

2004 ACCESSORIES & EQUIPMENT

Seats - Vue

SPECIFICATIONS

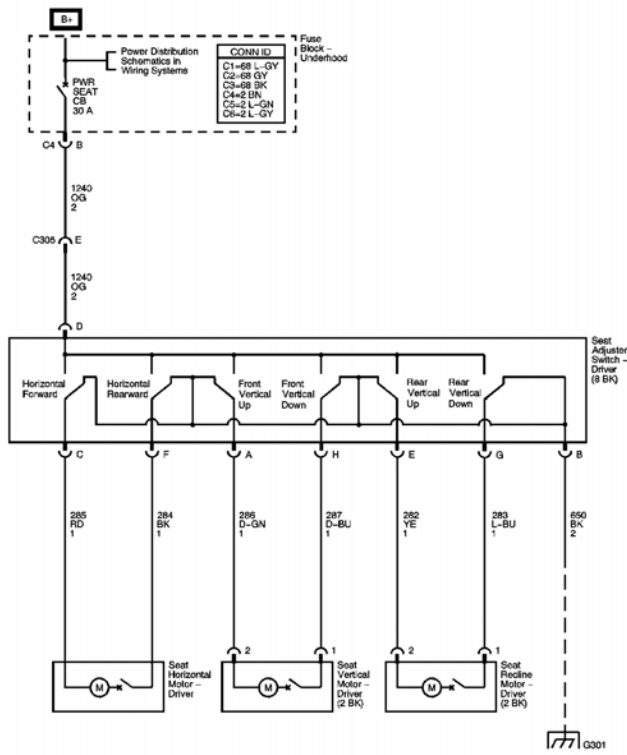
FASTENER TIGHTENING SPECIFICATIONS

Fastener Tightening Specifications

Application	Specification	
	Metric	English
Front Bucket Seat Adjuster Bolt	50 N.m	37 lb ft
Front Bucket Seat Armrest Screw	30 N.m	22 lb ft
Front Bucket Seat Back Frame Bolts - Fold Flat	70 N.m	52 lb ft
Front Bucket Seat Back Frame Nut - Non Fold Flat	17 N.m	13 lb ft
Front Bucket Seat Back Panel Screws - Fold Flat	2 N.m	18 lb in
Front Bucket Seat Cushion Frame Bolt	12 N.m	9 lb ft
Front Bucket Seat Inboard Recliner Trim Panel Screw	2.5 N.m	22 lb in
Front Bucket Seat Lumbar Actuator Screw	2 N.m	18 lb in
Front Bucket Seat Outboard Recliner Trim Panel Screw	2.5 N.m	22 lb in
Front Bucket Seat Recliner Handle Bolt - Non Fold Flat	10 N.m	89 lb in
Front Bucket Seat Teardrop Washer Bolt - Non Fold Flat	35 N.m	26 lb ft
Front Seat Back Recliner Trim Panel Screw	2.5 N.m	22 lb in
Front Seat Belt Buckle Bolt	45 N.m	33 lb ft
Front Seat Belt Quick Disconnect Bolt	45 N.m	33 lb ft
Front Seat Cushion Inner Trim Panel Screw	2.5 N.m	22 lb in
Front Seat Cushion Outer Trim Panel Screw	2.5 N.m	22 lb in
Front Seat Recliner Bolt - Fold Flat	45 N.m	33 lb ft
Seat Back Panel - Front	2 N.m	18 lb in

SCHEMATIC AND ROUTING DIAGRAMS

DRIVER SEAT SCHEMATICS



L O C

D E S C



Fig. 1: Driver Seat Schematic
 Courtesy of GENERAL MOTORS CORP.

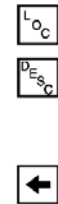
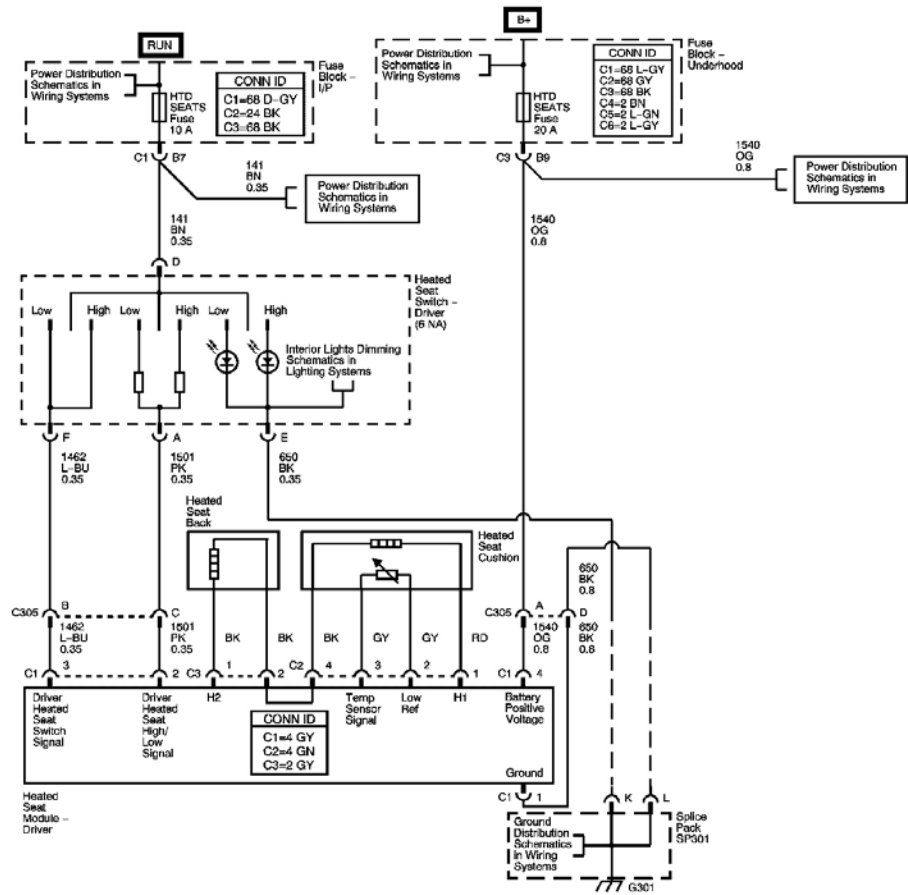


Fig. 2: Heated Seat Schematic
 Courtesy of GENERAL MOTORS CORP.

PASSENGER SEAT SCHEMATICS

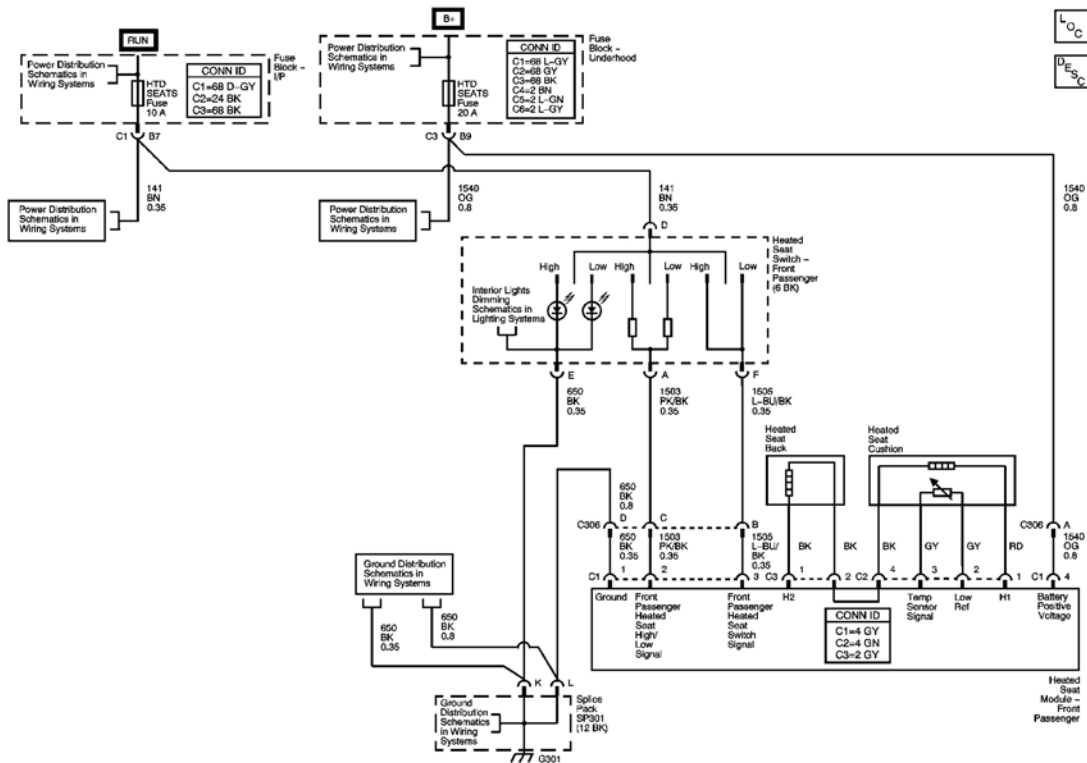


Fig. 3: Passenger Seat Schematic
 Courtesy of GENERAL MOTORS CORP.

COMPONENT LOCATOR

POWER SEAT SYSTEMS COMPONENT VIEWS

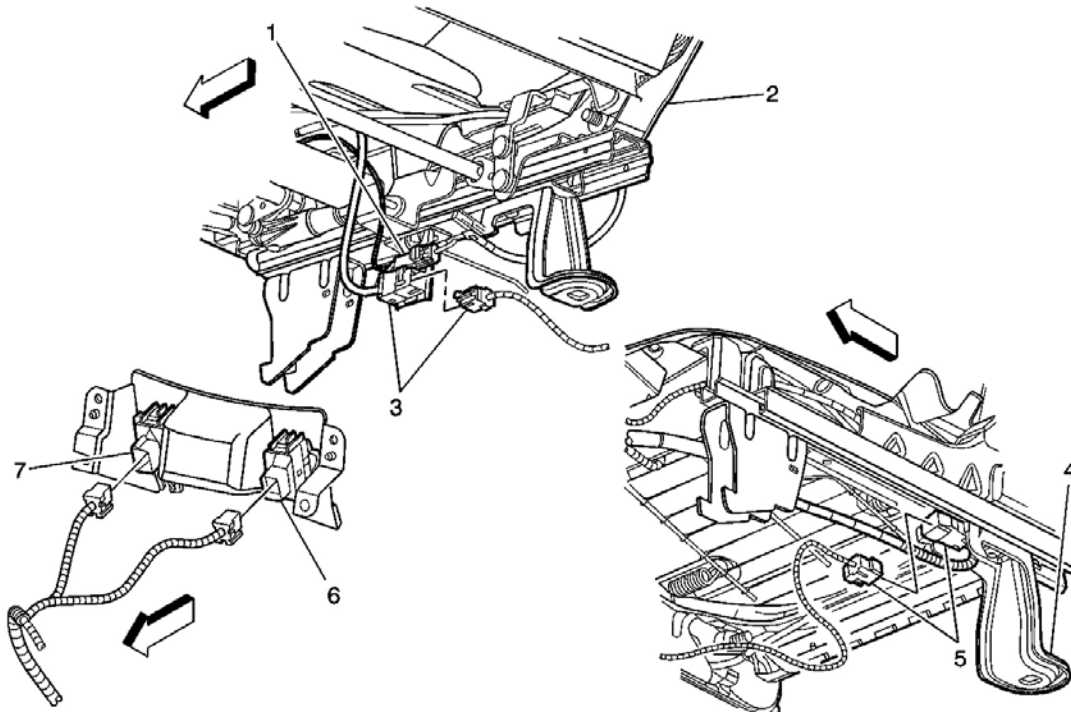


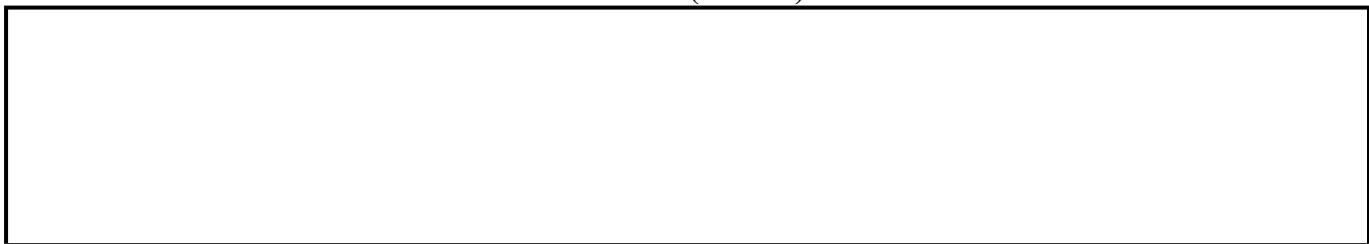
Fig. 4: View Of Power Seat Systems Component View
 Courtesy of GENERAL MOTORS CORP.

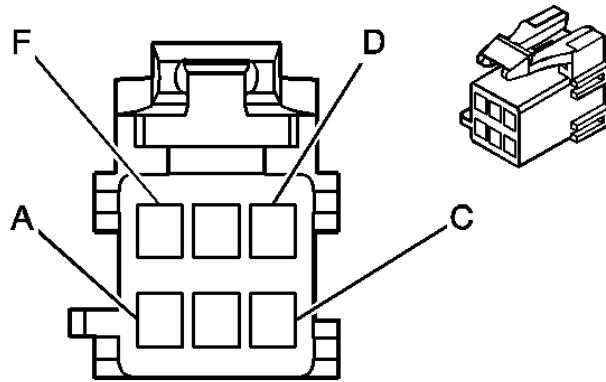
Callouts For Fig. 4

Callout	Component Name
1	Not Used - Early Production
2	Seat - Driver
3	C305 - To the Driver Power/Heated Seat (w/ AG1,KA1)
4	Seat - Front Passenger
5	C306 - To the Front Passenger Heated Seat (w/ KA1)
6	Driver Heated Seat Switch (w/ KA1) (Mounted Near the Shifter Assembly)
7	Front Passenger Heated Seat Switch (w/ KA1) (Mounted Near the Shifter Assembly)

POWER SEAT SYSTEMS CONNECTOR END VIEWS

Heated Seat Switch - Driver Connector End View (w/KA1)



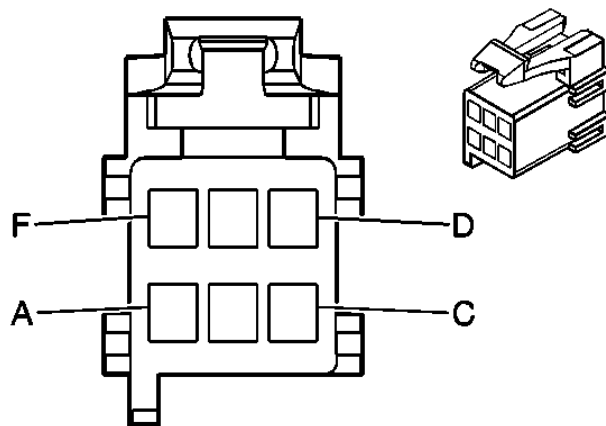


Connector Part Information

- 12177194
- 6-Way F Metri-Pack 150 Series (NA)

Pin	Wire Color	Circuit Number	Function
A	PK	1501	Driver Heated Seat High/Low Signal
B	GY	8	Instrument Panel Lamps Dimmer Switch Signal
C	-	-	Not Used
D	BN	141	Ignition 1 Voltage
E	BK	650	Ground
F	L-BU	1462	Driver Heated Seat Switch Signal

Heated Seat Switch - Front Passenger Connector End View (w/KA1)

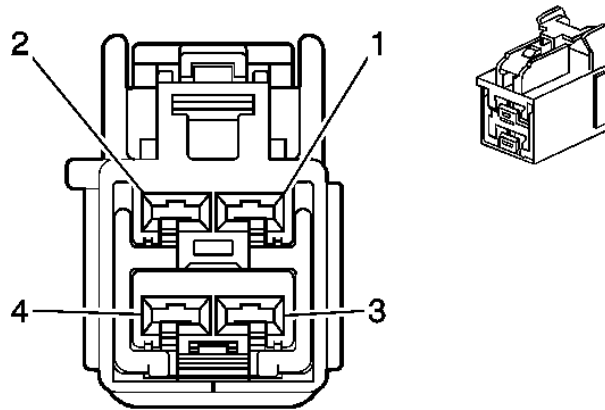


Connector Part Information

- 12177195

• 6-Way F Metri-Pack 150 Series (BK)			
Pin	Wire Color	Circuit Number	Function
A	PK/BK	1503	Front Passenger Heated Seat High/Low Signal
B	GY	8	Instrument Panel Lamps Dimmer Switch Signal
C	-	-	Not Used
D	BN	141	Ignition 1 Voltage
E	BK	650	Ground
F	L-BU/BK	1505	Front Passenger Heated Seat Switch Signal

Heated Seat Module - Driver C1 Connector End View (w/KA1)

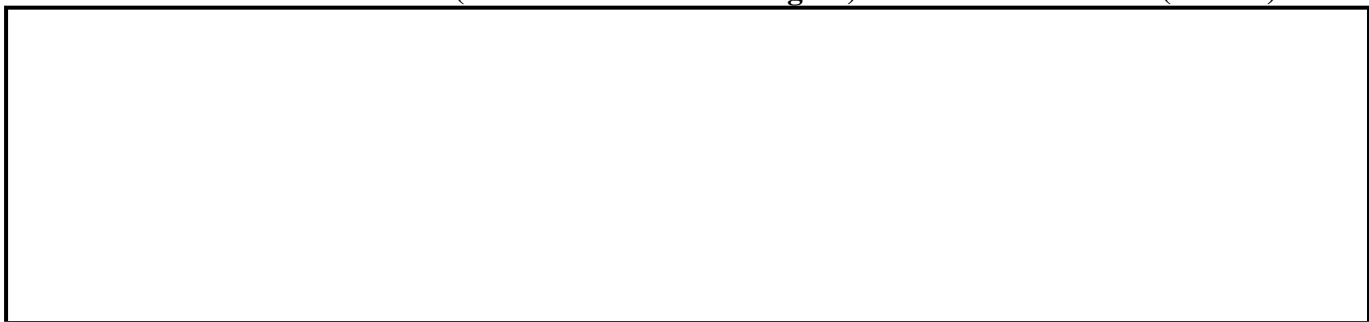


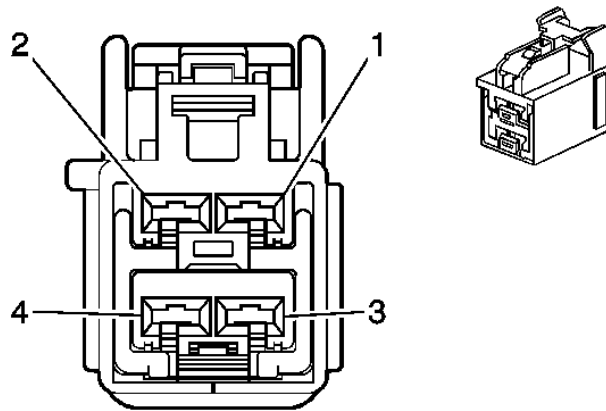
Connector Part Information

- 7283-5629-40
- 4-Way F (GY)

Pin	Wire Color	Circuit Number	Function
1	BK	650	Ground
2	PK	1501	Driver Heated Seat High/Low Signal
3	L-BU	1462	Driver Heated Seat Switch Signal
4	OG	1540	Battery Positive Voltage

Heated Seat Module - Driver C2 (Heated Seat Cushion Pigtail) Connector End View (w/KA1)



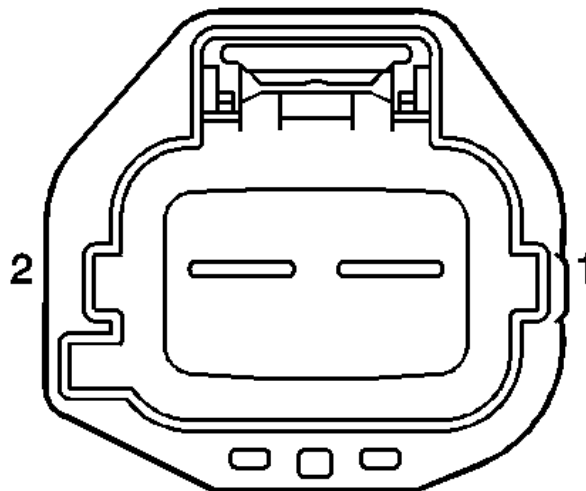


Connector Part Information

- 7283-5630-60
- 4-Way F (GN)

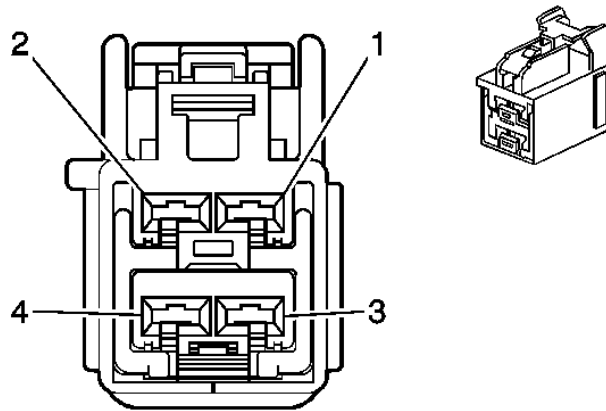
Pin	Wire Color	Circuit Number	Function
1	RD	-	H1 Signal
2	GY	-	Low Reference
3	GY	-	Temperature Sensor Signal
4	BK	-	H2 Signal

Heated Seat Module - Driver C3 (Heated Seat Back Pigtail) Connector End View (w/KA1)



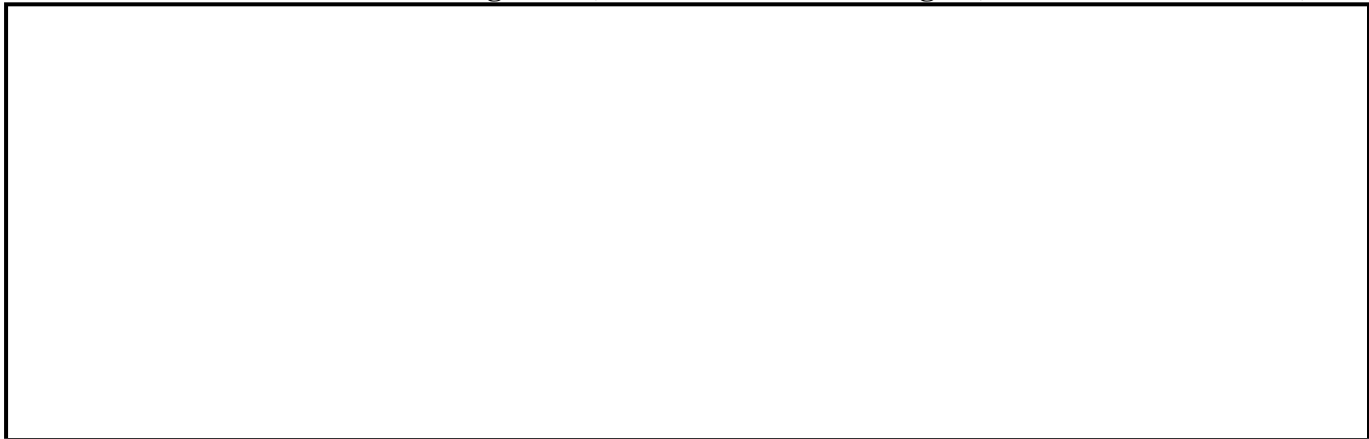
Connector Part Information		<ul style="list-style-type: none"> • 7283-5579-40 • 2-Way F (GY) 	
Pin	Wire Color	Circuit Number	Function
1	BK	-	H2 Control
2	BK	-	H2 Signal

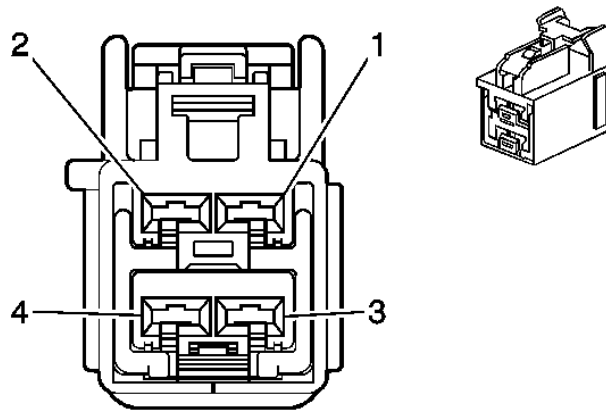
Heated Seat Module - Front Passenger C1 Connector End View (w/KA1)



Connector Part Information		<ul style="list-style-type: none"> • 7283-5629-40 • 4-Way F (GY) 	
Pin	Wire Color	Circuit Number	Function
1	BK	650	Ground
2	PK/BK	1503	Front Passenger Heated Seat High/Low Signal
3	L-BU/BK	1505	Front Passenger Heated Seat Switch Signal
4	OG	1540	Battery Positive Voltage

Heated Seat Module - Front Passenger C2 (Heated Seat Cushion Pigtail) Connector End View (w/KA1)



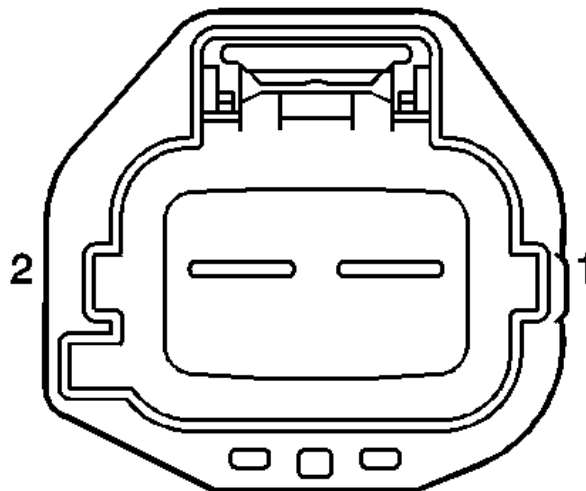


Connector Part Information

- 7283-5630-60
- 4-Way F (GN)

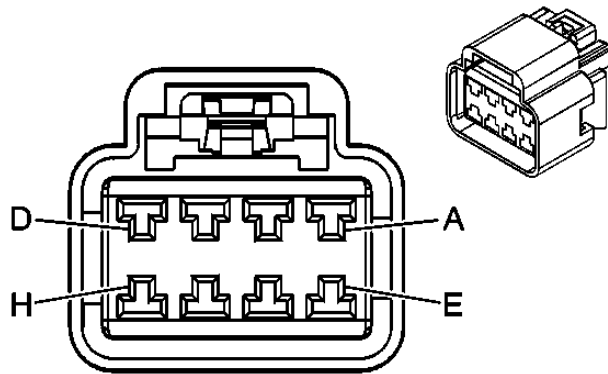
Pin	Wire Color	Circuit Number	Function
1	RD	-	H1 Signal
2	GY	-	Low Reference
3	GY	-	Temperature Sensor Signal
4	BK	-	H2 Signal

Heated Seat Module - Front Passenger C3 (Heated Seat Back Pigtail) Connector End View (w/KA1)



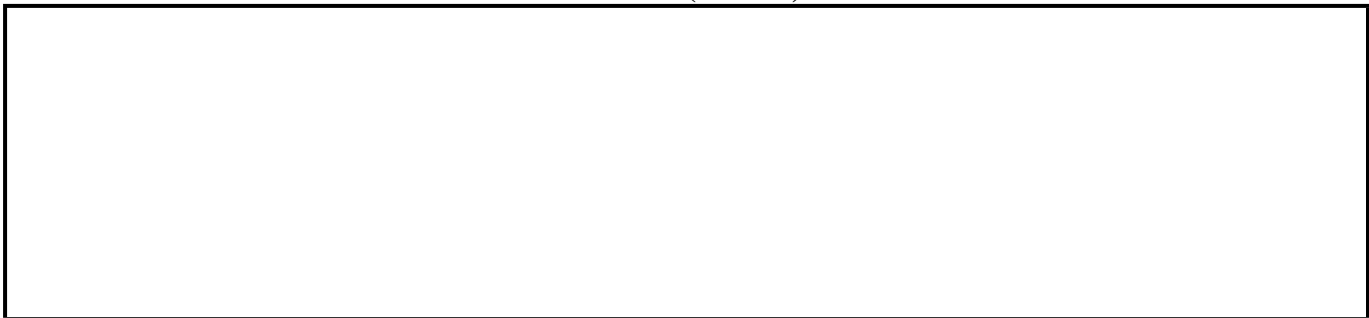
Connector Part Information		<ul style="list-style-type: none"> • 7283-5579-40 • 2-Way F (GY) 	
Pin	Wire Color	Circuit Number	Function
1	BK	-	H2 Control
2	BK	-	H2 Signal

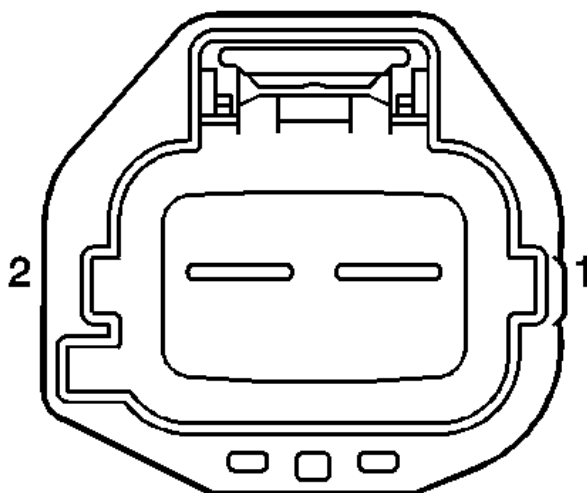
Seat Adjuster Switch - Driver Connector End View (w/AG1)



Connector Part Information		<ul style="list-style-type: none"> • 15326924 • 8-Way F GT 280 Series (BK) 	
Pin	Wire Color	Circuit Number	Function
A	D-GN	286	Seat Front Vertical Down Control
B	BK	650	Ground
C	RD	285	Seat Horizontal Forward Control
D	OG	1240	Battery Positive Voltage
E	YE	282	Seat Rear Vertical Up Control
F	BK	284	Seat Horizontal Rearward Control
G	L-BU	283	Seat Rear Vertical Down Control
H	D-BU	287	Seat Front Vertical Down Control

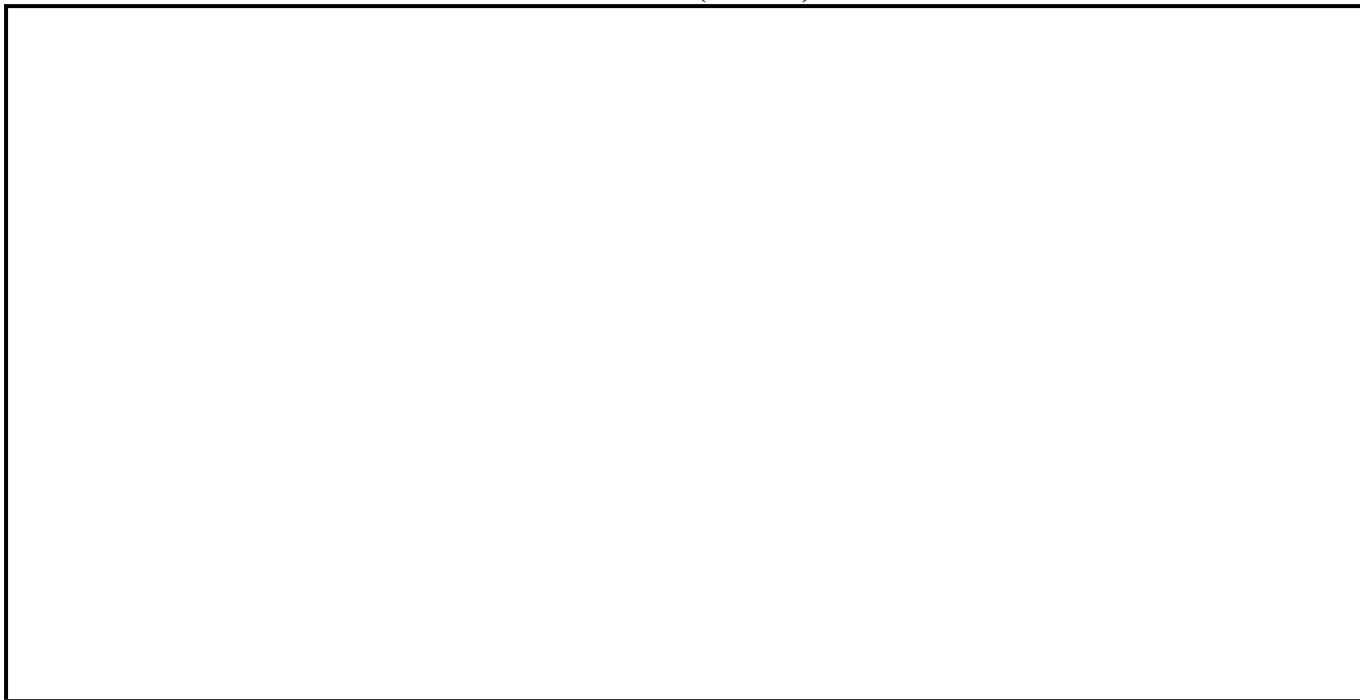
Seat Recline Motor - Driver Connector End View (w/AG1)

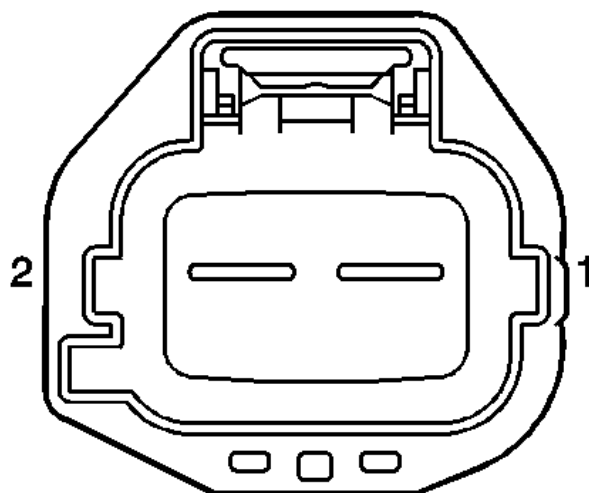




Connector Part Information		<ul style="list-style-type: none"> • 811860 • 2-Way F (BK) 	
Pin	Wire Color	Circuit Number	Function
1	L-BU	283	Seat Rear Vertical Down Control
2	YE	282	Seat Rear Vertical Up Control

Seat Vertical Motor - Driver Connector End View (w/AG1)





Connector Part Information		<ul style="list-style-type: none"> • 811860 • 2-Way F (BK) 	
Pin	Wire Color	Circuit Number	Function
1	D-BU	287	Seat Front Vertical Down Control
2	D-GN	286	Seat Front Vertical Down Control

DIAGNOSTIC INFORMATION AND PROCEDURES

DIAGNOSTIC STARTING POINT - SEATS

Begin the system diagnosis by reviewing the 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 - Seats** in order to identify the correct procedure for diagnosing the system and where the procedure is located.

SYMPTOMS - SEATS

IMPORTANT: Review the system description in order to familiarize yourself with the system functions. Refer to one of the following descriptions:

- **Power Seats System Description and Operation**
- **Heated Seats Description and Operation**

- Inspect for aftermarket devices which could affect the operation of the seat systems. 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:

- **Power Seat Inoperative**
- **Heated Seat Inoperative**

POWER SEAT INOPERATIVE

Power Seat Inoperative

Step	Action	Yes	No
Schematic Reference: <u>Driver Seat Schematics</u> Connector End View Reference: <u>Power Seat Systems Connector End Views</u> DEFINITION: One or more of the power seat functions are inoperative.			
1	Did you review the Power Seat System Description and Operation and perform the necessary inspections?	Go to Step 2	Go to <u>Symptoms - Seats</u>
2	Attempt to operate all of the power seat adjuster motors through their full range of adjustment. Do all of the power seat adjuster motors operate normally?	Go to <u>Testing for Intermittent Conditions and Poor Connections</u> in Wiring Systems	Go to Step 3
3	Are all the power seat adjuster motors inoperative?	Go to Step 4	Go to Step 6
4	1. Disconnect the power seat switch connector. 2. Connect a test lamp between the battery positive voltage circuit of the power seat switch connector and a good ground. Does the test lamp illuminate?	Go to Step 5	Go to Step 8
5	Connect a test lamp between the battery positive voltage circuit and the ground circuit of the power seat switch connector. Does the test lamp illuminate?	Go to Step 10	Go to Step 9
	1. Disconnect the inoperative adjuster motor connector.		

6	<p>2. Connect a test lamp between the motor control circuits of the motor connector.</p> <p>3. Operate the appropriate seat adjuster switch in both directions.</p> <p>Does the test lamp illuminate while the switch is operated in both directions?</p>	Go to Step 11	Go to Step 7
7	<p>1. Disconnect the power seat switch connector.</p> <p>2. Test the inoperative motor control circuits for high resistance, an open, or short to ground. Refer to Circuit Testing and to Wiring Repairs in Wiring Systems.</p> <p>Did you find and correct the condition?</p>	Go to Step 14	Go to Step 10
8	<p>Repair the battery positive voltage circuit of the power seat switch for high resistance, an open, or short to ground. Refer to Circuit Testing and to Wiring Repairs in Wiring Systems.</p> <p>Is the repair complete?</p>	Go to Step 14	-
9	<p>Repair the ground circuit of the power seat switch for high resistance, or an open. Refer to Circuit Testing and to Wiring Repairs in Wiring Systems.</p> <p>Is the repair complete?</p>	Go to Step 14	-
10	<p>Inspect for poor connections at the harness connector of the power seat switch. Refer to Testing for Intermittent Conditions and Poor Connections and to Connector Repairs in Wiring Systems.</p> <p>Did you find and correct the condition?</p>	Go to Step 14	Go to Step 12
11	<p>Inspect for poor connections at the harness connector of the inoperative adjuster motor. Refer to Testing for Intermittent Conditions and Poor Connections and to Connector Repairs in Wiring Systems.</p> <p>Did you find and correct the condition?</p>	Go to Step 14	Go to Step 13
12	<p>Replace the power seat switch. Refer to Seat Switch Replacement - Power.</p> <p>Is the replacement complete?</p>	Go to Step 14	-
13	<p>Replace the inoperative seat adjuster motor. Refer to Seat Adjuster Mechanism Replacement - Power.</p> <p>Is the replacement complete?</p>	Go to Step 14	-
14	<p>Operate the system in order to verify the repair.</p> <p>Did you correct the condition?</p>	System OK	Go to Step 2

HEATED SEAT INOPERATIVE

Heated Seat Inoperative

Step	Action	Values	Yes	No
Schematic Reference:Driver Seat Schematics and Passenger Seat Schematics Connector End View Reference:Power Seat Systems Connector End Views				
1	Did you review the Heated Seat System Description and Operation and perform the necessary inspections?	-	Go to Step 2	Go to Symptoms - Seats
2	1. Turn the ignition ON. 2. Operate the heated seat switch in the high, low, and off switch positions. Does the heated seat system operate normally?	-	Go to Testing for Intermittent Conditions and Poor Connections in Wiring Systems	Go to Step 3
3	Does the heated seat switch indicator operate normally?	-	Go to Step 6	Go to Step 4
4	1. Disconnect the heated seat switch connector. 2. Connect a test lamp from the ignition voltage supply circuit terminal in the harness connector to a good ground. Does the test lamp illuminate?	-	Go to Step 5	Go to Step 15
5	Connect a test lamp from the ignition voltage supply circuit terminal to the ground circuit terminal in the heated seat switch harness connector. Does the test lamp illuminate?	-	Go to Step 19	Go to Step 16
6	1. Disconnect the heated seat module connector A. 2. Connect a test lamp from the heated seat module battery voltage supply circuit terminal in the harness connector to a good ground. Does the test lamp illuminate?	-	Go to Step 7	Go to Step 17
7	Connect a test lamp from the battery voltage supply circuit terminal to the ground circuit terminal in the heated seat module harness connector. Does the test lamp illuminate?	-	Go to Step 8	Go to Step 18
8	1. Connect a test lamp from the heated seat switch signal circuit terminal in the heated seat module harness connector to ground.	-		

	<p>2. Operate the heated seat switch in the high and low positions.</p> <p>Does the test lamp illuminate in the high and low switch positions?</p>		Go to Step 9	Go to Step 10
9	<p>1. Turn the ignition OFF.</p> <p>2. Using a DMM test the resistance from the heated seat switch high/low signal circuit terminal to the heated seat switch signal circuit terminal in the heated seat module harness connector.</p> <p>3. Operate the heated seat switch in the high and low switch positions.</p> <p>Are the resistance measurements at or near the specified values?</p>	<ul style="list-style-type: none"> • High 100-1000 • Low 2.0 - 3.0 K 	Go to Step 12	Go to Step 11
10	<p>Test the heated seat switch signal circuit for an open or high resistance. Refer to Circuit Testing and to Wiring Repairs in Wiring Systems.</p> <p>Did you find and correct the condition?</p>	-	Go to Step 27	Go to Step 19
11	<p>Test the high/low switch signal circuit for the following conditions:</p> <ul style="list-style-type: none"> • An open • A short to ground • A short to voltage <p>Refer to Circuit Testing and to Wiring Repairs in Wiring Systems.</p> <p>Did you find and correct the condition?</p>	-	Go to Step 27	Go to Step 19
12	<p>1. Disconnect the seat cushion heater element connector to the heated seat module.</p> <p>2. Test the resistance through the seat cushion temperature sensor.</p> <p>Is the resistance within the specified values?</p>	6-12 Kohm	Go to Step 13	Go to Step 21
13	<p>Test the resistance through the seat cushion heater element.</p> <p>Is the resistance within the specified values?</p>	0.5-2 ohm	Go to Step 14	Go to Step 21
	<p>1. Disconnect the seat back heater</p>			

14	<p>element connector to the heated seat module.</p> <p>2. Test the resistance through the seat back heater element.</p> <p>Is the resistance within the specified values?</p>	0.5-2 ohm	Go to Step 20	Go to Step 22
15	<p>Repair the ignition voltage supply circuit to the heated seat switch for an open or short to ground. Refer to Circuit Testing and to Wiring Repairs in Wiring Systems.</p> <p>Is the repair complete?</p>	-	Go to Step 27	-
16	<p>Repair the heated seat switch ground circuit for an open or high resistance. Refer to Circuit Testing and to Wiring Repairs in Wiring Systems.</p> <p>Is the repair complete?</p>	-	Go to Step 27	-
17	<p>Repair the battery voltage supply circuit to the heated seat module for an open or short to ground. Refer to Circuit Testing and to Wiring Repairs in Wiring Systems.</p> <p>Is the repair complete?</p>	-	Go to Step 27	-
18	<p>Repair the heated seat module ground circuit for an open or high resistance. Refer to Circuit Testing and to Wiring Repairs in Wiring Systems.</p> <p>Is the repair complete?</p>	-	Go to Step 27	-
19	<p>Inspect for poor connections at the heated seat switch. Refer to Testing for Intermittent Conditions and Poor Connections and to Connector Repairs in Wiring Systems.</p> <p>Did you find and correct the condition?</p>	-	Go to Step 27	Go to Step 23
20	<p>Inspect for poor connections at the heated seat module. Refer to Testing for Intermittent Conditions and Poor Connections and to Connector Repairs in Wiring Systems.</p> <p>Did you find and correct the condition?</p>	-	Go to Step 27	Go to Step 24
21	<p>Inspect for poor connections at the seat cushion heater element connector. Refer to Testing for Intermittent Conditions and Poor Connections and to Connector Repairs in Wiring Systems.</p> <p>Did you find and correct the condition?</p>	-	Go to Step 27	Go to Step 25
	<p>Inspect for poor connections at the seat back heater element connector. Refer to Testing</p>			

22	for Intermittent Conditions and Poor Connections and to Connector Repairs in Wiring Systems. Did you find and correct the condition?	-	Go to Step 27	Go to Step 26
23	Replace the heated seat switch. Refer to Heated Seat Switch Replacement - Front (Driver Side) or Heated Seat Switch Replacement - Front (Passenger Side) . Is the repair complete?	-	Go to Step 27	-
24	Replace the heated seat module. Refer to Heated Seat Control Module Replacement - Front . Is the repair complete?	-	Go to Step 27	-
25	Replace the seat cushion heater element. Refer to Seat Cushion Heater Element Replacement - Front . Is the repair complete?	-	Go to Step 27	-
26	Replace the seat back heater element. Refer to Seat Back Heater Element Replacement - Front (Non-Fold Flat) or Seat Back Heater Element Replacement - Front (Fold Flat) . Is the repair complete?	-	Go to Step 27	-
27	Operate the system in order to verify the repair. Did you correct the condition?	-	System OK	Go to Step 2

SEAT - MANUAL ADJUSTER DOES NOT UNLOCK

Seat - Manual Adjuster Does Not Unlock

Condition	Action
IMPORTANT: Replace all seat adjusters as an assembly. Replace both sides at the same time.	
The adjuster latch is binding	<ul style="list-style-type: none"> Inspect the seat adjuster handle for damage. Replace the handle if necessary. Replace the adjuster.

SEAT - MANUAL ADJUSTER LOCKS BETWEEN LOCK POSITIONS

Seat - Manual Adjuster Locks Between Lock Positions

Condition	Action
IMPORTANT: Replace all seat adjusters as an assembly. Replace both sides at the same time.	

<ul style="list-style-type: none"> • The right adjuster is rearward of the left adjuster. • The right adjuster is forward of the left adjuster. 	<ol style="list-style-type: none"> 1. Visually inspect the installed seat to verify that the seat back is parallel to the seat cushion. 2. Move the seat back until a parallel condition is achieved.
The seat back will not remain parallel.	On non-fold flat seats, replace the seat back frame.

SEAT - MANUAL ADJUSTER DOES NOT LOCK

Seat - Manual Adjuster Does Not Lock

Condition	Action
IMPORTANT: Replace all seat adjusters as an assembly. Replace both sides at the same time.	
The seat adjusters were not parallel during installation.	<ol style="list-style-type: none"> 1. Loosen the rear seat bolts. 2. Position the seat fully forward. 3. Tighten the bolts. Refer to Fastener Tightening Specifications .

SEAT - HARD TO MOVE FORWARD AND REARWARD

Seat - Hard to Move Forward and Rearward

Condition	Action
IMPORTANT: Replace all seat adjusters as an assembly. Replace both sides at the same time.	
The adjusters are not in parallel alignment with each other.	<ol style="list-style-type: none"> 1. Loosen the floor pan attaching bolts. 2. Position the seat fully forward. 3. Tighten the bolts. Refer to Fastener Tightening Specifications .

SEATS - ADJUSTER TRACK LOCKS AHEAD OF OTHER TRACK

Seats - Adjuster Track Locks Ahead of Other Track

Condition	Action
IMPORTANT: Replace all seat adjusters as an assembly. Replace both sides at the same time.	
The adjusters are out of time.	Remove and reinstall the front bucket seat. Refer to Seat Replacement - Front Bucket .

REPAIR INSTRUCTIONS

SEAT REPLACEMENT - FRONT BUCKET

Removal Procedure

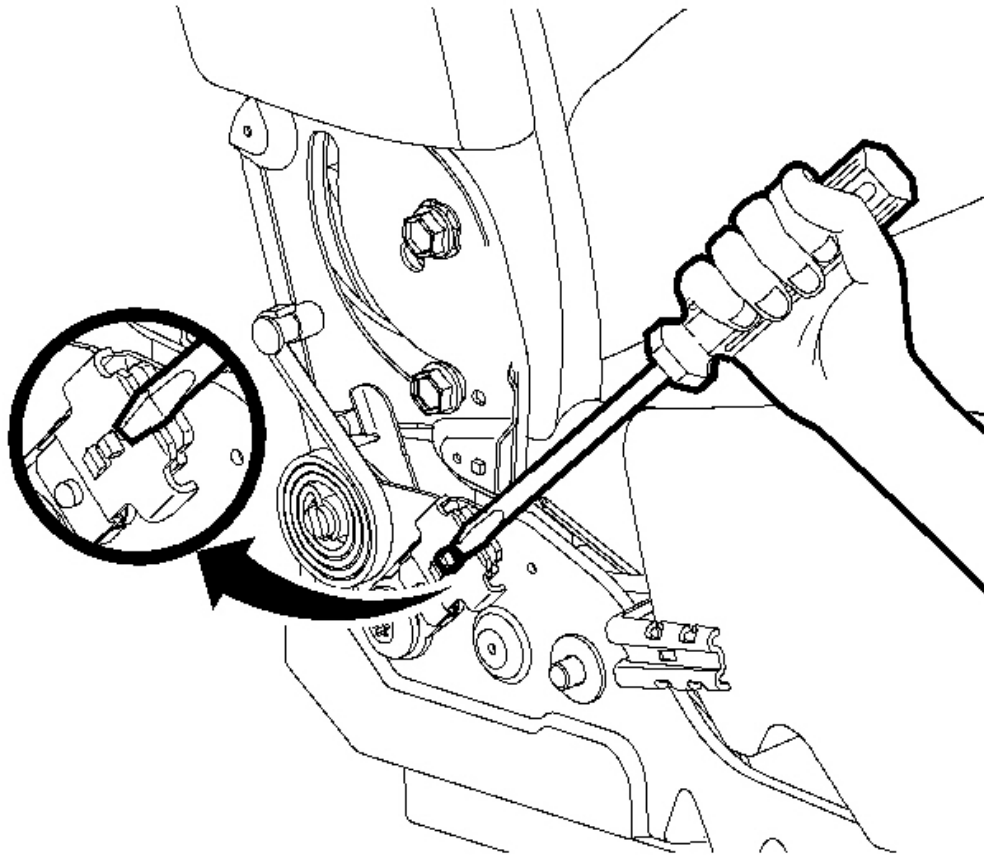


Fig. 5: View Of Front Seat Bucket
Courtesy of GENERAL MOTORS CORP.

1. Position the seat fully forward.
2. Disconnect the shoulder belt from the seat quick disconnect feature by using a flat-bladed tool to press the tab.

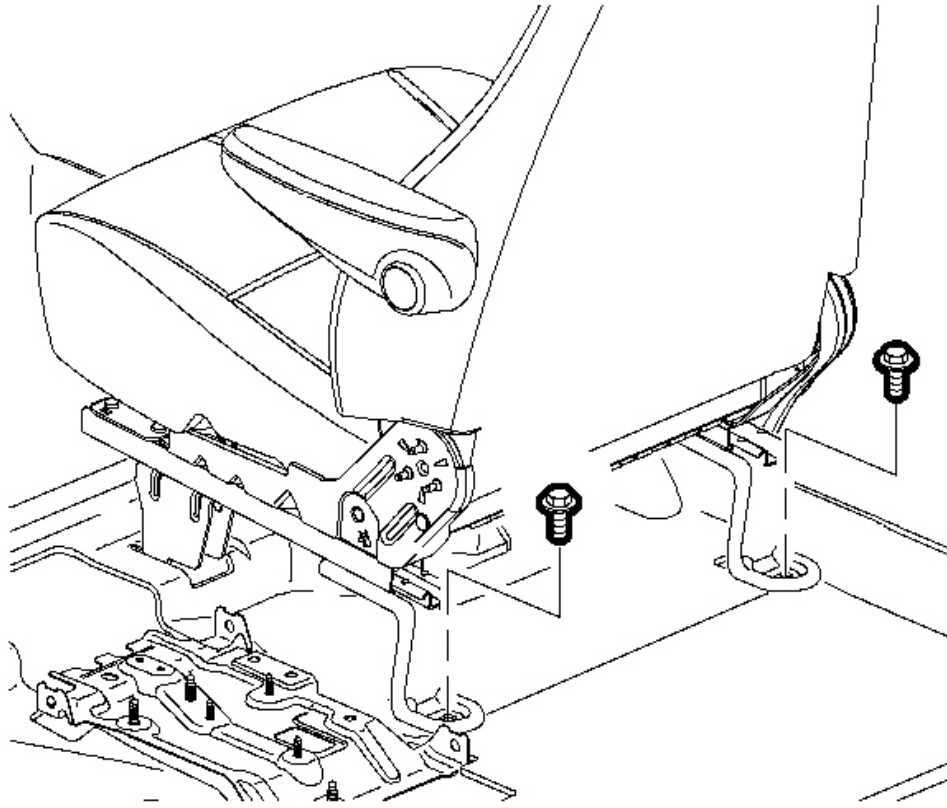


Fig. 6: Removing/Installing Front Seat Adjuster Bolts
Courtesy of GENERAL MOTORS CORP.

3. Remove the front seat adjuster bolts.
4. Move the seat to the full rearward position.

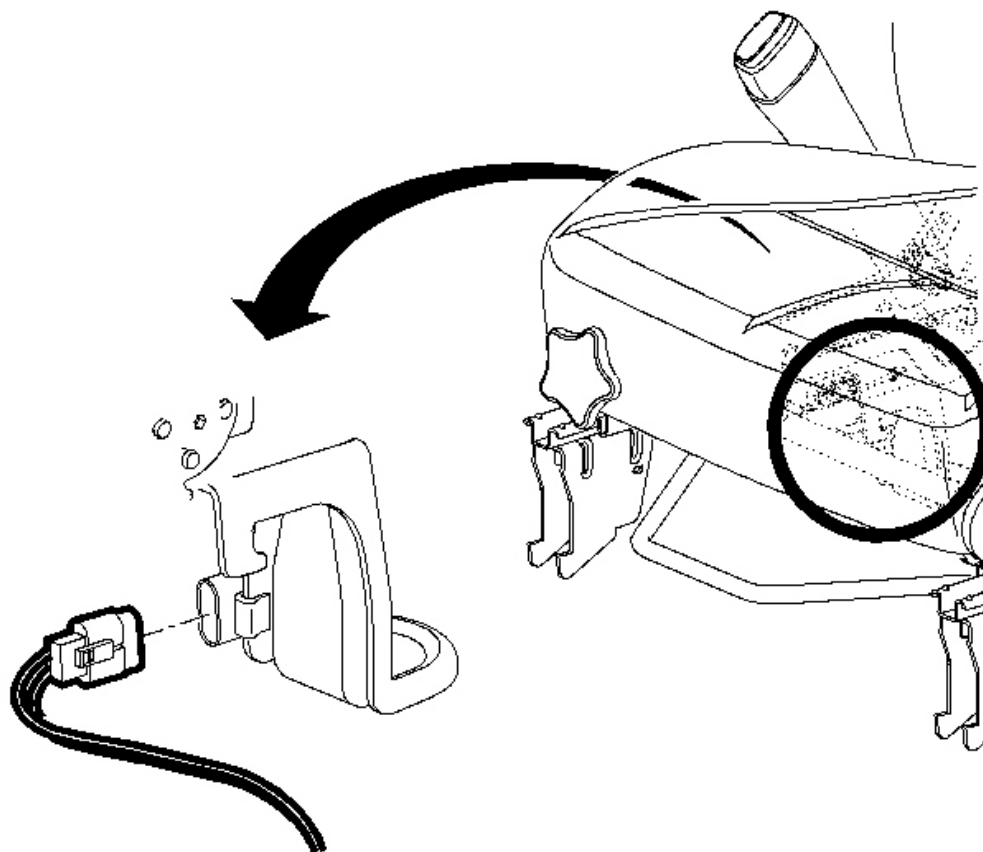


Fig. 7: Disconnecting/Connecting Heat Module Electrical Connector
Courtesy of GENERAL MOTORS CORP.

5. Disconnect the seat electrical connectors.
6. Lift the front seat adjuster hooks from the floor pan.
7. Remove the seat from the vehicle.

Installation Procedure

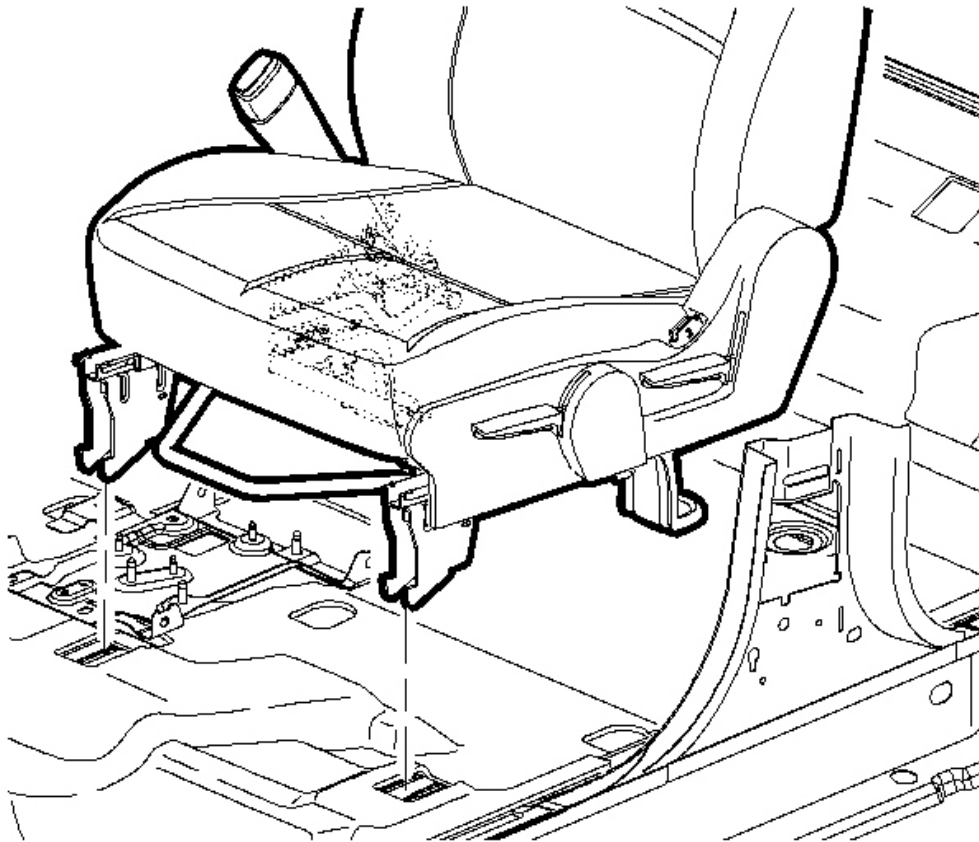


Fig. 8: Positioning Seat In Vehicle & Engaging The Front Adjuster Hooks
Courtesy of GENERAL MOTORS CORP.

IMPORTANT: This step must be performed to assure proper timing of the adjusters.

1. Adjust the seat adjuster tracks to the fully rearward position.
2. Position the seat in the vehicle and engage the front adjuster hooks in the floor pan.

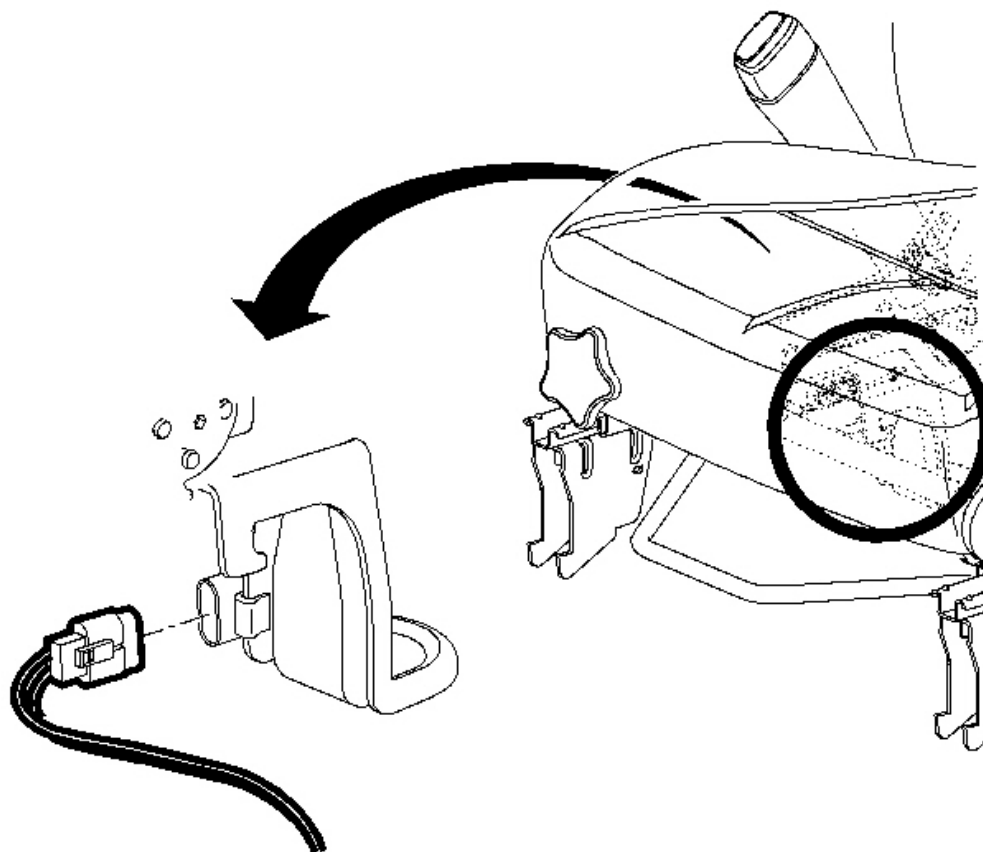


Fig. 9: Disconnecting/Connecting Heat Module Electrical Connector
Courtesy of GENERAL MOTORS CORP.

3. Position the seat in the fully forward position to expose the rear bolt locations.
4. Connect the seat electrical connectors.

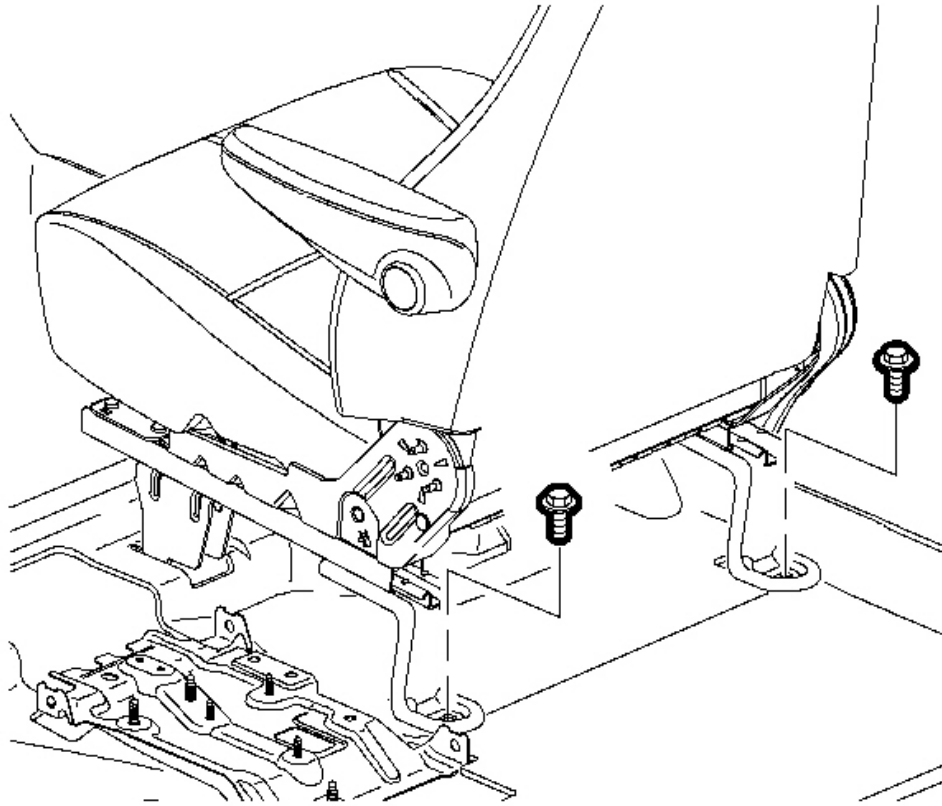


Fig. 10: Removing/Installing Front Seat Adjuster Bolts
Courtesy of GENERAL MOTORS CORP.

NOTE: Refer to Fastener Notice in Cautions and Notices.

5. Install the seat adjuster bolts.

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

6. Install the shoulder belt webbing in the quick disconnect anchor.
7. Inspect the front seat belt for proper operation.

SEAT CUSHION OUTER TRIM PANEL REPLACEMENT - FRONT SEAT (4-WAY)

Removal Procedure

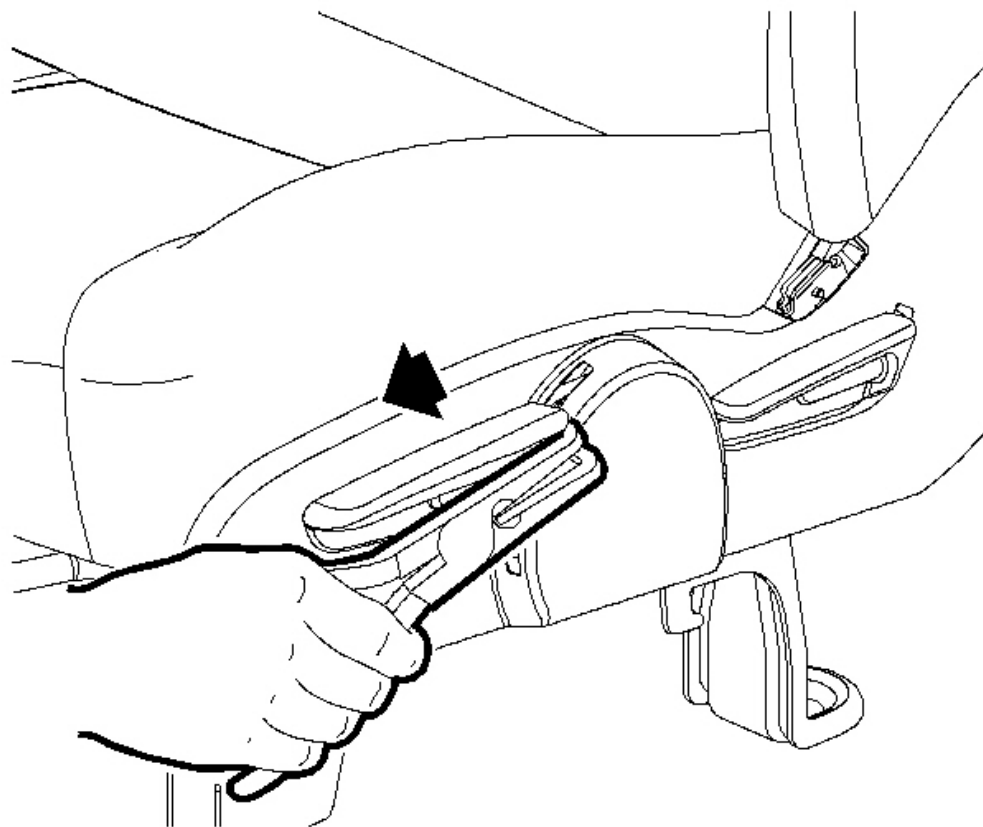


Fig. 11: Removing Seat Recliner Handle Trim
Courtesy of GENERAL MOTORS CORP.

1. Remove the front seat. Refer to **Seat Replacement - Front Bucket** .
2. Remove the riser handle trim by pulling firmly on the trim.
3. Remove the recliner handle trim by pulling firmly on the trim.

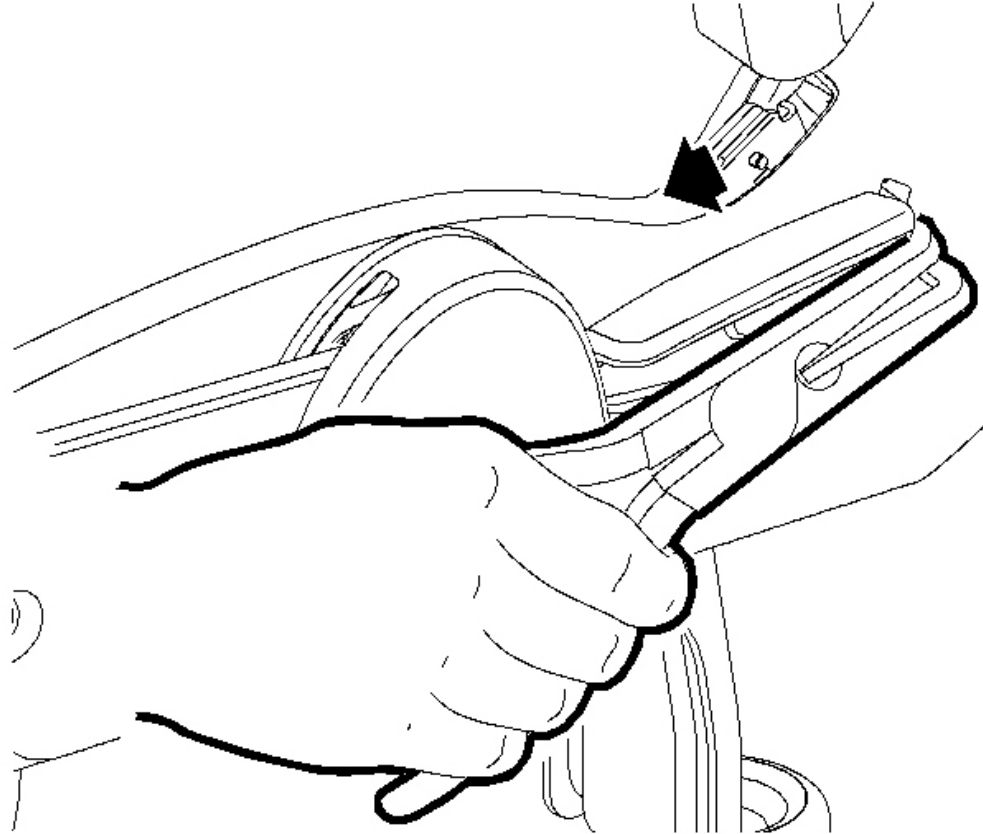


Fig. 12: Removing Seat Cushion Outer Trim Panel
Courtesy of GENERAL MOTORS CORP.

4. Remove the trim panel screws.
5. Remove the trim panel from the seat.

Installation Procedure

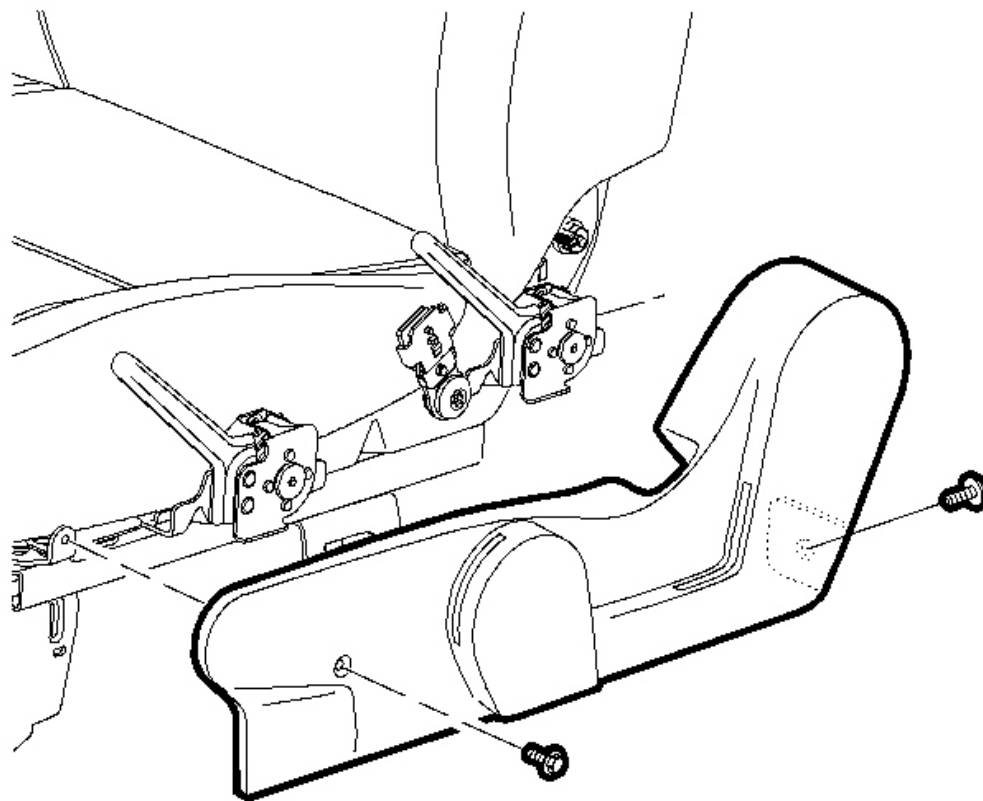


Fig. 13: View Of Seat Cushion Outer Trim Panel - Front Seat (4-Way)
Courtesy of GENERAL MOTORS CORP.

NOTE: Refer to Fastener Notice in Cautions and Notices.

1. Position the outer trim panel on the seat. Secure the panel with the panel screws.

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

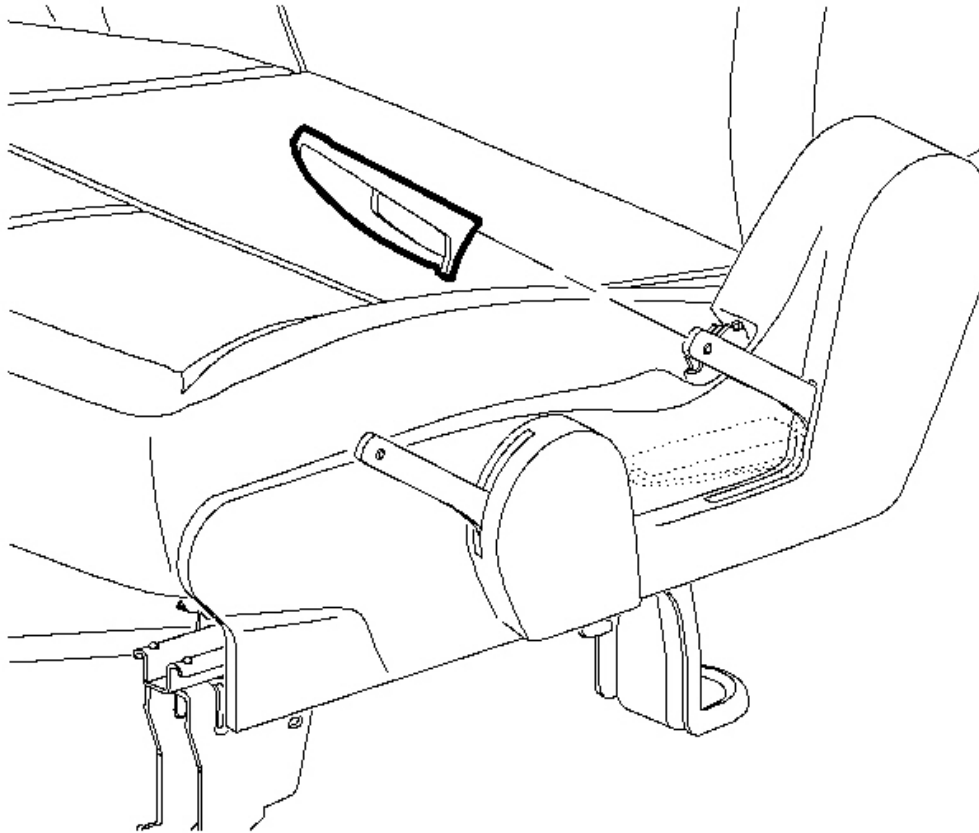


Fig. 14: Installing Recliner Handle Trim
Courtesy of GENERAL MOTORS CORP.

2. Position the cover over the recliner handle. Push firmly to lock the handle into place.

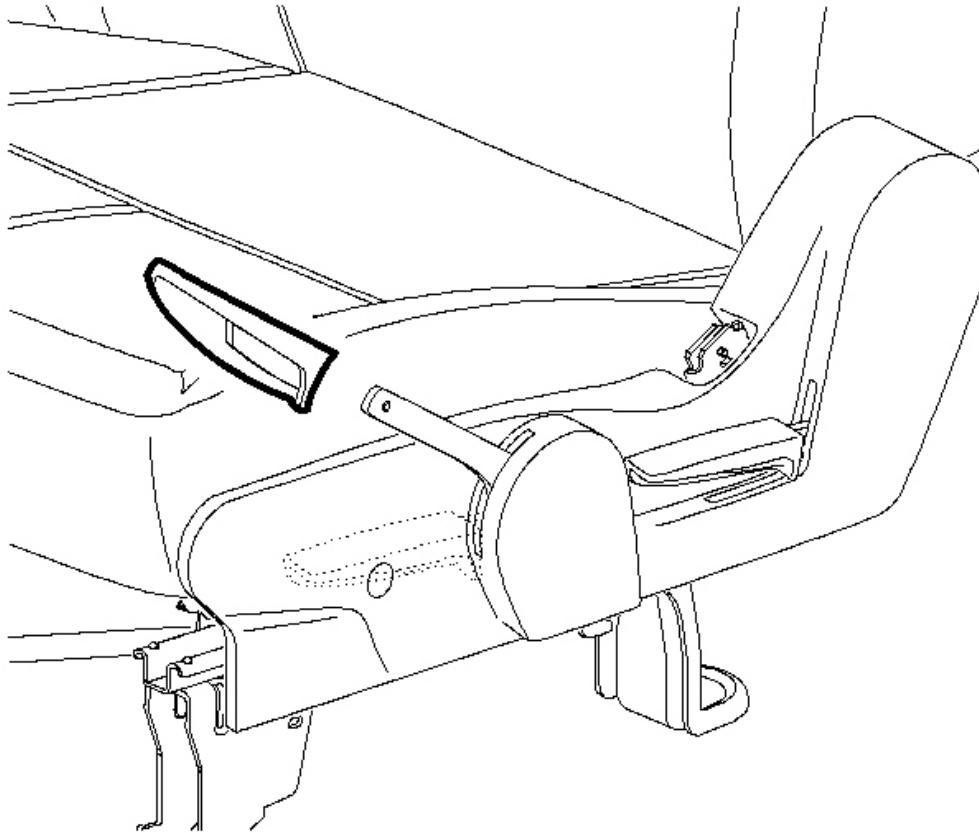


Fig. 15: Installing Seat Riser Handle Trim
Courtesy of GENERAL MOTORS CORP.

3. Position the cover over the seat riser handle. Push firmly to lock the handle into place.
4. Install the front seat. Refer to **Seat Replacement - Front Bucket** .

SEAT CUSHION OUTER TRIM PANEL REPLACEMENT - FRONT SEAT (2-WAY)

Removal Procedure

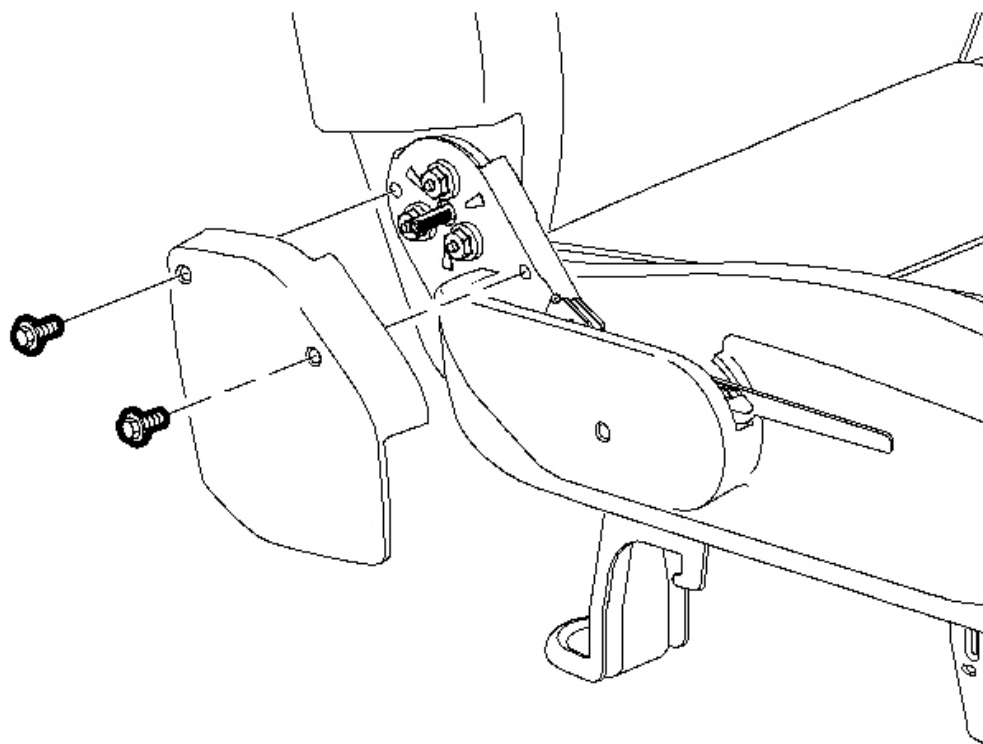


Fig. 16: View Of Seat Cushion Outer Trim Panel - Front Seat (2-Way)
Courtesy of GENERAL MOTORS CORP.

1. Remove the front seat. Refer to **Seat Replacement - Front Bucket** .
2. Remove the trim cover screws from the outer cover of the seat back recliner.
3. Remove the outer trim panel.

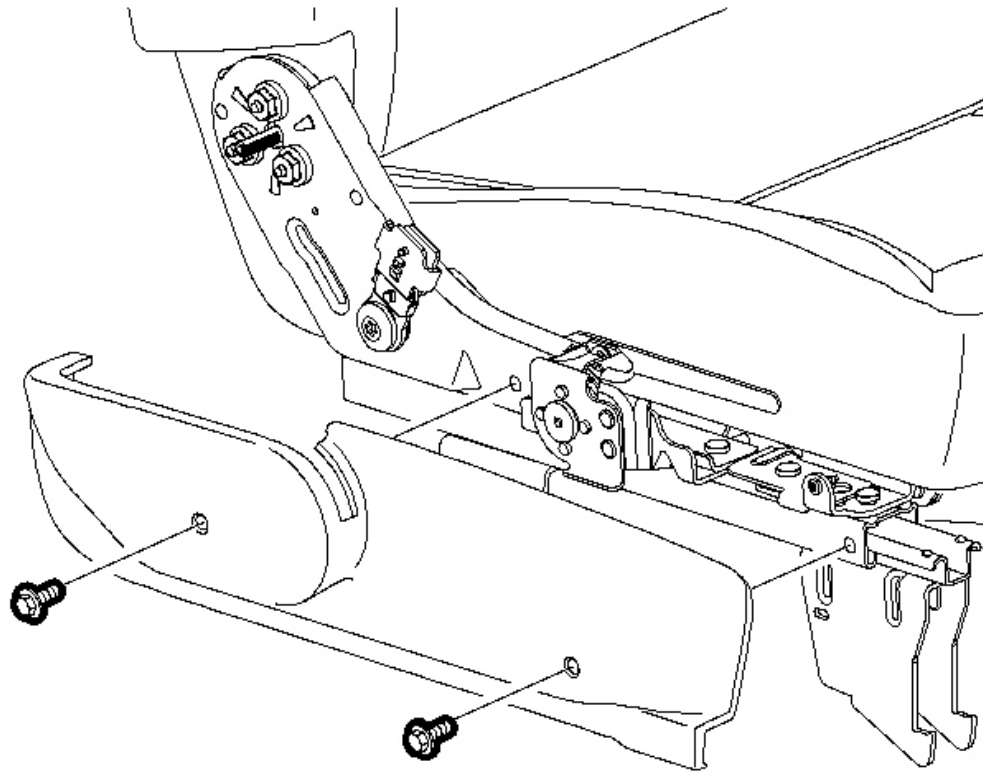


Fig. 17: Removing/Installing Outer Trim Panel & Secure With Trim Panel Screws
Courtesy of GENERAL MOTORS CORP.

4. Remove the outer trim panel screws from the seat cushion.
5. Remove the trim panel.

Installation Procedure

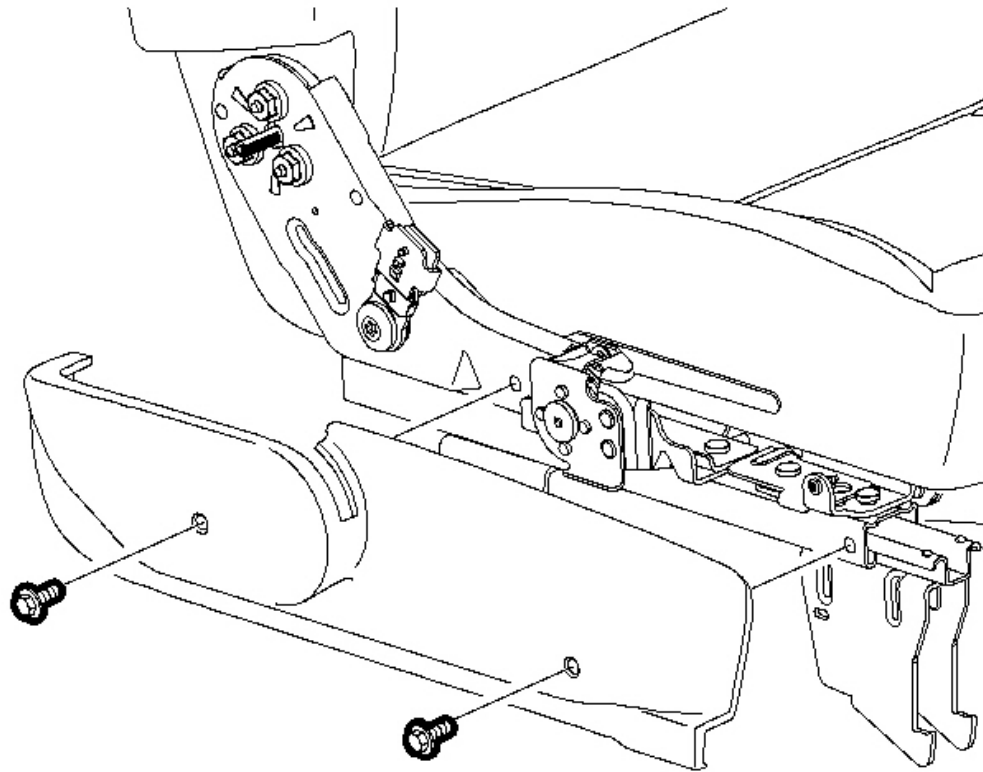


Fig. 18: Removing/Installing Outer Trim Panel & Secure With Trim Panel Screws
Courtesy of GENERAL MOTORS CORP.

NOTE: Refer to Fastener Notice in Cautions and Notices.

1. Install the trim panel and secure with the trim panel screws.

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

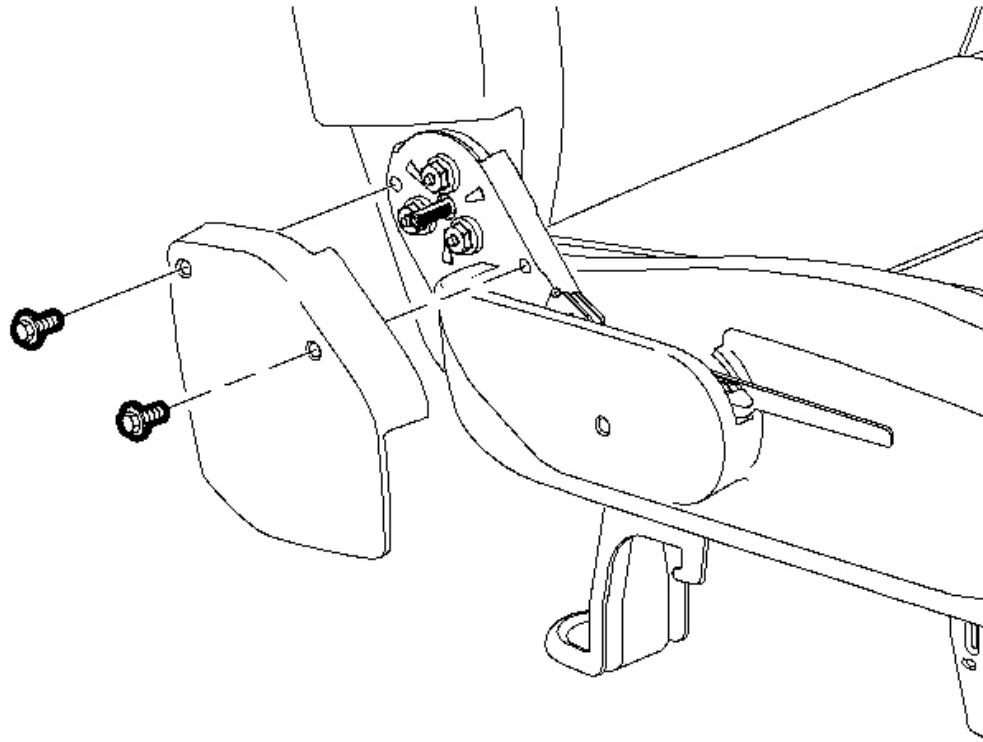


Fig. 19: View Of Seat Cushion Outer Trim Panel - Front Seat (2-Way)
Courtesy of GENERAL MOTORS CORP.

2. Position the outboard recliner trim cover on the seat and secure with the trim cover screws.

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

3. Install the front seat. Refer to **Seat Replacement - Front Bucket** .

SEAT CUSHION OUTER TRIM PANEL REPLACEMENT - FRONT SEAT (6-WAY)

Removal Procedure

1. Remove the front seat. Refer to **Seat Replacement - Front Bucket** .
2. Remove the recliner handle trim by pulling firmly on the trim.

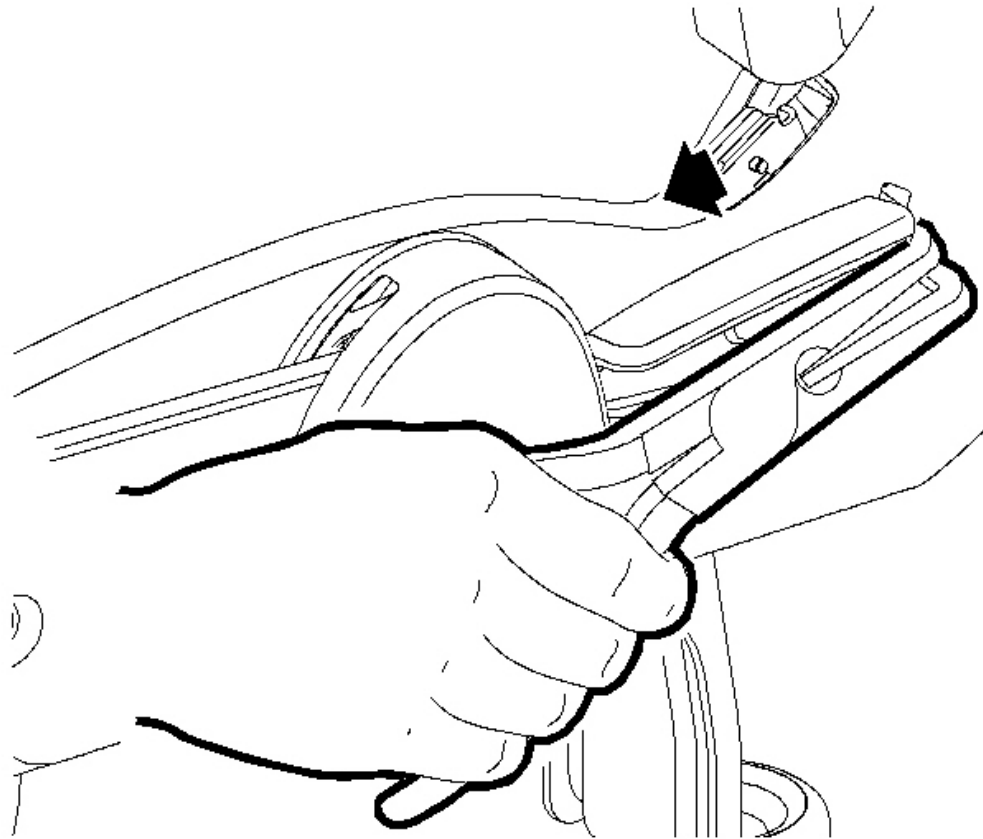


Fig. 20: Removing Seat Cushion Trim Panel From The Seat
Courtesy of GENERAL MOTORS CORP.

3. Remove the trim panel screws.

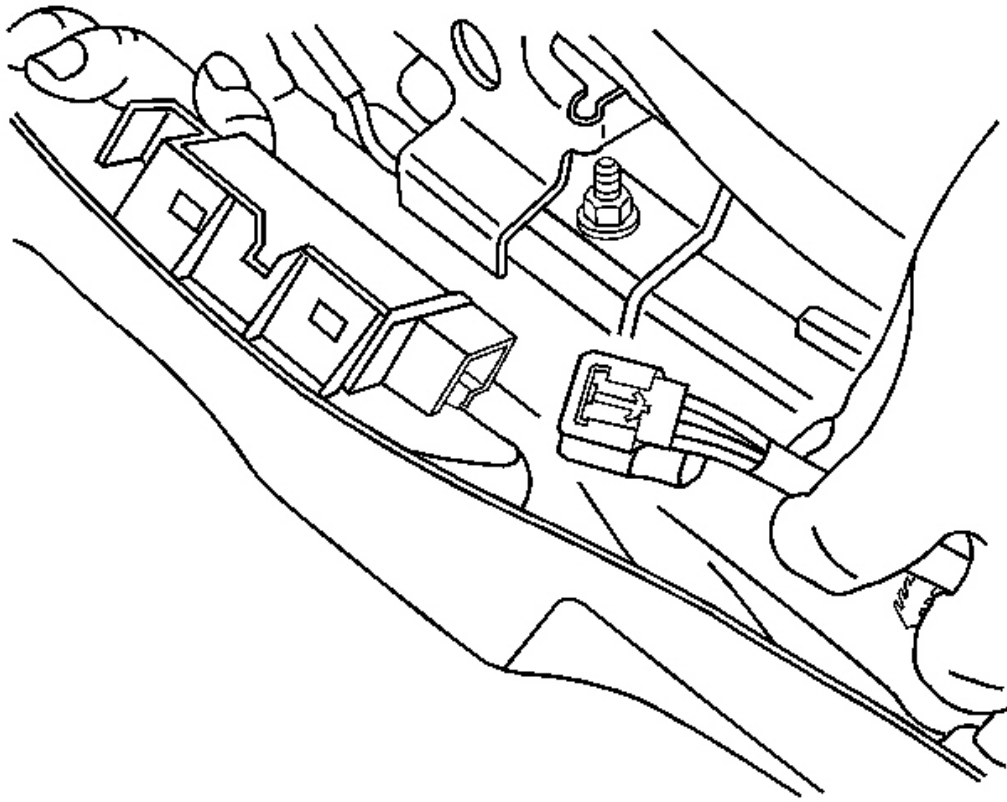


Fig. 21: Disconnecting/Connecting Electrical Connector
Courtesy of GENERAL MOTORS CORP.

4. Disconnect the electrical connector.

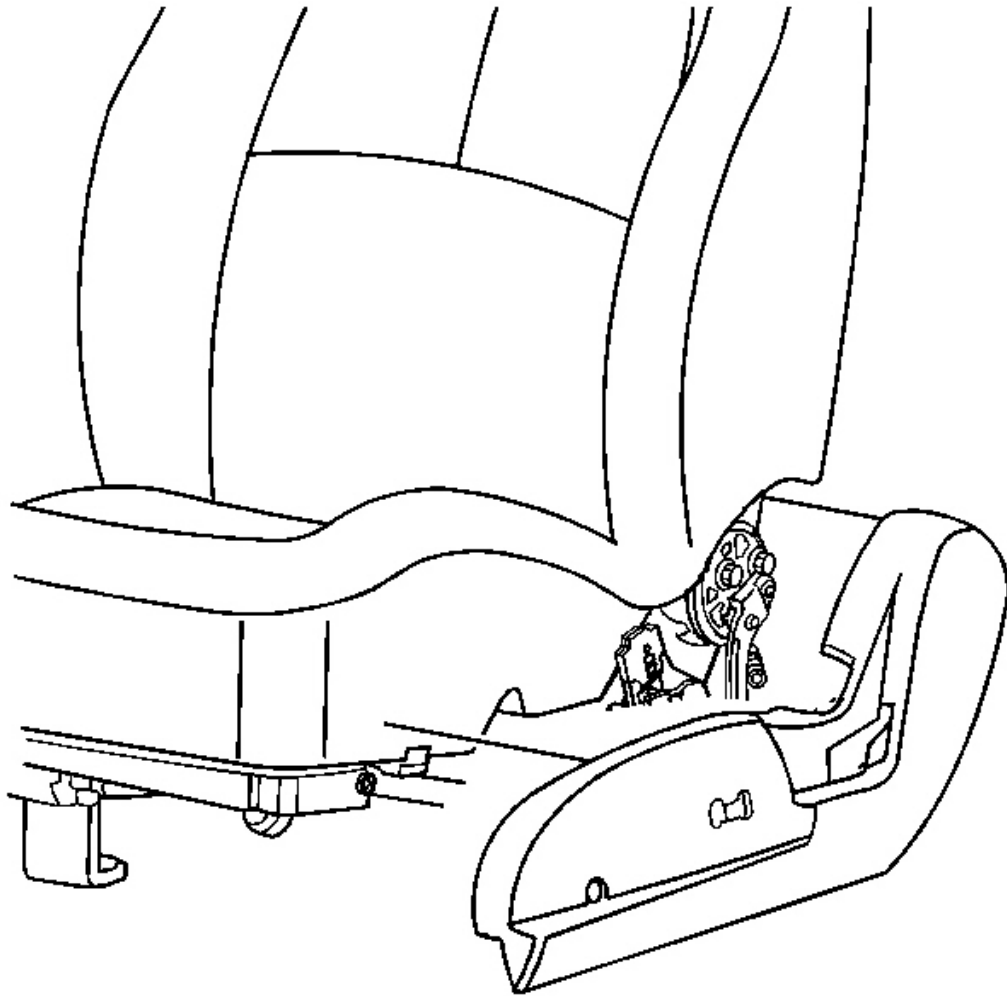


Fig. 22: View Of Seat Cushion Outer Trim Panel - Front Seat (6-Way)
Courtesy of GENERAL MOTORS CORP.

5. Remove the trim panel from the seat.

Installation Procedure

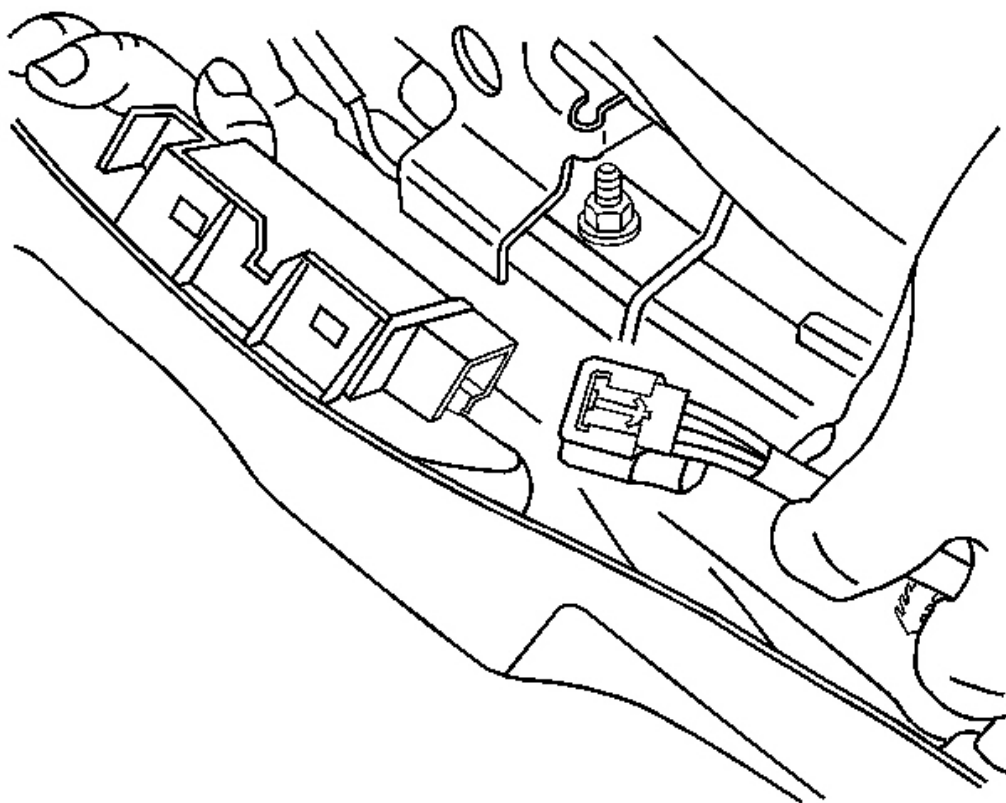


Fig. 23: Disconnecting/Connecting Electrical Connector
Courtesy of GENERAL MOTORS CORP.

1. Connect the electrical connector.

NOTE: Refer to Fastener Notice in Cautions and Notices.

2. Position the outer trim panel on the seat. Secure the panel with the panel screws.

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

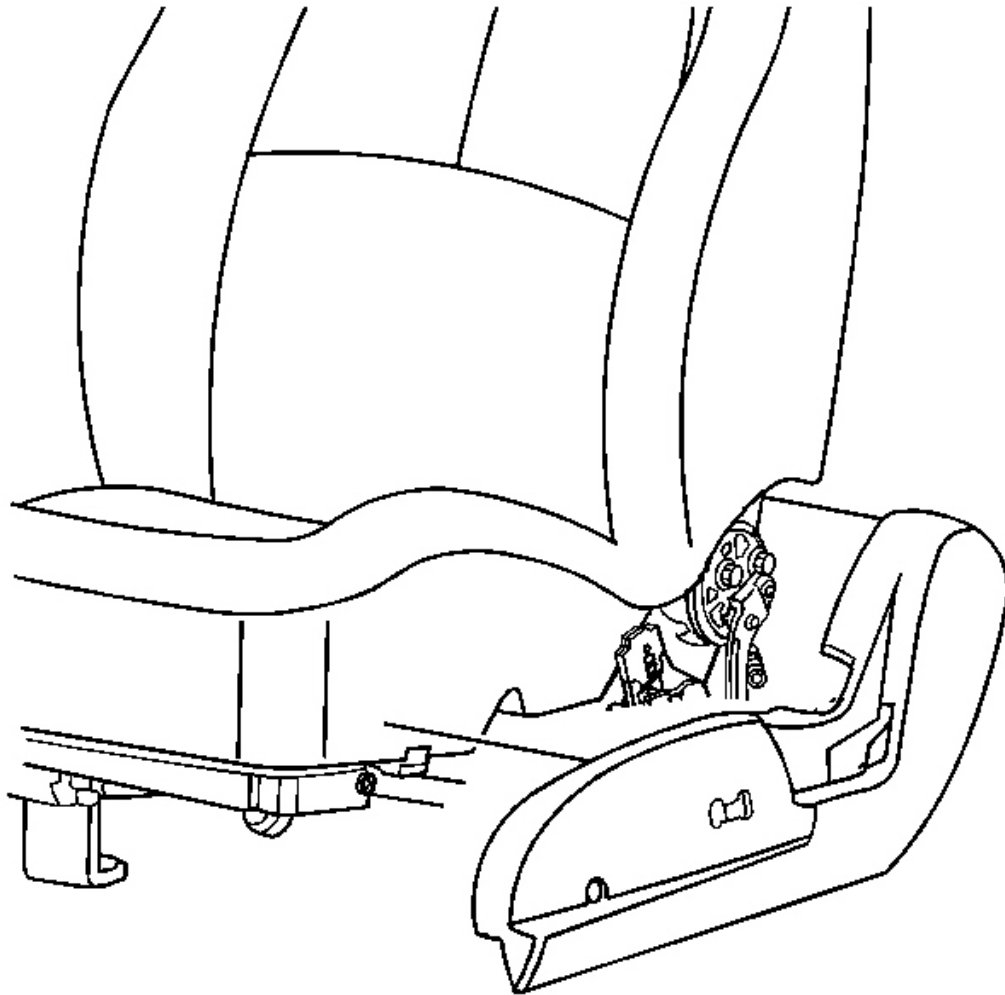


Fig. 24: View Of Seat Cushion Outer Trim Panel - Front Seat (6-Way)
Courtesy of GENERAL MOTORS CORP.

3. Position the cover over the recliner handle. Push firmly to lock the handle into place.
4. Install the front seat. Refer to **Seat Replacement - Front Bucket** .

SEAT CUSHION COVER AND PAD REPLACEMENT - FRONT

Removal Procedure

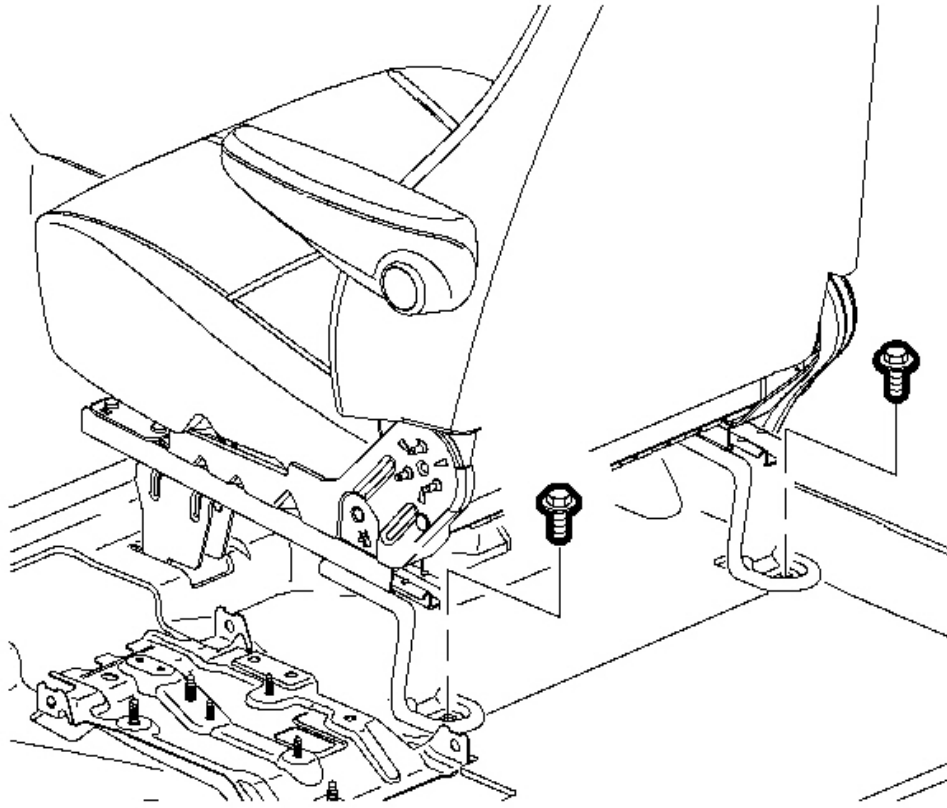


Fig. 25: Removing/Installing Front Seat Adjuster Bolts
Courtesy of GENERAL MOTORS CORP.

1. Raise the seat cushion to the highest position.
2. Remove the front seat from the vehicle. Refer to **Seat Replacement - Front Bucket** .

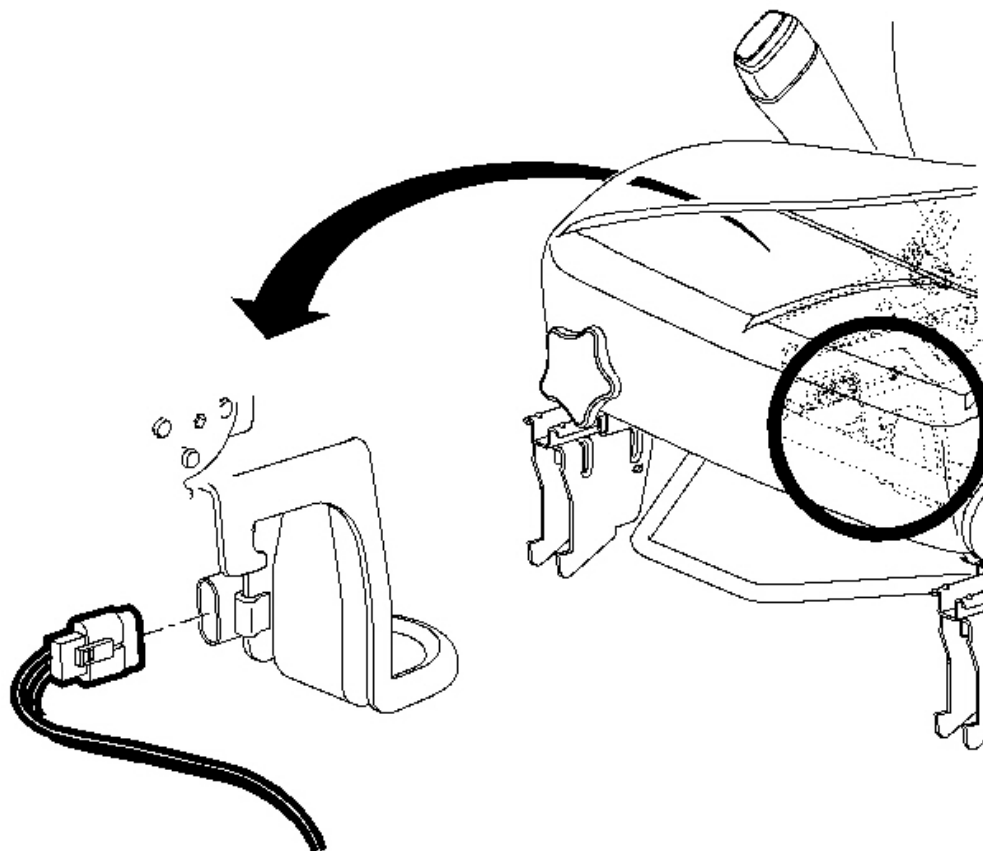


Fig. 26: Disconnecting/Connecting Heat Module Electrical Connector
Courtesy of GENERAL MOTORS CORP.

3. For vehicles with heated seats disconnect the heat module electrical connector.

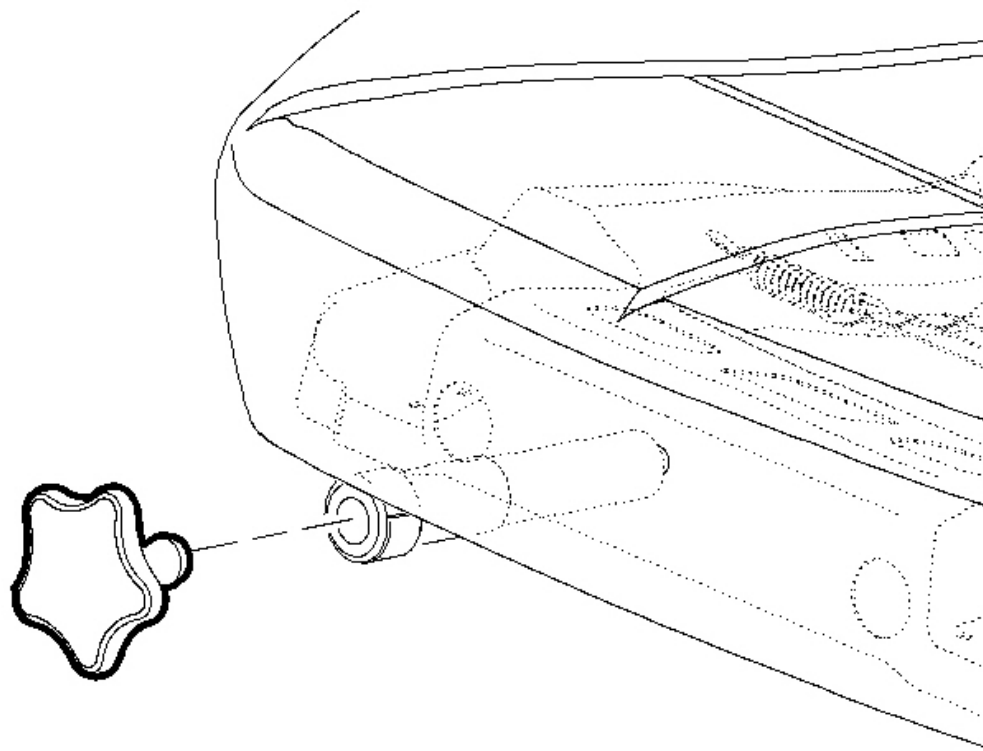


Fig. 27: Removing/Installing Lumbar Knob
Courtesy of GENERAL MOTORS CORP.

4. If the seat is equipped with a lumbar support, perform the following procedure:
 1. Adjust the lumbar knob until the lumbar is in the setting of the least support.
 2. Remove the lumbar knob by pulling firmly.

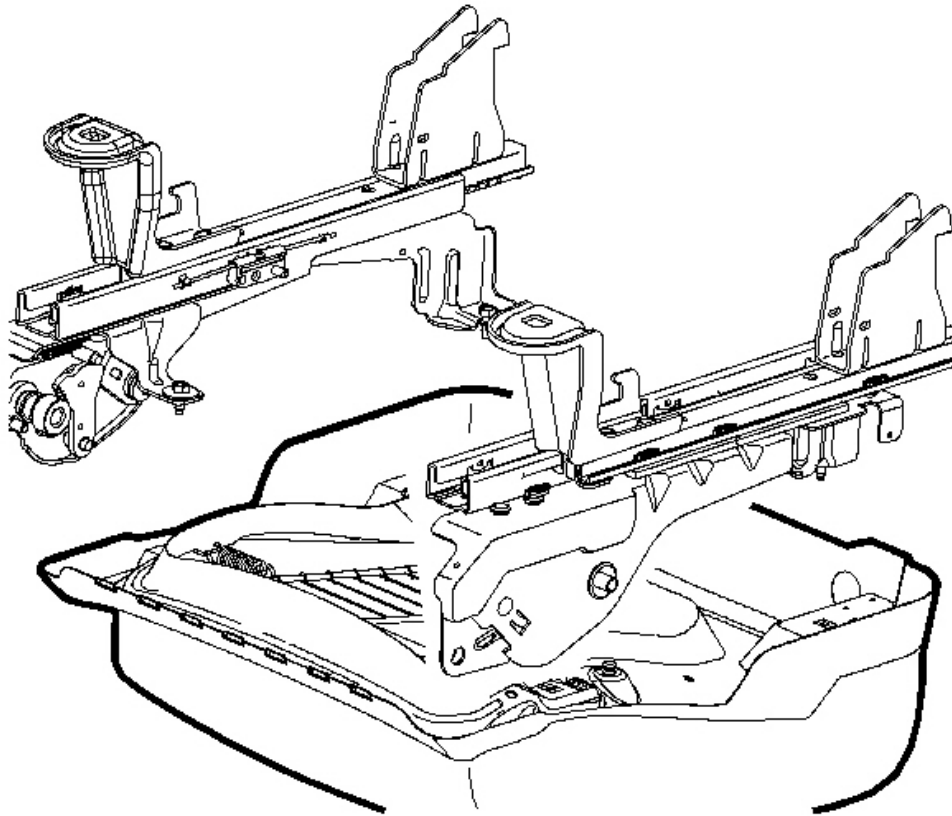


Fig. 28: Removing/Installing Frame Bolts
Courtesy of GENERAL MOTORS CORP.

5. Remove the seat cushion pan bolts and remove the seat cushion assembly.
6. On vehicles with a J-hook design, disconnect the J-hook retainers.
7. On vehicles with a drawstring design, disconnect the drawstring clips.

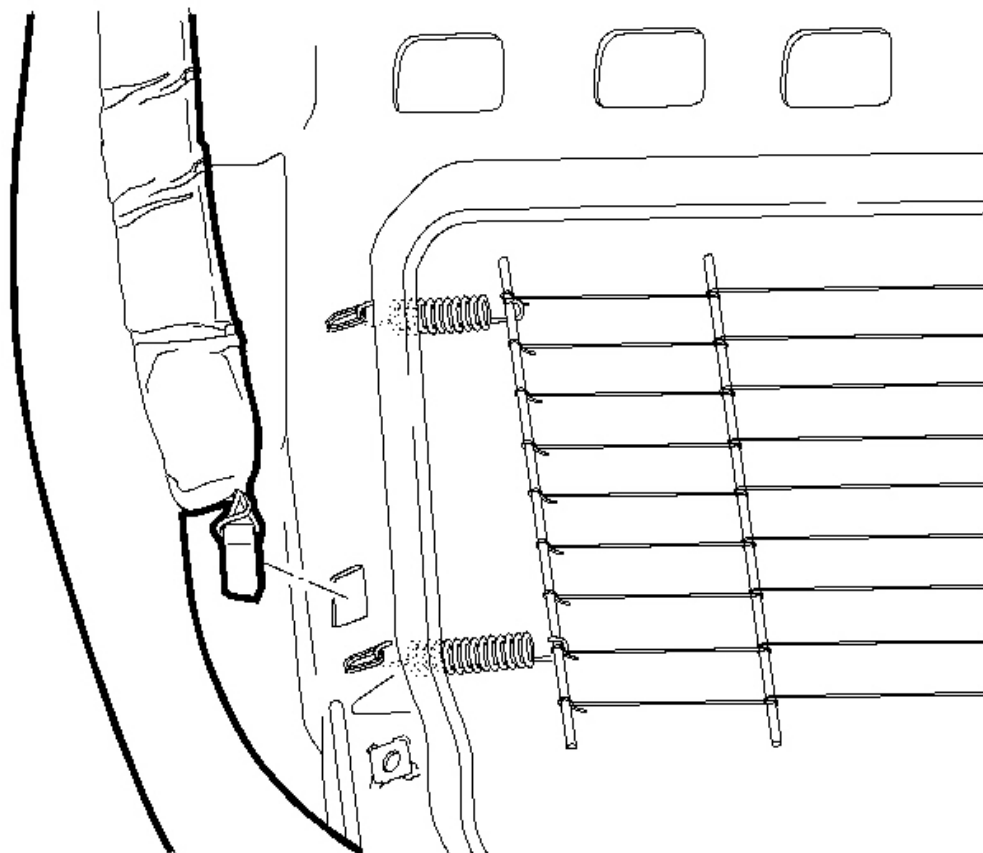


Fig. 29: View Of Drawstring Clips
Courtesy of GENERAL MOTORS CORP.

8. Disengage the J-strip at the rear of the cushion.

NOTE: Use care when disengaging the hook and loop fasteners. The hook end may pull from the seat foam pad, requiring foam pad replacement.

9. Remove the seat cushion cover from the pad by carefully disengaging the hook and loop retainers.
10. Remove the seat cushion pad from the frame.

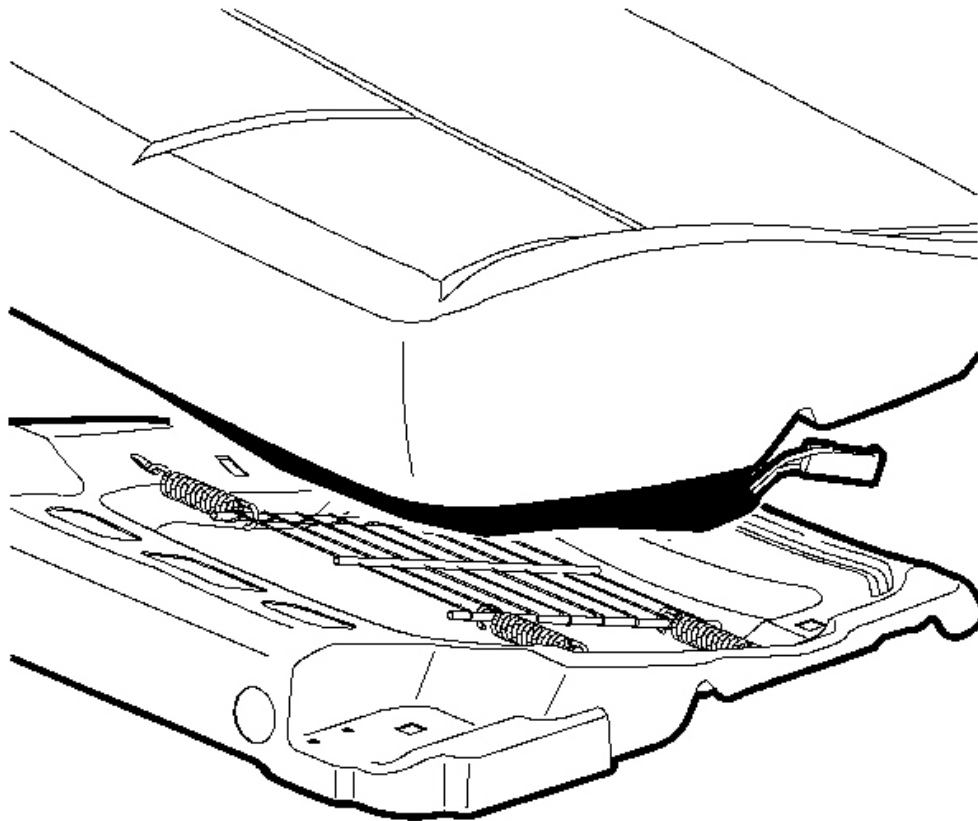


Fig. 30: Positioning Seat Cushion Pad To The Frame
Courtesy of GENERAL MOTORS CORP.

1. Position the seat cushion pad to the frame.
2. Engage the hook and loop retainers by pressing down on the retainers.
3. Engage the J-strip at the rear of the cushion cover to the seat pan.
4. On vehicles with a J-hook design, connect the J-hook retainers.

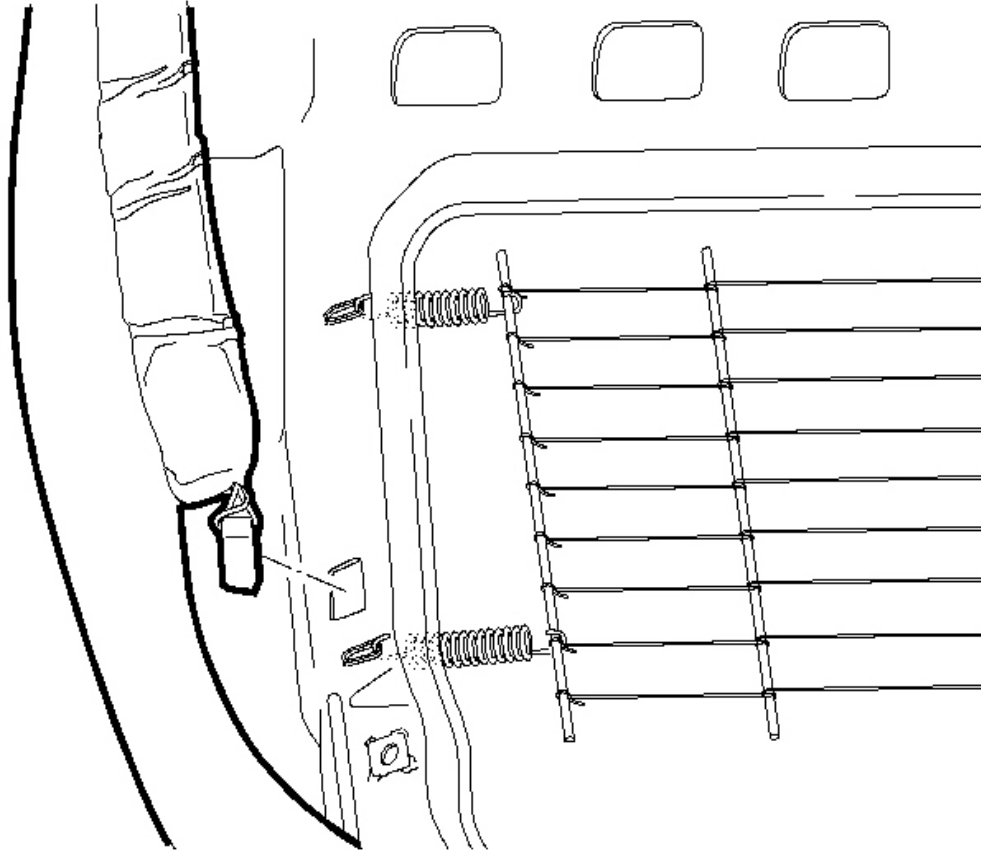


Fig. 31: View Of Drawstring Clips
Courtesy of GENERAL MOTORS CORP.

5. On vehicles with a drawstring design, connect the drawstring clips.

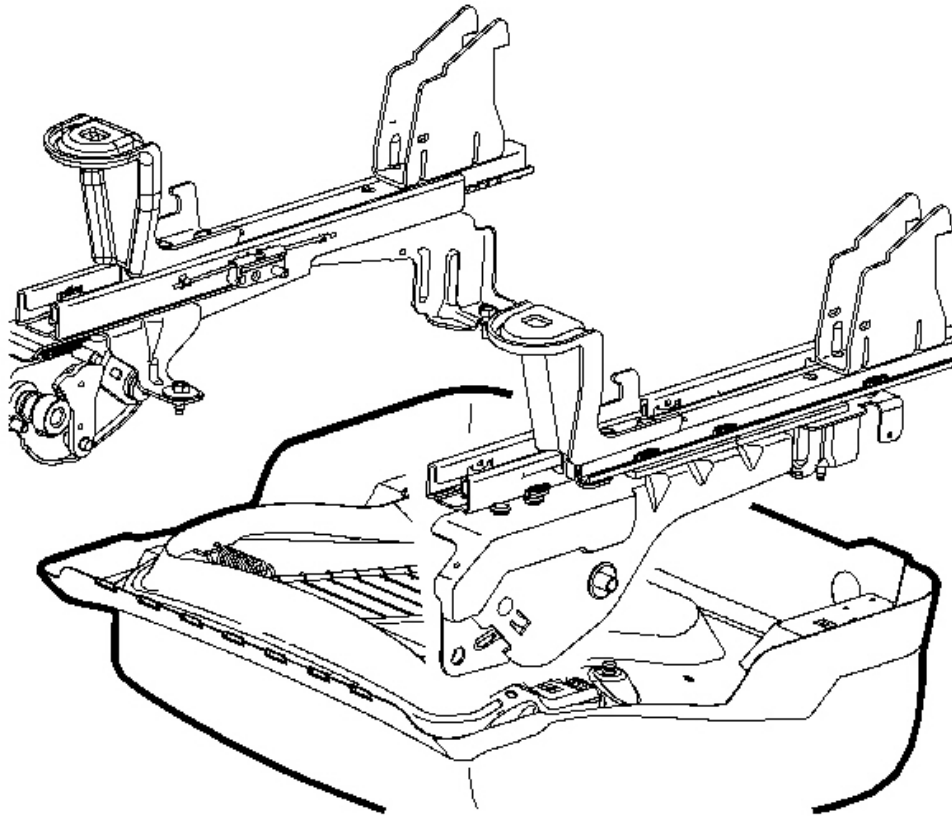


Fig. 32: Removing/Installing Frame Bolts
Courtesy of GENERAL MOTORS CORP.

6. Position the seat cushion pan over the seat adjusters.

NOTE: Refer to Fastener Notice in Cautions and Notices.

7. Install the frame bolts.

Tighten: Tighten the bolts to 12 N.m (9 lb ft).

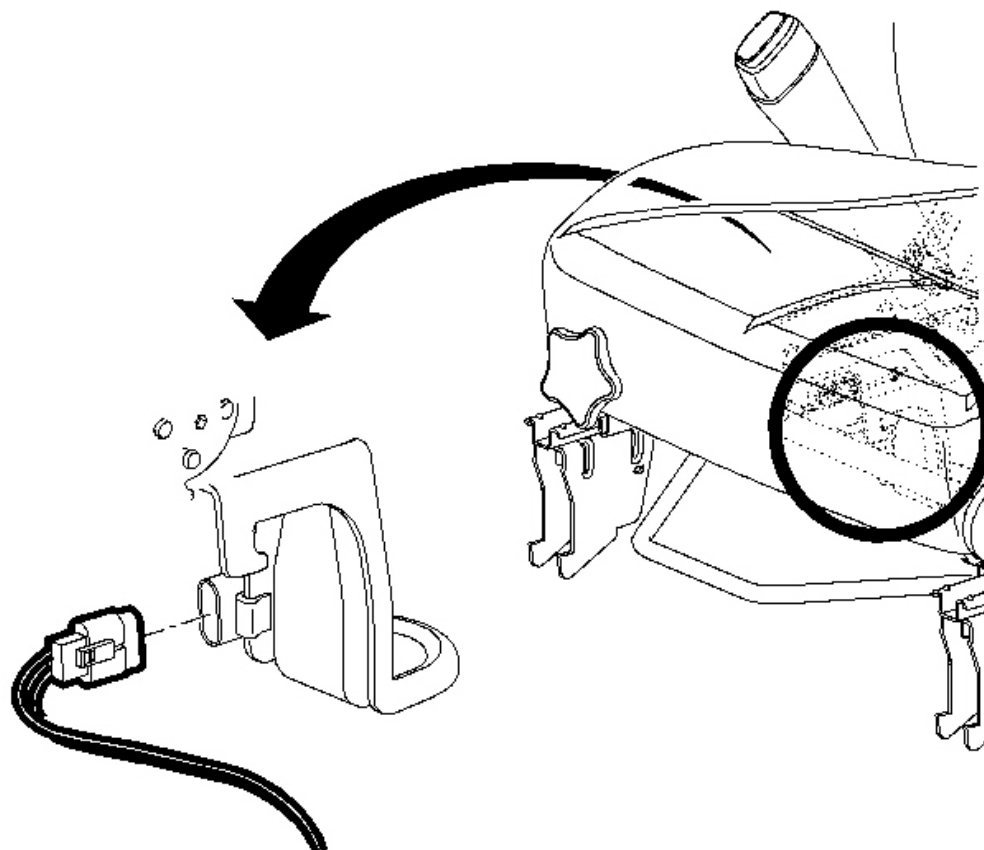


Fig. 33: Disconnecting/Connecting Heat Module Electrical Connector
Courtesy of GENERAL MOTORS CORP.

8. For vehicles with heated seats connect the heat module electrical connector.
9. If the seat is equipped with a lumbar support, perform the following procedure:
 1. Pull the lumbar cable sleeve forward.
 2. Using a sharp-bladed tool, make a small slit where the lumbar actuator meets the cover.
 3. Install the lumbar knob by pushing firmly.
 4. Adjust the lumbar knob to ensure that the lumbar is operating correctly.
10. Install the front seat into the vehicle. Refer to **Seat Replacement - Front Bucket** .

Removal Procedure

1. Remove the seat from the vehicle. Refer to **Seat Replacement - Front Bucket** .
2. Remove the outer trim panel from the seat cushion. Refer to **Seat Cushion Outer Trim Panel Replacement - Front Seat (4-Way)** or **Seat Cushion Outer Trim Panel Replacement - Front Seat (2-Way)** or **Seat Cushion Outer Trim Panel Replacement - Front Seat (6-Way)** .
3. Remove the armrest from the seat. Refer to **Armrest Replacement - Front Seat** .

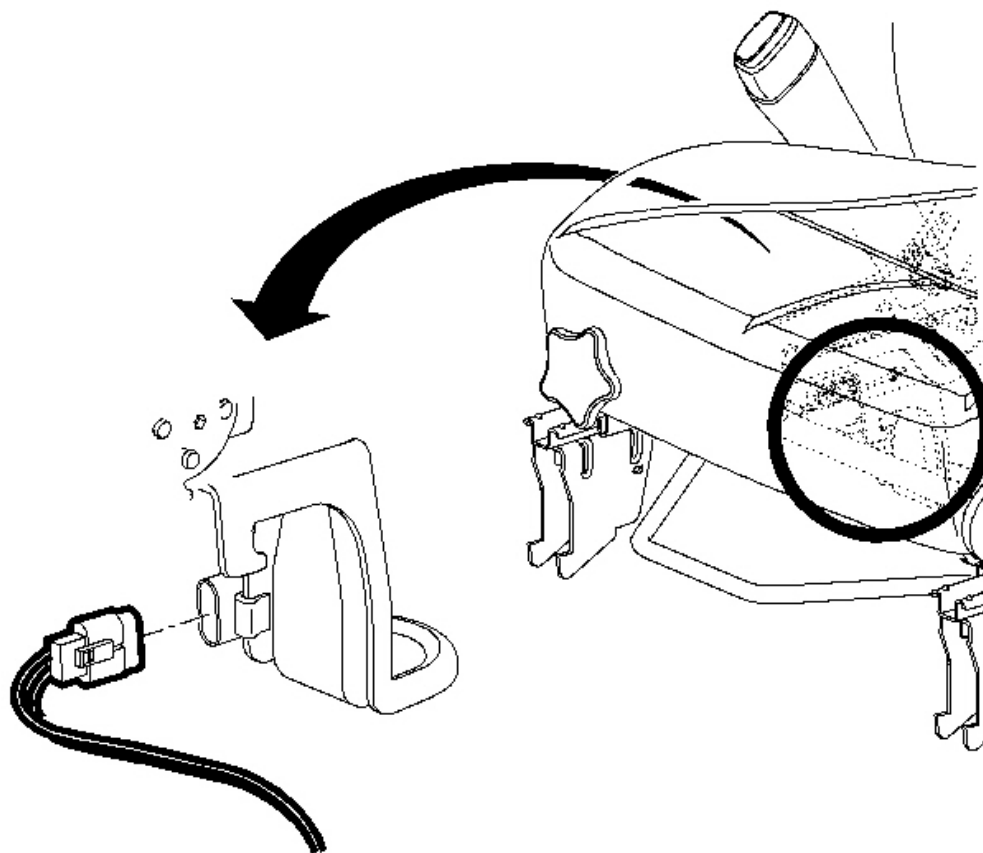


Fig. 34: Disconnecting/Connecting Heat Module Electrical Connector
Courtesy of GENERAL MOTORS CORP.

4. On vehicles with heated seats, disconnect the electrical connector from the seat heat module.

5. Remove the head restraint. Refer to **Head Restraint Replacement - Front Seat** .

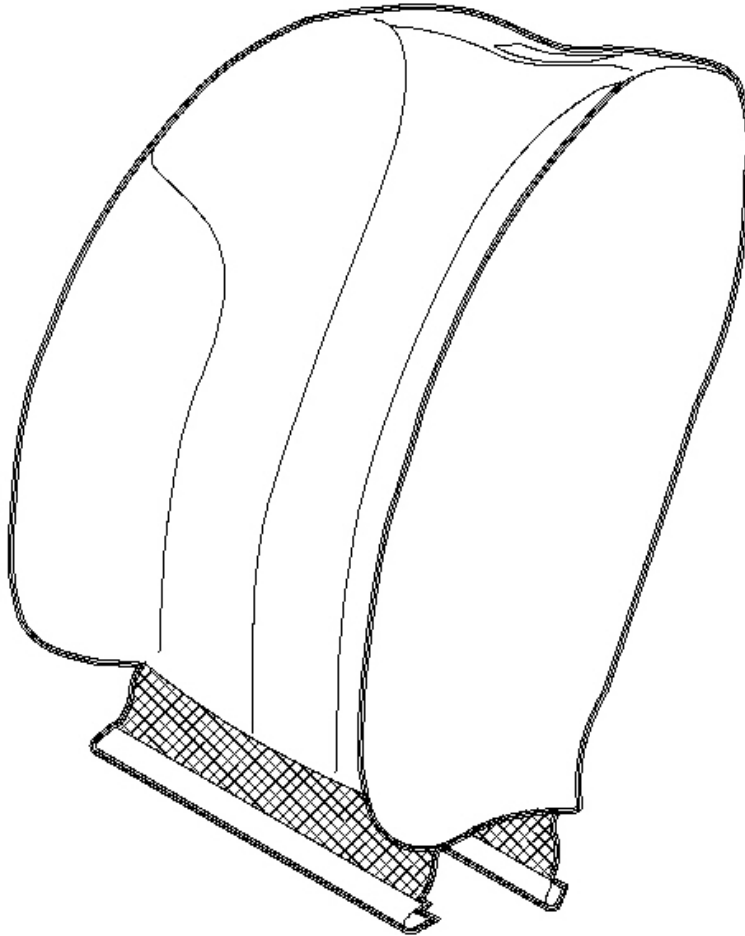


Fig. 35: Removing/Installing Seat Back Trim Cover
Courtesy of GENERAL MOTORS CORP.

6. Disconnect the lower J-hook retainer from the seat back trim cover.
7. Carefully pull up on the trim cover, disengaging the hook and loop retainers, until the head restraint guides are exposed.

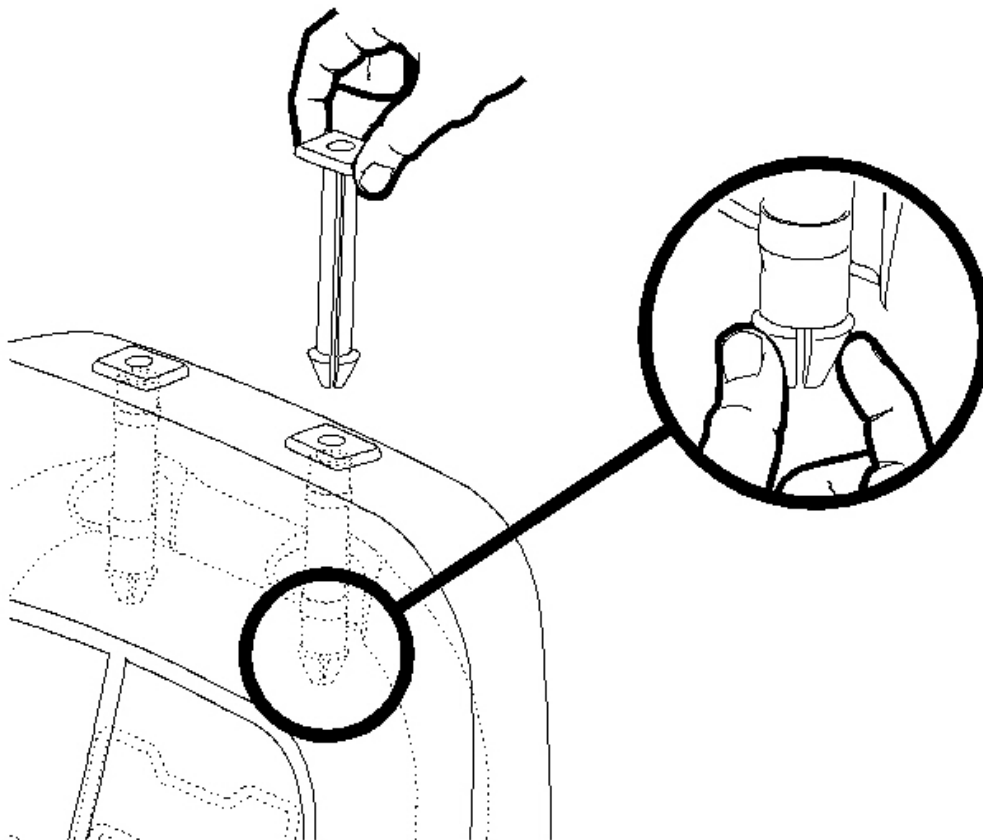


Fig. 36: Removing/Installing Headrest Guides By Pressing Into Position
Courtesy of GENERAL MOTORS CORP.

8. Squeeze the locking tabs on the head restraint guide. Push the guides up and out of the seat back pad, cover, and frame.
9. Remove the seat back trim cover from the seat.
10. Remove the seat back pad from the frame.

Installation Procedure

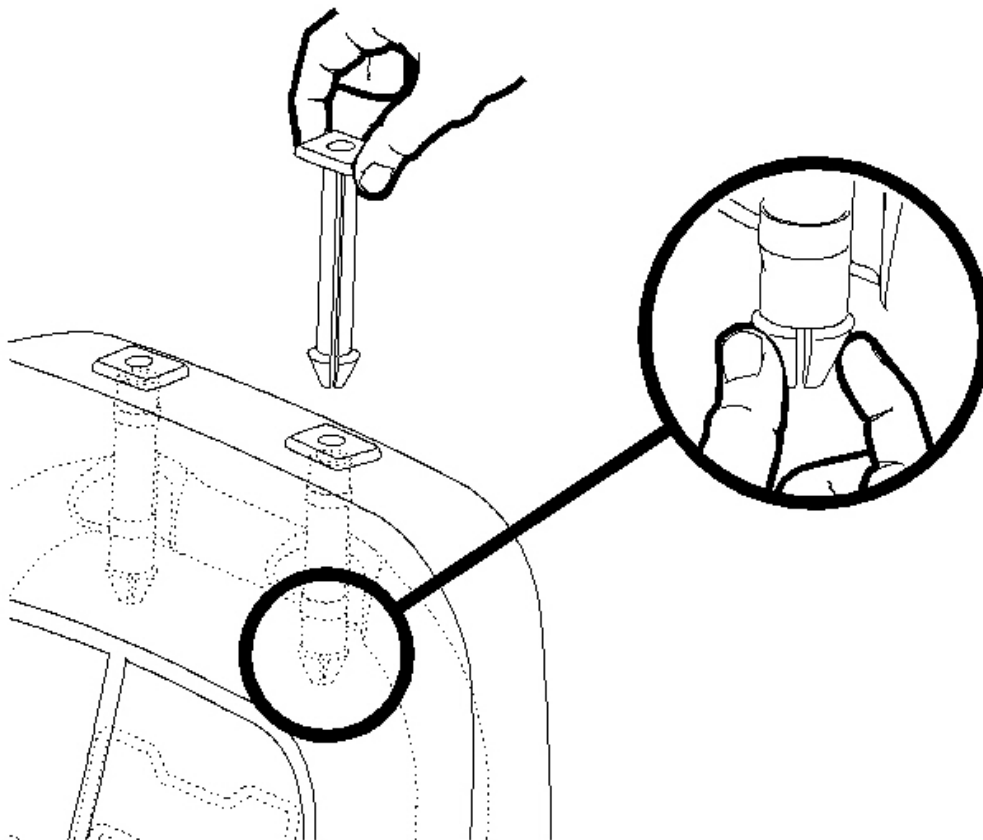


Fig. 37: Removing/Installing Headrest Guides By Pressing Into Position
Courtesy of GENERAL MOTORS CORP.

1. Position the seat back pad on the frame.
2. Install the seat back trim cover over the top of the seat back.
3. Install the head restraint guides by pressing the guides into position until the locking tabs engage.

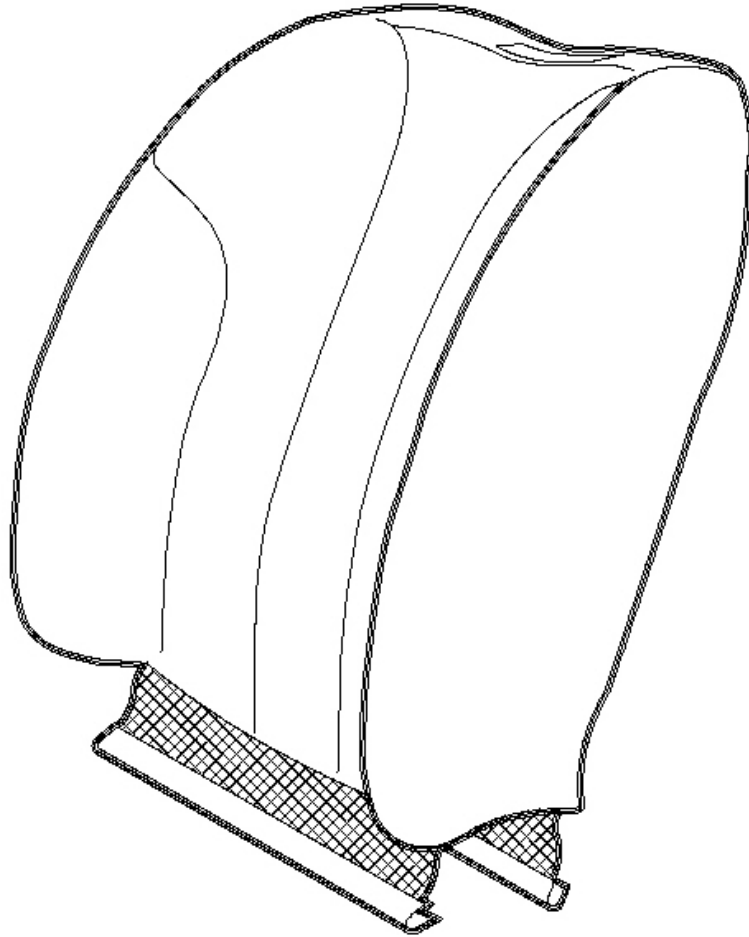


Fig. 38: Removing/Installing Seat Back Trim Cover
Courtesy of GENERAL MOTORS CORP.

4. Continue installing the seat back trim cover, pressing over the hook and loop locations to ensure that the hooks engage.
5. Connect the J-hook retainer to the seat back trim cover.
6. Install the head restraint. Refer to **Head Restraint Replacement - Front Seat** .

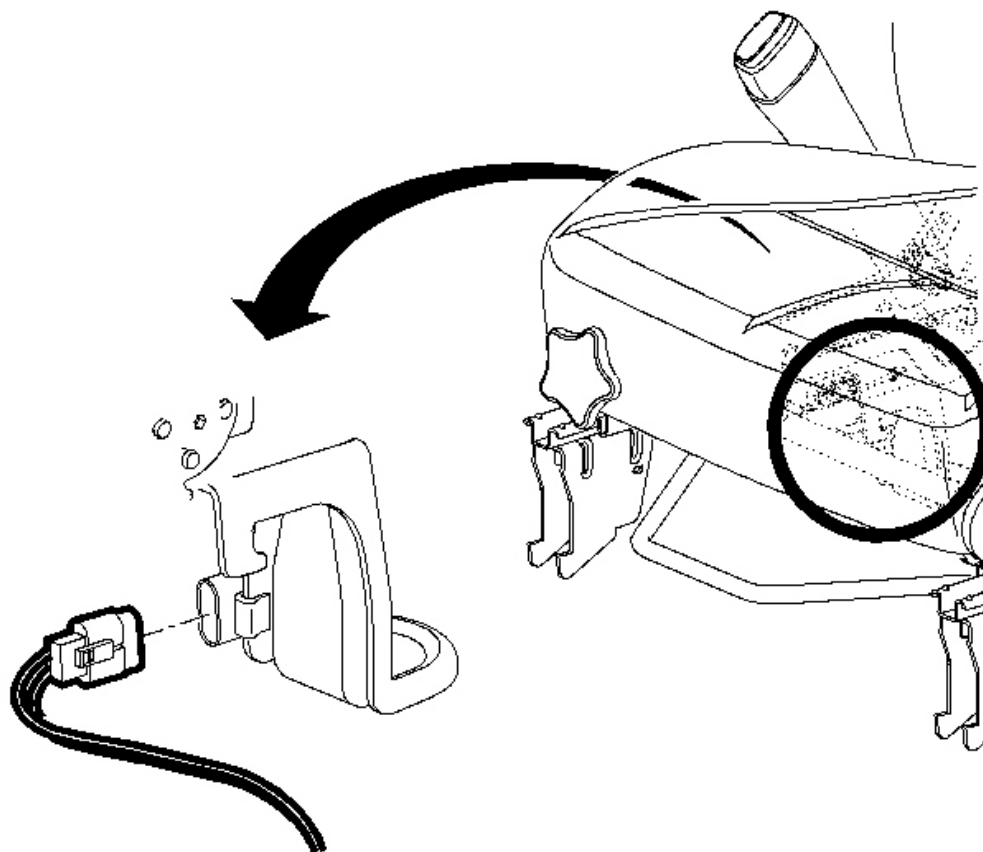


Fig. 39: Disconnecting/Connecting Heat Module Electrical Connector
Courtesy of GENERAL MOTORS CORP.

7. On vehicles with heated seats, connect the electrical connector to the seat heat module.
8. Install the armrest to the seat. Refer to **Armrest Replacement - Front Seat** .
9. Install the side trim panel to the seat cushion. Refer to **Seat Cushion Outer Trim Panel Replacement - Front Seat (4-Way)** or **Seat Cushion Outer Trim Panel Replacement - Front Seat (2-Way)** or **Seat Cushion Outer Trim Panel Replacement - Front Seat (6-Way)** .
10. Install the seat into the vehicle. Refer to **Seat Replacement - Front Bucket** .

SEAT BACK COVER AND PAD REPLACEMENT - FRONT (FOLD FLAT)

Removal Procedure

1. Remove the front seat. Refer to **Seat Replacement - Front Bucket** .

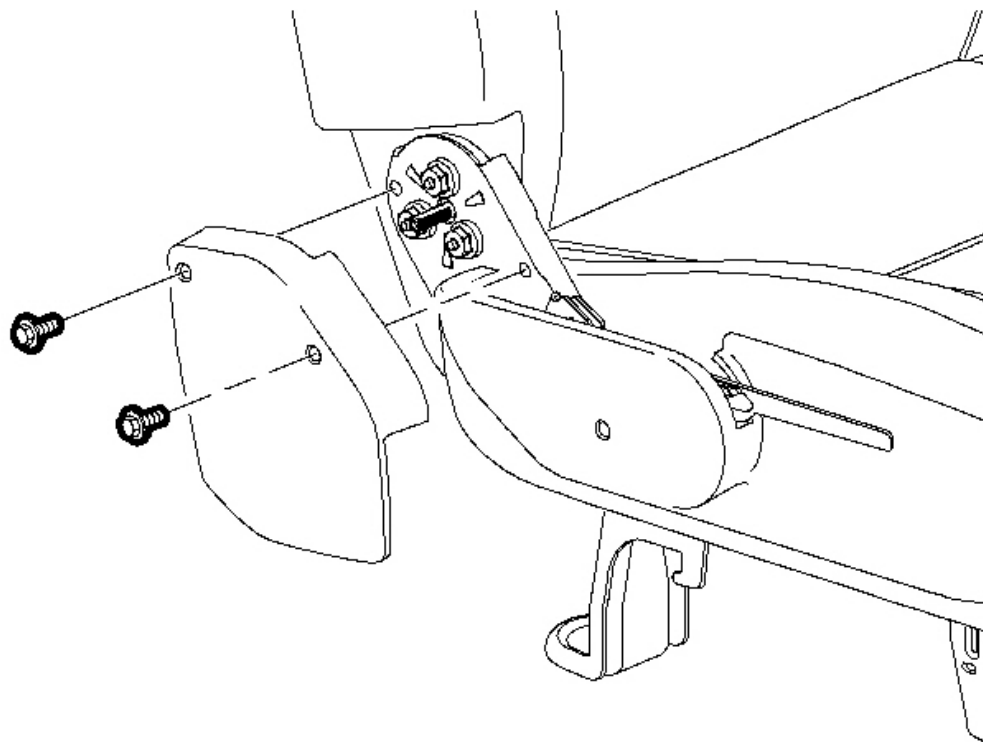


Fig. 40: View Of Outer Trim Panel
Courtesy of GENERAL MOTORS CORP.

2. Remove the screws from the outboard recliner trim panel. Remove the trim panel.

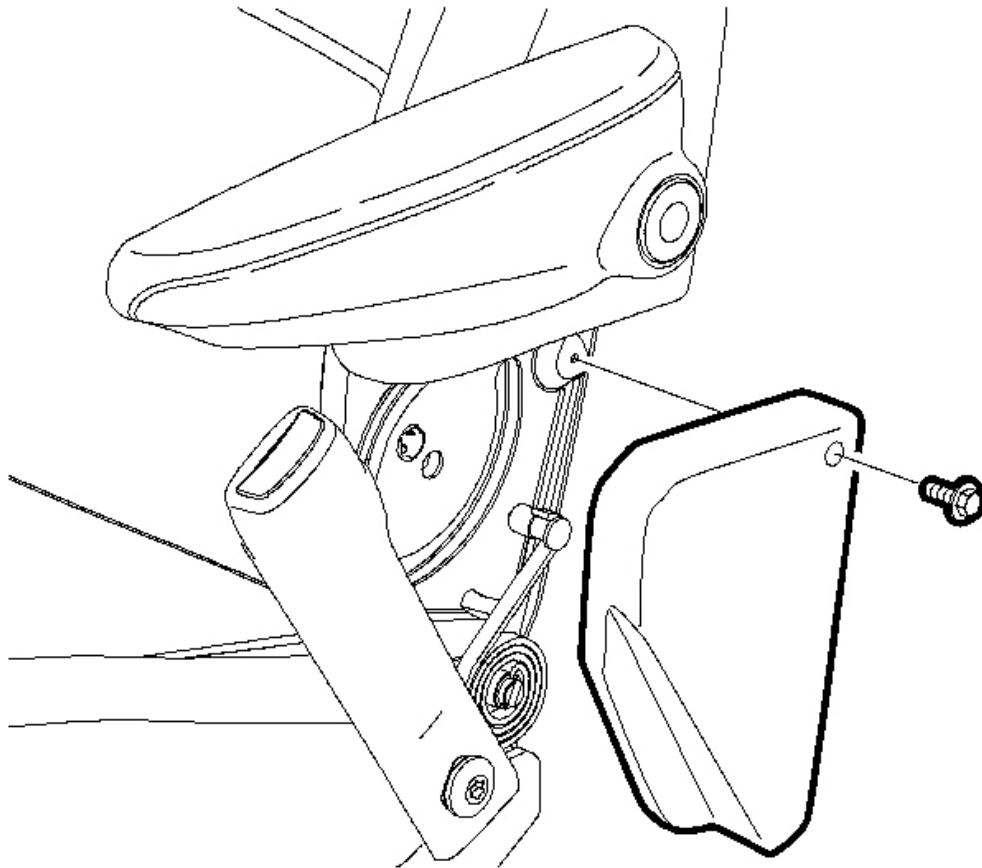


Fig. 41: Removing/Installing Inboard Recliner Trim Panel
Courtesy of GENERAL MOTORS CORP.

3. Remove the screws from the inboard recliner trim panel. Remove the trim panel.

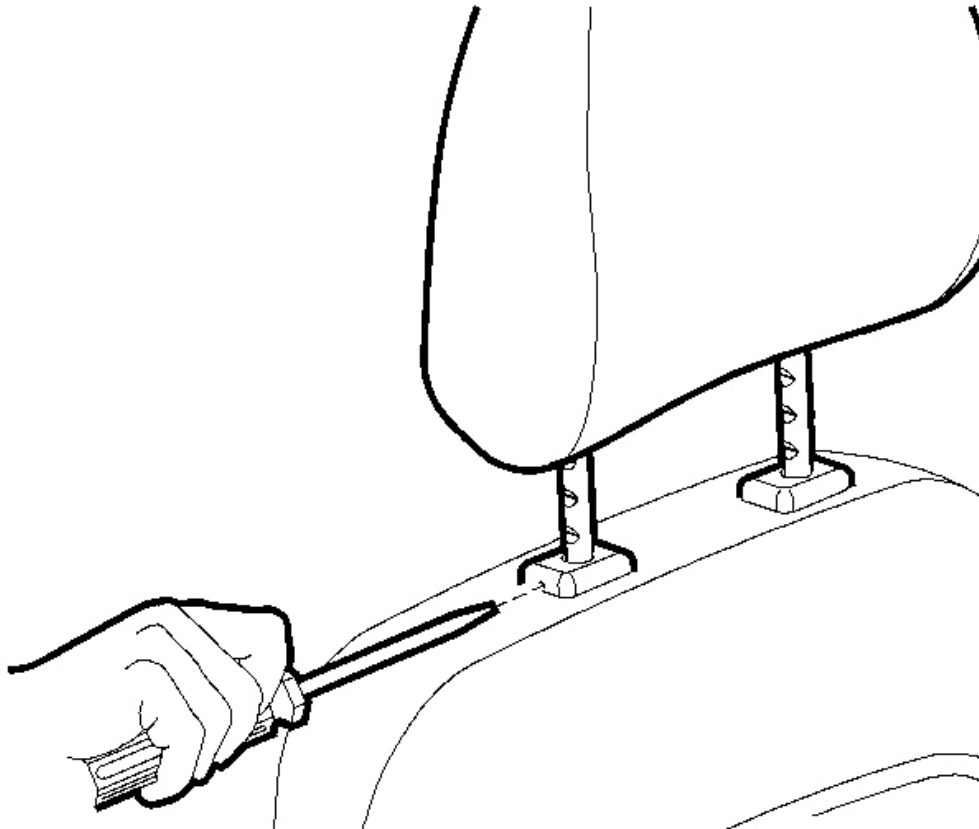


Fig. 42: Removing Head Restraint
Courtesy of GENERAL MOTORS CORP.

4. Position the head restraint to the full up position.
5. Insert an awl into the head restraint guide hole and push in on the awl while pulling up on the restraint. Remove the head restraint.

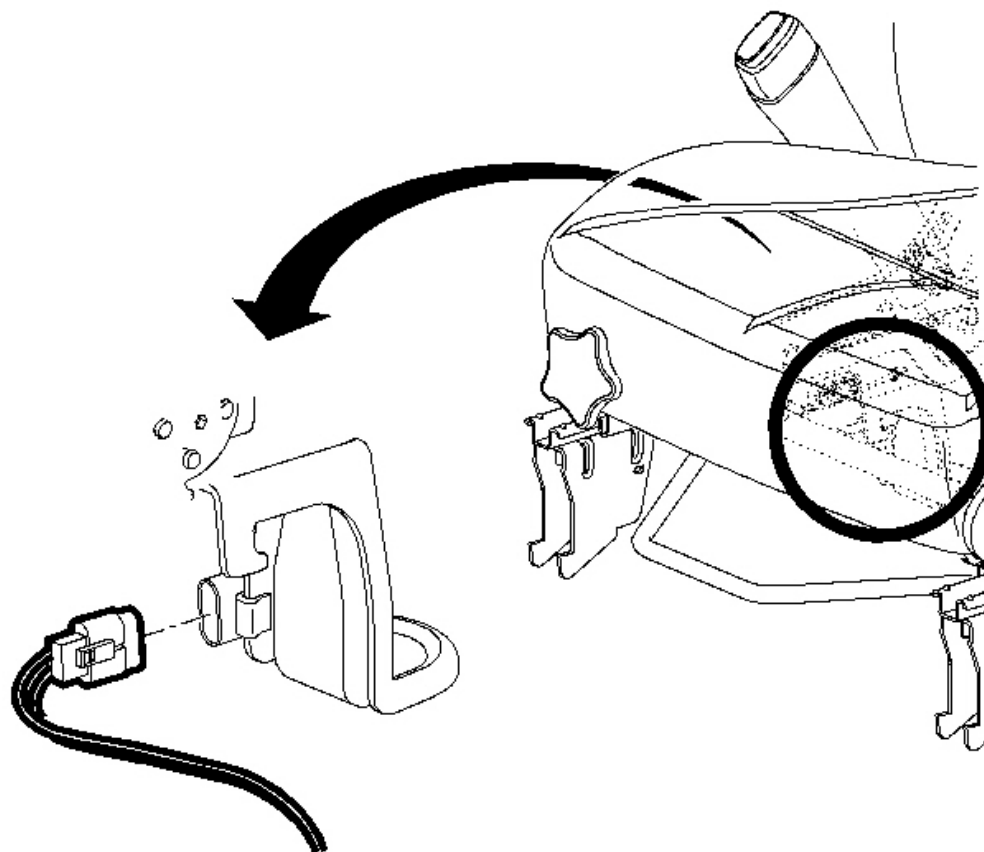


Fig. 43: Disconnecting/Connecting Heat Module Electrical Connector
Courtesy of GENERAL MOTORS CORP.

6. On vehicles with heated seats disconnect the heated seat wire harness from the seat heat module.
7. Remove the bolts from the front seat back frame.
8. Remove the seat back assembly.

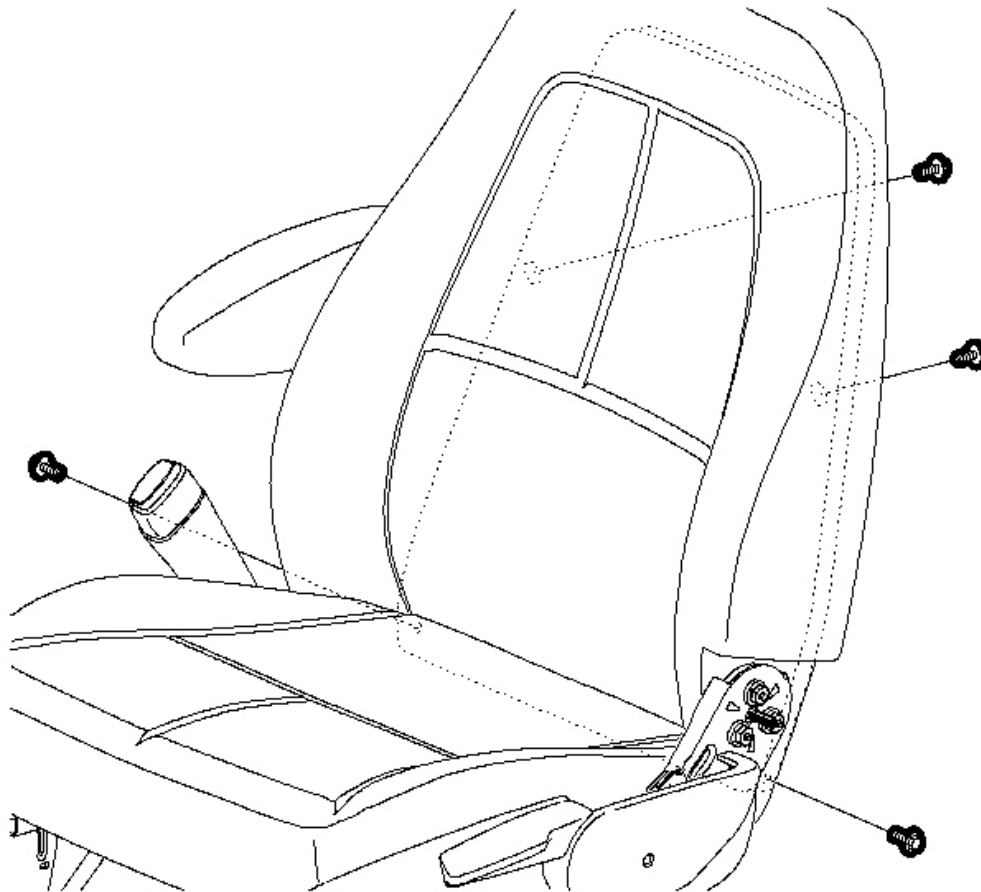


Fig. 44: Removing/Installing Screws At Seat Back Panel
Courtesy of GENERAL MOTORS CORP.

9. Remove the screws from the seat back panel.
10. Remove the seat back panel.
11. Remove the armrest from the seat back. Refer to **Armrest Replacement - Front Seat** .

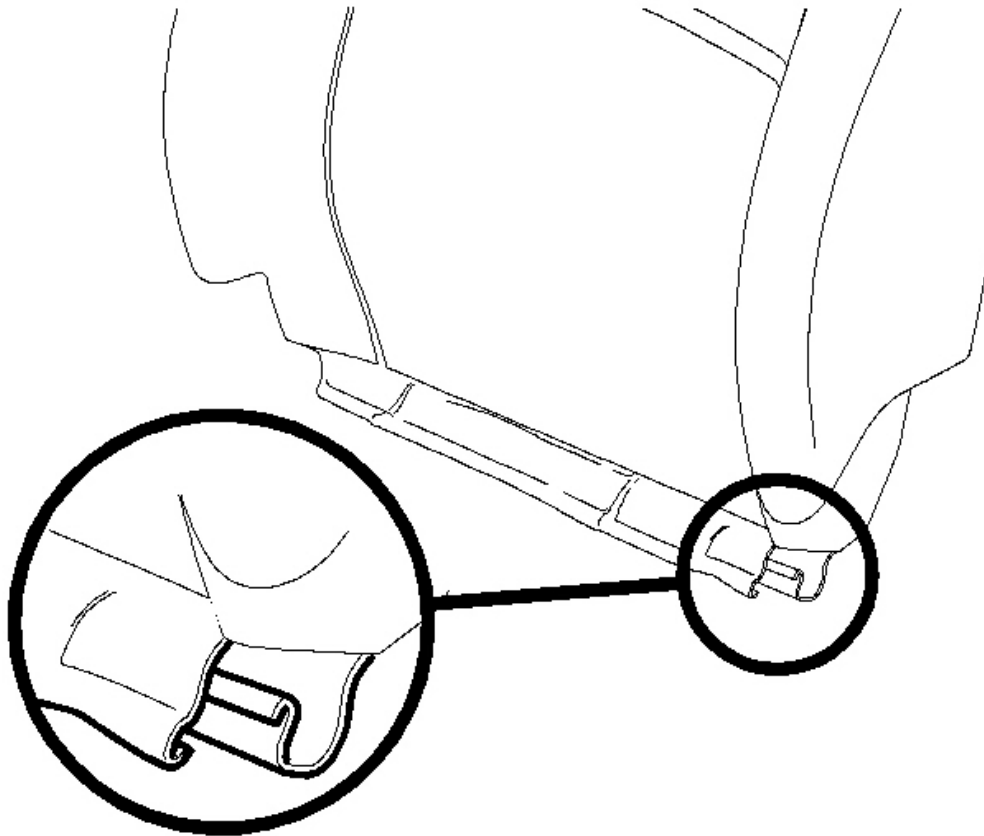


Fig. 45: View Of Lower J-Hook Retainer
Courtesy of GENERAL MOTORS CORP.

12. Disconnect the lower J-hook retainer from the seat back trim cover.
13. Pull the seat back cover upward. Carefully disengage the hook and loop fasteners until the head restraint guides are exposed.

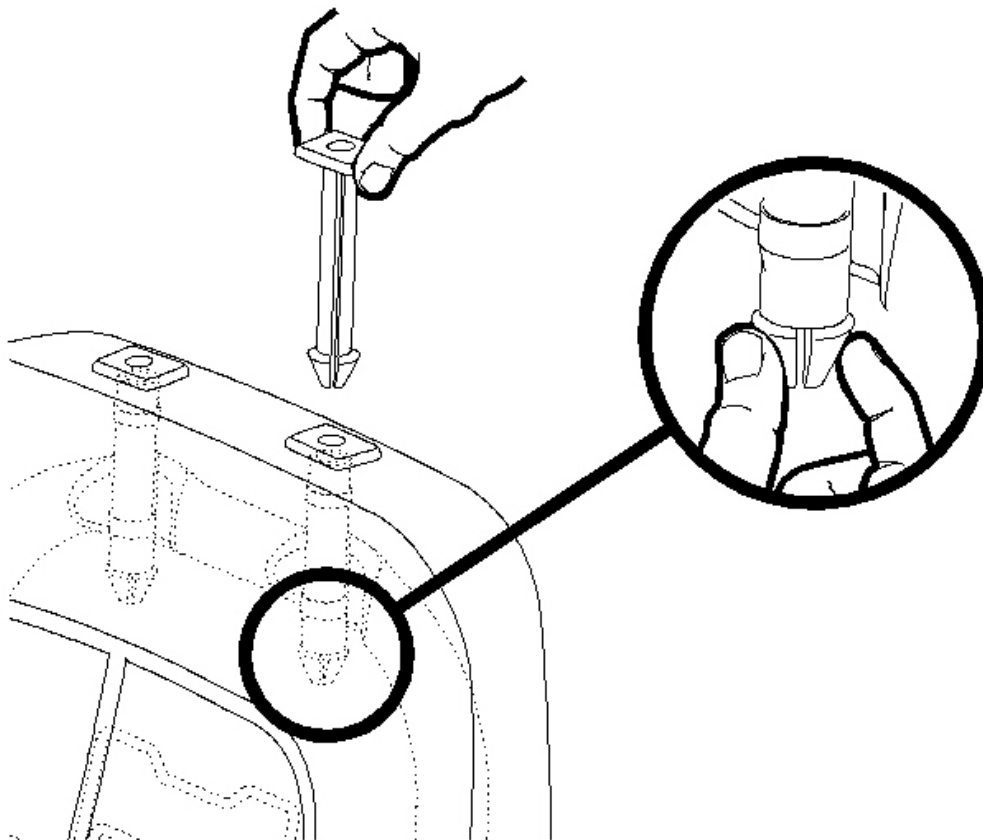


Fig. 46: Removing/Installing Headrest Guides By Pressing Into Position
Courtesy of GENERAL MOTORS CORP.

14. Squeeze the locking tabs on the head restraint guides and push the guides up and out of the seat back frame.
15. Remove the seat back trim cover from the seat.
16. Remove the seat back pad from the frame.

Installation Procedure

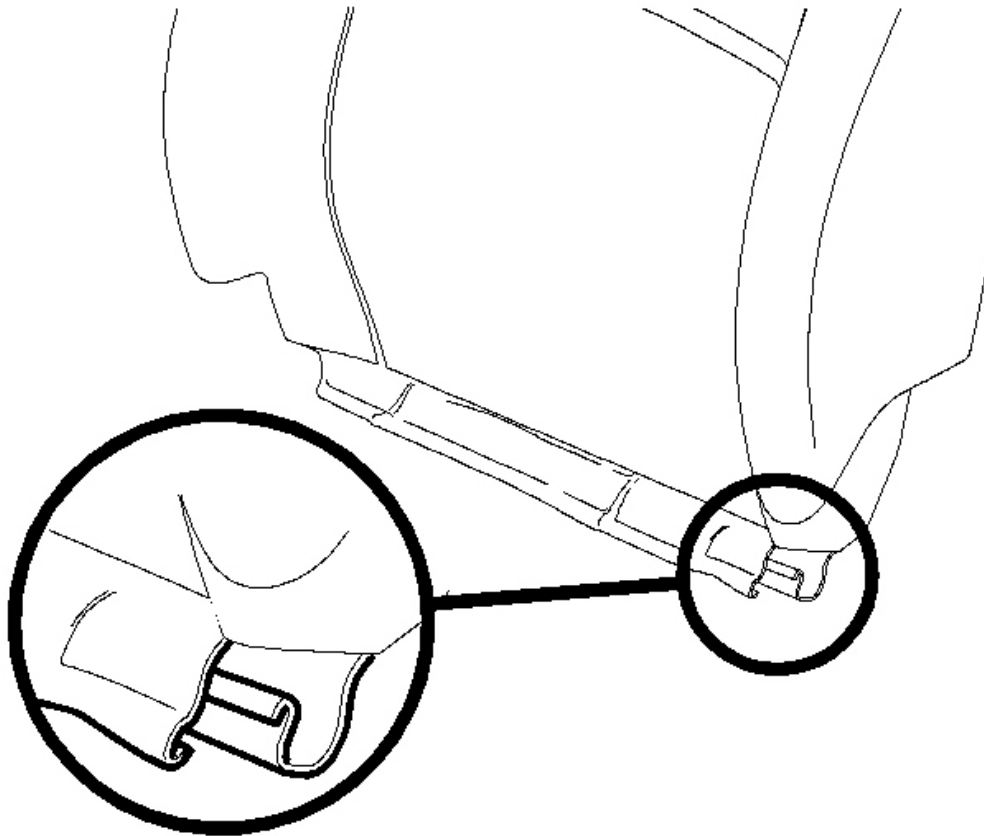


Fig. 47: View Of Lower J-Hook Retainer
Courtesy of GENERAL MOTORS CORP.

1. Position the seat back pad on the frame.
2. Pull the seat back trim cover over the top of the seat back.
3. Starting at the top, position the seat cover over the seat frame and pad, pressing over the hook and loop locations to engage the fasteners.
4. Connect the lower J-hook retainer on the seat back trim.

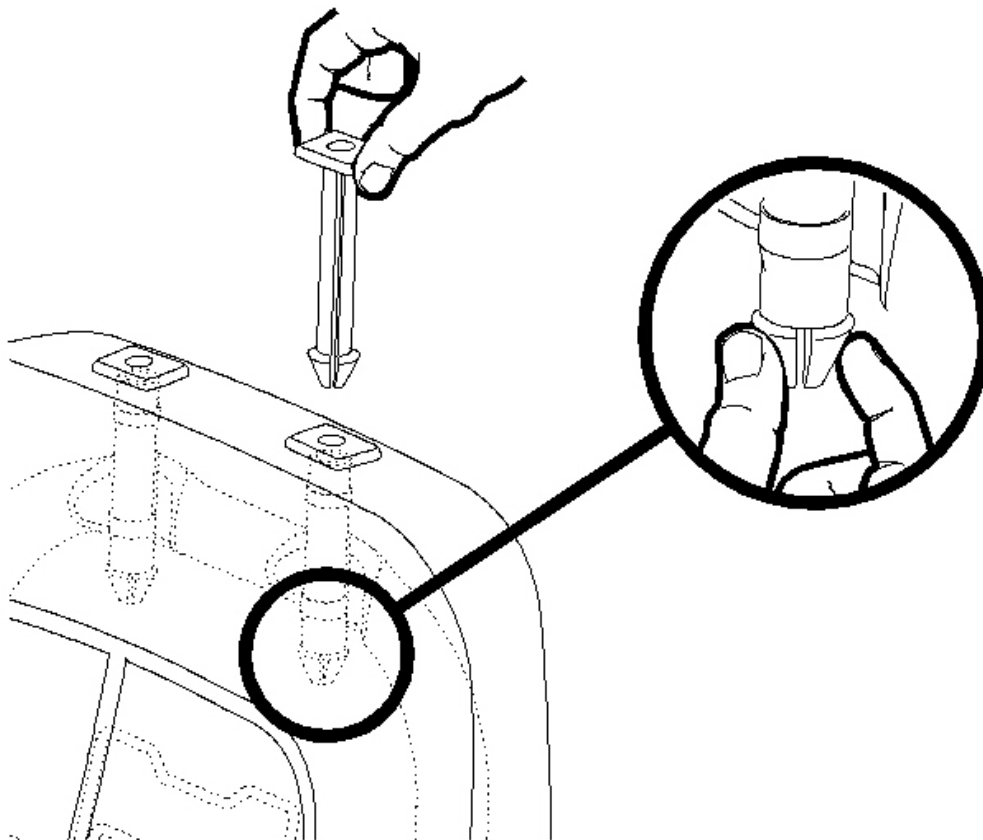


Fig. 48: Removing/Installing Headrest Guides By Pressing Into Position
Courtesy of GENERAL MOTORS CORP.

5. Position the head restraint guides in the holes in the seat cover.
6. Push down on the guides to lock the guides securely in place.

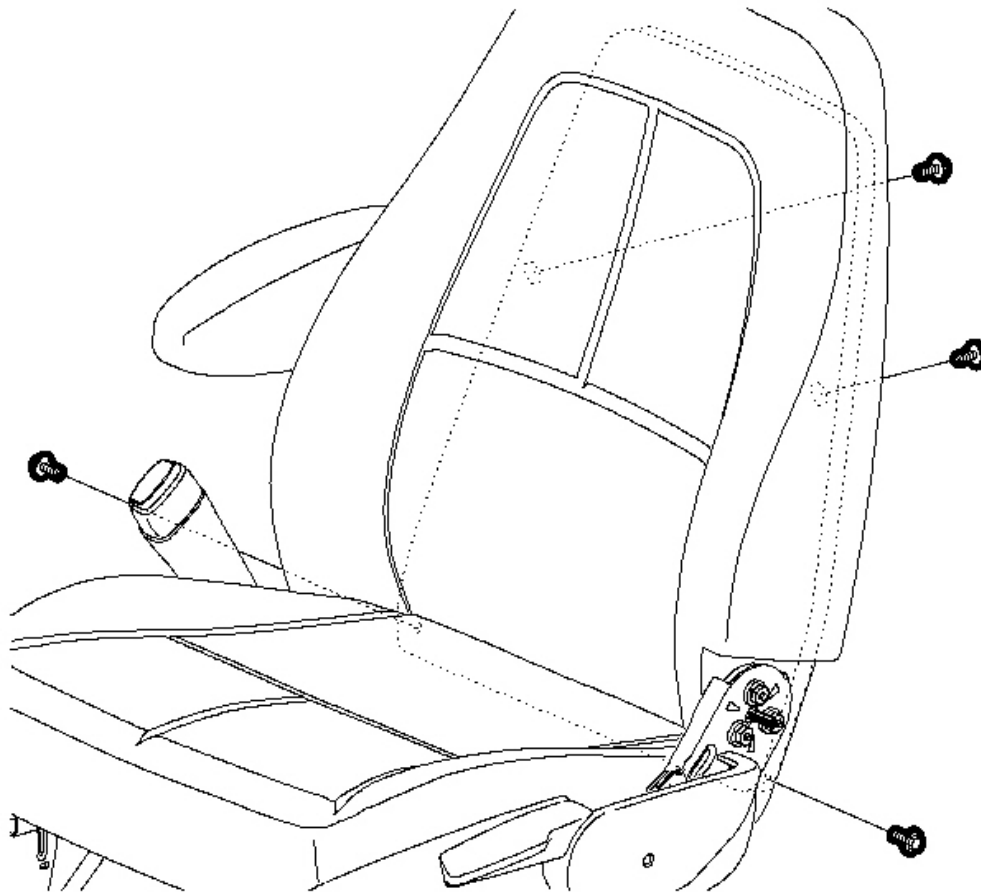


Fig. 49: Removing/Installing Screws From The Seat Back Panel
Courtesy of GENERAL MOTORS CORP.

NOTE: Refer to Fastener Notice in Cautions and Notices.

7. Position the seat back panel. Install the screws into the seat back panel.

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

8. Install the armrest to the seat. Refer to Armrest Replacement - Front Seat.
9. On vehicles with heated seats, route the heated seat wire harness under the seat cushion and connect the harness to the seat heat module.

10. Position the seat back frame assembly between the recliners.
11. Install the seat back frame bolts.

Tighten: Tighten the screw to 70 N.m (52 lb ft).

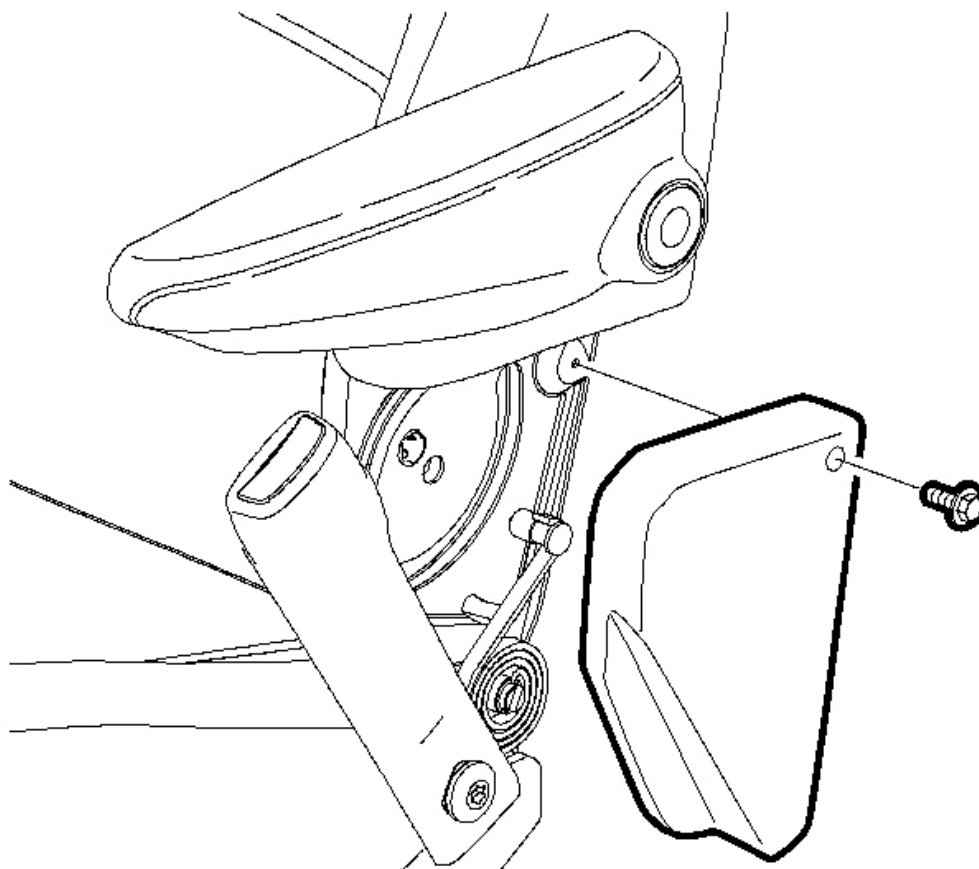


Fig. 50: Removing/Installing Inboard Recliner Trim Panel
Courtesy of GENERAL MOTORS CORP.

12. Position the inboard recliner trim panel and install the trim panel screw.

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

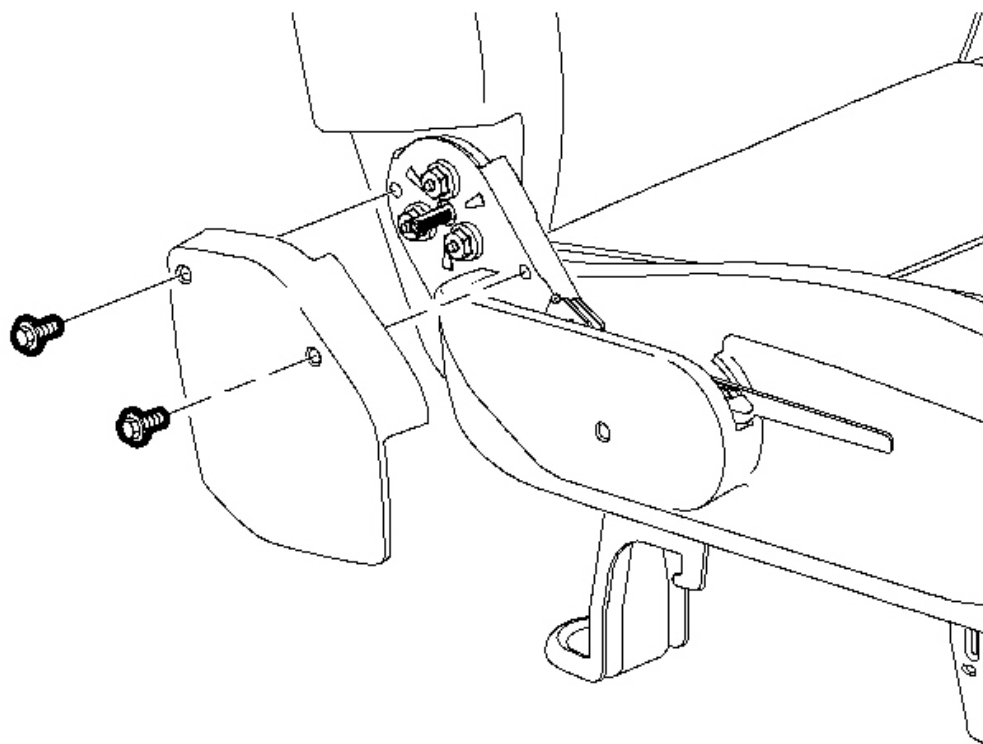


Fig. 51: View Of Outer Trim Panel
Courtesy of GENERAL MOTORS CORP.

13. Position the outboard recliner trim panel and install the trim panel screws.

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

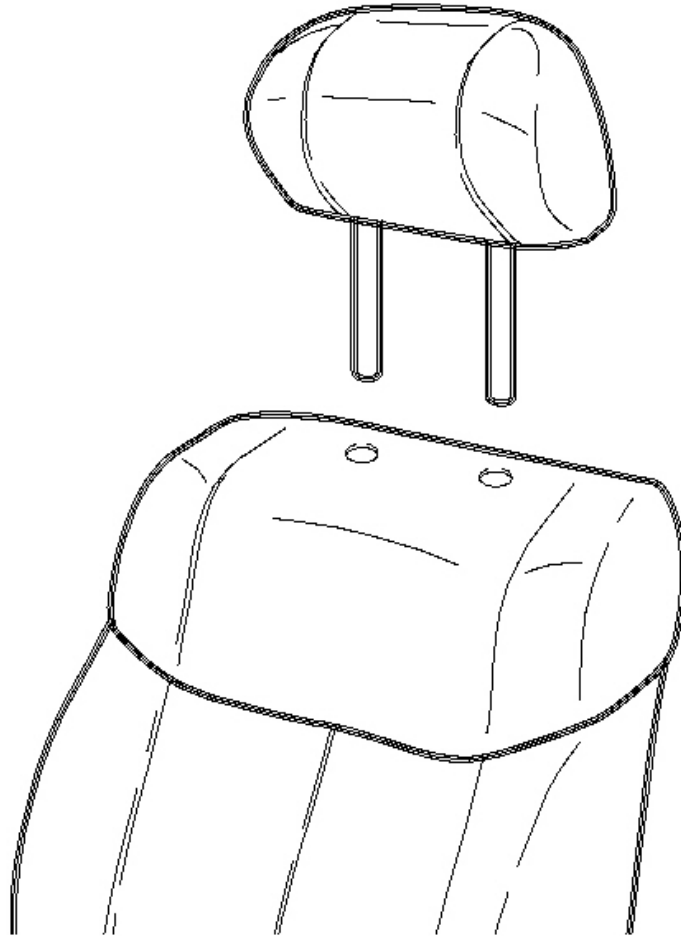


Fig. 52: Installing Head Restraint
Courtesy of GENERAL MOTORS CORP.

14. Position the head restraint over the seat back. Push down to install.
15. Pull up on the restraint to ensure that the restraint is locked in place.
16. Install the front seat to the vehicle. Refer to **Seat Replacement - Front Bucket** .

SEAT BACK FRAME REPLACEMENT - FRONT (NON-FOLD FLAT)

Removal Procedure

1. Remove the front seat from the vehicle. Refer to **Seat Replacement - Front Bucket** .

2. Remove the seat back trim cover and pad. Refer to **Seat Back Cover and Pad Replacement - Front (Non-Fold Flat)** or **Seat Back Cover and Pad Replacement - Front (Fold Flat)** .
3. If the seat is equipped with lumbar support, perform the following procedure:
 1. Adjust the knob until the lumbar basket is in the position of least support.
 2. Pull back on the lumbar cable sleeve.
 3. Remove the barrel end of the cable from the lumbar actuator.

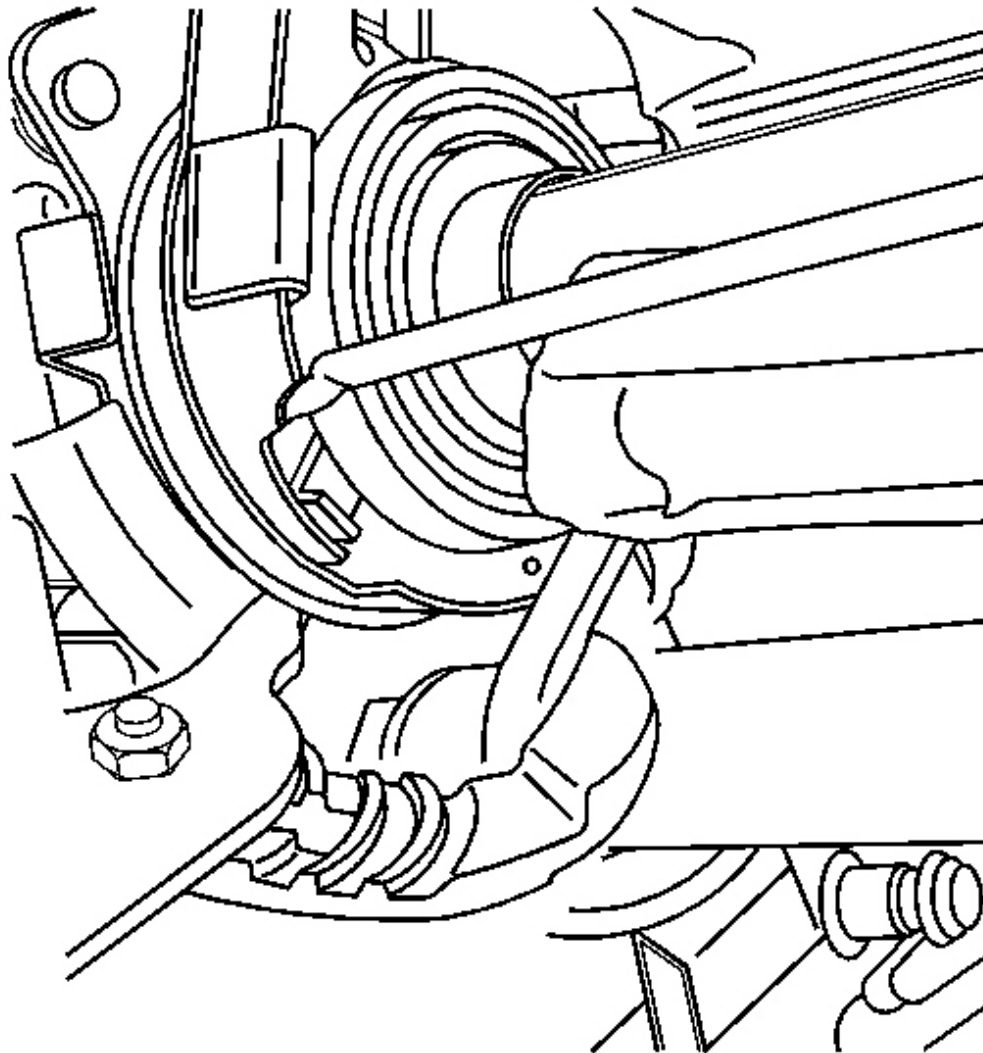


Fig. 53: View Of Front Seat Back Frame

Courtesy of GENERAL MOTORS CORP.

CAUTION: The seat back frame springs are under tension. To avoid personal injury, use care when removing or installing the frame.

4. From the rear of the seat, adjust the rear seat back until the notches in the seat back frame line up with the hook end of the springs on the seat back frame.
5. Using a pair of channel lock(R) pliers, slide the spring into the notches on both sides of the seat back frame.

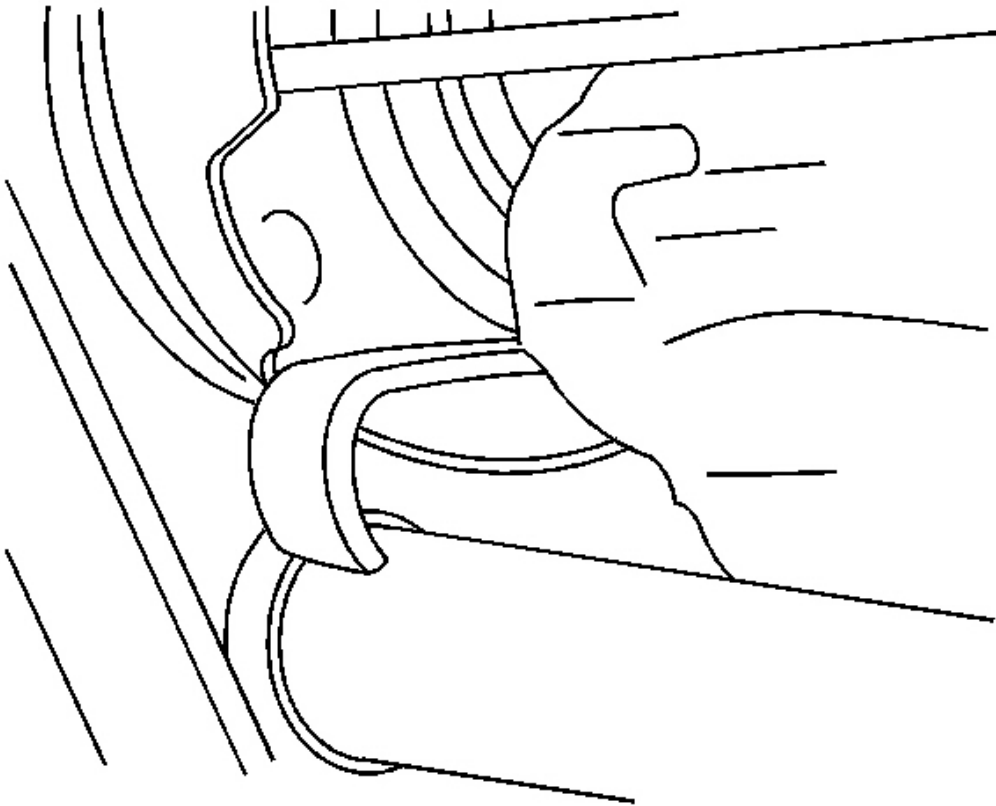


Fig. 54: Adjusting Seat Back
Courtesy of GENERAL MOTORS CORP.

6. Adjust the seat back forward to ensure that the springs are fully seated in the notches.

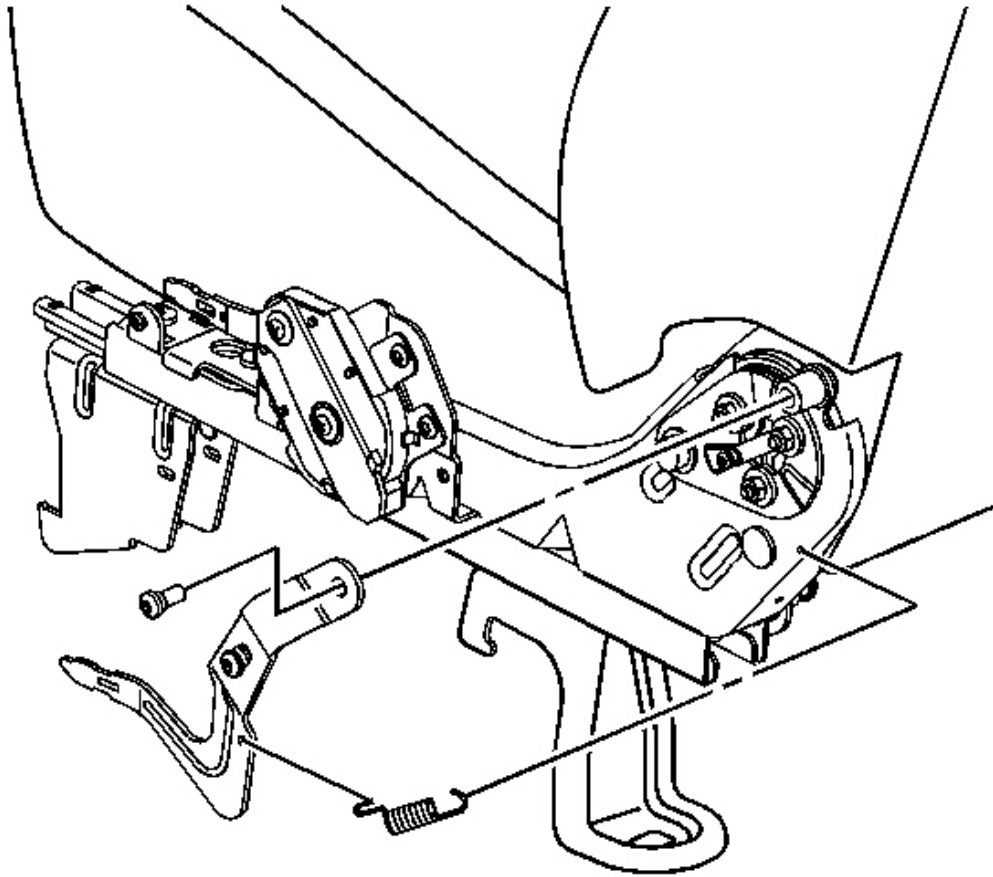


Fig. 55: Removing/Installing Recliner Handle
Courtesy of GENERAL MOTORS CORP.

7. Remove the recliner handle screw and spring. Remove the recliner handle.

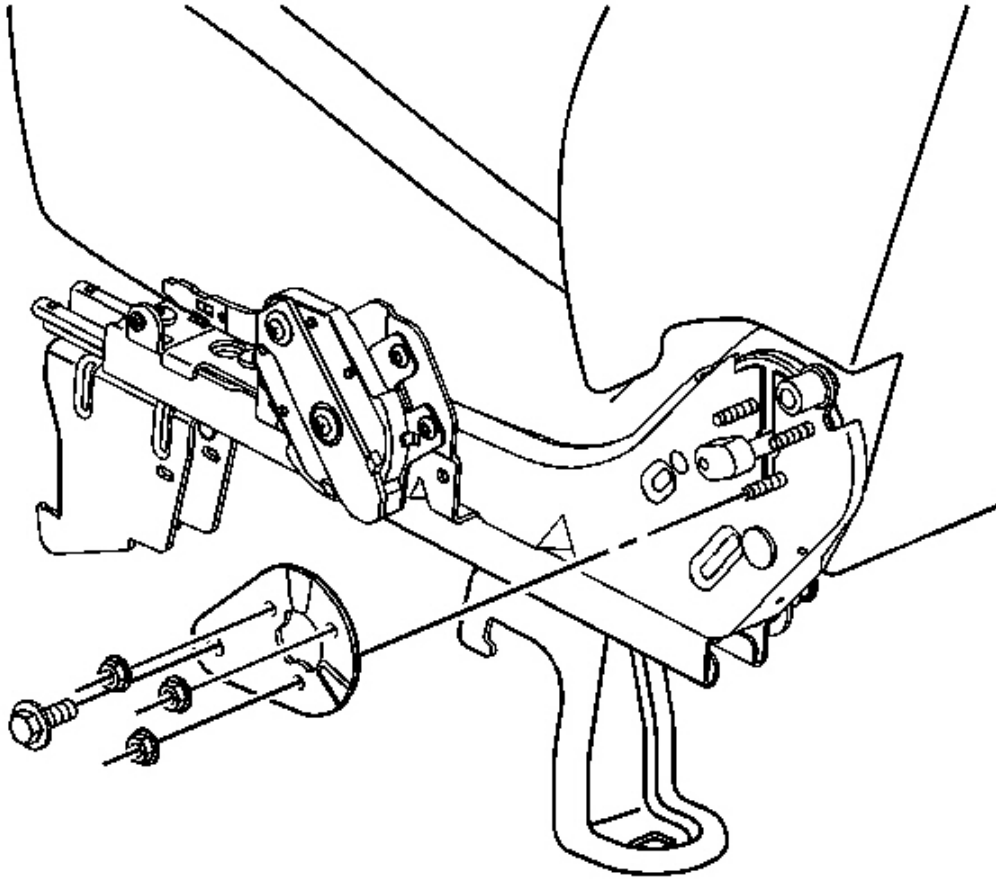


Fig. 56: Removing/Installing Nuts Outboard Seat Back Frame
Courtesy of GENERAL MOTORS CORP.

8. Remove the nuts from the outboard seat back frame.
9. If equipped, remove the teardrop washer bolt and washer.
10. Remove the nuts from the inboard seat back frame.

IMPORTANT: To provide additional clearance, you may loosen, but do NOT remove, the bolts on the rear seat cushion frame.

11. Remove the seat back frame from between the adjusters.

Installation Procedure

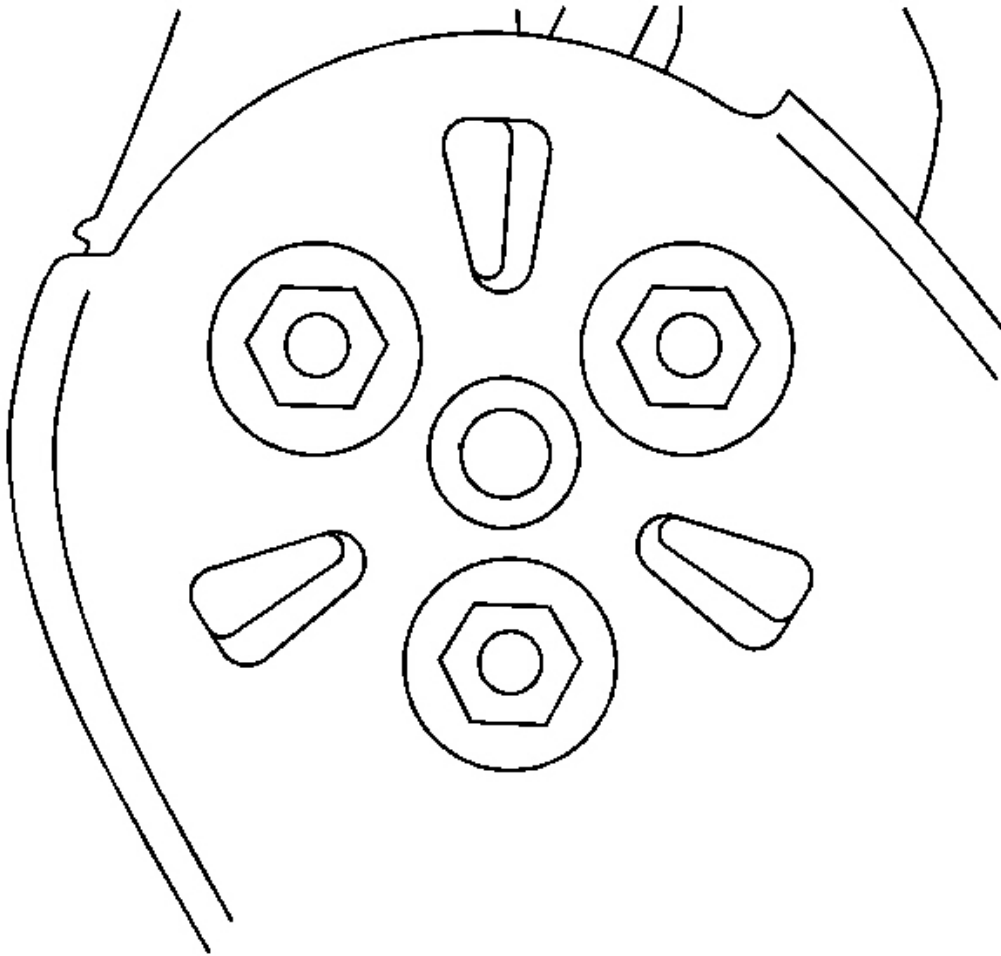


Fig. 57: Ensuring Locating Triangles Are Seated Properly
Courtesy of GENERAL MOTORS CORP.

1. Position the seat back frame between the adjusters.

Assure that the locating triangles on the seat back frame are properly seated in the mating holes in the adjusters.

NOTE: Refer to Fastener Notice in Cautions and Notices.

2. If you loosened the bolts on the rear seat cushion frame during removal, secure the bolts at this time.

Tighten: Tighten the bolts to 12 N.m (9 lb ft).

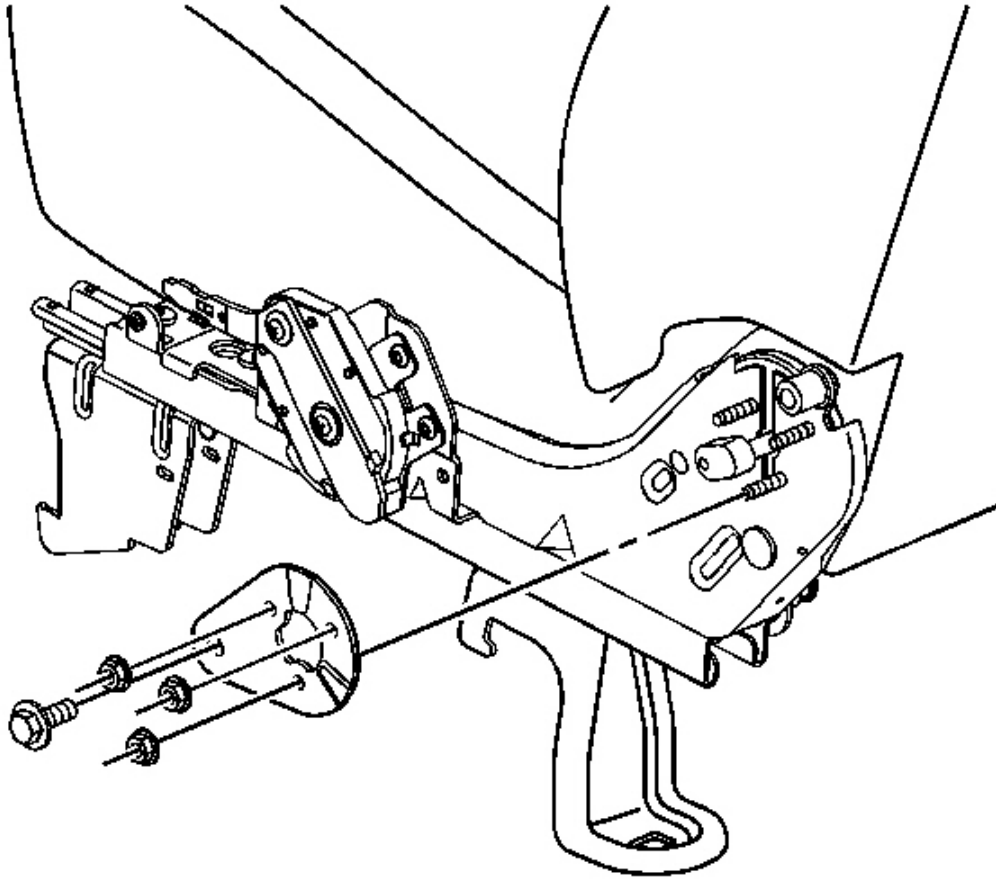


Fig. 58: Removing/Installing Nuts Outboard Seat Back Frame
Courtesy of GENERAL MOTORS CORP.

3. Install the outboard teardrop washer and bolt.

Tighten: Tighten the bolt to 35 N.m (26 lb ft).

4. Install the nut to the outboard seat back frame.

Tighten: Tighten the nut to 17 N.m (13 lb ft).

5. Install the nuts to the inboard seat back frame.

Tighten: Tighten the nuts to 17 N.m (13 lb ft).

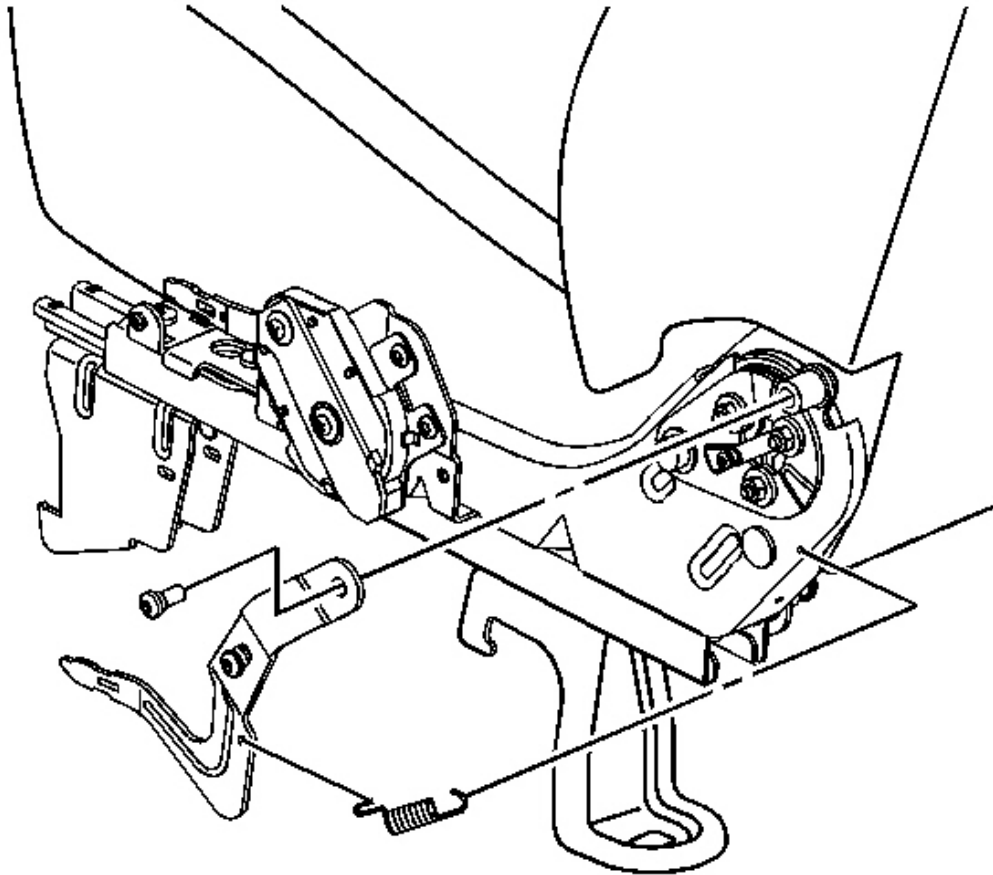


Fig. 59: Removing/Installing Recliner Handle
Courtesy of GENERAL MOTORS CORP.

CAUTION: The seat back frame springs are under tension. To avoid personal injury, use care when removing or installing the frame.

6. Position the recliner handle and spring. Install the recliner handle bolt.

Tighten: Tighten the bolt to 10 N.m (89 lb in).

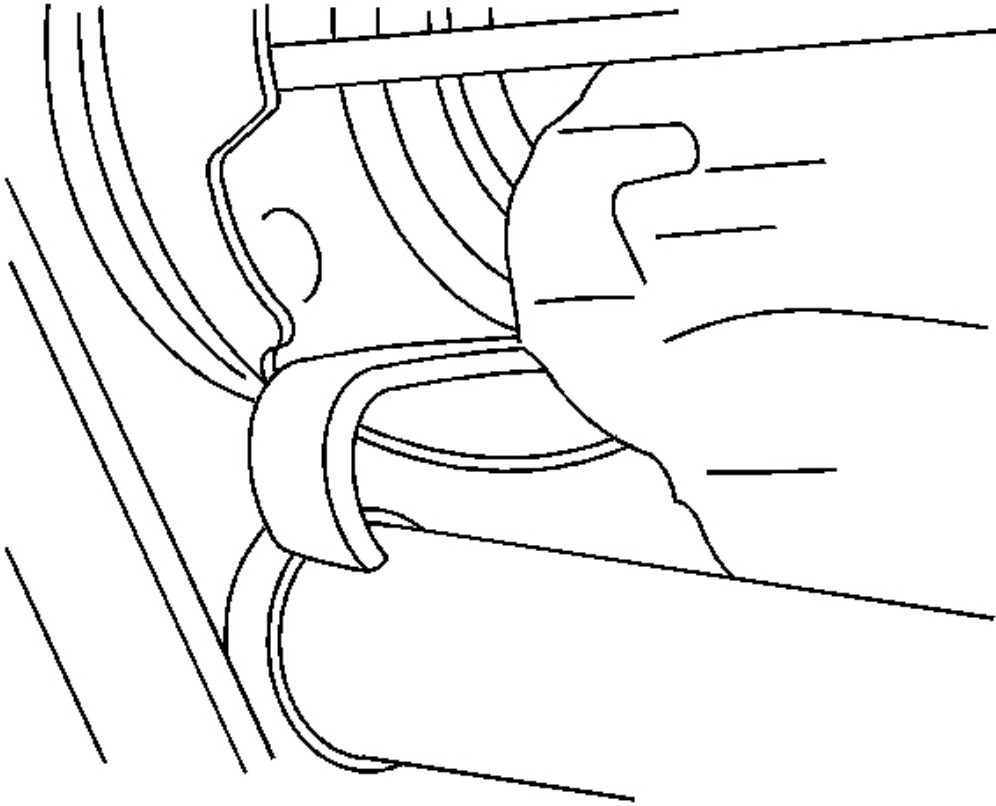


Fig. 60: Adjusting Seat Back
Courtesy of GENERAL MOTORS CORP.

7. Adjust the seat back until the hook end of the springs are adjacent to the adjuster pins.

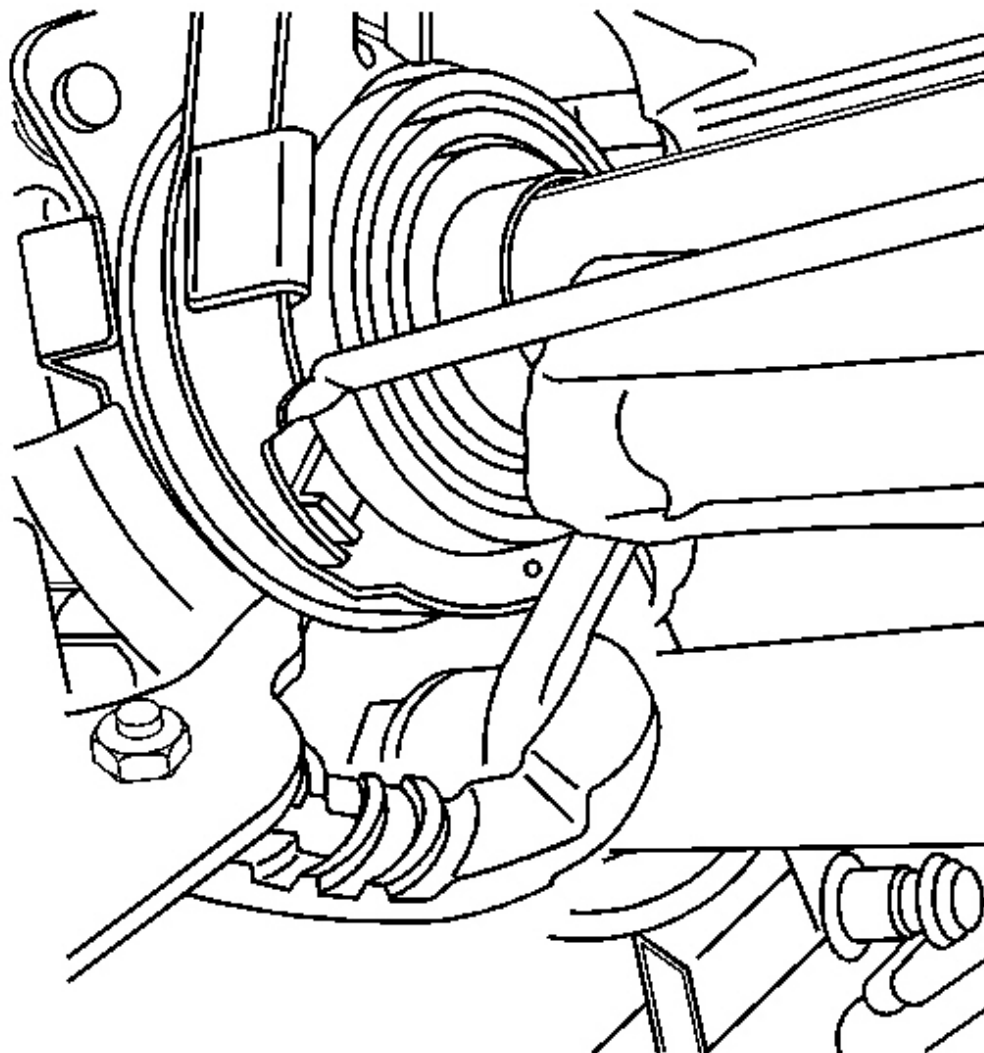


Fig. 61: View Of Front Seat Back Frame
Courtesy of GENERAL MOTORS CORP.

8. Using a pair of channel lock(R) pliers, slide the springs from the notches in the frame to the pin.
9. Adjust the seat back to ensure proper operation.
10. If the seat is equipped with lumbar support, perform the following procedure:
 1. Pull back on the lumbar cable sleeve.
 2. Install the barrel end of the cable from the lumbar actuator.

3. Adjust the knob to ensure that the cable is properly installed.
11. Install the seat back trim cover and pad. Refer to **Seat Back Cover and Pad Replacement - Front (Non-Fold Flat)** or **Seat Back Cover and Pad Replacement - Front (Fold Flat)** .
12. Install the front seat to the vehicle. Refer to **Seat Replacement - Front Bucket** .

SEAT BACK FRAME REPLACEMENT - FRONT (FOLD FLAT)

The seat back frame is exposed after you remove the seat back trim cover and pad. Refer to **Seat Back Cover and Pad Replacement - Front (Non-Fold Flat)** or **Seat Back Cover and Pad Replacement - Front (Fold Flat)** .

SEAT BACK RECLINER OUTER TRIM PANEL REPLACEMENT - FRONT SEAT

Removal Procedure

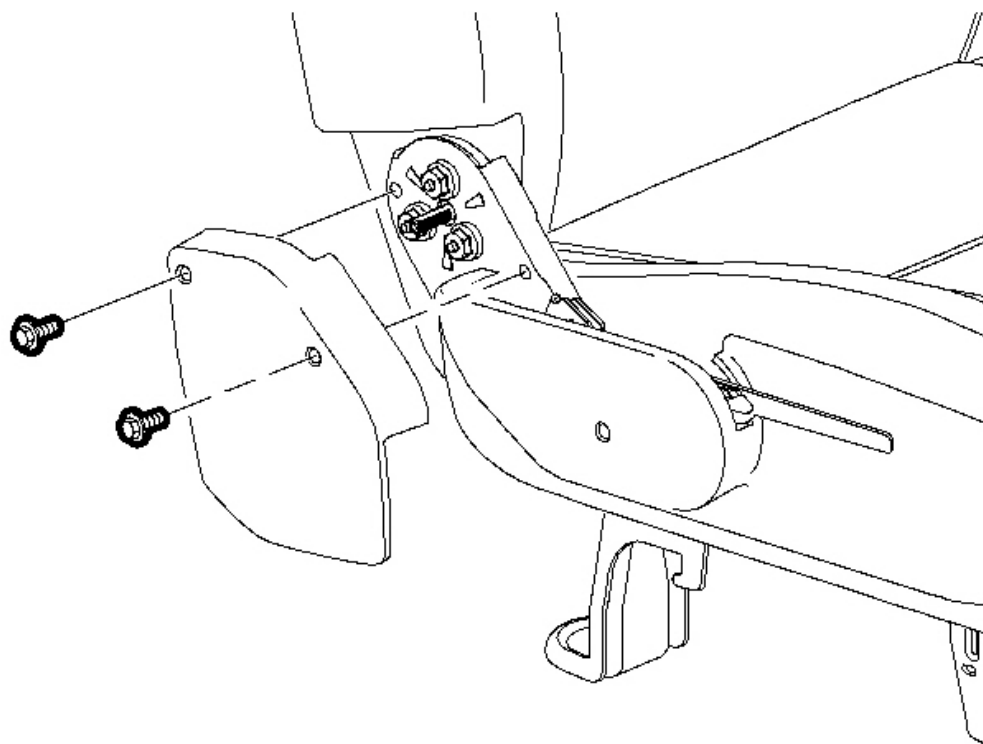


Fig. 62: View Of Outer Trim Panel
Courtesy of GENERAL MOTORS CORP.

1. Remove the trim panel screws from the recliner mechanism.
2. Remove the trim panel cover.

Installation Procedure

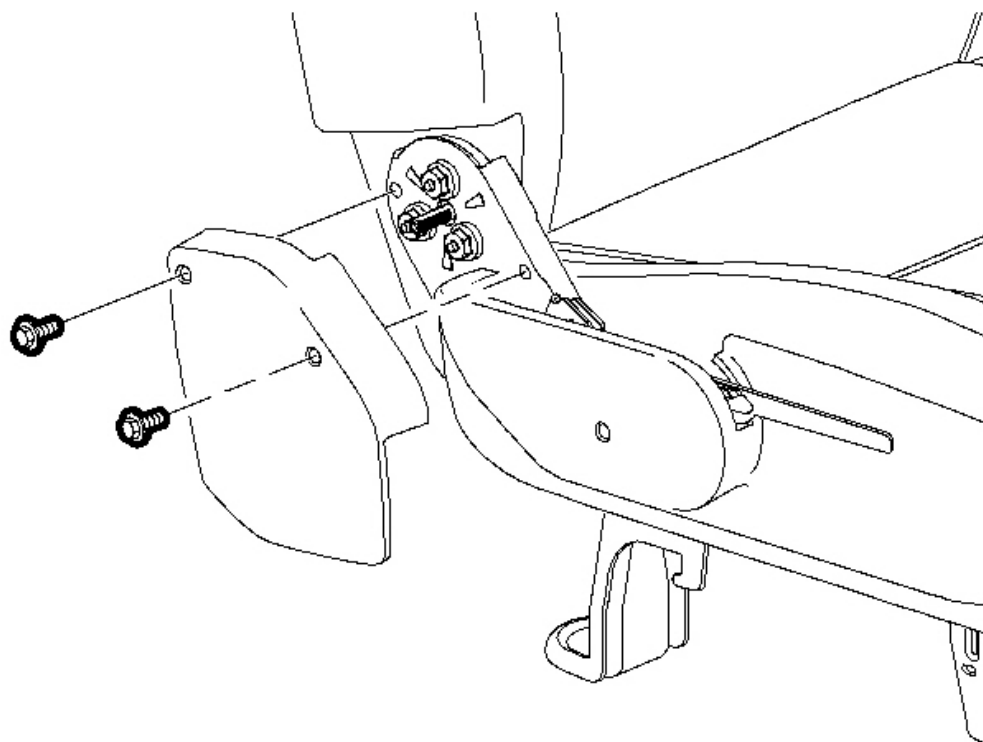


Fig. 63: View Of Outer Trim Panel
Courtesy of GENERAL MOTORS CORP.

1. Position the recliner trim panel on the seat.

NOTE: Refer to Fastener Notice in Cautions and Notices.

2. Install the recliner cover screws.

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

Removal Procedure

1. Remove the front seat from the vehicle. Refer to Seat Replacement - Front Bucket .

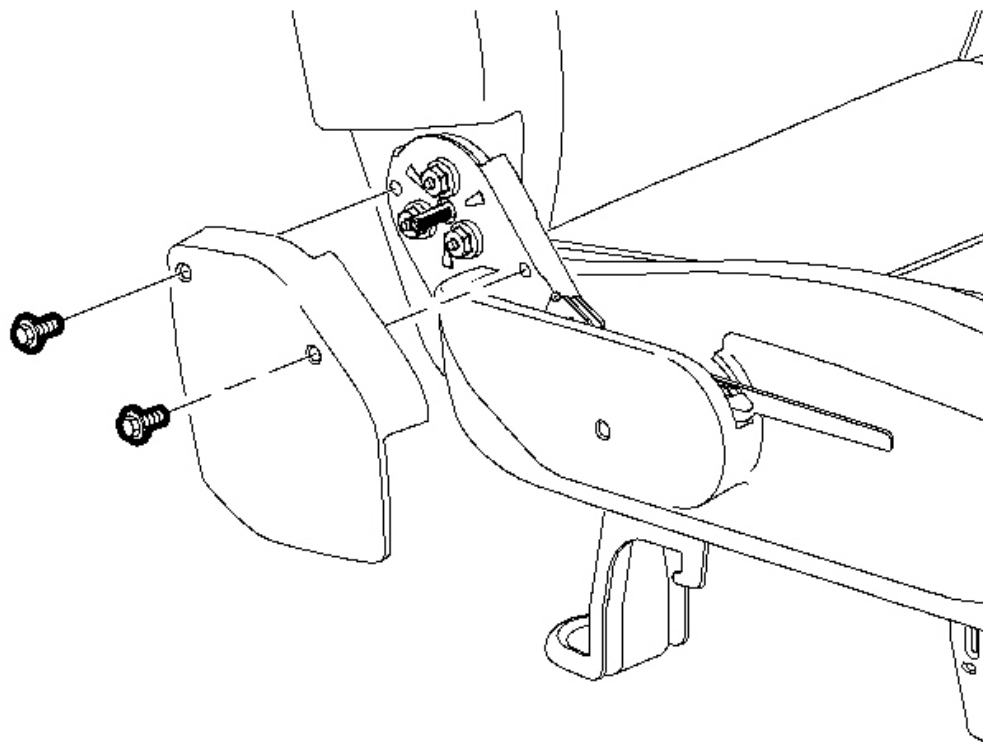


Fig. 64: View Of Outer Trim Panel
Courtesy of GENERAL MOTORS CORP.

2. Remove the outer trim panel screws from the seat back recliner.
3. Remove the trim panel from the side of the seat.

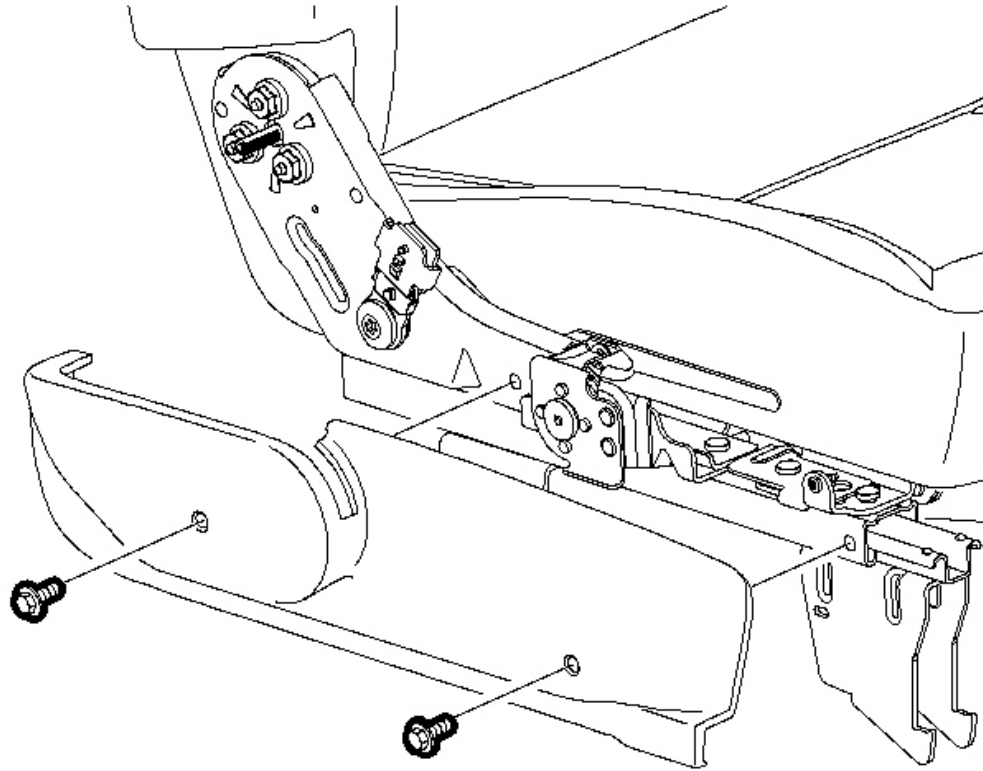


Fig. 65: Removing/Installing Outer Trim Panel & Secure With Trim Panel Screws
Courtesy of GENERAL MOTORS CORP.

4. Remove the screws from the seat cushion outer trim panel.
5. Remove the outer trim panel.

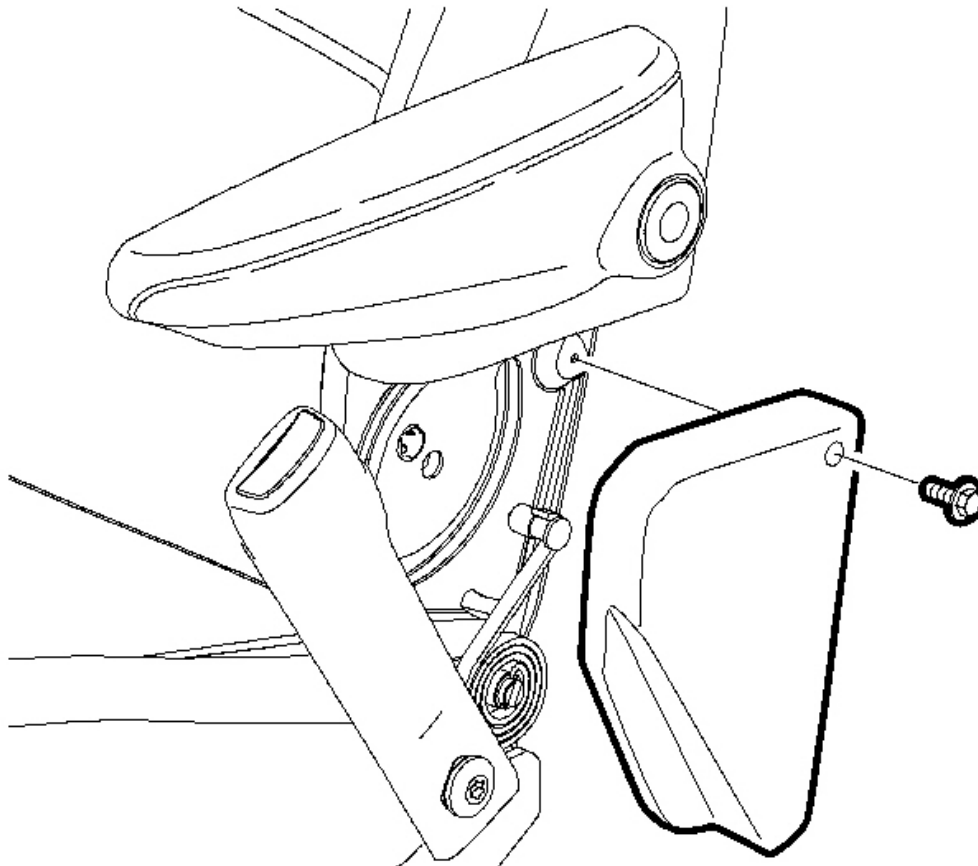


Fig. 66: Removing/Installing Inboard Recliner Trim Panel
Courtesy of GENERAL MOTORS CORP.

6. Remove the inner trim panel screws from the seat back.
7. Remove the inner trim panel.
8. On vehicles with heated seats, disconnect the electrical connector from the seat heater module.
9. Remove the inner trim panel screws from the inboard and the outboard seat cushions.
10. Remove the inner trim panels.
11. Remove the rear seat back assembly from between the seat recliners.

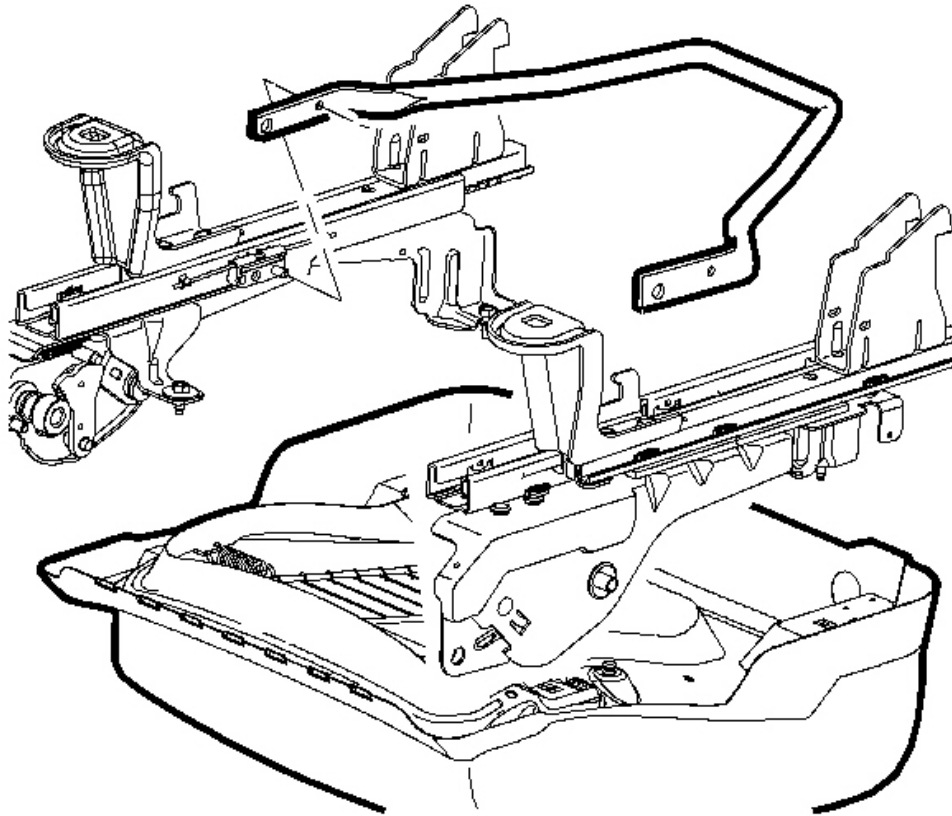


Fig. 67: Removing/Installing Seat Cushion Frame Assembly
Courtesy of GENERAL MOTORS CORP.

12. Remove the seat adjuster handle.
13. Remove the seat cushion frame bolts.
14. Remove the seat cushion frame assembly from between the adjusters.

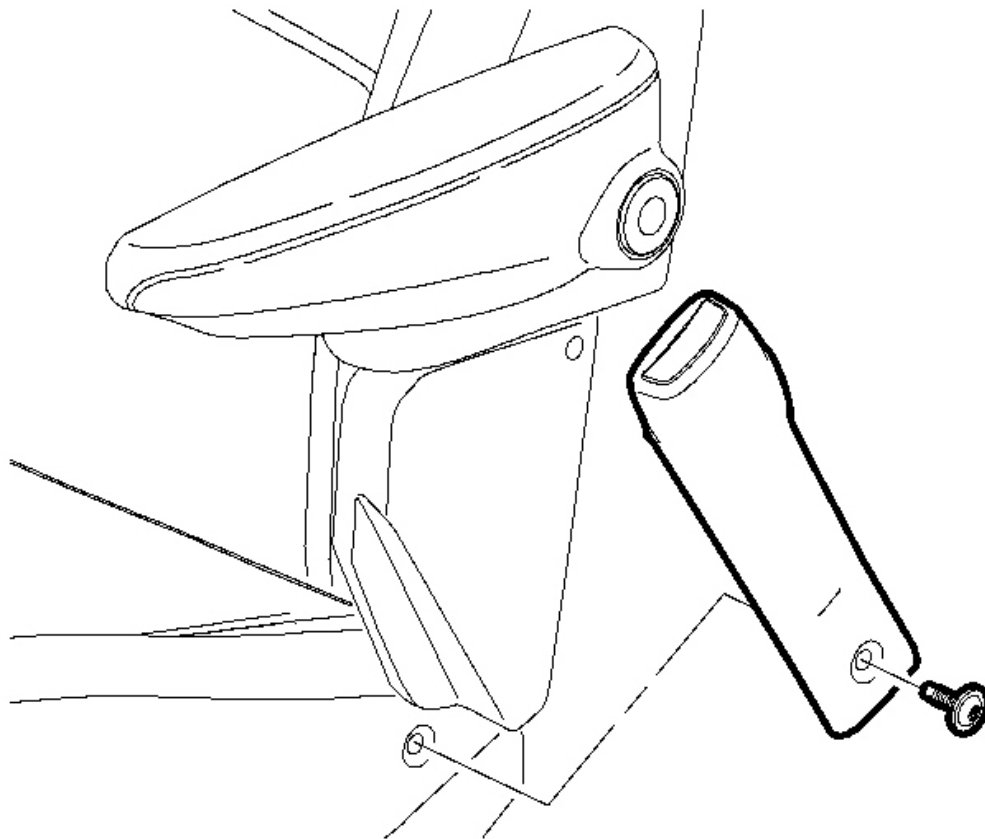


Fig. 68: Removing/Installing Bolt From The Seat Belt Buckle
Courtesy of GENERAL MOTORS CORP.

15. Remove the bolt from the seat belt buckle. Remove the buckle.

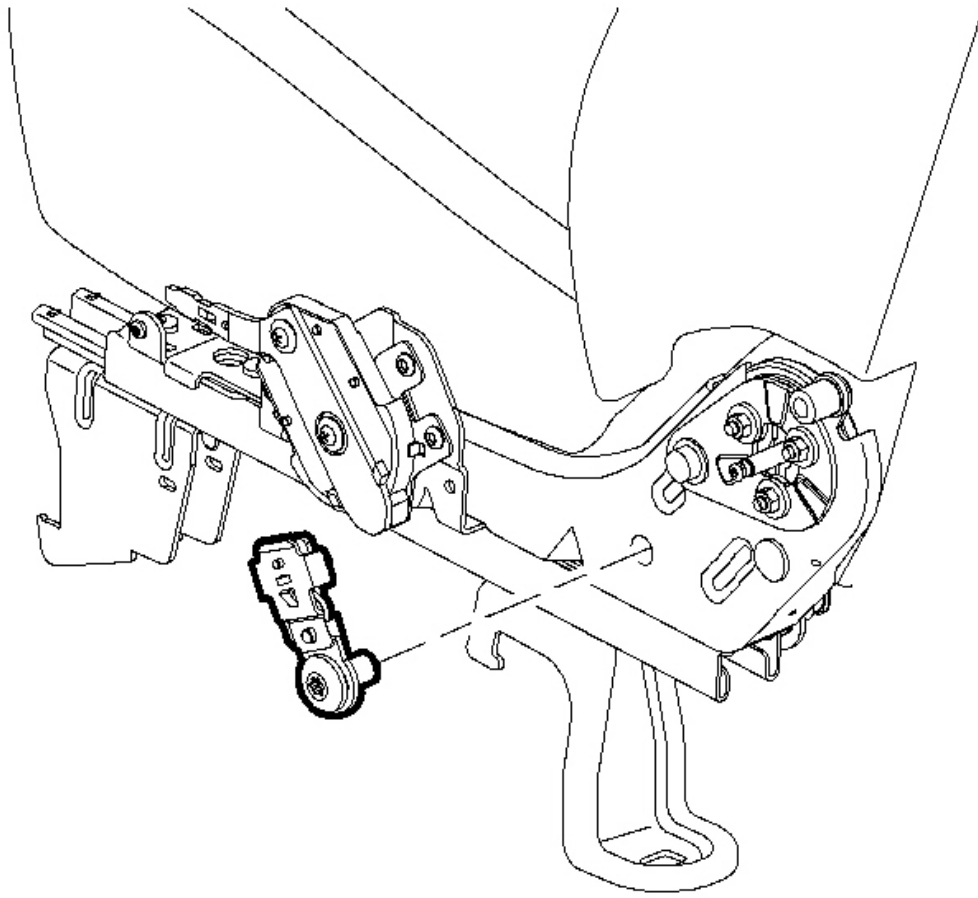


Fig. 69: Removing/Installing Shoulder Belt Quick Disconnect Bolt
Courtesy of GENERAL MOTORS CORP.

16. Remove the shoulder belt quick disconnect bolt from the seat adjuster.
17. Remove the quick disconnect from the seat.

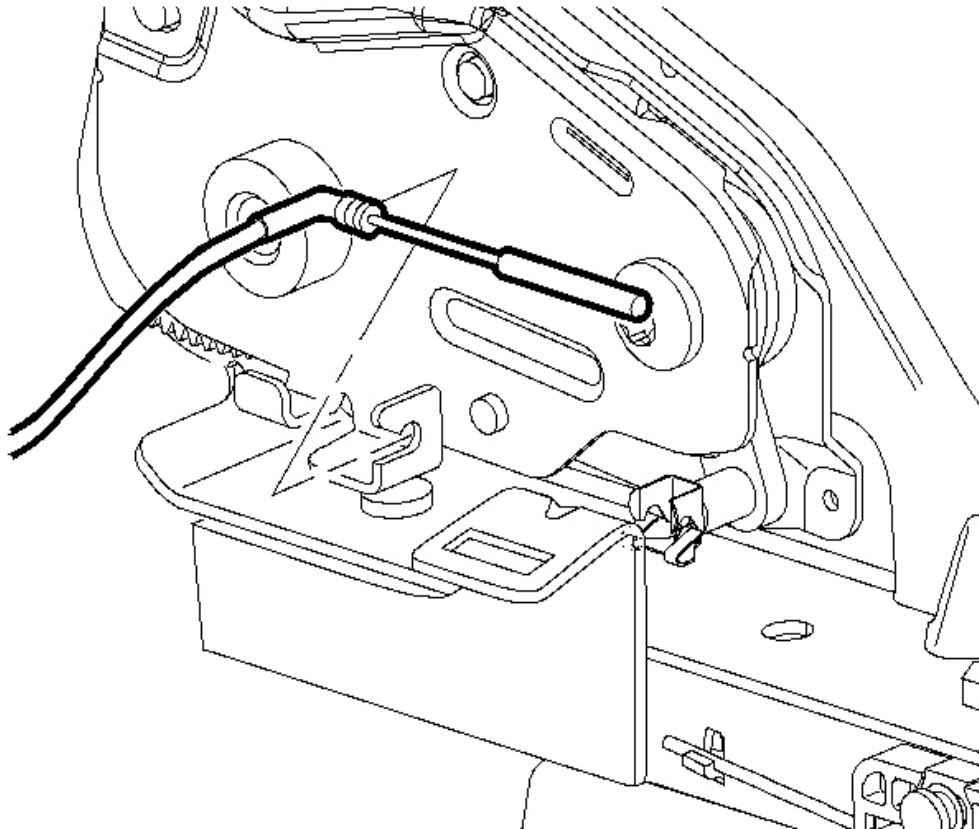


Fig. 70: Removing/Installing Seat Recliner Cable
Courtesy of GENERAL MOTORS CORP.

18. Using a flat-bladed tool, pry the inboard threaded end of the fold-flat cable from the retaining clips.

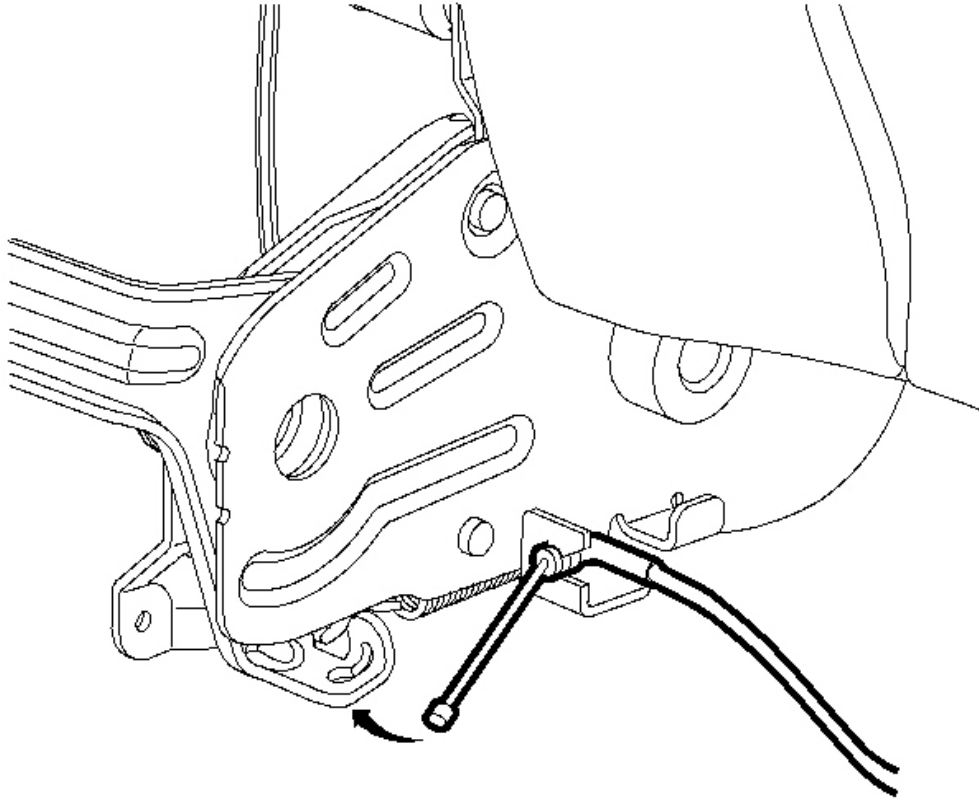


Fig. 71: Disconnecting/Connecting Outboard End Of The Fold-Flat Cable
Courtesy of GENERAL MOTORS CORP.

19. Disconnect the outboard end of the fold-flat cable.

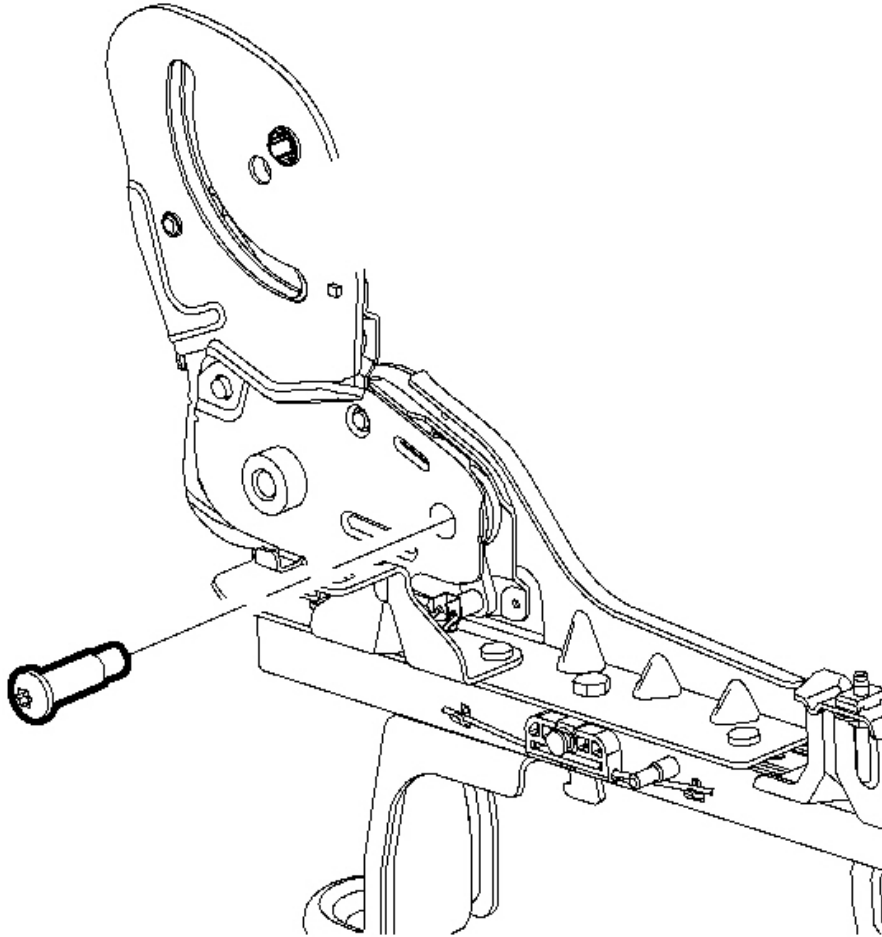


Fig. 72: Removing/Installing Recliner Bolts
Courtesy of GENERAL MOTORS CORP.

20. Remove the recliner bolts on both sides of the seats.
21. Separate the recliners from both sides of the adjusters.

Installation Procedure

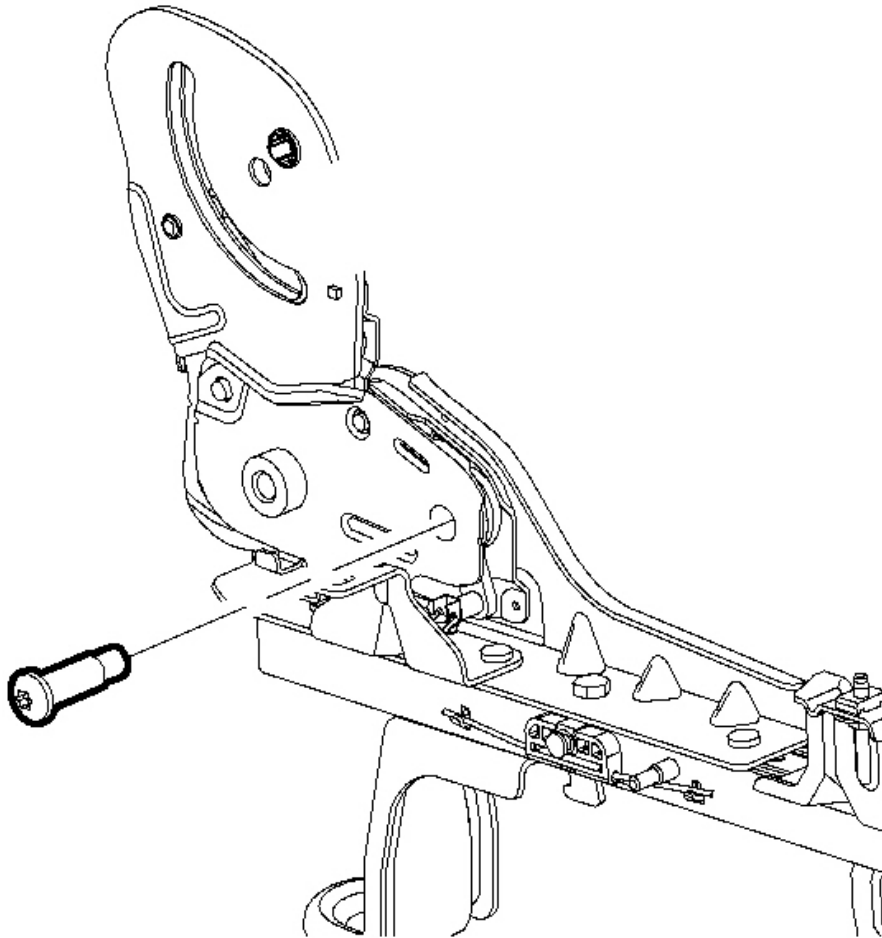


Fig. 73: Removing/Installing Recliner Bolts
Courtesy of GENERAL MOTORS CORP.

NOTE: Refer to Fastener Notice in Cautions and Notices.

1. Install both recliners to the seat adjuster. Secure the recliners with the recliner bolts.

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

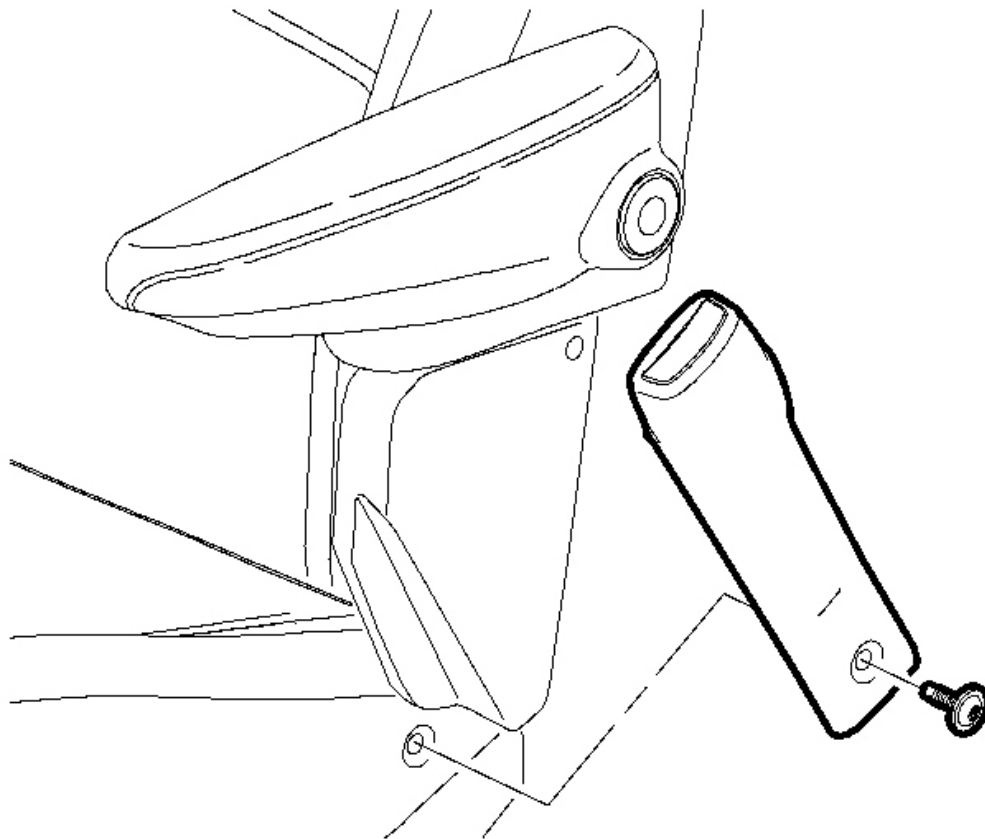


Fig. 74: Removing/Installing Bolt To The Seat Belt Buckle
Courtesy of GENERAL MOTORS CORP.

2. Position the seat belt buckle and install the bolt to the seat belt buckle.

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

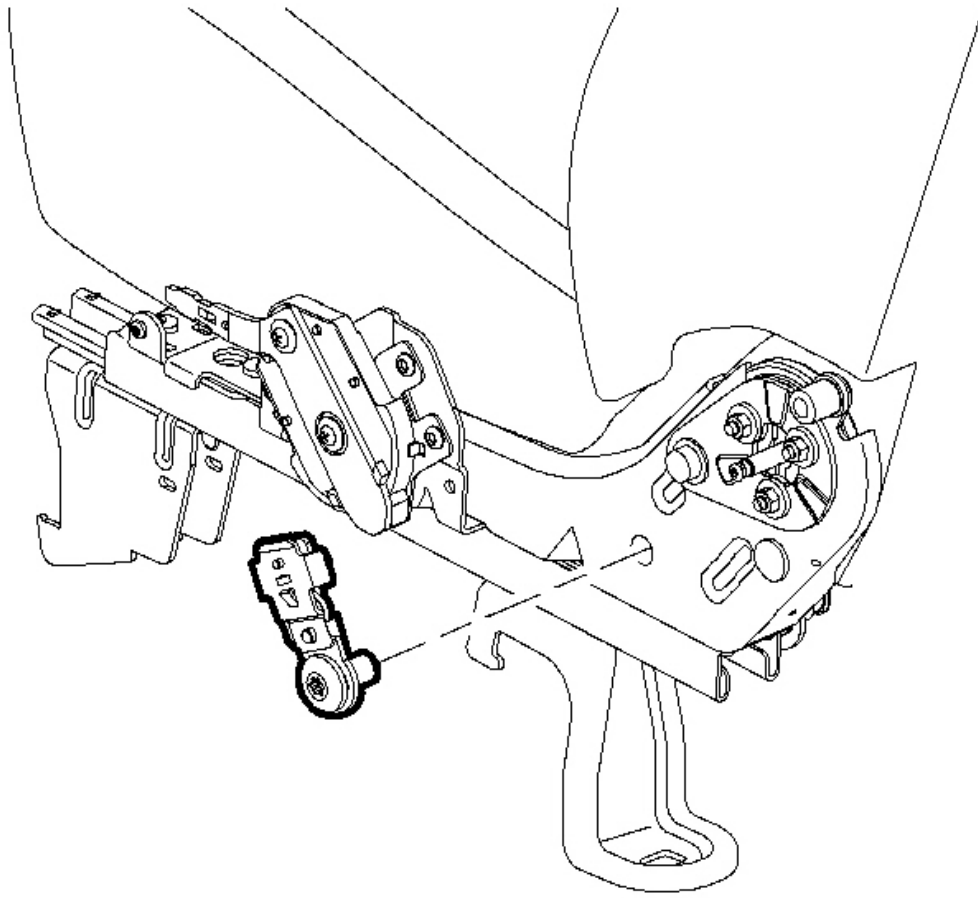


Fig. 75: Removing/Installing Shoulder Belt Quick Disconnect Bolt
Courtesy of GENERAL MOTORS CORP.

3. Install the shoulder belt quick disconnect bolt.

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

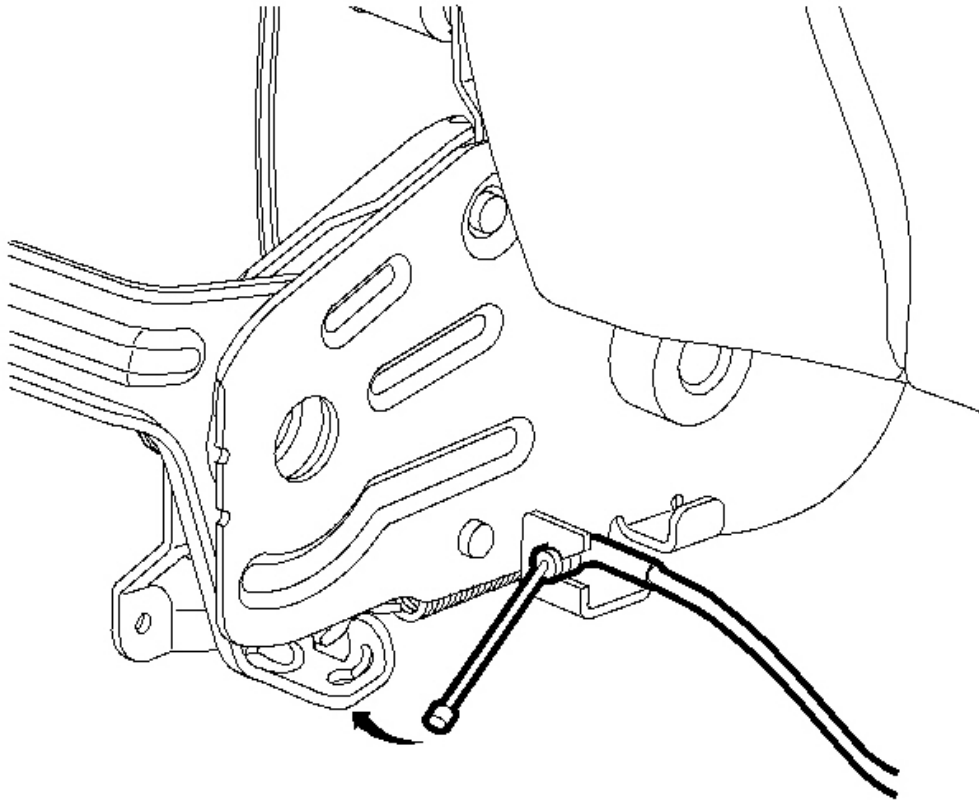


Fig. 76: Disconnecting/Connecting Outboard End Of The Fold-Flat Cable
Courtesy of GENERAL MOTORS CORP.

4. Connect the outboard end of the fold-flat cable.

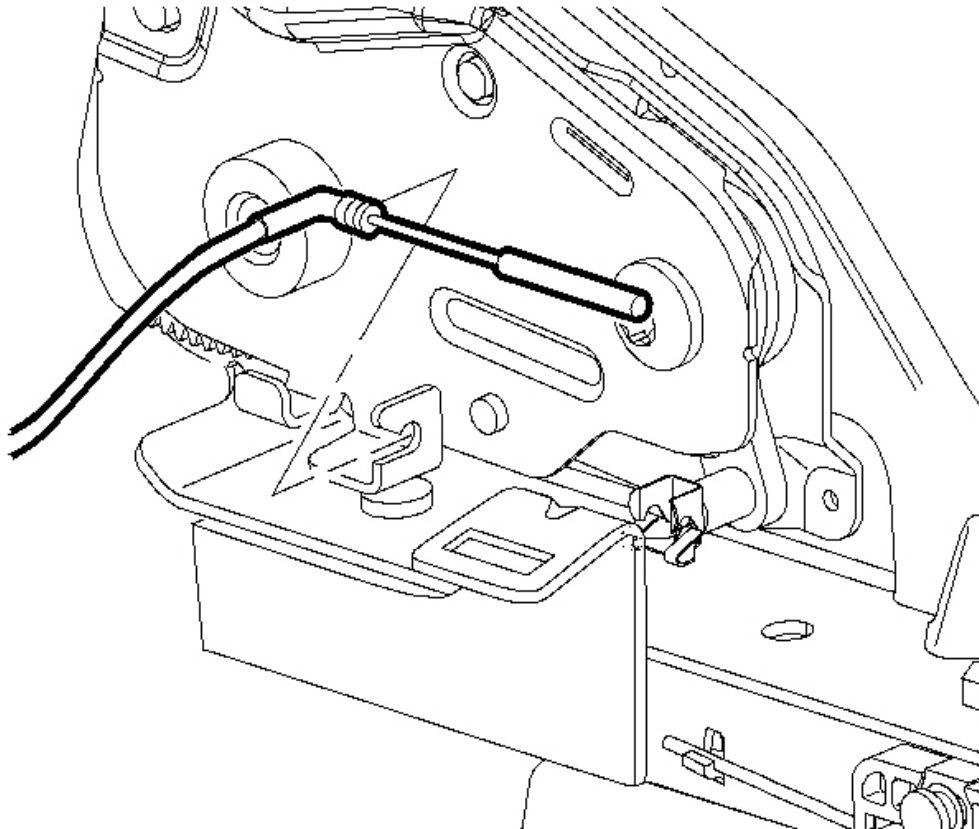


Fig. 77: Removing/Installing Seat Recliner Cable
Courtesy of GENERAL MOTORS CORP.

5. Snap the recliner cable into the inner recliner mechanism clip.
6. Remove the slack in the recliner cable by turning the threaded end of the cable.

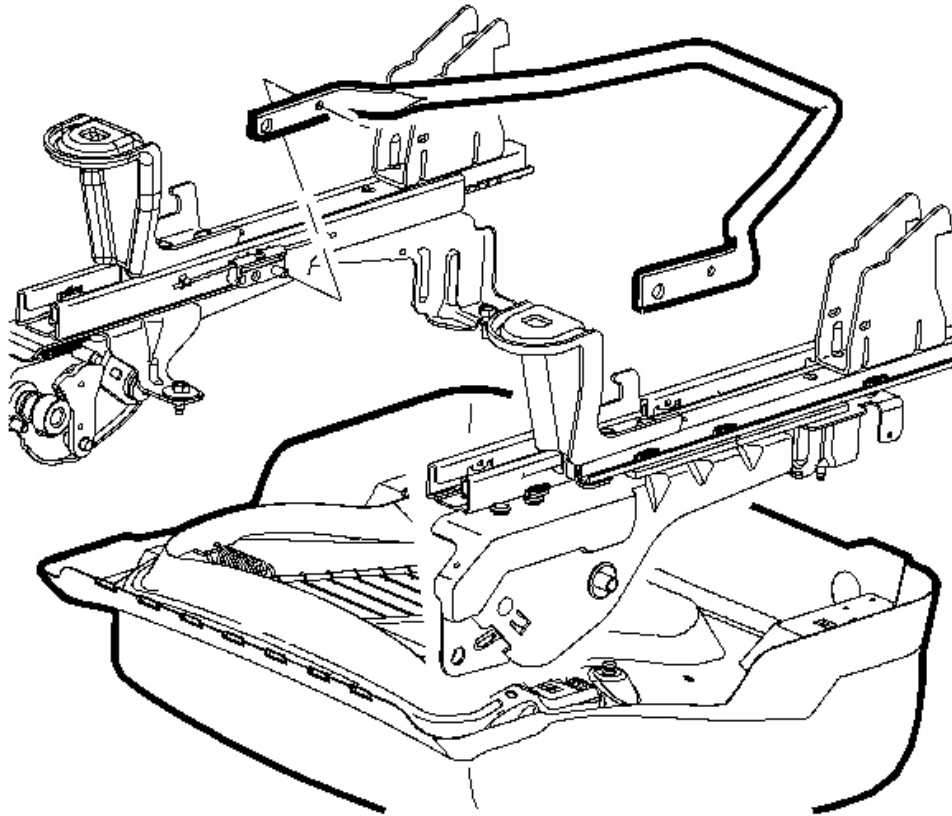


Fig. 78: Removing/Installing Seat Cushion Frame Assembly
Courtesy of GENERAL MOTORS CORP.

7. Install the seat cushion frame assembly.
8. Install the seat cushion frame bolts.

Tighten: Tighten the bolts to 12 N.m (9 lb ft).

9. Install the seat adjuster handle.
10. Install the recliner cable in the tab on the bottom of the seat cushion frame.
11. Install the seat back assembly between the seat recliners. Secure the assembly with the recliner bolts.

Tighten: Tighten the bolts to 70 N.m (52 lb ft).

12. On vehicles with heated seats, route the heated seat wiring harness under the seat cushion and connect the connector to the seat heater module.
13. Position the inner trim panels to the inboard and the outboard seat cushions. Secure the panels with the trim panel screws.

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

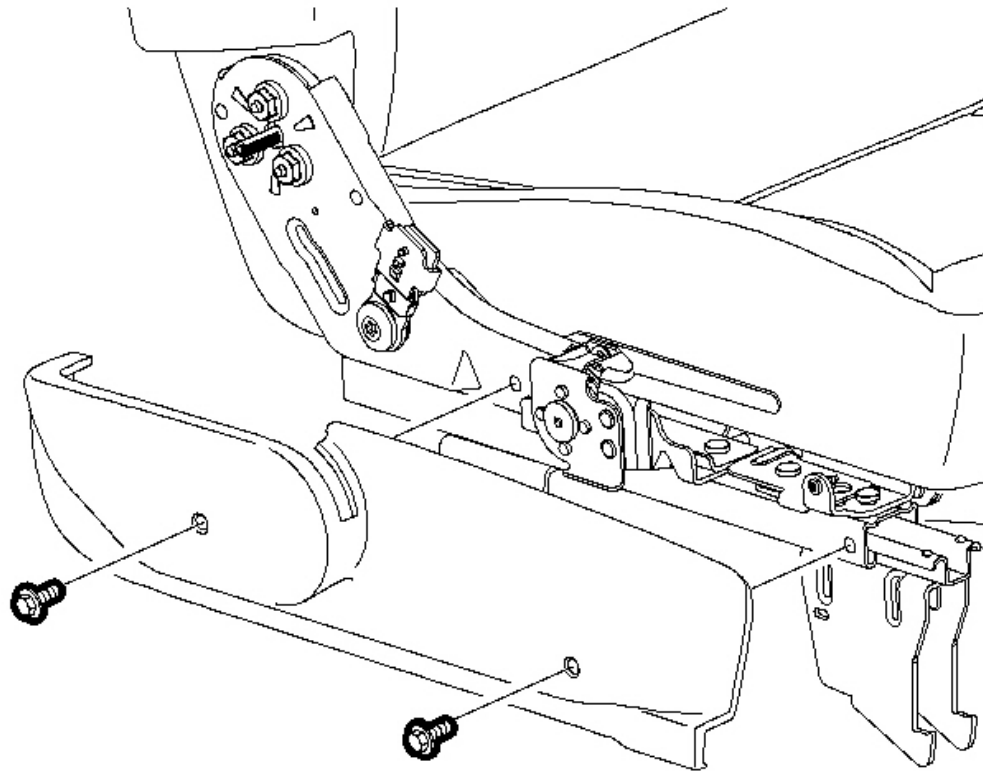


Fig. 79: Removing/Installing Outer Trim Panel & Secure With Trim Panel Screws
Courtesy of GENERAL MOTORS CORP.

14. Position the outer trim panel to the seat cushion. Secure with the trim panel screws.

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

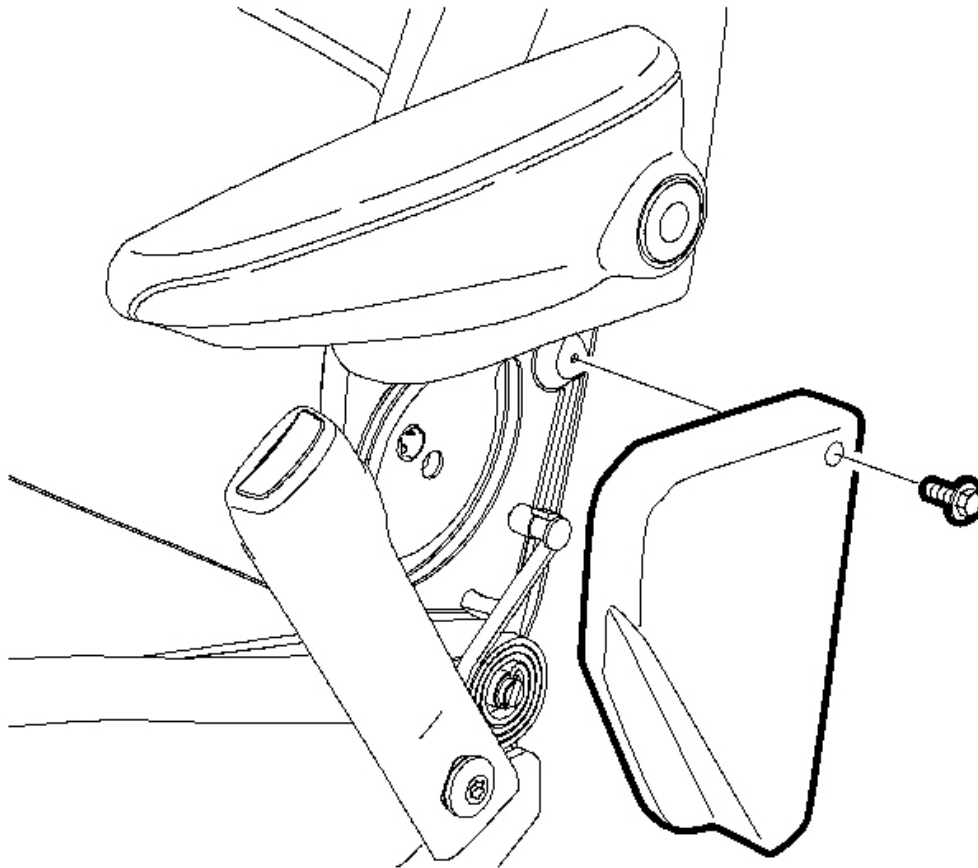


Fig. 80: Removing/Installing Inboard Recliner Trim Panel
Courtesy of GENERAL MOTORS CORP.

15. Install the inboard recliner trim panel. Secure with the trim panel screws.

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

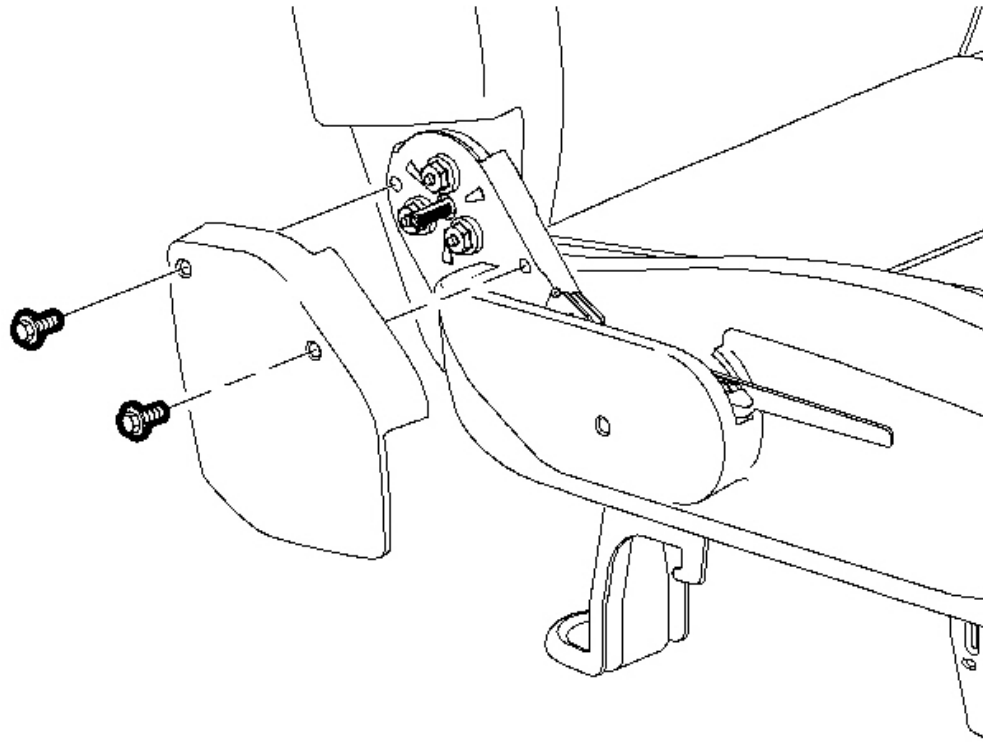


Fig. 81: View Of Outer Trim Panel
Courtesy of GENERAL MOTORS CORP.

16. Install the outer recliner trim panel. Secure with the trim panel screws.

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

17. Install the front seat to the vehicle. Refer to **Seat Replacement - Front Bucket** .

SEAT BACK RECLINER HANDLE REPLACEMENT - FRONT (NON-FOLD FLAT)

Removal Procedure

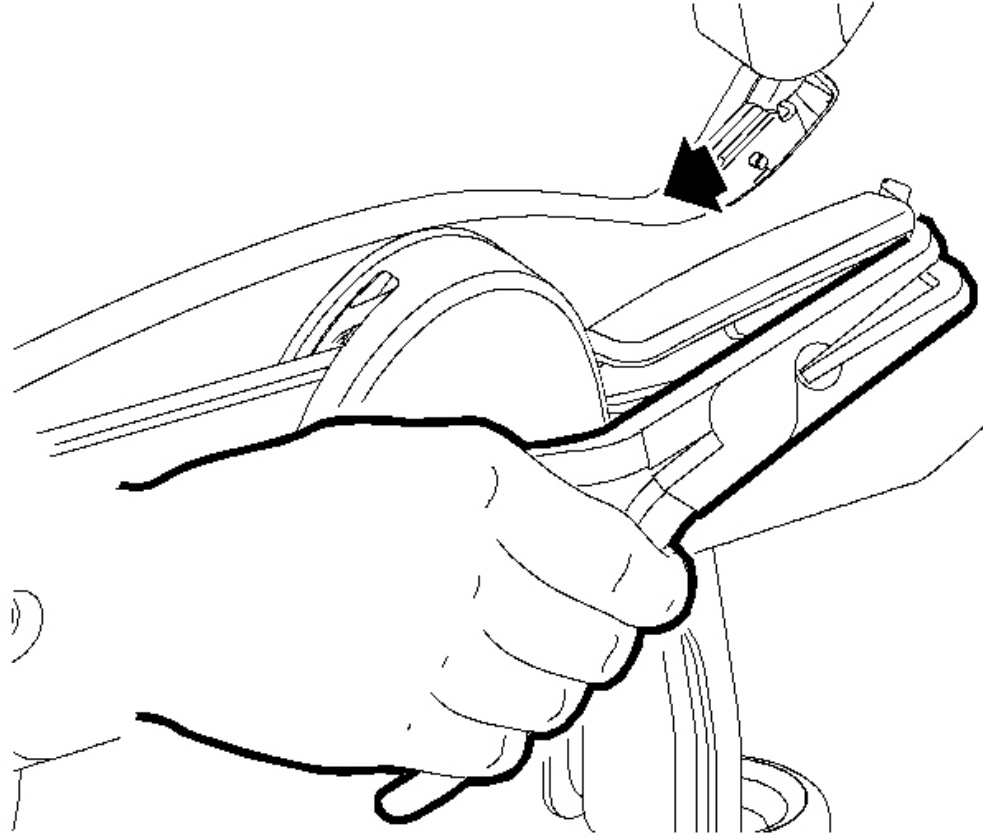


Fig. 82: Removing/Installing Trim Panel From The Seat
Courtesy of GENERAL MOTORS CORP.

1. Remove the seat from the vehicle. Refer to **Seat Replacement - Front Bucket** .
2. Remove the recliner trim by pulling on the trim.

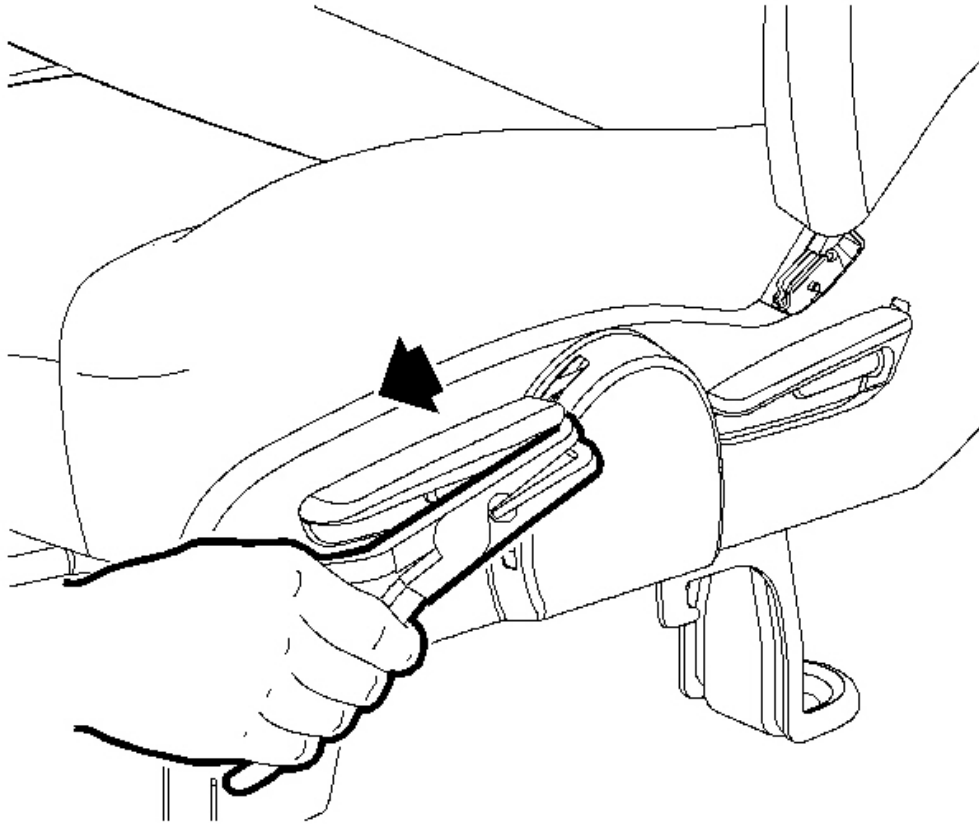


Fig. 83: Removing/Installing Seat Recliner Handle Trim
Courtesy of GENERAL MOTORS CORP.

3. Remove the seat riser trim handle by pulling on the handle.

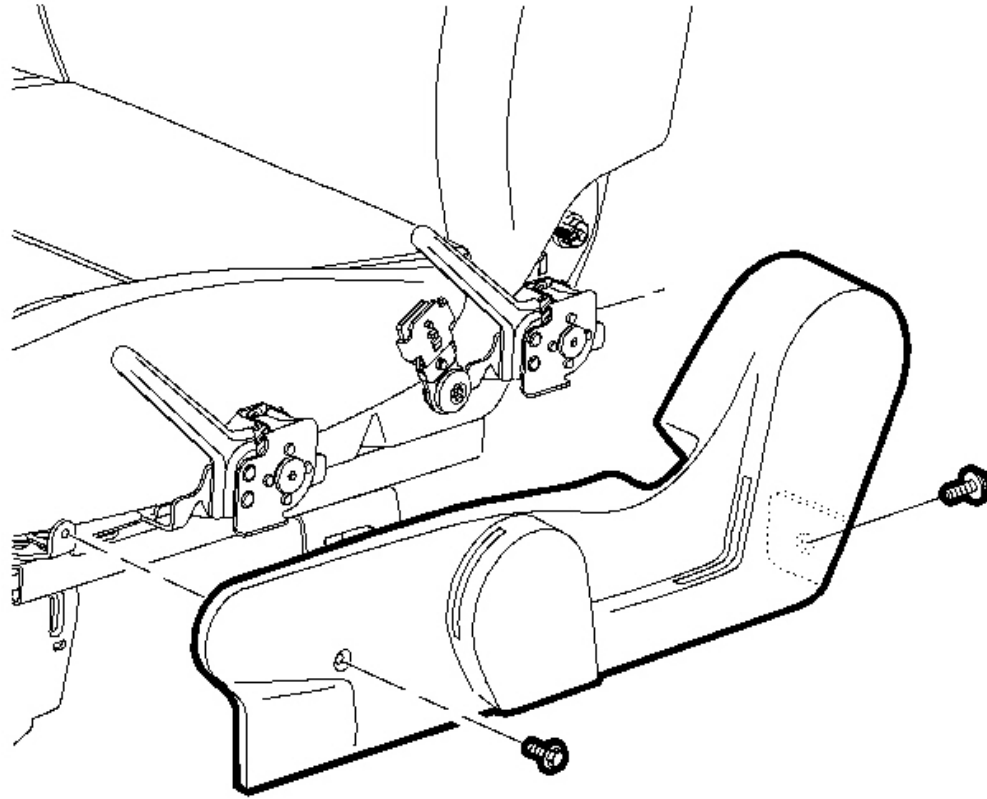


Fig. 84: Removing/Installing Screw From The Outer Trim Panel
Courtesy of GENERAL MOTORS CORP.

4. Remove the screw from the outer trim panel.
5. Remove the outer trim panel from the seat cushion.

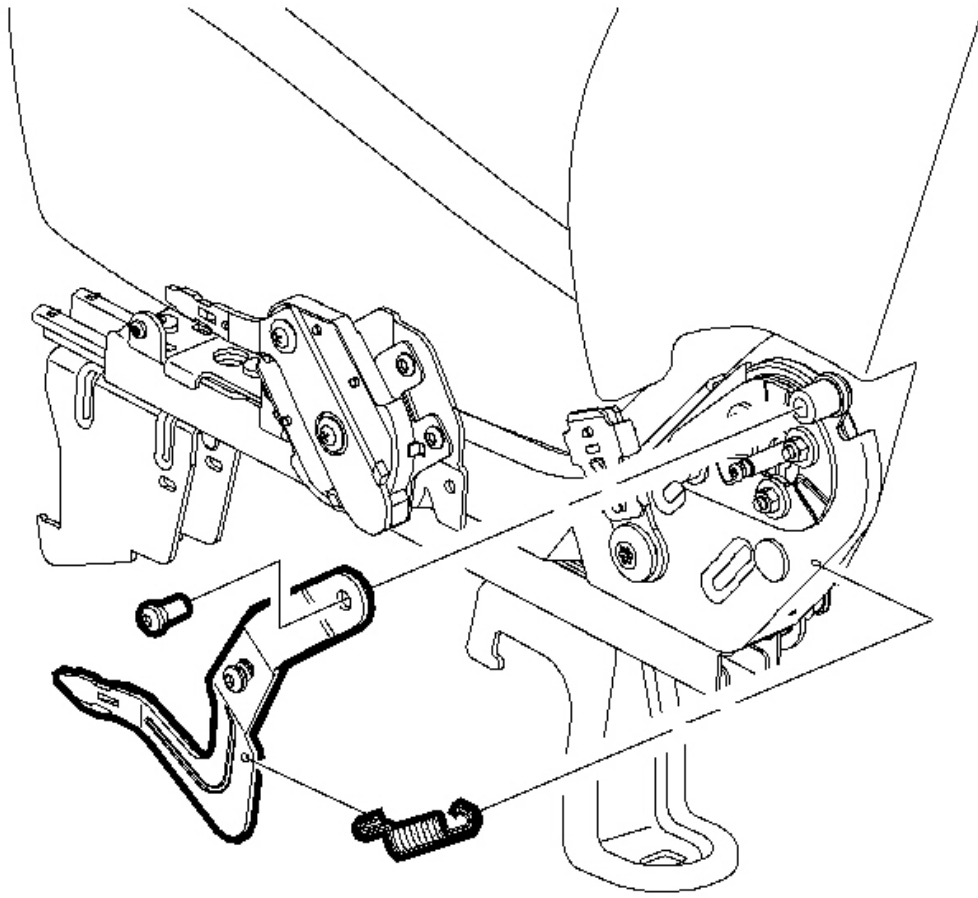


Fig. 85: Removing/Installing Recliner Handle Bolt & Spring
Courtesy of GENERAL MOTORS CORP.

6. Remove the recliner handle bolt and spring. Remove the recliner handle.

Installation Procedure

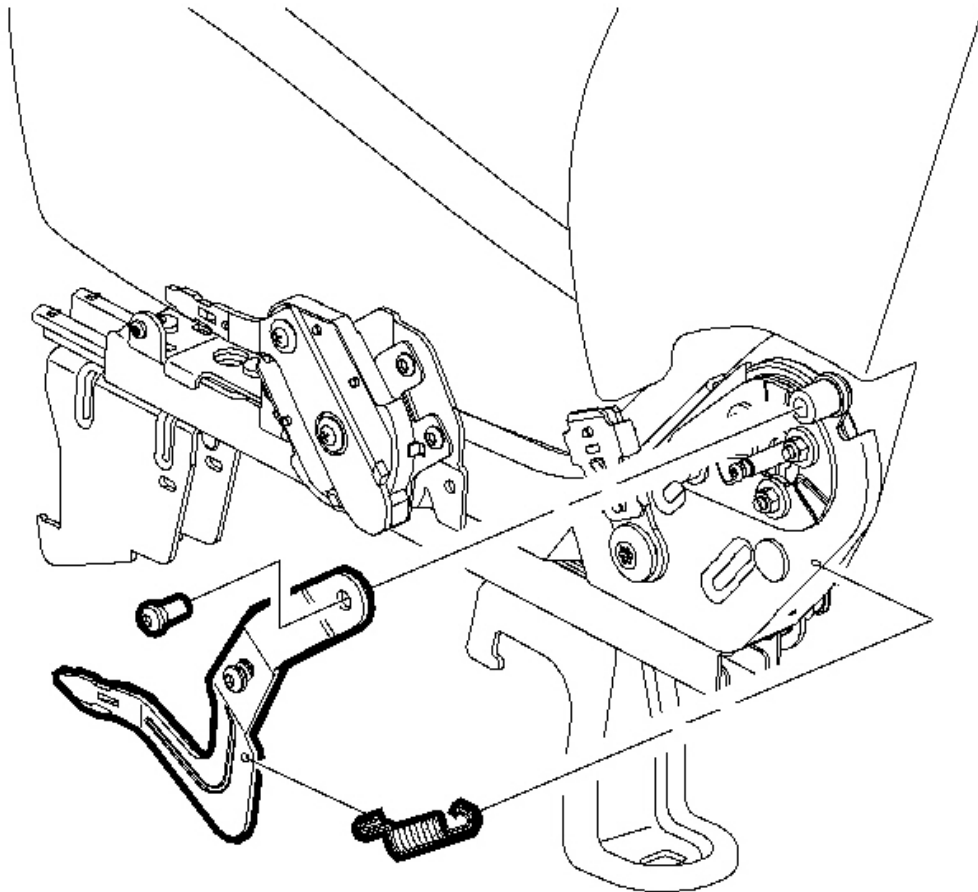


Fig. 86: Removing/Installing Recliner Handle Bolt & Spring
Courtesy of GENERAL MOTORS CORP.

NOTE: Refer to Fastener Notice in Cautions and Notices.

1. Position the recliner handle to the adjuster with the fastener and the spring. Secure the handle in place with the recliner handle bolt.

Tighten: Tighten the bolt to 10 N.m (89 lb in).

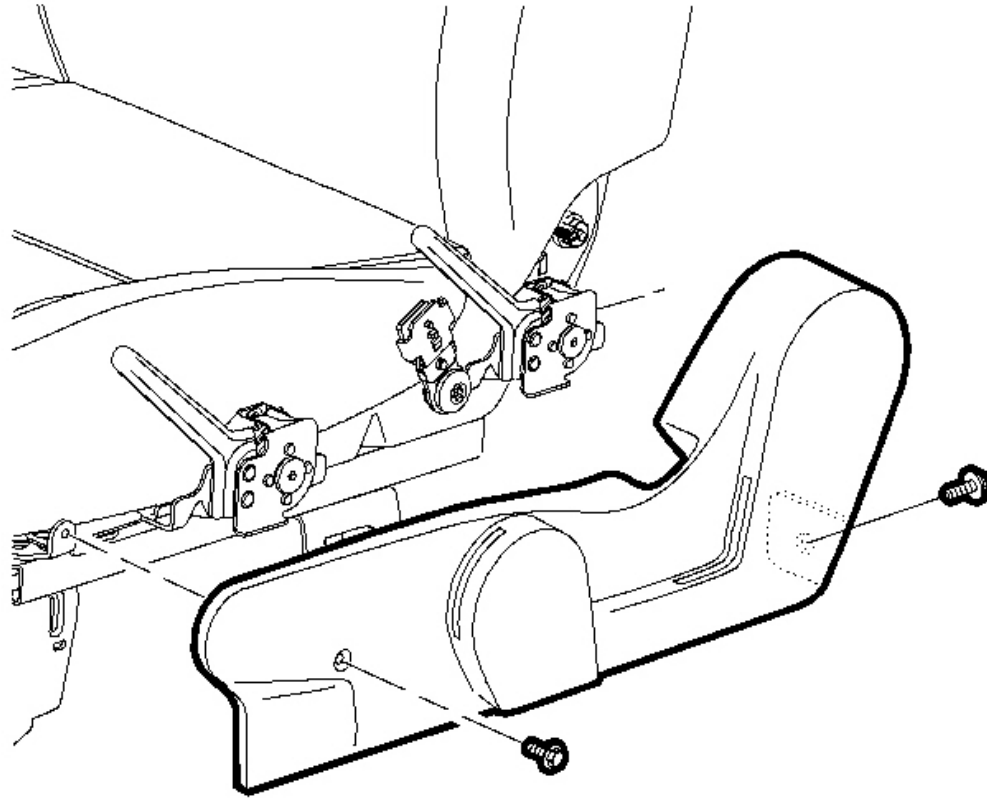


Fig. 87: Removing/Installing Screw From The Outer Trim Panel
Courtesy of GENERAL MOTORS CORP.

2. Position the outer trim panel to the seat cushion. Secure the trim panel with the screws.

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

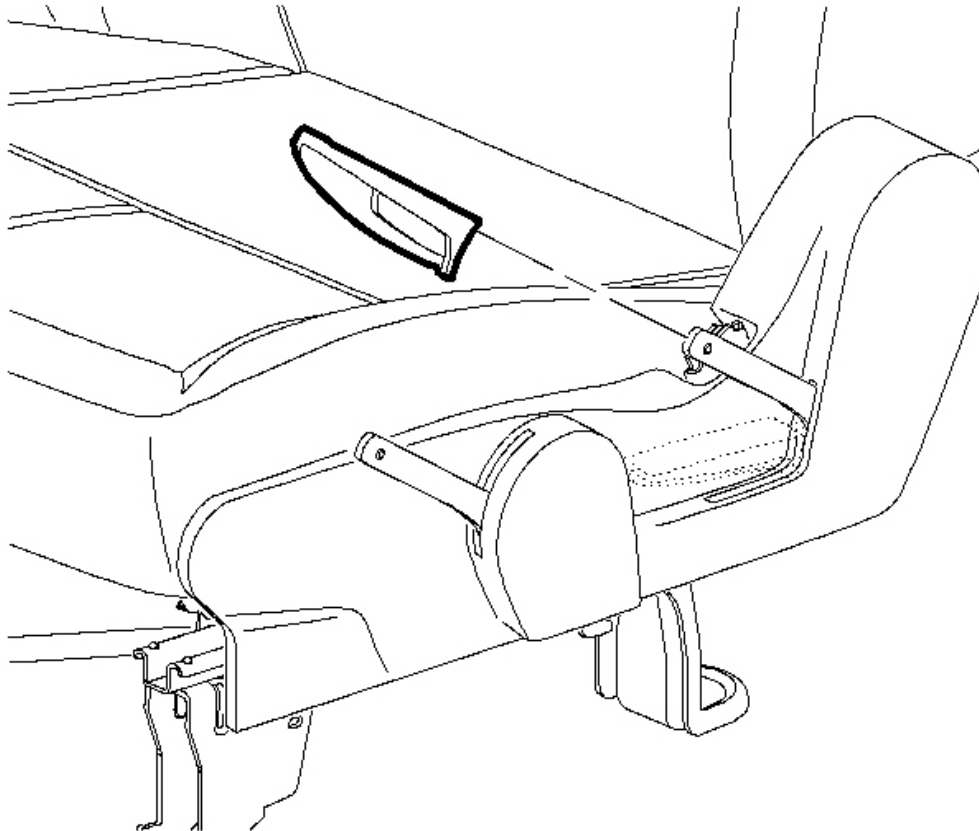


Fig. 88: Removing/Installing Recliner Handle Trim
Courtesy of GENERAL MOTORS CORP.

3. Install the recliner handle trim.

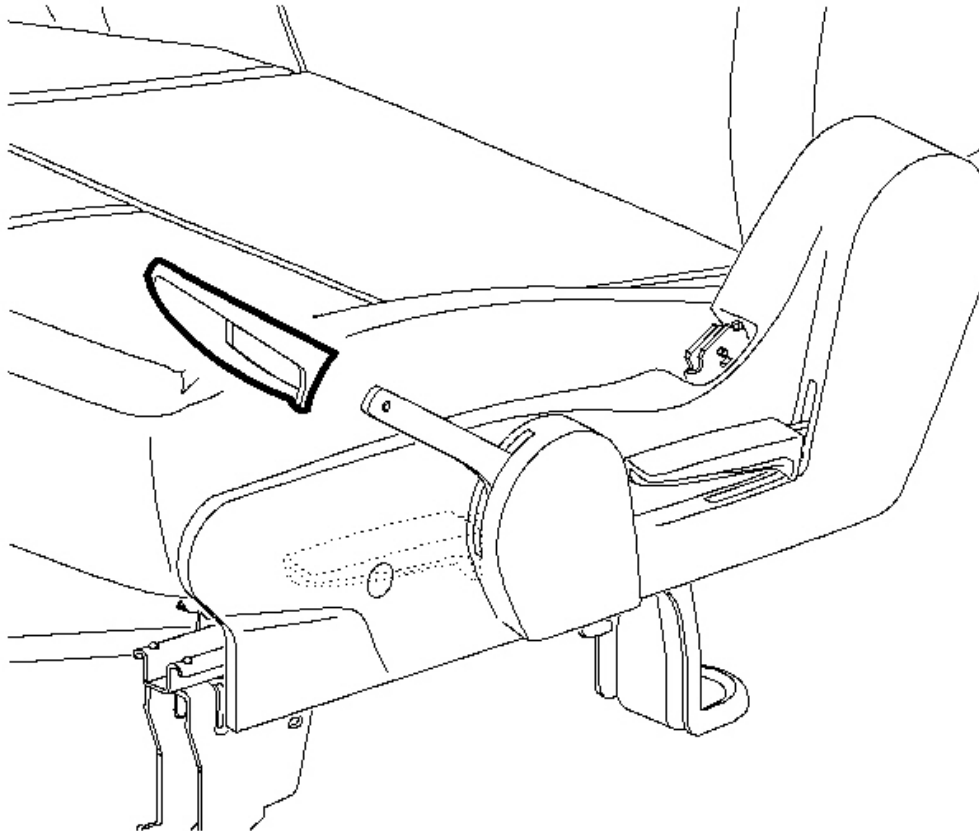


Fig. 89: Removing/Installing Seat Riser Handle Trim
Courtesy of GENERAL MOTORS CORP.

4. Install the seat riser handle trim.
5. Install the front seat. Refer to **Seat Replacement - Front Bucket** .

SEAT BACK RECLINER CABLE REPLACEMENT - FRONT (FOLD FLAT)

Removal Procedure

1. Remove the seat from the vehicle. Refer to **Seat Replacement - Front Bucket** .
2. Remove the seat cushion cover/pad assembly. Refer to **Seat Cushion Cover and Pad Replacement - Front** .

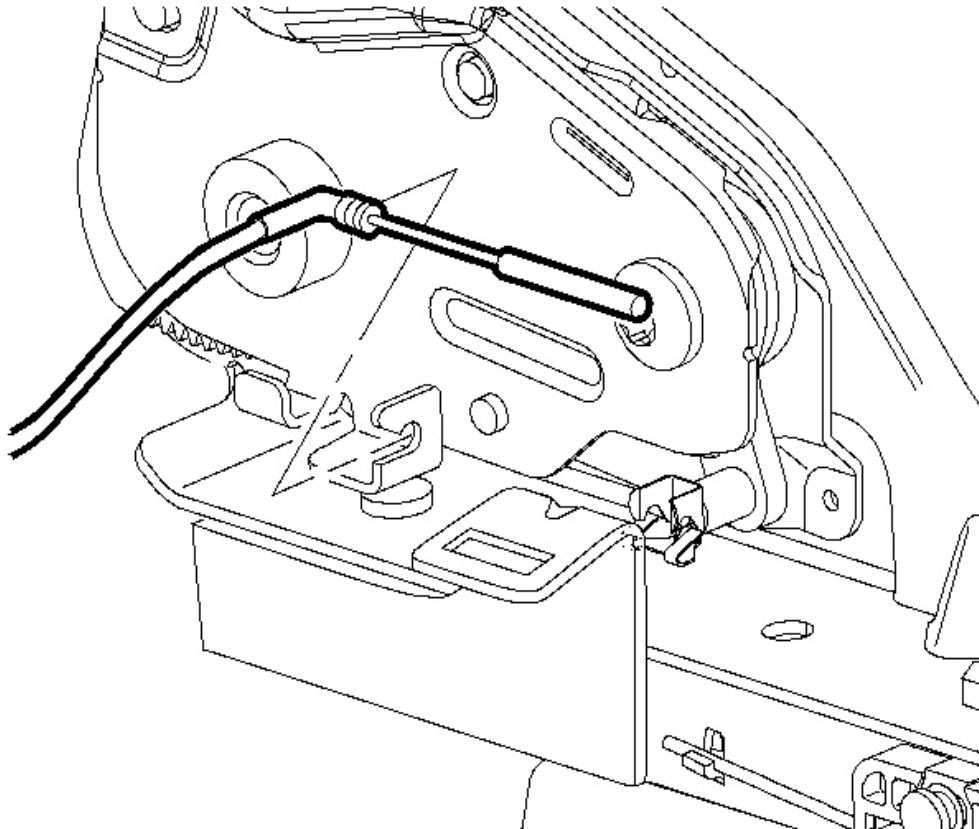


Fig. 90: Removing/Installing Seat Recliner Cable
Courtesy of GENERAL MOTORS CORP.

3. Using a small flat-bladed tool pry the seat recliner cable from the inner recliner cable clip.
4. Remove the seat recliner cable from the outer recliner mechanism.

Installation Procedure

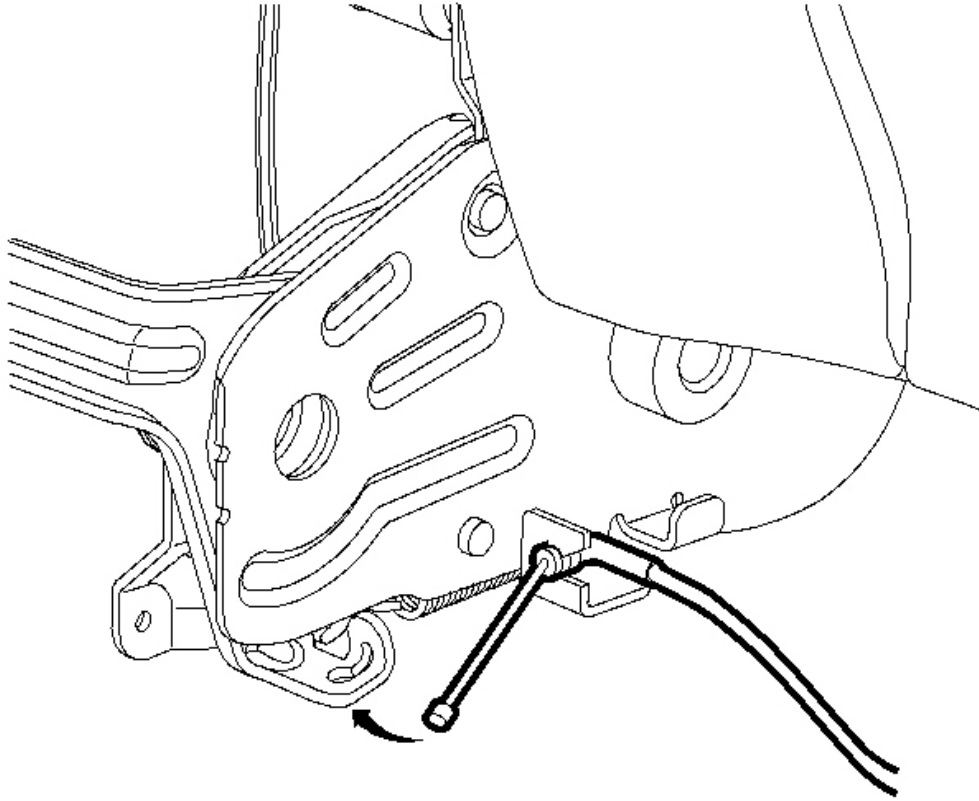


Fig. 91: Disconnecting/Connecting Outboard End Of The Fold-Flat Cable
Courtesy of GENERAL MOTORS CORP.

1. Install the seat recliner cable mechanism into the outer recliner mechanism.
2. Snap the recliner cable into the inner recliner mechanism.

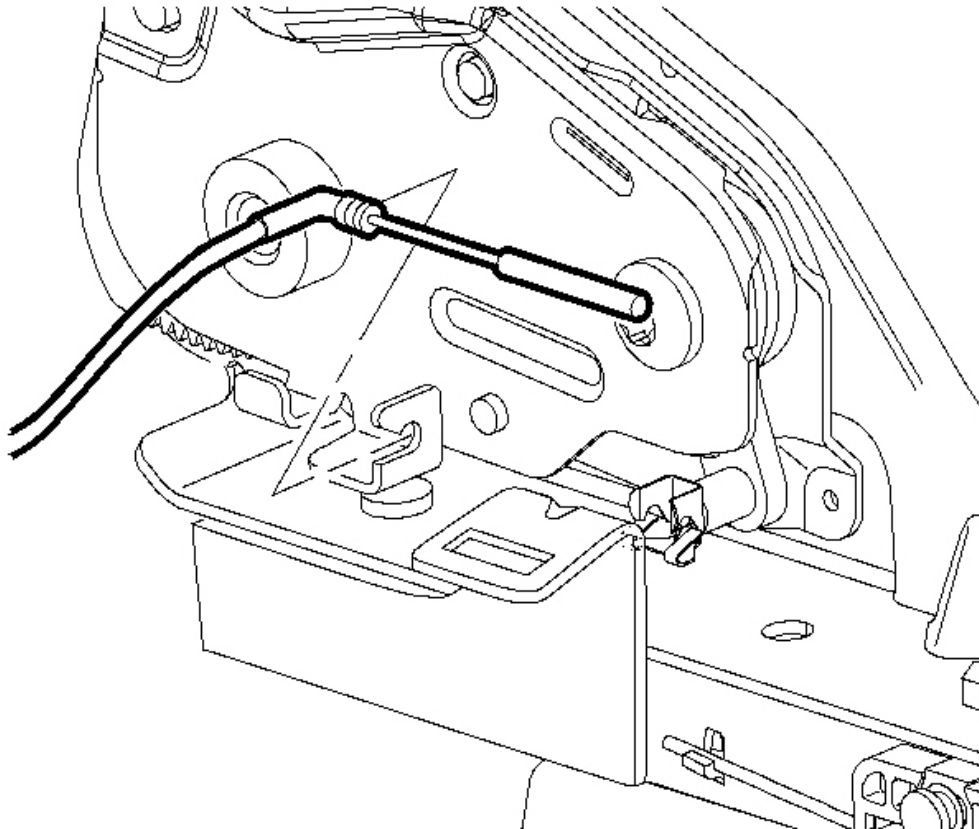


Fig. 92: Removing/Installing Seat Recliner Cable
Courtesy of GENERAL MOTORS CORP.

3. Remove the slack from the recliner cable by turning the threaded end of the cable in the clip.
4. Install the seat cushion cover/pad assembly. Refer to **Seat Cushion Cover and Pad Replacement - Front** .
5. Install the seat into the vehicle. Refer to **Seat Replacement - Front Bucket** .

SEAT BACK PANEL REPLACEMENT - FRONT

Removal Procedure

1. Adjust the seat to full forward.

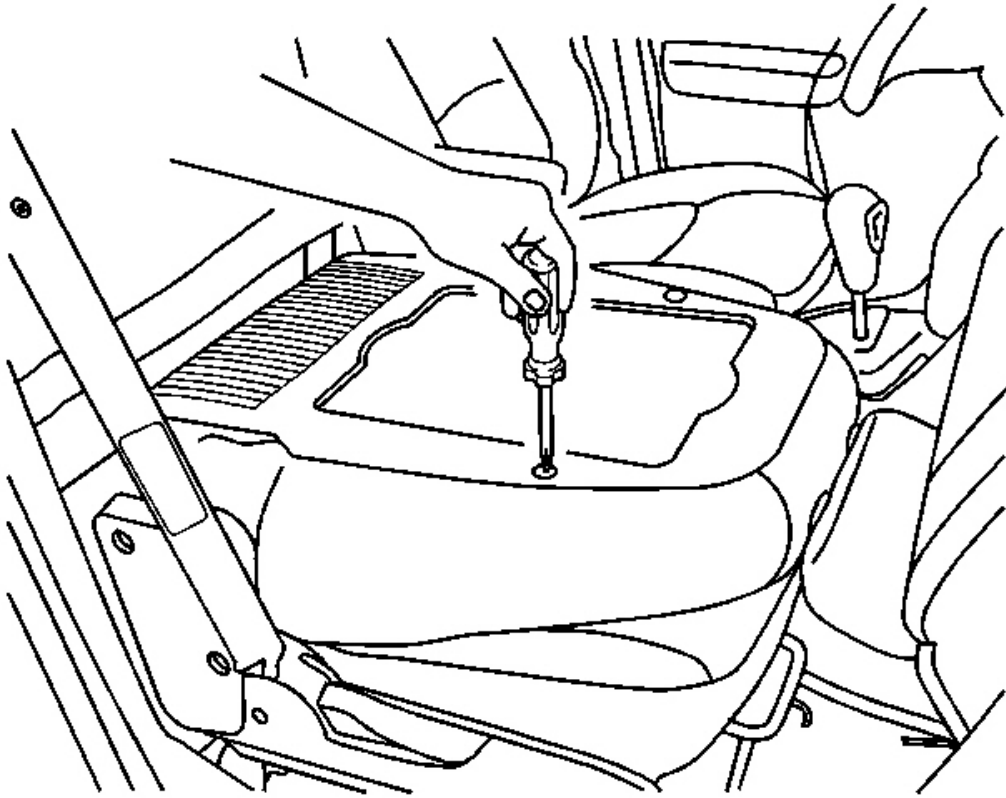


Fig. 93: View Of Front Seat Back Panel
Courtesy of GENERAL MOTORS CORP.

2. Fold the seat flat.
3. Remove the screws from the seat back panel.
4. Remove the seat back panel.

Installation Procedure

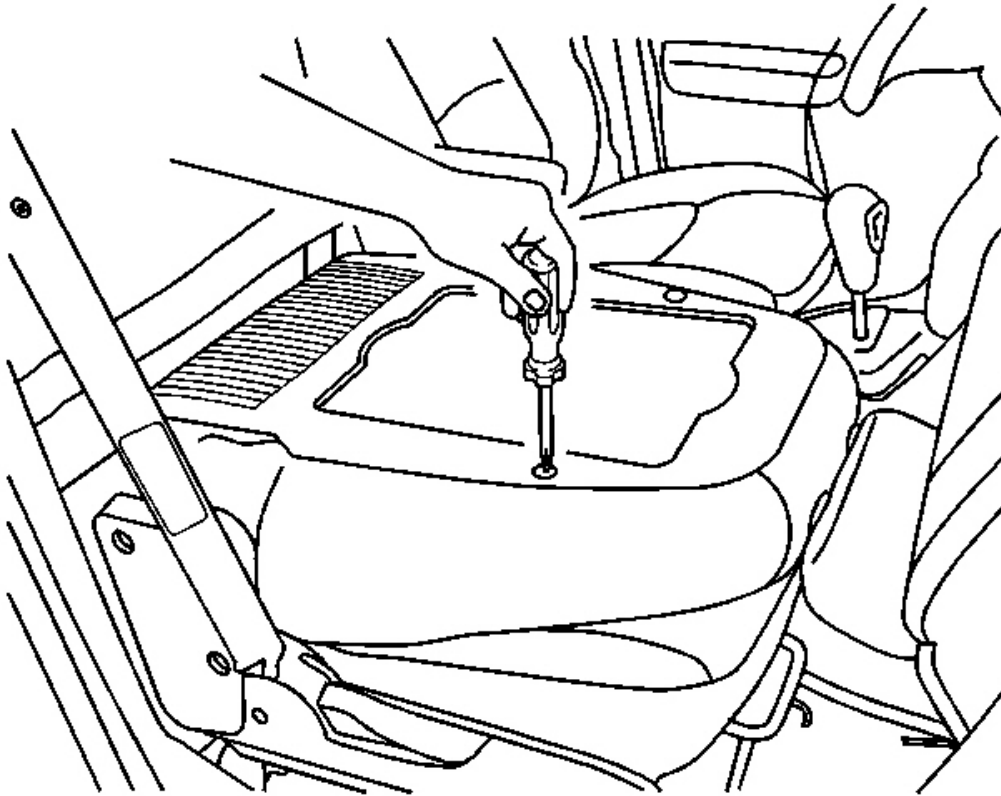


Fig. 94: View Of Front Seat Back Panel
Courtesy of GENERAL MOTORS CORP.

1. Install the panel to the seat back.

NOTE: Refer to Fastener Notice in Cautions and Notices.

2. Install the screws to the seat back panel.

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

Return the seat to the original position.

LUMBAR REPLACEMENT - FRONT SEAT

Removal Procedure

1. Remove the seat back pad and cover. Refer to **Seat Back Cover and Pad Replacement - Front (Non-Fold Flat)** or **Seat Back Cover and Pad Replacement - Front (Fold Flat)** .
2. Adjust the lumbar knob until the lumbar is at the position of the least support.

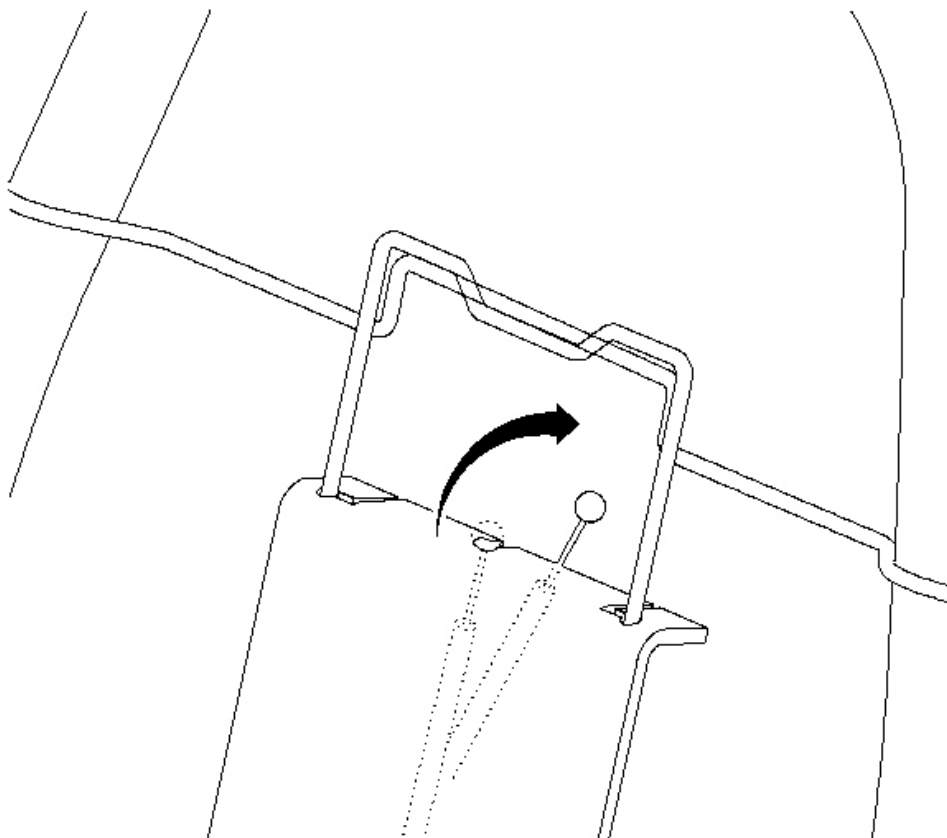


Fig. 95: View Of Front Lumbar
Courtesy of GENERAL MOTORS CORP.

3. Remove the lumbar cable end from the lumbar unit by compressing the unit while lifting out the barrel end of the cable assembly.

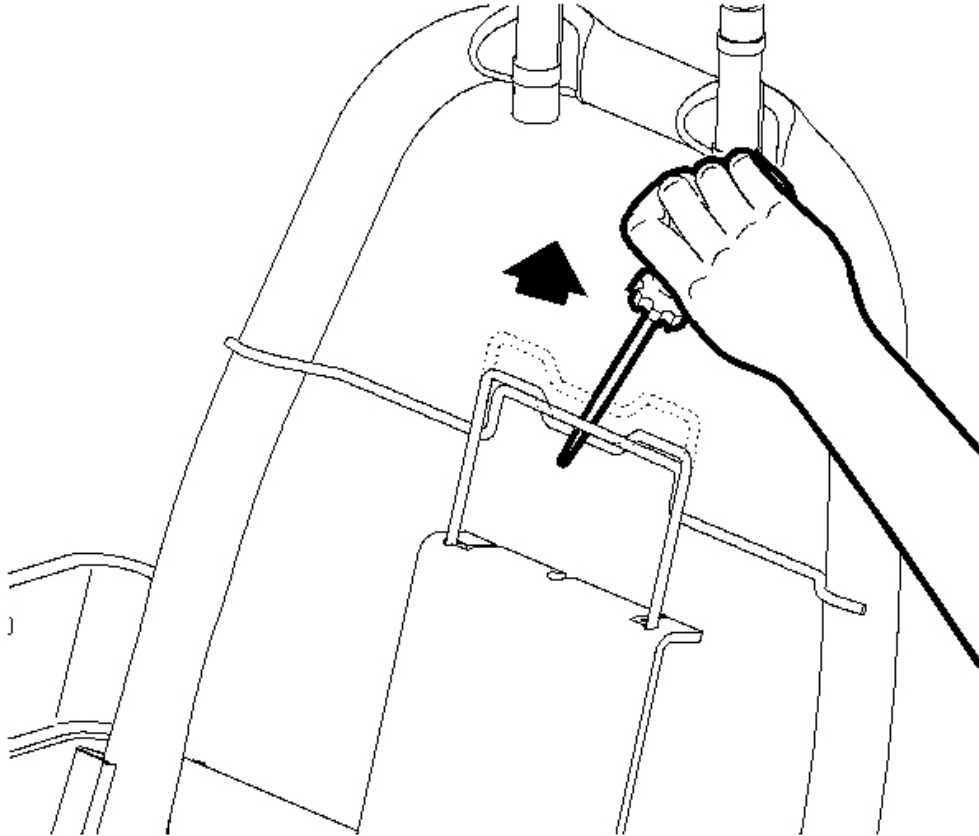


Fig. 96: Twisting Lumbar Unit Using Flat-Bladed Tool
Courtesy of GENERAL MOTORS CORP.

4. Using a flat-bladed tool, twist out the upper portion of the lumbar unit from the seat frame cross wire.

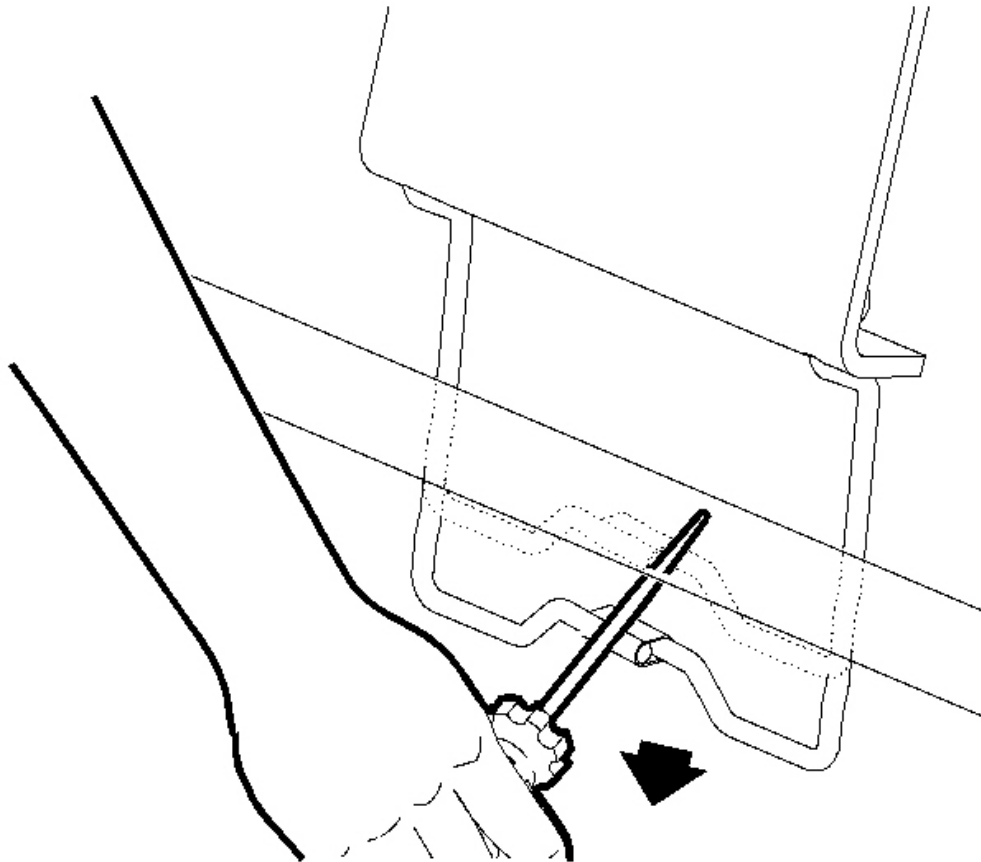


Fig. 97: Removing/Installing Lumbar Unit
Courtesy of GENERAL MOTORS CORP.

5. Remove the lower portion of the lumbar unit from the seat cross wire.
6. Remove the lumbar unit.

Installation Procedure

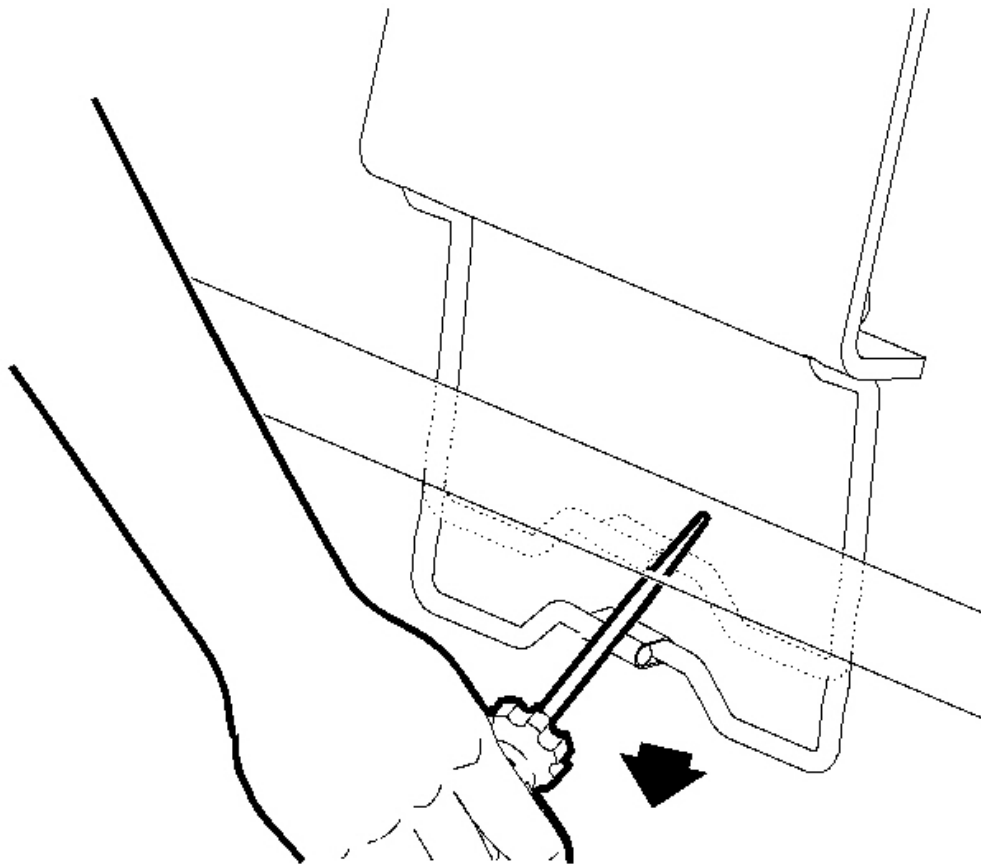


Fig. 98: Removing/Installing Lumbar Unit
Courtesy of GENERAL MOTORS CORP.

1. Install the lumbar unit to the lower portion of the seat back cross wire.

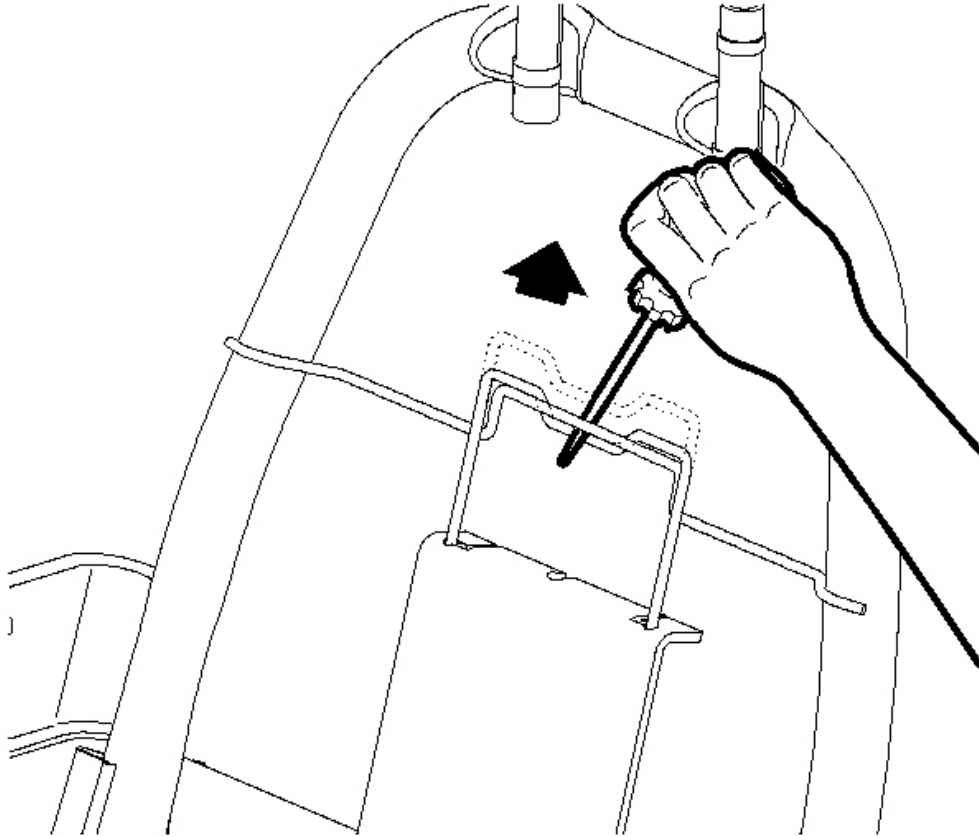


Fig. 99: Twisting Lumbar Unit Using Flat-Bladed Tool
Courtesy of GENERAL MOTORS CORP.

2. Position the lumbar unit to the upper portion of the cross wire. Using a flat-bladed tool, twist the lumbar unit over the cross wire assembly.

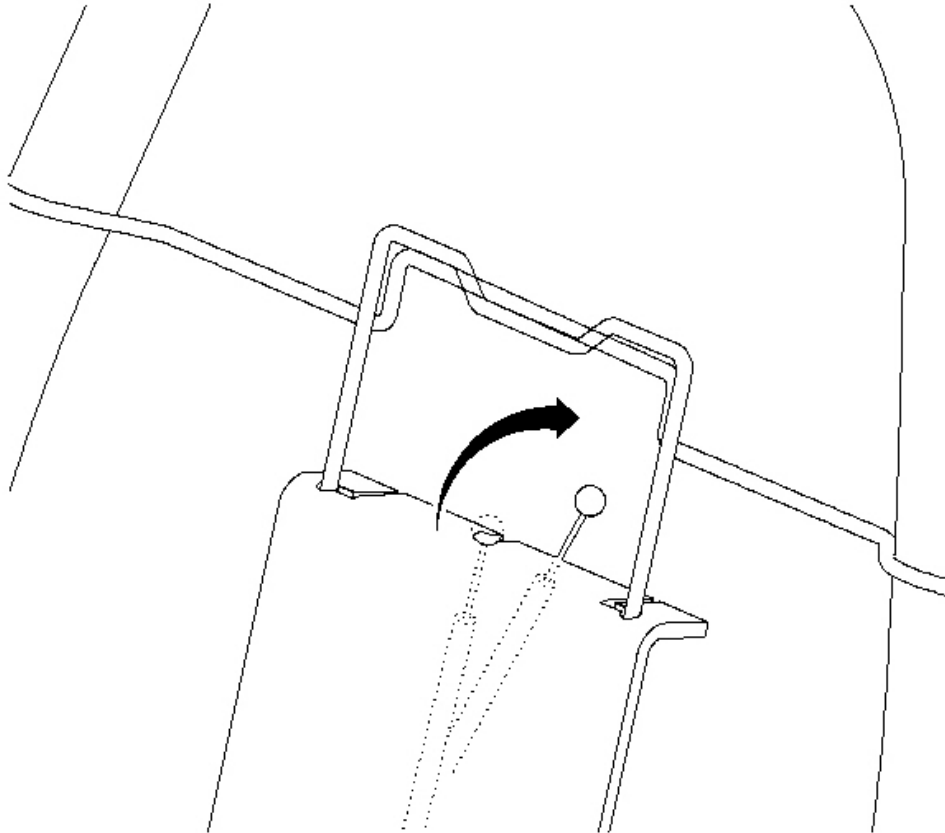


Fig. 100: View Of Front Lumbar
Courtesy of GENERAL MOTORS CORP.

3. Compress the lumbar unit and connect the cable barrel end to the lumbar unit.
4. Adjust the lumbar unit to ensure proper operation.
5. Install the seat back pad and cover. Refer to **Seat Back Cover and Pad Replacement - Front (Non-Fold Flat)** or **Seat Back Cover and Pad Replacement - Front (Fold Flat)** .

LUMBAR ACTUATOR REPLACEMENT - MANUAL

Removal Procedure

1. Remove the front seat. Refer to **Seat Replacement - Front Bucket** .

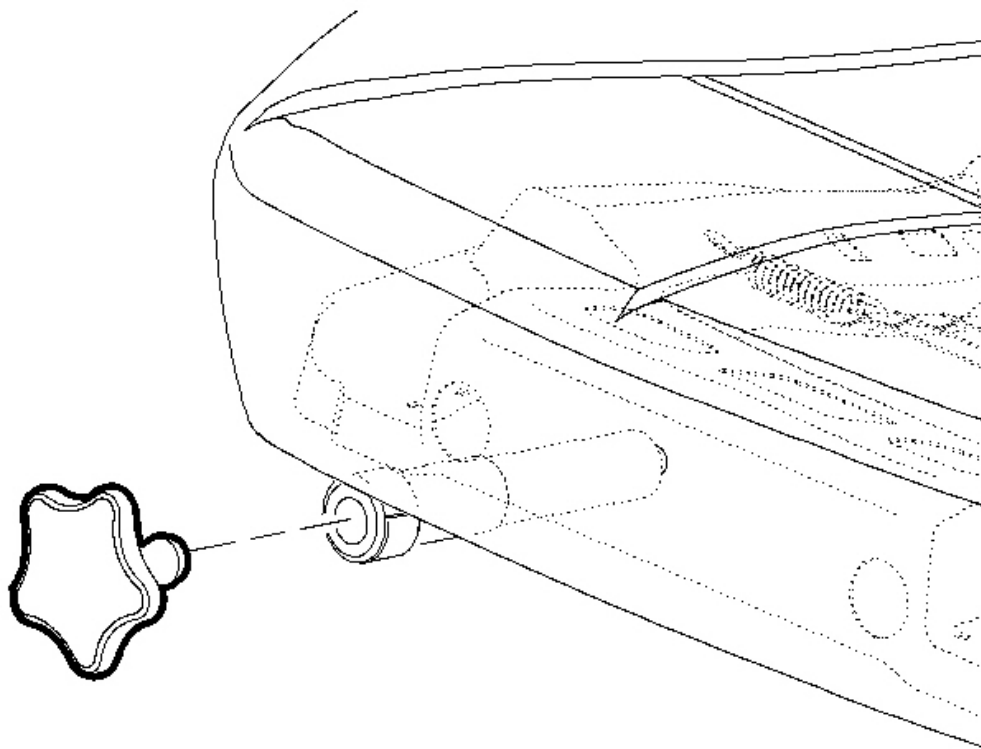


Fig. 101: Removing/Installing Lumbar Knob
Courtesy of GENERAL MOTORS CORP.

2. Remove the lumbar cable from the actuator:
 1. Adjust the knob until the lumbar basket is in the position of least support.
 2. Pull back on the lumbar cable sleeve.
 3. Remove the barrel end of the cable from the lumbar actuator.
3. Remove the lumbar knob by pulling firmly on the knob.

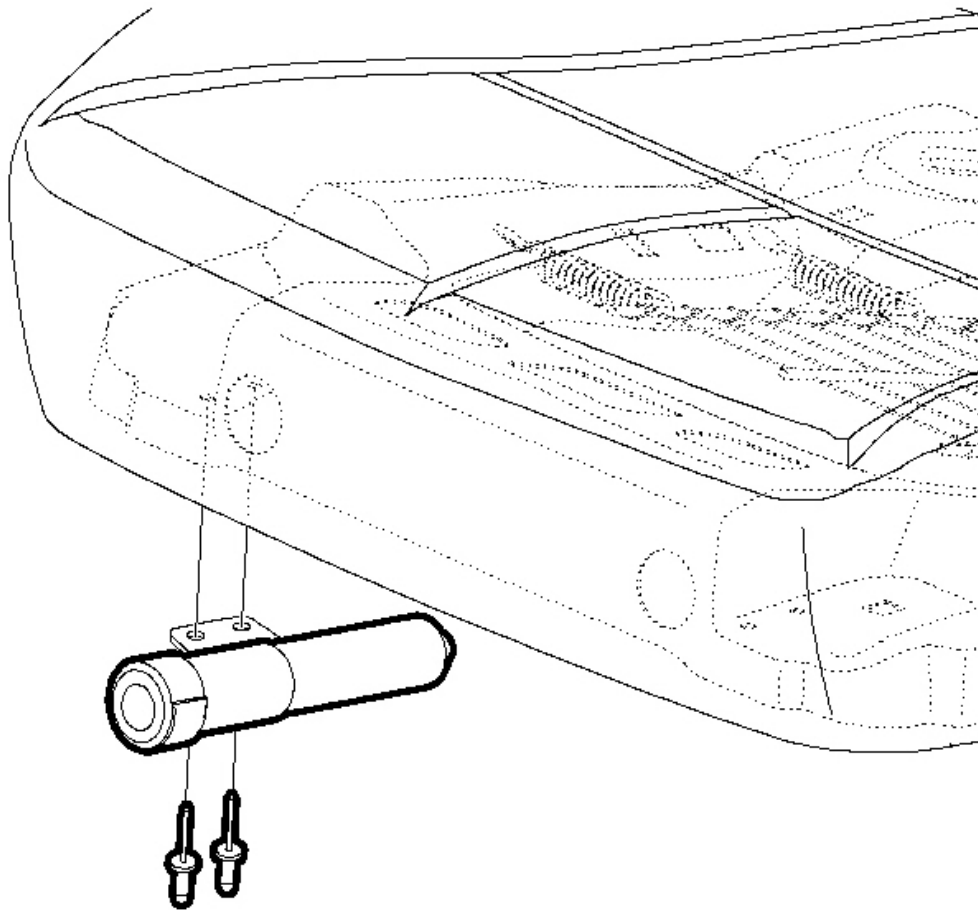


Fig. 102: Removing/Installing Lumbar Actuator
Courtesy of GENERAL MOTORS CORP.

4. Drill out the rivets from the lumbar actuator, if necessary.
5. Remove the lumbar actuator screws.
6. Remove the actuator from the seat.

Installation Procedure

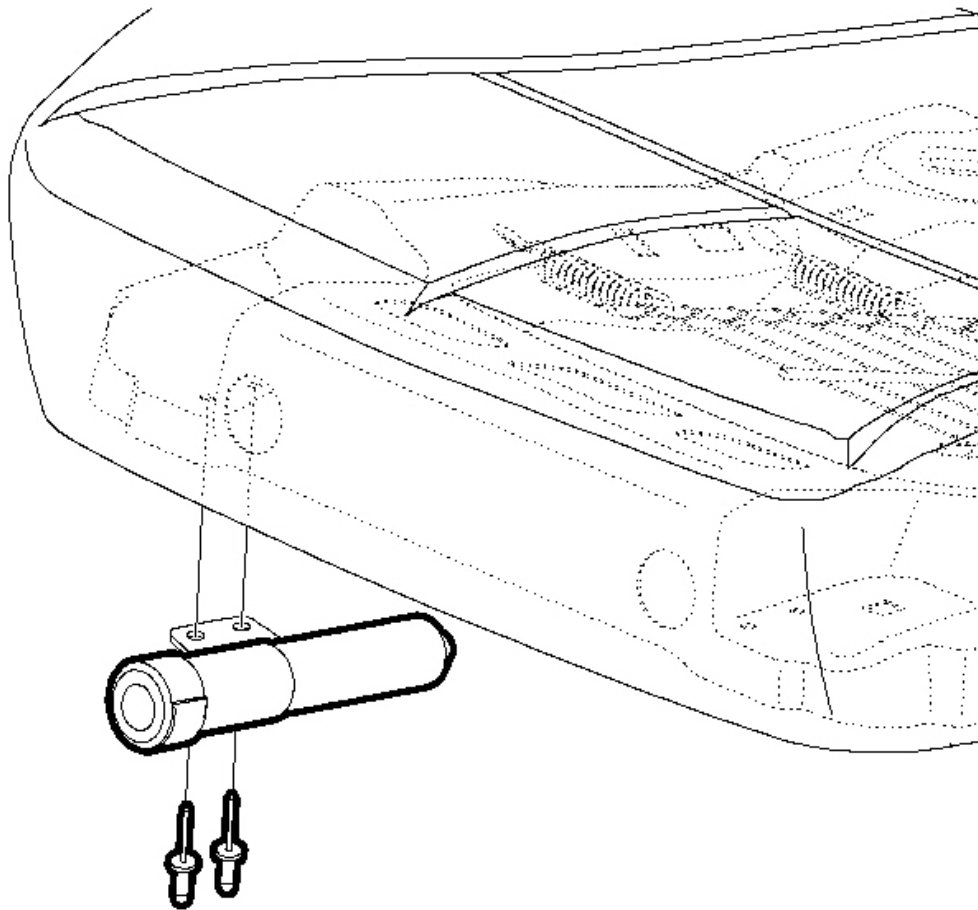


Fig. 103: Removing/Installing Lumbar Actuator
Courtesy of GENERAL MOTORS CORP.

NOTE: Refer to Fastener Notice in Cautions and Notices.

1. Install the lumbar actuator to the seat cushion frame with screws.

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

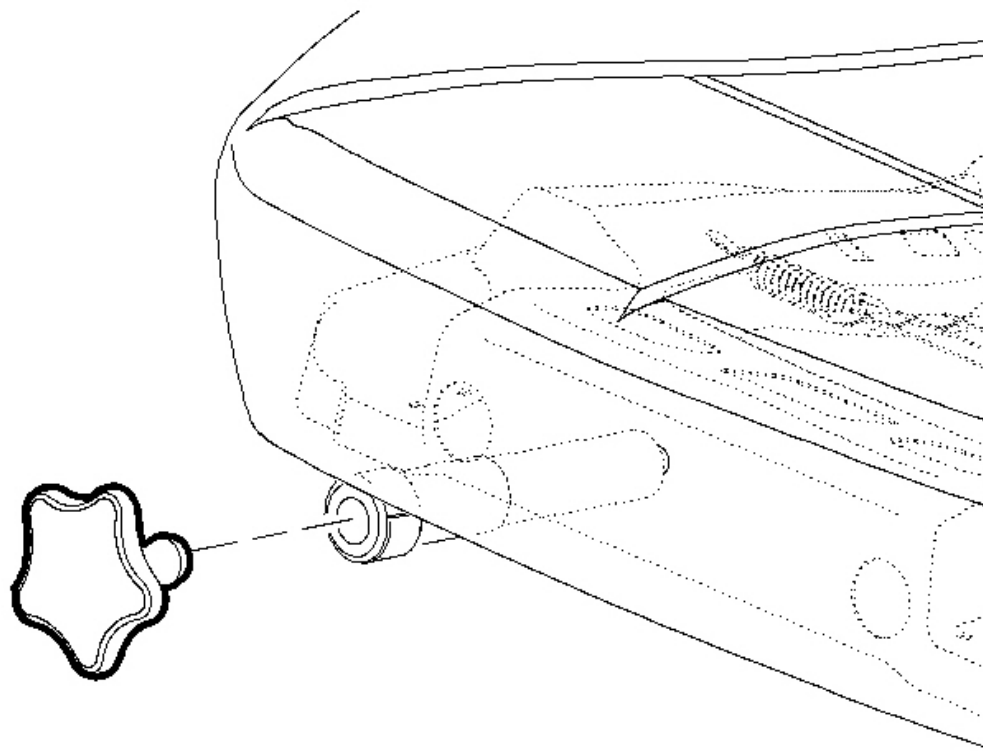


Fig. 104: Removing/Installing Lumbar Knob
Courtesy of GENERAL MOTORS CORP.

2. Install the lumbar knob.
3. Install the lumbar cable in the actuator:
 1. Pull back on the lumbar cable sleeve.
 2. Install the barrel end of the cable from the lumbar actuator.
 3. Adjust the knob to ensure that the cable is properly installed.
4. Install the front seat. Refer to **Seat Replacement - Front Bucket** .

The seat adjusters are exposed after the seat back recliners are removed. Refer to **Seat Back Recliner Mechanism Replacement - Front (Fold Flat)** .

SEAT SWITCH REPLACEMENT - POWER

Removal Procedure

1. Remove the seat switch bezel. Refer to **Seat Switch Bezel Replacement** .
2. Remove the outer trim panel from the seat cushion. Refer to **Seat Cushion Outer Trim Panel Replacement - Front Seat (4-Way)** or **Seat Cushion Outer Trim Panel Replacement - Front Seat (2-Way)** or **Seat Cushion Outer Trim Panel Replacement - Front Seat (6-Way)** .

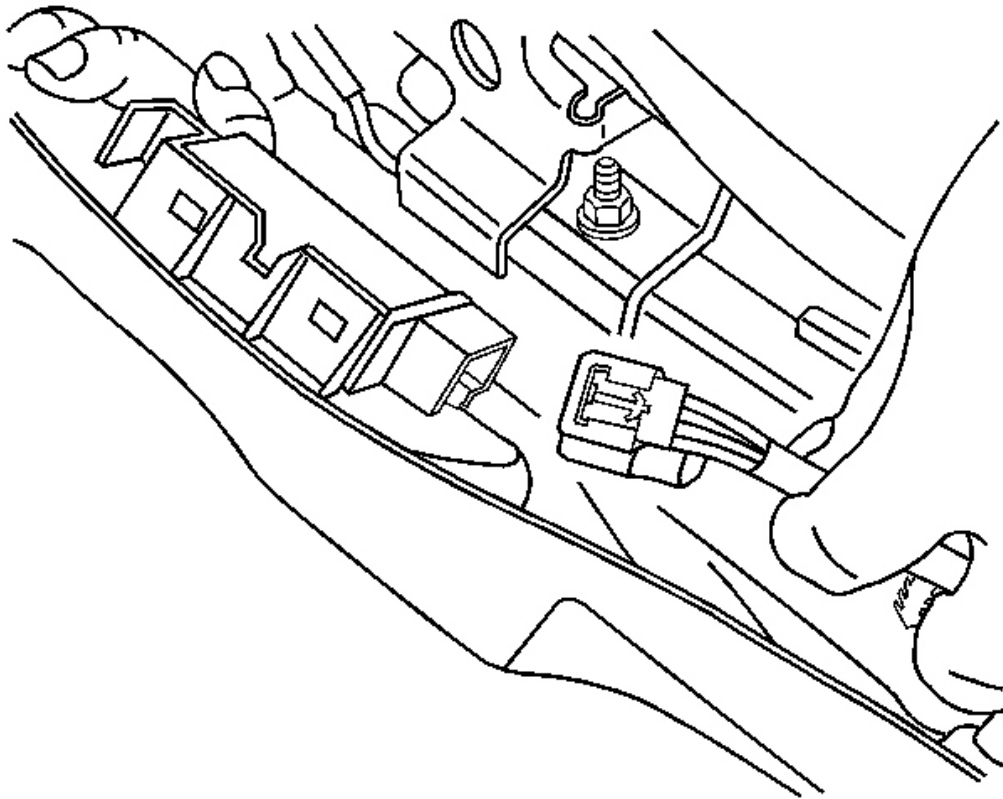


Fig. 105: Disconnecting/Connecting Electrical Connector
Courtesy of GENERAL MOTORS CORP.

3. Disconnect the electrical connector and remove the switch.

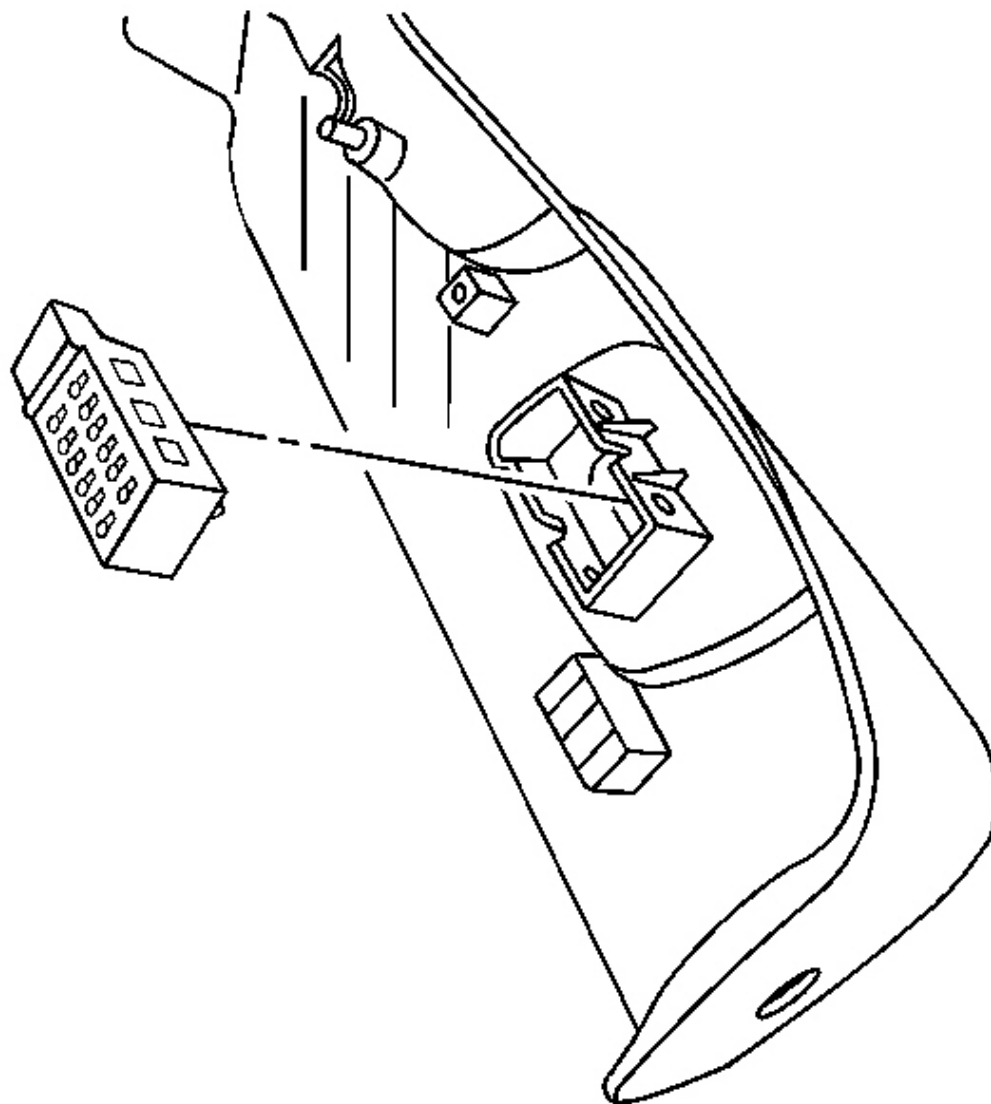


Fig. 106: Removing/Installing Outer Trim Panel
Courtesy of GENERAL MOTORS CORP.

4. Use a small flat-bladed tool to remove the switch from the trim panel.

Installation Procedure

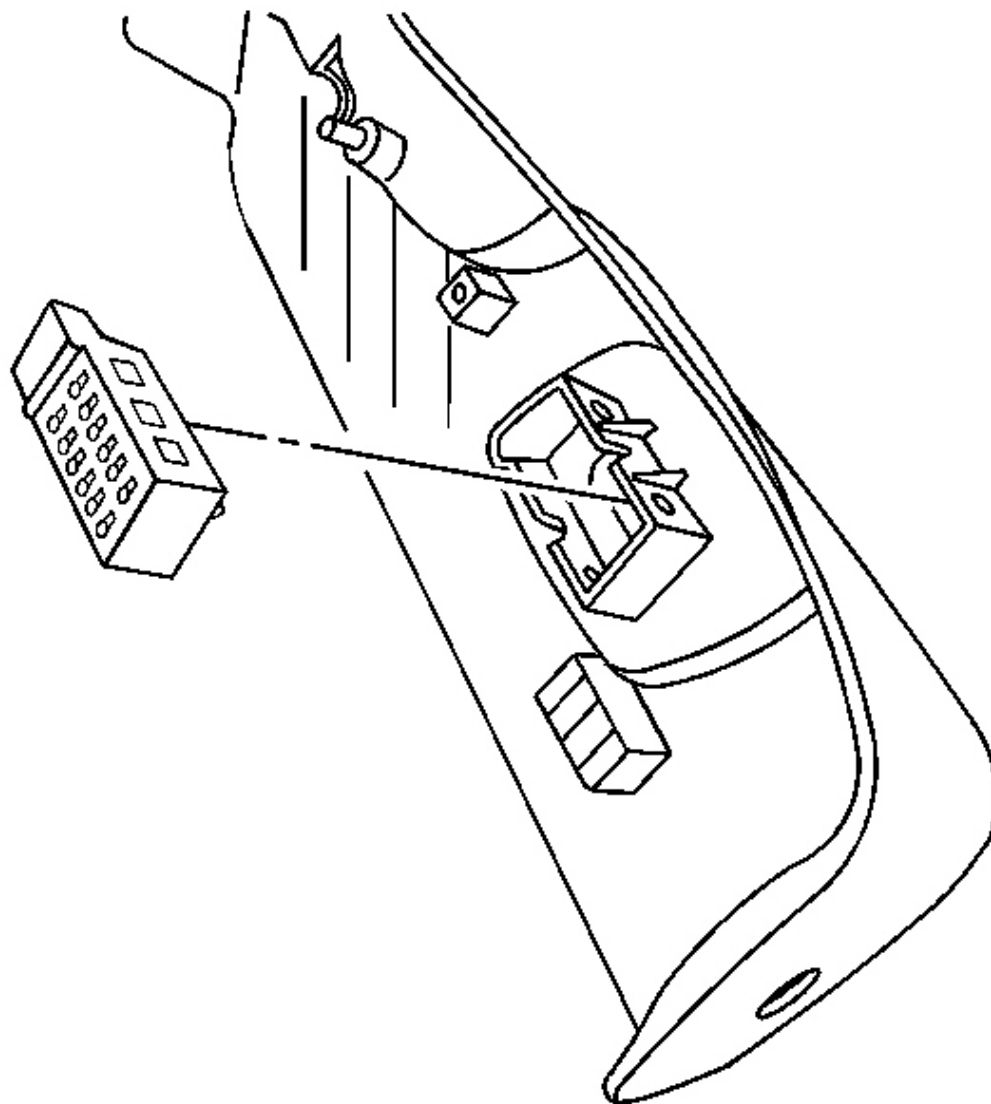


Fig. 107: Removing/Installing Outer Trim Panel
Courtesy of GENERAL MOTORS CORP.

1. Install the switch into the trim panel.
2. Connect the electrical connector.
3. Install the outer trim panel to the seat cushion. Refer to **Seat Cushion Outer Trim Panel Replacement - Front Seat (4-Way)** or **Seat Cushion Outer Trim Panel Replacement - Front Seat (2-Way)** or **Seat Cushion Outer Trim Panel Replacement - Front Seat (6-Way)** .

4. Install the seat switch bezel. Refer to [Seat Switch Bezel Replacement](#) .

SEAT SWITCH BEZEL REPLACEMENT

Removal Procedure

1. Move the seat to the most forward position.

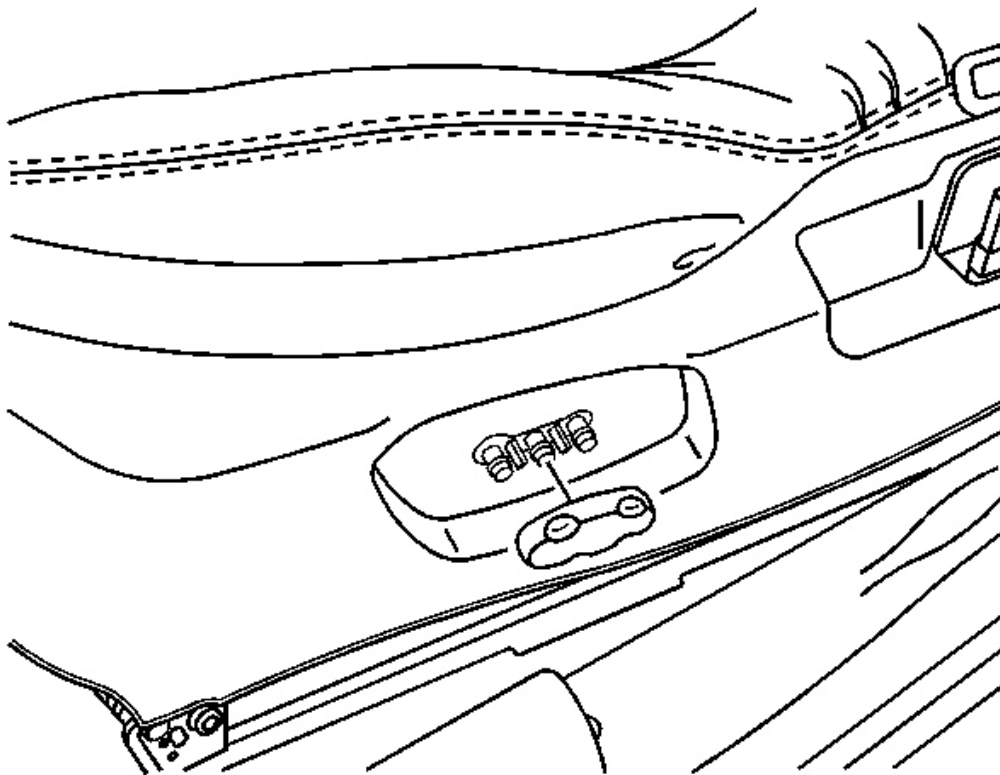


Fig. 108: View Of Bezel Seat Switch
Courtesy of GENERAL MOTORS CORP.

2. Using a flat-bladed tool, remove the bezel from the seat switch.

Installation Procedure

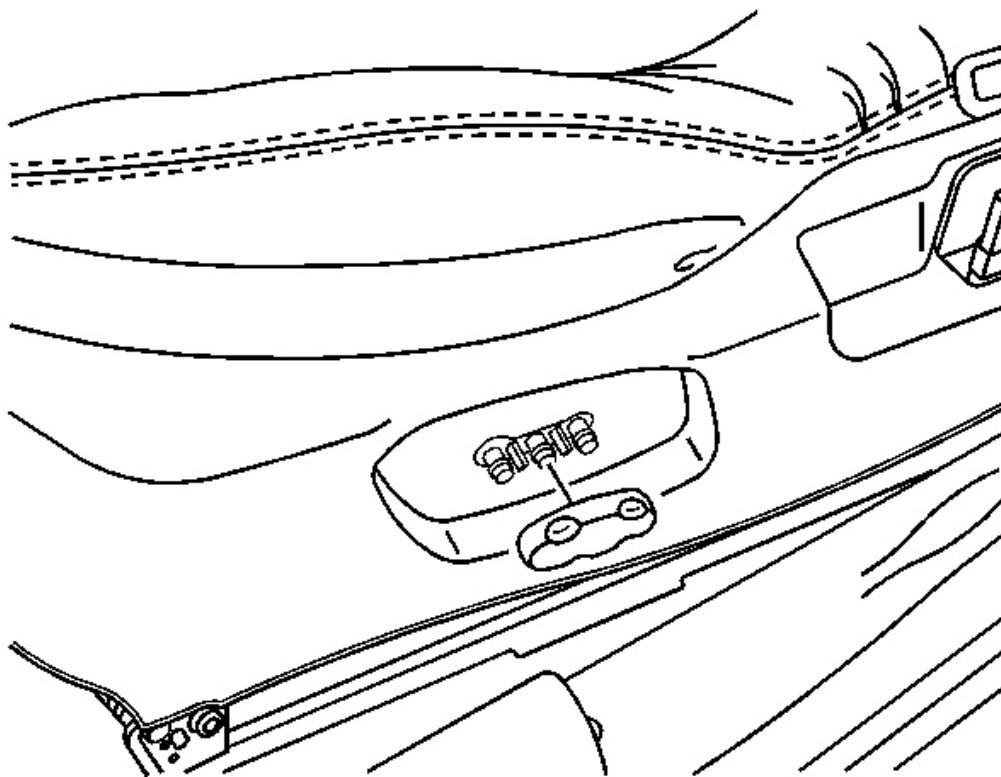


Fig. 109: View Of Seat Switch Bezel
Courtesy of GENERAL MOTORS CORP.

1. Install the seat switch bezel. Press into place.
2. Return the seat to the original position.

SEAT ADJUSTER MECHANISM REPLACEMENT - POWER

The seat adjusters are exposed after the seat back recliners are removed. Refer to [Seat Back Recliner Mechanism Replacement - Front \(Fold Flat\)](#) .

HEATED SEAT SWITCH REPLACEMENT - FRONT (DRIVER SIDE)

Removal Procedure

1. Remove the storage compartment from the I/P. Refer to [Storage Compartment Replacement - Instrument Panel \(I/P\)](#) .
2. Disconnect the electrical connector from the seat heater switch.

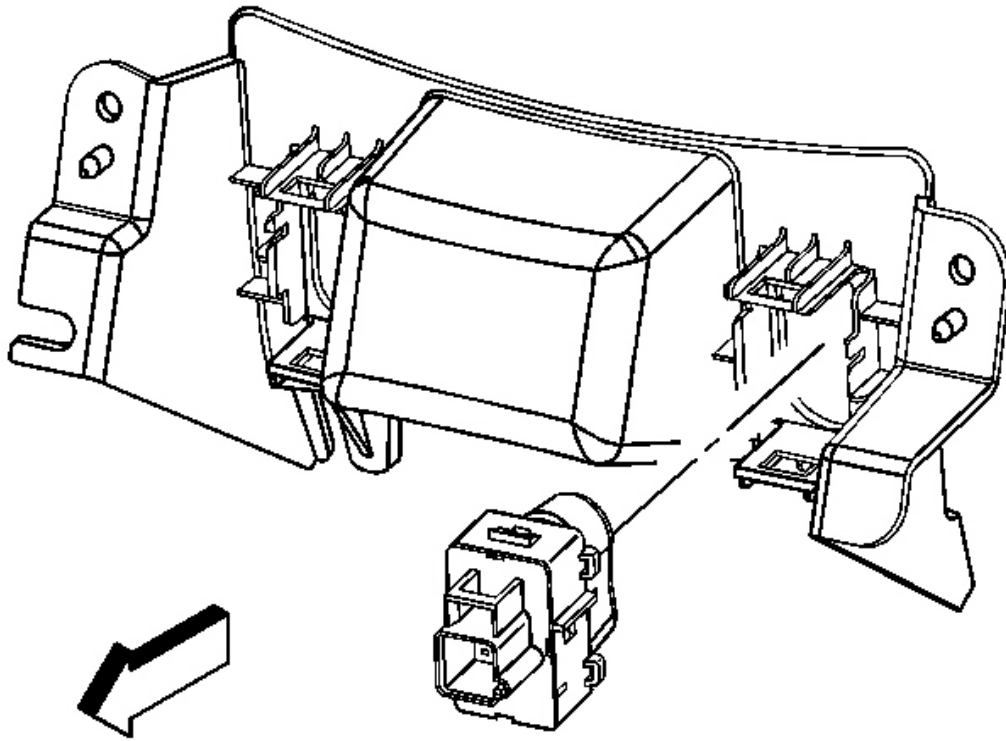


Fig. 110: View Of Front (Driver Side) Heated Seat Switch
Courtesy of GENERAL MOTORS CORP.

3. Remove the heater switch from the trim.

Installation Procedure

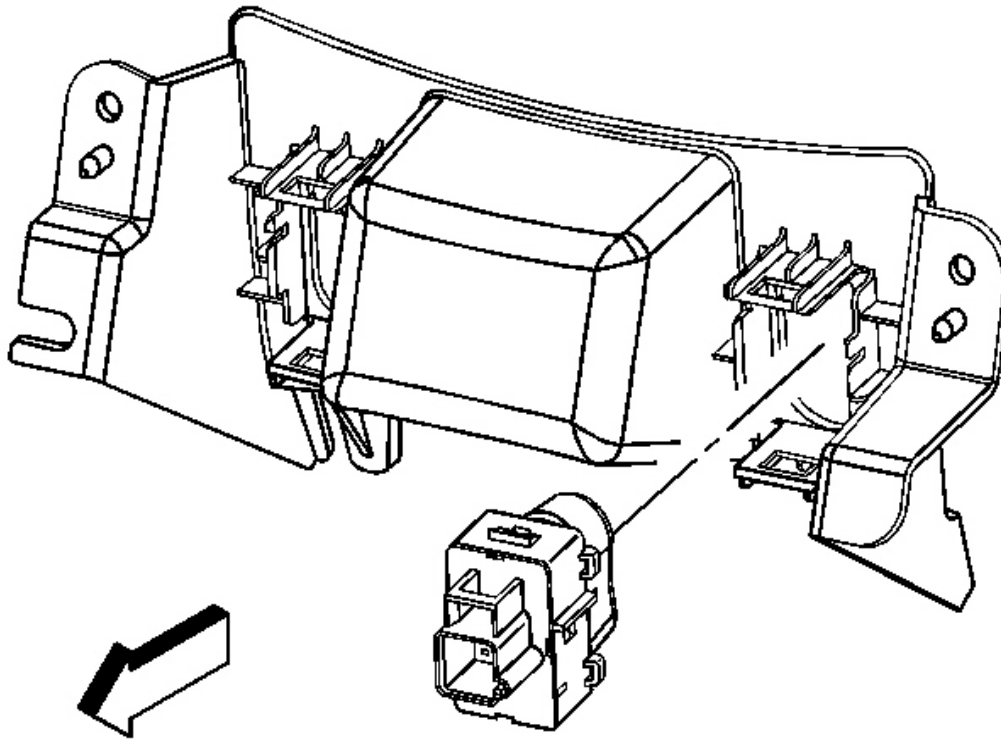


Fig. 111: View Of Front (Driver Side) Heated Seat Switch
Courtesy of GENERAL MOTORS CORP.

1. Install the heater switch to the front seat trim.
2. Connect the electrical connector to the heater switch.
3. Install the storage compartment to the I/P. Refer to **Storage Compartment Replacement - Instrument Panel (I/P)** .

HEATED SEAT SWITCH REPLACEMENT - FRONT (PASSENGER SIDE)

Removal Procedure

1. Remove the storage compartment from the instrument panel (I/P). Refer to **Storage Compartment Replacement - Instrument Panel (I/P)** in Instrument Panel, Gages, and Console.

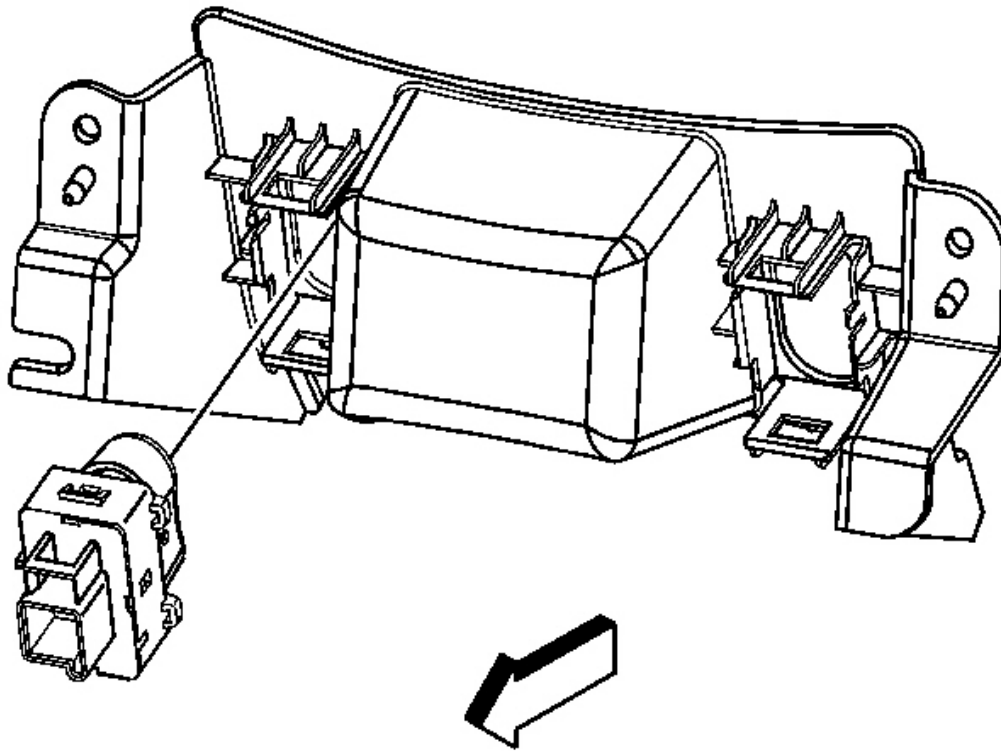


Fig. 112: View Of Front (Passenger Side) Heated Seat Switch
Courtesy of GENERAL MOTORS CORP.

2. Disconnect the electrical connector from the seat heater switch.
3. Remove the heater switch from the trim.

Installation Procedure

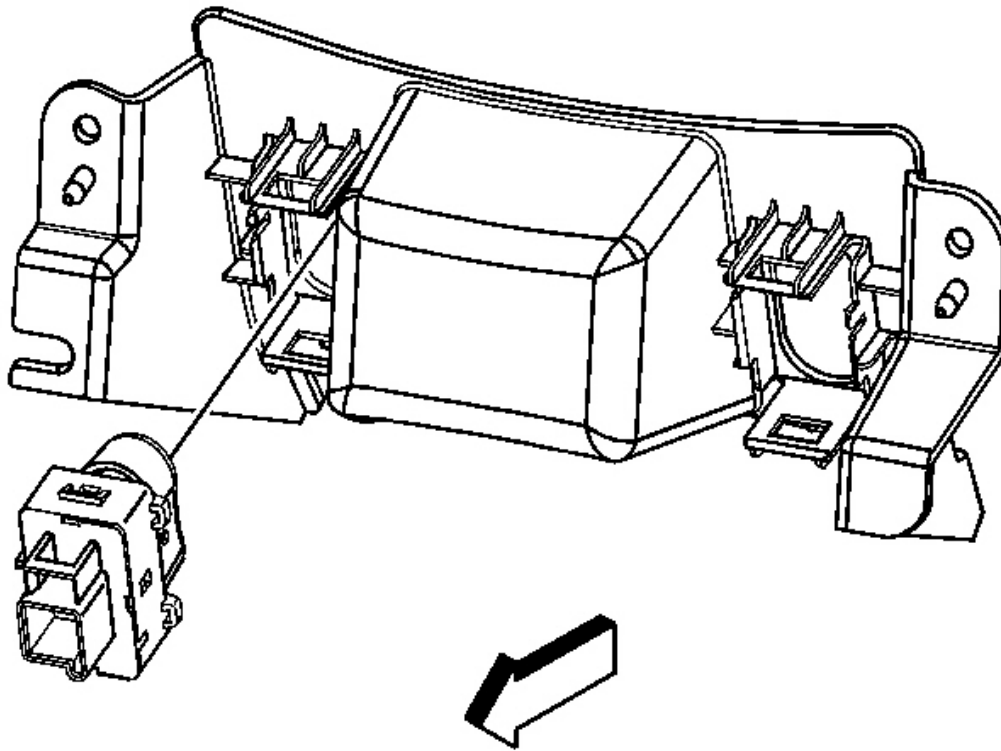


Fig. 113: View Of Front (Passenger Side) Heated Seat Switch
Courtesy of GENERAL MOTORS CORP.

1. Install the heater switch to the front seat trim.
2. Connect the electrical connector to the heater switch.
3. Install the storage compartment to the I/P. Refer to **Storage Compartment Replacement - Instrument Panel (I/P)** in Instrument Panel, Gages, and Console.

SEAT BACK HEATER ELEMENT REPLACEMENT - FRONT (NON-FOLD FLAT)

Removal Procedure

1. Remove the front seat. Refer to **Seat Replacement - Front Bucket** .
2. Remove the outer trim panel from the seat cushion. Refer to **Seat Cushion Outer Trim Panel Replacement - Front Seat (4-Way)** or **Seat Cushion Outer Trim Panel Replacement - Front Seat (2-Way)** or **Seat Cushion Outer Trim Panel Replacement - Front Seat (6-Way)** .
3. Remove the armrest from the seat. Refer to **Armrest Replacement - Front Seat** .
4. Disconnect the electrical connector from the seat heat module.

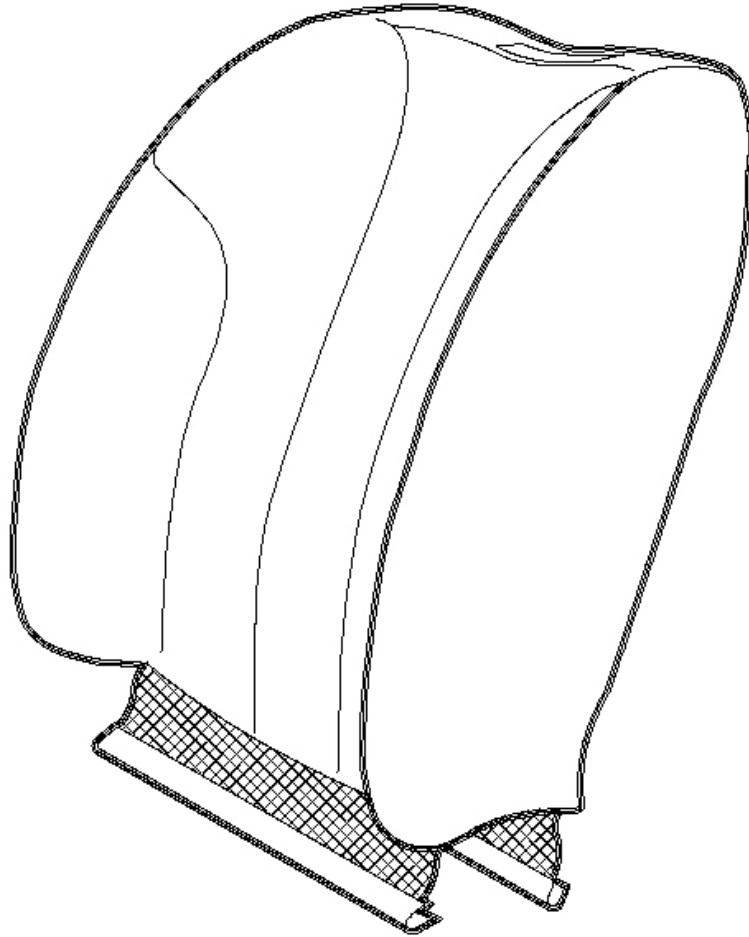


Fig. 114: Removing/Installing Seat Back Trim Cover
Courtesy of GENERAL MOTORS CORP.

5. Disconnect the lower J-hook retainer from the seat back trim cover.
6. Carefully lift the trim cover, disengaging the hook and loop retainers until the heater element is exposed.

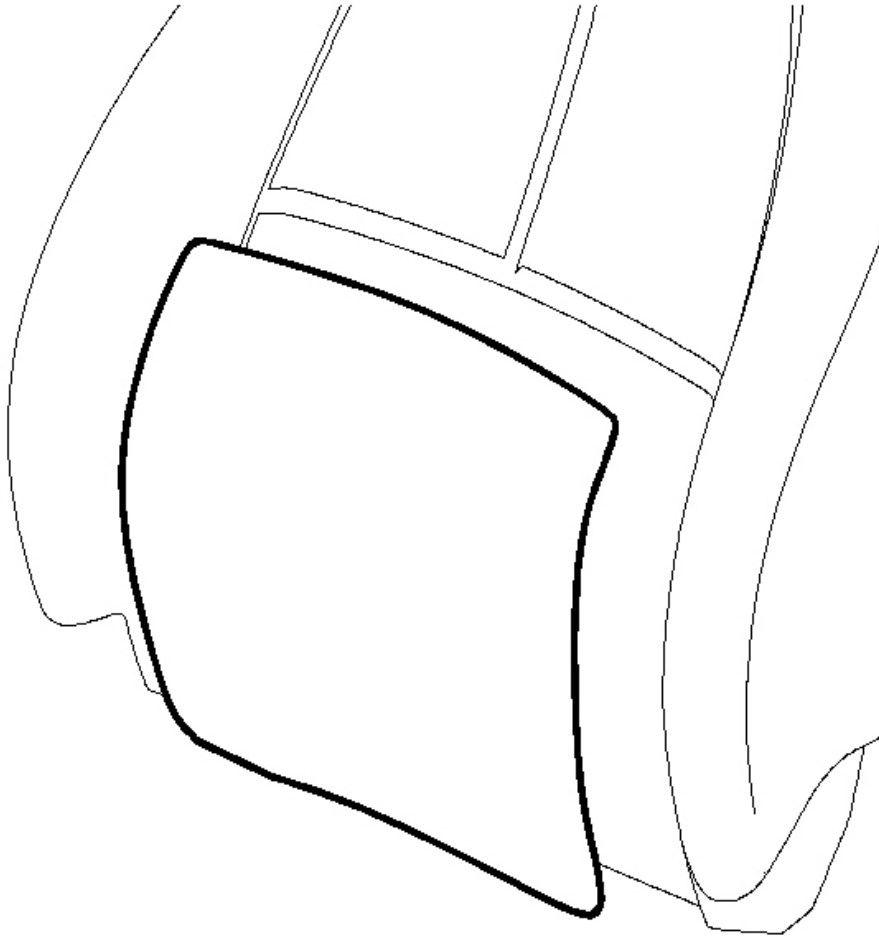


Fig. 115: Removing/Installing Element From The Seat Back Pad
Courtesy of GENERAL MOTORS CORP.

7. Gently pull on the heater element in order to remove the element from the seat foam. Be careful not to damage the foam pad.

Installation Procedure

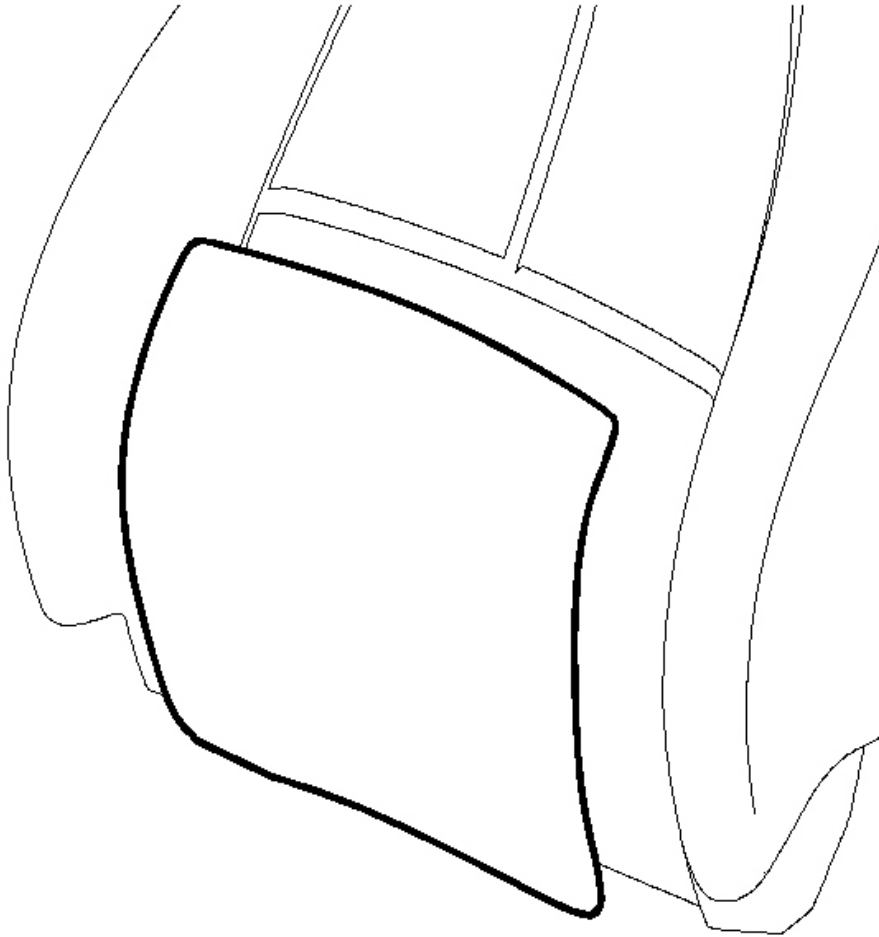


Fig. 116: Removing/Installing Element From The Seat Back Pad
Courtesy of GENERAL MOTORS CORP.

1. Peel off the self-stick tape from the back side of the heater element.
2. Position the heater element over the seat foam pad. Press firmly to engage the adhesive.
3. Lower the seat back trim cover, pressing on the hook and loop retainers in order to engage the retainers.

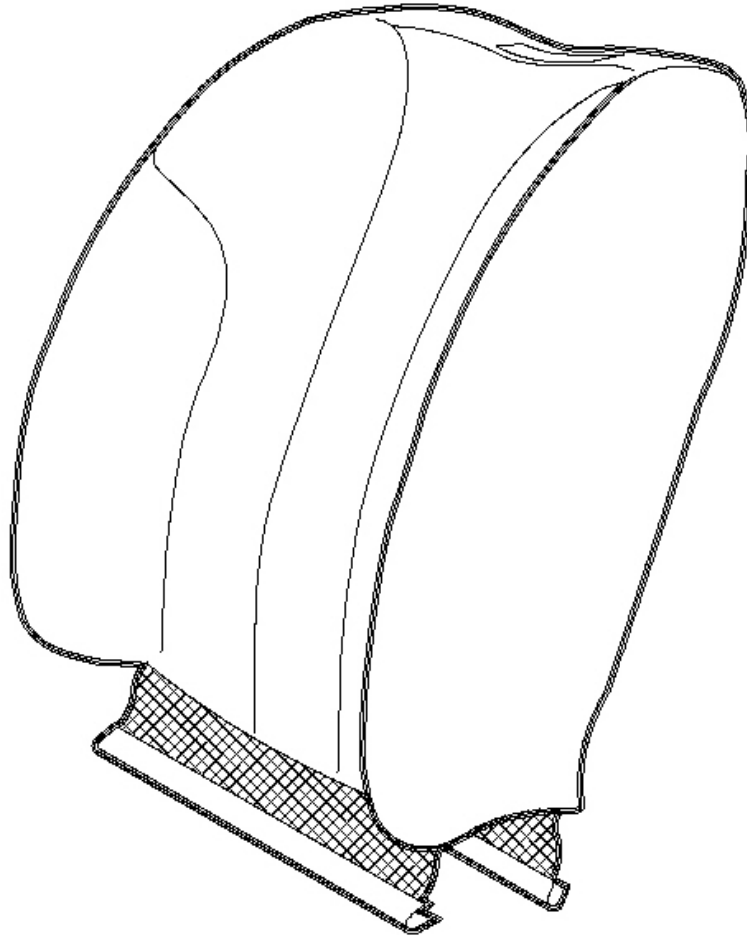


Fig. 117: Removing/Installing Seat Back Trim Cover
Courtesy of GENERAL MOTORS CORP.

4. Connect the lower J-hook retainer to the seat back trim.
5. Connect the electrical connector to the heater element module.
6. Install the armrest to the seat. Refer to **Armrest Replacement - Front Seat** .
7. Install the outer trim panel to the seat cushion. Refer to **Seat Cushion Outer Trim Panel Replacement - Front Seat (4-Way)** or **Seat Cushion Outer Trim Panel Replacement - Front Seat (2-Way)** or **Seat Cushion Outer Trim Panel Replacement - Front Seat (6-Way)** .
8. Install the front seat. Refer to **Seat Replacement - Front Bucket** .

Removal Procedure

1. Remove the front seat. Refer to **Seat Replacement - Front Bucket** .

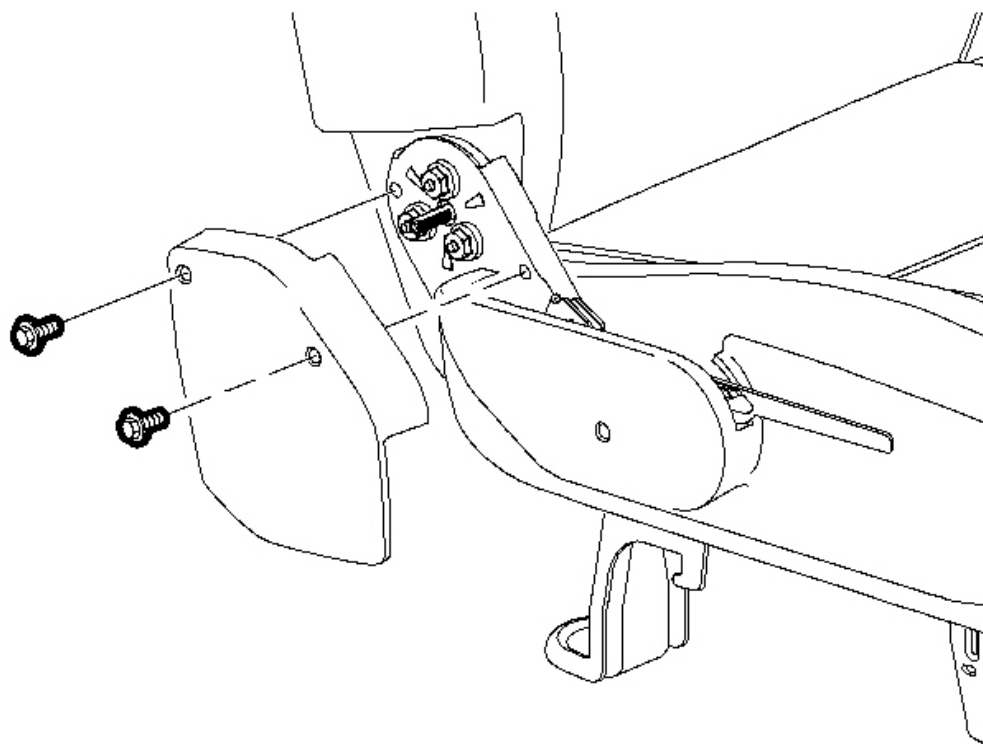


Fig. 118: View Of Outer Trim Panel
Courtesy of GENERAL MOTORS CORP.

2. Remove the screws from the outboard recliner trim panel. Remove the trim panel.

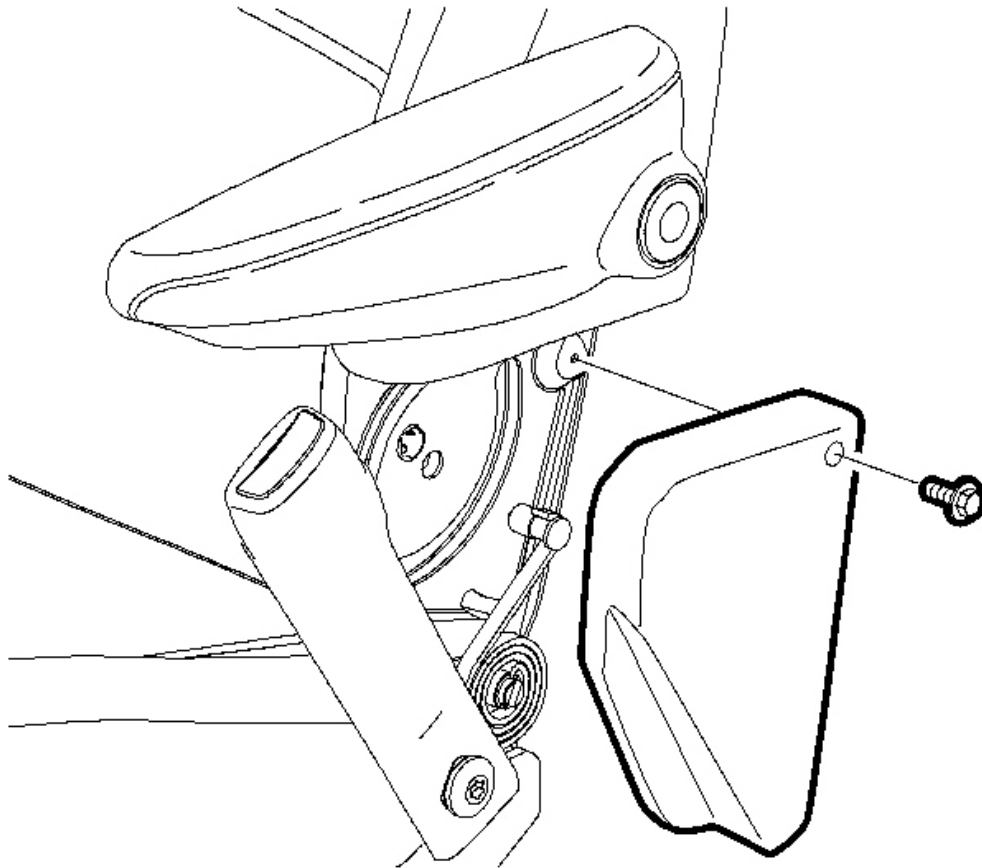


Fig. 119: Removing/Installing Inboard Recliner Trim Panel
Courtesy of GENERAL MOTORS CORP.

3. Remove the screws from the inboard recliner trim panel. Remove the trim panel.
4. Remove the head restraint. Refer to **Head Restraint Replacement - Front Seat** .
5. Disconnect the electrical connector from the seat heater element.

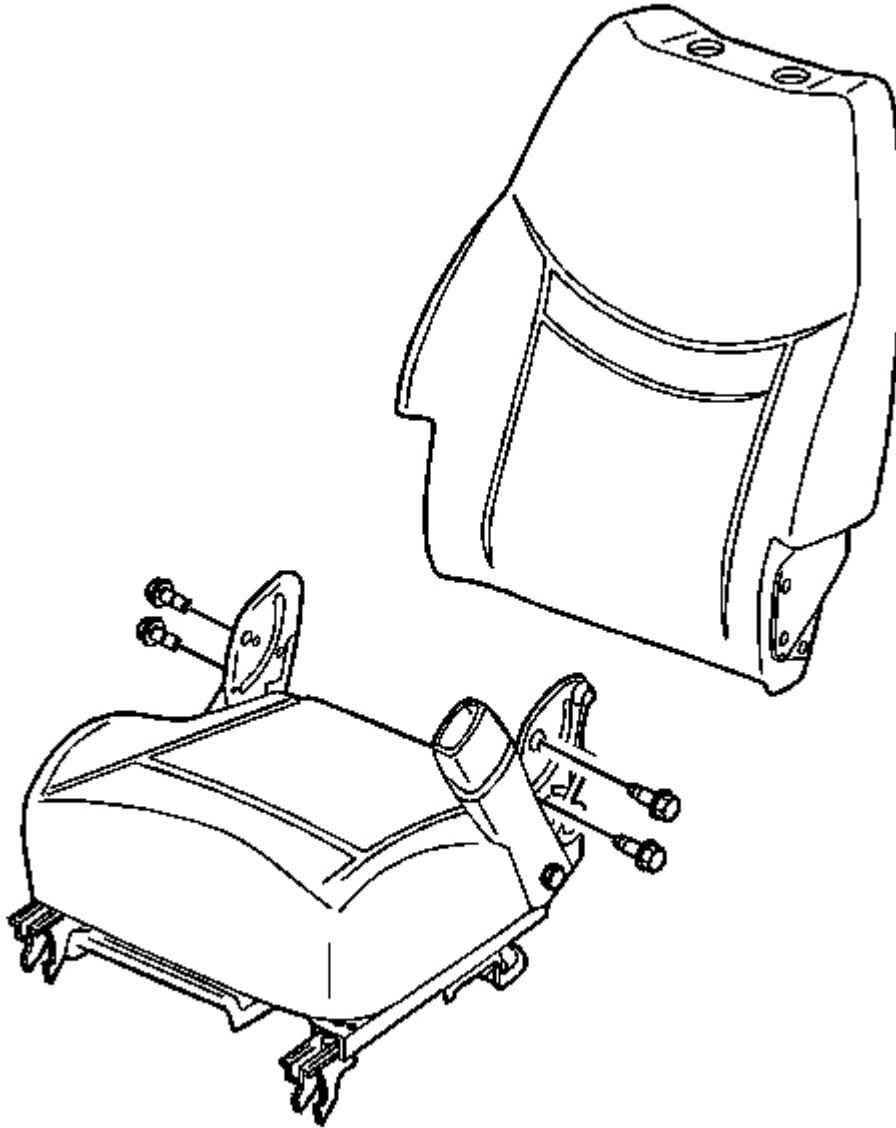


Fig. 120: Removing/Installing Bolts & Seat Back Assembly
Courtesy of GENERAL MOTORS CORP.

6. Remove the bolts from the seat back frame. Remove the seat back assembly.

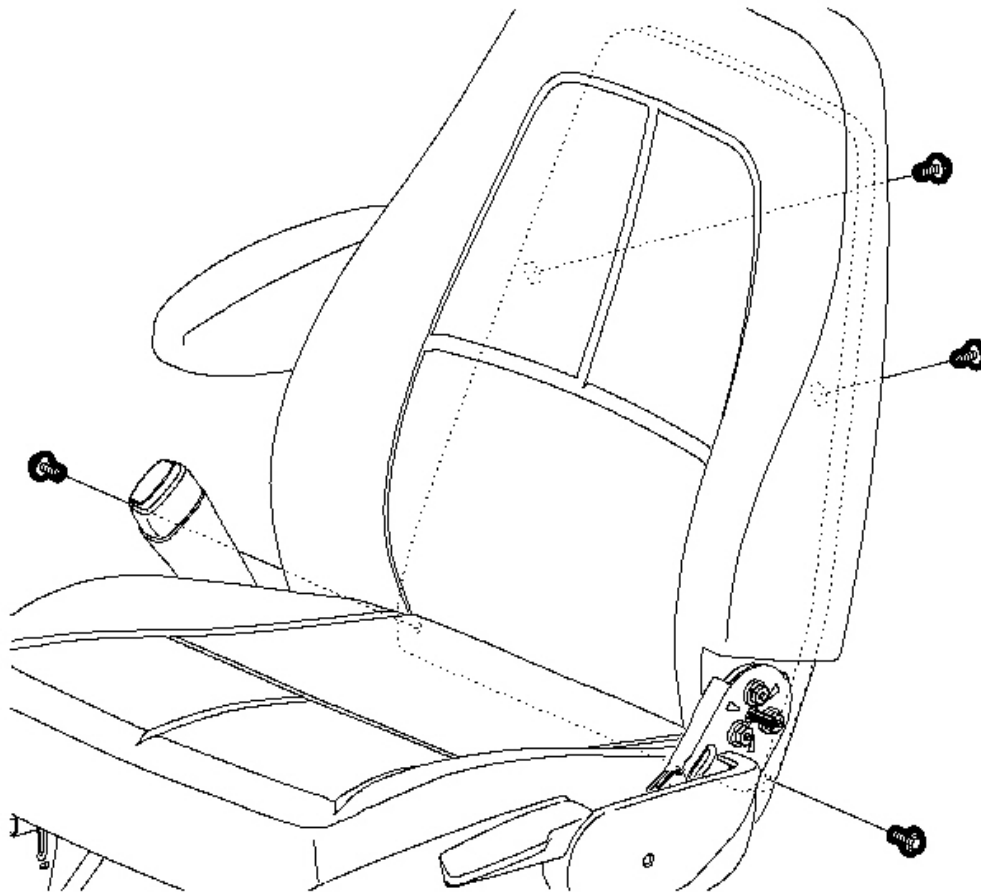


Fig. 121: Removing/Installing Screws From The Seat Back Panel
Courtesy of GENERAL MOTORS CORP.

7. Remove the screws from the back panel. Remove the back panel.
8. Remove the armrest. Refer to **Armrest Replacement - Front Seat** .

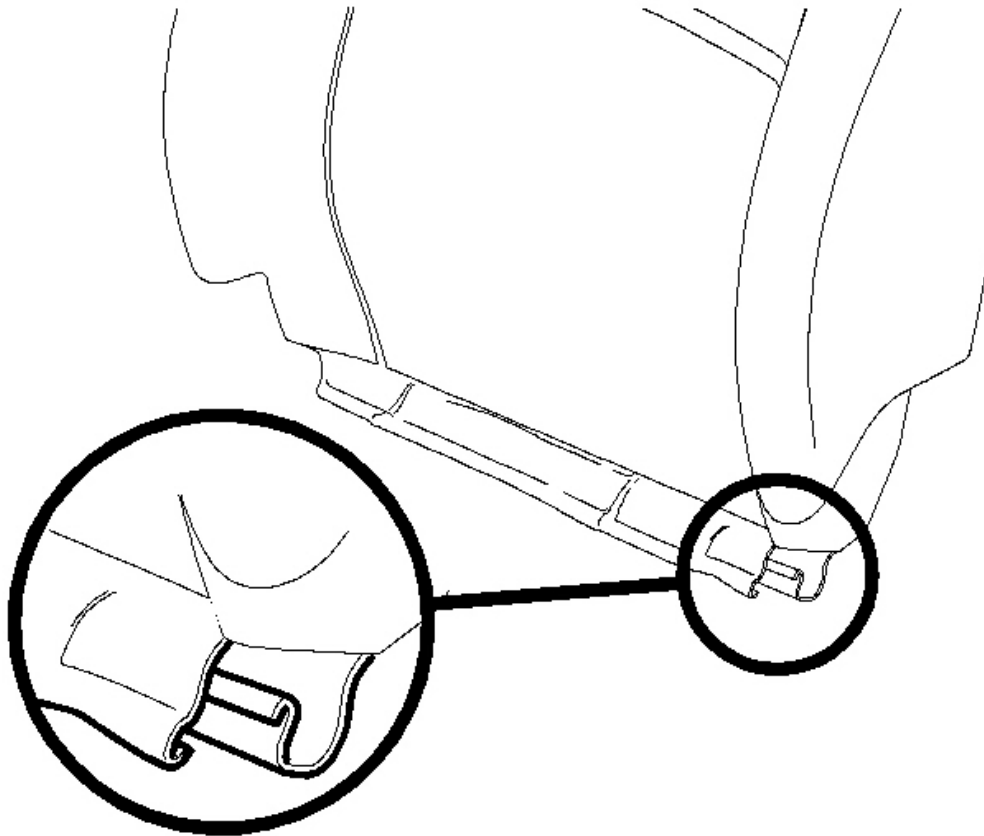


Fig. 122: View Of Lower J-Hook Retainer
Courtesy of GENERAL MOTORS CORP.

9. Disconnect the lower J-hook retainer from the seat back trim cover.
10. Lift the trim cover, carefully disengaging the hook and loop retainers until the heater element is exposed.

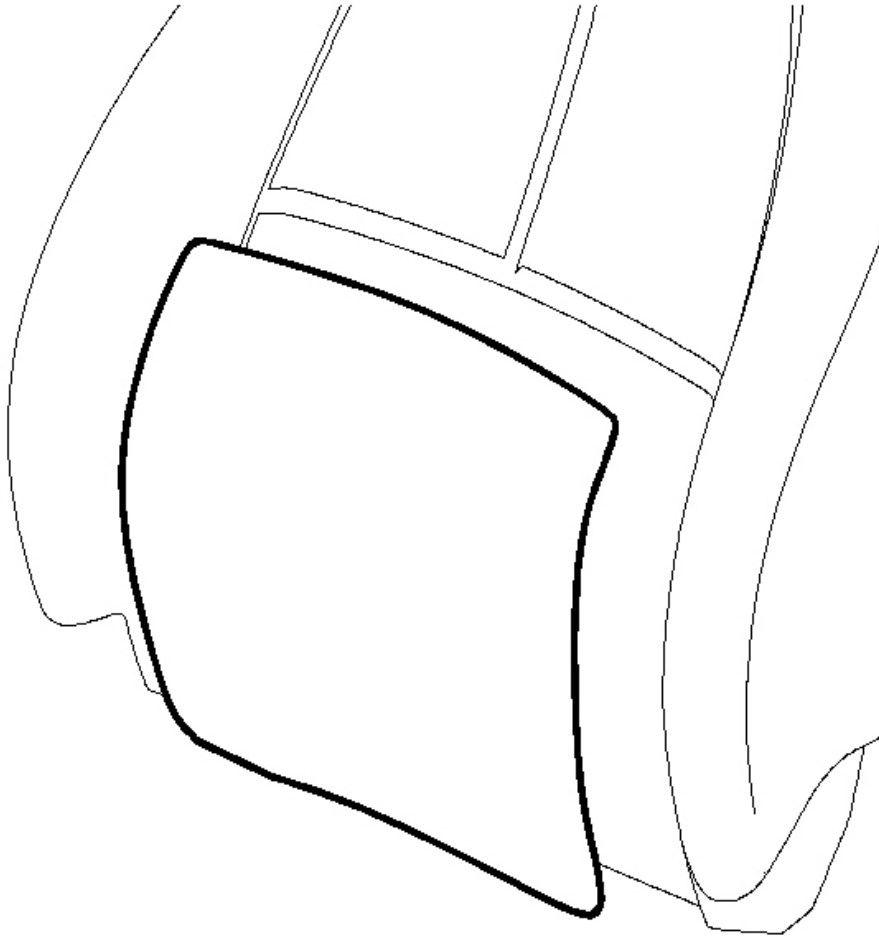


Fig. 123: Removing/Installing Element From The Seat Back Pad
Courtesy of GENERAL MOTORS CORP.

11. Gently pull to remove the element from the seat back pad. Be careful not to damage the pad.

Installation Procedure

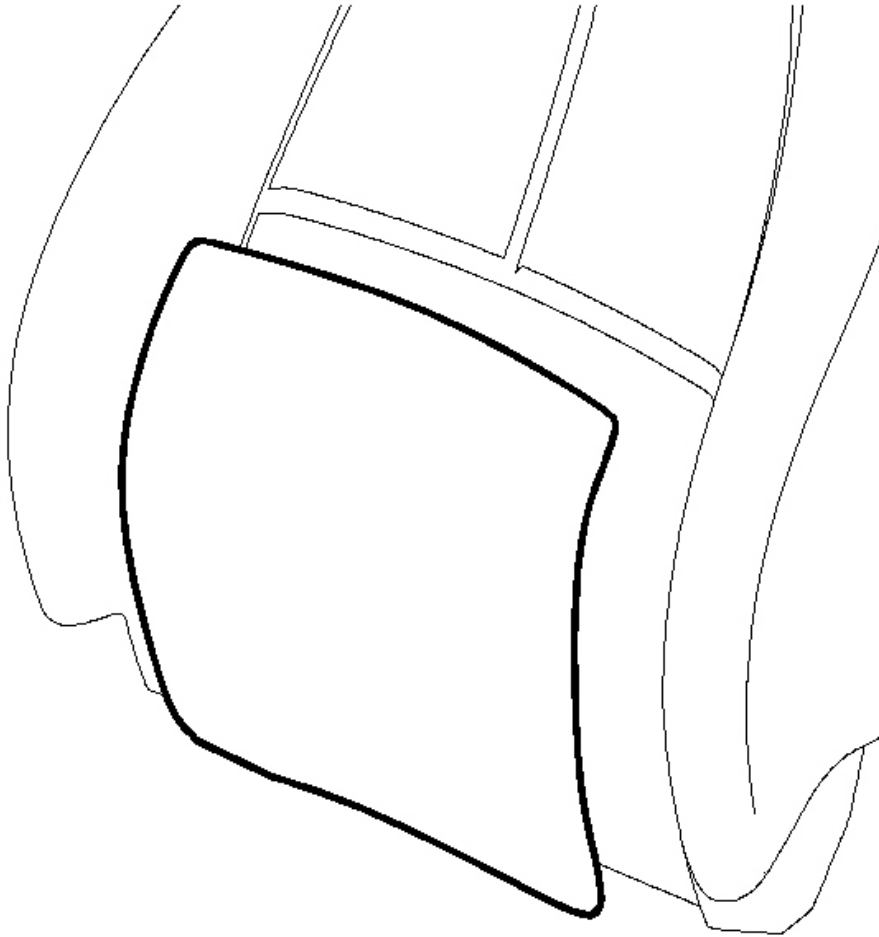


Fig. 124: Removing/Installing Element From The Seat Back Pad
Courtesy of GENERAL MOTORS CORP.

1. Peel off the self-stick paper backing from the heater element.
2. Position the element on the pad and press firmly to install the element.
3. Lower the seat back trim cover. Press on the hook and loop retainers to engage the retainers.

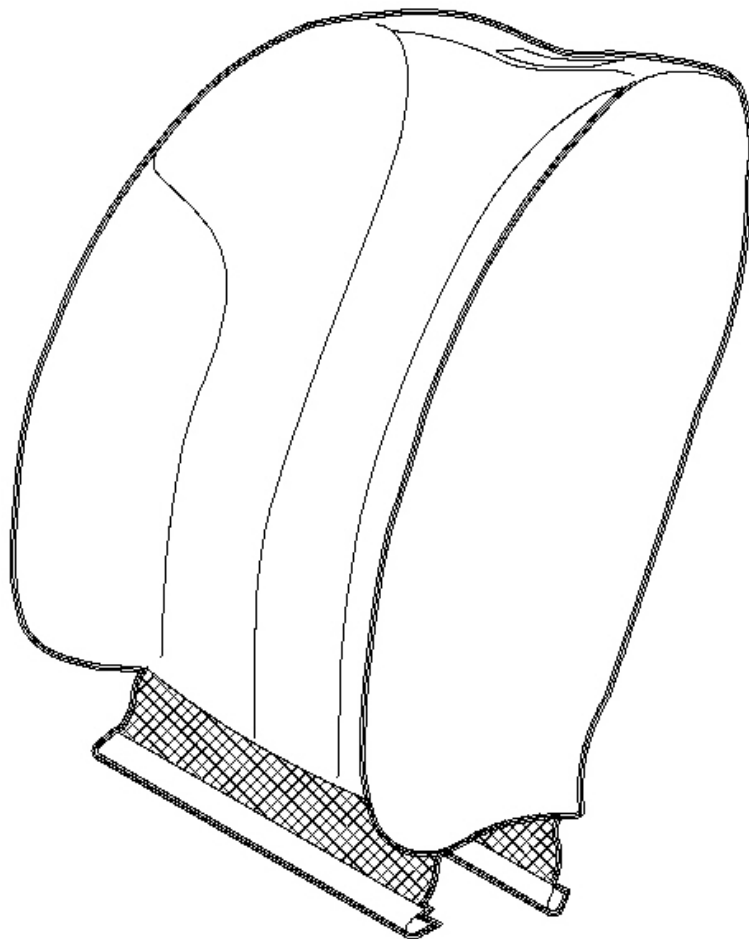


Fig. 125: Removing/Installing Seat Back Trim Cover
Courtesy of GENERAL MOTORS CORP.

4. Connect the lower J-hook retainer on the seat back trim cover.
5. Install the armrest. Refer to **Armrest Replacement - Front Seat** .

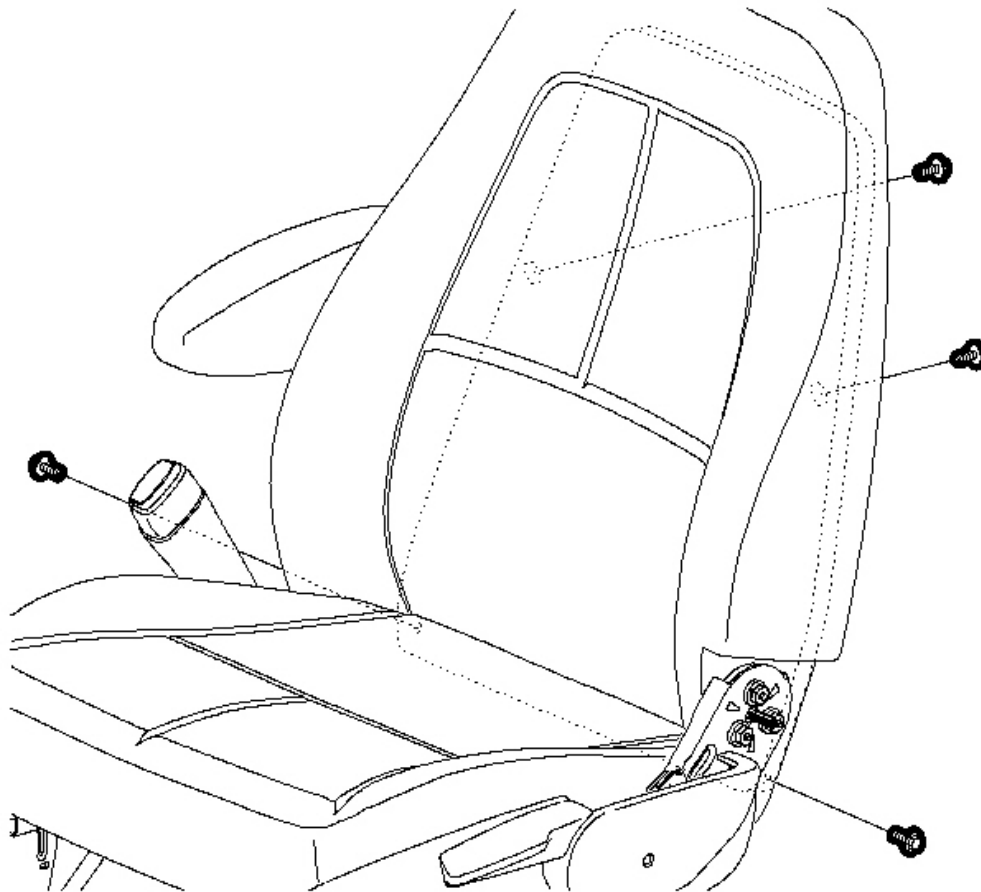


Fig. 126: Removing/Installing Screws From The Seat Back Panel
Courtesy of GENERAL MOTORS CORP.

NOTE: Refer to Fastener Notice in Cautions and Notices.

6. Position the seat back panel. Secure the panel with the screws.

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

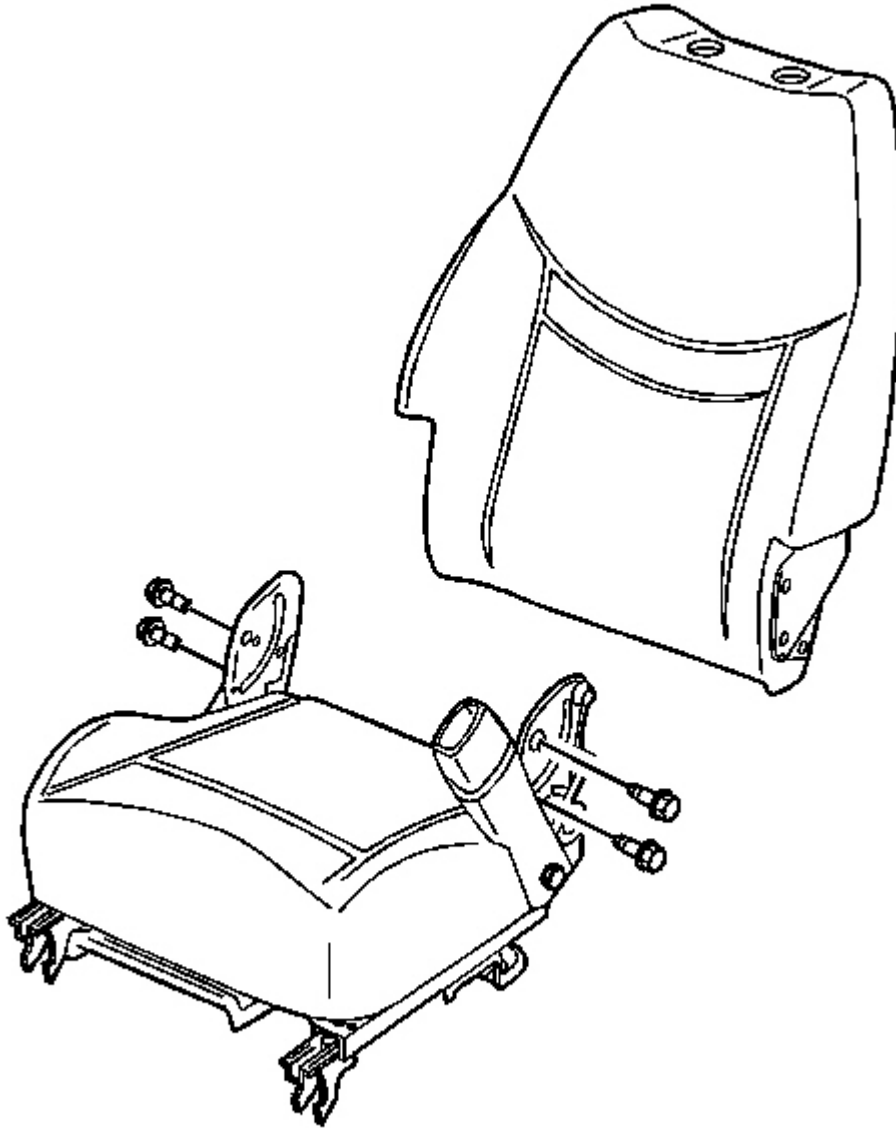


Fig. 127: Removing/Installing Bolts & Seat Back Assembly
Courtesy of GENERAL MOTORS CORP.

7. Position the seat back assembly between the fold-flat recliners. Secure with the seat back bolts.

Tighten: Tighten the bolts to 70 N.m (52 lb ft).

8. Connect the electrical connectors to the seat heater element.
9. Install the head restraint. Refer to **Head Restraint Replacement - Front Seat** .

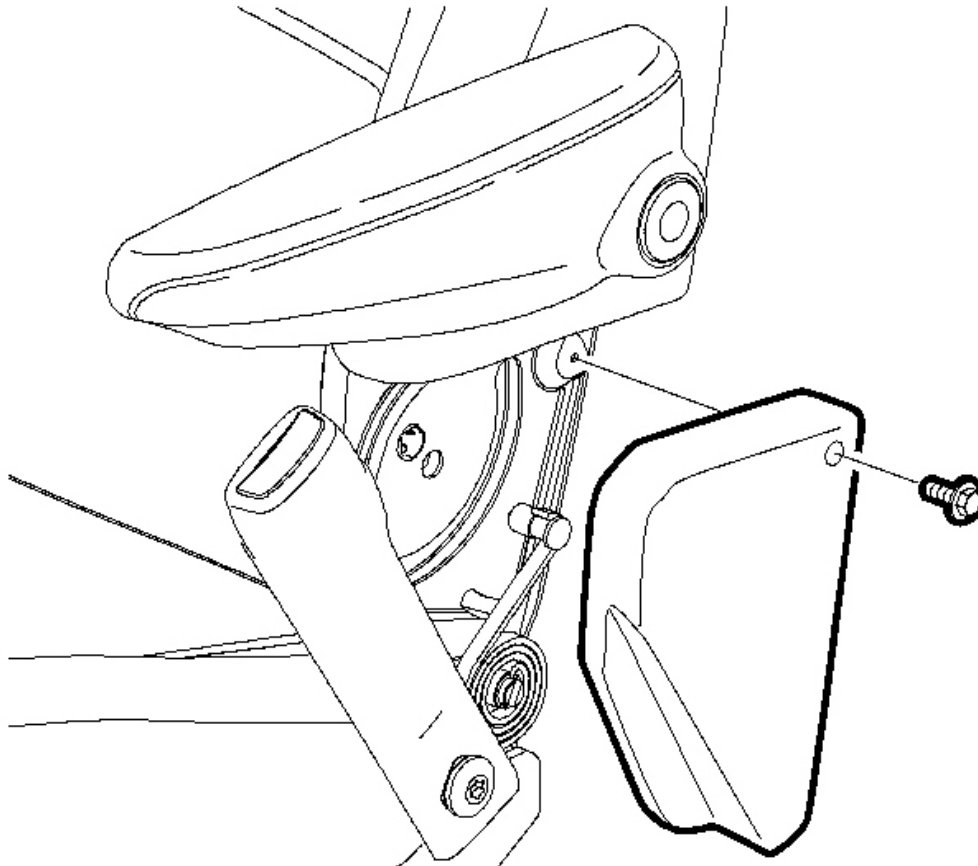


Fig. 128: Removing/Installing Inboard Recliner Trim Panel
Courtesy of GENERAL MOTORS CORP.

10. Position the inboard recliner trim panel. Secure with the panel screws.

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

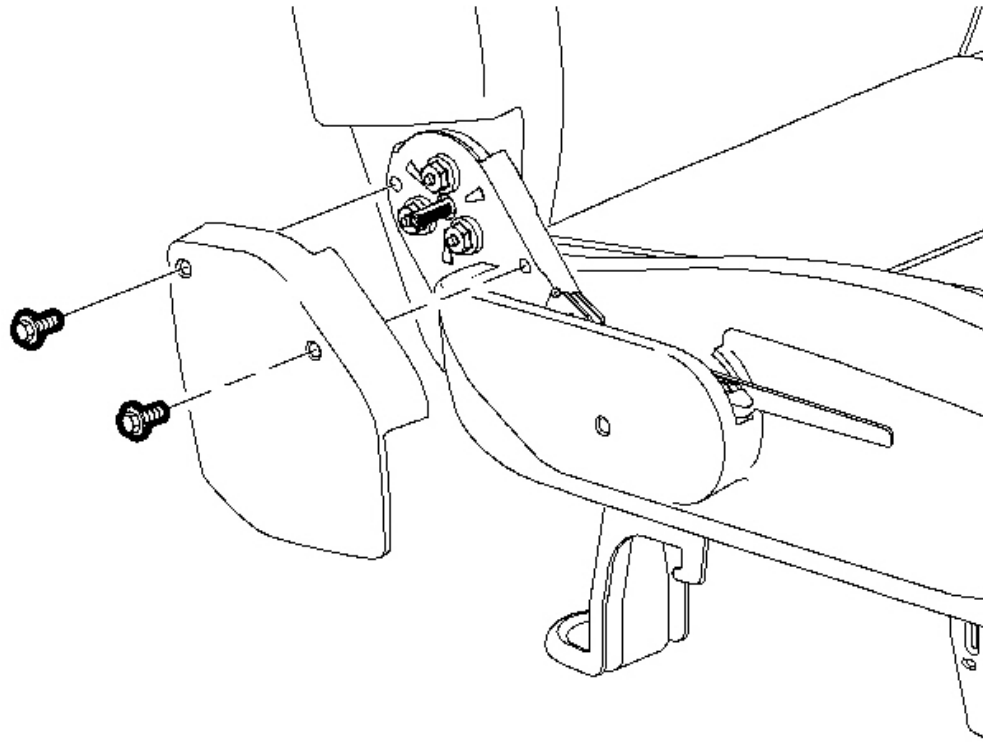


Fig. 129: View Of Outer Trim Panel
Courtesy of GENERAL MOTORS CORP.

11. Position the outboard recliner trim panel. Secure with the panel screws.

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

12. Install the front seat. Refer to **Seat Replacement - Front Bucket** .

SEAT CUSHION HEATER ELEMENT REPLACEMENT - FRONT

Removal Procedure

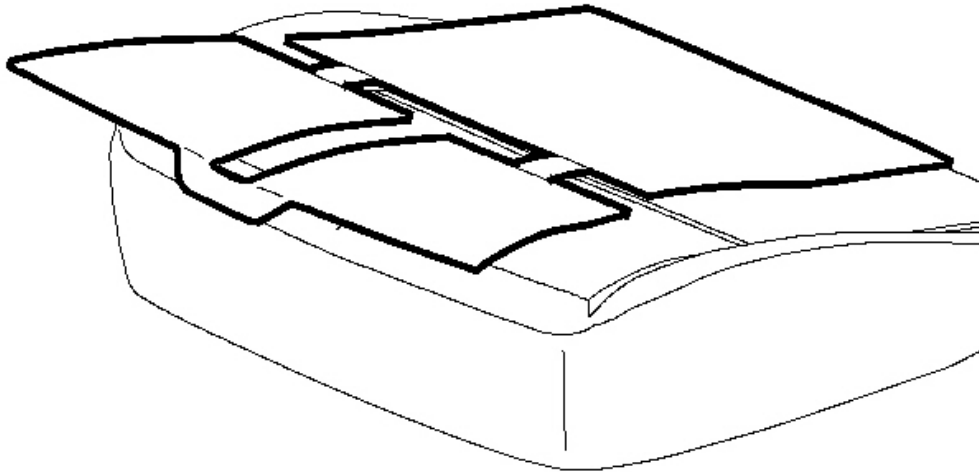


Fig. 130: View Of Front Seat Cushion Heater Element
Courtesy of GENERAL MOTORS CORP.

1. Remove the front seat from the vehicle. Refer to **Seat Replacement - Front Bucket** .
2. Place the seat on a clean work bench.
3. Remove the seat cushion cover and pad. Refer to **Seat Cushion Cover and Pad Replacement - Front** .
4. Gently pull on the heater element to remove the element from the seat foam. Be careful not to damage the foam pad.

Installation Procedure

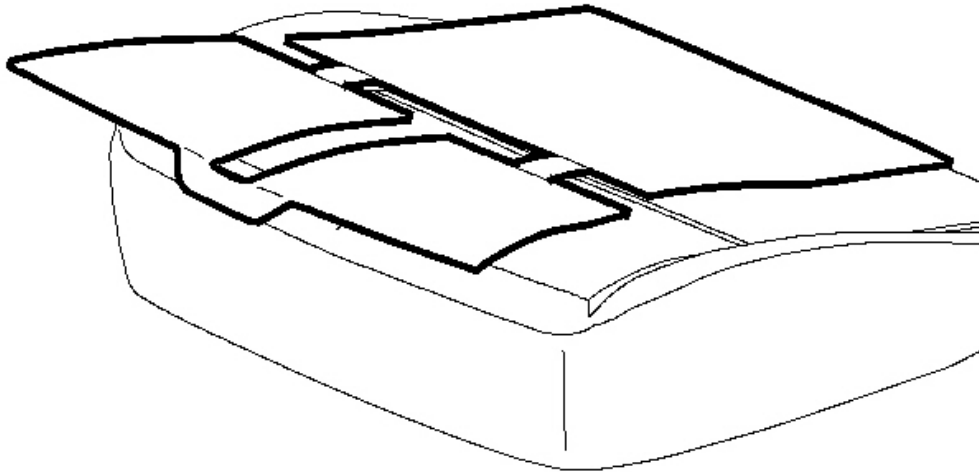


Fig. 131: View Of Front Seat Cushion Heater Element
Courtesy of GENERAL MOTORS CORP.

1. Peel off the self-stick tape from the back of the heater element.
2. Position the heater element over the seat foam pad. Press firmly to engage the adhesive.
3. Route the heating element wiring harness under the seat pad and connect the harness to the heater module. Secure the wire with tie straps.
4. Install the seat cushion cover and pad. Refer to **Seat Cushion Cover and Pad Replacement - Front** .
5. Install the front seat to the vehicle. Refer to **Seat Replacement - Front Bucket** .

HEATED SEAT CONTROL MODULE REPLACEMENT - FRONT

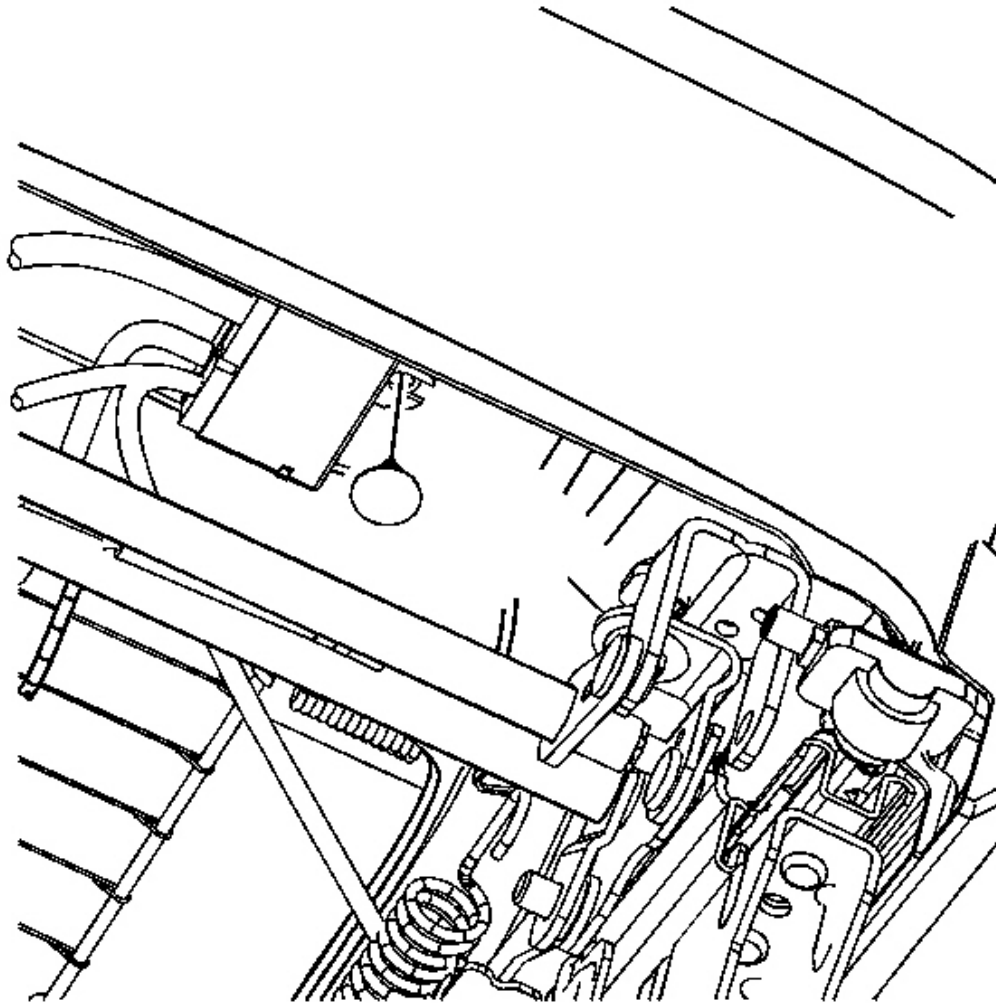


Fig. 132: View Of Front Heated Seat Control Module
Courtesy of GENERAL MOTORS CORP.

1. Remove the heated seat module retainer.

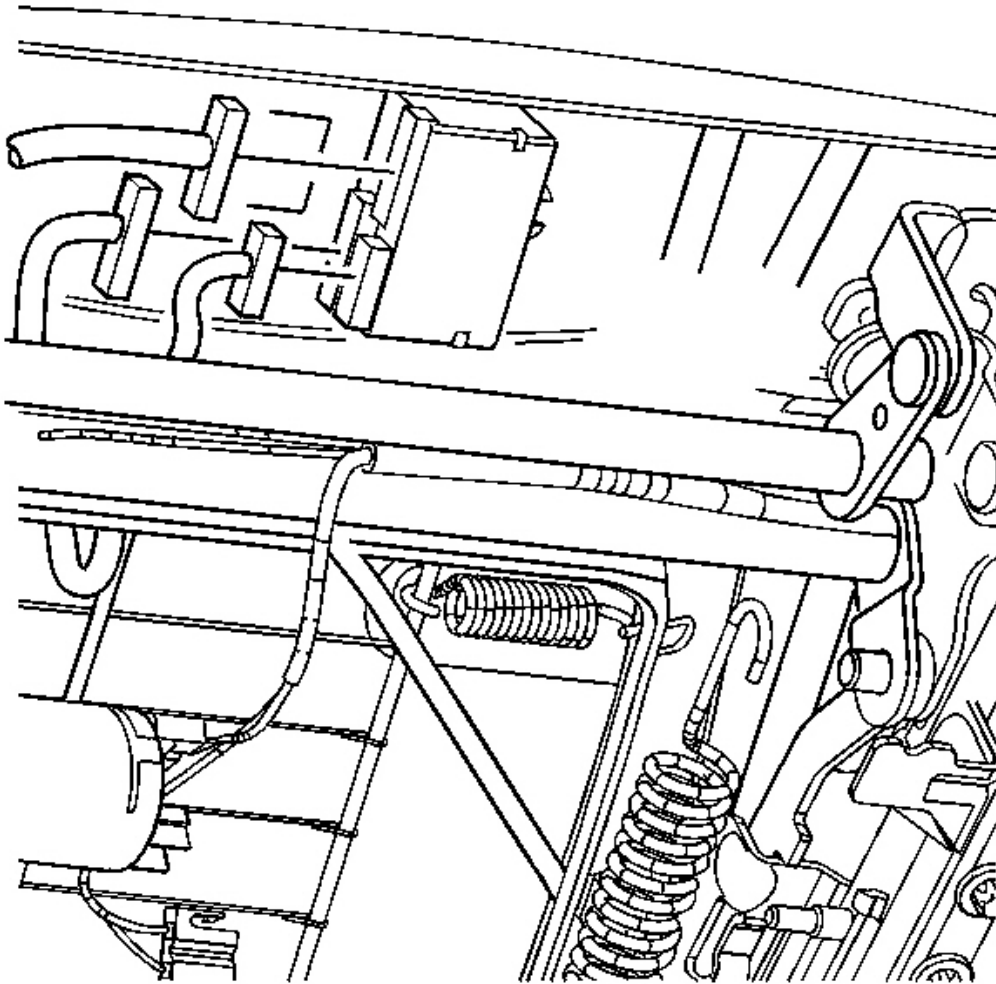


Fig. 133: Disconnecting/Connecting Electrical Connectors From Heated Seat Module
Courtesy of GENERAL MOTORS CORP.

2. Disconnect the electrical connectors from the heated seat module.

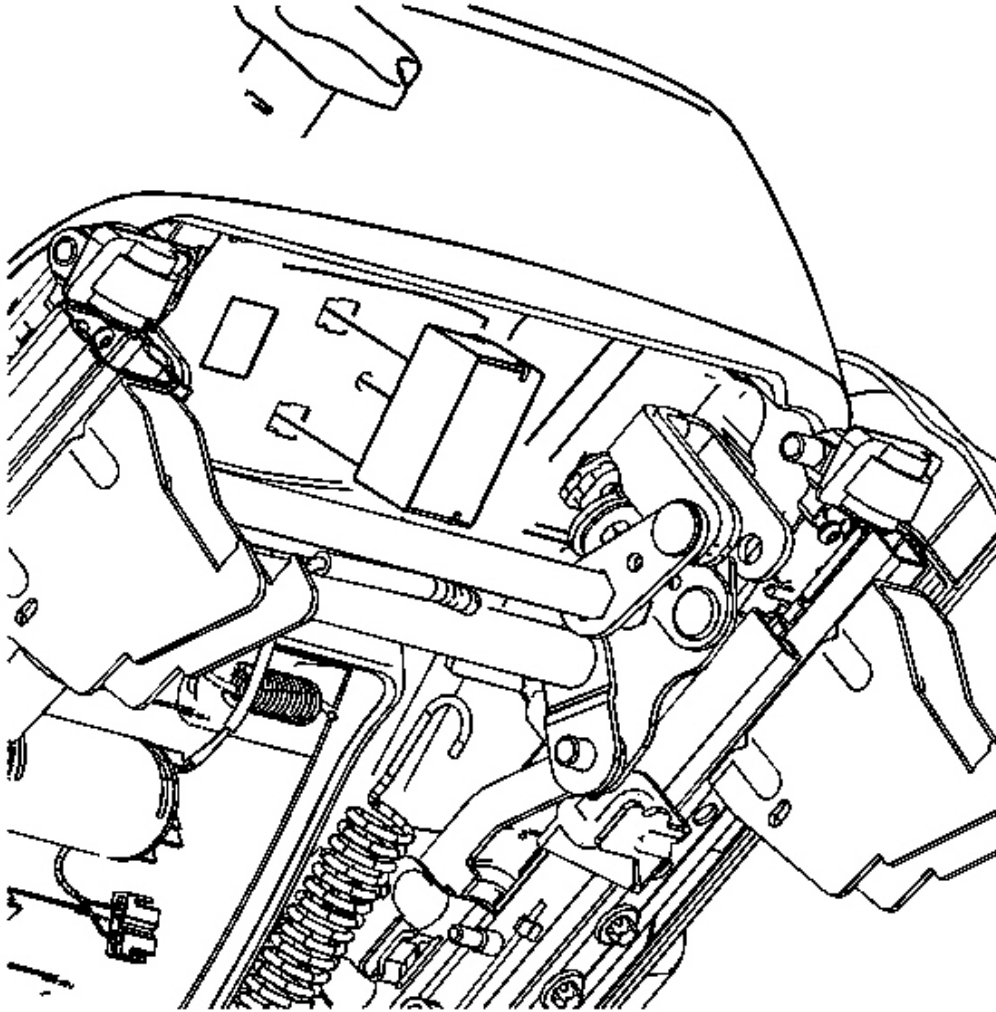


Fig. 134: View Of Seat Module
Courtesy of GENERAL MOTORS CORP.

3. Remove the module.

Installation Procedure

1. Connect the electrical connector to the heated seat module.

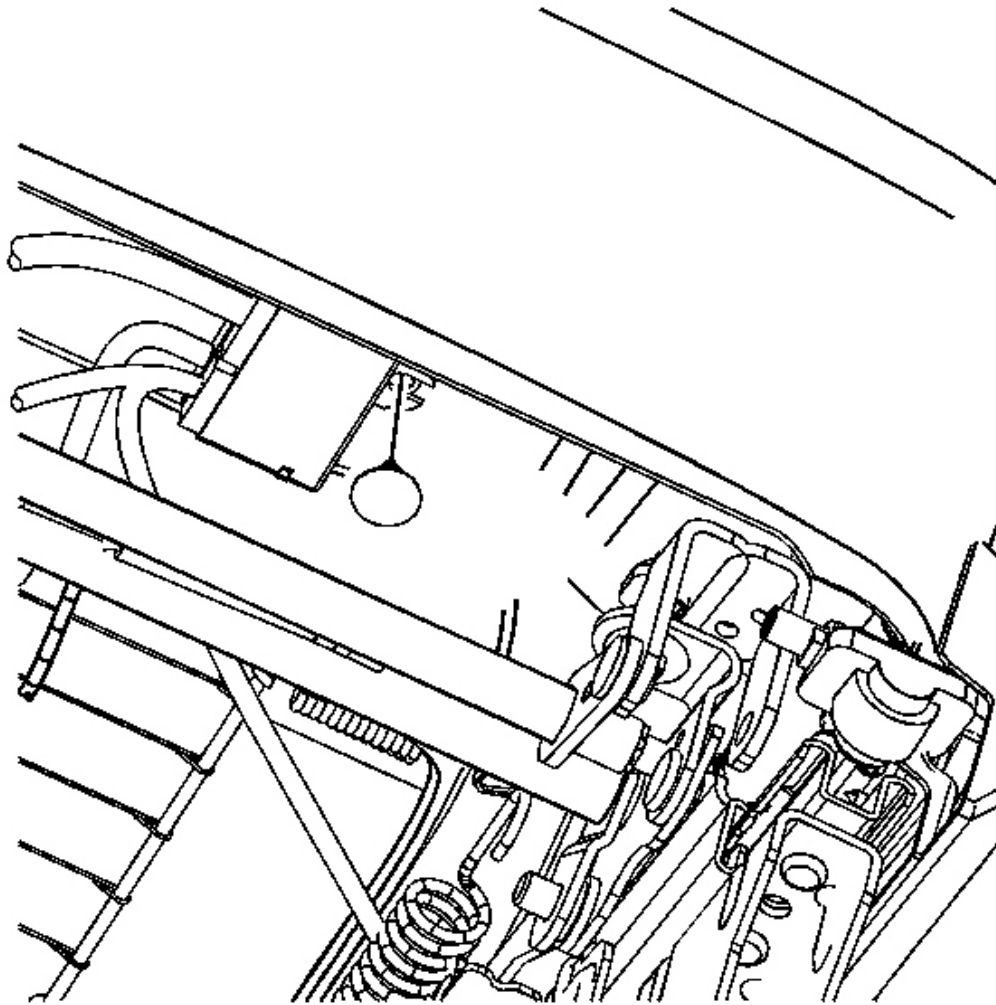


Fig. 135: View Of Front Heated Seat Control Module
Courtesy of GENERAL MOTORS CORP.

2. Install the module with the retainer to the seat pan.
3. Test for proper operation of the seat heater.

HEAD RESTRAINT REPLACEMENT - FRONT SEAT

Removal Procedure

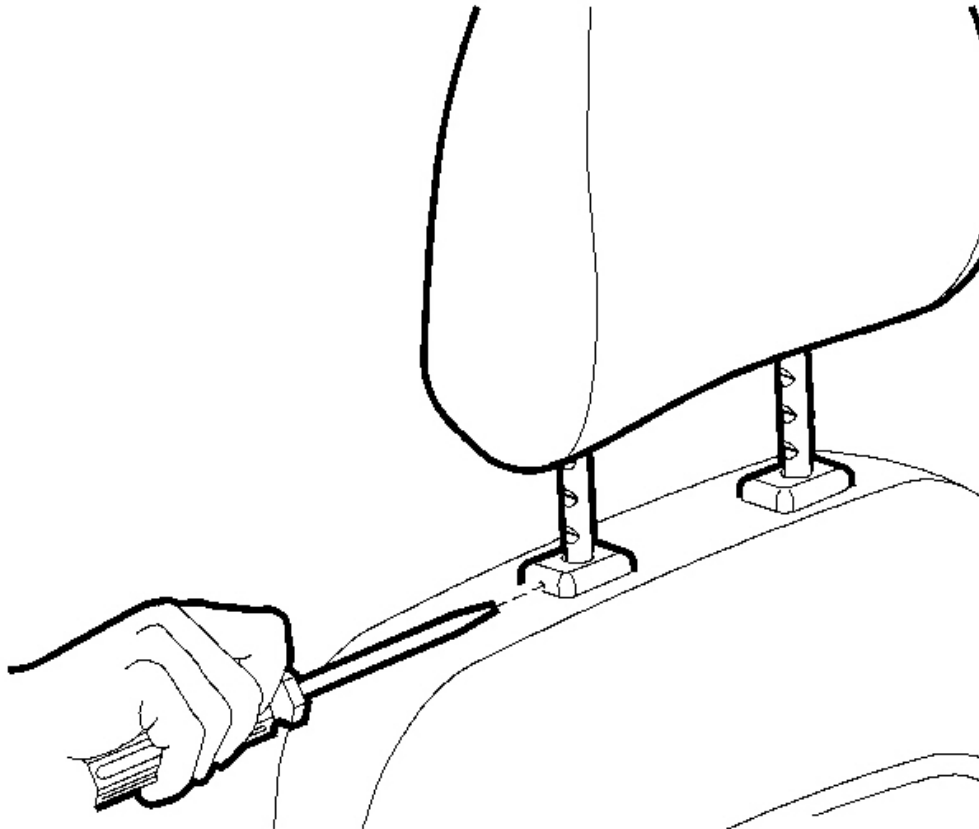


Fig. 136: View Of Front Head Restraint
Courtesy of GENERAL MOTORS CORP.

1. Raise the head restraint to the full-up position.
2. Insert an awl into the guide hole.
3. Pull up to remove the head restraint.

Installation Procedure

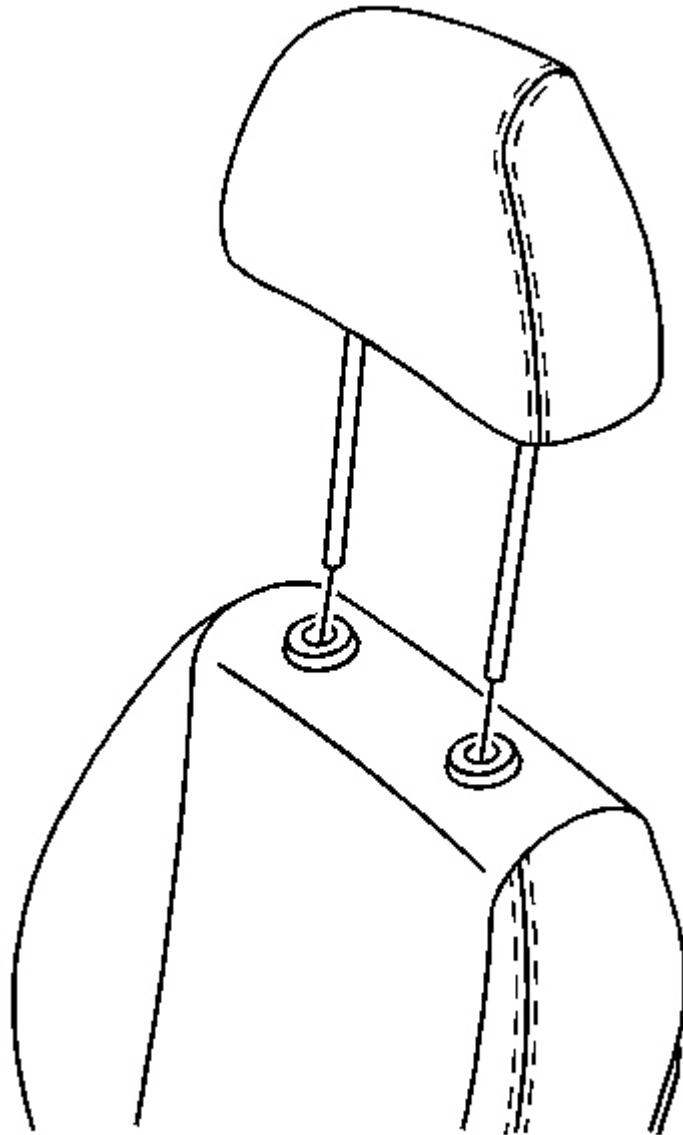


Fig. 137: Positioning Restraint In The Head Restraint Guides
Courtesy of GENERAL MOTORS CORP.

1. Position the restraint in the head restraint guides.
2. Push downward to install the head restraint.
3. Pull up on the restraint to ensure that the restraints are locked in place.

HEAD RESTRAINT GUIDE REPLACEMENT - FRONT SEAT

Removal Procedure

1. Remove the headrest. Refer to **Head Restraint Replacement - Front Seat** .
2. Disconnect the lower J-hook retainer from the seat back trim cover. Refer to **Seat Back Cover and Pad Replacement - Front (Non-Fold Flat)** or **Seat Back Cover and Pad Replacement - Front (Fold Flat)** .

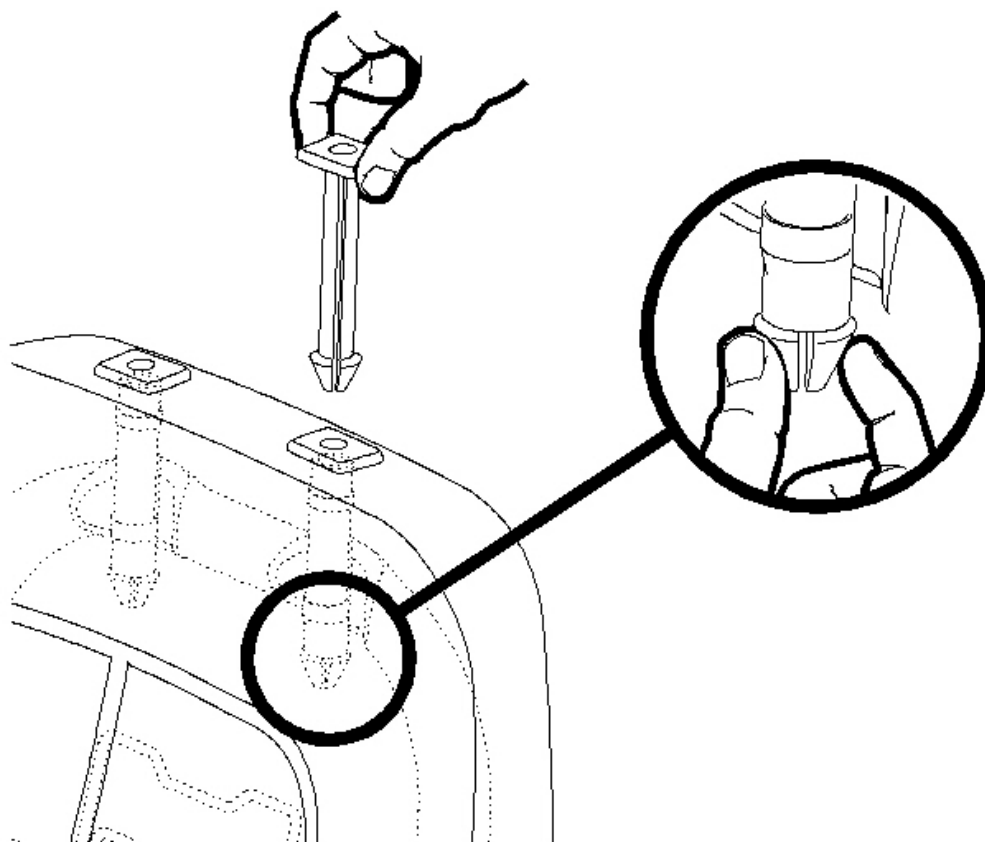


Fig. 138: Removing/Installing Headrest Guides By Pressing Into Position
Courtesy of GENERAL MOTORS CORP.

3. Carefully pull up the trim cover, disengaging the hoop and loop retainers, until the headrest guides are exposed.

4. Squeeze the locking tabs on the headrest guide and pull the guides up and out of the seat back pad.

Installation Procedure

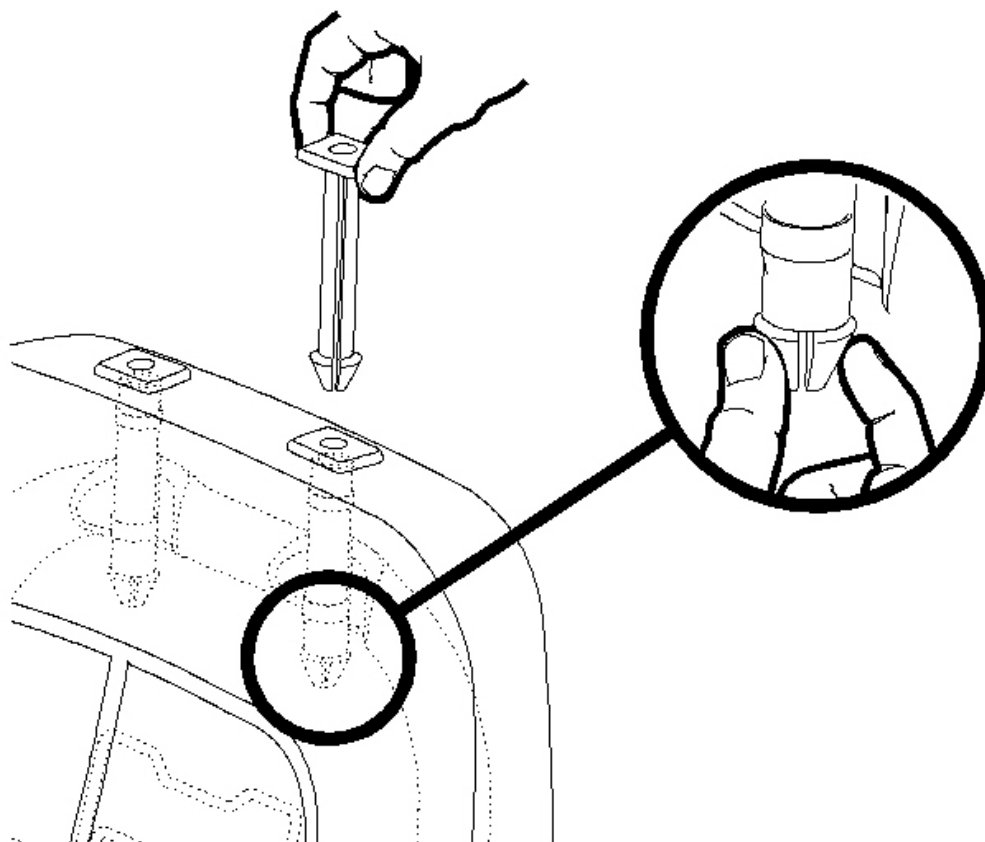


Fig. 139: Removing/Installing Headrest Guides By Pressing Into Position
Courtesy of GENERAL MOTORS CORP.

1. Install the seat back trim cover over the top of the seat back. Refer to **Seat Back Cover and Pad Replacement - Front (Non-Fold Flat)** or **Seat Back Cover and Pad Replacement - Front (Fold Flat)** .
2. Install the headrest guides by pressing the guides into position until the locking tabs engage.
3. Install the headrest. Refer to **Head Restraint Replacement - Front Seat** .

ARMREST REPLACEMENT - FRONT SEAT

Removal Procedure

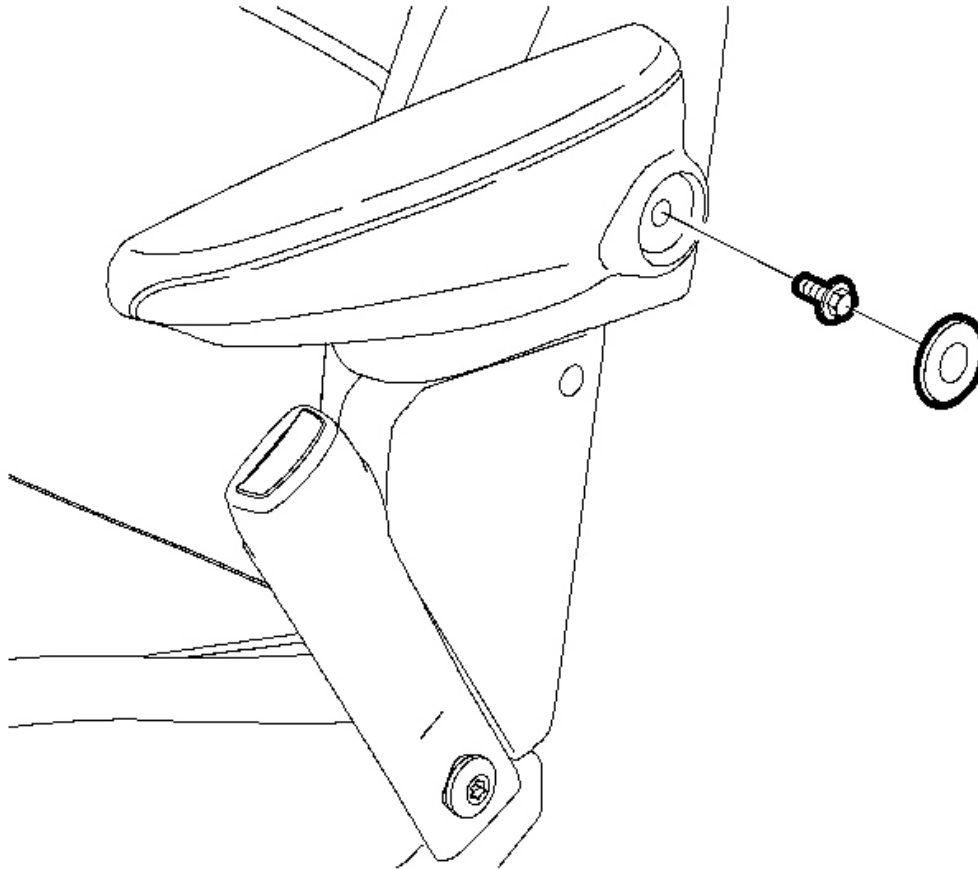


Fig. 140: View Of Front Seat Armrest
Courtesy of GENERAL MOTORS CORP.

1. Using a small flat-bladed tool, remove the armrest fastener cover.
2. Remove the armrest screw.
3. Remove the armrest.

Installation Procedure

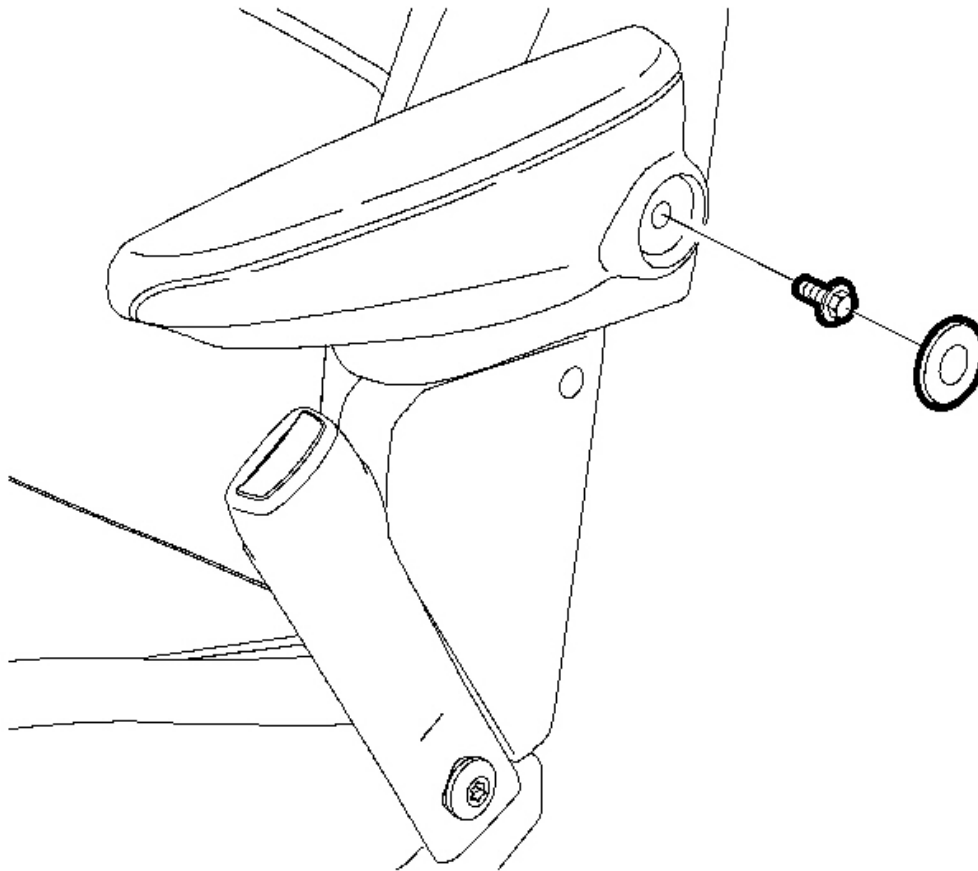


Fig. 141: View Of Front Seat Armrest
Courtesy of GENERAL MOTORS CORP.

1. Position the armrest to the seat.

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

2. Install the armrest screw.

Tighten: Tighten the screw to 30 N.m (22 lb ft).

3. Install the armrest fastener cover.

SEAT REPLACEMENT - REAR

Removal Procedure

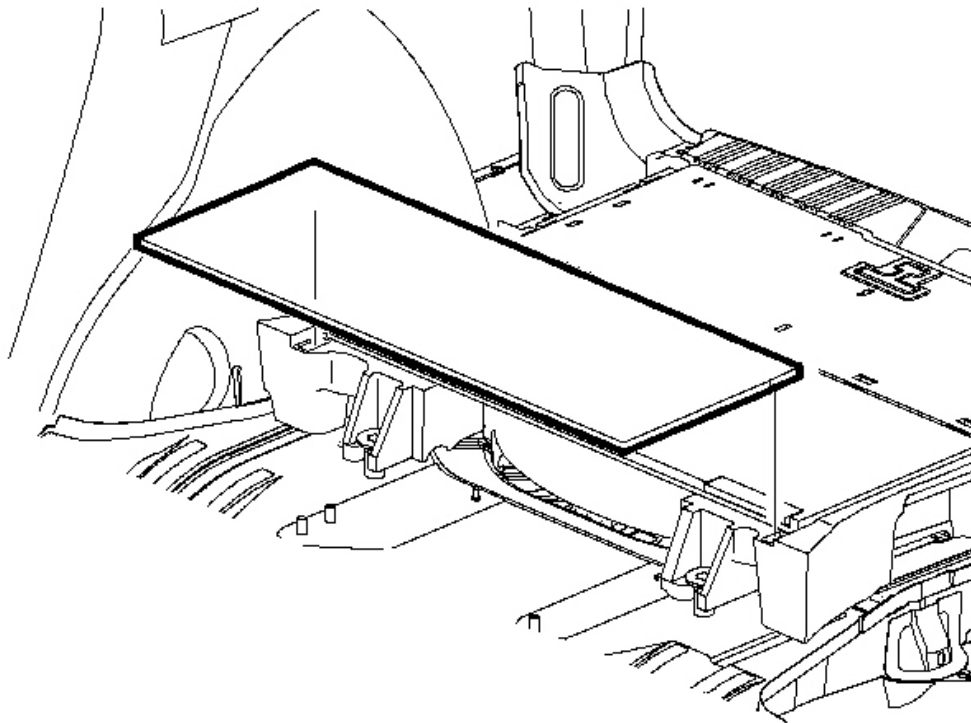


Fig. 142: View Of Rear Seat
Courtesy of GENERAL MOTORS CORP.

1. Remove the forward cover from the load floor to expose the rear seat fasteners.

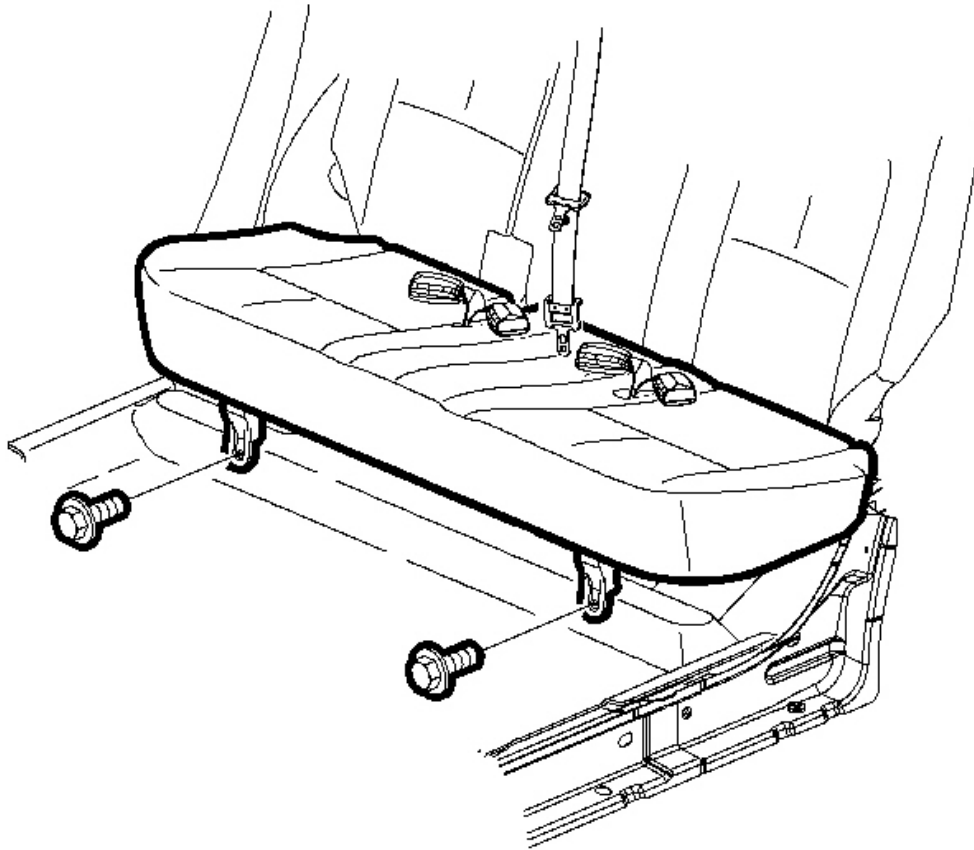


Fig. 143: Removing/Installing Rear Seat Forward Fasteners
Courtesy of GENERAL MOTORS CORP.

2. Remove the rear seat forward fasteners.

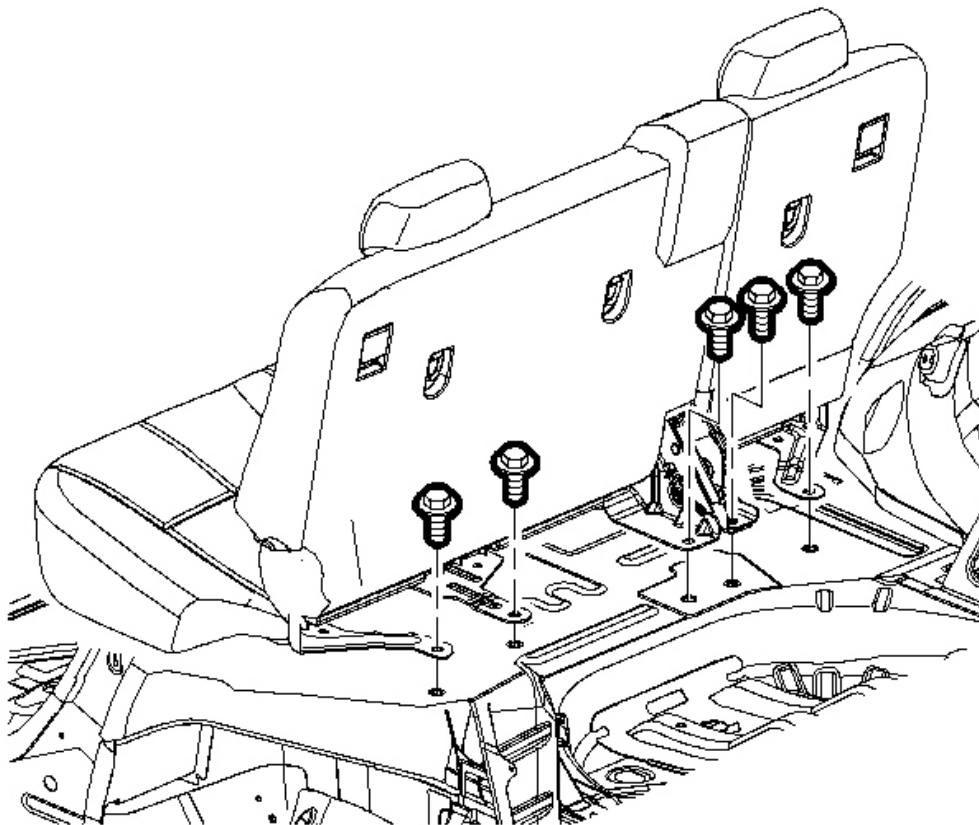


Fig. 144: Removing/Installing Rear Seat Fasteners
Courtesy of GENERAL MOTORS CORP.

3. Remove the rear seat fasteners.
4. Remove the rear seat assembly.

Installation Procedure

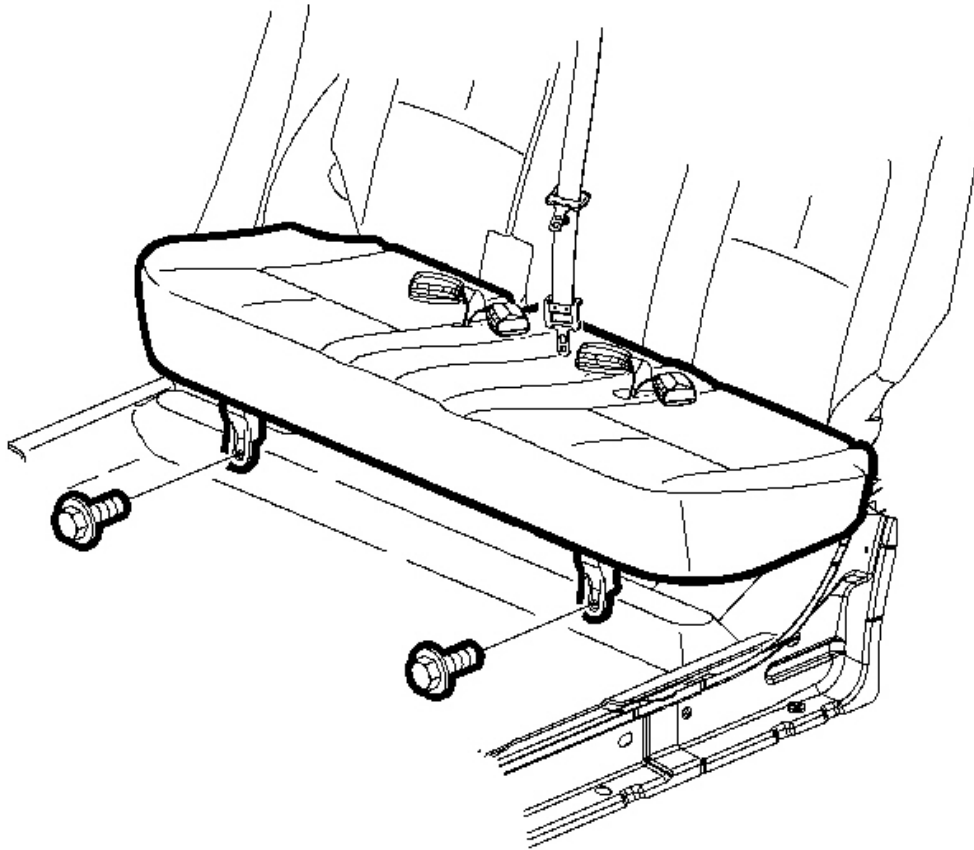


Fig. 145: Removing/Installing Rear Seat Forward Fasteners
Courtesy of GENERAL MOTORS CORP.

1. Position the rear seat to the vehicle.

NOTE: Refer to Fastener Notice in Cautions and Notices.

2. Install the forward fasteners.

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

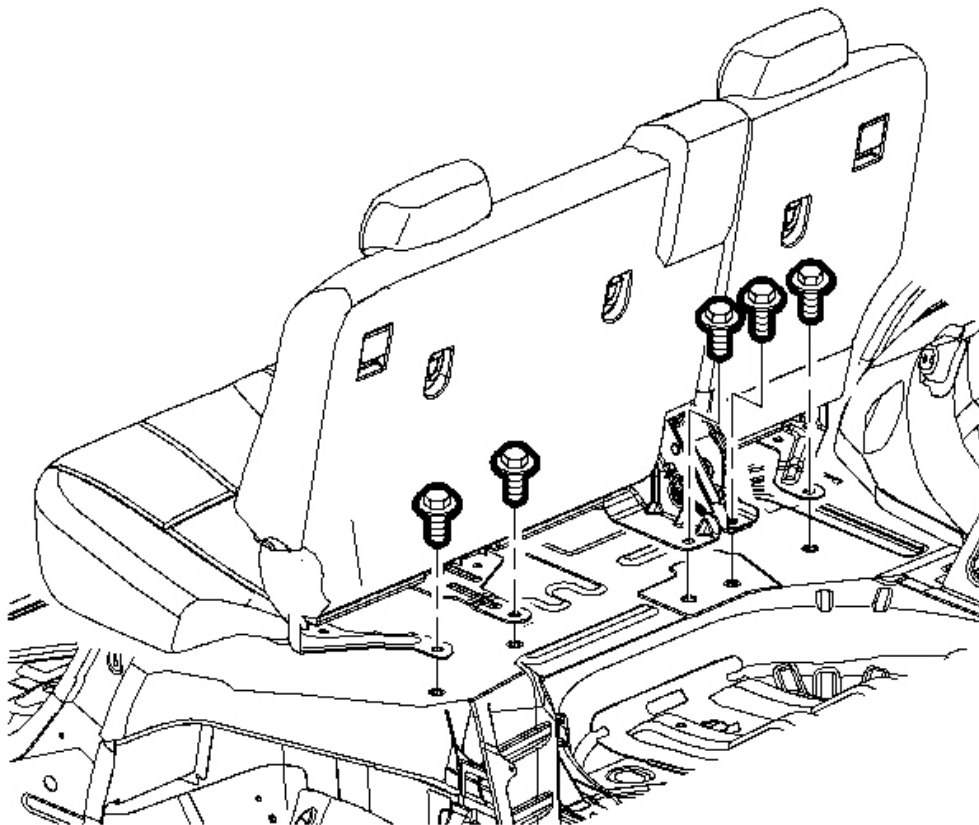


Fig. 146: Removing/Installing Rear Seat Fasteners
Courtesy of GENERAL MOTORS CORP.

3. Install the rear seat fasteners at the back of the seat.

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

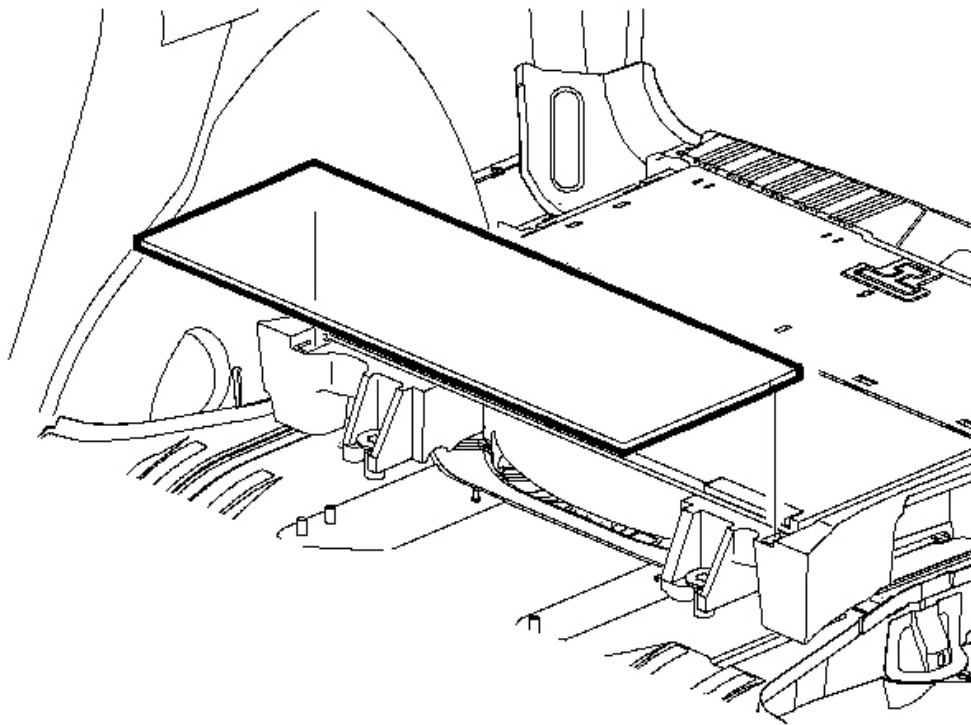


Fig. 147: View Of Rear Seat
Courtesy of GENERAL MOTORS CORP.

4. Position the load floor forward cover. Push down at the hook and loop locations to secure the load floor to the vehicle.

SEAT CUSHION COVER AND PAD REPLACEMENT - REAR

Removal Procedure

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

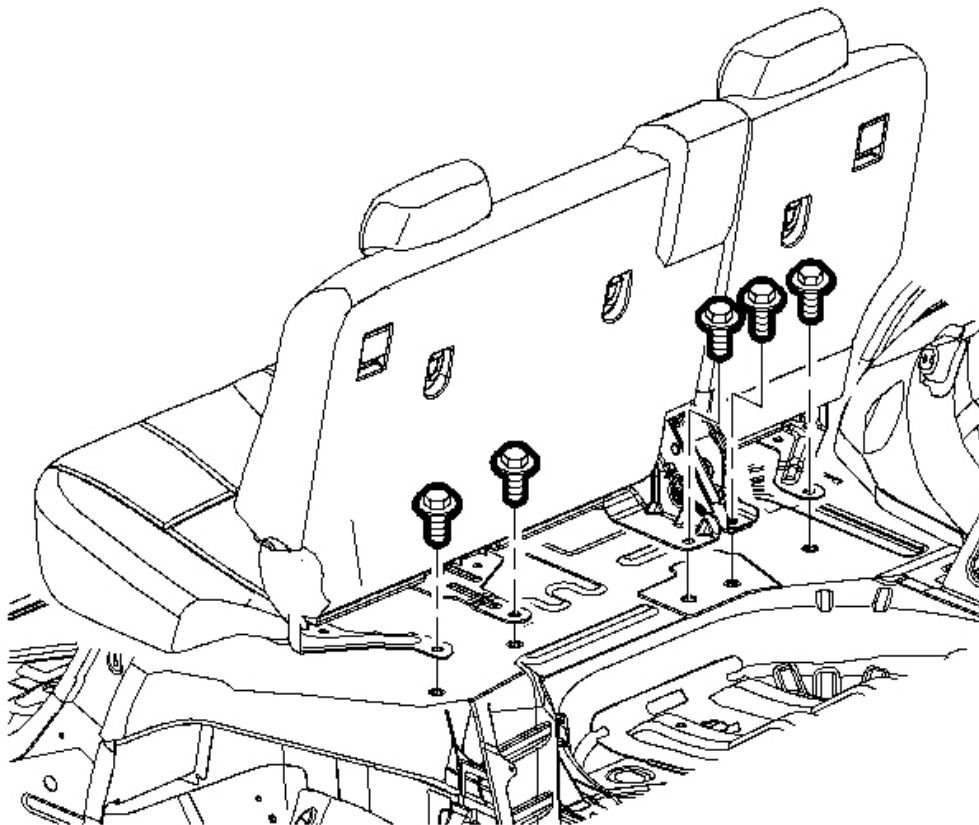


Fig. 148: Removing/Installing Rear Seat Fasteners
Courtesy of GENERAL MOTORS CORP.

2. Remove the anchor bolts from the rear seat buckle.

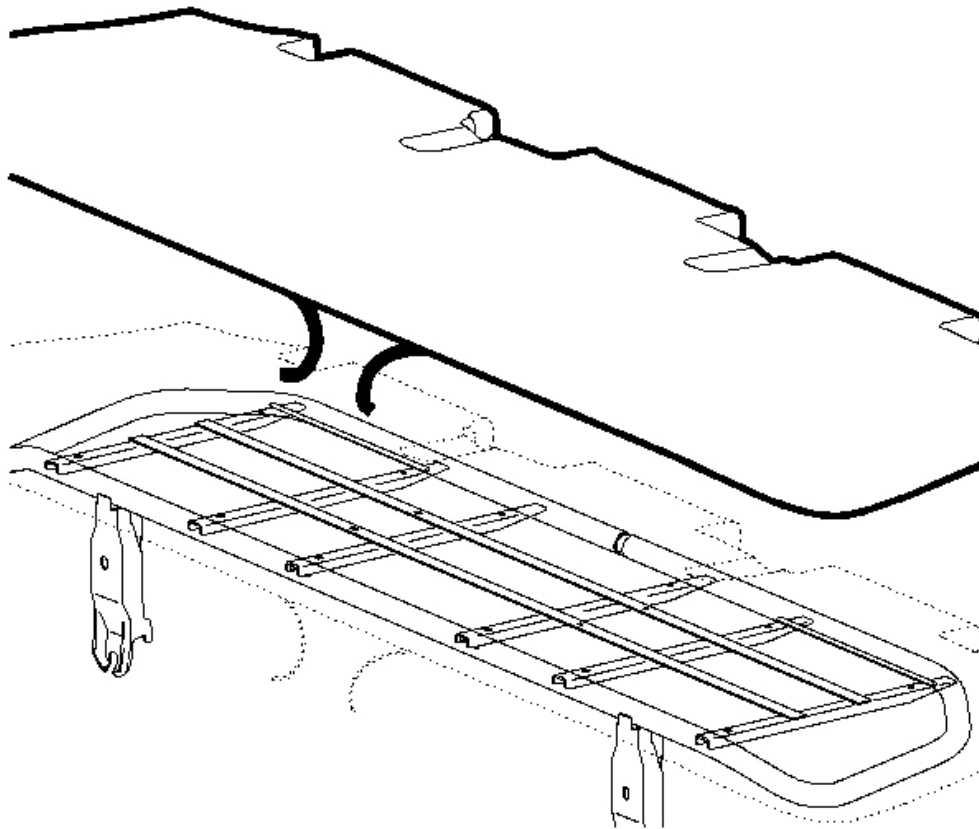


Fig. 149: View Of Seat Cushion Cover & Pad
Courtesy of GENERAL MOTORS CORP.

3. Turn the seat over.
4. Disengage the cushion drawstring retainers from the rear seat cushion frame.
5. Disconnect the remaining cushion cover retainers from the rear seat cushion frame.
6. Feed the anchor through to the top of the seat cushion.
7. Pull the seat cushion cover and pad over the latch locations.
8. Remove the seat cushion cover and pad from the frame.
9. Remove the seat cushion cover from the pad by carefully disengaging the hook and loop fasteners.

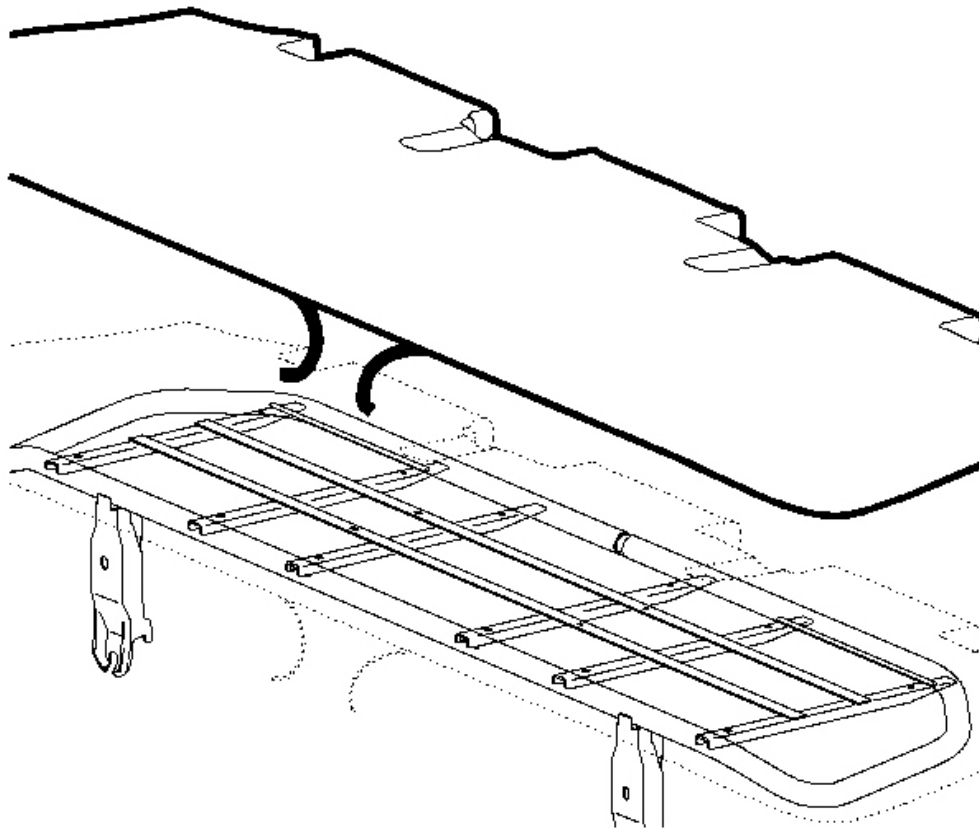


Fig. 150: View Of Seat Cushion Cover & Pad
Courtesy of GENERAL MOTORS CORP.

1. Install the trim cover to the pad. Engage the hook and loop locations by pressing firmly.
2. Position the seat cushion cover and pad to the frame.
3. Tuck the seat cushion cover into the seat belt buckle opening.
4. Insert the anchor plates for the seat belt buckle through the cushion.
5. Attach the cushion cover retainers to the seat frame.
6. Pull on the drawstring and connect the drawstring retainer to the cushion frame.

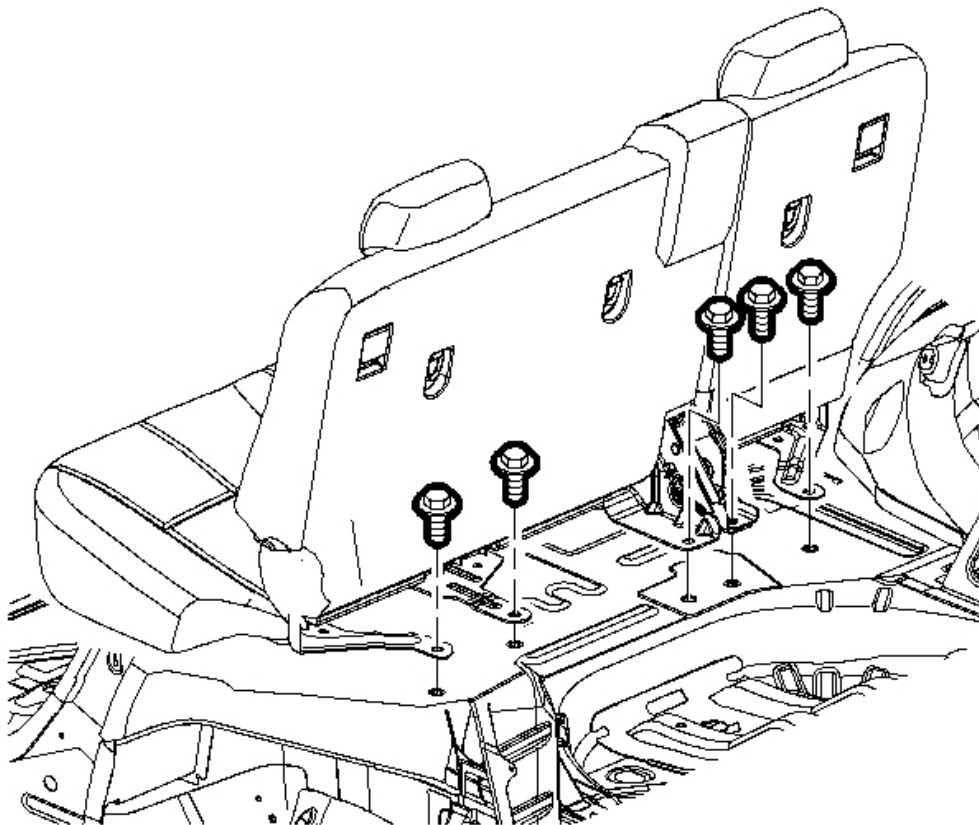


Fig. 151: Removing/Installing Rear Seat Fasteners
Courtesy of GENERAL MOTORS CORP.

NOTE: Refer to Fastener Notice in Cautions and Notices.

7. Install the anchor bolts to the rear seat buckle.

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

8. Install the rear seat. Refer to Seat Replacement - Rear .

Removal Procedure

1. Remove the rear seat assembly. Refer to **Seat Replacement - Rear** .
2. Remove the headrest. Refer to **Head Restraint Replacement - Front Seat** .

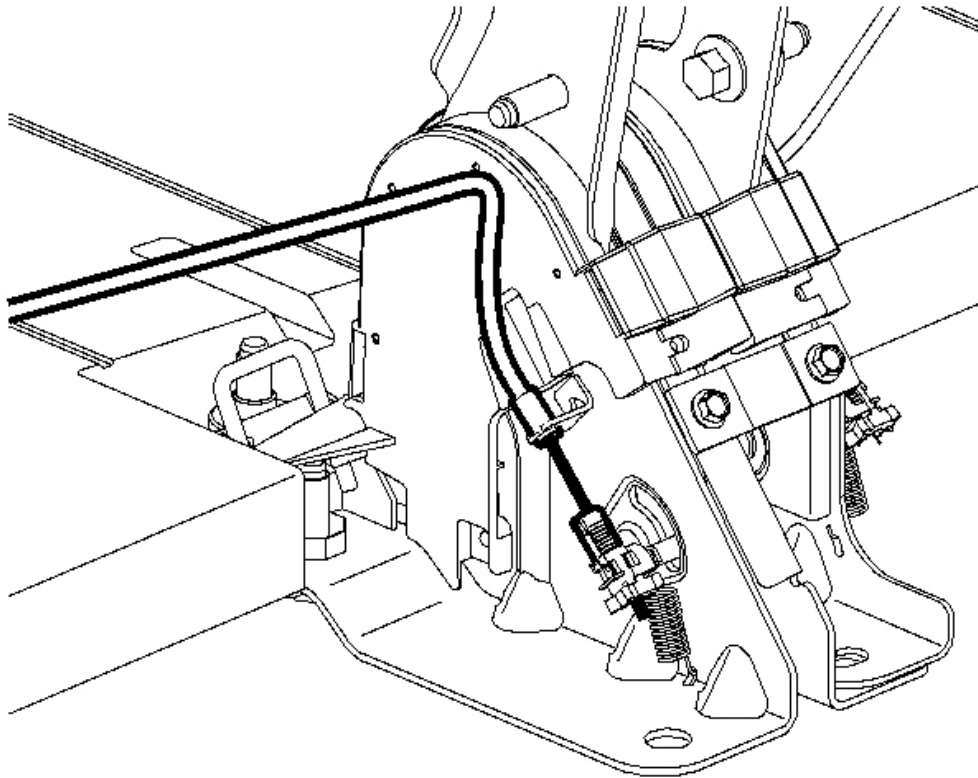


Fig. 152: Disconnecting/Connecting Seat Recliner Cable
Courtesy of GENERAL MOTORS CORP.

3. Disengage the handle clip from the rear seat recliner by pulling on the locking feature.
4. Disengage the cable from the recliner assembly.

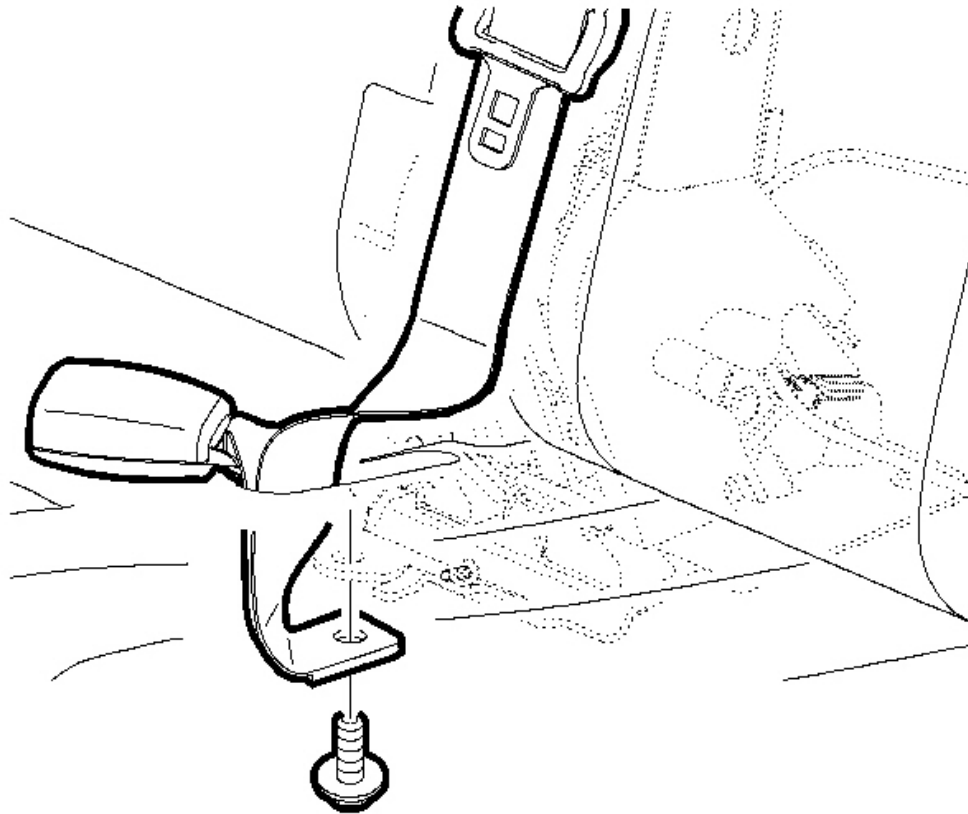


Fig. 153: Removing/Installing Shoulder Belt Anchor Bolt & Plate
Courtesy of GENERAL MOTORS CORP.

5. Remove the shoulder belt fastener and remove the shoulder belt from the cushion.

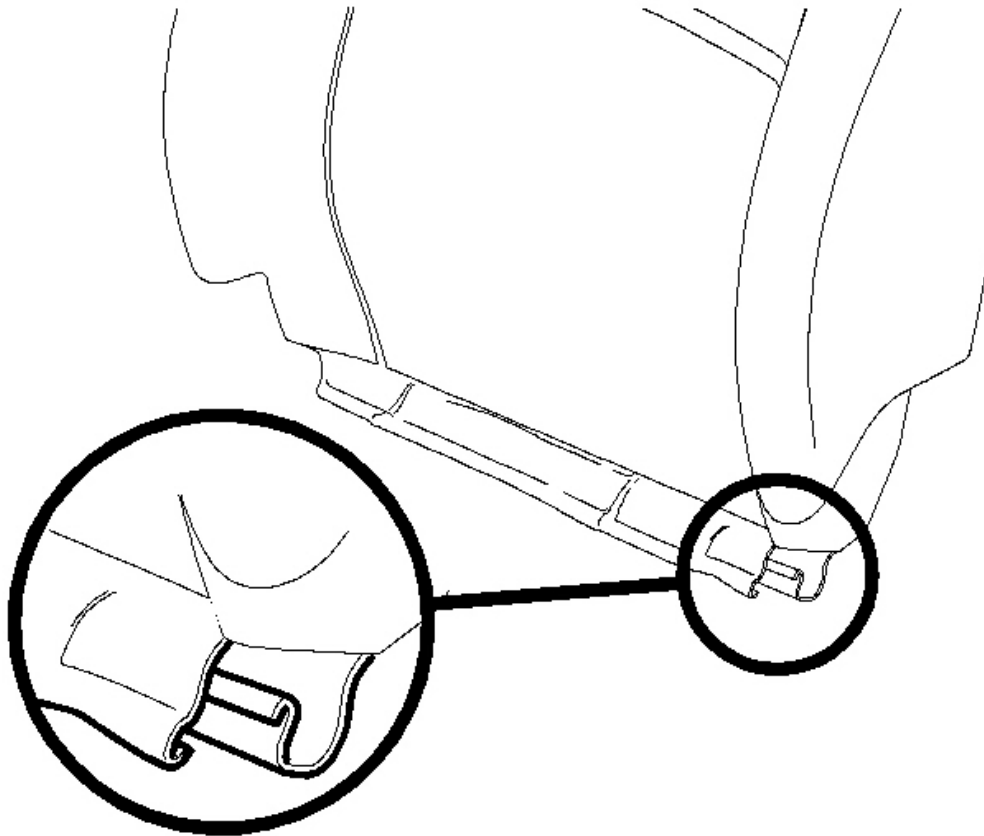


Fig. 154: View Of Lower J-Hook Retainer
Courtesy of GENERAL MOTORS CORP.

6. Release the seat back cover by disengaging the bottom J-strip.
7. Remove the seat back outer fasteners.

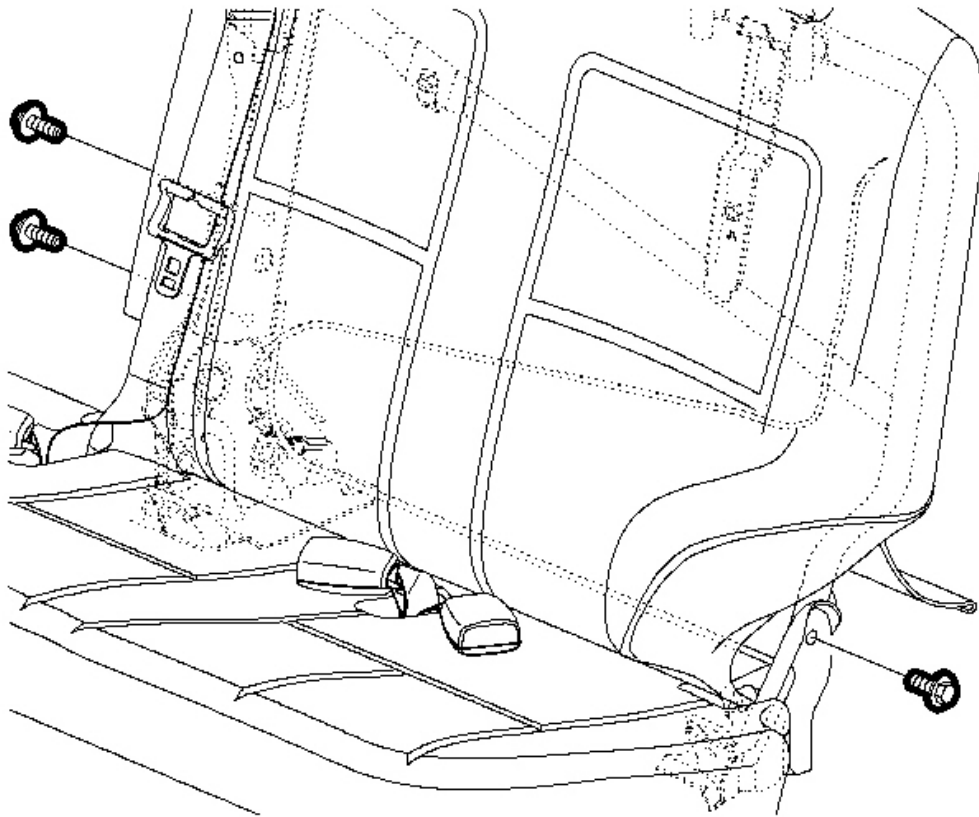


Fig. 155: Removing/Installing Inboard Side Fasteners
Courtesy of GENERAL MOTORS CORP.

8. Pull the seat cover up to expose the seat back fasteners.
9. Remove the inner fasteners.
10. Remove the seat back from the seat cushion frame.

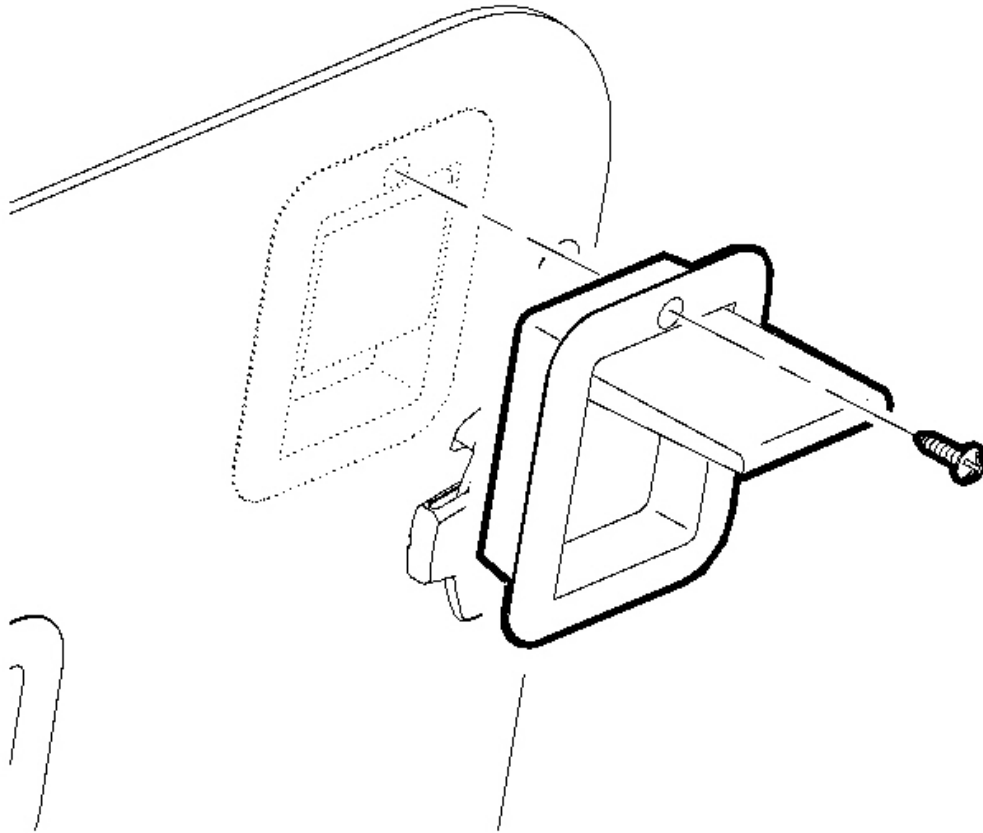


Fig. 156: Removing/Installing Fastener From The Rear Seat Back Latch
Courtesy of GENERAL MOTORS CORP.

11. Remove the recliner handle fastener, then pull the recliner handle out of the seat back.

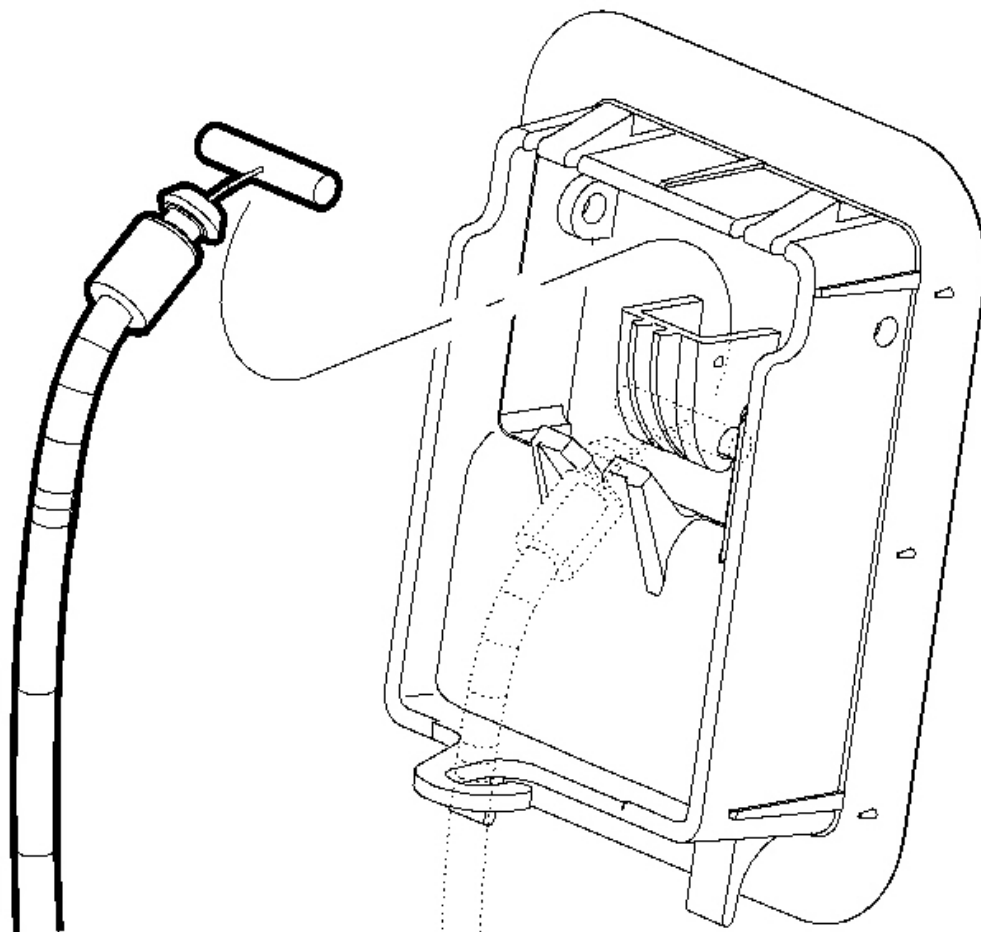


Fig. 157: Disconnecting/Connecting Retractor Cable
Courtesy of GENERAL MOTORS CORP.

12. Disconnect the retractor cable from the retractor handle.

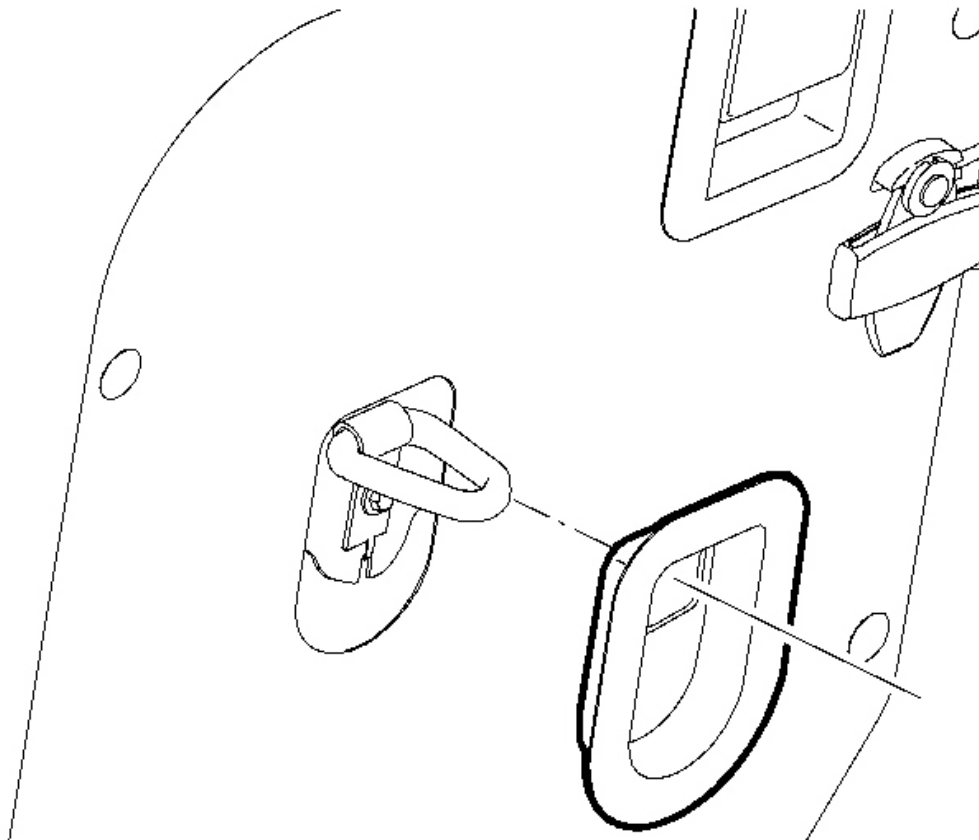


Fig. 158: Removing/Installing Child Tether Anchor Escutcheon
Courtesy of GENERAL MOTORS CORP.

13. Remove the anchor escutcheon to the child seat tether by gently pulling at the sides of the escutcheon.

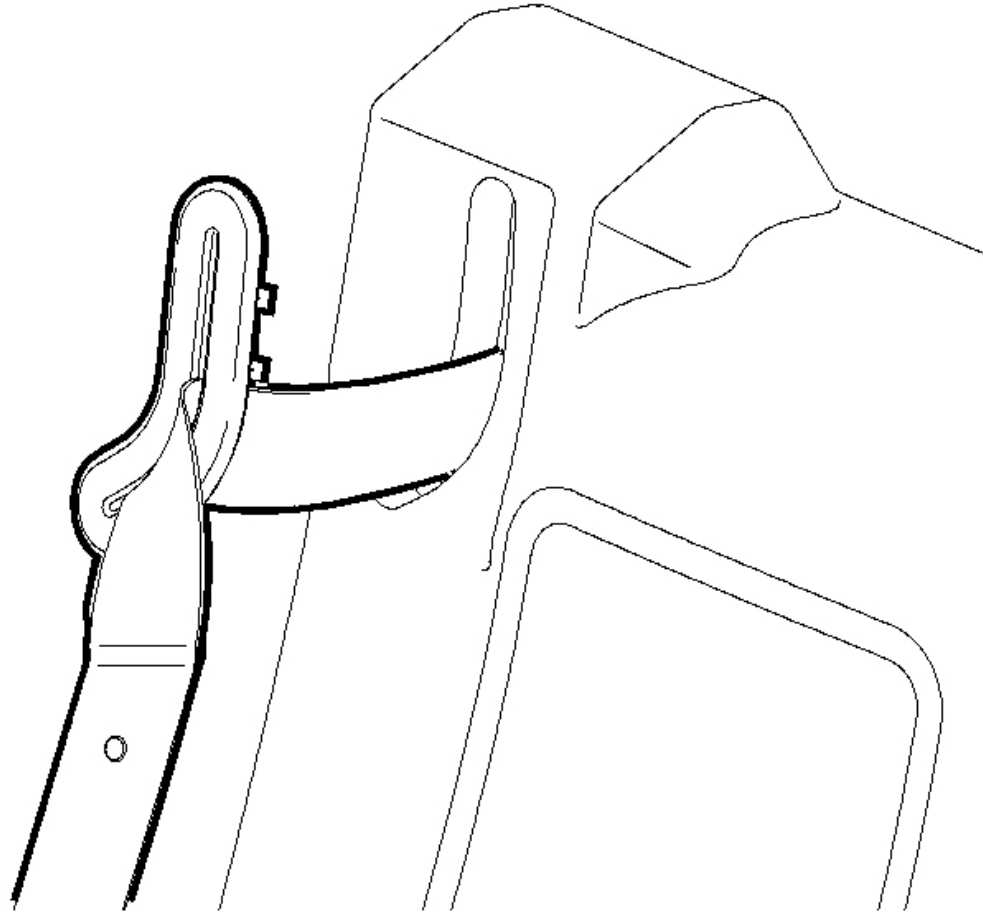


Fig. 159: Identifying Shoulder Belt & Escutcheon Through Rear Seat Back Cover
Courtesy of GENERAL MOTORS CORP.

14. Unsnap the shoulder belt bezel from the rear seat back by using a small flat-bladed tool to pry the locking tabs on the outboard side of the bezel. Slide the bezel outboard away from the seat back.

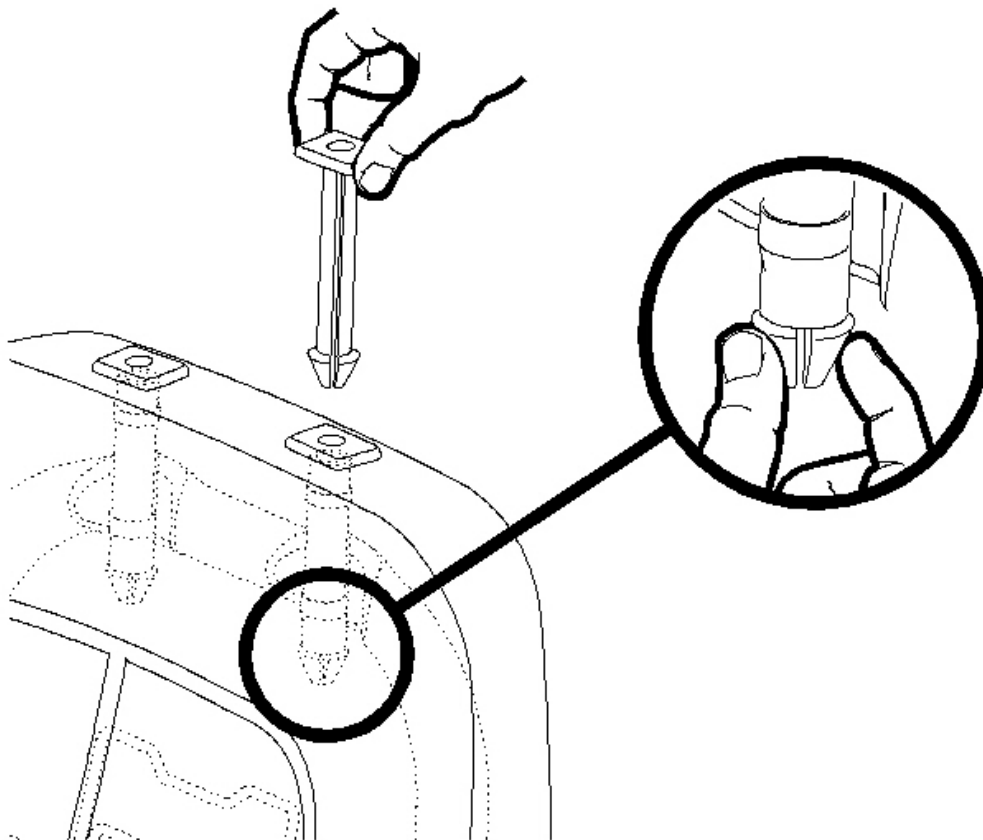


Fig. 160: Removing/Installing Headrest Guides By Pressing Into Position
Courtesy of GENERAL MOTORS CORP.

15. Pull up on the rear seat back cover, carefully disengaging the hook and loop retainers.
16. Lift the back panel to access the headrest guides.
17. Remove the headrest guides by pinching the tabs at the base of the guide while pulling up.

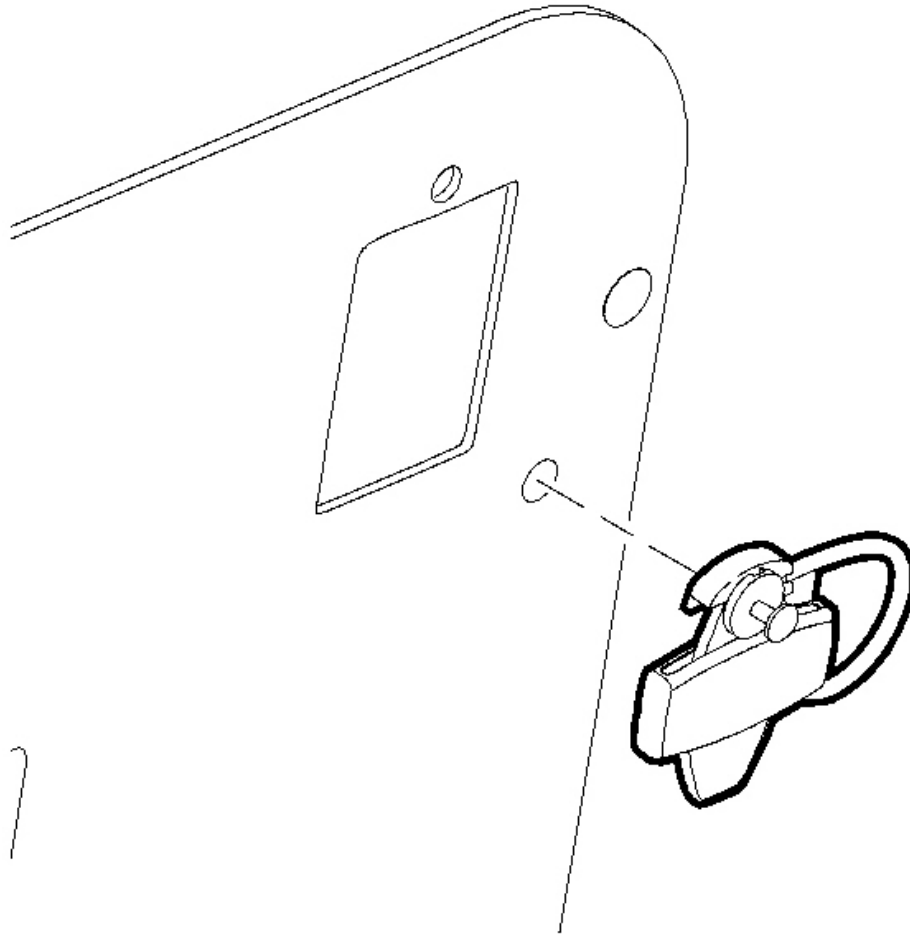


Fig. 161: Removing/Installing Child Comfort Guide
Courtesy of GENERAL MOTORS CORP.

18. Remove the child comfort guide, if equipped.
19. Lift the seat back trim cover off of the rear seat back frame.
20. Feed the seat belt webbing and the escutcheon through the trim cover.

Installation Procedure

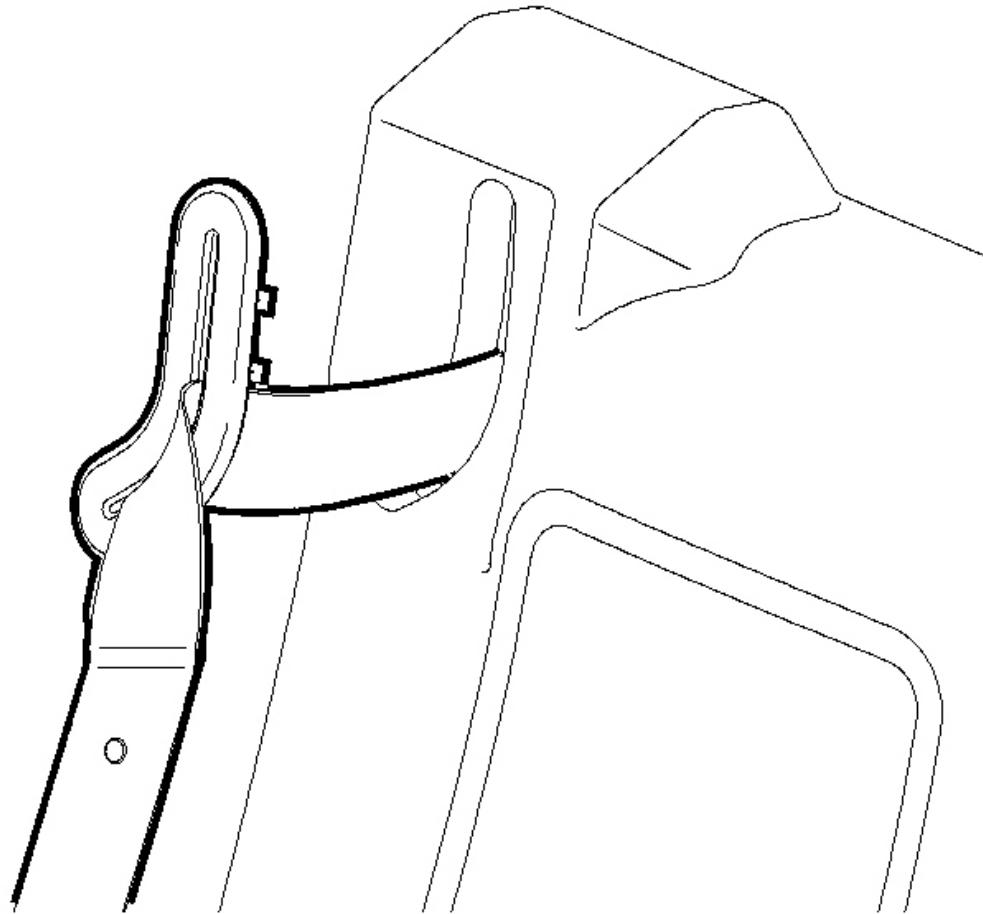


Fig. 162: Identifying Shoulder Belt & Escutcheon Through Rear Seat Back Cover
Courtesy of GENERAL MOTORS CORP.

1. If a new frame is required, transfer the seat back panel, the recliner cable, and the pad to the new seat back frame. Transfer the child top tether anchor. Refer to **Child Restraint Tether Anchor Replacement (Early Production)** in Seat Belts.
2. Route the shoulder belt and the escutcheon through the rear seat back cover. Install the cover over the top of the seat back.
3. Slide the inboard bezel tabs onto the seat. Press the outboard side until the bezel snaps into place.
4. Route the recliner cable between the back panel and the pad.

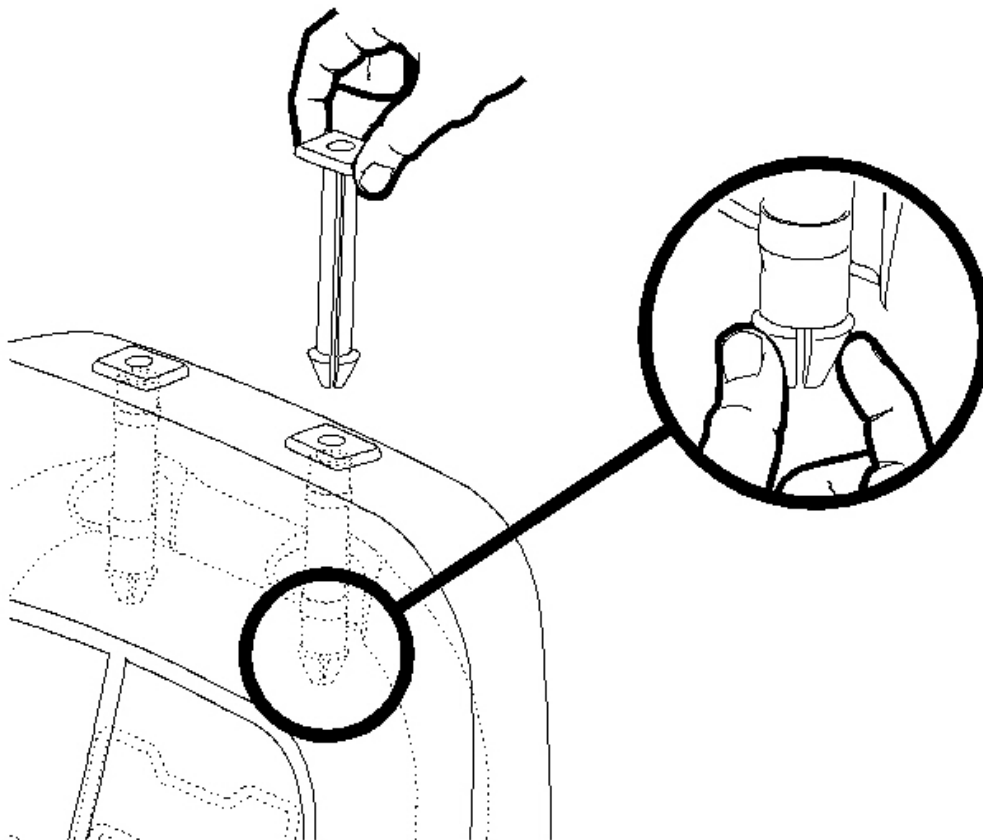


Fig. 163: Removing/Installing Headrest Guides By Pressing Into Position
Courtesy of GENERAL MOTORS CORP.

5. Install the headrest guides by pushing down until the locking tabs engage.

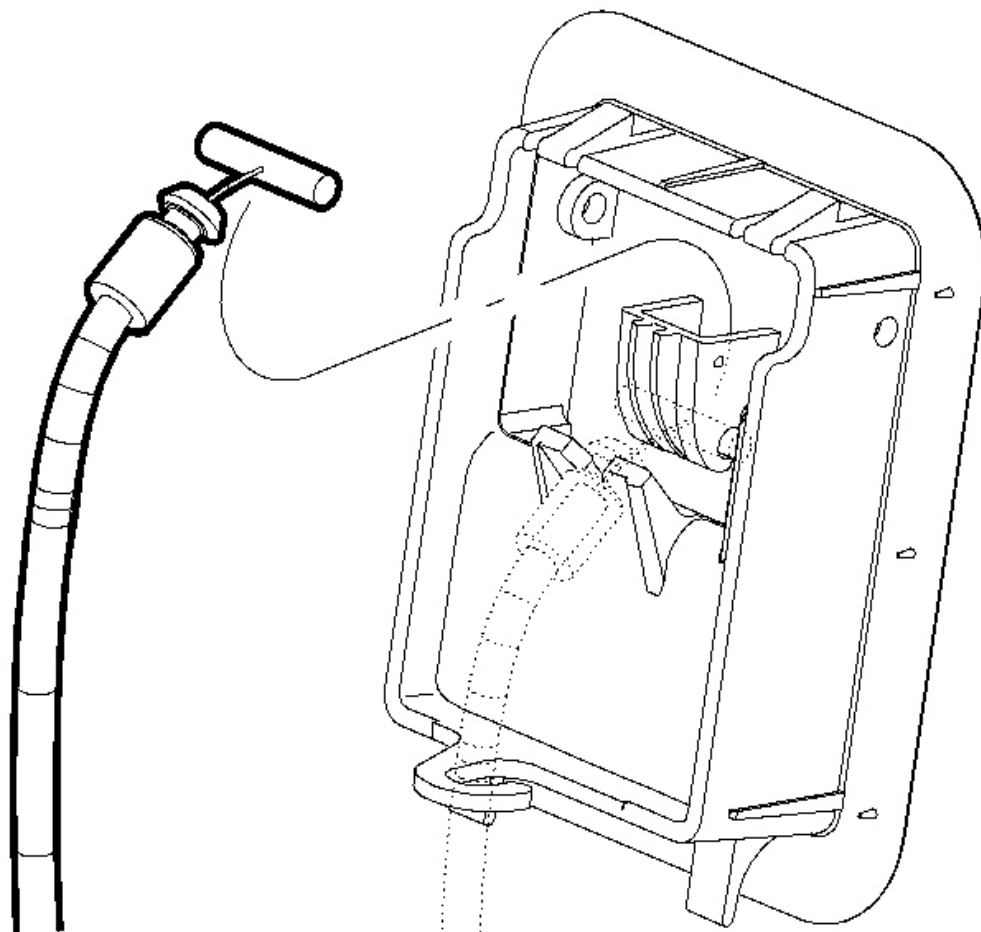


Fig. 164: Disconnecting/Connecting Recliner Cable
Courtesy of GENERAL MOTORS CORP.

6. Connect the recliner handle to the recliner cable.

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

7. Install the recliner handle screw.

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

8. Continue to install the seat back trim cover. Engage the hook and loop locations by pressing firmly.

9. Install the seat back assembly to the recliner assembly and secure with the bolts.

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

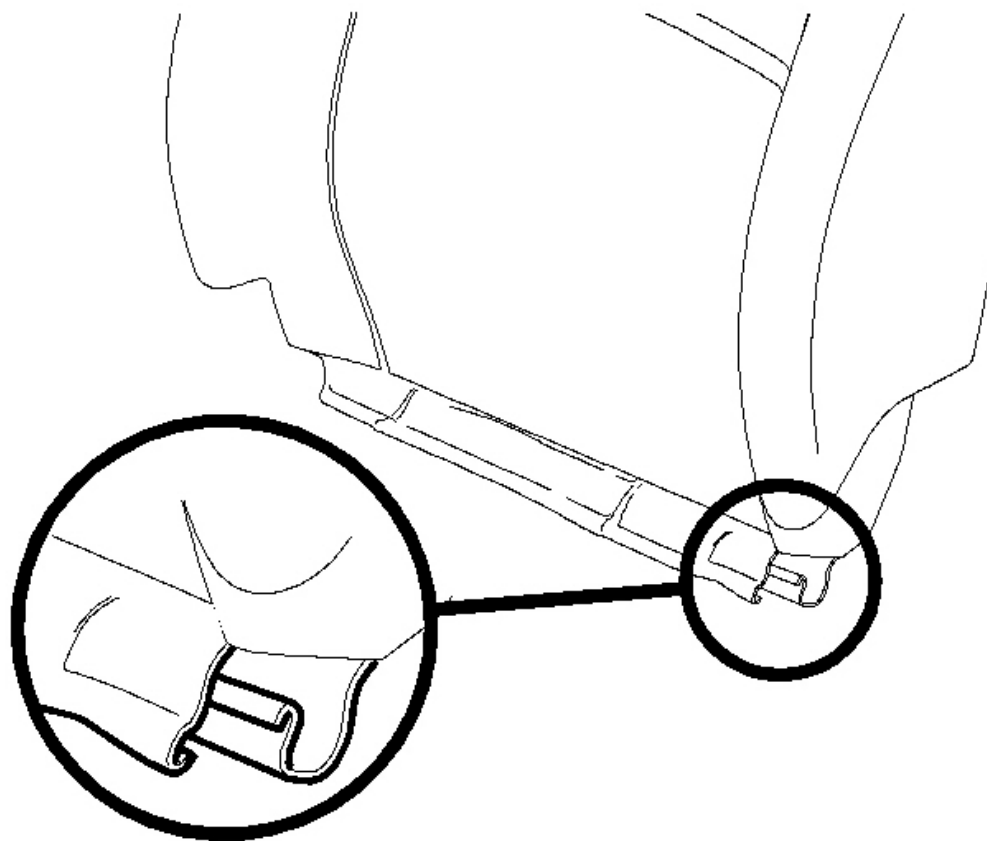


Fig. 165: View Of Lower J-Hook Retainer
Courtesy of GENERAL MOTORS CORP.

10. Connect the rear seat back J-hook retainers.

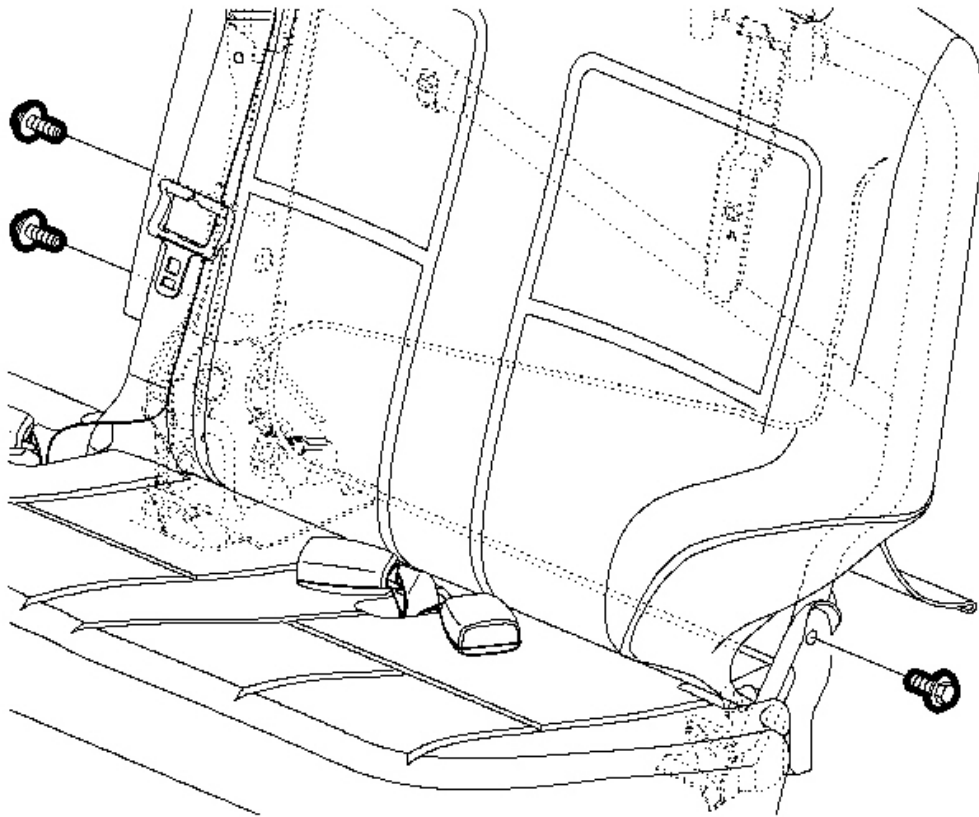


Fig. 166: Removing/Installing Inboard Side Fasteners
Courtesy of GENERAL MOTORS CORP.

11. Install the rear seat back assembly to the rear seat cushion frame at the outer location.

Tighten: Tighten the bolt to 44 N.m (33 lb ft).

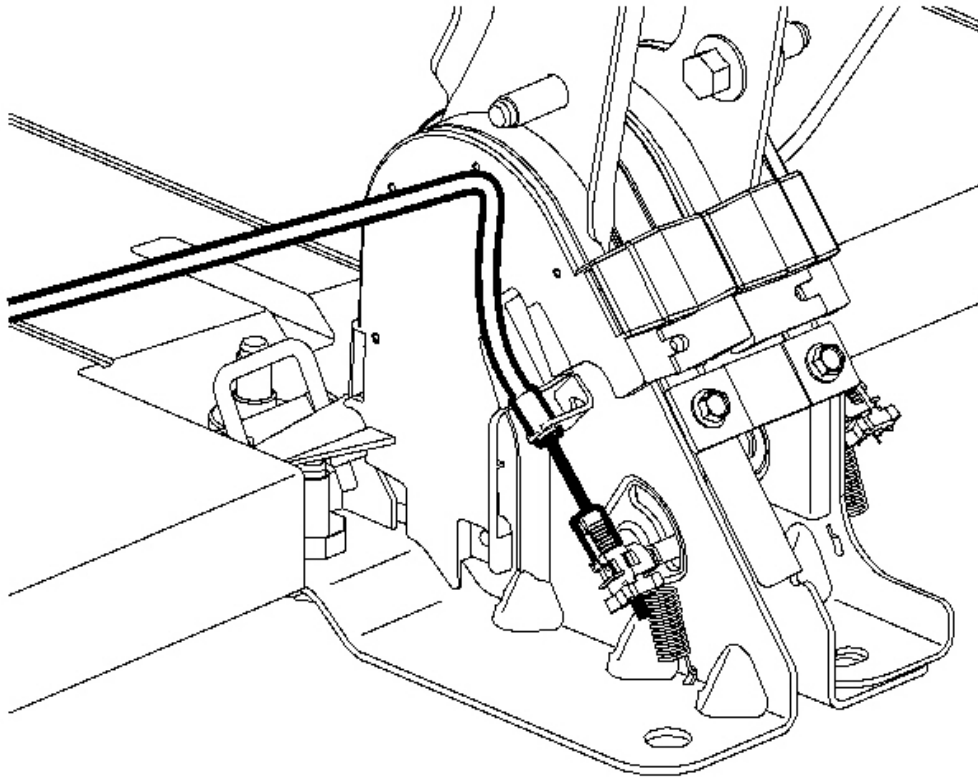


Fig. 167: Disconnecting/Connecting Seat Recliner Cable
Courtesy of GENERAL MOTORS CORP.

12. Install the recliner handle cable to the recliner clip and release the mechanism.

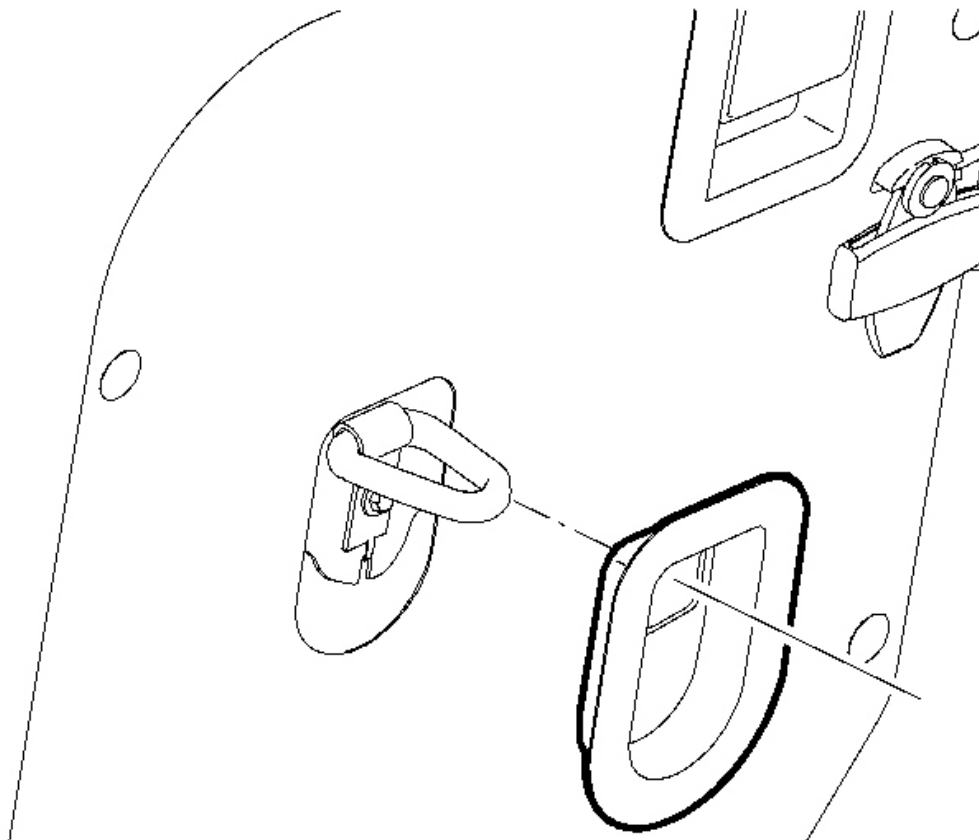


Fig. 168: Removing/Installing Child Tether Anchor Escutcheon
Courtesy of GENERAL MOTORS CORP.

13. Install the child tether anchor escutcheon.
14. Install the headrest. Refer to **Head Restraint Replacement - Front Seat** .

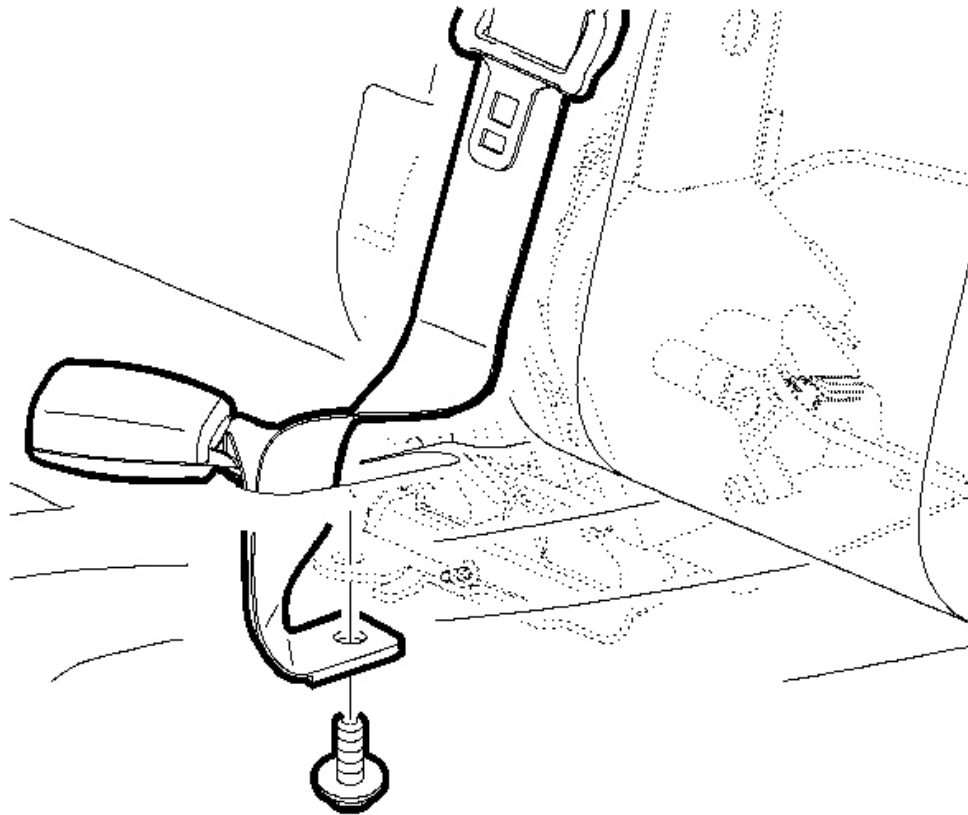


Fig. 169: Removing/Installing Shoulder Belt Anchor Bolt & Plate
Courtesy of GENERAL MOTORS CORP.

15. Route the shoulder belt through the seat cushion and install with the fastener.

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

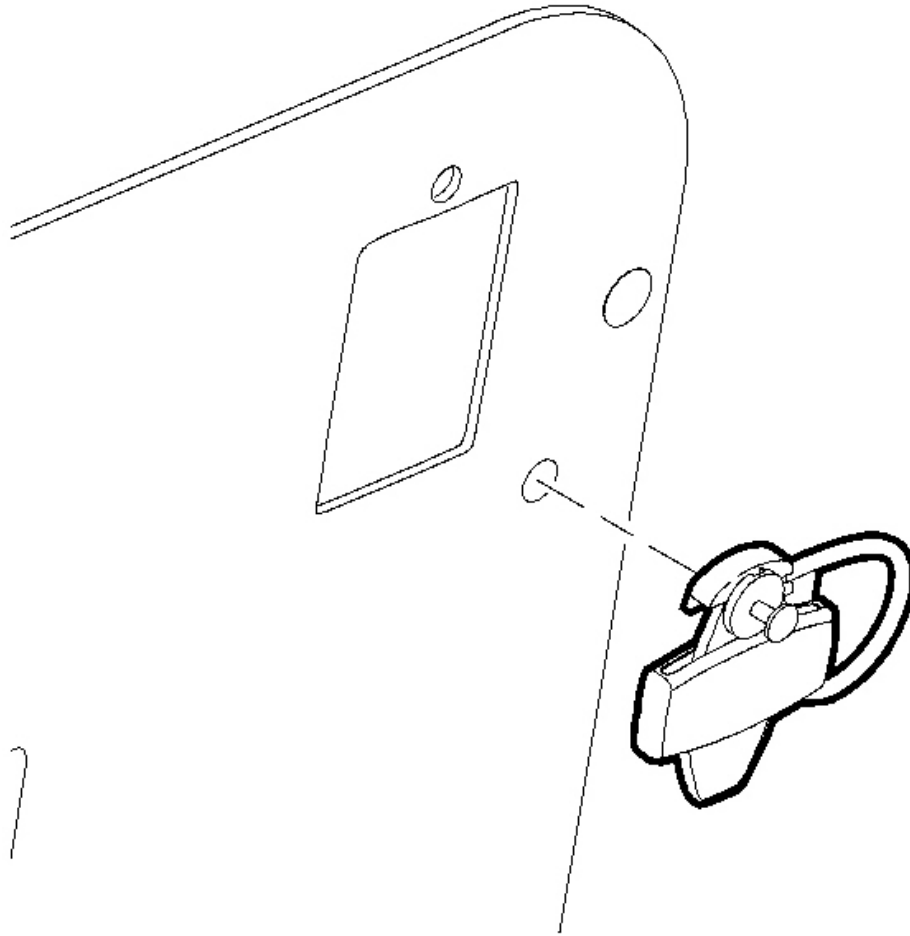


Fig. 170: Removing/Installing Child Comfort Guide
Courtesy of GENERAL MOTORS CORP.

16. Install the child comfort guide.
17. Install the rear seat to the vehicle. Refer to **Seat Replacement - Rear** .

SEAT BACK COVER AND PAD REPLACEMENT - REAR (PASSENGER SIDE, 40 PERCENT)

Removal Procedure

1. Remove the rear seat assembly. Refer to **Seat Replacement - Rear** .
2. Lower the rear seat back.

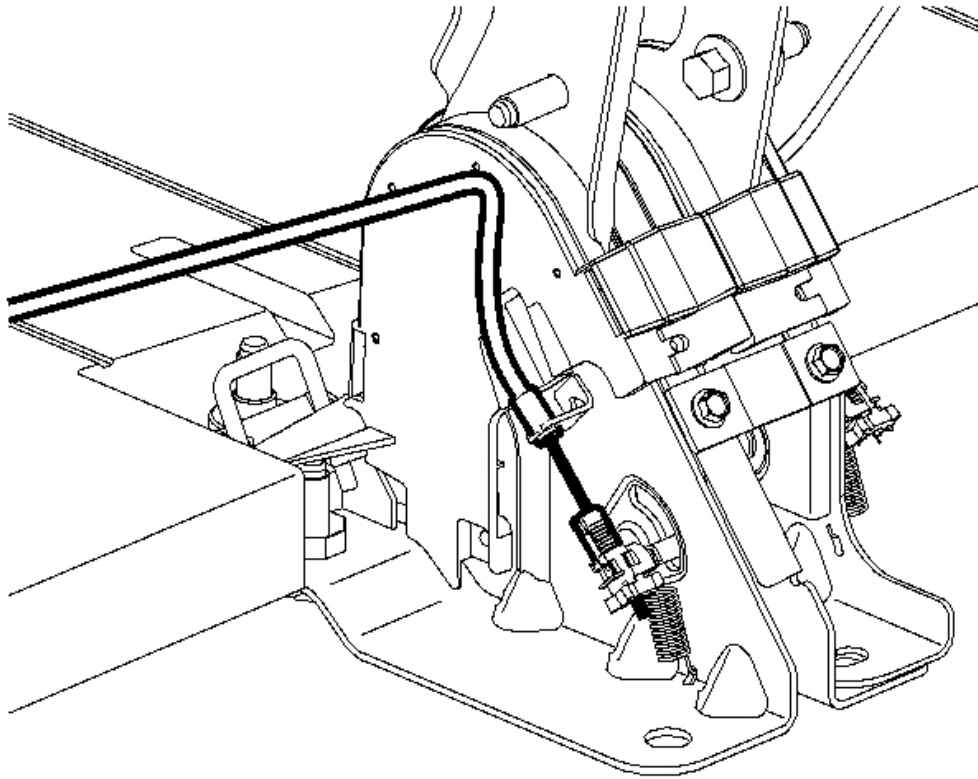


Fig. 171: Disconnecting/Connecting Seat Recliner Cable
Courtesy of GENERAL MOTORS CORP.

3. Disengage the handle clip from the rear seat recliner by pulling on the locking feature.
4. Disengage the cable from the recliner assembly.

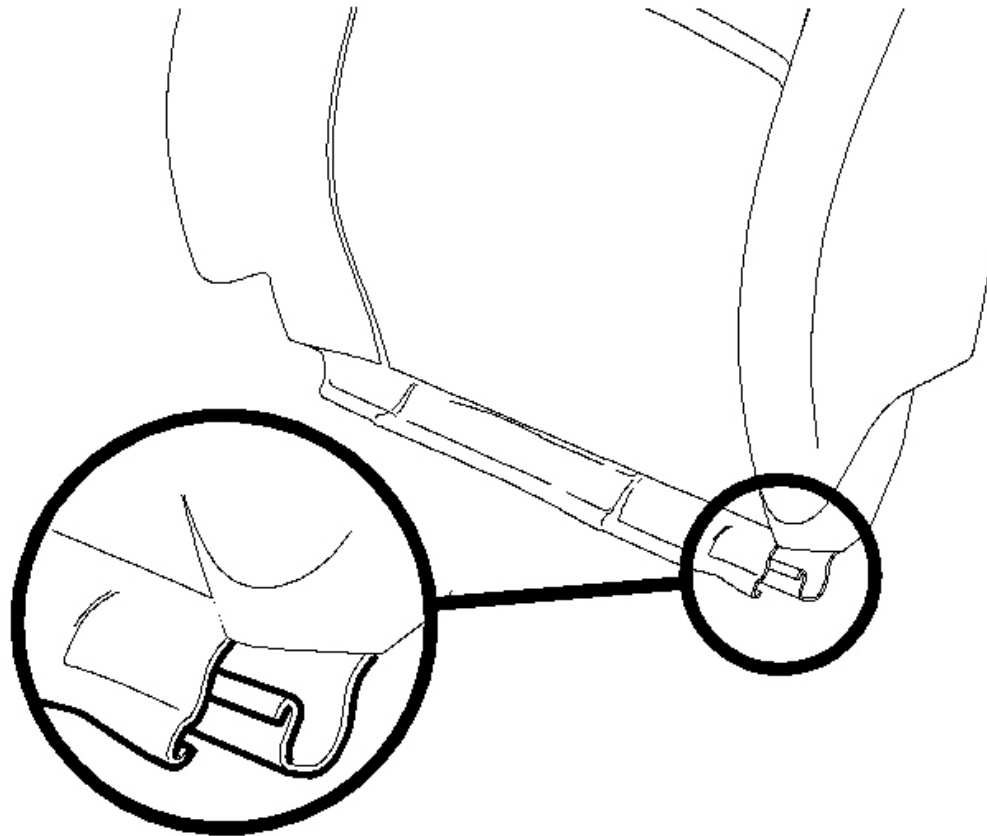


Fig. 172: View Of Lower J-Hook Retainer
Courtesy of GENERAL MOTORS CORP.

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

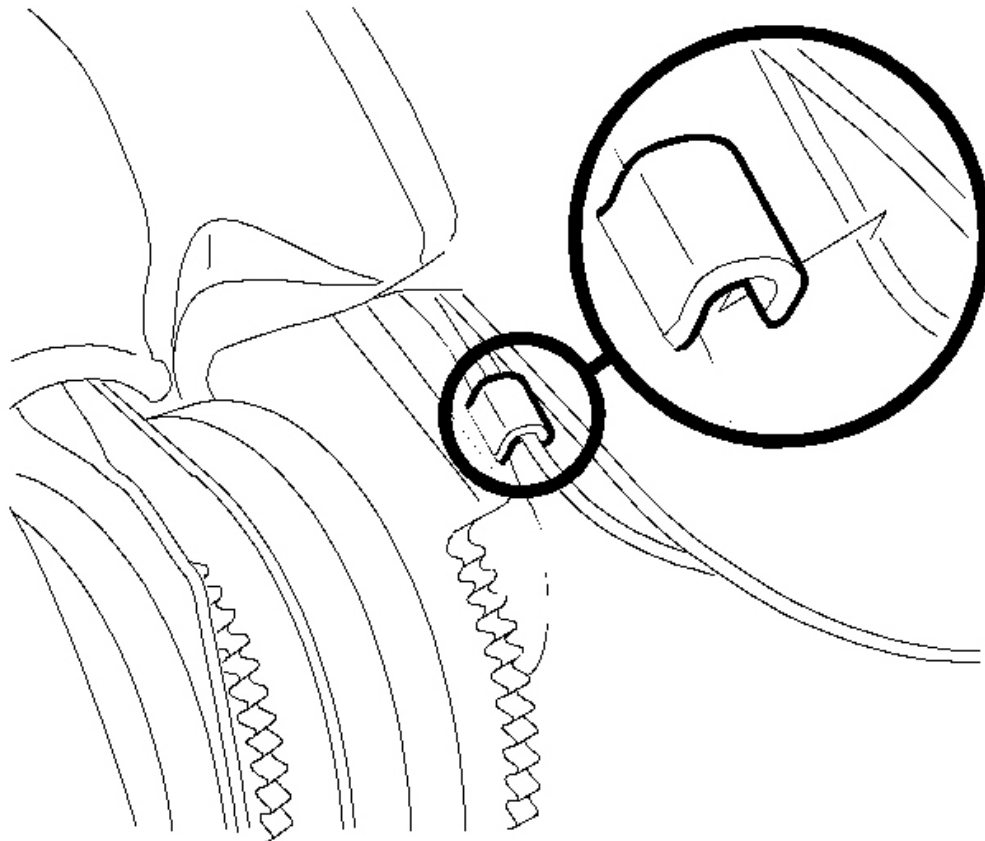


Fig. 173: Disengaging J-Strip Retainers
Courtesy of GENERAL MOTORS CORP.

6. Disengage the J-strip retainers from the frame.

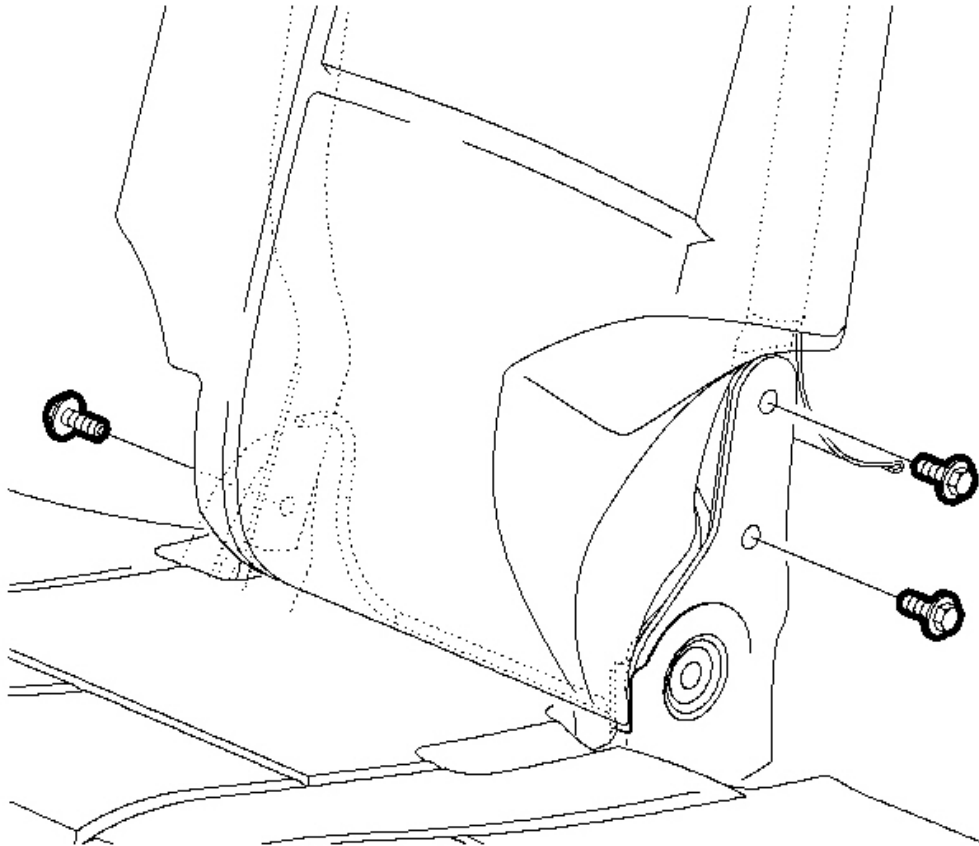


Fig. 174: Removing/Installing Inboard Seat Back Bolts
Courtesy of GENERAL MOTORS CORP.

7. Remove the outboard bolt holding the seat back to the frame and pad.
8. Lift the seat back cover and pad enough to expose the inboard seat back bolts.
9. Remove the inboard seat back bolts.

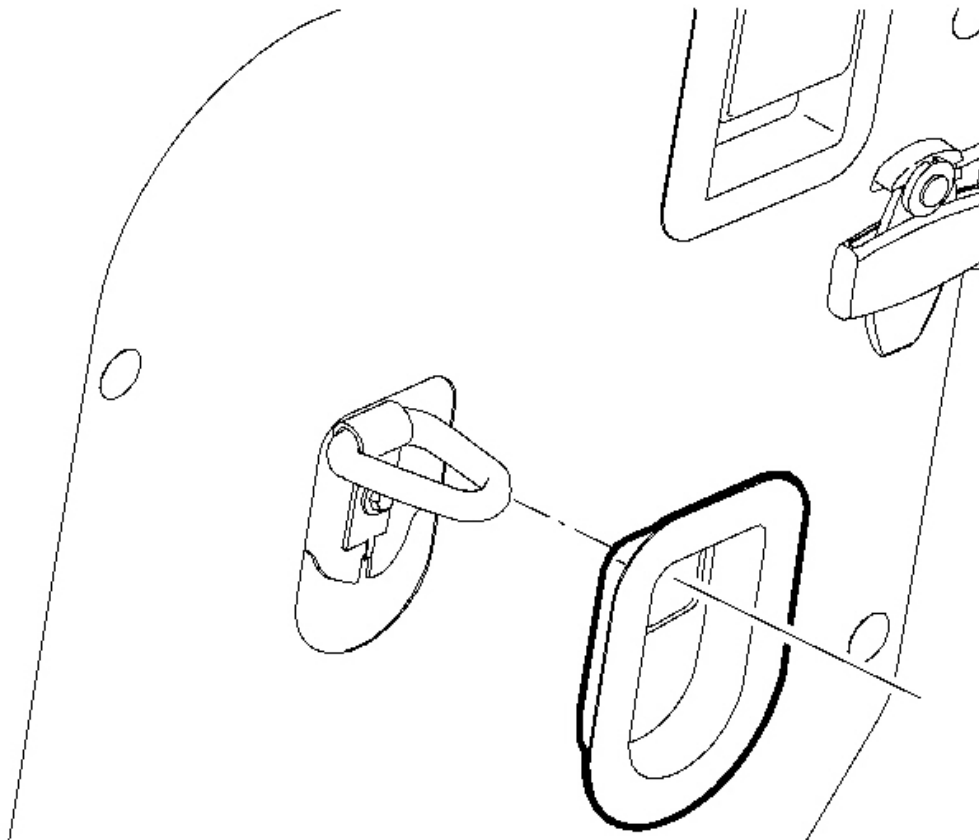


Fig. 175: Removing/Installing Child Tether Anchor Escutcheon
Courtesy of GENERAL MOTORS CORP.

10. Remove the anchor escutcheon to the child seat tether.

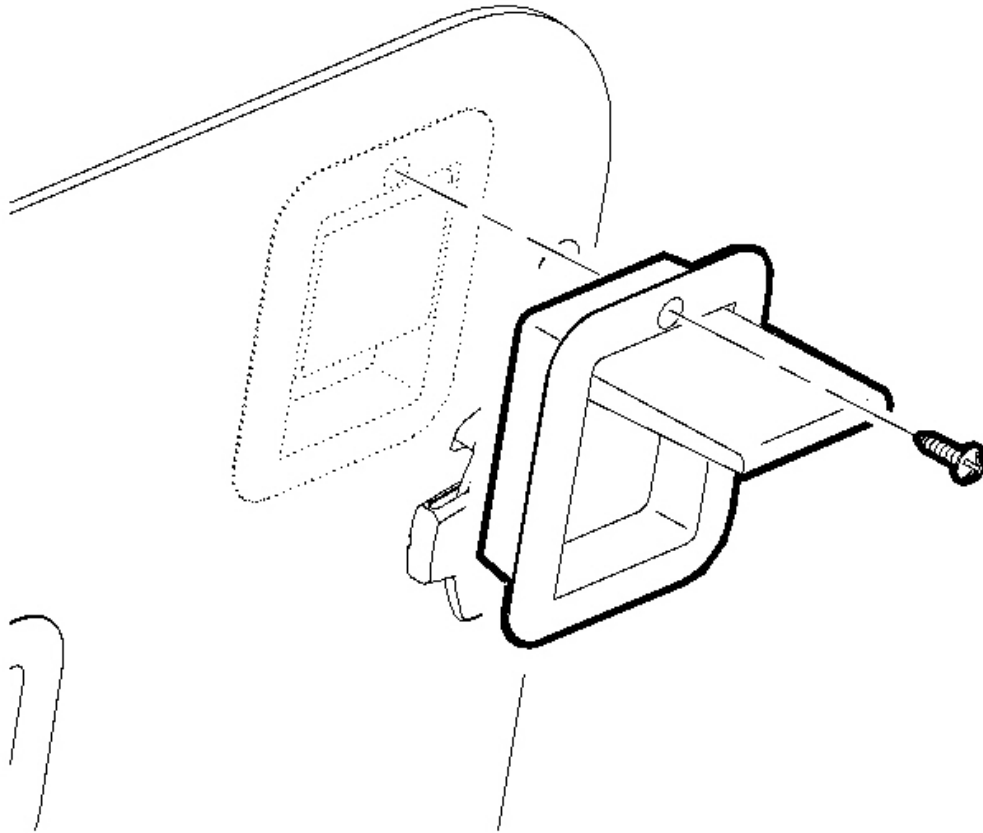


Fig. 176: Removing/Installing Fastener From The Rear Seat Back Latch
Courtesy of GENERAL MOTORS CORP.

11. Remove the recliner handle fastener, then pull the recliner handle out of the seat back.

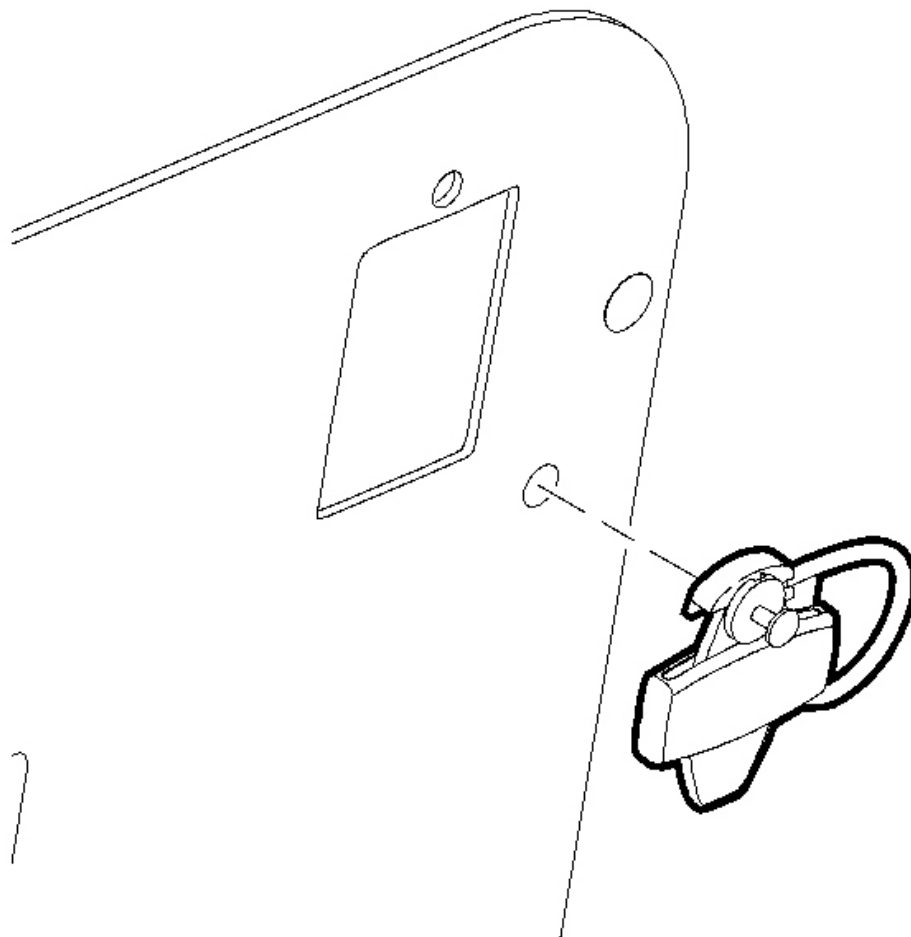


Fig. 177: Removing/Installing Child Comfort Guide
Courtesy of GENERAL MOTORS CORP.

12. Remove the child comfort guide, if equipped.

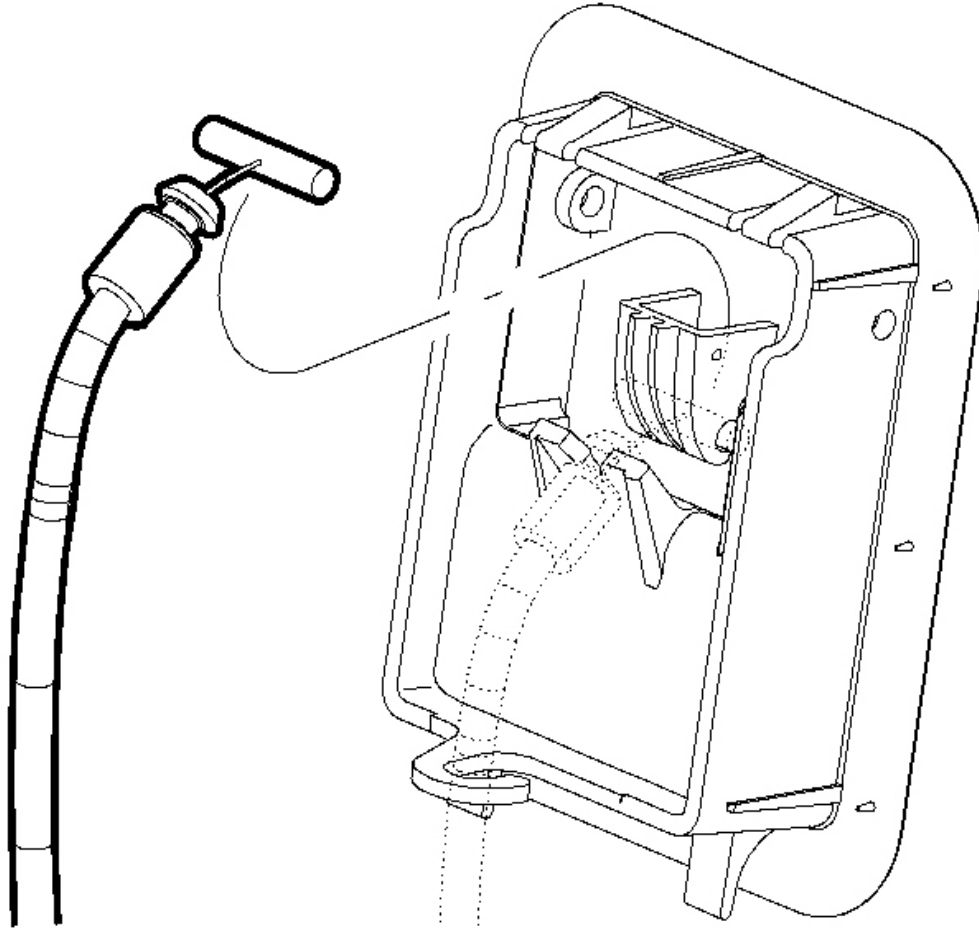


Fig. 178: Disconnecting/Connecting Recliner Cable
Courtesy of GENERAL MOTORS CORP.

13. Disconnect the recliner cable from the recliner handle.
14. Remove the headrest. Refer to **Head Restraint Replacement - Front Seat** .
15. Pull up on the seat back cover and carefully remove the seat by disengaging the hook and loop fasteners.

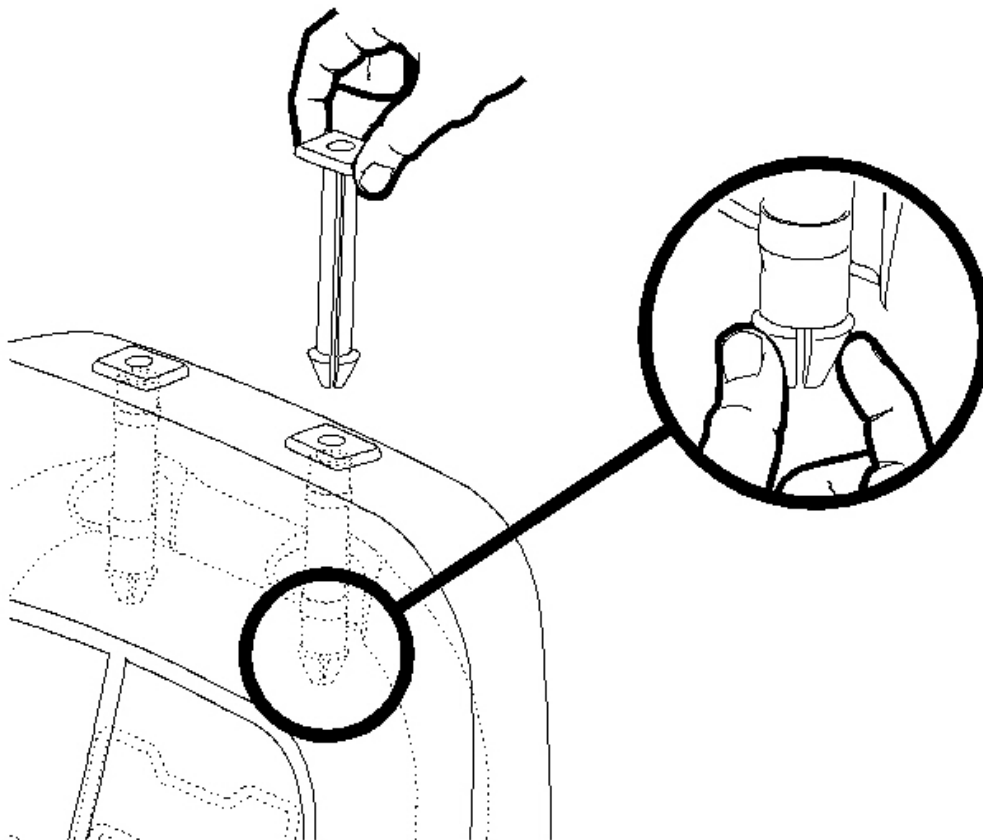


Fig. 179: Removing/Installing Headrest Guides By Pressing Into Position
Courtesy of GENERAL MOTORS CORP.

16. Reach underneath the seat back panel to access the headrest guides.
17. Remove the headrest guides by pinching the tabs at the base of the guide while pulling up.
18. Remove the seat back cover.

Installation Procedure

1. If a new frame is required, transfer the seat back panel, the recliner cable, and the pad to the new seat back frame.
2. Transfer the child top tether anchor. Refer to **Child Restraint Tether Anchor Replacement (Early**

Production) in Seat Belts.

3. Partially install the seat cover over the top of the seat back frame and foam.

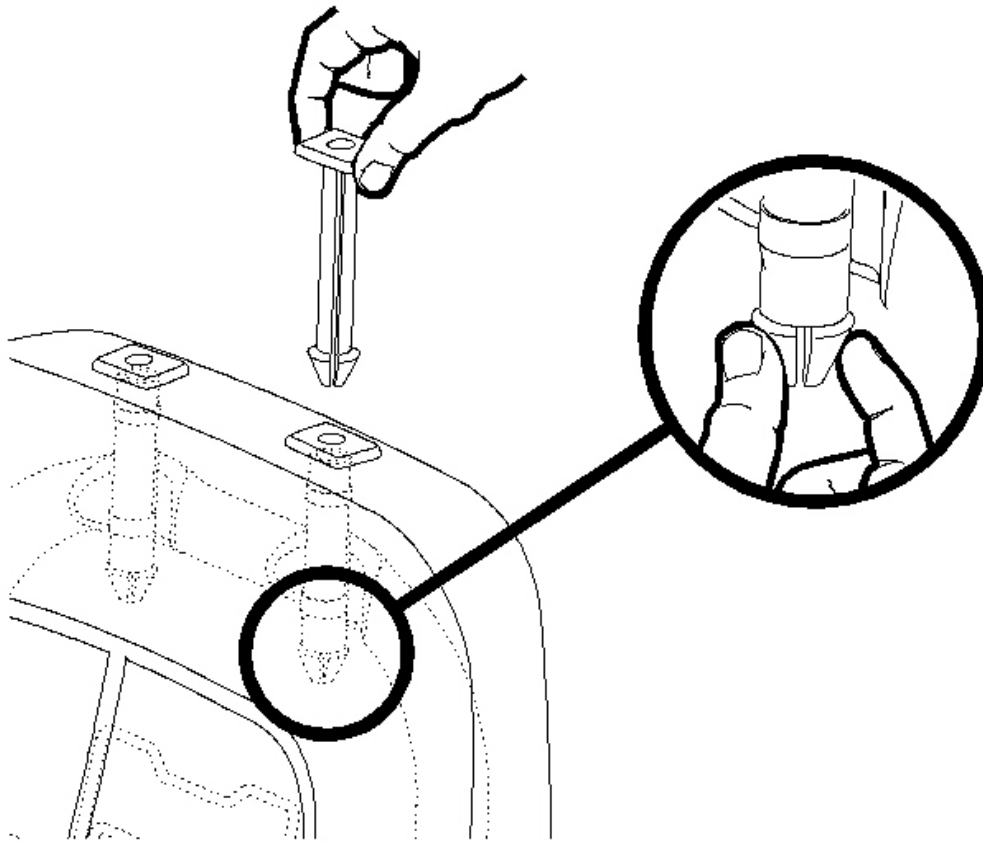


Fig. 180: Removing/Installing Headrest Guides By Pressing Into Position
Courtesy of GENERAL MOTORS CORP.

4. Install the headrest guides by pushing down until the locking tabs engage.

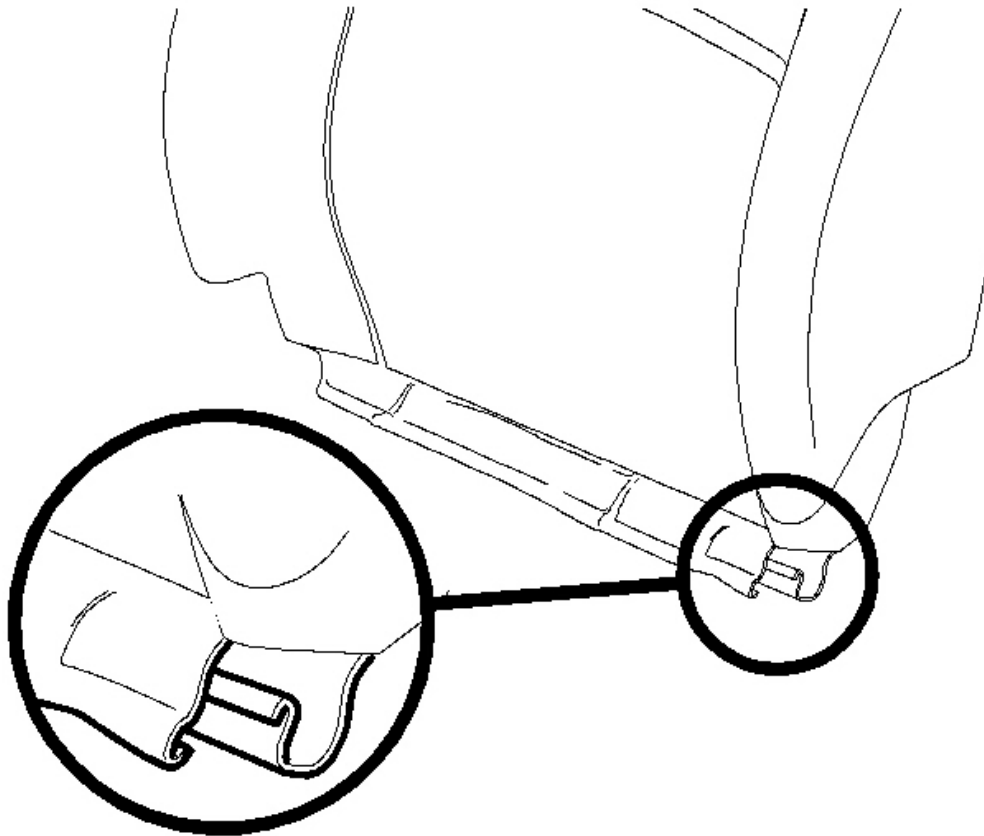


Fig. 181: View Of Lower J-Hook Retainer
Courtesy of GENERAL MOTORS CORP.

5. Lower the seat back cover. Engage the hook and loop locations by pressing firmly.
6. Connect the recliner handle to the recliner cable.

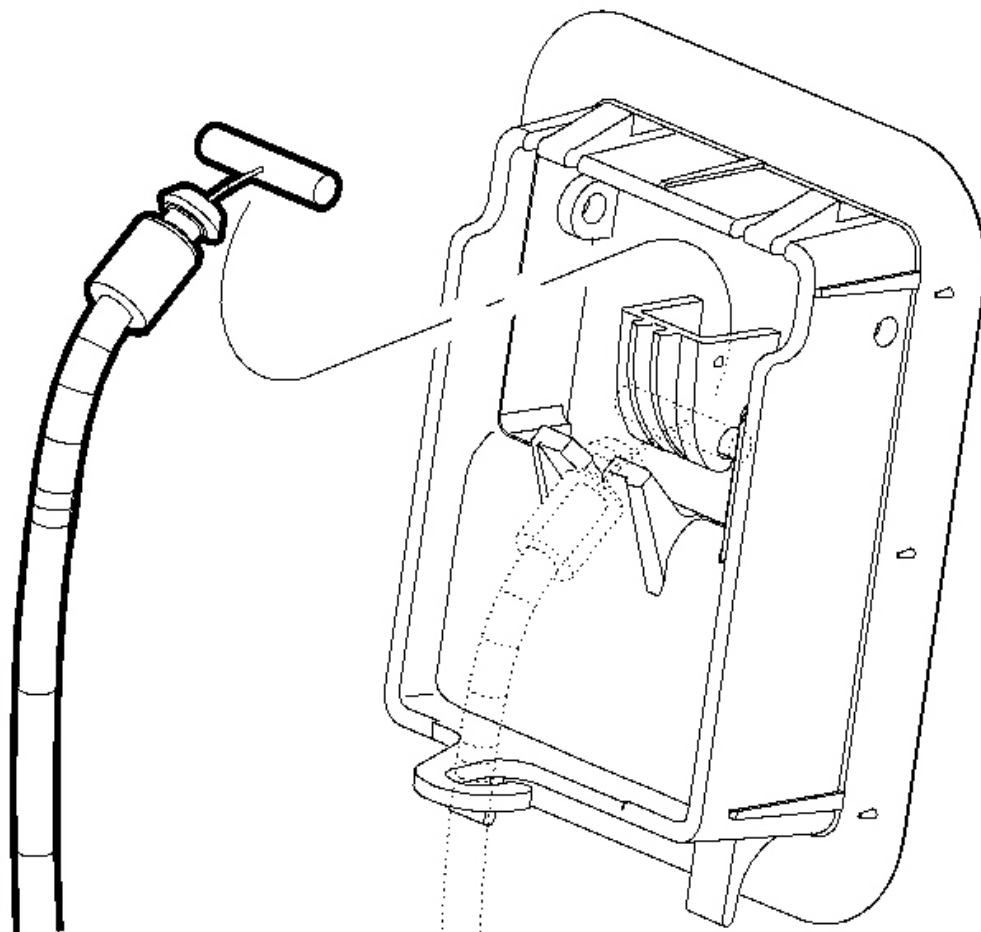


Fig. 182: Disconnecting/Connecting Recliner Cable
Courtesy of GENERAL MOTORS CORP.

7. Install the recliner handle in the seat back.

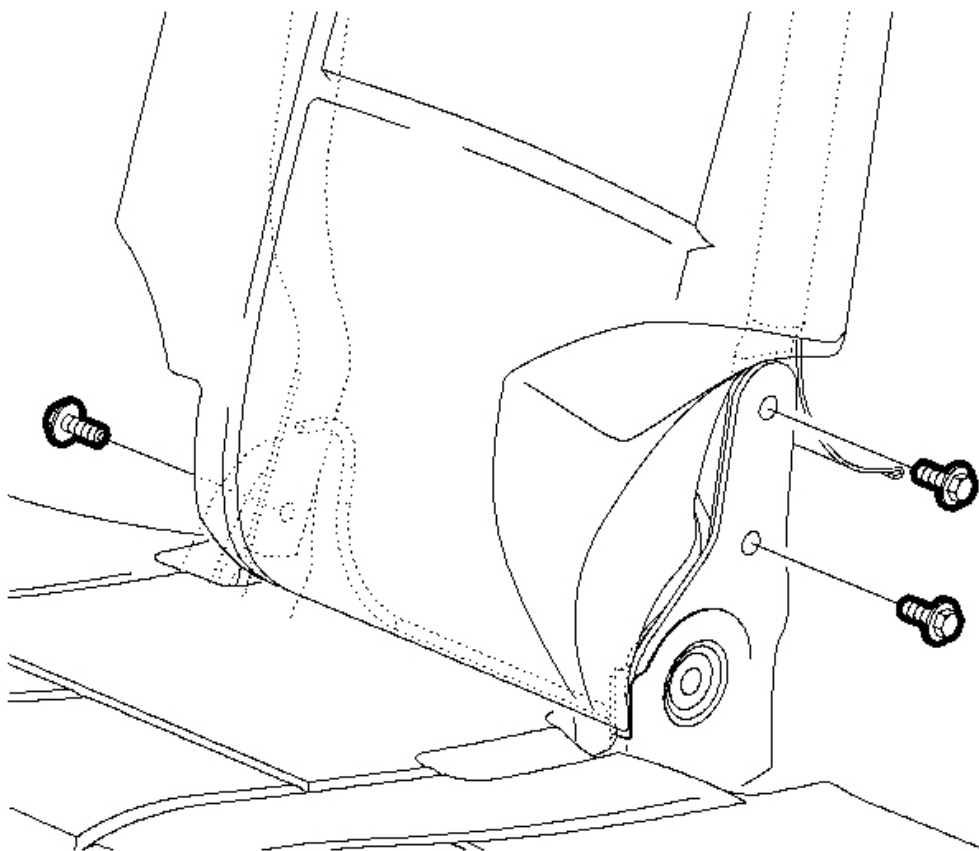


Fig. 183: Removing/Installing Inboard Seat Back Bolts
Courtesy of GENERAL MOTORS CORP.

NOTE: Refer to Fastener Notice in Cautions and Notices.

8. Install the recliner handle screw.

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

9. Install the child tether anchor escutcheon.
10. Install the inboard seat back assembly to the recliner and secure with the bolts.

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

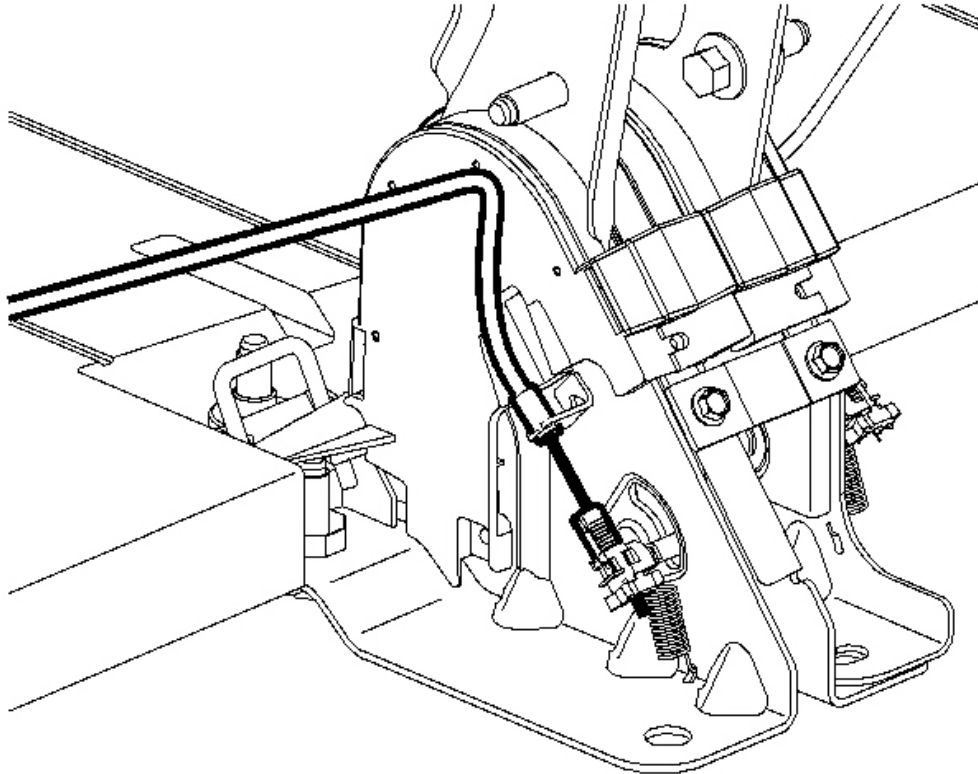


Fig. 184: Disconnecting/Connecting Seat Recliner Cable
Courtesy of GENERAL MOTORS CORP.

11. Install the recliner cable in the locking tab.
12. Install the recliner cable clip on the retaining pin.
13. Lower the remaining seat back trim cover and connect the J-hook retainers.

IMPORTANT: Apply Loctite(R) 242 or equivalent on all restraint bolts and nuts before installation.

14. Install the bolt to the outboard seat back frame.

Tighten: Tighten the bolt to 44 N.m (33 lb ft).

15. Install the headrest. Refer to **Head Restraint Replacement - Front Seat** .

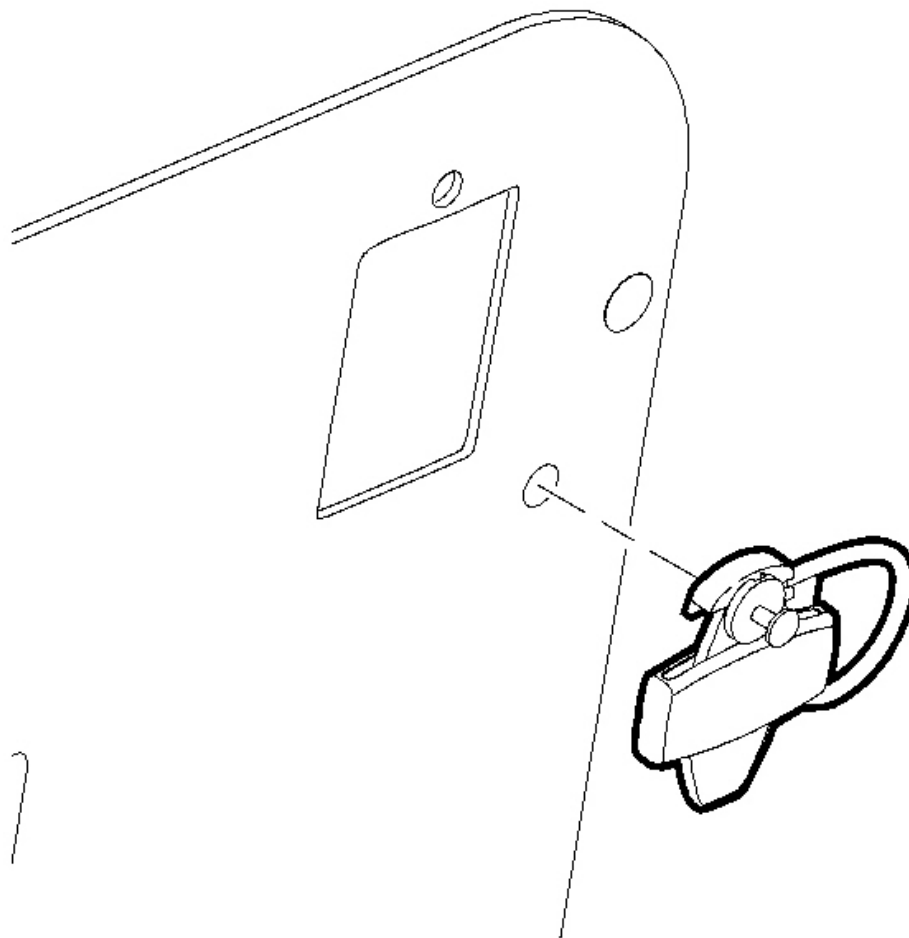


Fig. 185: Removing/Installing Child Comfort Guide
Courtesy of GENERAL MOTORS CORP.

16. Install the child comfort guide.

17. Install the rear seat to the vehicle. Refer to **Seat Replacement - Rear** .

SEAT BACK LATCH RELEASE CABLE REPLACEMENT - REAR

Removal Procedure

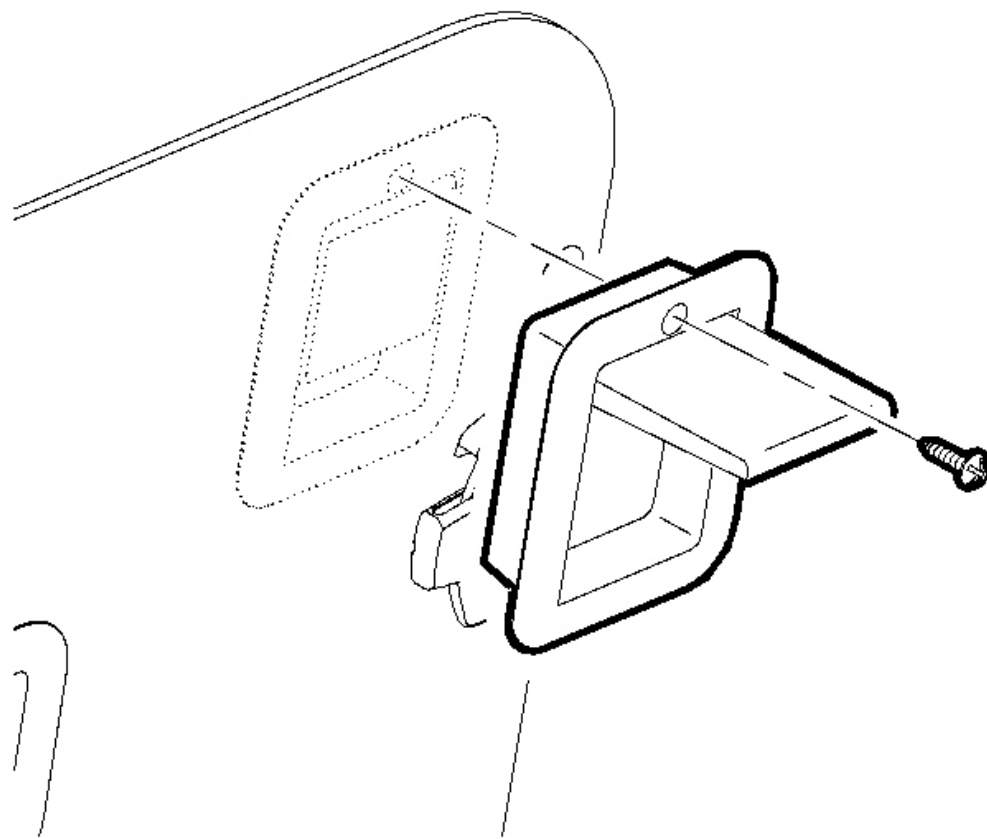


Fig. 186: Removing/Installing Fastener From The Rear Seat Back Latch
Courtesy of GENERAL MOTORS CORP.

1. Remove the fastener from the rear seat back latch and pull the latch out from the seat back assembly.

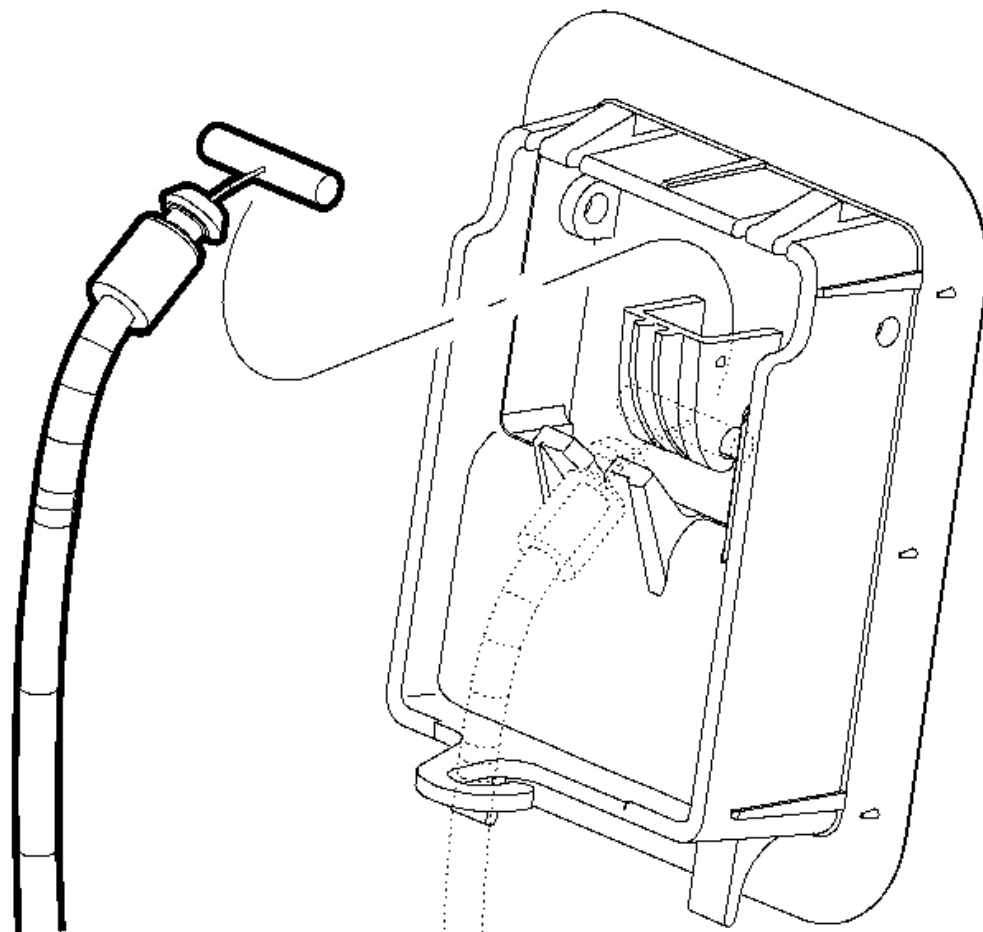


Fig. 187: Disconnecting/Connecting Recliner Cable
Courtesy of GENERAL MOTORS CORP.

2. Detach the latch cable from the latch.

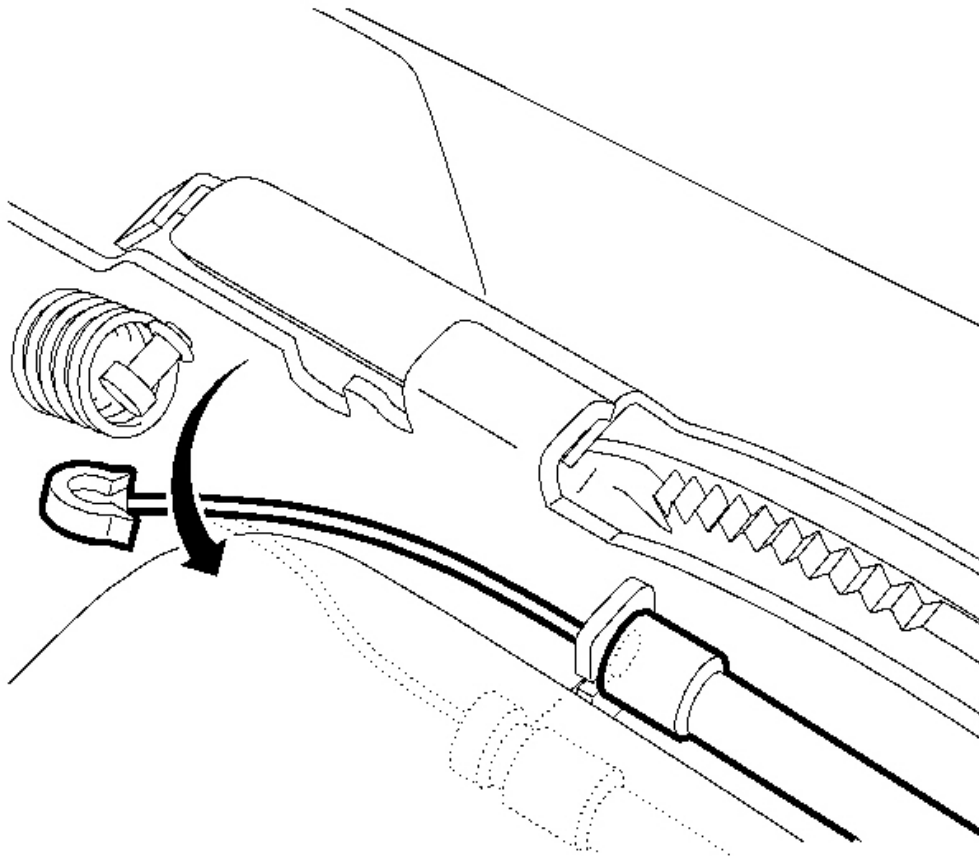


Fig. 188: Disconnecting Latch Cable
Courtesy of GENERAL MOTORS CORP.

3. If you are going to replace the cable, disconnect the latch cable at the seat recliner mechanism.

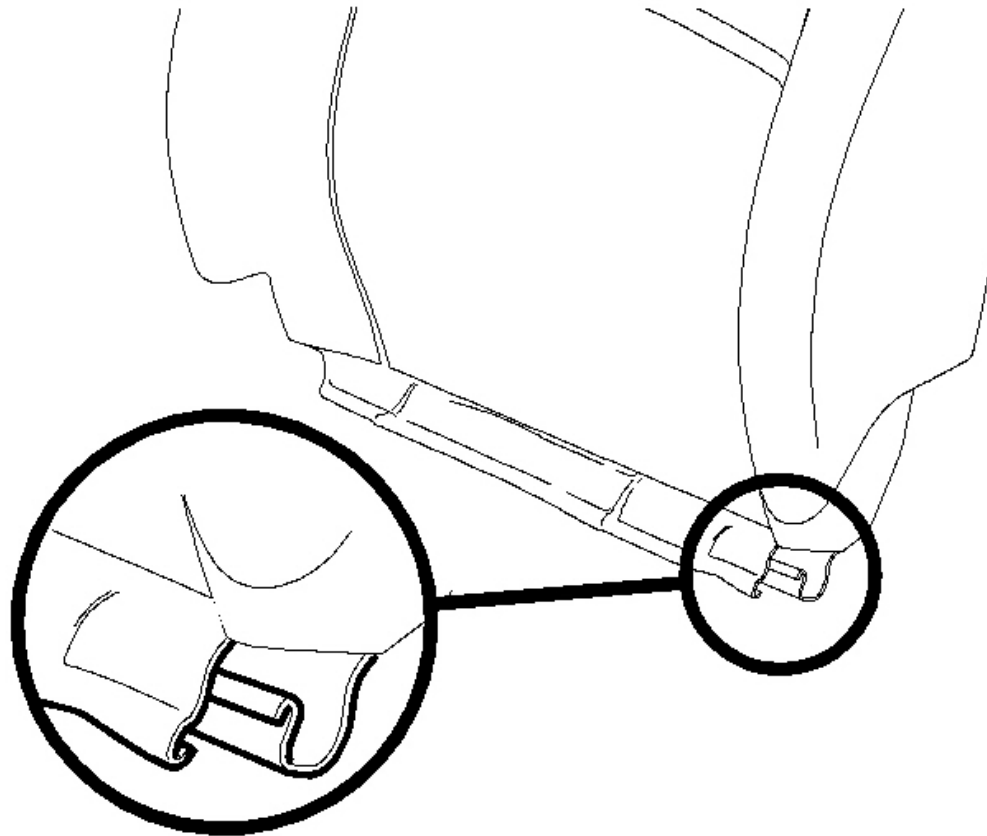


Fig. 189: View Of Lower J-Hook Retainer
Courtesy of GENERAL MOTORS CORP.

4. Open the J-strip at the bottom of the seat cover.

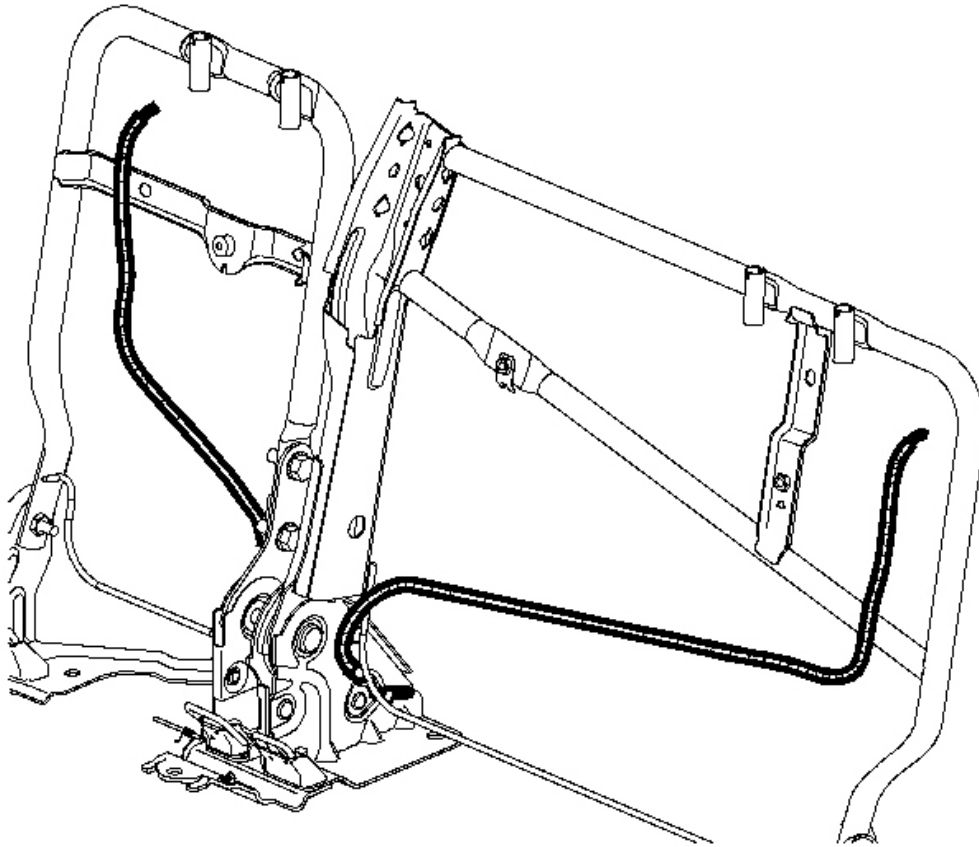


Fig. 190: Replacing Cable Out Of Seat Back Assembly
Courtesy of GENERAL MOTORS CORP.

5. Pull the cable out from the seat back assembly.

Installation Procedure

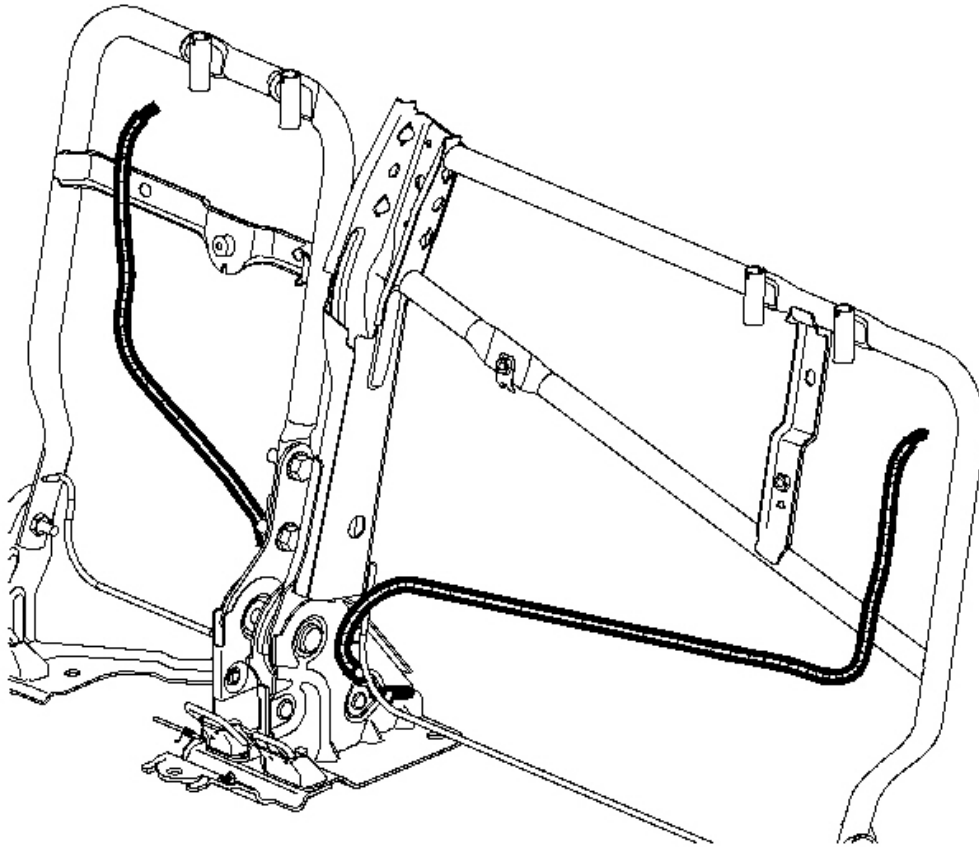


Fig. 191: Replacing Cable Out Of Seat Back Assembly
Courtesy of GENERAL MOTORS CORP.

1. If you are replacing the cable, route the cable through the rear seat back.

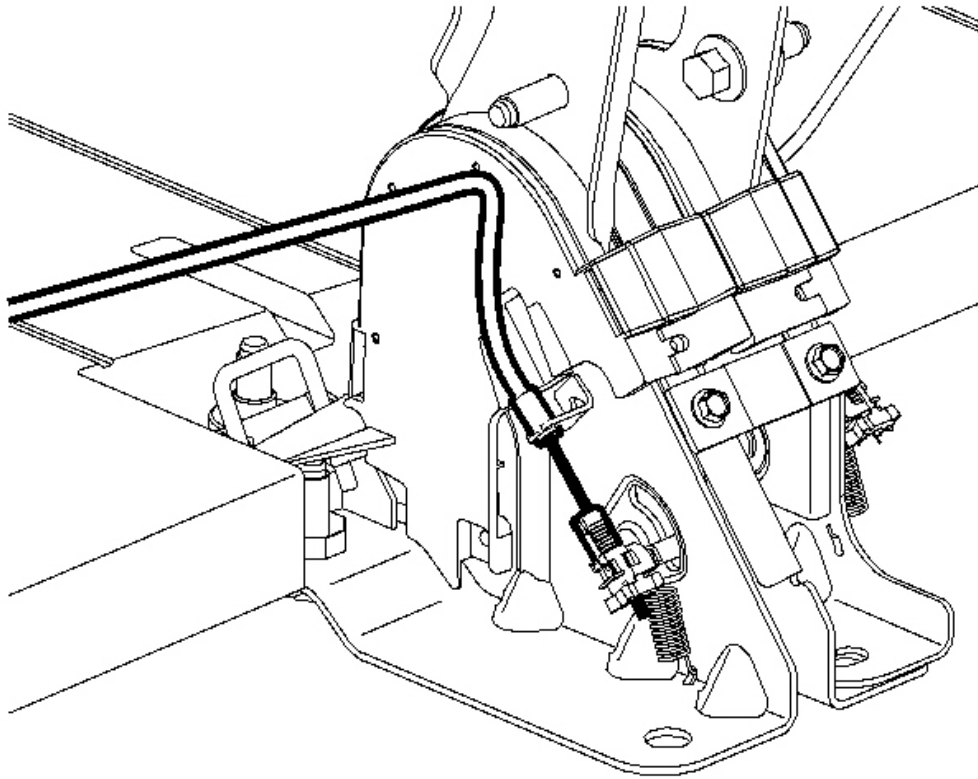


Fig. 192: Disconnecting/Connecting Seat Recliner Cable
Courtesy of GENERAL MOTORS CORP.

2. Connect the latch cable to the recliner mechanism.

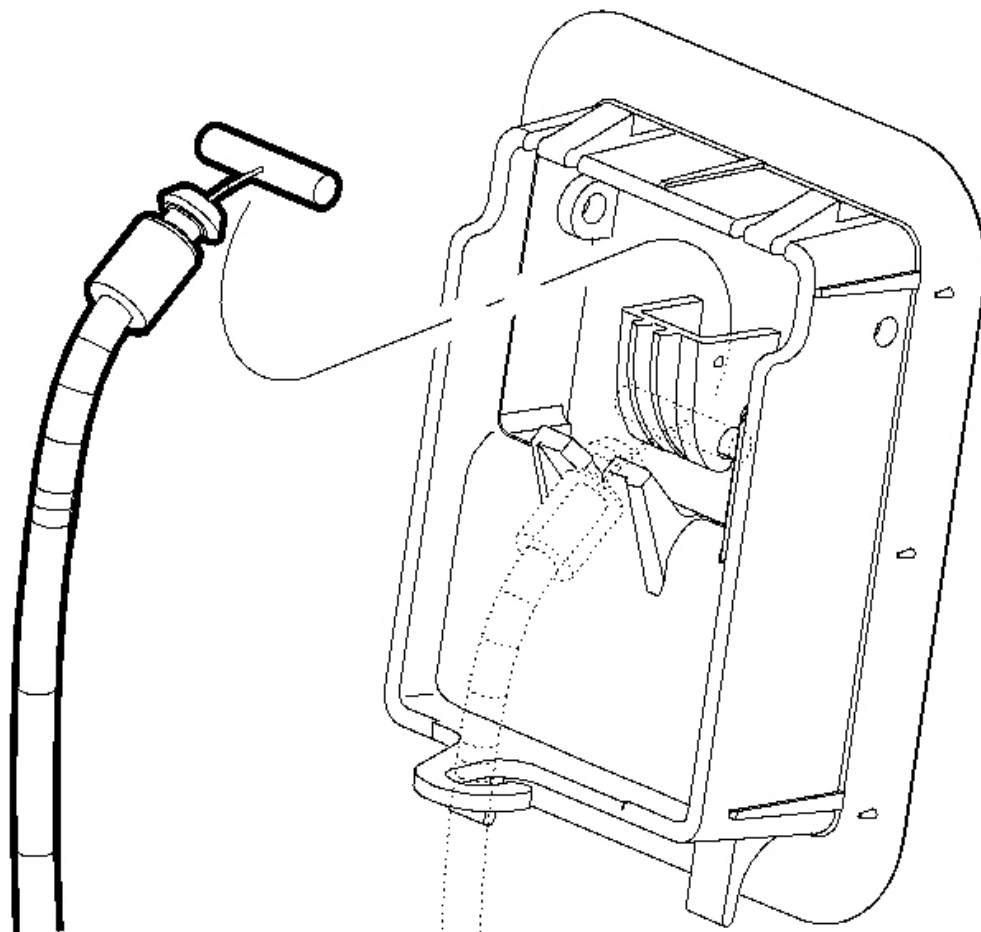


Fig. 193: Disconnecting/Connecting Recliner Cable
Courtesy of GENERAL MOTORS CORP.

3. Connect the J-strip at the bottom of the seat cover.
4. Connect the latch cable to the latch assembly.

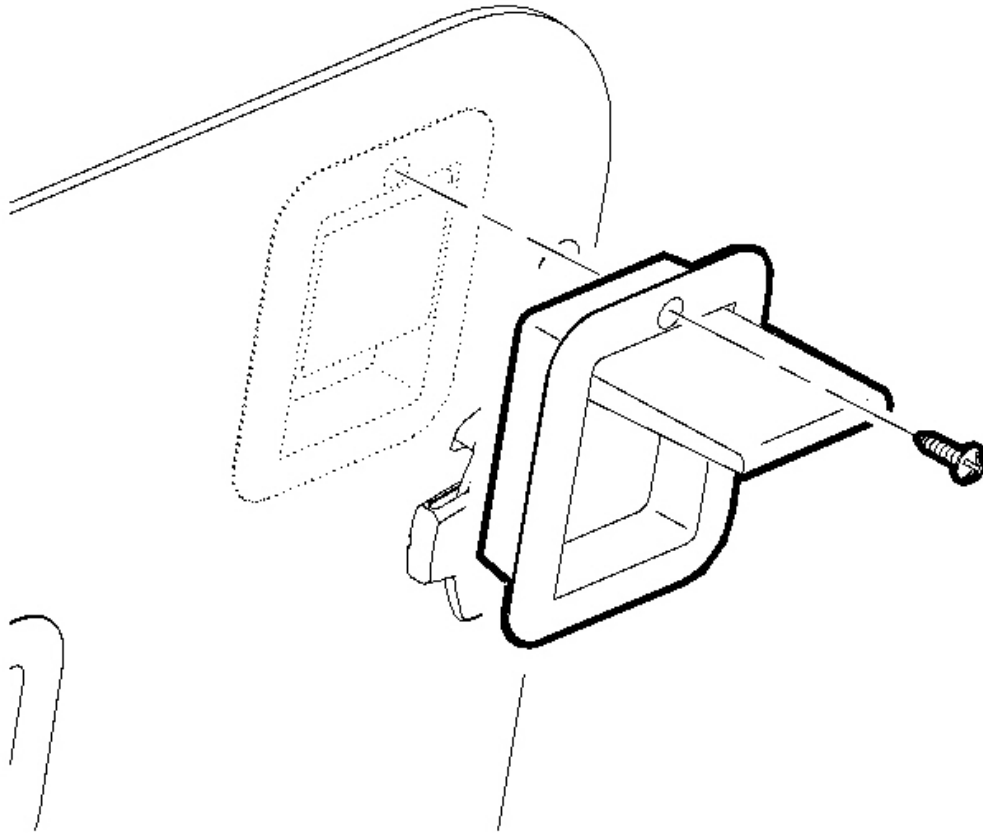


Fig. 194: Removing/Installing Fastener From The Rear Seat Back Latch
Courtesy of GENERAL MOTORS CORP.

NOTE: Refer to Fastener Notice in Cautions and Notices.

5. Install the latch to the seat back with a fastener.

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

SEAT BACK RECLINER REPLACEMENT - REAR

Removal Procedure

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

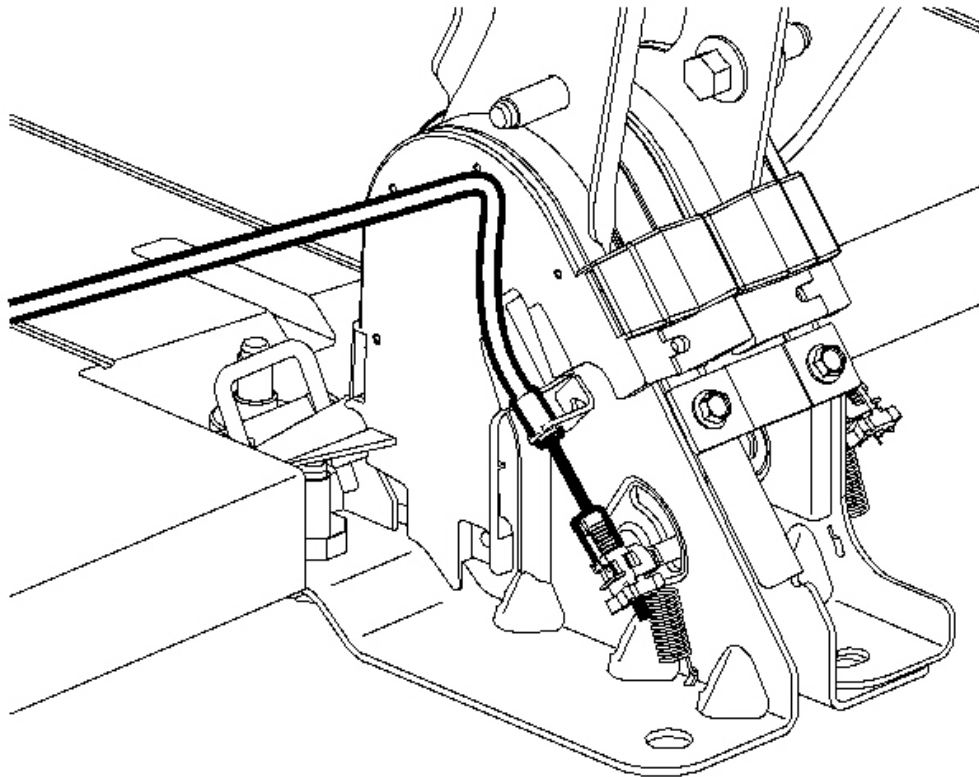


Fig. 195: Disconnecting/Connecting Seat Recliner Cable
Courtesy of GENERAL MOTORS CORP.

2. Disconnect the seat recliner cable from the recliner mechanism on both folding seat backs.

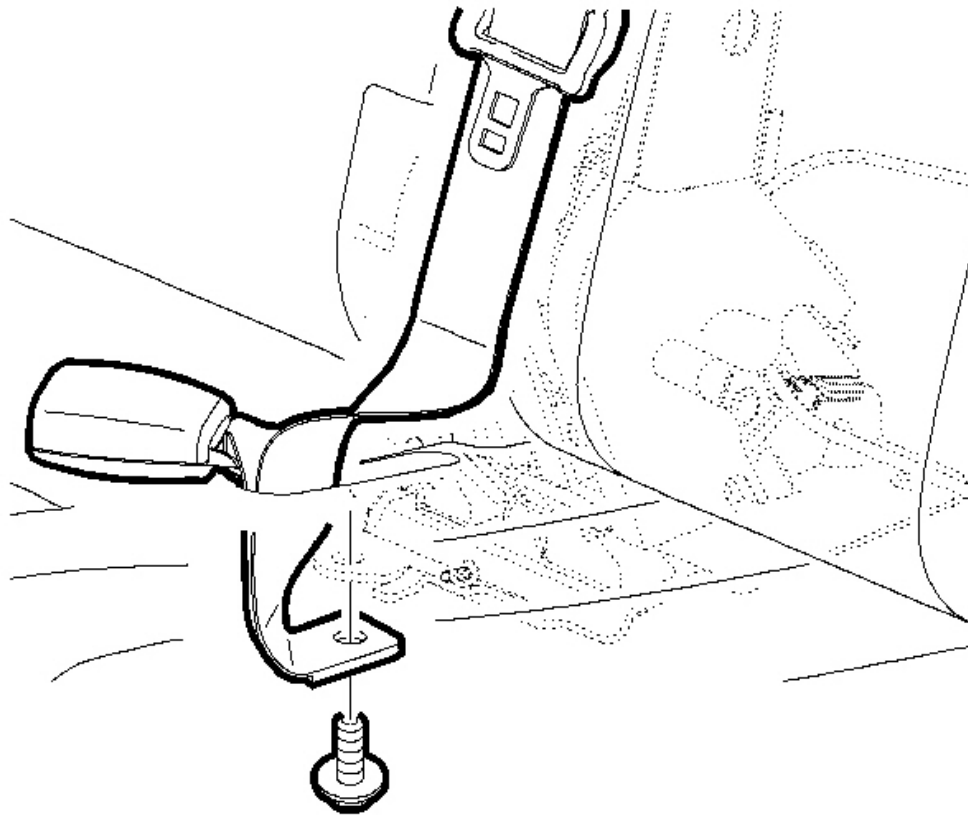


Fig. 196: Removing/Installing Shoulder Belt Anchor Bolt & Plate
Courtesy of GENERAL MOTORS CORP.

3. Remove the shoulder belt anchor bolt and plate from the recliner assembly.

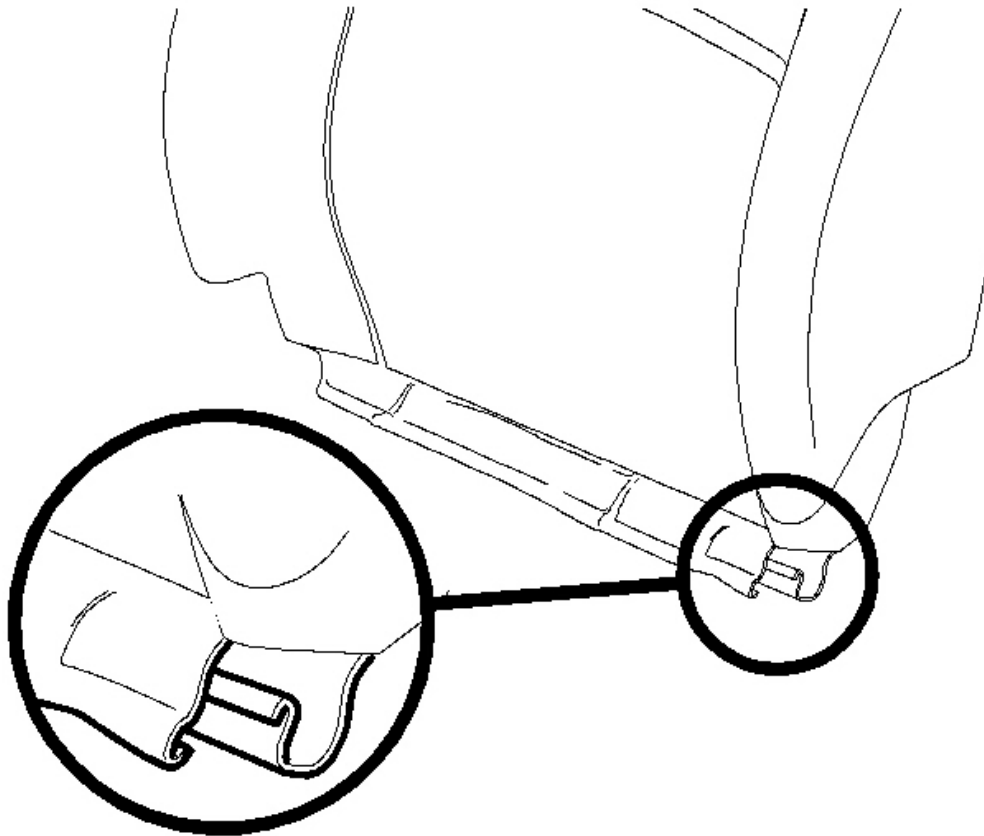


Fig. 197: View Of Lower J-Hook Retainer
Courtesy of GENERAL MOTORS CORP.

4. Remove the J-hook retainer from the passenger side seat back.
5. Remove the outboard seat back bolt.

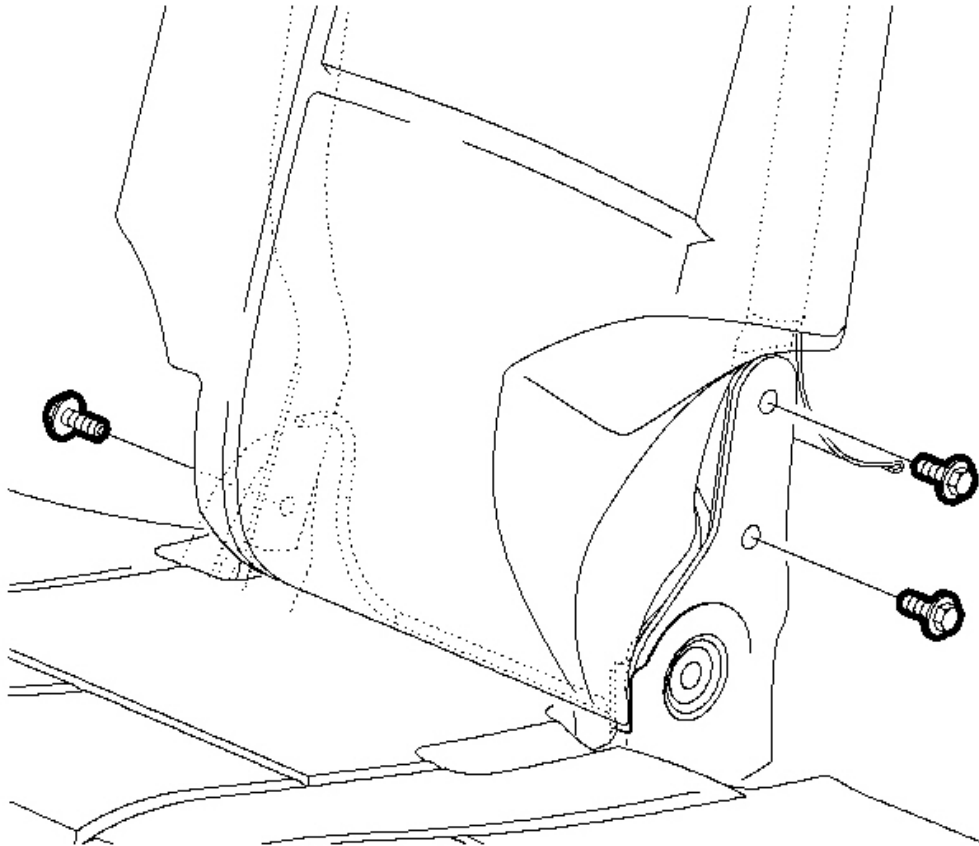


Fig. 198: Removing/Installing Inboard Seat Back Bolts
Courtesy of GENERAL MOTORS CORP.

6. Lift the seat back trim cover enough to expose the inboard bolts.
7. Remove the inboard bolts.
8. Remove the passenger side rear seat back.
9. Disconnect the lower J-hook retainer on the driver side rear seat back.
10. Remove the outboard seat back bolt.
11. Lift the trim cover enough to expose the inboard bolts.
12. Remove the inboard seat back bolts.

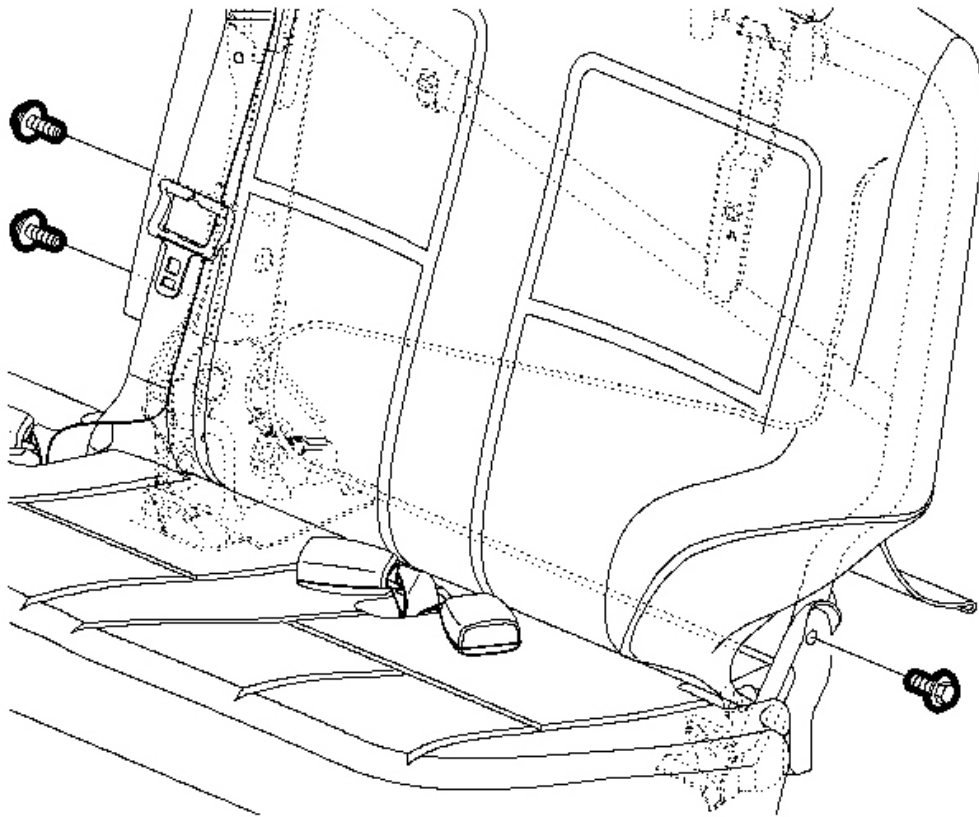


Fig. 199: Removing/Installing Inboard Side Fasteners
Courtesy of GENERAL MOTORS CORP.

13. Remove the driver side seat back.

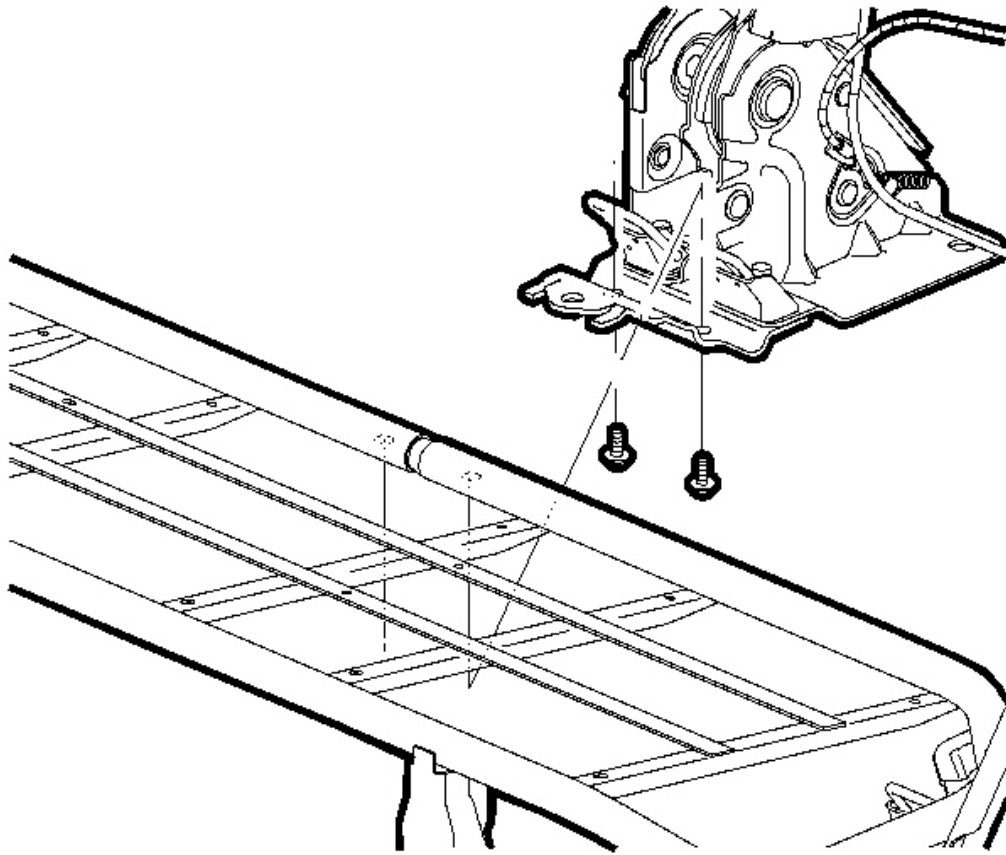


Fig. 200: Removing/Installing Recliner Fasteners
Courtesy of GENERAL MOTORS CORP.

14. Remove the fasteners that secure the seat cushion frame to the seat recliner. Remove the seat recliner mechanism.
15. Remove the rear seat back recliner assembly.

Installation Procedure

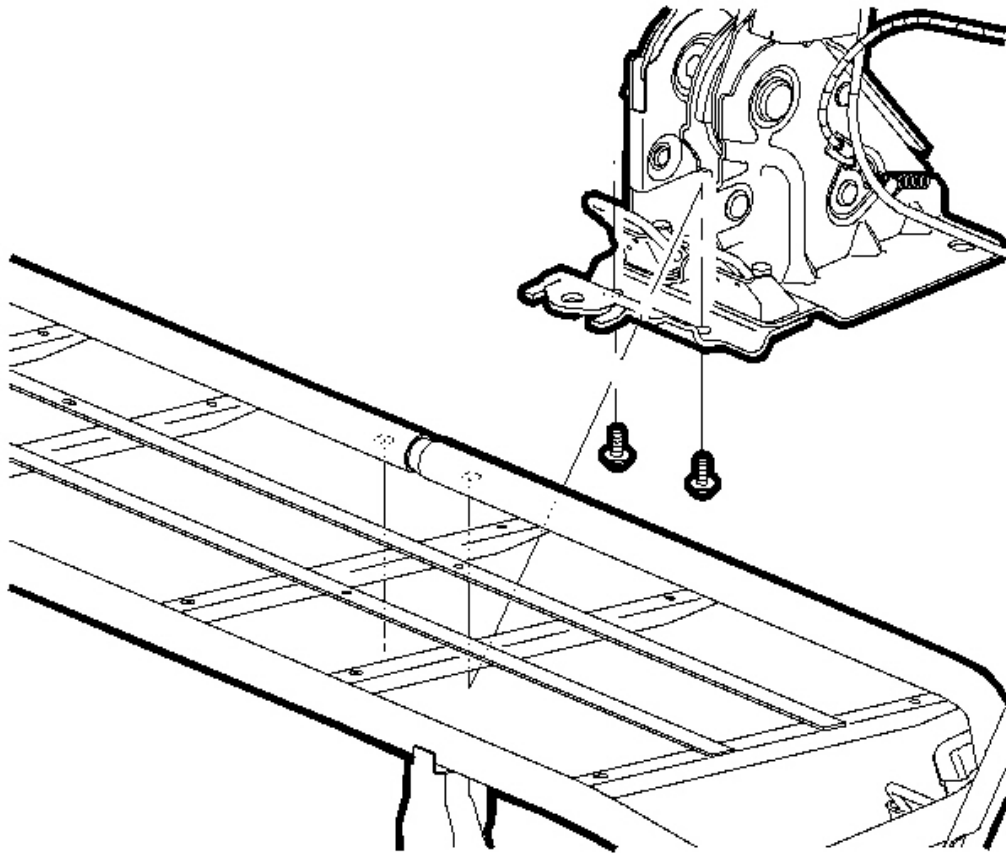


Fig. 201: Removing/Installing Recliner Fasteners
Courtesy of GENERAL MOTORS CORP.

1. Position the recliner mechanism to the seat cushion frame.

NOTE: Refer to Fastener Notice in Cautions and Notices.

2. Install the recliner fasteners.

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

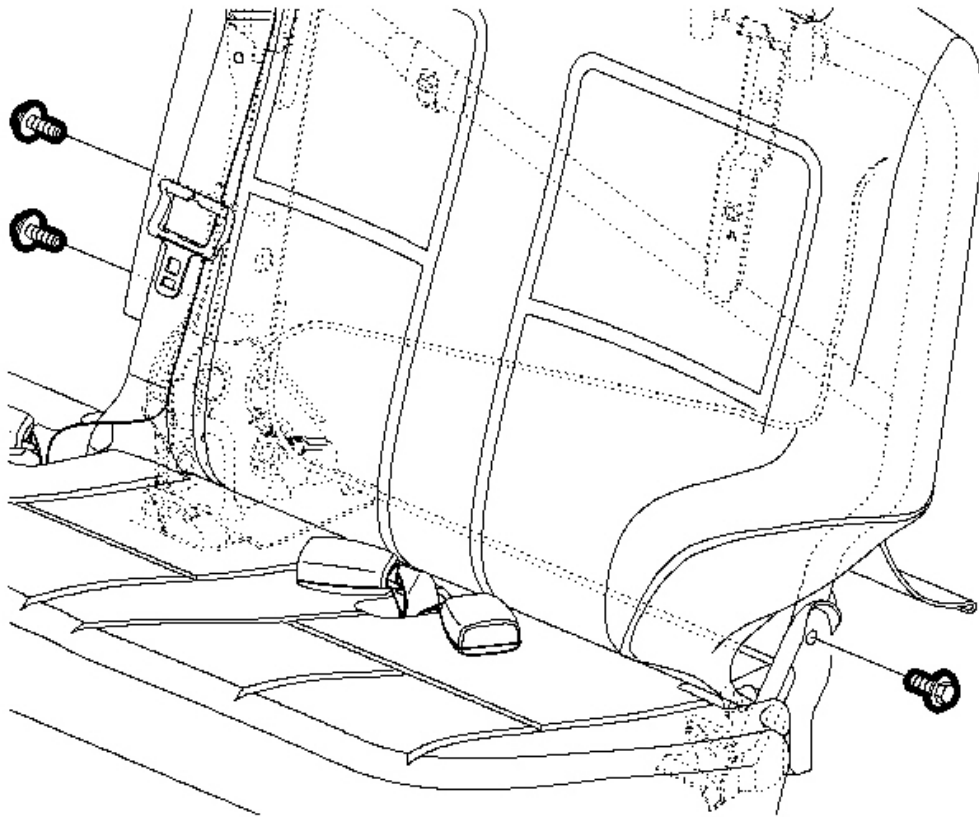


Fig. 202: Removing/Installing Inboard Side Fasteners
Courtesy of GENERAL MOTORS CORP.

3. Position the driver side seat back assembly to the seat cushion frame and recliner mechanism.
4. Install the inboard side fasteners.

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

5. Lower the seat back trim cover.

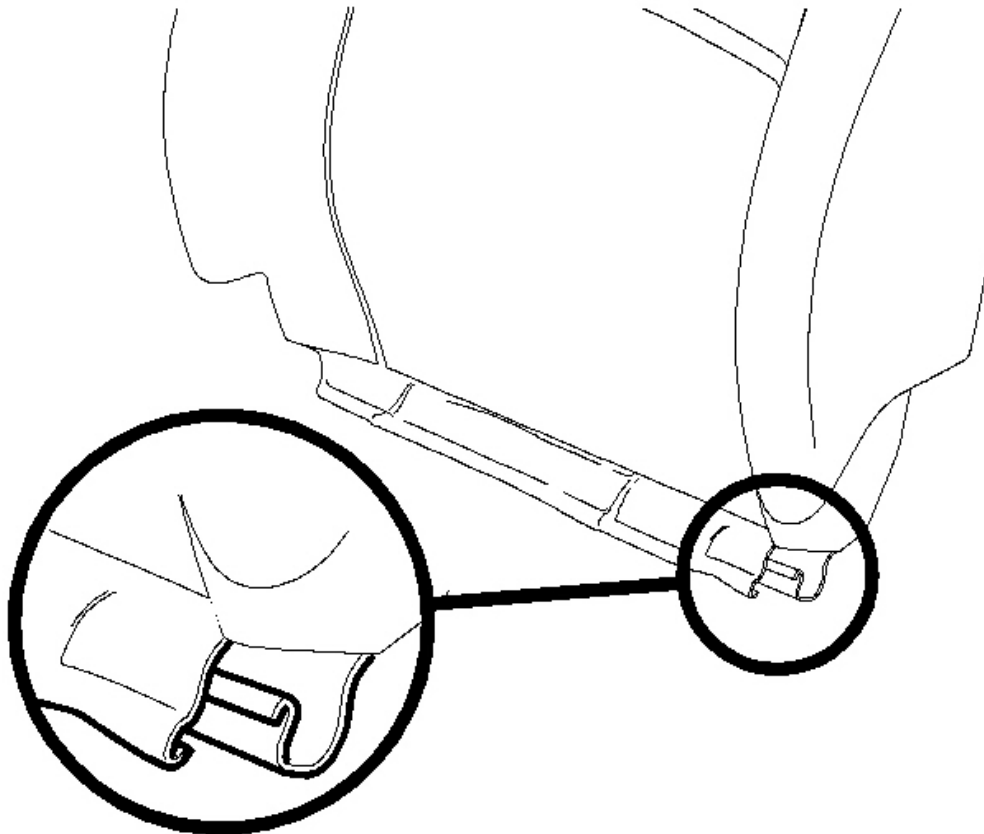


Fig. 203: View Of Lower J-Hook Retainer
Courtesy of GENERAL MOTORS CORP.

6. Connect the J-hook retainer on the seat back trim cover.
7. Install the outboard seat back bolts.

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

8. Position the passenger side seat back.
9. Install the inboard bolts.

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

10. Lower the seat back trim cover.
11. Connect the J-hook retainer on the seat back trim cover.
12. Install the outboard seat back bolt.

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

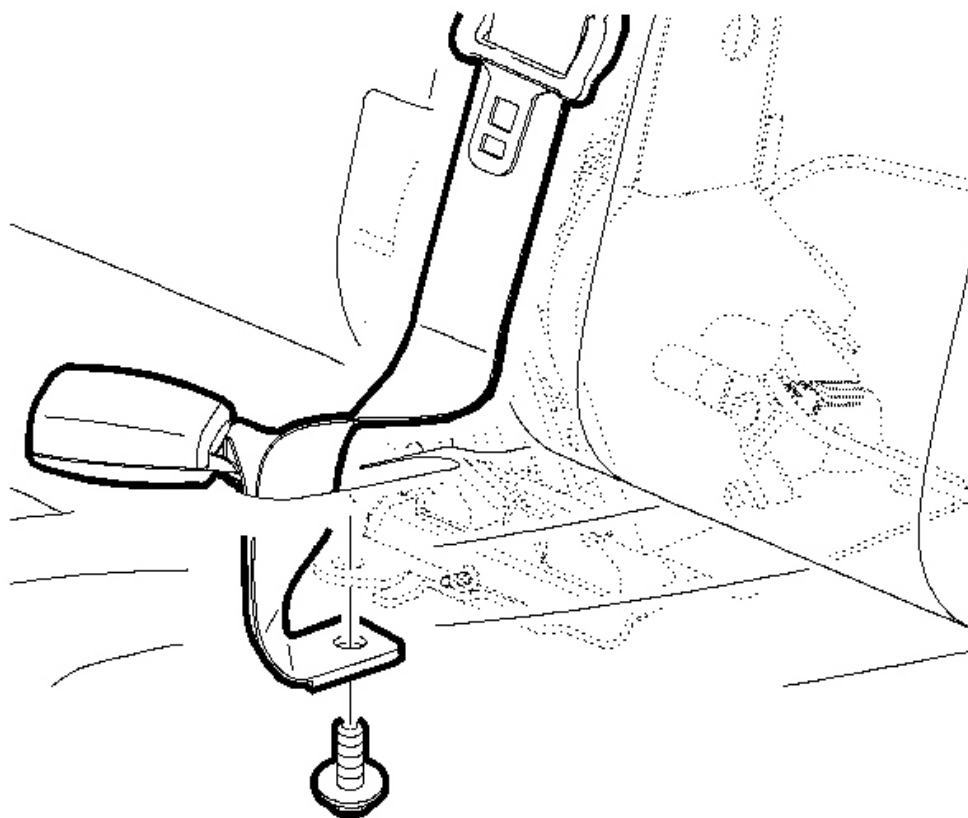


Fig. 204: Removing/Installing Shoulder Belt Anchor Bolt & Plate
Courtesy of GENERAL MOTORS CORP.

13. Install the shoulder belt anchor plate and the bolt to the recliner assembly.

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

14. Ensure that the seat belt webbing is not twisted.
15. Verify proper operation of the seat belt.

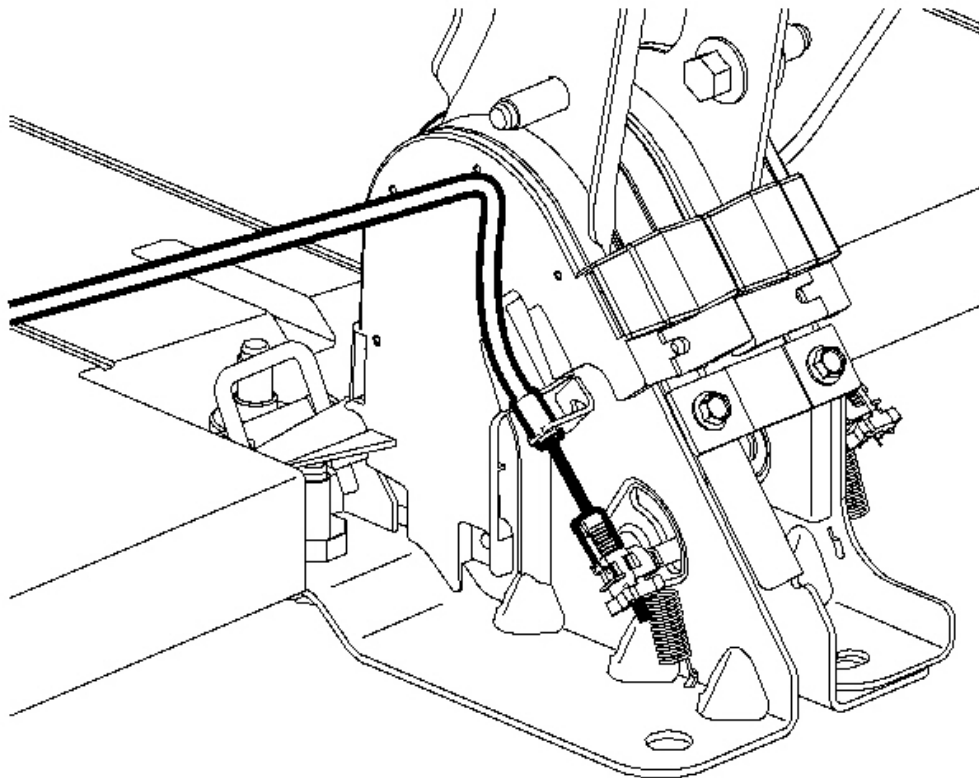


Fig. 205: Disconnecting/Connecting Seat Recliner Cable
Courtesy of GENERAL MOTORS CORP.

16. Connect the recliner cables to both rear seat backs.
17. Install the rear seat assembly to the vehicle. Refer to **Seat Replacement - Rear** .

HEAD RESTRAINT REPLACEMENT - REAR SEAT

Removal Procedure

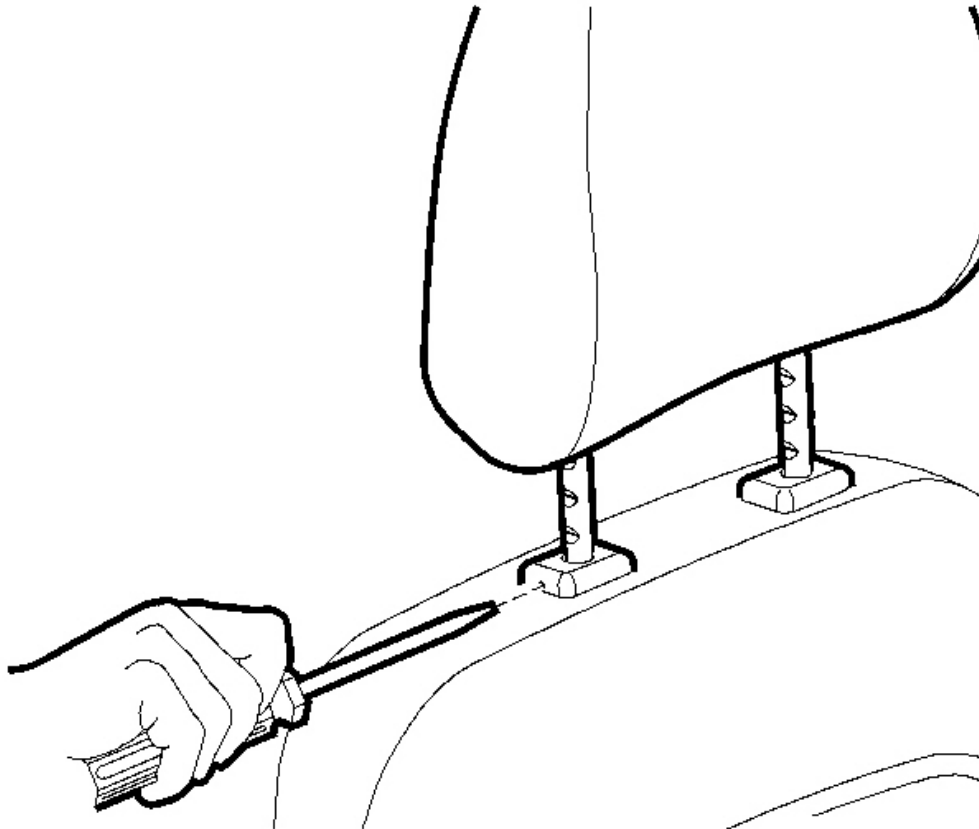


Fig. 206: View Of Rear Head Restraint
Courtesy of GENERAL MOTORS CORP.

1. Raise the head restraint to the full-up position.
2. Insert an awl into the guide hole.
3. Pull up to remove the head restraint.

Installation Procedure

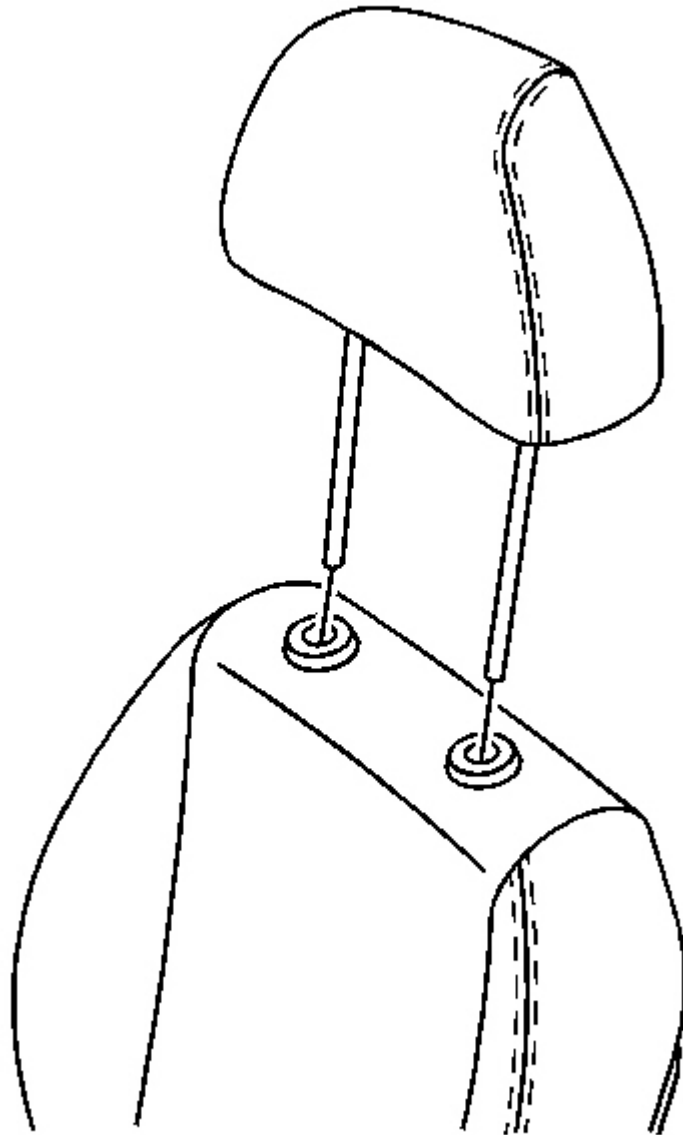


Fig. 207: Positioning Restraint In The Head Restraint Guides
Courtesy of GENERAL MOTORS CORP.

1. Position the restraint in the head restraint guides.
2. Push downward to install the head restraint.
3. Pull up on the restraint to ensure that the restraints are locked in place.

HEAD RESTRAINT RETAINER REPLACEMENT - REAR SEAT

Removal Procedure

1. Remove the headrest. Refer to **Head Restraint Replacement - Front Seat** .
2. Disconnect the lower J-hook retainer from the seat back trim cover. Refer to **Seat Back Cover and Pad Replacement - Front (Non-Fold Flat)** or **Seat Back Cover and Pad Replacement - Front (Fold Flat)** .

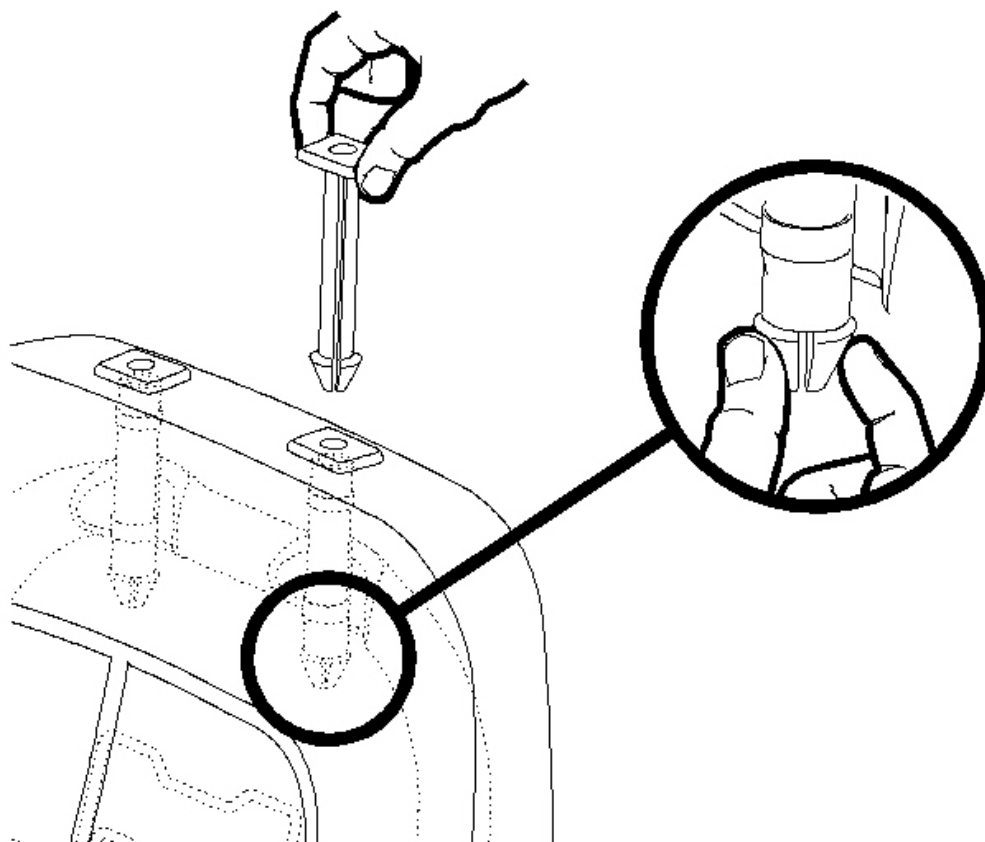


Fig. 208: Removing/Installing Headrest Guides By Pressing Into Position
Courtesy of GENERAL MOTORS CORP.

3. Carefully pull up the trim cover, disengaging the hoop and loop retainers, until the headrest guides are exposed.

4. Squeeze the locking tabs on the headrest guide and pull the guides up and out of the seat back pad.

Installation Procedure

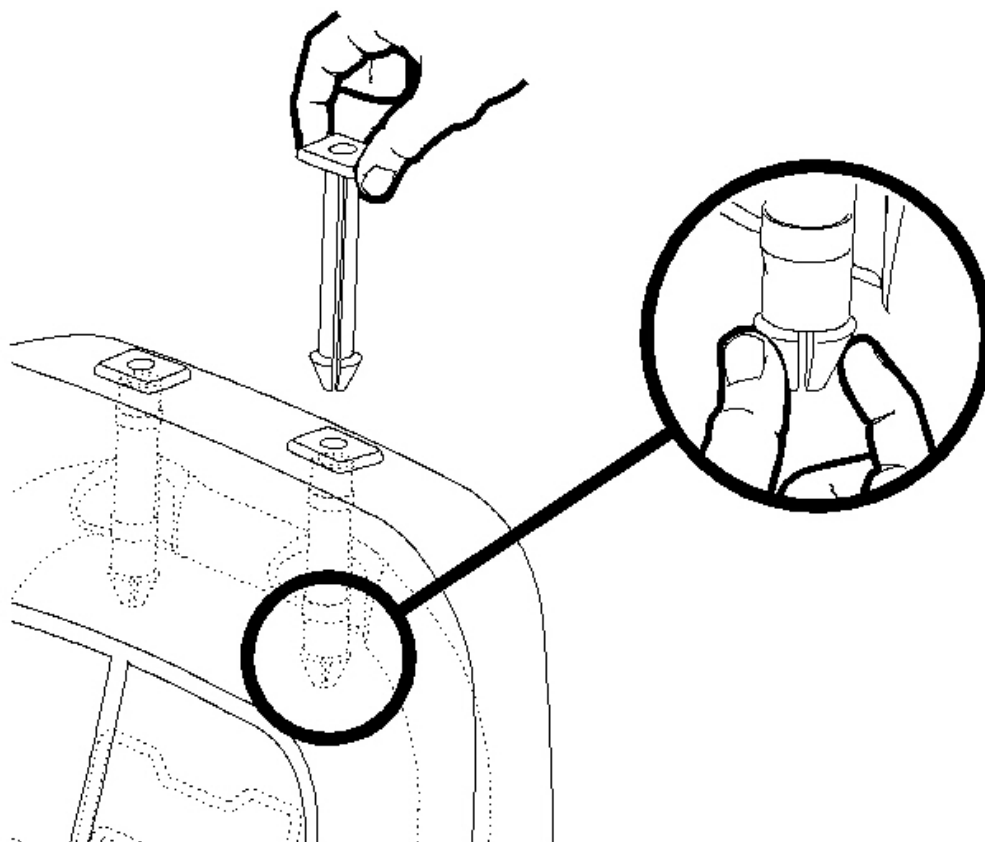


Fig. 209: Removing/Installing Headrest Guides By Pressing Into Position
Courtesy of GENERAL MOTORS CORP.

1. Install the seat back trim cover over the top of the seat back. Refer to **Seat Back Cover and Pad Replacement - Front (Non-Fold Flat)** or **Seat Back Cover and Pad Replacement - Front (Fold Flat)** .
2. Install the headrest guides by pressing the guides into position until the locking tabs engage.
3. Install the headrest. Refer to **Head Restraint Replacement - Front Seat** .

DESCRIPTION AND OPERATION

MANUAL SEATS DESCRIPTION

Front Seats

Front floor bucket seats are equipped with adjustable head restraints that can be released by the tab located at the base of the restraint. All models offer 2-way adjustment.

All models offer 4-way manual seat adjustment on the driver side and 2-way manual adjustment on the passenger side, as well as a manual recliner on each side. All seats offer the towel-bar control for forward/backward adjustment as well as a driver seat height adjuster lever which is located on the outer side panel. To operate the height adjuster, ratchet upward on the lever to raise the seat cushion and ratchet downward on the lever to lower the seat cushion. The recliner is operated by a lever on the lower outboard side of the front seat back.

Rear Seats

All vehicles have rear seat backs that fold forward using a latch lever located at the top of each seat back. Each seat back may be placed in an upright position or may be slightly reclined.

To fold the seat forward, pull upward on the latch and fold the seat forward. Pull on the latch to put the seat back in the up position. To recline the seatback, pull on the latch again while applying pressure to the rear seat back cushion. Pull again on the latch to put the seat back in the full-up position.

POWER SEATS SYSTEM DESCRIPTION AND OPERATION

Power Seats System Description and Operation

The power seat adjuster motors are controlled through the power seat switch. Battery voltage is supplied to the power seat switch through the PWR SEATS 20A fuse. While the seat adjuster switches are in an inactive state the switch contacts are closed to the power seat switch ground circuit. When a power seat switch is pressed to an active state the switch contact is closed to the battery voltage supply circuit. Each seat adjuster motor is controlled by the power seat switch through 2 motor control circuits. The seat adjuster motors are bidirectional and the direction of adjuster motor rotation is determined by which of the adjuster motor control circuits is switched to battery voltage while the other remains grounded.

HEATED SEATS DESCRIPTION AND OPERATION

Heated Seat System Description and Operation

The driver and front passenger seats are heated using electric heater elements located in the seat cushions and seat backs. Battery voltage to the heater elements is controlled by the heated seat modules using inputs from the heated seat switches and the heated seat thermistor. Ignition voltage is supplied to the heated seat switch. When the heated seat switch is in the high or low position, ignition voltage is supplied through the heated seat switch signal circuit to the module. Voltage to the high/low switch signal circuit is reduced by the resistors within the heated seat switch and high or low seat heater operation is determined by the voltage level of the high/low

signal circuit to the heated seat module. The seat temperature is regulated by the module using an input from the thermistor located in the seat cushion. The thermistor is a temperature sensitive variable resistor and the module determines the seat cushion temperature by monitoring the signal voltage supplied to the thermistor. When the desired seat temperature has been reached the module will open and close the supply voltage to the heater elements as necessary in order to maintain the seat temperature.