an RVS event, a message is sent via serial data to the ECM. The ECM relies on the RVS message from BCM to enable RVS when the crank request signal is received. If the ECM does not receive a valid RVS message, it will not attempt to start the engine. While the ECM is in RVS mode it will suspend engine operation if any of the following additional conditions occur:

- Vehicle speed is greater than 0.
- Transmission is not in PARK.
- Excessive engine coolant temperature.
- Low oil pressure.
- The malfunction indicator lamp (MIL) is commanded ON.
- Engine crank time is greater than 30 seconds.
- Excessive engine speed.
- Accelerator pedal position too high.
- Remote start timer equals 0.
- Immobilizer system indicates tamper.

Keyless Entry Personalization

Vehicle lock/unlock functions and remote vehicle start (RVS) settings may be personalized. For functional descriptions and personalization instructions, refer to the vehicle owners manual.

Rolling Code

The Keyless Entry System uses rolling code technology. Rolling code technology prevents anyone from recording the message sent from the transmitter and using the message in order to gain entry to the vehicle. The term "rolling code" refers to the way that the Keyless Entry System sends and receives the signals. The transmitter sends the signal in a different order each time. The transmitter and the remote control door lock receiver (RCDLR) are synchronized to the appropriate order. If a programmed transmitter sends a signal that is not in the order that the RCDLR expects, then the transmitter is out of synchronization. This occurs after 256 presses of any transmitter button when it is out of range of the vehicle.

Automatic Synchronization

The keyless entry transmitters do not require a manual synchronization procedure. If needed, the transmitters automatically re-synchronize when any button on the transmitter is pressed within range of the vehicle. The transmitter will operate normally after the automatic synchronization.