

## 2004 RESTRAINTS

### Seat Belts - Vue

## SPECIFICATIONS

### FASTENER TIGHTENING SPECIFICATIONS

#### Fastener Tightening Specifications

Application	Specification	
	Metric	English
<b>IMPORTANT:</b> Apply Permatex(R) 24200 or equivalent on all seat belt fasteners prior to installation.		
Center Rear Seat Belt Retractor Cover-to-Seat Bolt	20 N.m	15 lb ft
Center Rear Seat Belt Retractor-to-Seat Bolt	45 N.m	33 lb ft
Center Rear Seat Buckle-to-Seat Bolt	50 N.m	37 lb ft
Child Seat Tether Anchor Bolt-to-Seat	25 N.m	18 lb ft
Front Seat Belt Buckle-to-Seat Bolt	45 N.m	33 lb ft
Front Seat Belt Buckle Quick Connect-to-Seat Bolt	50 N.m	37 lb ft
Front Seat Belt Height Adjuster-to-Pillar	40 N.m	30 lb ft
Front Seat Belt Retractor-to-Center Pillar Bolt	45 N.m	33 lb ft
Front Seat Side Trim Screws	2.5 N.m	22 lb in
Rear Seat Belt Retractor-to-Center Pillar Bolt	45 N.m	33 lb ft
Rear Seat Belt-to-Floor Bolt	45 N.m	33 lb ft
Rear Seat Belt Upper Guide-to-Pillar Bolt	45 N.m	33 lb ft

## SCHEMATIC AND ROUTING DIAGRAMS

### SEAT BELT SCHEMATIC ICONS

#### Seat Belt Schematic Icons

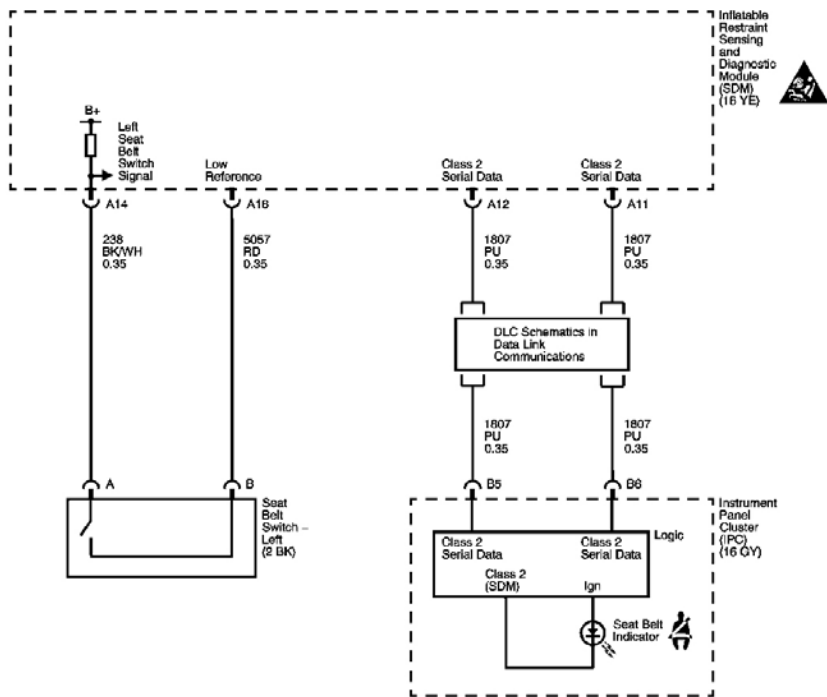
Icon	Icon Definition
	<b>CAUTION:</b> When performing service on or near the SIR components or the SIR wiring, the SIR system must be disabled. Refer to SIR Disabling and Enabling Zones. Failure to observe the correct procedure could cause deployment of the SIR components, personal injury, or unnecessary SIR system repairs.



**SEAT BELT SCHEMATICS**

LOC

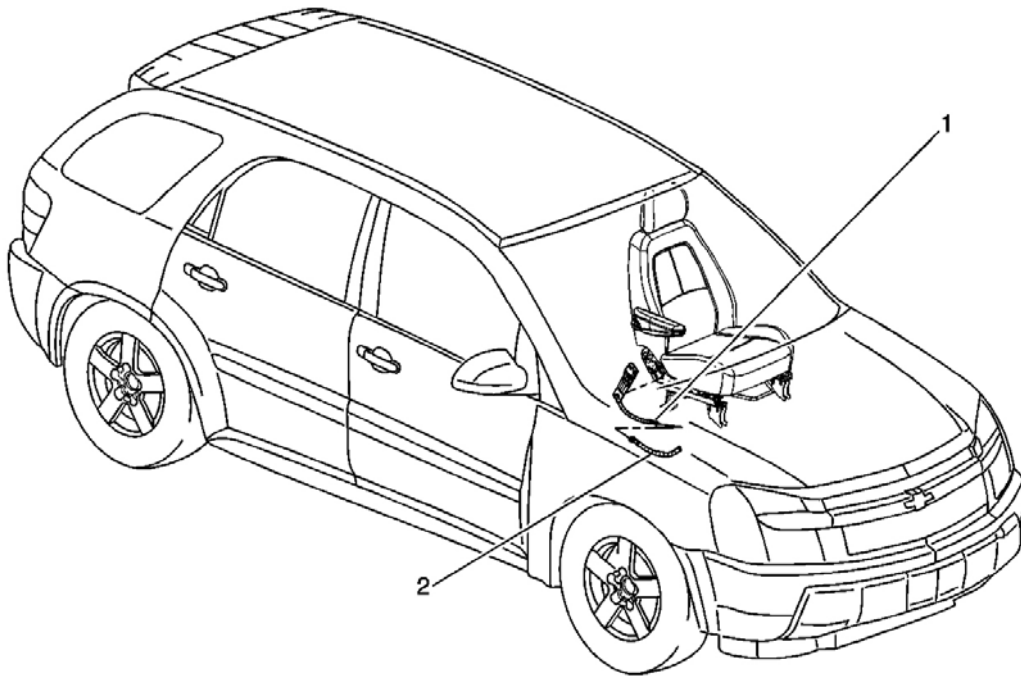
DESC



**Fig. 1: Seat Belt Schematics**  
 Courtesy of GENERAL MOTORS CORP.

## COMPONENT LOCATOR

### SEAT BELT COMPONENT VIEWS



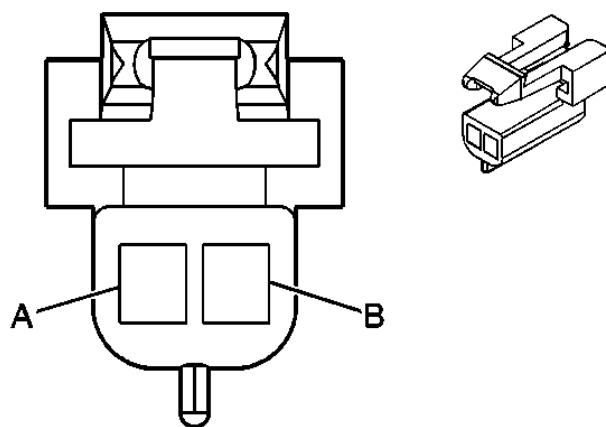
**Fig. 2: Seat Belt Component View**  
 Courtesy of GENERAL MOTORS CORP.

**Callouts For Fig. 2**

Callout	Component Name
1	Seat Belt Switch - Left (2 BK)
2	I/P Wiring Harness

**SEAT BELT CONNECTOR END VIEWS**

**Seat Belt Switch - Left Terminal Identification**



<b>Connector Part Information</b>		<ul style="list-style-type: none"> <li>• 120052832</li> <li>• 2-Way F Metri-Pack 150 Series (BK)</li> </ul>	
<b>Pin</b>	<b>Wire Color</b>	<b>Circuit Number</b>	<b>Function</b>
A	BK/WH	238	Left Seat Belt Switch Signal
B	RD	5057	Low Reference

## DIAGNOSTIC INFORMATION AND PROCEDURES

### DIAGNOSTIC STARTING POINT - SEAT BELTS

Begin the system diagnosis by reviewing the **Seat Belt System Description and Operation** . Reviewing the description and operation information will help you determine the correct symptom diagnostic procedure when a malfunction exists. Reviewing the description and operation information will also help you determine if the condition described by the customer is normal operation.

Refer to **Symptoms - Seat Belts** in order to identify the correct procedure for diagnosing the system and where the procedure is located.

### OPERATIONAL AND FUNCTIONAL CHECKS

#### Front and Rear Seat Belt Retractors

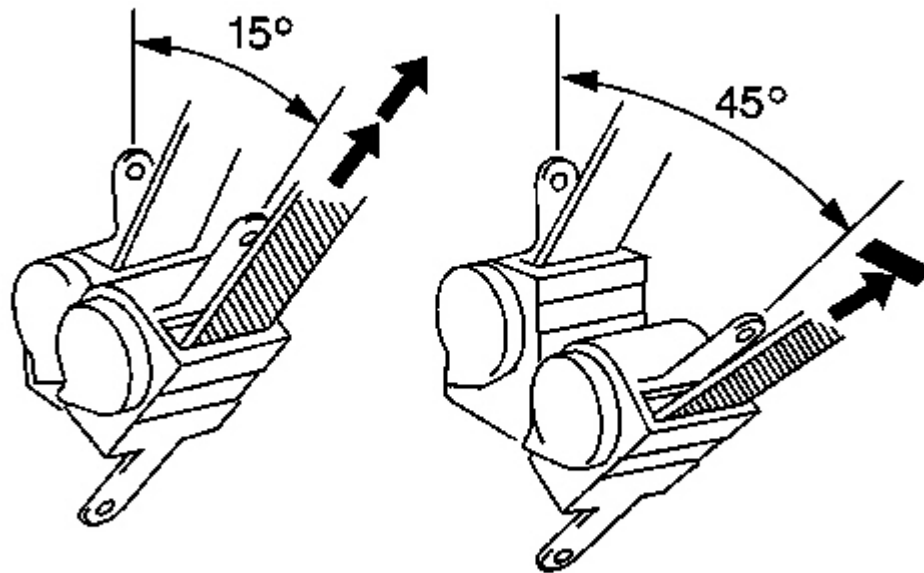
Front and rear seat belt retractors will lock under the following conditions:

- The vehicle exceeds a 15-degree angle
- The vehicle exceeds 0.60 g of deceleration force
- The webbing is pulled out of the retractor rapidly
- During hard cornering or while descending a winding downhill grade

- While braking to stop at a downhill intersection

All retractors will unlock when 25.4 mm (1 in) of the belt is fed back into the retractor.

### Static Test



**Fig. 3: Tilting Seat Belt Retractor**  
Courtesy of GENERAL MOTORS CORP.

1. Remove the retractor assembly.
2. Tilt the retractor slowly.
3. Verify that the belt can be pulled out of the retractor at an inclination of 15 degrees or less, but not at an inclination of 45 degrees or more.

### Static Test Seat Belts with Child Hold-Out Mechanism (CHOM) Feature

#### Front Passenger Seat, Rear Outboard Seats

1. Pull the seat belts all the way out of the retractor.
2. Feed a few inches of belt back into the retractor and listen for the audible clicking of the child hold-out mechanism (CHOM) system.

3. Verify that the belt cannot be pulled out of the retractor.
4. Feed the seat belt all of the way into the retractor and verify that the belt returns to normal operating conditions.

## Safety Belt Operational Checks

### Front and Rear Restraints

The front seats and rear seats have a three-point seat belt system with a seat belt retractor. The rear seat latch plate should move up and down easily on the belt. An audible click should be heard when the front or rear latch plate is inserted into the buckle. Inspect the attachment of the latch plate to the buckle by grasping the belt and pulling firmly. The belt should disconnect easily when the button on the buckle is pushed in.

## SYMPTOMS - SEAT BELTS

**IMPORTANT: Review the seat belt system description and operation in order to familiarize yourself with the system and how it functions. Refer to Seat Belt System Description and Operation .**

### Visual/Physical Inspection

- Inspect for aftermarket devices which could affect the operation of the seat belt system. 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 the following symptom diagnostic procedure in order to diagnose the symptom:

### **Seat Belt Indicator Circuit Malfunction**

## SEAT BELT INDICATOR CIRCUIT MALFUNCTION

### Seat Belt Indicator Circuit Malfunction

Step	Action	Yes	No
<b>Schematic Reference: <u>Seat Belt Schematics</u></b>			
1	Did you review the <b><u>Seat Belt System Description and Operation</u></b> and perform the necessary inspections?	Go to <b>Step 2</b>	Go to <b><u>Symptoms - Seat Belts</u></b>

2	<ol style="list-style-type: none"> <li>1. Turn ON the ignition, with the engine OFF.</li> <li>2. Monitor the fasten safety belt indicator while buckling and unbuckling the driver seat belt.</li> </ol> <p>Does the system operate properly?</p>	<p>Go to <b>Testing for Intermittent Conditions and Poor Connections</b> in Wiring Systems</p>	<p>Go to <b>Step 3</b></p>
3	<p>With a scan tool, observe the Driver Side Belt Status parameter in the SIR scan tool data list.</p> <p>Does the scan tool indicate that the Driver Side Belt Status parameter displays Buckled?</p>	<p>Go to <b>Step 4</b></p>	<p>Go to <b>Step 7</b></p>
4	<ol style="list-style-type: none"> <li>1. Turn OFF the ignition.</li> <li>2. Disconnect the inflatable restraint sensing and diagnostic module (SDM) connector. Refer to <b>Inflatable Restraint Sensing and Diagnostic Module Replacement</b> in SIR.</li> <li>3. Disconnect the seat belt switch - LF connector. Refer to <b>Seat Belt Buckle Replacement - Front (Side Mount)</b> or <b>Seat Belt Buckle Replacement - Front (Quick Connect)</b>.</li> <li>4. Test the seat belt switch - LF signal circuit for an open or a high resistance.</li> </ol> <p>Did you find and correct the condition?</p>	<p>Go to <b>Step 10</b></p>	<p>Go to <b>Step 5</b></p>
5	<p>Test the seat belt switch - LF ground circuit for an open or high resistance.</p> <p>Did you find and correct the condition?</p>	<p>Go to <b>Step 10</b></p>	<p>Go to <b>Step 6</b></p>
6	<ol style="list-style-type: none"> <li>1. Test the seat belt switch - LF for an open.</li> <li>2. Replace the seat belt switch - LF if it is malfunctioning. Refer to <b>Seat Belt Buckle Replacement - Front (Side Mount)</b> or <b>Seat Belt Buckle Replacement - Front (Quick Connect)</b>.</li> </ol> <p>Did you find and correct the condition?</p>	<p>Go to <b>Step 10</b></p>	<p>Go to <b>Step 9</b></p>
7	<ol style="list-style-type: none"> <li>1. Turn OFF the ignition.</li> <li>2. Disconnect the inflatable restraint sensing and diagnostic module (SDM) connector. Refer to <b>Inflatable Restraint Sensing and Diagnostic Module Replacement</b> in SIR.</li> <li>3. Disconnect the seat belt switch - LF connector. Refer to <b>Seat Belt Buckle Replacement - Front (Side Mount)</b> or <b>Seat Belt Buckle Replacement - Front (Quick Connect)</b>.</li> <li>4. Test the seat belt switch - LF signal circuit for a</li> </ol>		



	short to voltage or a short to ground.		
	Did you find and correct the condition?	Go to <b>Step 10</b>	Go to <b>Step 8</b>
8	<ol style="list-style-type: none"> <li>1. Test the seat belt switch - LF for a short.</li> <li>2. Replace the seat belt switch - LF if it is malfunctioning. Refer to <b><u>Seat Belt Buckle Replacement - Front (Side Mount)</u></b> or <b><u>Seat Belt Buckle Replacement - Front (Quick Connect)</u></b> .</li> </ol>		
	Did you find and correct the condition?	Go to <b>Step 10</b>	Go to <b>Step 9</b>
9	Replace the instrument panel cluster (IPC). Refer to <b><u>Instrument Panel Cluster (IPC) Replacement</u></b> in Instrument Panel, Gages, and Console. Did you complete the replacement?	Go to <b>Step 10</b>	-
10	Operate the system in order to verify the repair. Did you find and correct the condition?	System OK	Go to <b>Step 3</b>

## SEAT BELT SERVICE PRECAUTIONS

- Do not bleach or dye the seat belt webbing. Use only the following items in order to clean the seat belt webbing:
  - A mild soap and water solution
  - A soft brush or cloth
- Keep sharp edges and damaging objects away from the seat belts. Do not bend or damage any part of the seat belt buckle or latch plate. Replace any seat belts that are cut or otherwise damaged in any manner.
- Use only the correct seat belt anchor fasteners. Begin tightening the seat belt anchor fasteners by hand in order to ensure that the bolt is threaded straight. Tighten the correct seat belt anchor nut to the correct torque value. Refer to **Fastener Tightening Specifications** .
- Verify that the replacement part number is correct for the vehicle at that seating position. Do not substitute a seat belt from a different seating position.
- Replace any seat belts that have a visible Caution label instructing replacement.

## REPAIR INSTRUCTIONS

### REPAIRS AND INSPECTIONS REQUIRED AFTER A COLLISION

**CAUTION:** Restraint systems can be damaged in a collision. To help avoid injury and ensure that all parts in need of replacement are replaced:

- **Replace any seat belt system that was in use during the collision serious enough to deploy any automatic restraint device such as air bags and seat belt pretensioners. This not only includes seat belt**

systems in use by people of adult size, but seat belt systems used to secure child restraints, infant carriers and booster seats, including LATCH system and top tether anchorages.

- Replace any seat belt system that has torn, worn, or damaged components. This not only includes adult seat belt systems, but built-in child restraints and LATCH system components, if any.
- Replace any seat belt system if you observe the words "REPLACE" or "CAUTION", or if a yellow tag is visible. Do not replace a seat belt if only the child seat caution label is visible.
- Replace any seat belt system if you are doubtful about its condition. This not only includes adult seat belt systems, but built-in child restraints, LATCH system components, and any restraint system used to secure infant carriers, child restraints, and booster seats.

**Do NOT replace single seat belt system components in vehicles that have been in a collision as described above. Always replace the entire seat belt system with the buckle, guide and retractor assembly, which includes the latch and webbing material.**

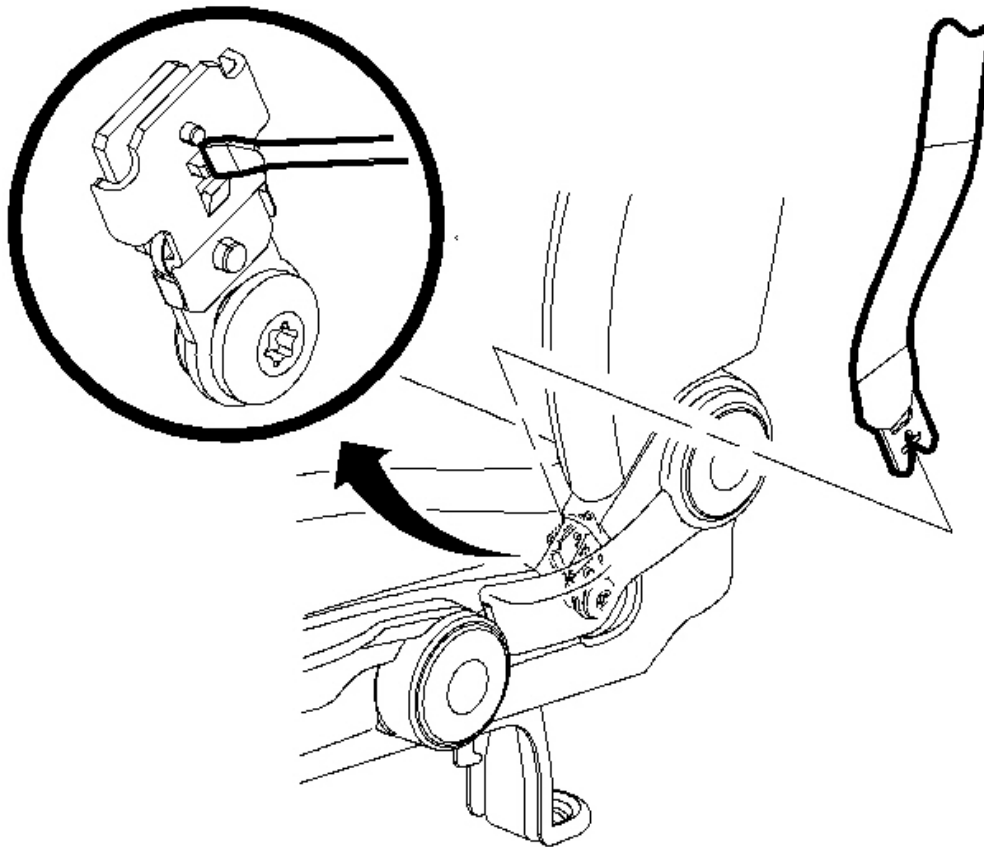
After a minor collision where no automatic restraint device was deployed, seat belt system replacement may not be necessary unless some of the parts are torn, worn, or damaged.

After any collision, verify that the pretensioners on the front seat belt retractor have not deployed.

1. Pull the seat belt webbing.
2. If you hear a grinding or a rattling, replace the retractor.

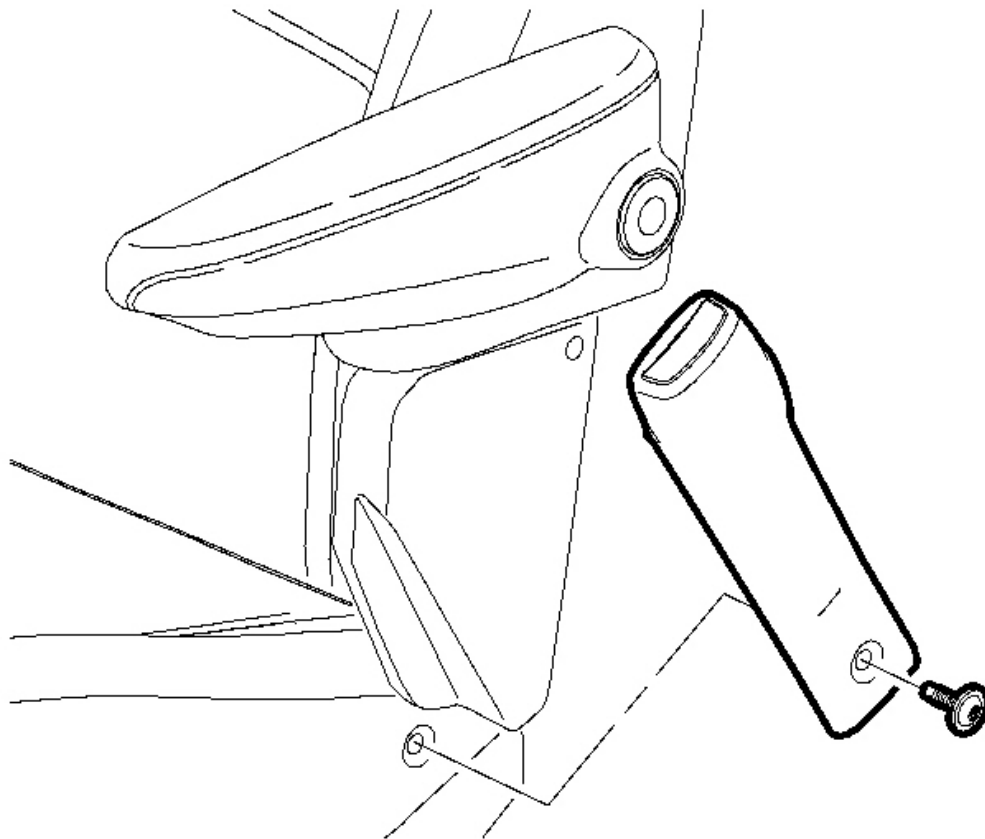
## **SEAT BELT BUCKLE REPLACEMENT - FRONT (SIDE MOUNT)**

### **Removal Procedure**



**Fig. 4: Depressing The Button On Seat Buckle Quick Disconnect Using A Flat-Bladed Tool**  
Courtesy of GENERAL MOTORS CORP.

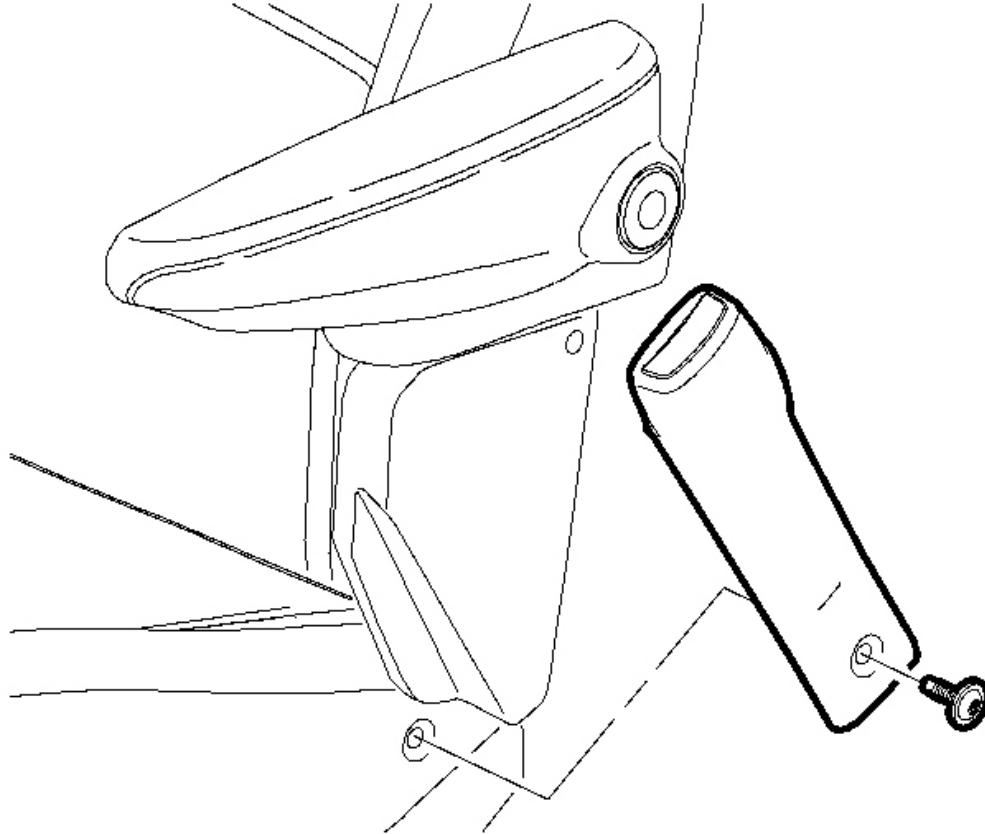
1. Using a small flat-bladed tool, depress the button on the seat buckle quick disconnect while pulling up on the shoulder belt to disengage the shoulder belt from the front seat.
2. Remove the front seat from the vehicle. Refer to **Seat Replacement - Front Bucket** in Seats.



**Fig. 5: Seat Belt Buckle, Fastener & Bolt**  
Courtesy of GENERAL MOTORS CORP.

3. Remove the seat belt buckle fastener and remove the seat belt buckle.
4. On the driver side, remove the belt buckle wiring clip from the seat adjuster. Remove the seat belt buckle.

#### **Installation Procedure**



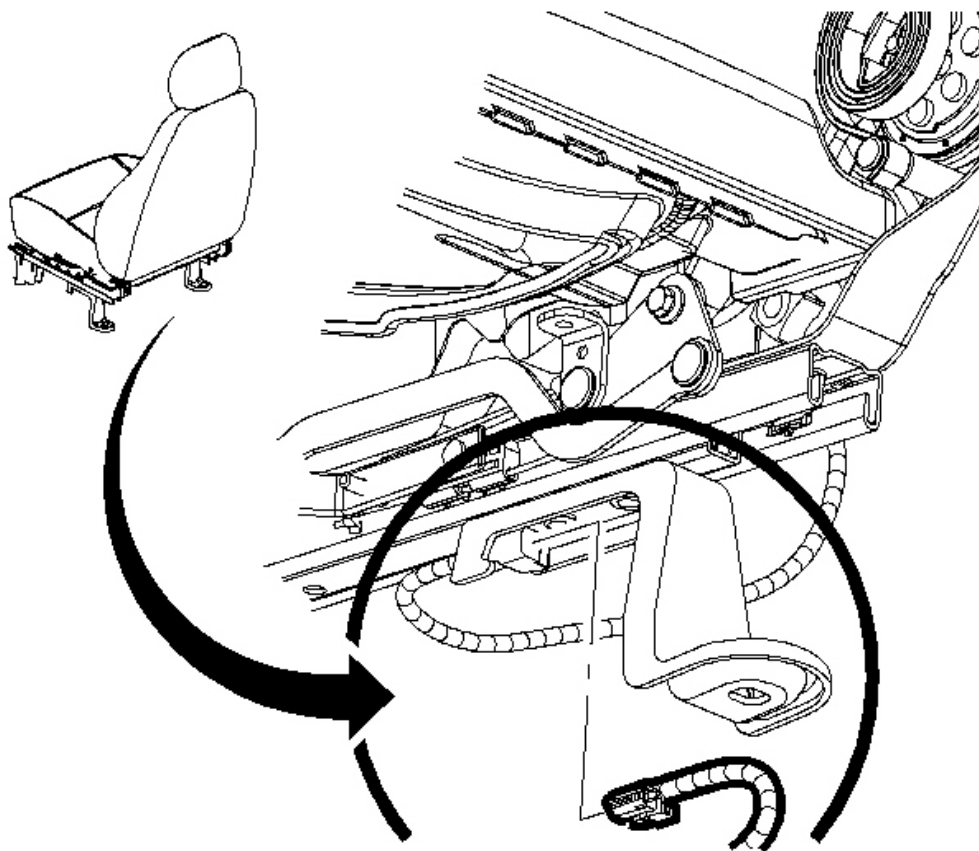
**Fig. 6: Seat Belt Buckle, Fastener & Bolt**  
Courtesy of GENERAL MOTORS CORP.

**NOTE:** Refer to Fastener Notice in Cautions and Notices.

**IMPORTANT:** Apply Permatex(R) 24200 on all restraint fasteners prior to installation.

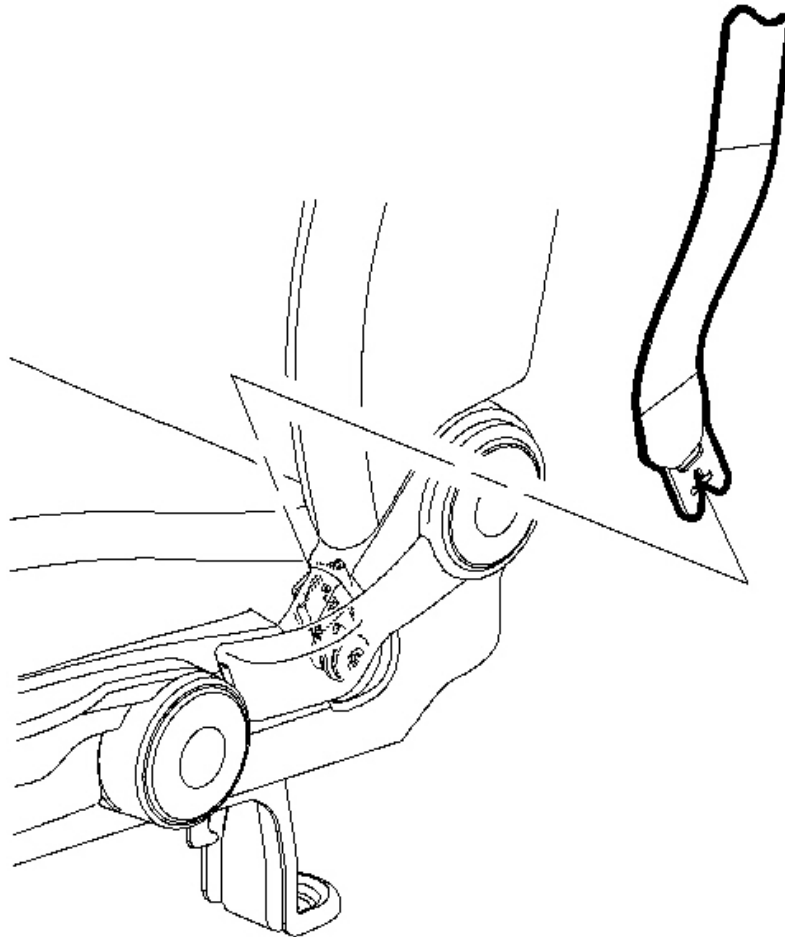
1. Install the seat belt buckle and the fastener to the seat adjuster.

**Tighten:** Tighten the fasteners to 45 N.m (33 lb ft).



**Fig. 7: Seat Belt Wiring Clip & Seat Adjuster**  
Courtesy of GENERAL MOTORS CORP.

2. On the driver side, attach the seat belt wiring clip to the seat adjuster.
3. Install the front seat in the vehicle. Refer to **Seat Replacement - Front Bucket** in Seats.



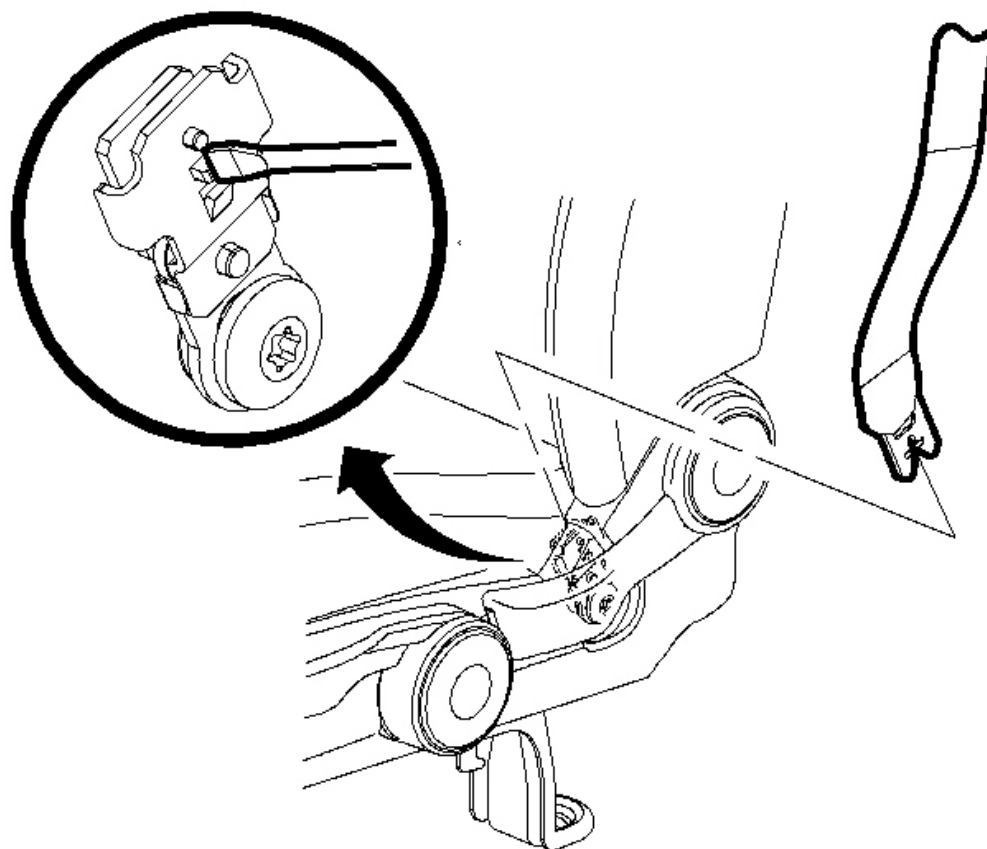
**Fig. 8: Shoulder Belt Assembly & Front Seat Mini-Belt Buckle**  
Courtesy of GENERAL MOTORS CORP.

**IMPORTANT: Verify that the shoulder belt is not twisted.**

4. Snap the shoulder belt assembly into the front seat mini-belt buckle.
5. Operate the front seat shoulder belt.

## **SEAT BELT BUCKLE REPLACEMENT - FRONT (QUICK CONNECT)**

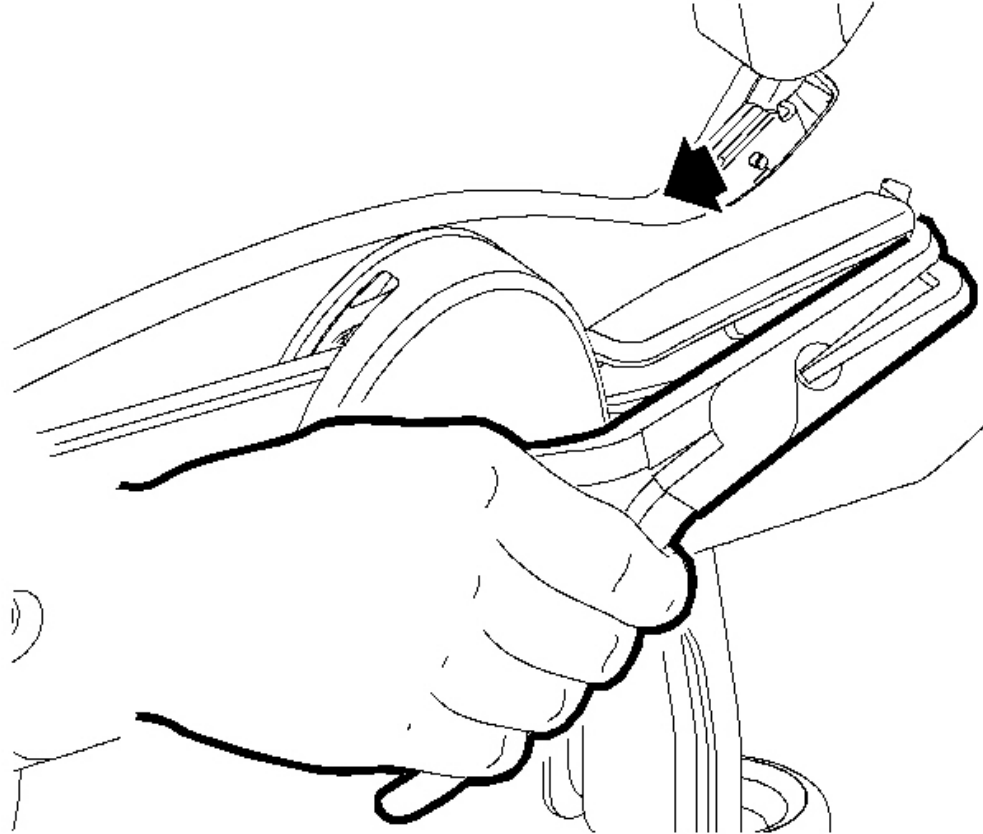
### **Removal Procedure**



**Fig. 9: Depressing The Button On Seat Buckle Quick Disconnect Using A Flat-Bladed Tool**  
Courtesy of GENERAL MOTORS CORP.

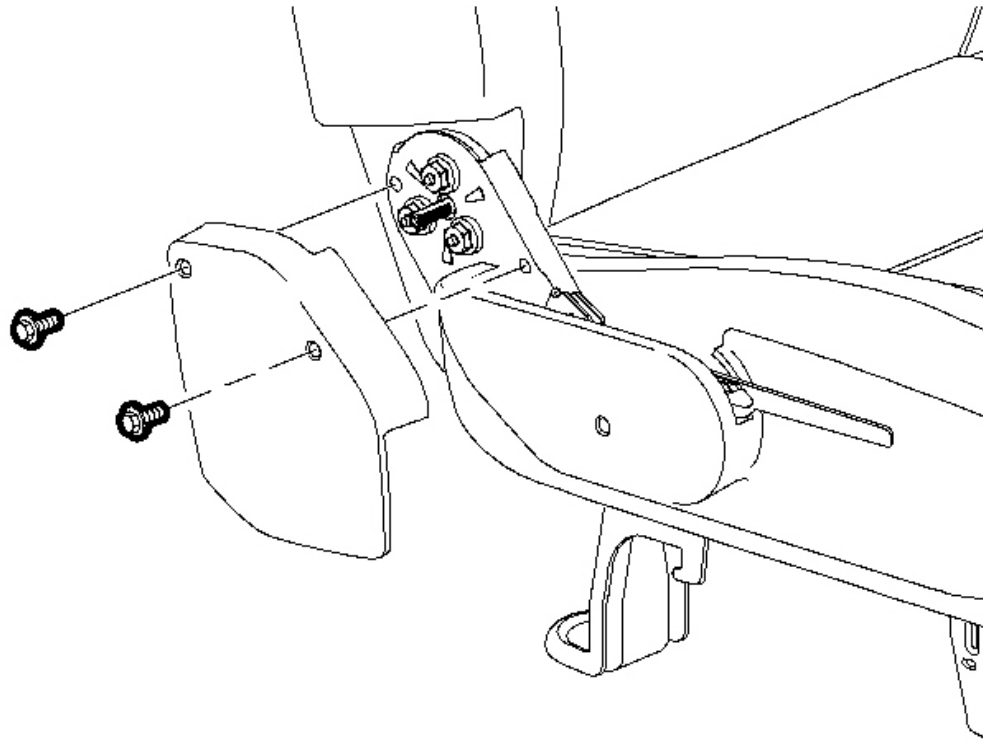
1. Using a small flat-bladed tool, depress the button on the seat buckle quick disconnect while pulling up on the shoulder belt to disengage the shoulder belt from the front seat.
2. Remove the front seat from the vehicle. Refer to **Seat Replacement - Front Bucket** in Seats.





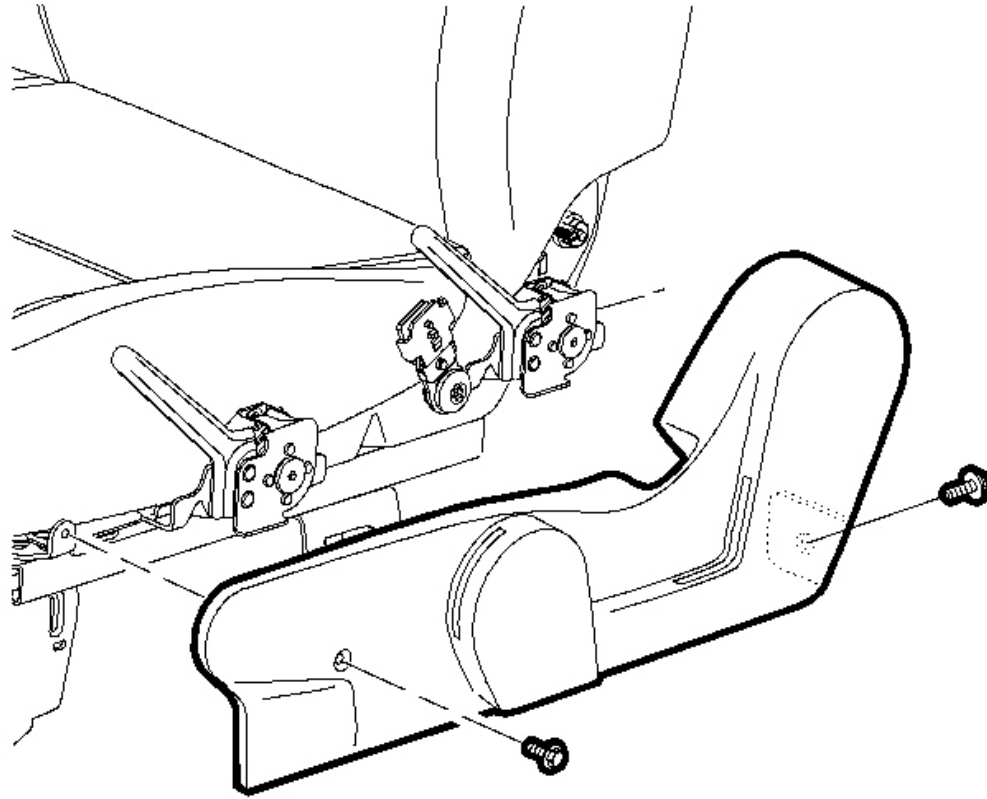
**Fig. 10: Pulling Firmly On Recliner & Riser Handle Cover Using Pliers**  
Courtesy of GENERAL MOTORS CORP.

3. On the driver side, using a 90-degree pair of pliers, pull firmly on the recliner and riser handle cover to remove the handle cover.



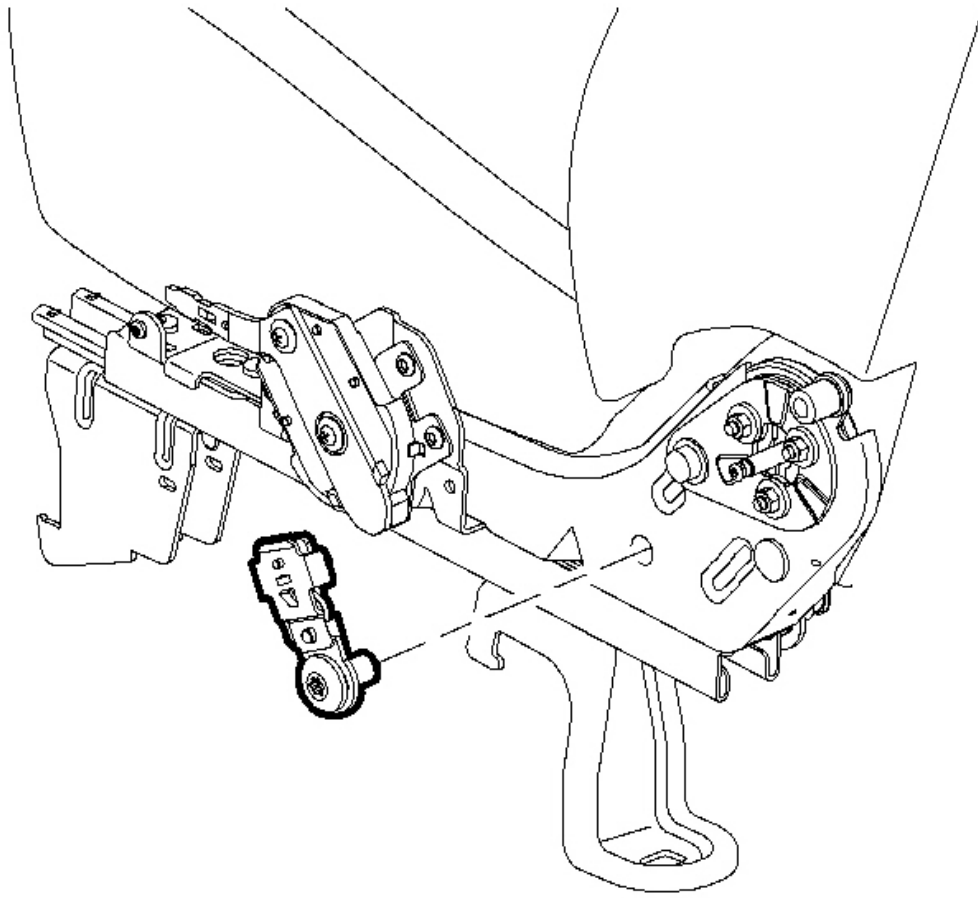
**Fig. 11: Recliner Side Cover & Fastener**  
**Courtesy of GENERAL MOTORS CORP.**

4. On the passenger side, remove the recliner side cover fastener and remove the cover.



**Fig. 12: Side Trim & Fasteners**  
Courtesy of GENERAL MOTORS CORP.

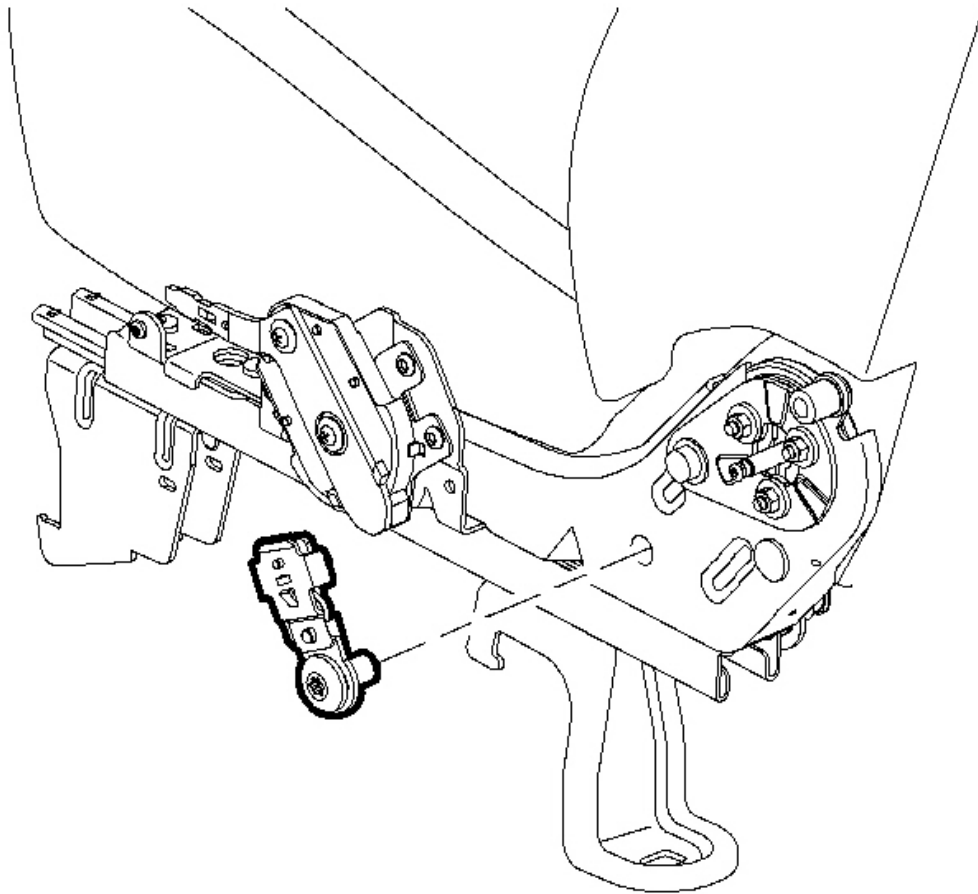
5. Remove the side trim fasteners and remove the side trim.



**Fig. 13: Shoulder Belt Quick Disconnect & Fastener**  
**Courtesy of GENERAL MOTORS CORP.**

6. Remove the fastener and remove the shoulder belt quick disconnect.

#### **Installation Procedure**



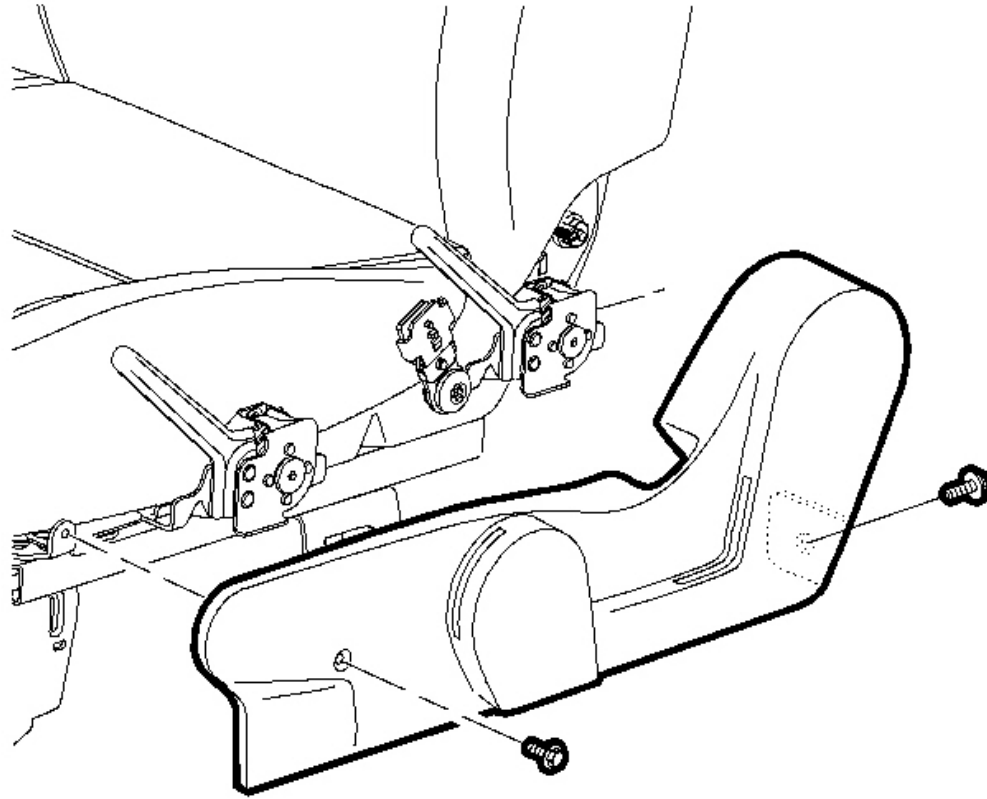
**Fig. 14: Shoulder Belt Quick Disconnect & Fastener**  
Courtesy of GENERAL MOTORS CORP.

**NOTE:** Refer to Fastener Notice in Cautions and Notices.

**IMPORTANT:** Apply Permatex(R) 24200 on all restraint fasteners prior to installation.

1. Install the shoulder belt quick disconnect.

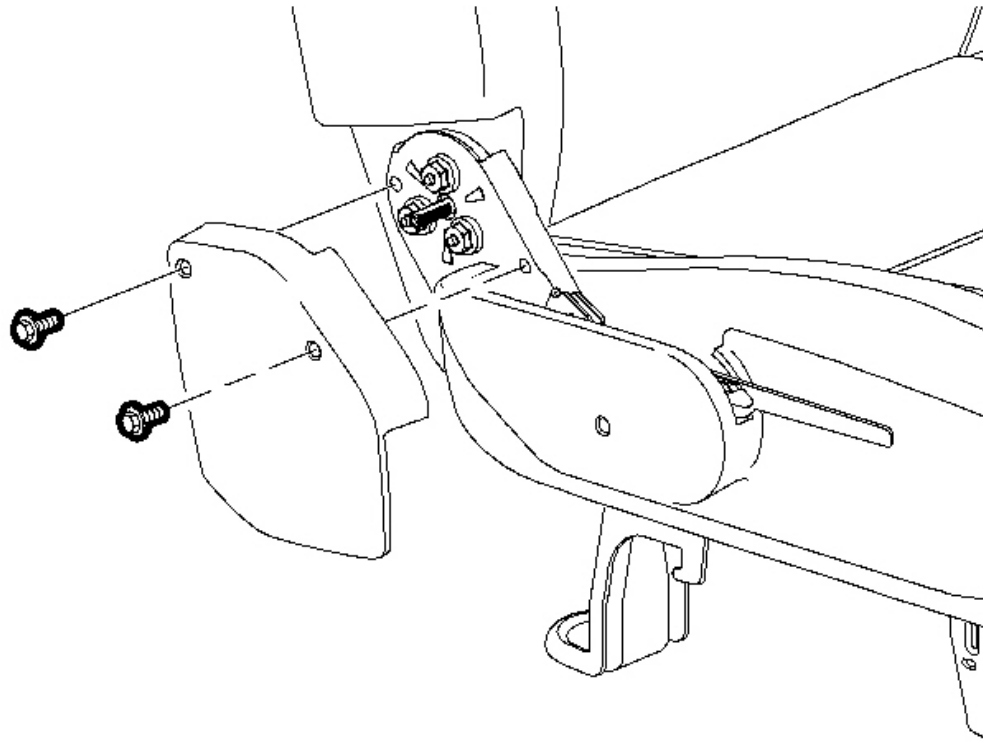
**Tighten:** Tighten the fasteners to 50 N.m (37 lb ft).



**Fig. 15: Side Trim & Fasteners**  
Courtesy of GENERAL MOTORS CORP.

2. Install the side trim with the fasteners.

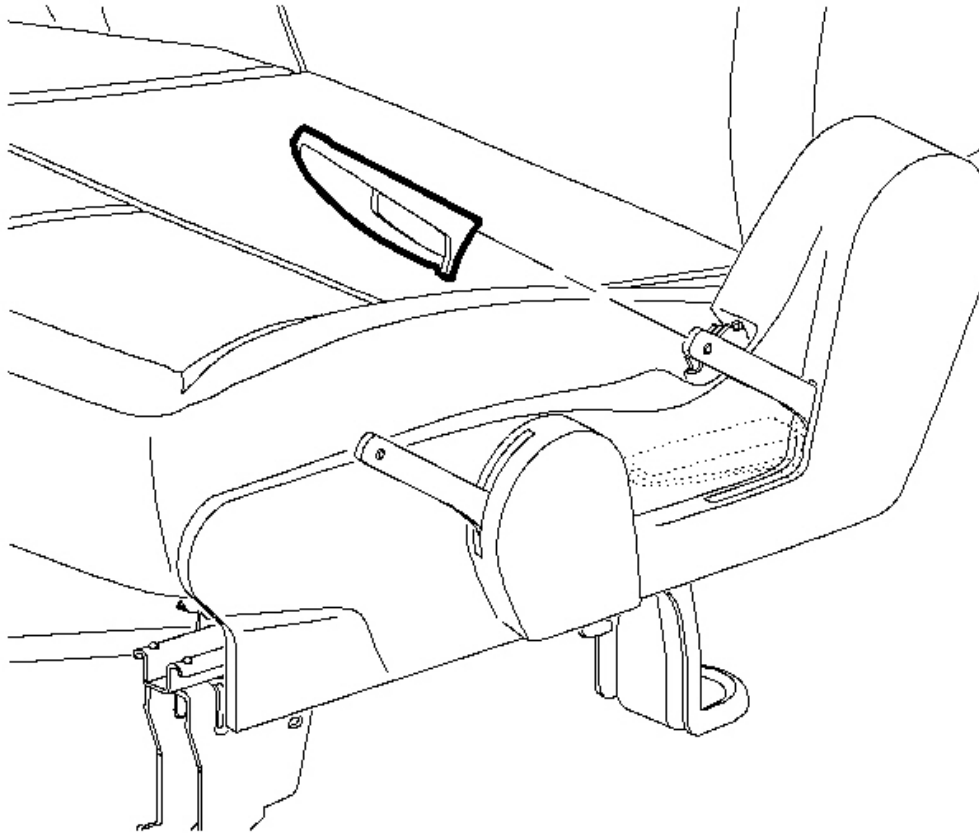
**Tighten:** Tighten the fasteners to 2.5 N.m (22 lb in).



**Fig. 16: Recliner Side Cover & Fastener**  
Courtesy of GENERAL MOTORS CORP.

3. On the passenger side, install the recliner side cover with the fasteners.

**Tighten:** Tighten the fasteners to 2.5 N.m (22 lb in).



**Fig. 17: Shoulder Belt & Shoulder Belt Quick Disconnect**  
Courtesy of GENERAL MOTORS CORP.

4. On the driver side, install the recliner and seat riser covers by firmly pushing on the handle cover.
5. Install the front seat to the vehicle. Refer to **Seat Replacement - Front Bucket** in Seats.

**IMPORTANT: Verify that the shoulder belt is not twisted.**

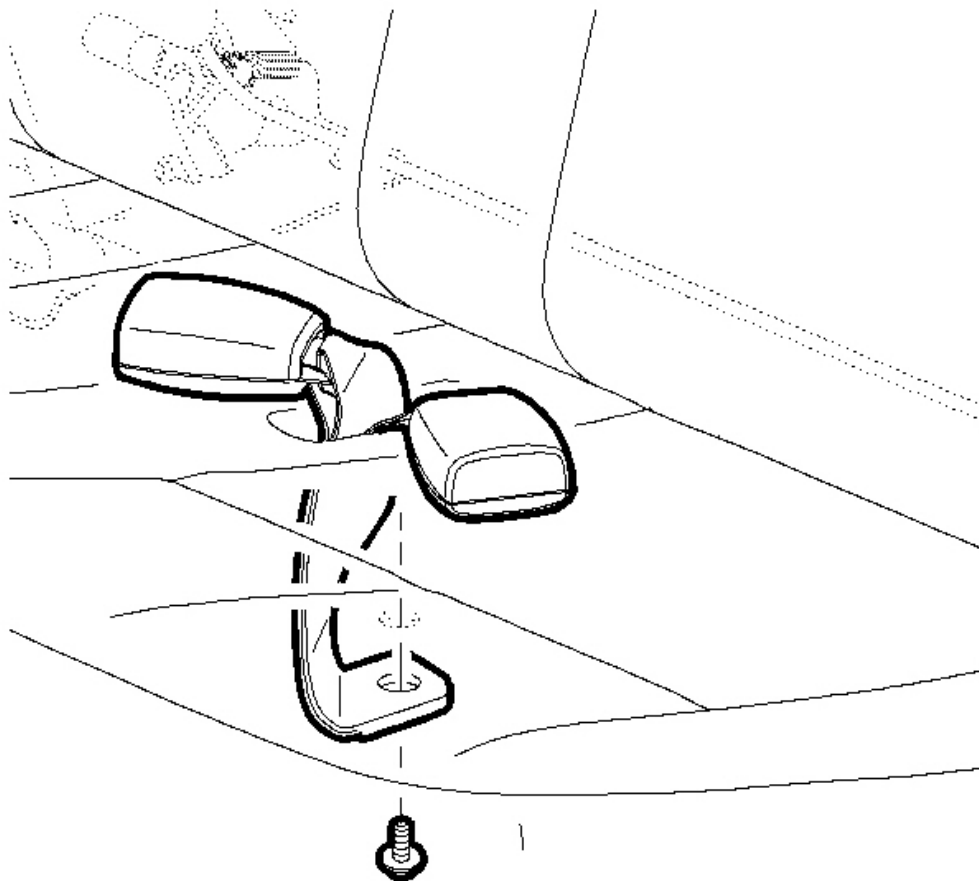
6. Install the shoulder belt into the shoulder belt quick disconnect.

## **SEAT BELT BUCKLE REPLACEMENT - CENTER REAR**

### **Removal Procedure**



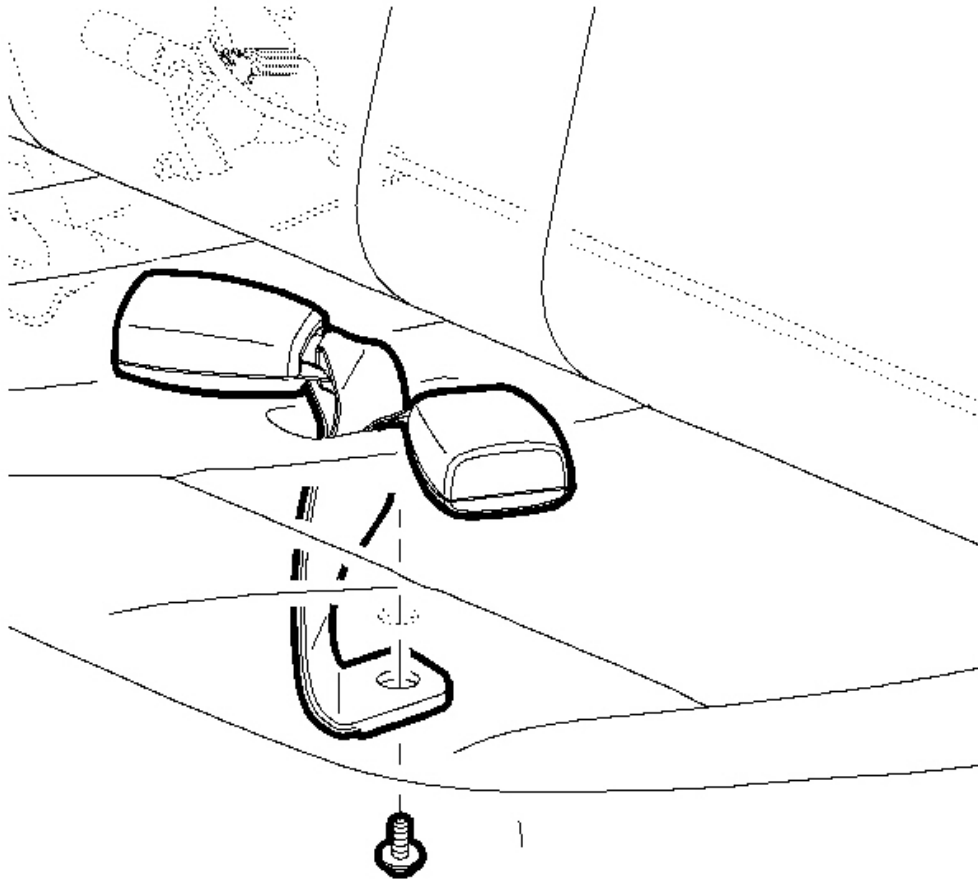
1. Remove the rear seat assembly. Refer to **Seat Replacement - Rear** in Seats.



**Fig. 18: Seat Cushion & Buckle**  
Courtesy of GENERAL MOTORS CORP.

2. Remove the fastener from the seat belt center buckle.
3. Pull the buckle through the opening in the seat cushion and remove the buckle.

#### **Installation Procedure**



**Fig. 19: Seat Cushion & Buckle**  
Courtesy of GENERAL MOTORS CORP.

**IMPORTANT:** Apply Permatex(R) 24200 on all restraint fasteners prior to installation.

1. Route the buckle through the openings in the seat cushion.

**NOTE:** Refer to Fastener Notice in Cautions and Notices.

2. Install the seat belt buckle with the fastener.

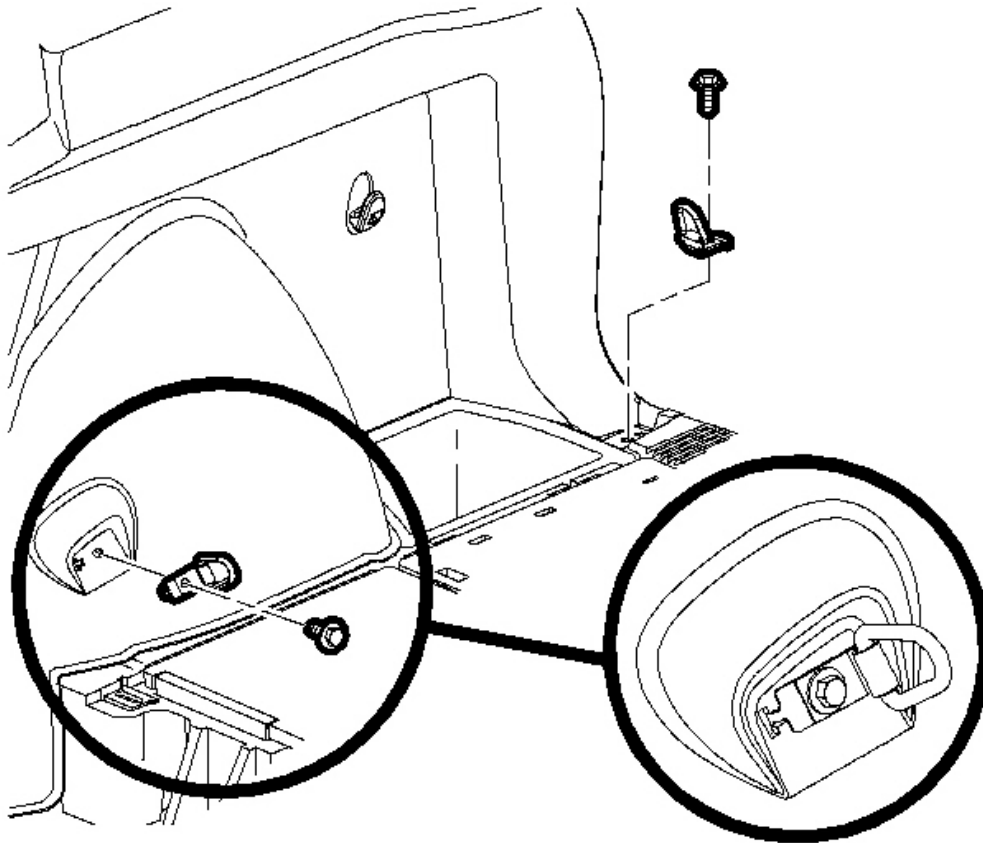
**Tighten:** Tighten the fasteners to 50 N.m (37 lb ft).

3. Install the rear seat assembly. Refer to **Seat Replacement - Rear** in Seats.

## **SEAT BELT REPLACEMENT - REAR**

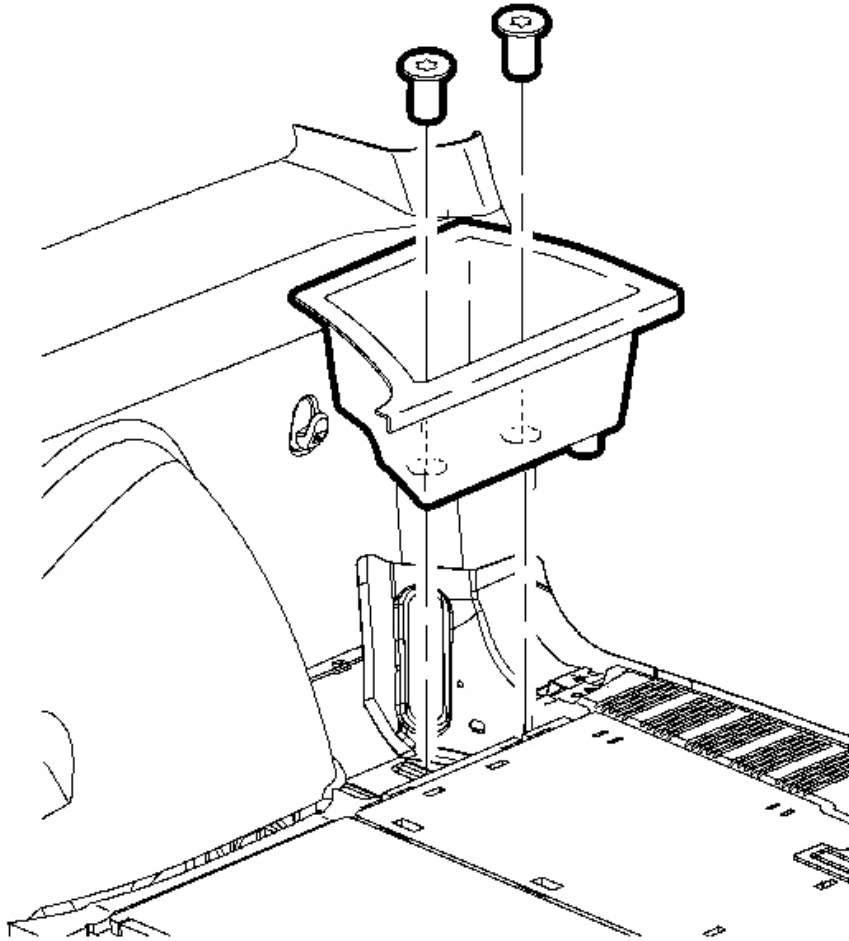
### **Removal Procedure**

1. Remove the rear seat assembly. Refer to **Seat Replacement - Rear** in Seats.



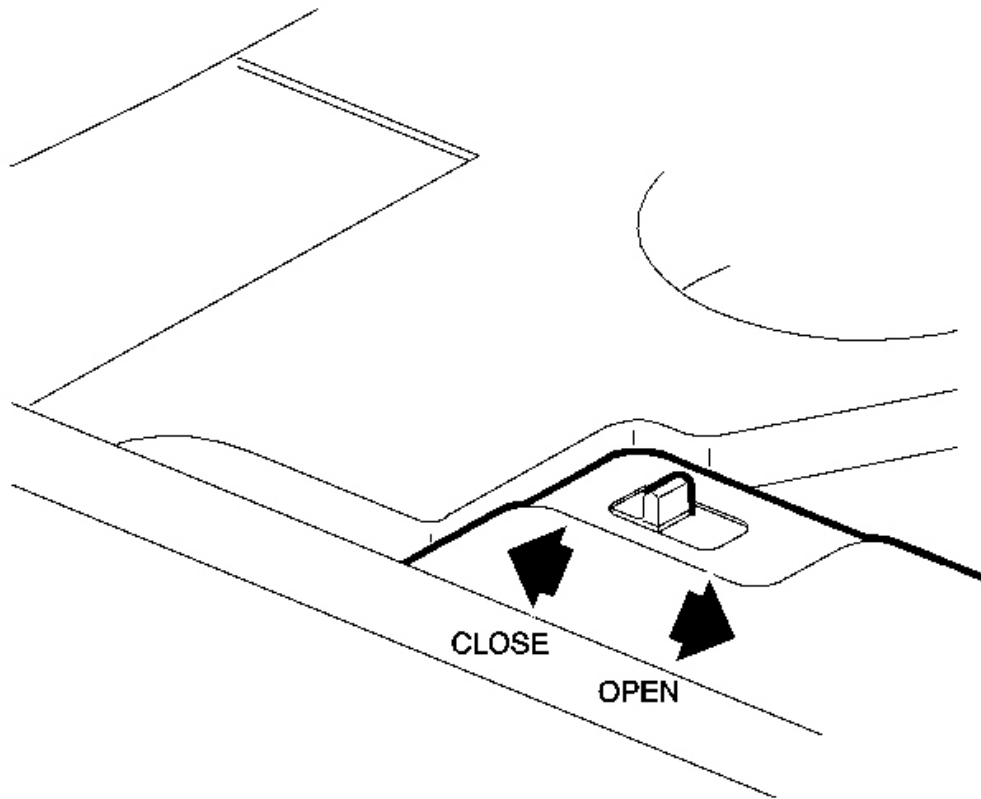
**Fig. 20: Cargo Hooks**  
Courtesy of GENERAL MOTORS CORP.

2. Remove the cargo hooks.



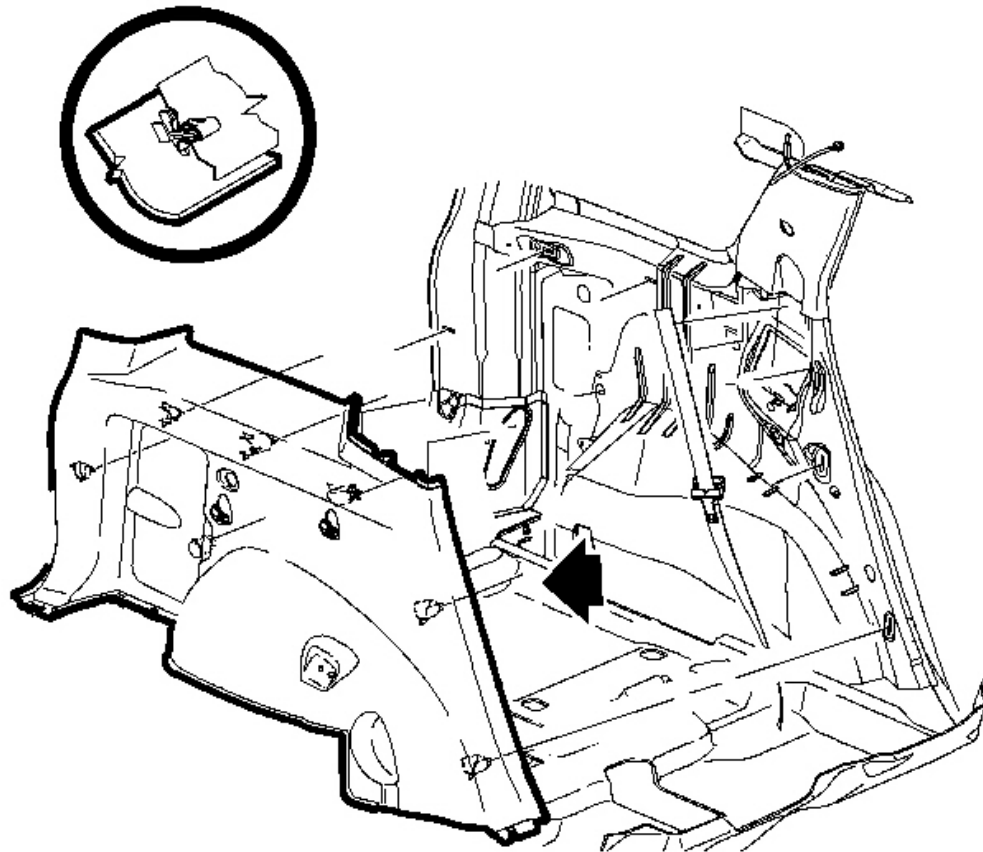
**Fig. 21: Load Floor Storage Bin**  
**Courtesy of GENERAL MOTORS CORP.**

3. On the driver side, remove the load floor storage bin.



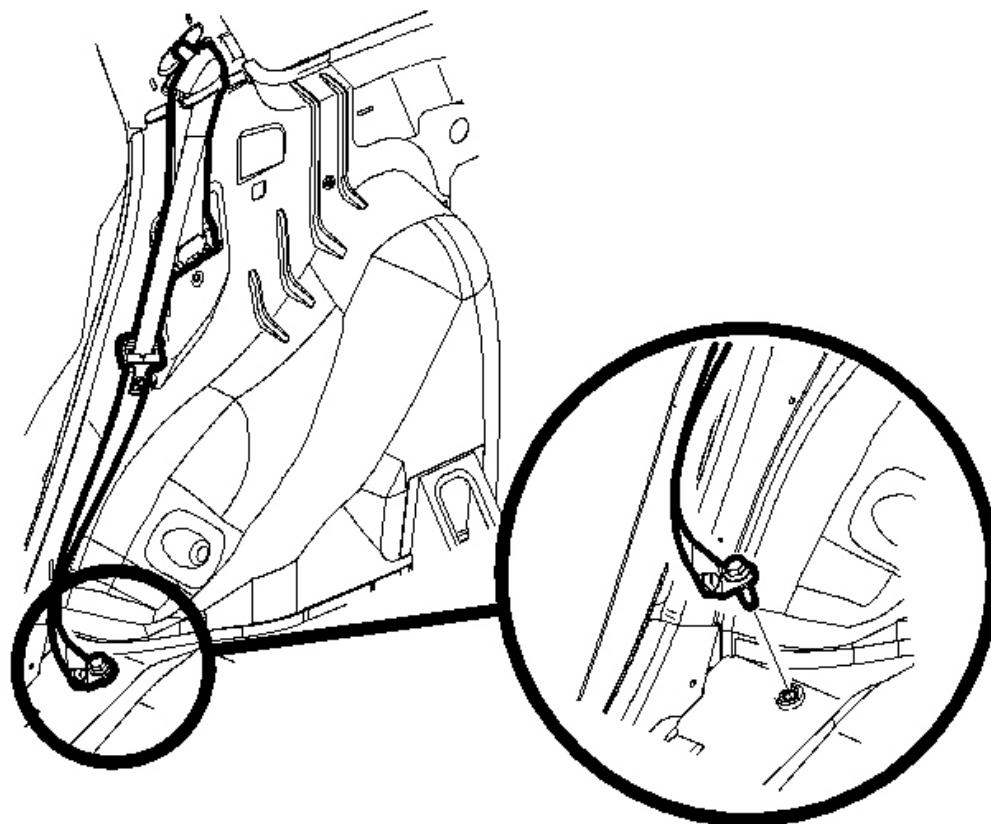
**Fig. 22: Rear Load Floor Lock Lever**  
**Courtesy of GENERAL MOTORS CORP.**

4. Remove the rear load floor. If the vehicle is equipped with a lock lever, move the lever inboard and lift up on the load floor.



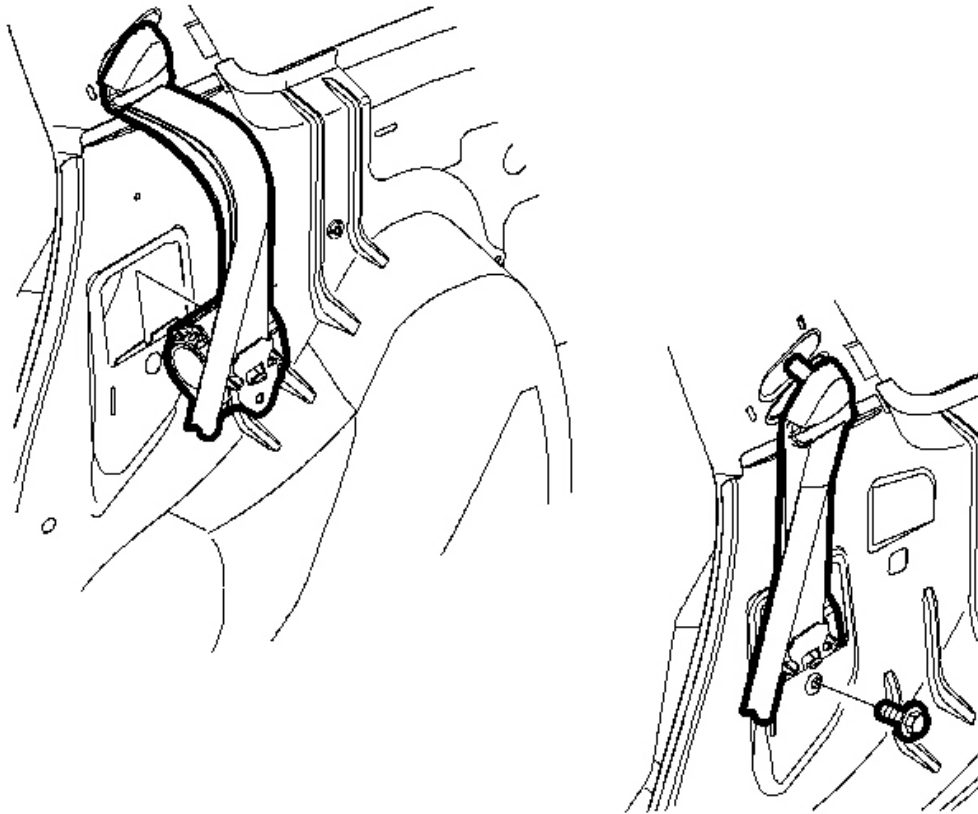
**Fig. 23: Rear Wheel Quarter Trim Panel & Attaching Clip**  
Courtesy of GENERAL MOTORS CORP.

5. Remove the rear wheel quarter trim panel by pulling at the attaching clip locations.
6. On the driver side, disconnect the auxiliary plug wire harness connection.



**Fig. 24: Shoulder Belt Fastener**  
Courtesy of GENERAL MOTORS CORP.

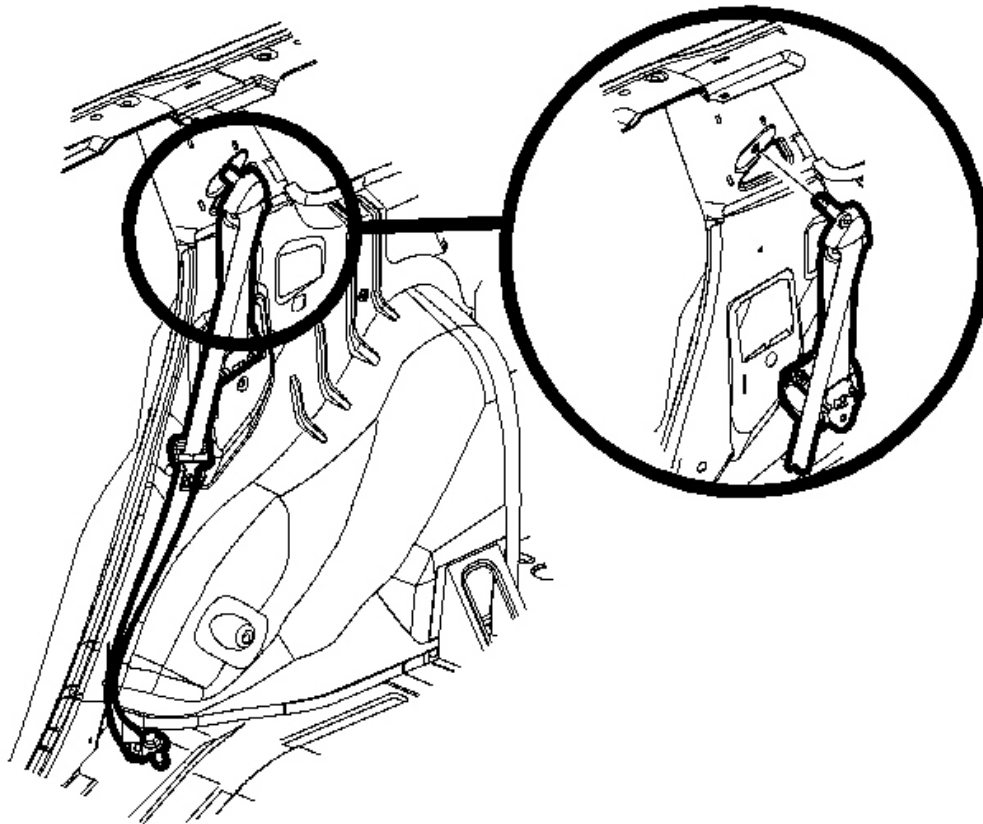
7. Remove the shoulder belt fastener at the floor.



**Fig. 25: Retractor Fastener**  
**Courtesy of GENERAL MOTORS CORP.**

8. Remove the retractor fastener and remove the retractor.

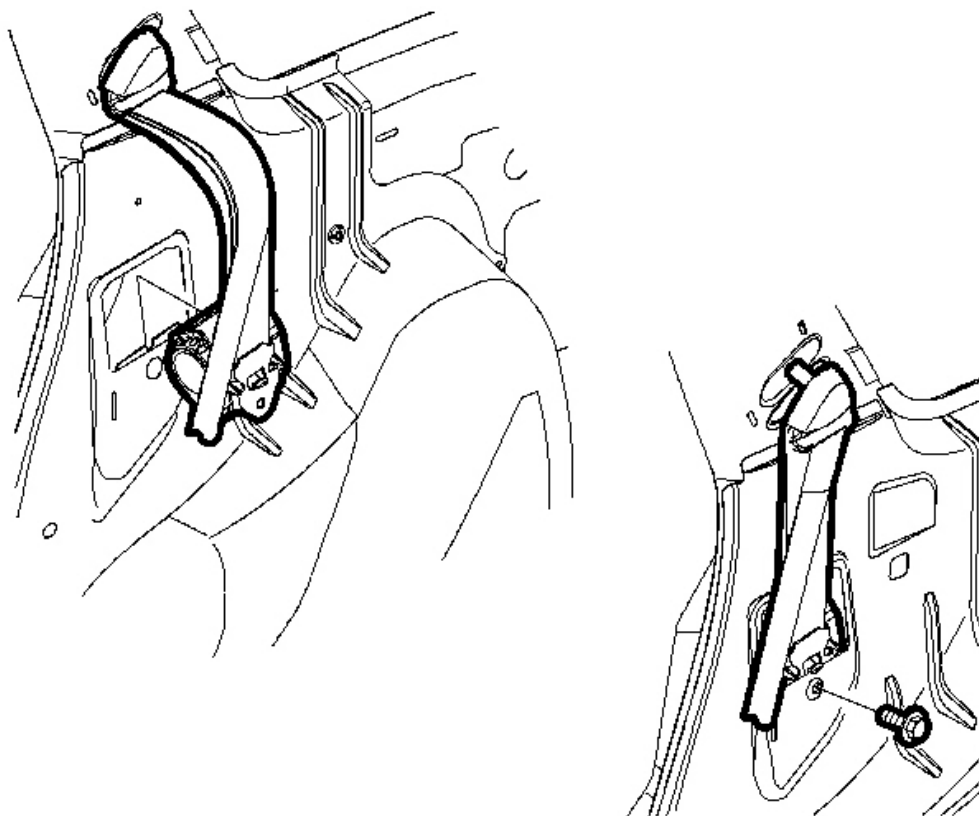




**Fig. 26: Upper Fastener Cover & Shoulder Belt**  
Courtesy of GENERAL MOTORS CORP.

9. Unsnap the upper fastener cover and remove the shoulder belt upper fastener. Remove the shoulder belt assembly.

#### **Installation Procedure**



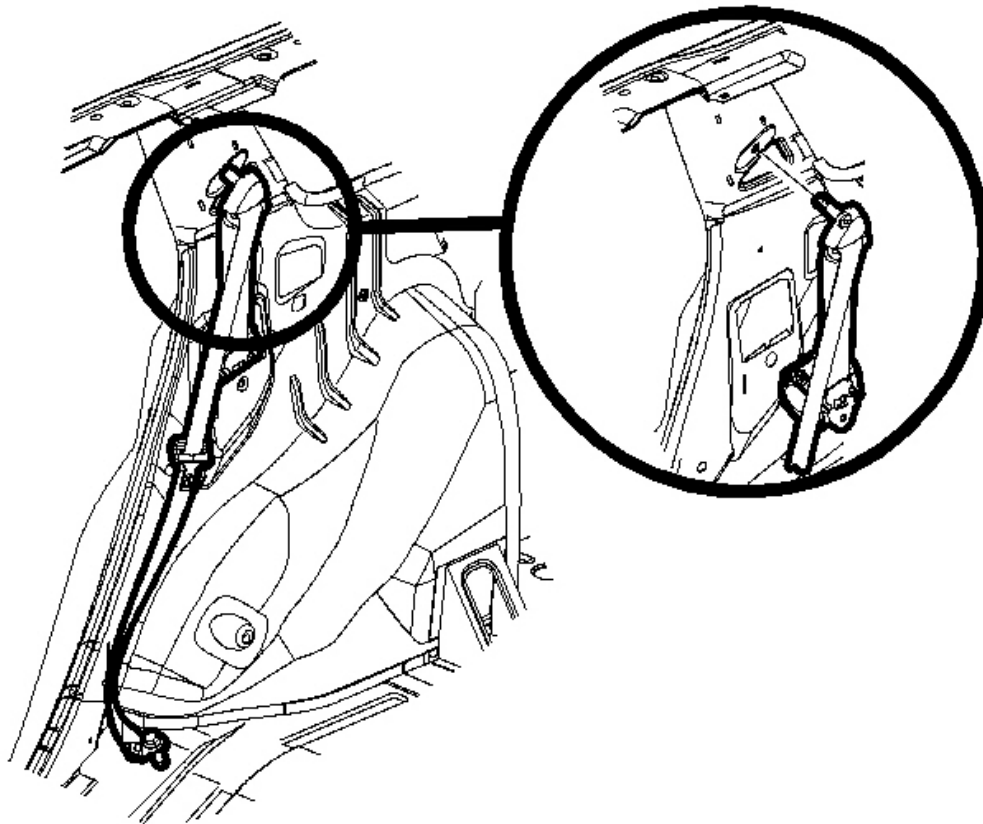
**Fig. 27: Retractor Fastener**  
Courtesy of GENERAL MOTORS CORP.

**NOTE:** Refer to Fastener Notice in Cautions and Notices.

**IMPORTANT:** Apply Permatex(R) 24200 on all restraint fasteners prior to installation.

1. Position the retractor into the structure. Verify that the locking tabs are in place. Install the fastener.

**Tighten:** Tighten the fastener to 45 N.m (33 lb ft).

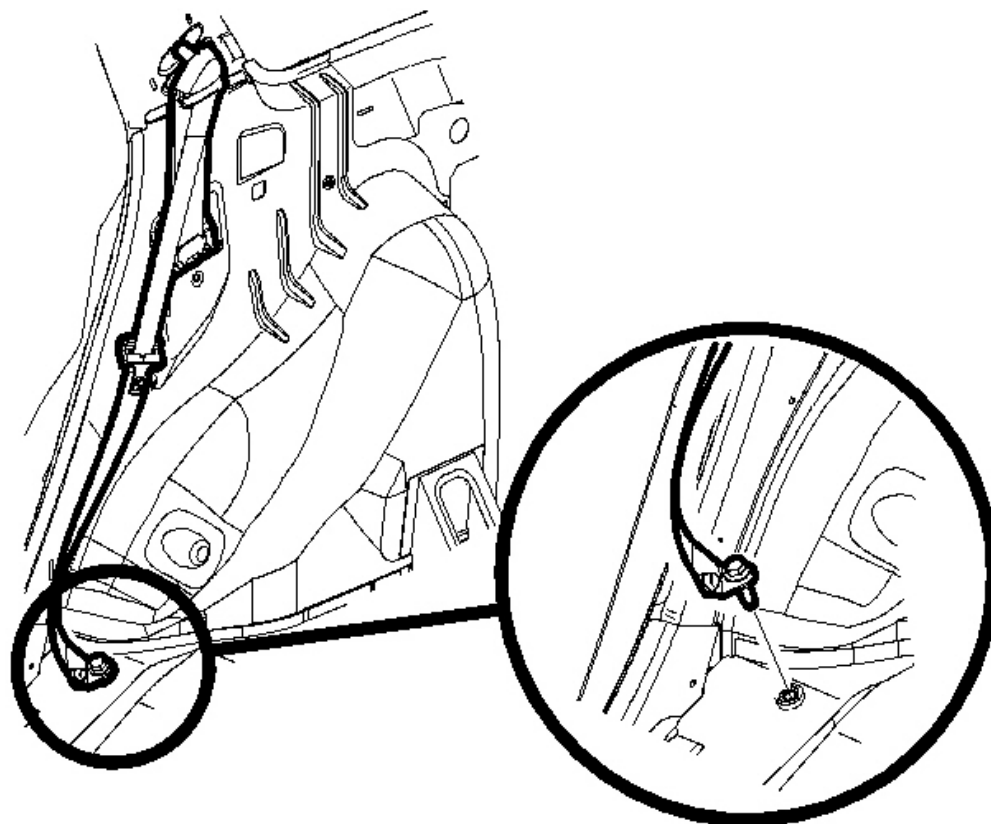


**Fig. 28: Upper Fastener Cover & Shoulder Belt**  
Courtesy of GENERAL MOTORS CORP.

2. Install the shoulder belt upper fastener.

**Tighten:** Tighten the fastener to 45 N.m (33 lb ft).

3. Snap the fastener cover closed.

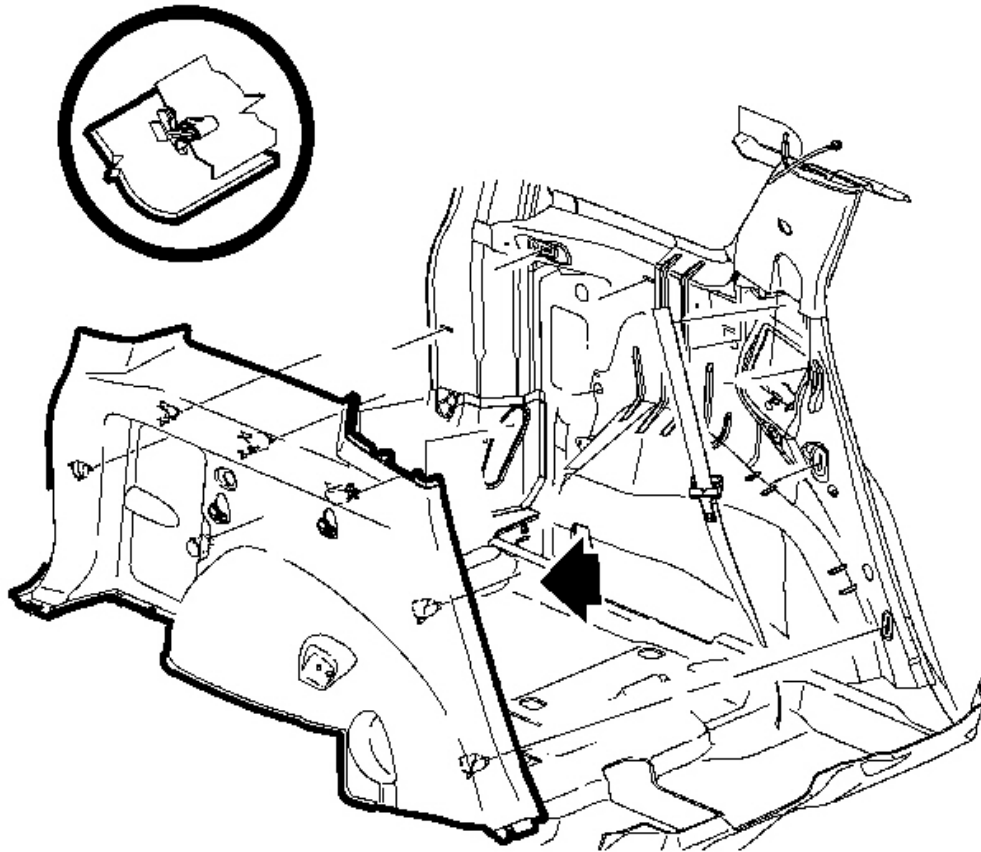


**Fig. 29: Shoulder Belt Fastener**  
Courtesy of GENERAL MOTORS CORP.

**IMPORTANT:** Verify that the belt is not twisted during installation.

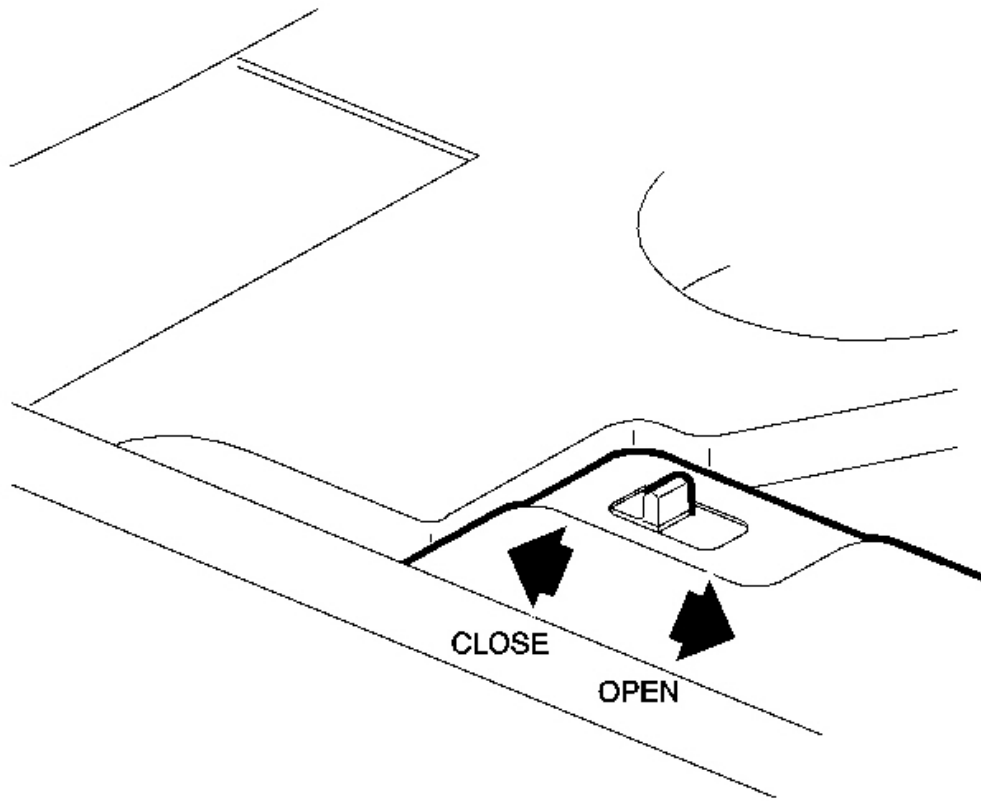
4. Install the shoulder belt to the floor with the fastener.

**Tighten:** Tighten the fastener to 45 N.m (33 lb ft).



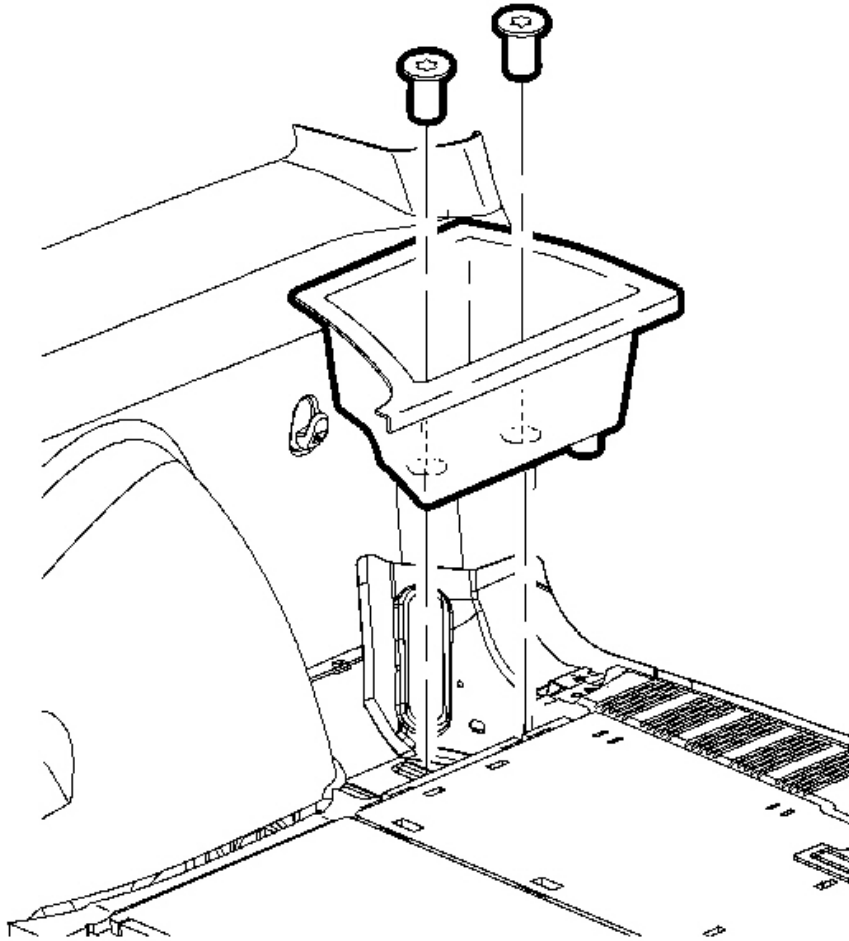
**Fig. 30: Rear Wheel Quarter Trim Panel & Attaching Clip**  
Courtesy of GENERAL MOTORS CORP.

5. On the driver side, connect the auxiliary plug connection.
6. Position the rear wheel quarter trim panel to the vehicle. Push at the clip location to install.



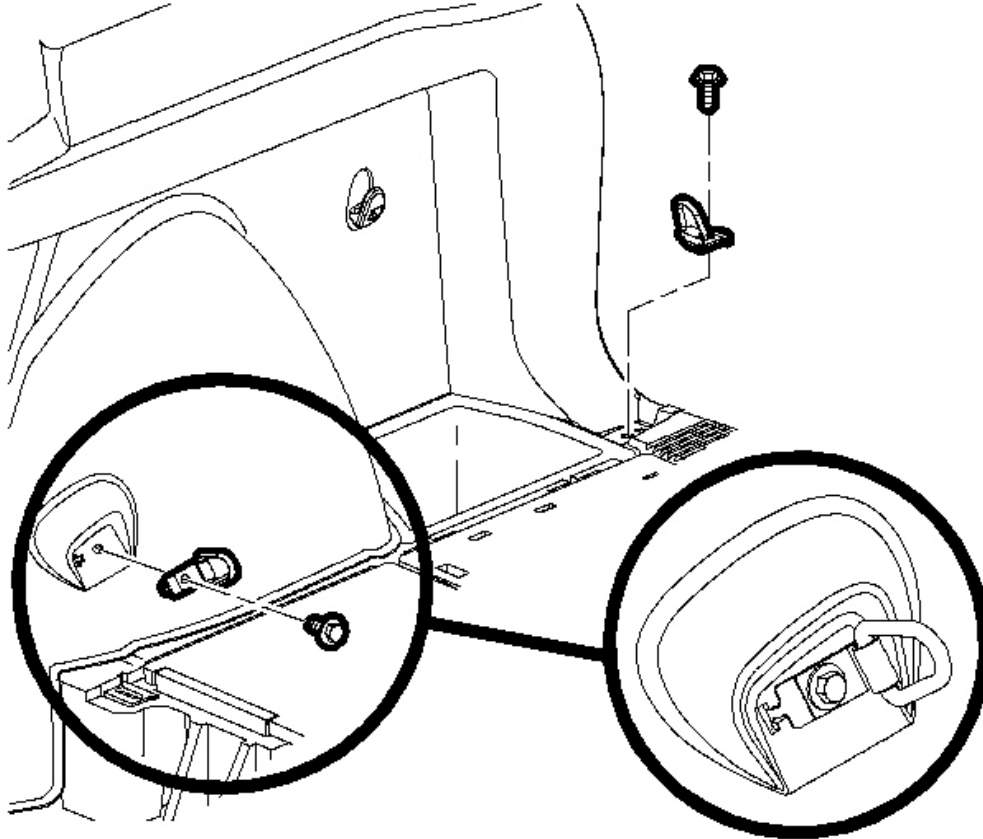
**Fig. 31: Rear Load Floor Lock Lever**  
**Courtesy of GENERAL MOTORS CORP.**

7. Install the rear load floor and, if equipped, lock in place by sliding the lock lever outward.



**Fig. 32: Load Floor Storage Bin**  
Courtesy of GENERAL MOTORS CORP.

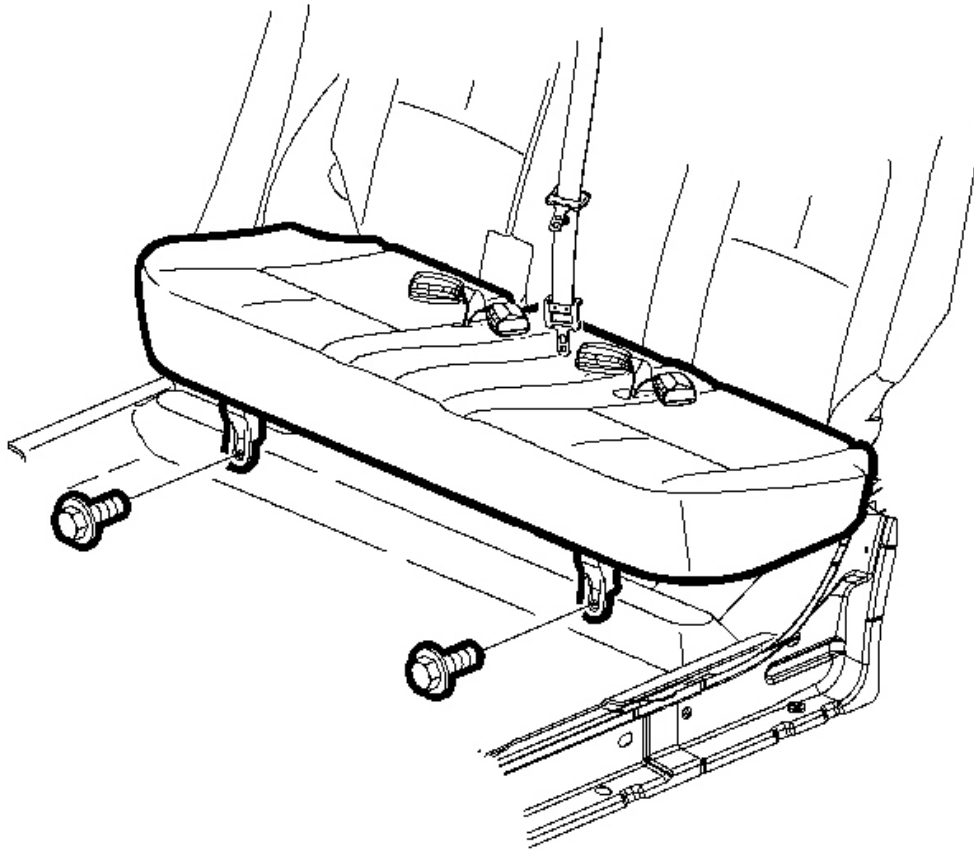
8. Install the load floor bin.



**Fig. 33: Cargo Hooks**  
Courtesy of GENERAL MOTORS CORP.

9. Install the cargo hooks.





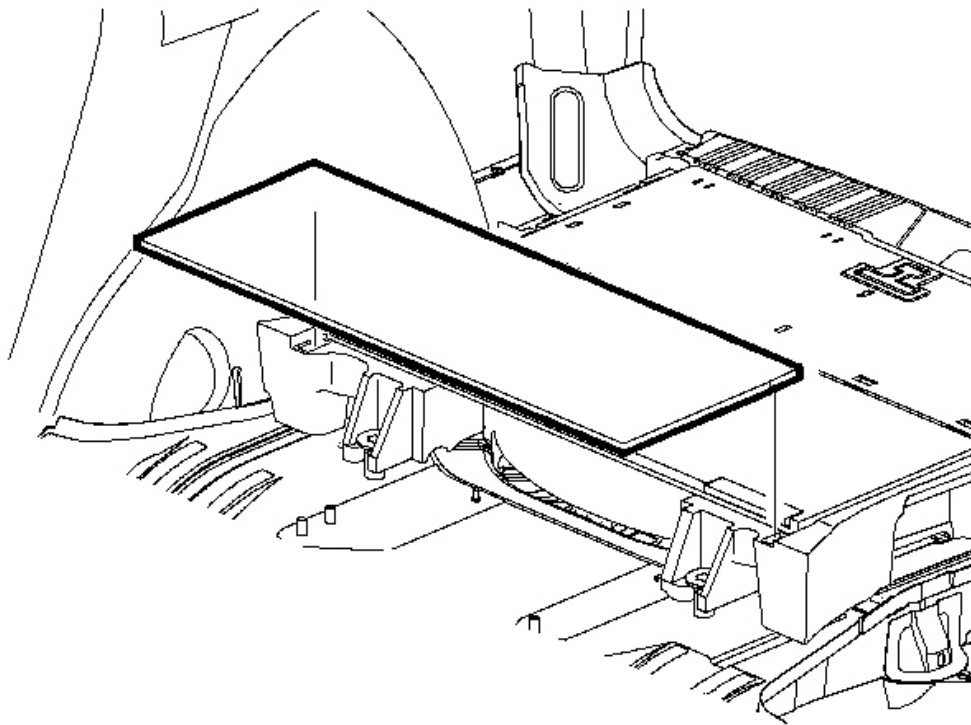
**Fig. 34: Rear Seat Assembly & Fasteners**  
Courtesy of GENERAL MOTORS CORP.

10. Position the rear seat assembly in the vehicle. Install the forward fasteners.

**Tighten:** Tighten the fasteners to 20 N.m (15 lb ft).

11. Install the rear seat assembly. Refer to **Seat Replacement - Rear** in Seats.
12. Install the rear seat fasteners.

**Tighten:** Tighten the fasteners to 50 N.m (37 lb ft).



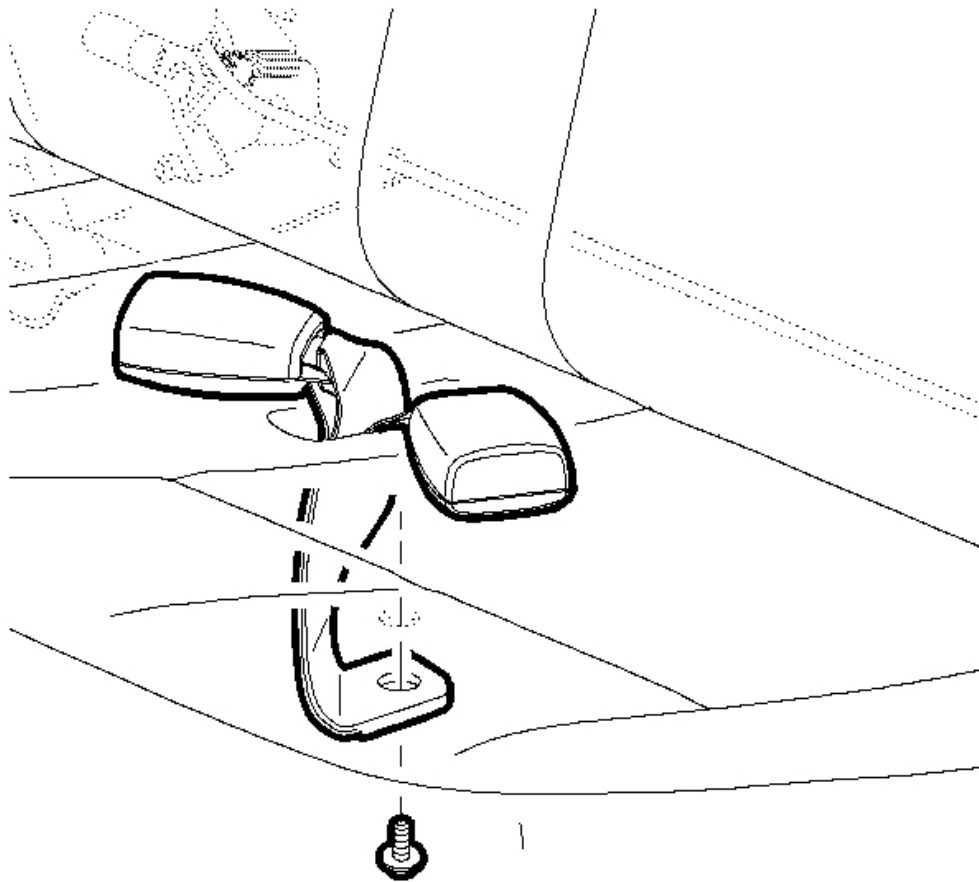
**Fig. 35: Load Floor Forward Cover**  
Courtesy of GENERAL MOTORS CORP.

13. Position the load floor forward cover to the vehicle. Push down at the Velcro(R) location to secure the load floor to the vehicle.
14. Operate the shoulder belt to ensure proper installation.

## **SEAT BELT REPLACEMENT - CENTER REAR**

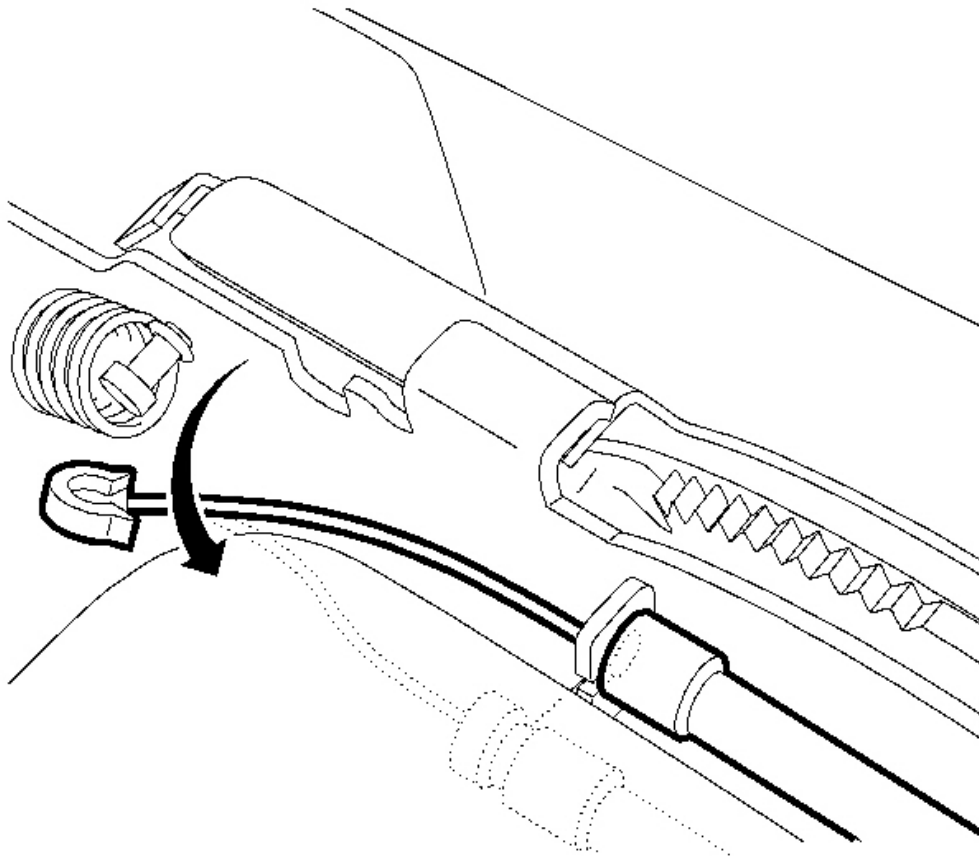
### **Removal Procedure**

1. Remove the rear seat assembly. Refer to **Seat Replacement - Rear** in Seats.



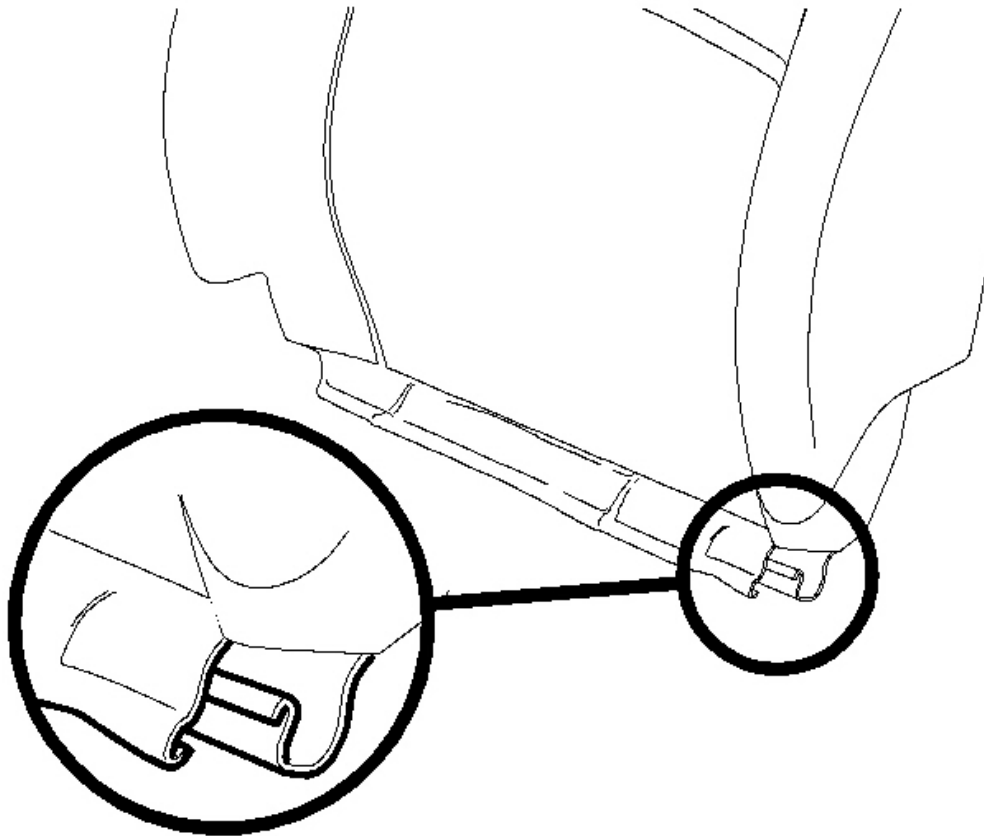
**Fig. 36: Seat Cushion & Buckle**  
Courtesy of GENERAL MOTORS CORP.

2. Disconnect the shoulder belt fastener from the recliner assembly.



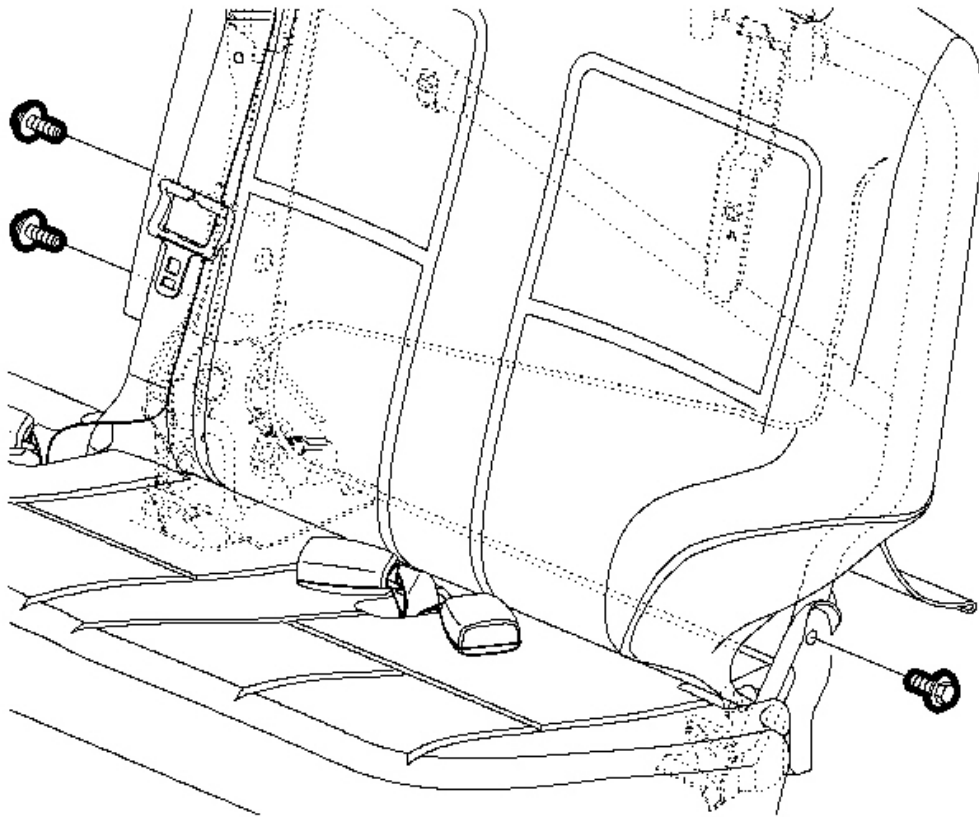
**Fig. 37: Retractor Handle Cable & Clip**  
Courtesy of GENERAL MOTORS CORP.

3. Disengage the clip to the retractor handle cable from the retractor assembly.
4. Disengage the retractor handle cable from the retractor assembly.



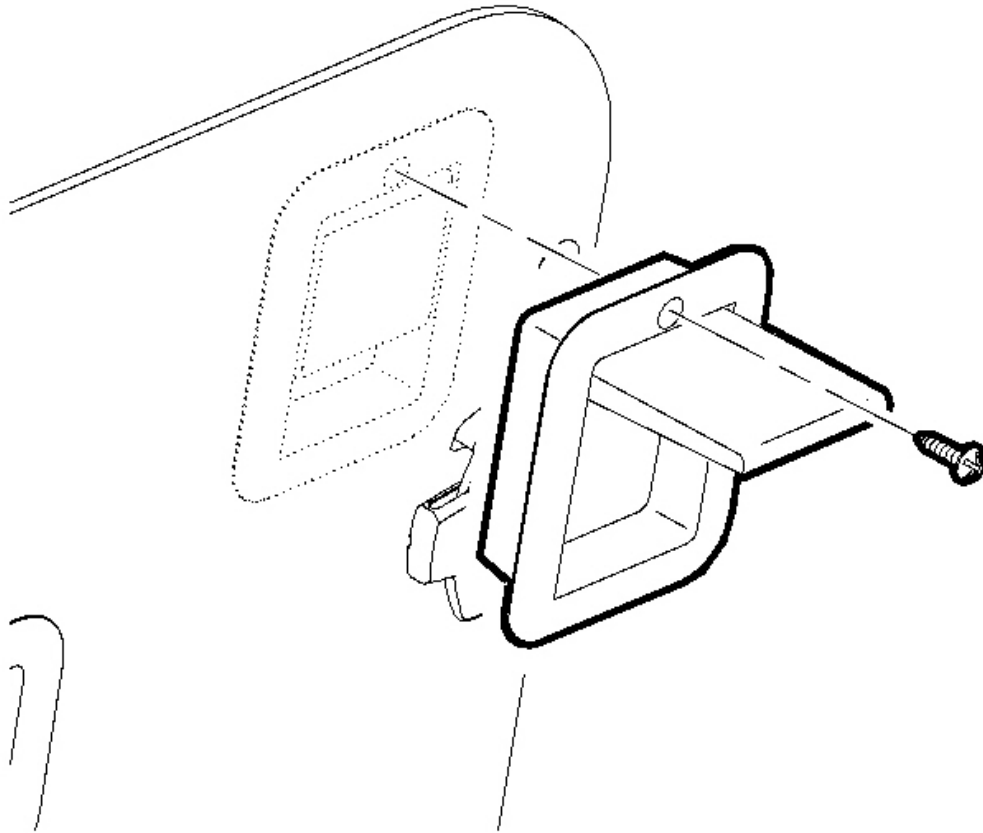
**Fig. 38: Seat Back Cover & Disengaging The Bottom J-Strip**  
Courtesy of GENERAL MOTORS CORP.

5. Release the seat back cover by disengaging the bottom J-strip.



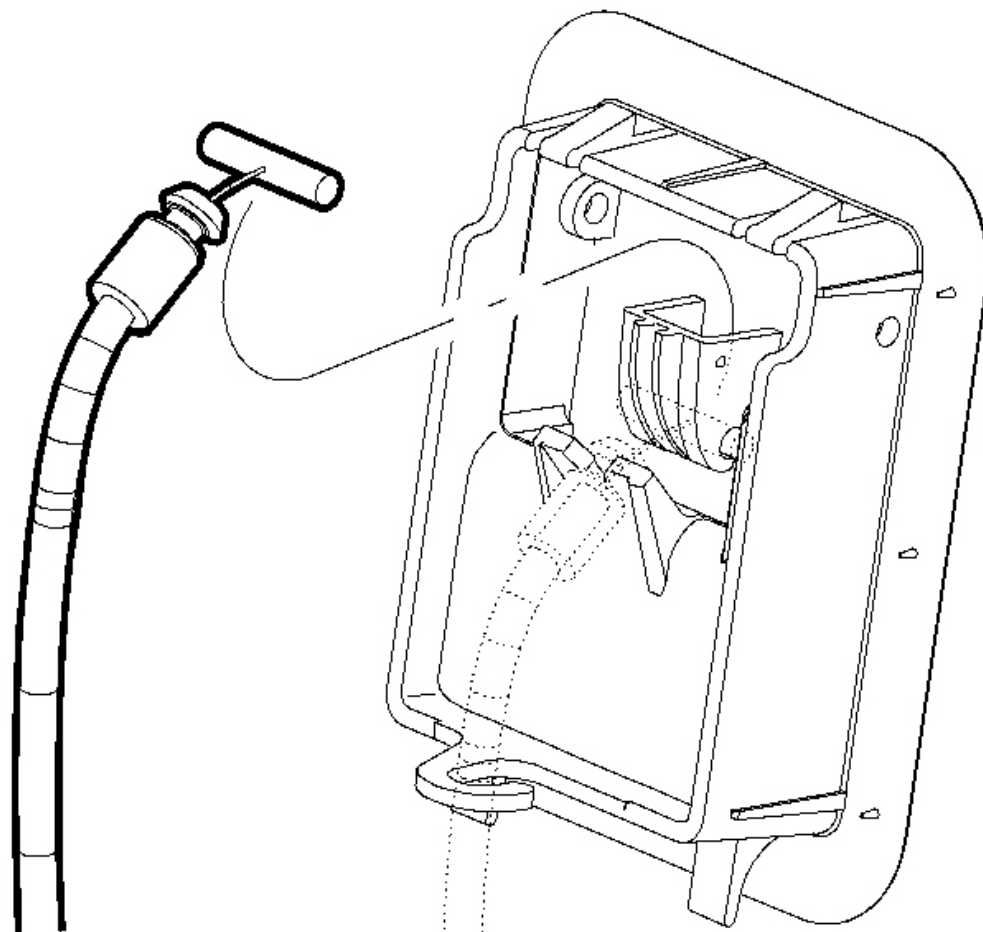
**Fig. 39: Seat Cover & Retractor Inner Fasteners**  
**Courtesy of GENERAL MOTORS CORP.**

6. Remove the seat back outer fastener and remove the seat back from the seat cushion frame.
7. Pull the seat cover up to expose the retractor inner fasteners.
8. Remove the fasteners.



**Fig. 40: Seat Back Recliner Handle & Fastener**  
Courtesy of GENERAL MOTORS CORP.

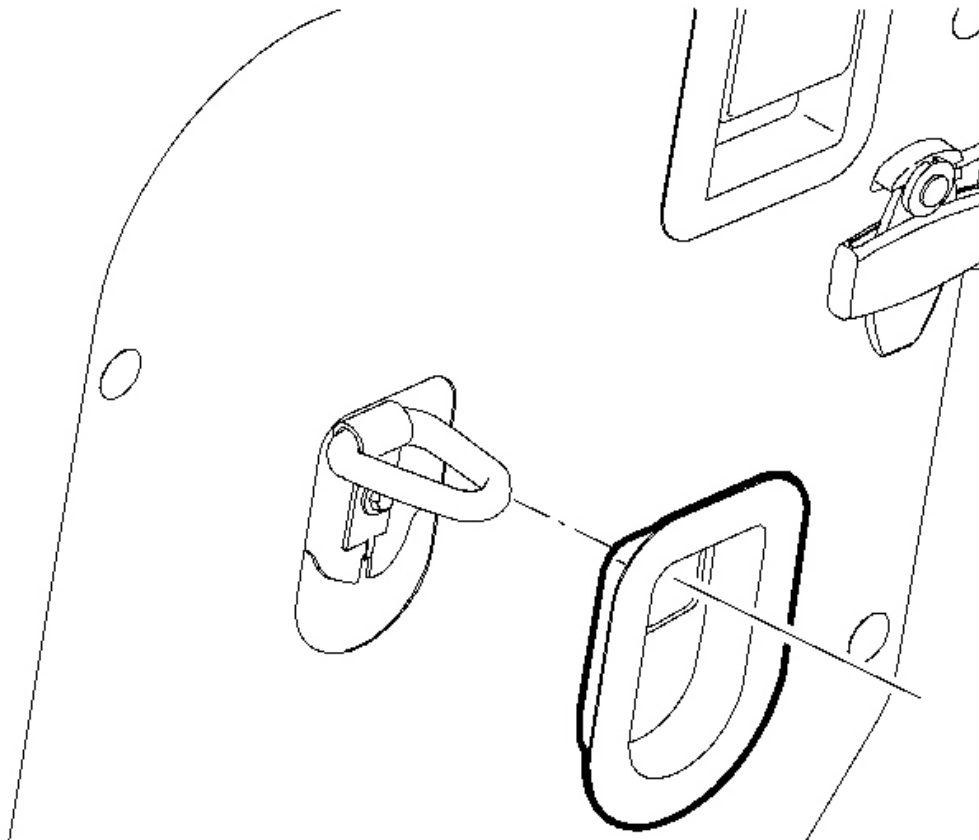
9. Remove the fastener from the seat back recliner handle and pull the handle out from the seat back.



**Fig. 41: Seat Back Recliner Handle & Cable**  
**Courtesy of GENERAL MOTORS CORP.**

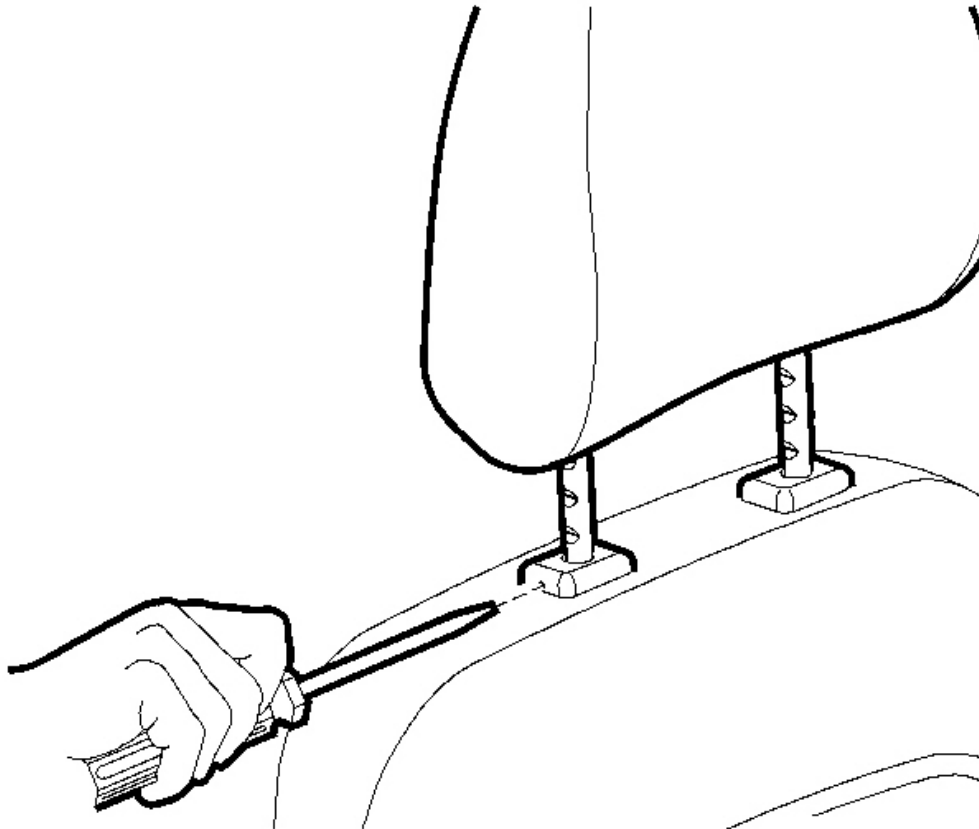
10. Pull the seat back recliner handle and cable out from the seat back.





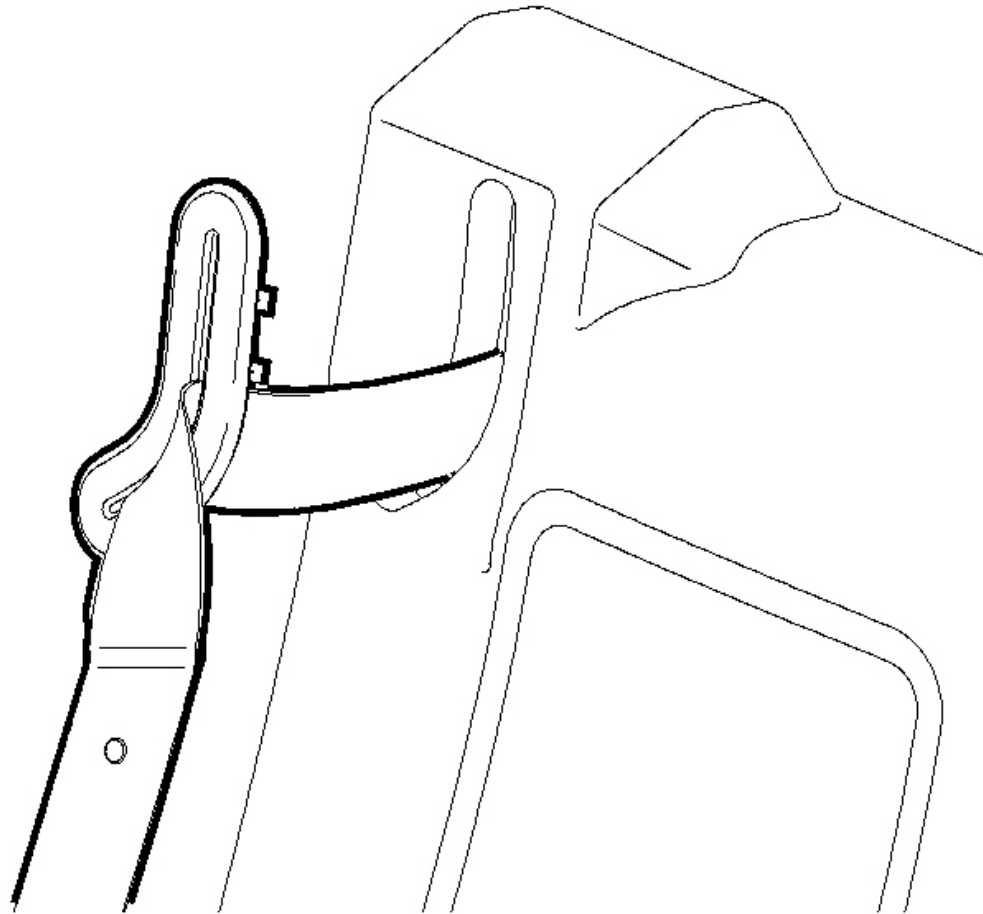
**Fig. 42: Child Tether Escutcheons**  
**Courtesy of GENERAL MOTORS CORP.**

11. Remove the child tether escutcheons by gently pulling at the sides of the escutcheon.



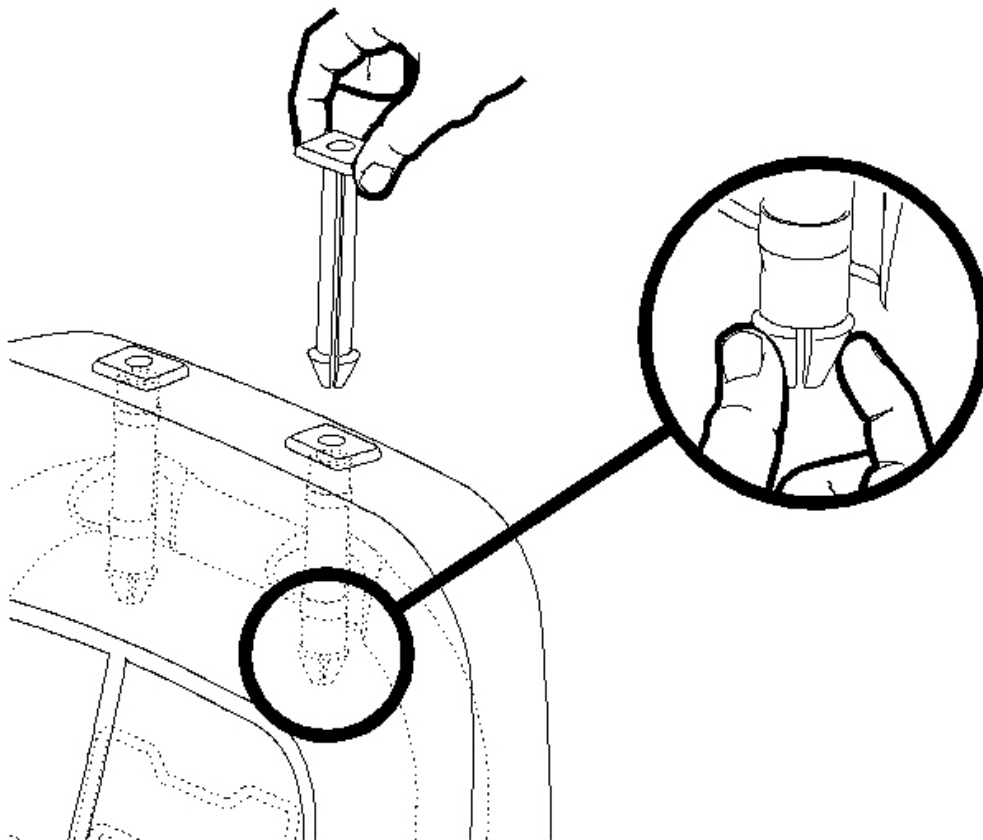
**Fig. 43: Inserting Small Pin Into Head Restraint Escutcheon**  
Courtesy of GENERAL MOTORS CORP.

12. Insert a small pin into the head restraint escutcheon while pulling upward to remove the head restraint.



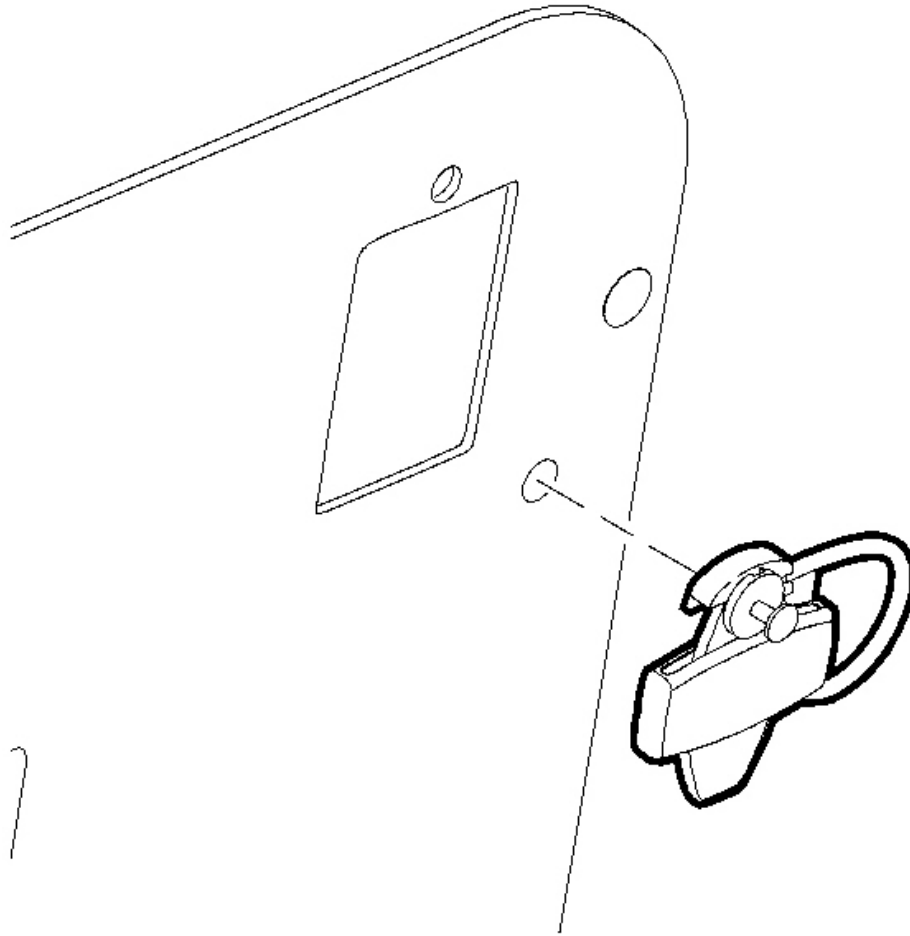
**Fig. 44: Shoulder Belt Bezel & Rear Seat Back**  
**Courtesy of GENERAL MOTORS CORP.**

13. Using a flat-bladed tool, unsnap the shoulder belt bezel from the rear seat back by prying to release the outboard bezel locking tabs.
14. Slide the bezel outboard to disengage the bezel from the seat back.



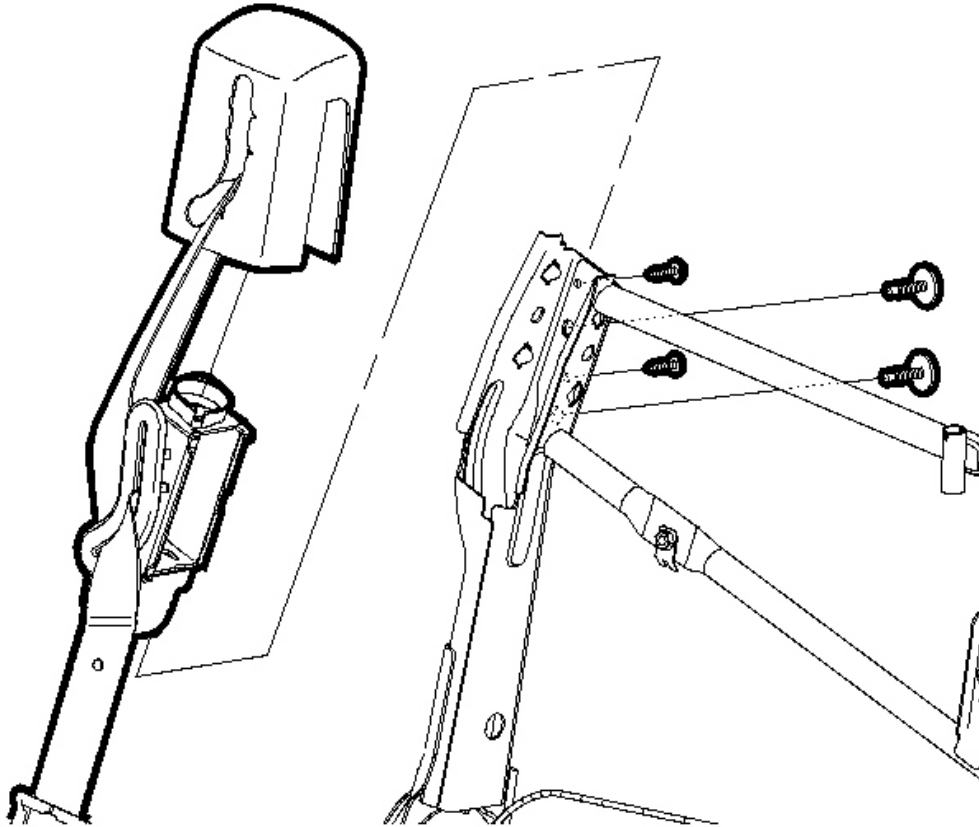
**Fig. 45: Head Retainer Sleeve**  
Courtesy of GENERAL MOTORS CORP.

15. Pull up on the rear seat back cover to expose the head restraint sleeve. Carefully disengage the hook and loop retainers.
16. Remove the head retainer sleeve by compressing at the tabs while pulling up on the sleeve.



**Fig. 46: Seat Belt Webbing, Bezel & Anchor Plate**  
**Courtesy of GENERAL MOTORS CORP.**

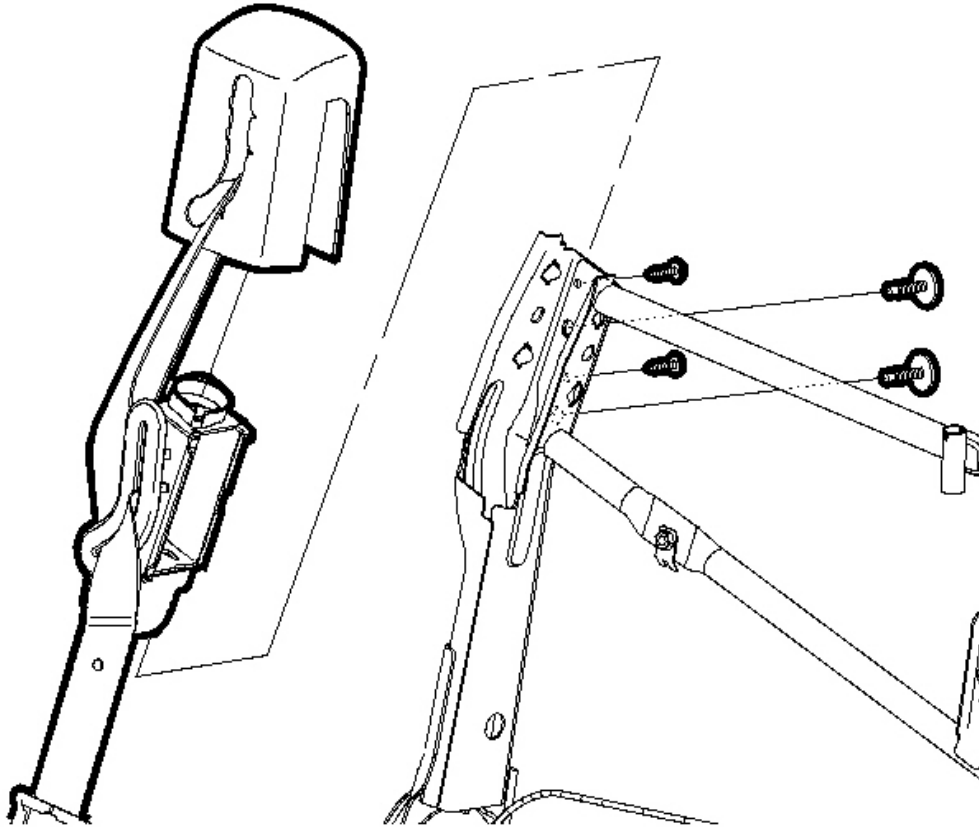
17. Remove the comfort guide, if equipped.
18. Remove the seat back cover.
19. Feed the seat belt webbing, the bezel, and the anchor plate through the cover.



**Fig. 47: Retractor Cover & Fasteners**  
**Courtesy of GENERAL MOTORS CORP.**

20. Remove the retractor cover fasteners.
21. Remove the rear shoulder belt fasteners.
22. Pull upward on the retractor unit cover and remove the retractor from the rear seat back frame.

**Installation Procedure**



**Fig. 48: Retractor Cover & Fasteners**  
Courtesy of GENERAL MOTORS CORP.

**NOTE:** Refer to Fastener Notice in Cautions and Notices.

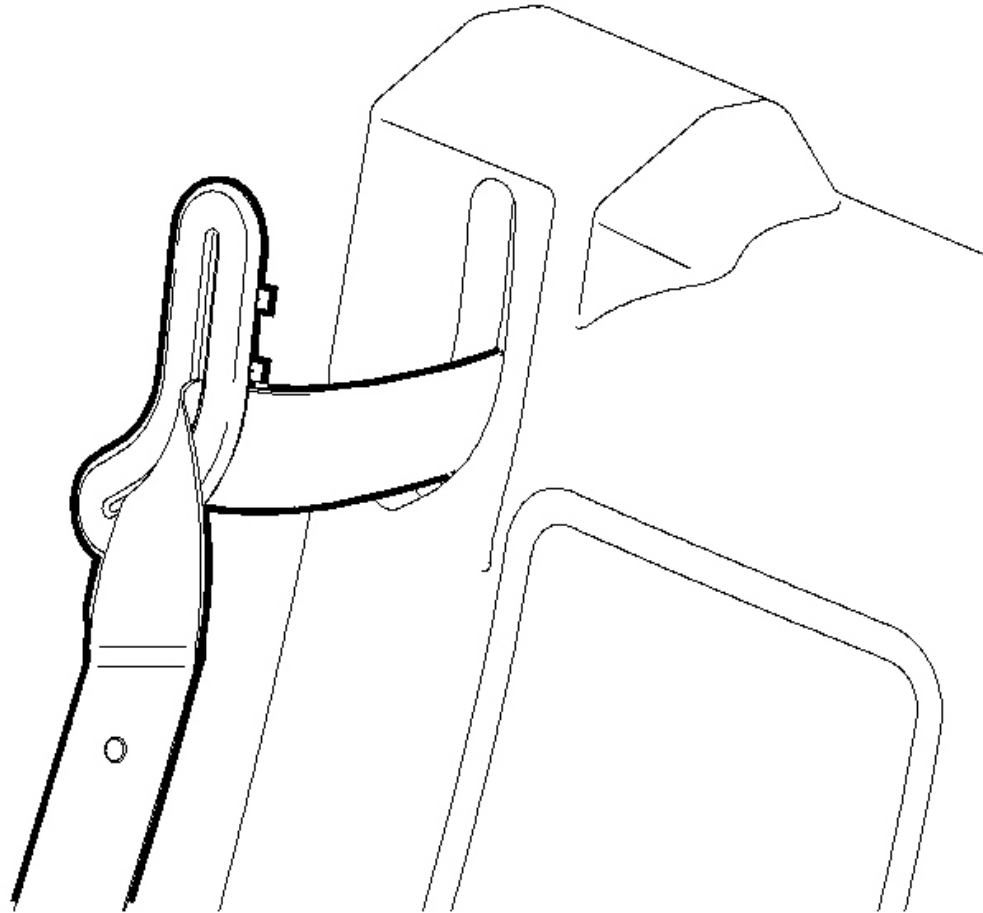
**IMPORTANT:** Apply Permatex(R) 24200 on all restraint fasteners prior to installation.

1. Position the retractor into the rear seat back frame and install the fasteners.

**Tighten:** Tighten the fasteners to 45 N.m (33 lb ft).

2. Position the retractor cover over the shoulder belt retractor and install the TORX(R) fasteners.

**Tighten:** Tighten the fasteners to 20 N.m (15 lb ft).



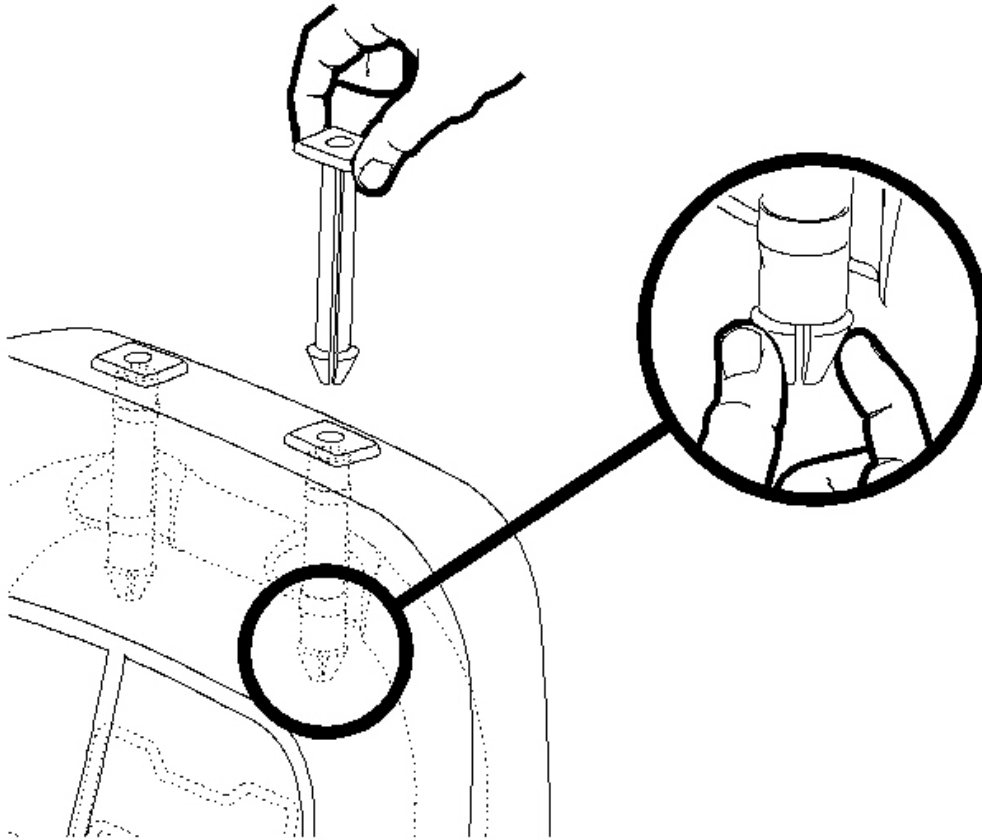
**Fig. 49: Shoulder Belt Bezel & Rear Seat Back**  
Courtesy of GENERAL MOTORS CORP.

**IMPORTANT: Verify that the shoulder belt is not twisted.**

3. Route the webbing and the escutcheon through the seat back trim cover.
4. Continue to install the seat back trim cover by pressing over the hook and loop locations to ensure proper engagement.
5. Install the seat belt webbing bezel.
  1. Slide the bezel inboard into the opening in the seat back.

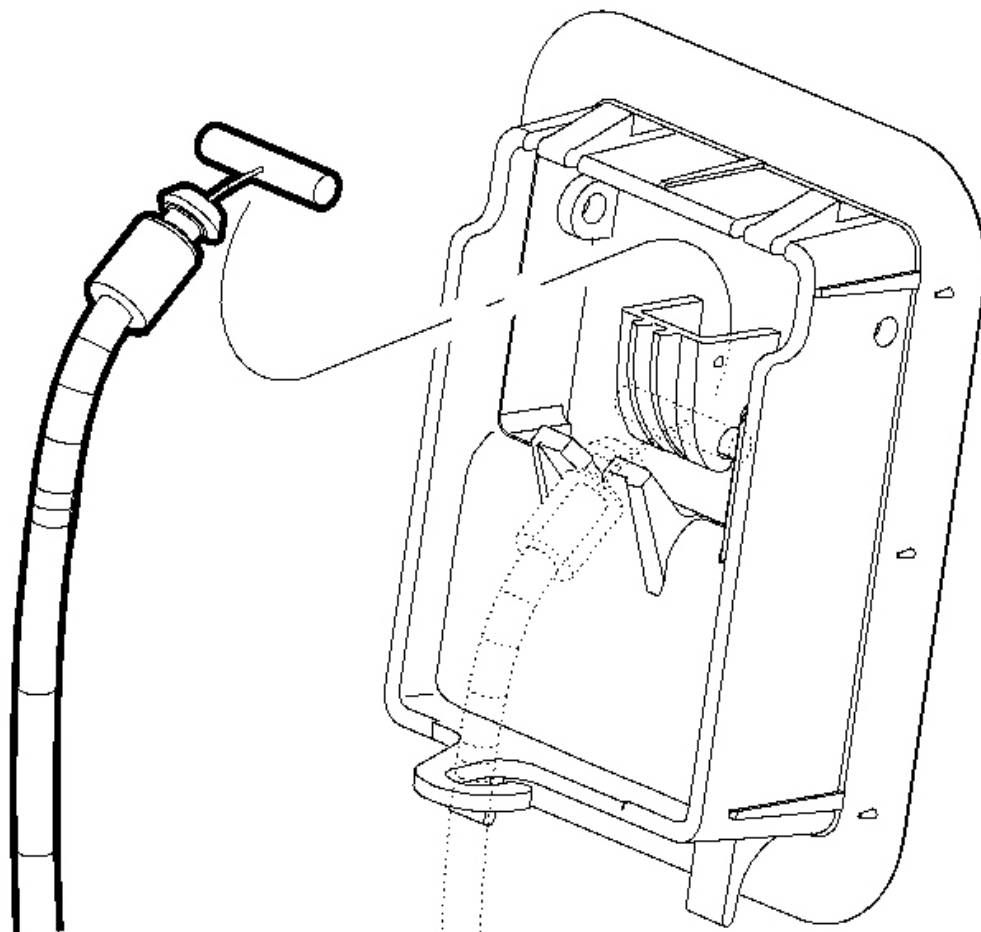


2. Apply pressure along the outboard edge of the bezel to engage the locking tabs.
6. Route the recliner cable between the seat back and the panel.



**Fig. 50: Head Retainer Sleeve**  
Courtesy of GENERAL MOTORS CORP.

7. Install the head rest guides by pushing down until the tabs engage on the frame.



**Fig. 51: Seat Back Recliner Handle & Cable**  
Courtesy of GENERAL MOTORS CORP.

8. Connect the recliner handle to the recliner cable.
9. Install the recliner handle and fastener.

**Tighten:** Tighten the fasteners to 2.5 N.m (22 lb in).

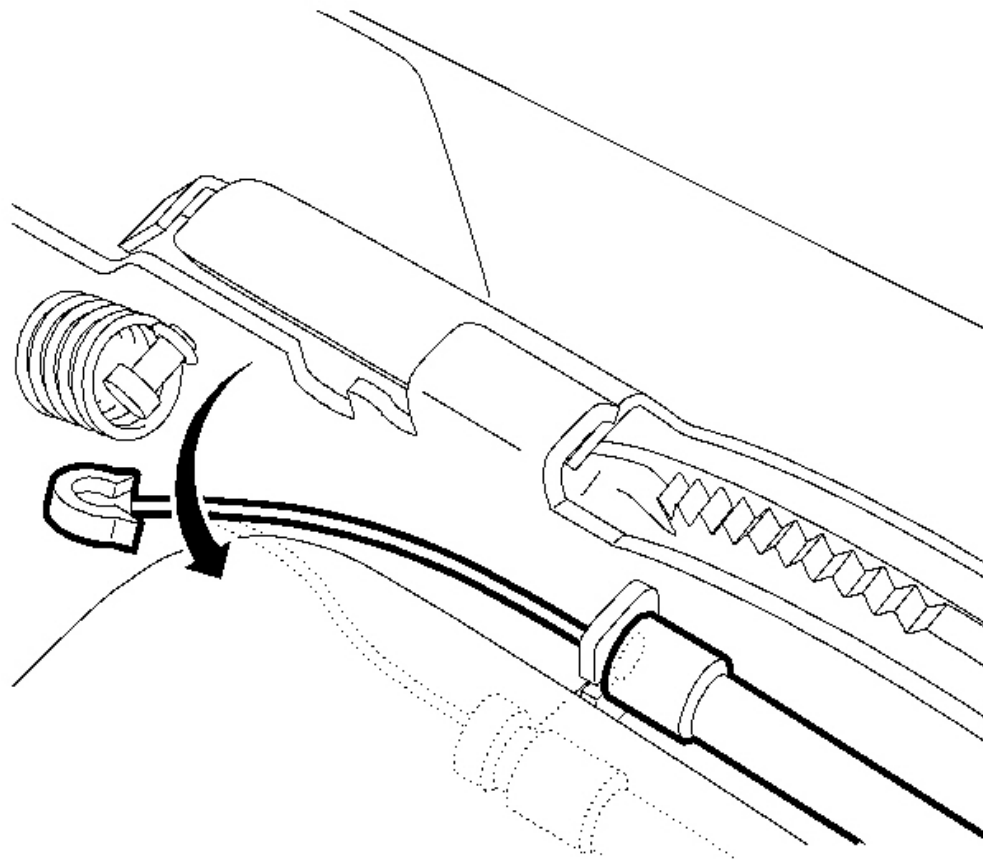
10. Install the inboard seat frame to the recliner and install the bolts.

**Tighten:** Tighten the bolts to 50 N.m (37 lb ft).

11. Connect the J-hook retainer to the rear seat back trim cover.

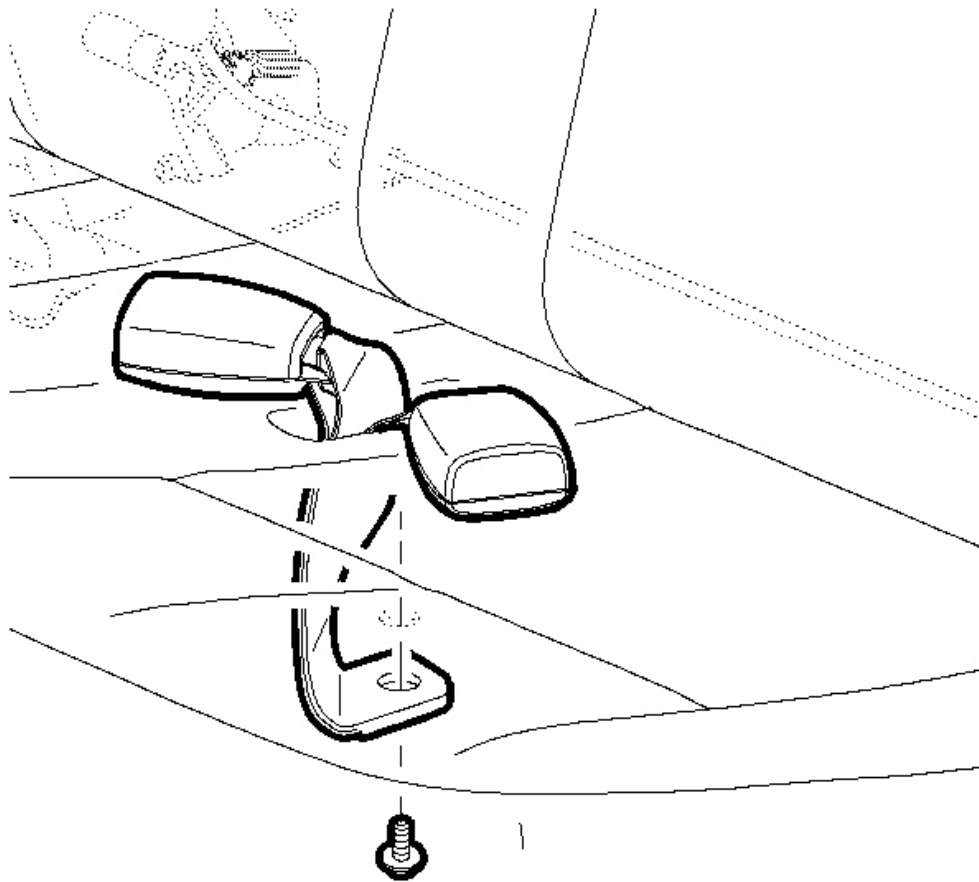
12. Install the seat back outer bolt.

**Tighten:** Tighten the bolt to 45 N.m (33 lb ft).



**Fig. 52: Recliner Handle Cable & Clip**  
Courtesy of GENERAL MOTORS CORP.

13. Connect the release cable to the recliner mechanism.

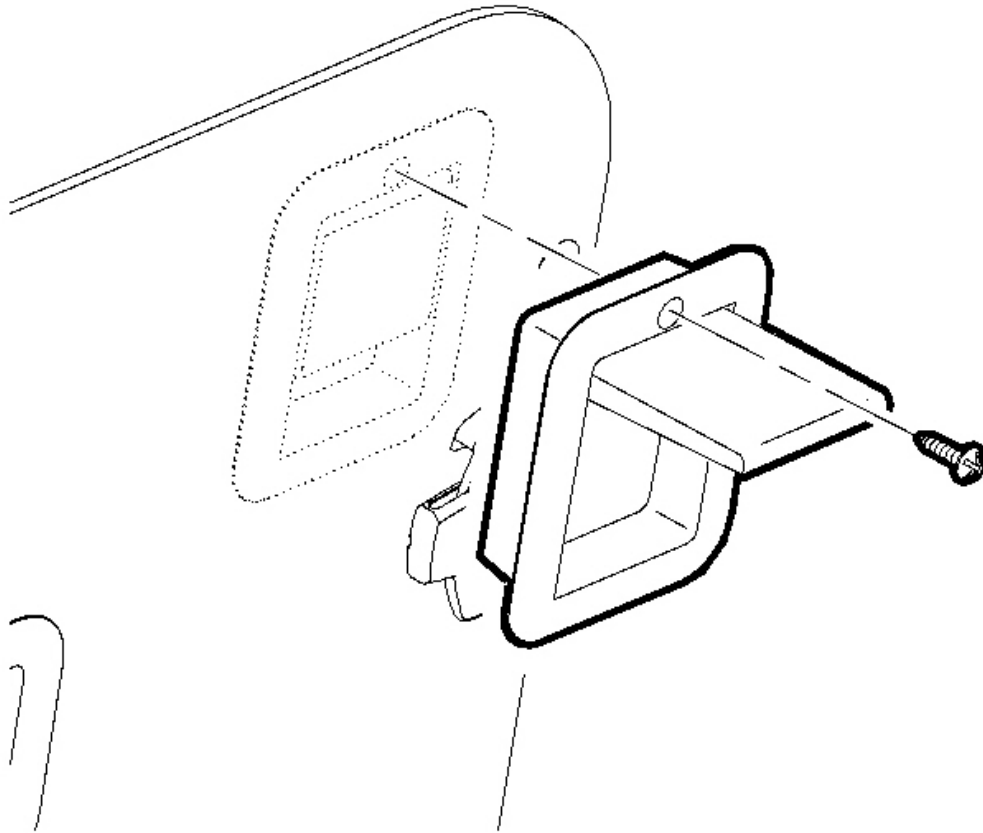


**Fig. 53: Seat Cushion & Buckle**  
Courtesy of GENERAL MOTORS CORP.

**IMPORTANT:** Verify that the shoulder belt is not twisted.

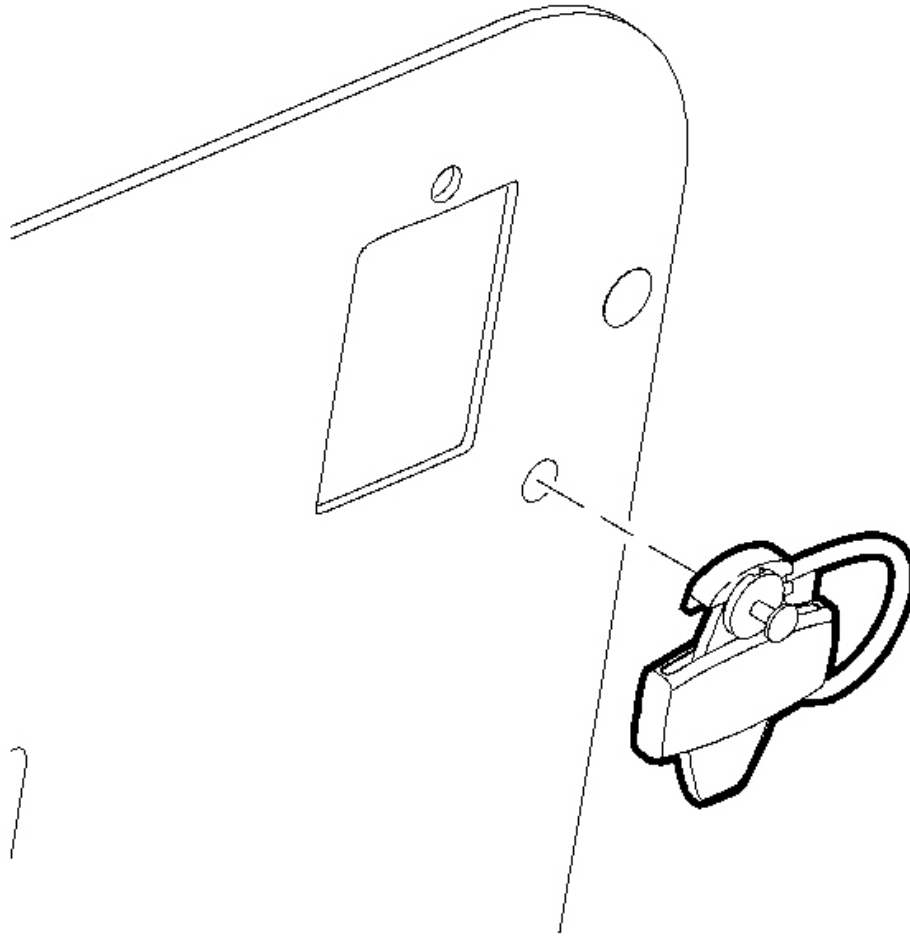
14. Route the shoulder belt through the seat cushion opening and install the fastener.

**Tighten:** Tighten the fastener to 50 N.m (37 lb ft).



**Fig. 54: Seat Back Recliner Handle & Fastener**  
Courtesy of GENERAL MOTORS CORP.

15. Install the child tether escutcheons.



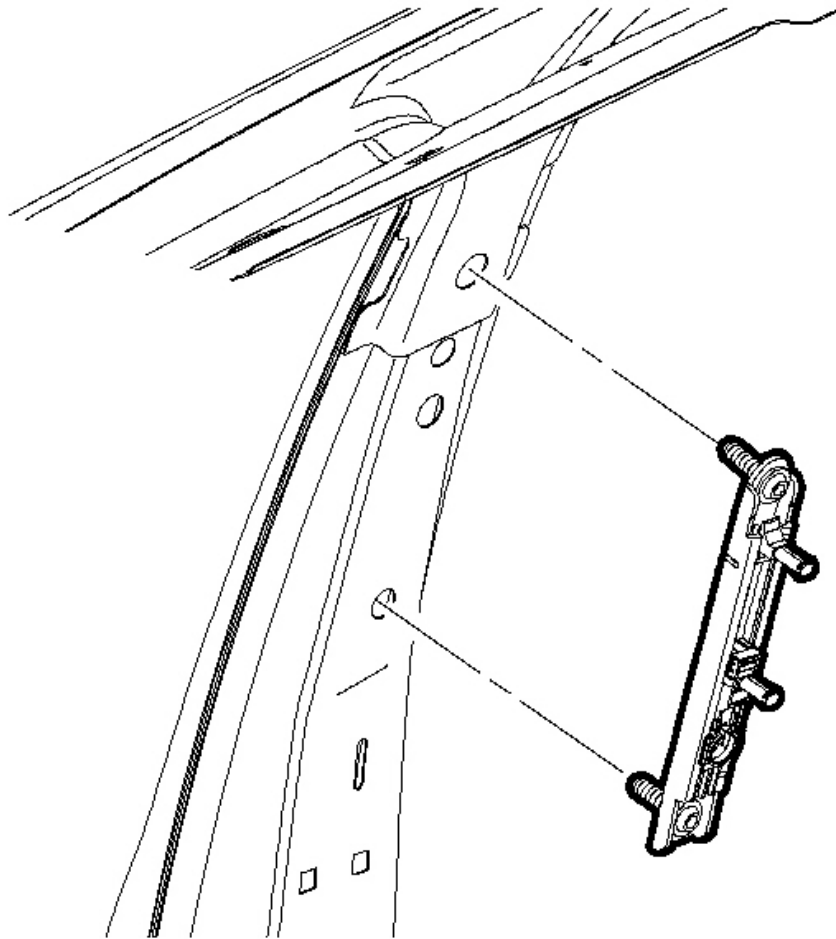
**Fig. 55: Seat Belt Webbing, Bezel & Anchor Plate**  
Courtesy of GENERAL MOTORS CORP.

16. Install the comfort guide.
17. Install the rear seat back head restraint. Refer to **Head Restraint Replacement - Rear Seat** in Seats.
18. Install the rear seat assembly. Refer to **Seat Replacement - Rear** in Seats.

### **SEAT BELT HEIGHT ADJUSTER REPLACEMENT - FRONT**

#### **Removal Procedure**

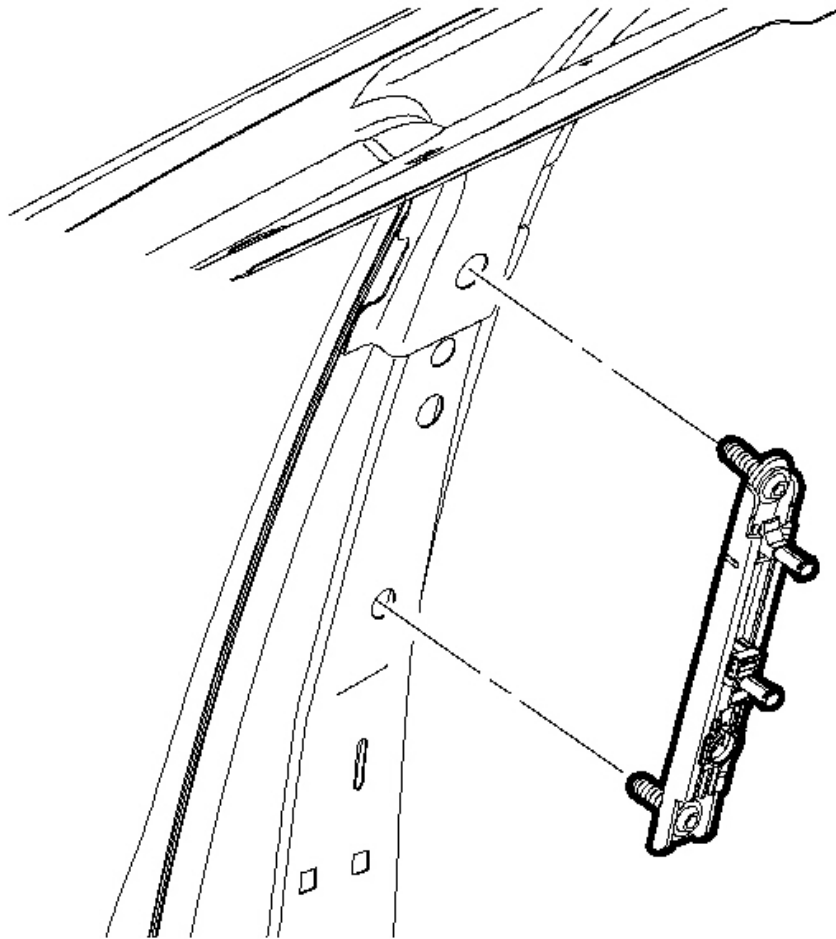
1. Remove the center pillar upper garnish molding. Refer to **Garnish Molding Replacement - Center Pillar Lower** in Interior Trim.



**Fig. 56: Shoulder Belt Height Adjuster**  
**Courtesy of GENERAL MOTORS CORP.**

2. Remove the fasteners from the shoulder belt height adjuster. Remove the height adjuster.

**Installation Procedure**



**Fig. 57: Shoulder Belt Height Adjuster**  
Courtesy of GENERAL MOTORS CORP.

**NOTE:** Refer to Fastener Notice in Cautions and Notices.

**IMPORTANT:** Apply Permatex(R) 24200 on all restraint fasteners prior to installation.

1. Install the shoulder belt height adjuster with the fasteners.

**Tighten:** Tighten the fasteners to 40 N.m (30 lb ft).

2. Install the center pillar upper garnish molding. Refer to Garnish Molding Replacement - Center Pillar



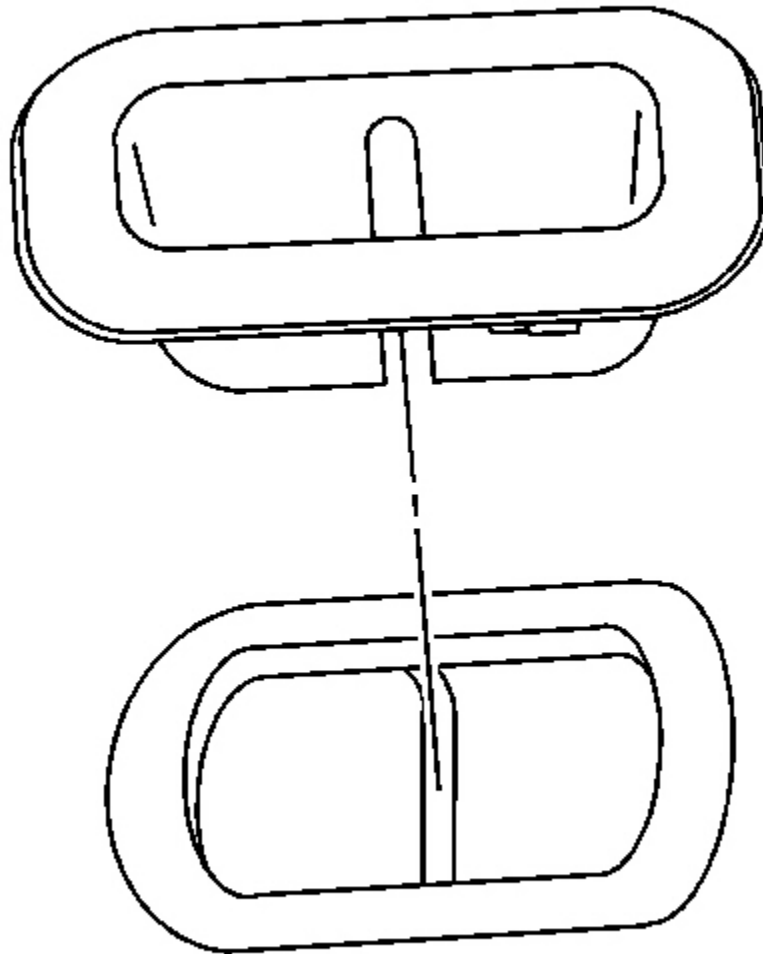
**Lower** in Interior Trim

3. Operate the shoulder belt to ensure proper installation.

## **BEZEL REPLACEMENT - CHILD RESTRAINT TETHER ANCHOR**

### **Removal Procedure**

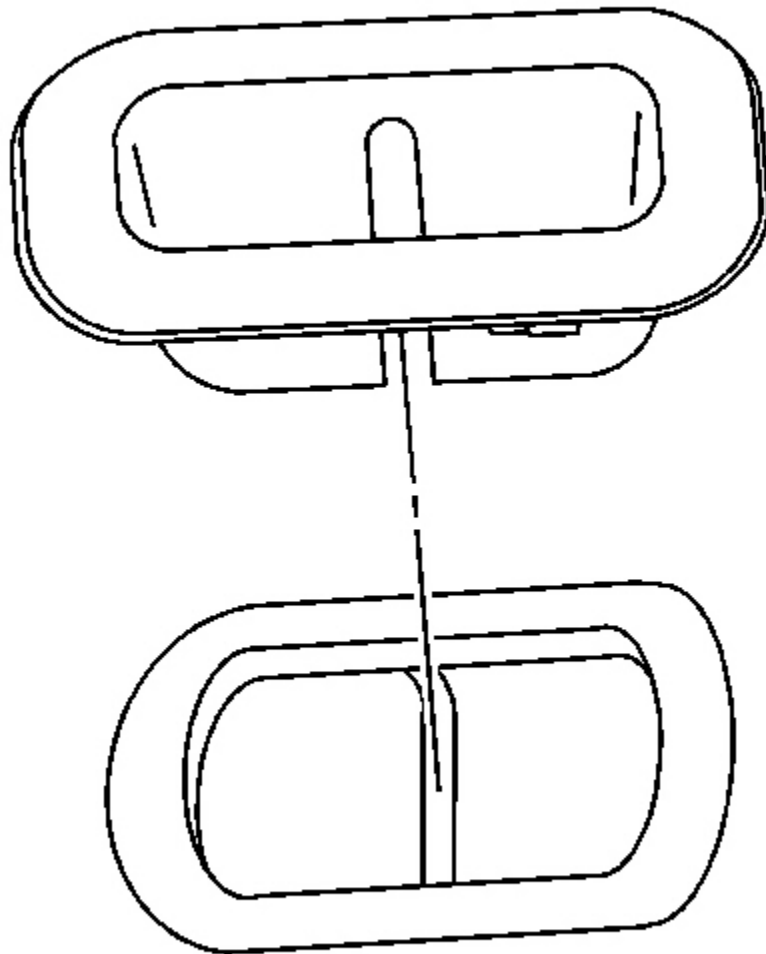
1. Fold down the rear seat back.



**Fig. 58: Tether Anchor Bezel**  
Courtesy of GENERAL MOTORS CORP.

2. Remove the tether anchor bezel by pulling up at the sides.

### Installation Procedure

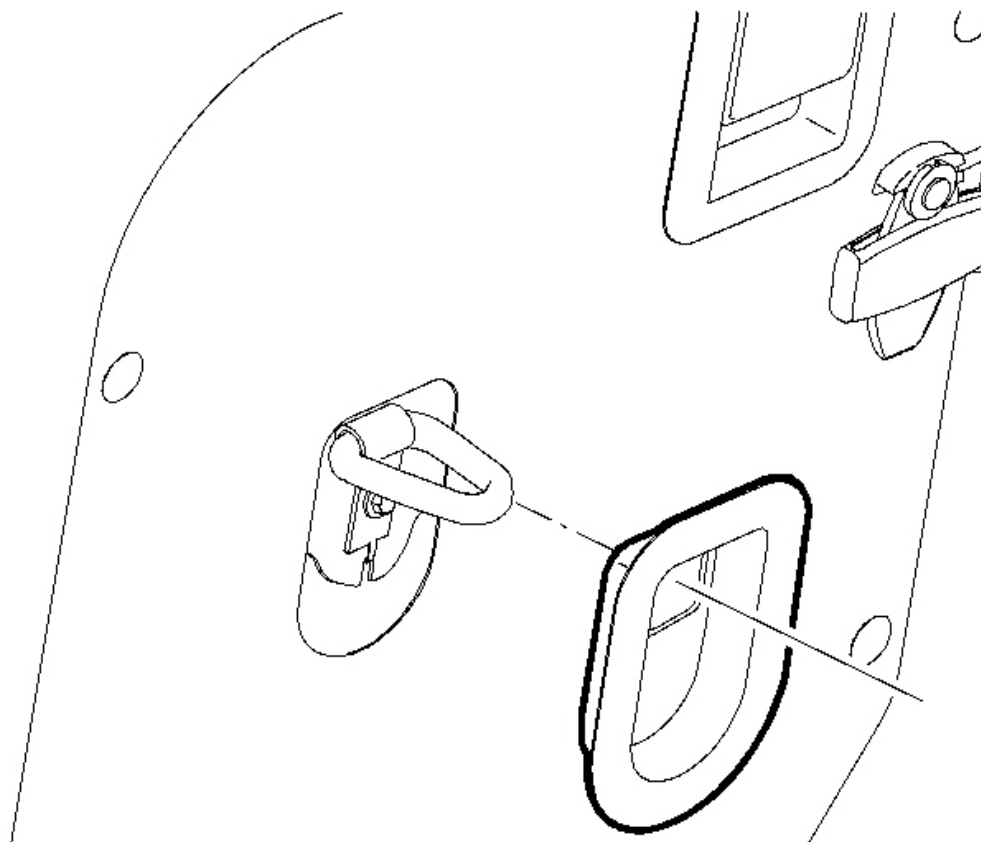


**Fig. 59: Tether Anchor Bezel**  
Courtesy of GENERAL MOTORS CORP.

1. Install the tether anchor bezel by pushing down on the sides.
2. Move the rear seat back to the upright position.

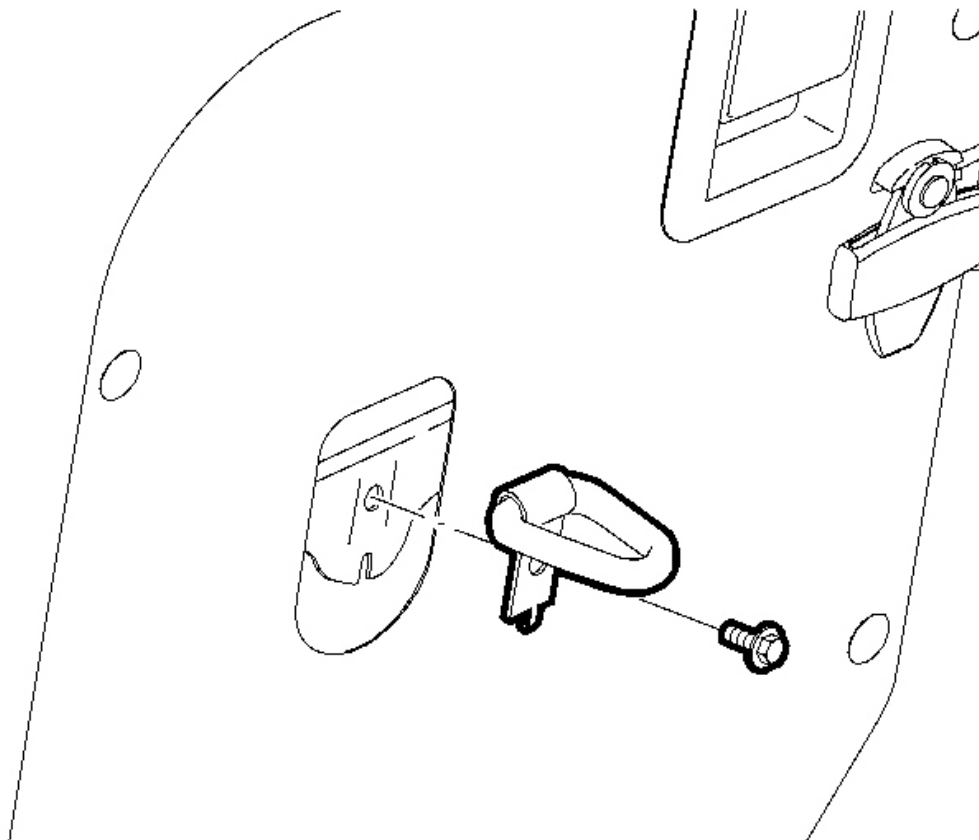
**CHILD RESTRAINT TETHER ANCHOR REPLACEMENT (EARLY PRODUCTION)**

## Removal Procedure



**Fig. 60: Child Tether Escutcheons**  
Courtesy of GENERAL MOTORS CORP.

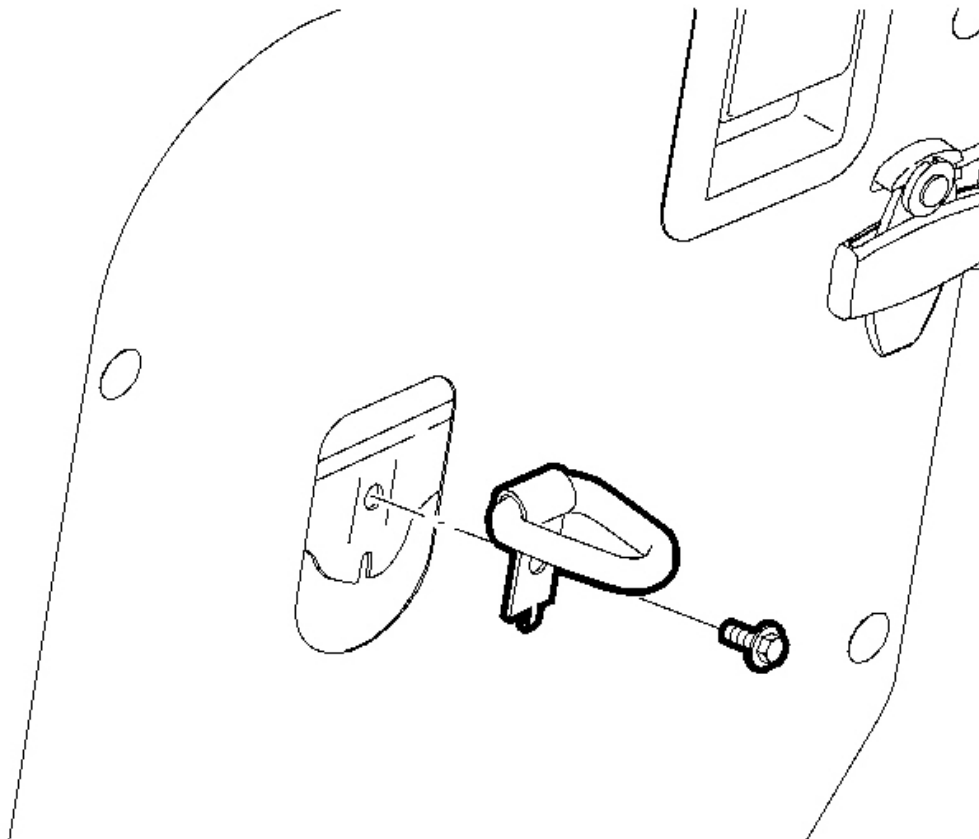
1. Fold down the rear seat back.
2. Remove the tether anchor escutcheon by pulling up at the sides.



**Fig. 61: Tether Anchor & Fastener**  
**Courtesy of GENERAL MOTORS CORP.**

3. Remove the tether anchor fastener and remove the tether anchor.

#### **Installation Procedure**



**Fig. 62: Tether Anchor & Fastener**  
Courtesy of GENERAL MOTORS CORP.

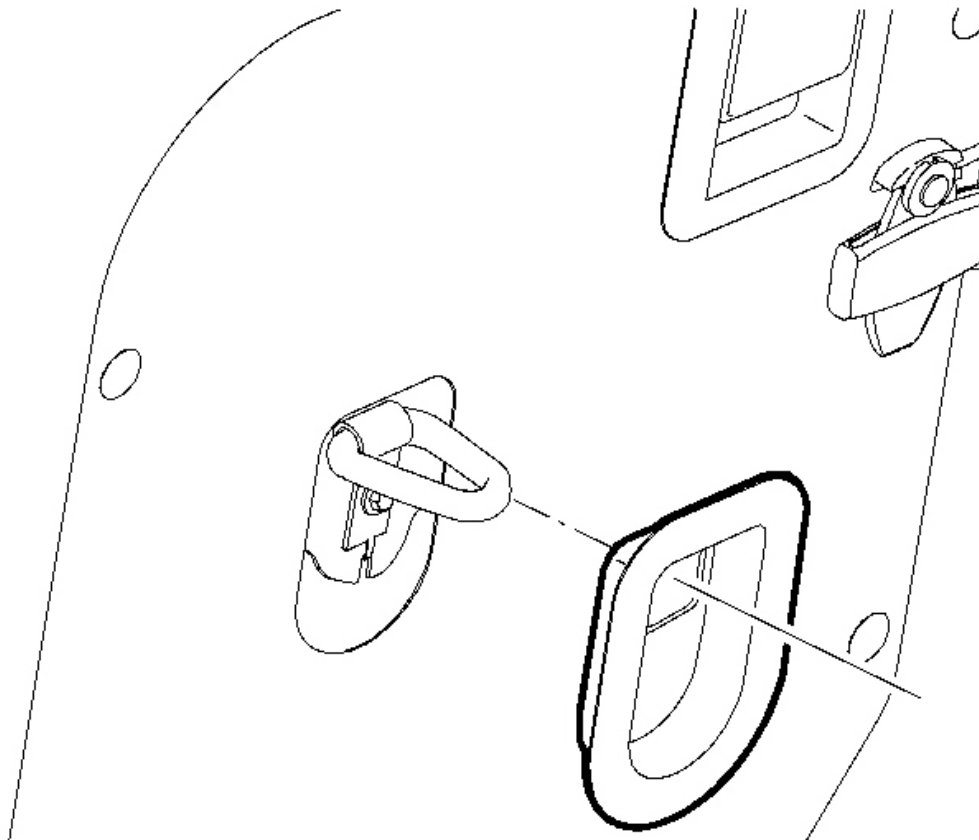
1. Position the tether anchor onto the rear seat structure.

**NOTE:** Refer to Fastener Notice in Cautions and Notices.

**IMPORTANT:** Verify that the tether anchor tab is inserted into the notch.

2. Install the tether anchor fastener.

**Tighten:** Tighten the fastener to 25 N.m (18 lb ft).

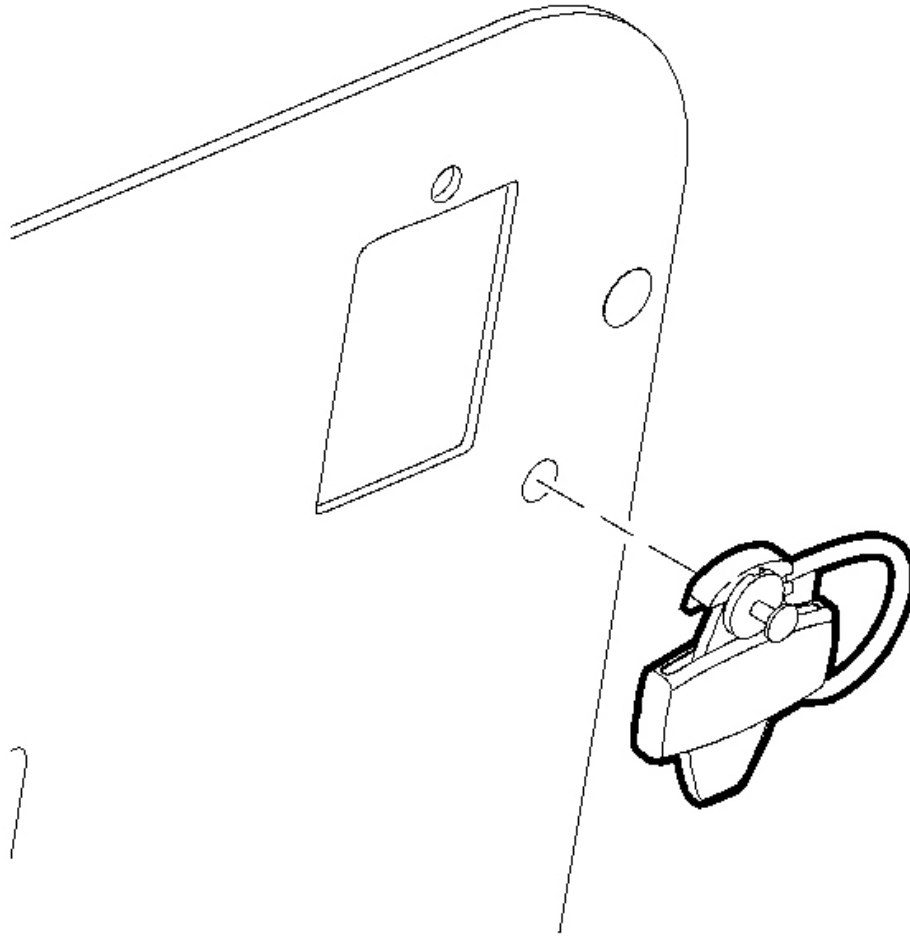


**Fig. 63: Child Tether Escutcheons**  
**Courtesy of GENERAL MOTORS CORP.**

3. Install the tether anchor escutcheon.

## **GUIDE REPLACEMENT - REAR SEAT SHOULDER BELT**

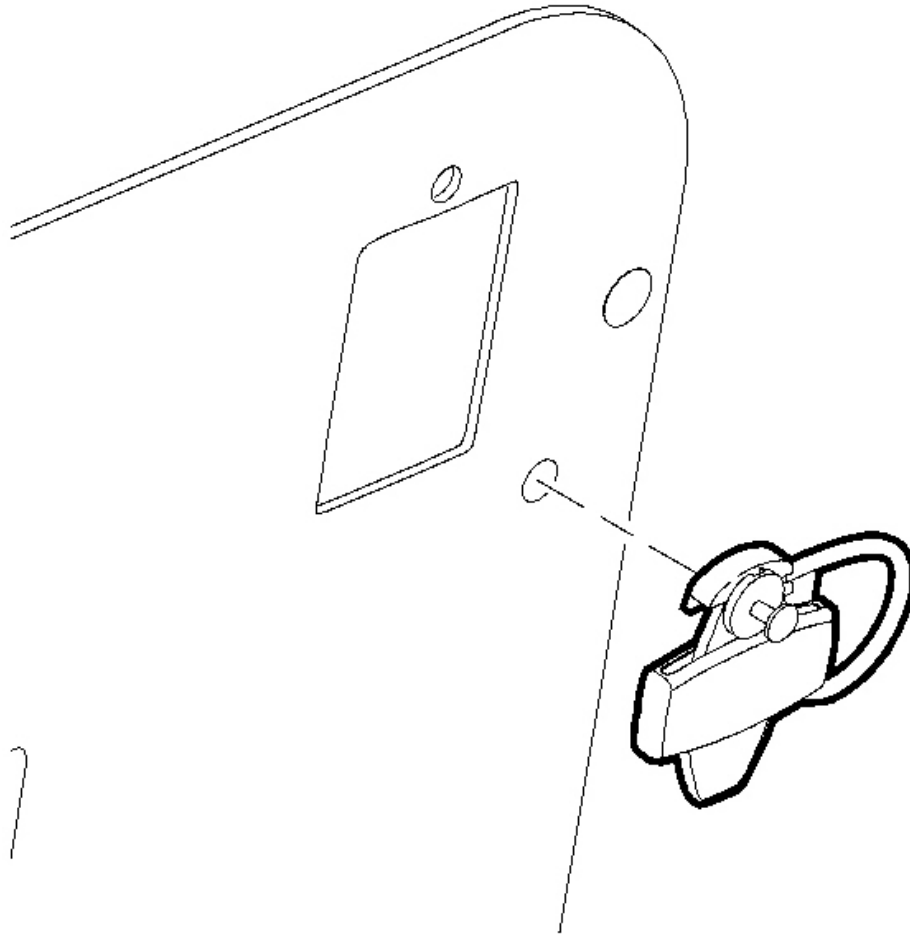
### **Removal Procedure**



**Fig. 64: Seat Belt Webbing, Bezel & Anchor Plate**  
**Courtesy of GENERAL MOTORS CORP.**

1. Lower the rear seat assembly.
2. Remove the shoulder belt from the comfort guide.
3. Remove the comfort guide retainer and remove the comfort guide.

**Installation Procedure**



**Fig. 65: Seat Belt Webbing, Bezel & Anchor Plate**  
Courtesy of GENERAL MOTORS CORP.

1. Install the comfort guide to the rear seat back with the retainer.
2. Install the comfort guide to the shoulder belt assembly.
3. Operate the rear seat shoulder belt assembly to verify proper installation.

## **DESCRIPTION AND OPERATION**

### **SEAT BELT SYSTEM DESCRIPTION AND OPERATION**

#### **Fasten Safety Belt Indicator**



The instrument panel cluster (IPC) illuminates the fasten safety belt indicator when any of the following occur:

- The inflatable restraint sensing and diagnostic module (SDM) detects that the driver's seat belt is unbuckled, or the signal circuit is low. The initial (default) state of the driver seat belt telltale for each ignition cycle is off. The IPC receives a Class 2 message from the SDM requesting illumination. The IPC illuminates the indicator solid for 20 seconds and then flashes the indicator for 55 seconds. At the end of the 75 seconds or if at any time during this function the driver seat belt switch becomes buckled, a class 2 message shall be sent to the IPC to command the telltale off. The SDM sends a Class 2 message to the IPC in order to activate an audible warning.
- The IPC performs the displays test at the start of each ignition cycle. The indicator illuminates for approximately 3 seconds.

## **Restraint System**

Seat belts are the primary means of occupant restraint.

Seat belts help to keep occupants inside the passenger compartment and to gradually reduce the impact forces.

All seat belt retractors have emergency locks. The retractors remain unlocked during normal operation and under normal driving conditions. The retractors remain unlocked during normal conditions in order to allow free movement of the upper body of each occupant.

A pendulum locks the seat belt webbing into position. The pendulum causes a locking bar to engage a cog on the spool of the retractor mechanism when the following conditions occur:

- A rapid extraction of the seat belt webbing from the retractor
- An abrupt change in the vehicle speed
- An abrupt change in the vehicle direction
- Operation of the vehicle on a steep upgrade
- Operation of the vehicle on a steep downgrade

The seat belts, except for the driver seat belt, have an automatic locking feature, or a cinch feature. The cinch feature is recommended for securing a child seat. The cinch feature is engaged by fully extending the seat belt from the retractor. Once engaged, the seat belt can retract, but cannot be extended again until the cinch feature is cancelled. The cinch feature is cancelled when the seat belt has fully retracted.

This vehicle is also equipped with a supplemental inflatable restraint (SIR) system. Refer to **SIR System Description and Operation** in SIR.

## **Front Seat System**

The front seat belt system includes the following components:

- The driver and passenger side seat belt buckles, attached to the inboard side of the seat frame
- The driver and passenger side seat belt retractors, attached to the lock pillar on 2-door models, or the

center pillar on 4-door models

The driver seat belt system includes a seat belt switch in the driver side seat belt buckle. The seat belt switch controls the fasten safety belt indicator and a tone alarm. The fasten safety belt indicator and the tone alarm will not operate when the following conditions exist:

- The driver seat belt is buckled.
- The driver door is closed.
- The ignition switch is turned ON.

The following events will occur when the driver door is closed and the ignition switch is turned ON, but the driver seat belt is not buckled:

- The tone alarm will operate for 4-8 seconds and then turn off.
- The fasten safety belt indicator will operate until the driver seat belt is buckled, or until approximately one minute has elapsed.

Refer to **Seat Belt Indicator Circuit Malfunction** in Seat Belts in order to diagnose faults in the fasten safety belt indicator or **Wiring Systems in Body and Accessories** in order to diagnose faults in the tone alarm.