

2006 Chevrolet Equinox LS

2006 ACCESSORIES & EQUIPMENT Doors - Equinox & Torrent

2006 ACCESSORIES & EQUIPMENT**Doors - Equinox & Torrent****SPECIFICATIONS****FASTENER TIGHTENING SPECIFICATIONS****Fastener Tightening Specifications**

Application	Specification	
	Metric	English
Door Applique Screws - Front	2.2 N.m	20 lb in
Door Applique Screws - Rear	2.2 N.m	20 lb in
Door Check Link to Body Bolt - Front	10 N.m	89 lb in
Door Check Link to Body Bolt - Rear	10 N.m	89 lb in
Door Check Link to Door Frame Nuts - Front	10 N.m	89 lb in
Door Check Link to Door Frame Nuts - Rear	10 N.m	89 lb in
Door Handle Screw - Inside	2.5 N.m	22 lb in
Door Handle Screw - Outside	8 N.m	71 lb in
Door Hinge to Door Bolts - Front	25 N.m	18 lb ft
Door Hinge to Door Bolts - Rear	25 N.m	18 lb ft
Door Hinge to Hinge Pillar Bolts - Front	25 N.m	18 lb ft
Door Hinge to Hinge Pillar Bolts - Rear	25 N.m	18 lb ft
Door Latch Bolts - Front	10 N.m	89 lb in
Door Latch Bolts - Rear	10 N.m	89 lb in
Door Outer Belt Retaining Screw - Front	1.5 N.m	13 lb in
Door Outer Belt Retaining Screw - Rear	1.5 N.m	13 lb in
Door Striker Bolts - Front	25 N.m	18 lb ft
Door Striker Bolts - Rear	25 N.m	18 lb ft
Door Trim Panel Screws - Front	2.5 N.m	22 lb in
Door Trim Panel Screws - Rear	2.5 N.m	22 lb in
Door Window Regulator Bolts - Front	8 N.m	71 lb in
Door Window Regulator Bolts - Rear	8 N.m	71 lb in
Door Window Regulator Motor Bolts - Front	8 N.m	71 lb in
Door Window Regulator Motor Bolts - Rear	8 N.m	71 lb in
Door Window Run Channel Bolts - Front	8 N.m	71 lb in
Door Window Run Channel Bolts - Rear	8 N.m	71 lb in
Outer Belt Seal Fasteners	1.5 N.m	13 lb in
Outside Rear View Mirror Attachment Nuts	10 N.m	89 lb in
Power Mirror Switch Assembly Screw	2.5 N.m	22 lb in

POWER WINDOW SCHEMATICS



DOOR LOCK/INDICATOR SCHEMATICS

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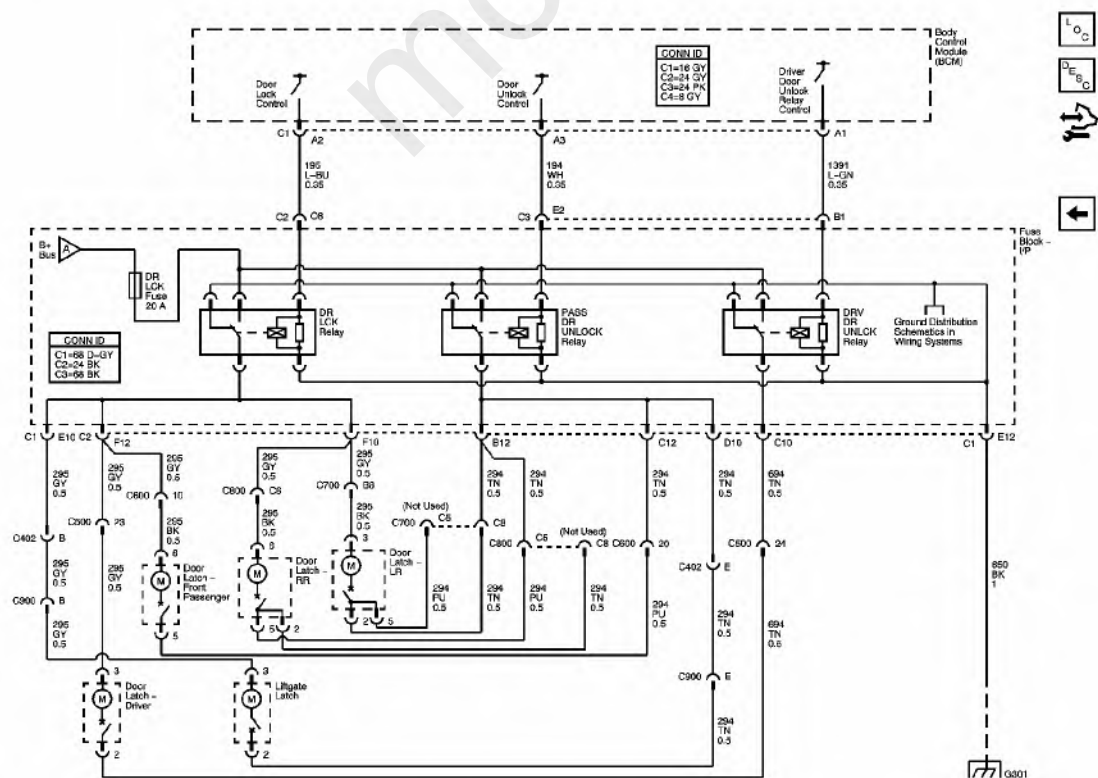
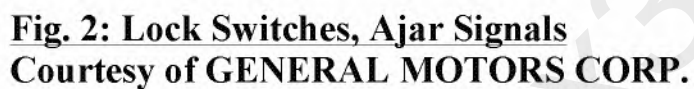


Fig. 3: Door Latch Controls
 Courtesy of GENERAL MOTORS CORP.

OUTSIDE MIRROR SCHEMATICS

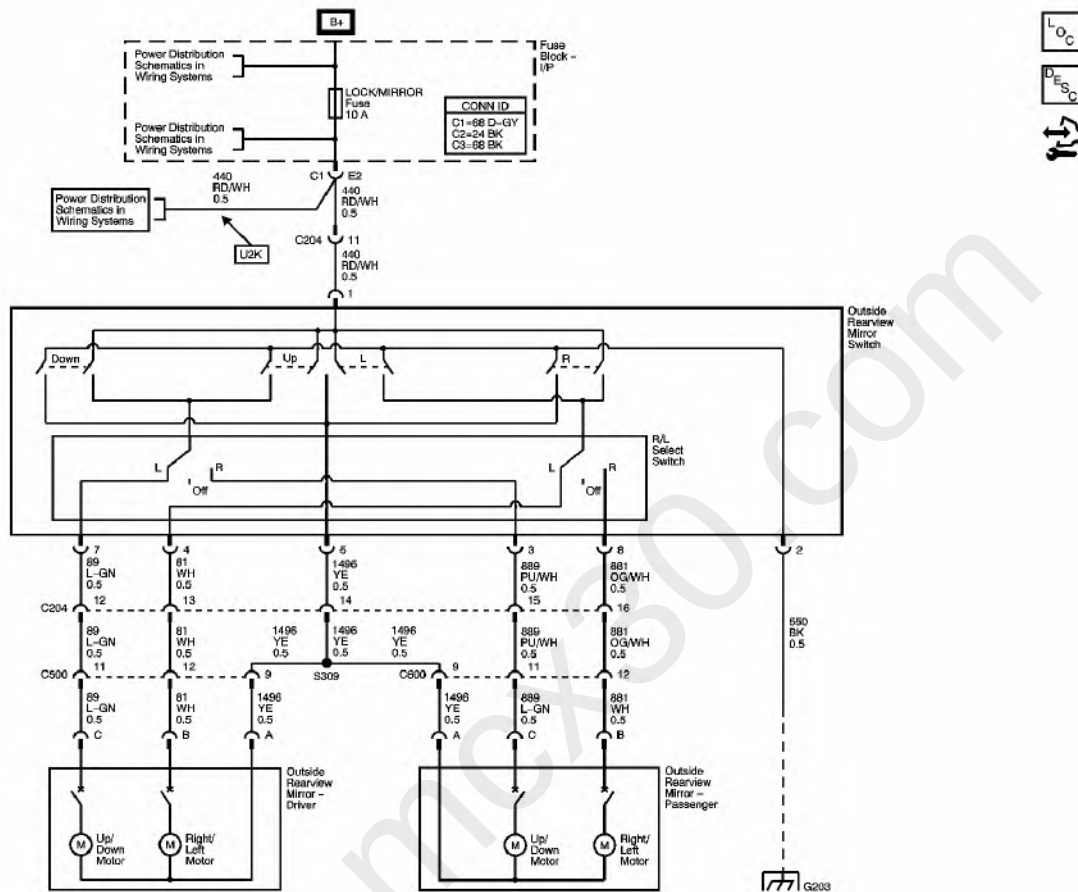


Fig. 4: Outside Mirror Schematics
 Courtesy of GENERAL MOTORS CORP.

COMPONENT LOCATOR

POWER DOOR SYSTEMS COMPONENT VIEWS

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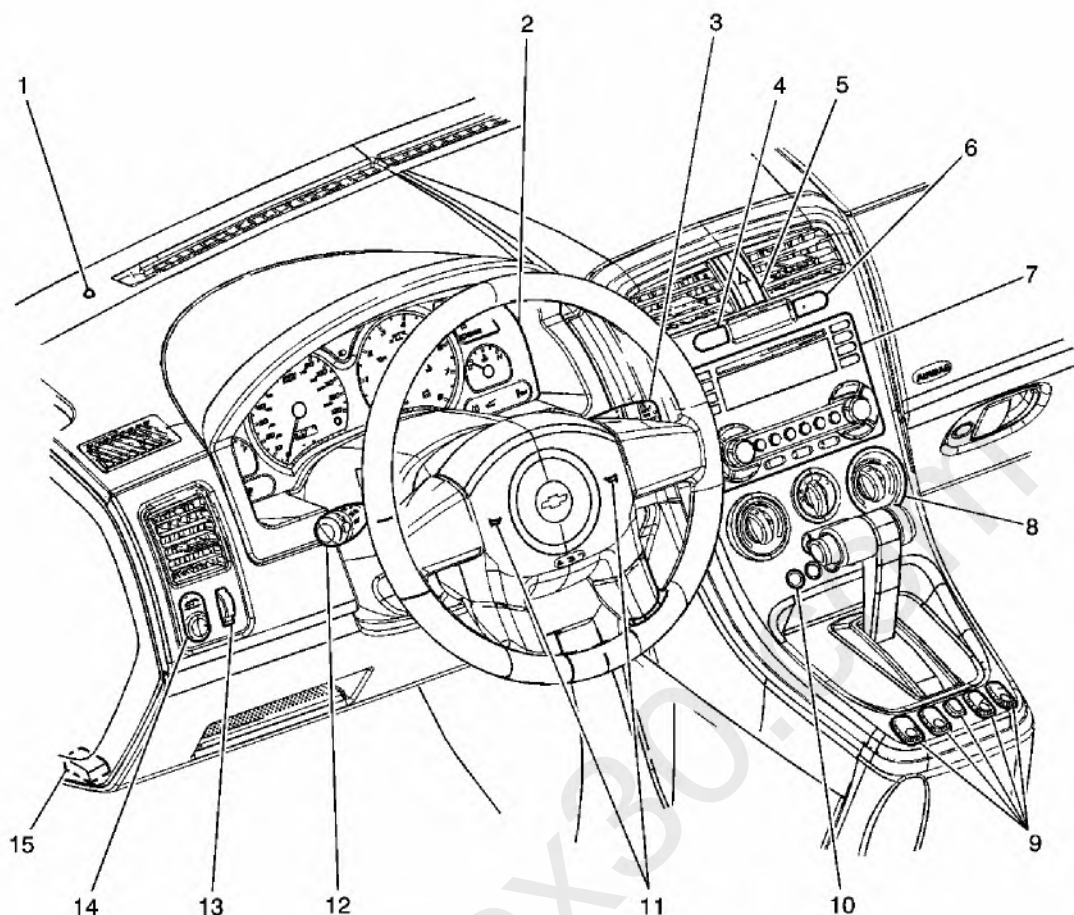


Fig. 5: Left Side of the I/P
Courtesy of GENERAL MOTORS CORP.

Callouts For Fig. 5

Callout	Component Name
1	Ambient Light Sensor
2	Instrument Panel Cluster (IPC)
3	Windshield Wiper/Washer Switch
4	Traction Control (TC) Switch (JM4)
5	Hazard Switch
6	Fog Lamp Switch (T96)
7	Radio
8	HVAC Control Module
9	Power Window Switch - Main
10	Transmission Range Indicator
11	Horn Switch/Pad - Part of the Inflatable Restraint Steering Wheel Module

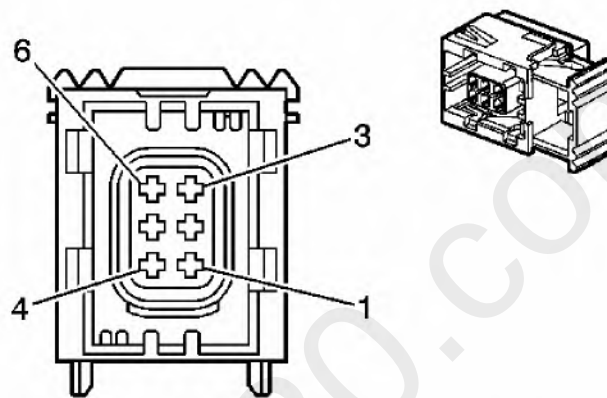
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12	Headlamp Switch
13	Dimmer Switch
14	Outside Rearview Mirror Switch
15	Data Link Connector (DLC)

POWER DOOR SYSTEMS CONNECTOR END VIEWS

Door Latch - Driver



Connector Part Information

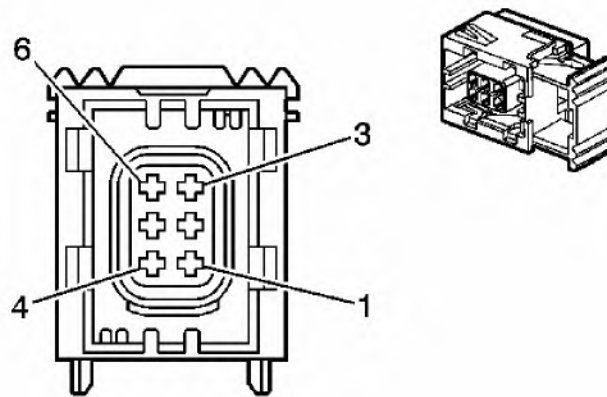
- OEM: 6-1355679-1, 6-1355683-1
- Service: See Catalog
- 6-Way F (BK)

Pin	Wire Color	Circuit No.	Function
1	BK	746	Not Used
2	TN	694	Driver Door Lock Actuator Unlock Control
3	GY	295	Door Lock Actuator Lock Control
4	RD/BK	745	Left Front Door Ajar Switch Signal
5	PU	294	Not Used
6	BK	650	Ground

Door Latch - Front Passenger

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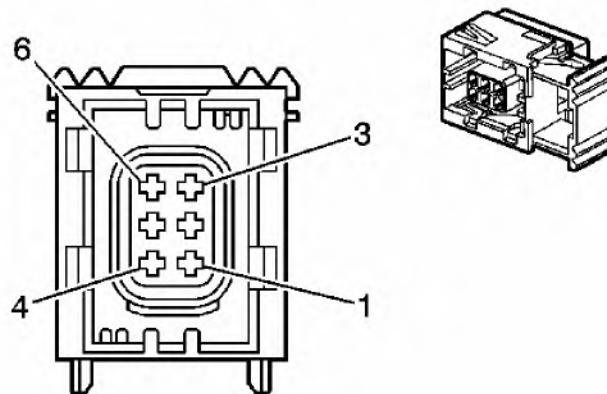


Connector Part Information

- OEM: 6-1355679-1, 6-1355683-1
- Service: See Catalog
- 6-Way F (BK)

Pin	Wire Color	Circuit No.	Function
1	BK	746	Passenger Door Ajar Switch Signal
2	TN	694	Not Used
3	GY	650	Ground
4	RD/BK	745	Not Used
5	PU	294	Door Lock Actuator Unlock Control
6	BK	295	Door Lock Actuator Lock Control

Door Latch - LR



Connector Part Information

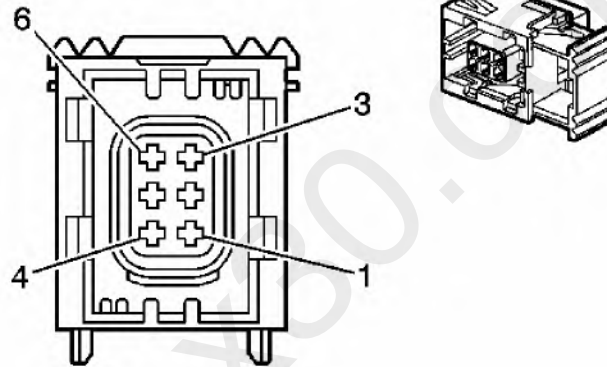
- OEM: 6-1355679-1, 6-1355683-1
- Service: See Catalog

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		• 6-Way F (BK)	
Pin	Wire Color	Circuit No.	Function
1	BK	746	Not Used
2	TN	294	Door Lock Actuator Unlock Control
3	GY	295	Door Lock Actuator Lock Control
4	RD/BK	746	Passenger Door Ajar Switch Signal
5	PU	294	Not Used
6	BK	750	Ground

Door Latch - RR



Connector Part Information

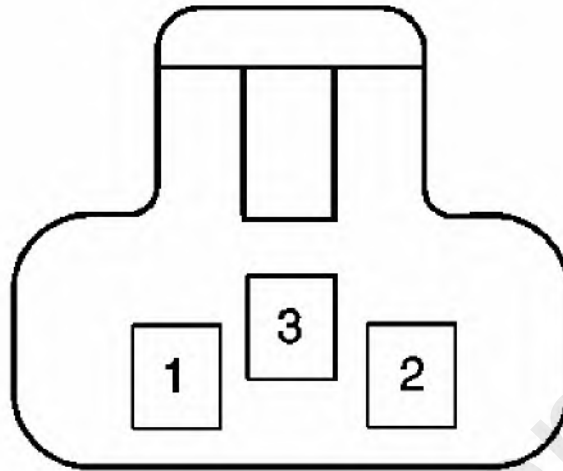
- OEM: 6-1355679-1, 6-1355683-1
- Service: See Catalog
- 6-Way F (BK)

Pin	Wire Color	Circuit No.	Function
1	BK	746	Passenger Door Ajar Switch Signal
2	TN	294	Not Used
3	GY	850	Ground
4	RD/BK	746	Not Used
5	PU	294	Door Lock Actuator Unlock Control
6	BK	295	Door Lock Actuator Lock Control

Door Lock Switch - Driver

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Connector Part Information

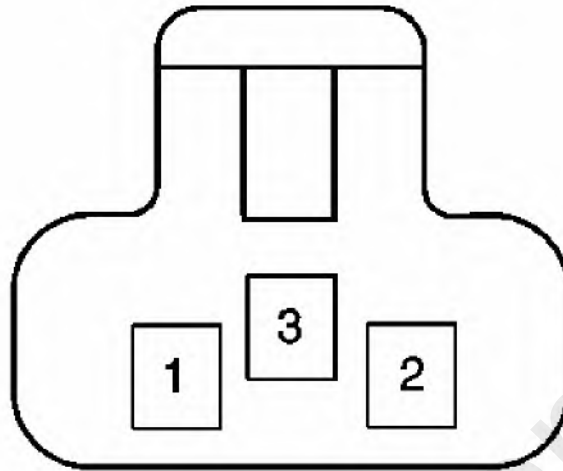
- OEM: 6098-0241
- Service: See Catalog
- 3-Way F (BK)

Pin	Wire Color	Circuit No.	Function
1	OG/BK	244	Passenger Door Lock Switch Lock Control
2	RD/BK	245	Passenger Door Lock Switch Unlock Control
3	OG	440	Battery Positive Voltage

Door Lock Switch - Front Passenger

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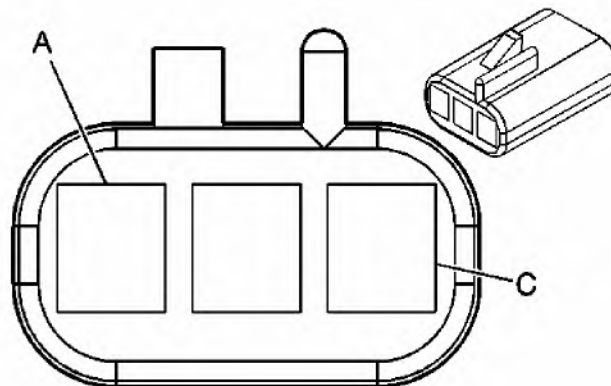


Connector Part Information

- OEM: 6098-0241
- Service: See Catalog
- 3-Way F (BK)

Pin	Wire Color	Circuit No.	Function
1	OG/BK	244	Passenger Door Lock Switch Lock Control
2	RD/BK	245	Passenger Door Lock Switch Unlock Control
3	OG	440	Battery Positive Voltage

Outside Rearview Mirror - Driver



- OEM: 12047781

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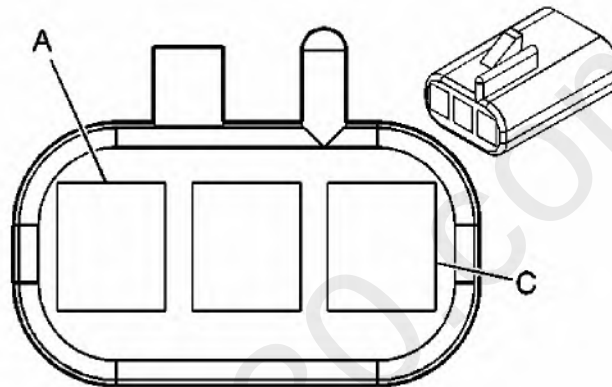
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Connector Part Information

- Service: 12101864
- 3-Way F (BK)

Pin	Wire Color	Circuit No.	Function
A	YE	1496	Mirror Motor Right/Up Control
B	WH	81	Driver Mirror Motor Right Control
C	L-GN	89	Driver Mirror Motor Down Control

Outside Rearview Mirror - Front Passenger



Connector Part Information

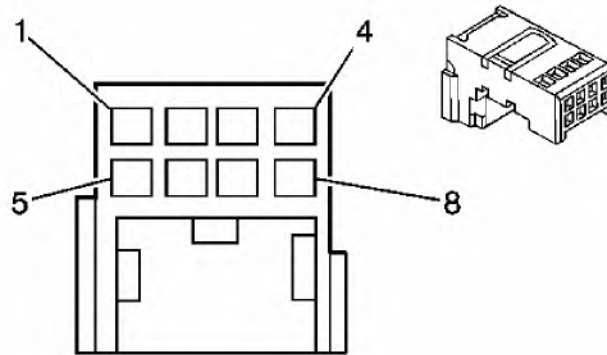
- OEM: 12047781
- Service: 12101864
- 3-Way F (BK)

Pin	Wire Color	Circuit No.	Function
A	YE	1496	Mirror Motor Right/Up Control
B	WH	881	Passenger Mirror Motor Right Control
C	L-GN	889	Passenger Mirror Motor Down Control

Outside Rearview Mirror Switch

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Connector Part Information

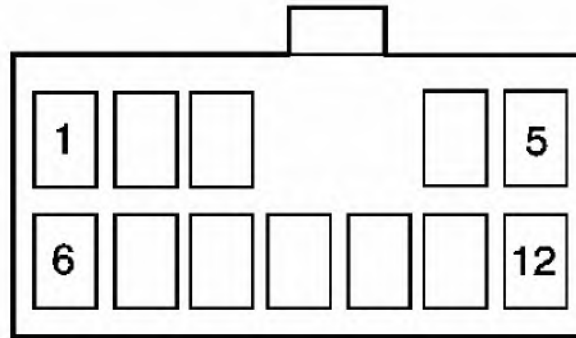
- **OEM: 15336862**
- **Service: See Catalog**
- **8-Way F REI DUCON (GY)**

Pin	Wire Color	Circuit No.	Function
1	RD/WH	440	Battery Positive Voltage
2	BK	550	Ground
3	PU/WH	889	Passenger Mirror Motor Up/Down Control
4	WH	81	Driver Mirror Motor Right/Left Control
5	YE	1496	Mirror Switch Control
6	-	-	Not Used
7	L-GN	89	Driver Mirror Motor Up/Down Control
8	OG/WH	881	Passenger Mirror Motor Right/Left Control

Power Window Switch - Main

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Connector Part Information

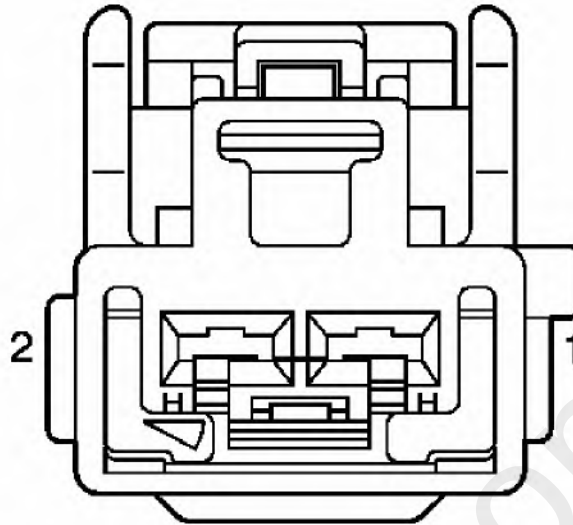
- OEM: 7283-1120
- Service: 15383359
- 12-Way F (WH)

Pin	Wire Color	Circuit No.	Function
1	YE	643	Accessory Voltage
2	L-GN	170	Power Window Master Switch Right Rear Up Signal
3	PU	171	Power Window Master Switch Right Rear Down Signal
4	D-GN	168	Power Window Master Switch Left Rear Up Signal
5	PU	169	Power Window Master Switch Left Rear Down Signal
6	BN	667	Power Window Motor Right Front Down Control
7	D-BU	666	Power Window Motor Right Front Up Control
8	BK	650	Ground
9	D-BU	1307	Power Window Master Switch Lockout Signal
10	D-BU	1307	Power Window Master Switch Lockout Signal
11	BN	165	Power Window Motor Left Front Down Control
12	D-BU	164	Power Window Motor Left Front Up Control

Window Motor - Driver

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Connector Part Information

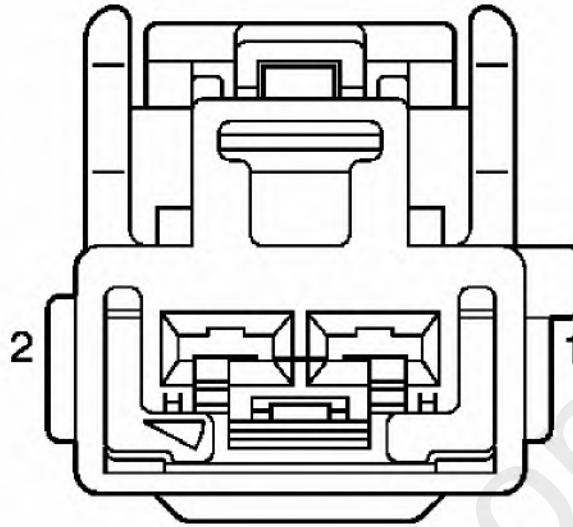
- **OEM: 7283-5565-40**
- **Service: See Catalog**
- **2-Way F YESC/USCAR Unsealed Series (GY)**

Pin	Wire Color	Circuit No.	Function
1	BN	165	Power Window Motor Left Front Down Control
2	D-BU	164	Power Window Motor Left Front Up Control

Window Motor - Front Passenger

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Connector Part Information

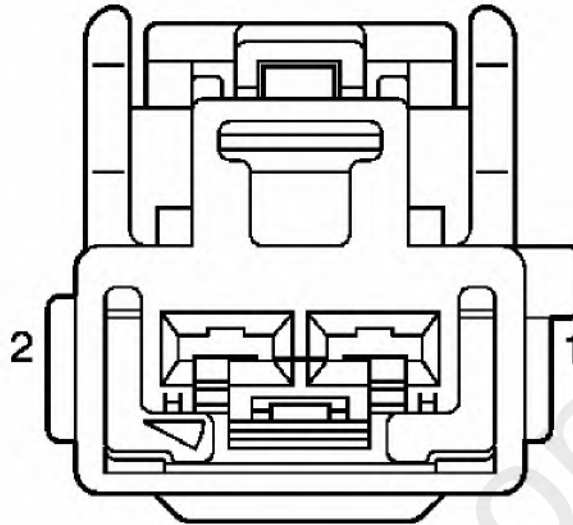
- **OEM: 7283-5565-40**
- **Service: See Catalog**
- **2-Way F YESC/USCAR Unsealed Series (GY)**

Pin	Wire Color	Circuit No.	Function
1	BN	667	Power Window Motor Right Front Down Control
2	D-BU	666	Power Window Motor Right Front Up Control

Window Motor - LR

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Connector Part Information

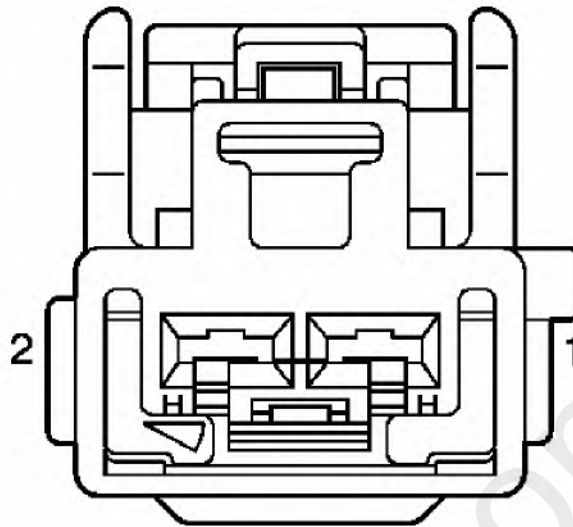
- **OEM: 7283-5565-40**
- **Service: See Catalog**
- **2-Way F YESC/USCAR Unsealed Series (GY)**

Pin	Wire Color	Circuit No.	Function
1	BN	669	Power Window Motor Left Rear Down Control
2	D-BU	668	Power Window Motor Left Rear Up Control

Window Motor - RR

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Connector Part Information

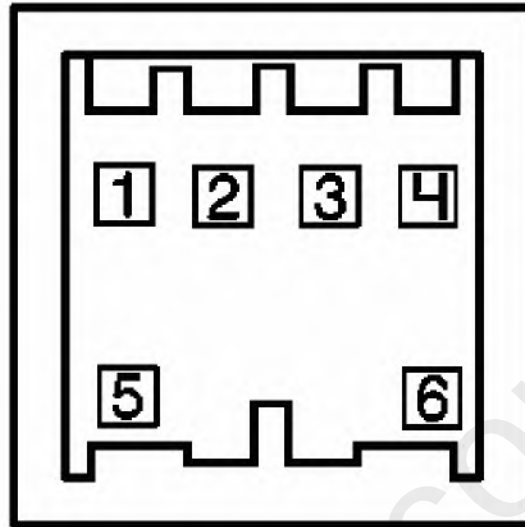
- **OEM: 7283-5565-40**
- **Service: See Catalog**
- **2-Way F YESC/USCAR Unsealed Series (GY)**

Pin	Wire Color	Circuit No.	Function
1	BN	671	Power Window Motor Right Rear Down Control
2	D-BU	670	Power Window Motor Right Rear Up Control

Window Switch - LR

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Connector Part Information

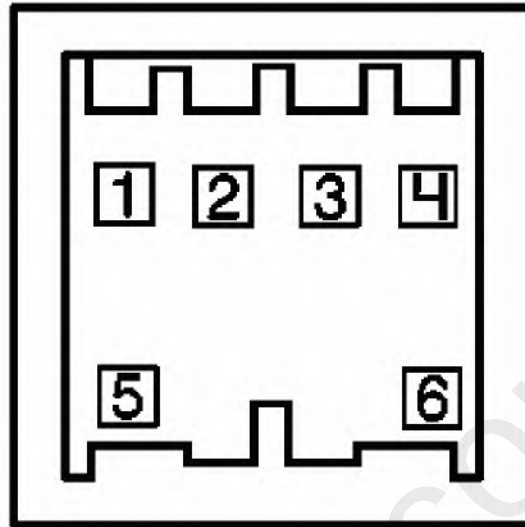
- OEM: 6098-0245
- Service: See Catalog
- 6-Way F (GY)

Pin	Wire Color	Circuit No.	Function
1	BN	669	Power Window Motor Left Rear Down Control
2	PU	169	Power Window Master Switch Left Rear Down Signal
3	-	-	Not Used
4	D-BU	668	Power Window Motor Left Rear Up Control
5	D-BU	1307	Power Window Master Switch Lockout Signal
6	D-GN	168	Power Window Master Switch Left Rear Up Signal

Window Switch - RR

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Connector Part Information

- OEM: 6098-0245
- Service: See Catalog
- 6-Way F (GY)

Pin	Wire Color	Circuit No.	Function
1	BN	671	Power Window Motor Right Rear Down Control
2	PU	171	Power Window Master Switch Right Rear Down Signal
3	-	-	Not Used
4	D-BU	670	Power Window Motor Right Rear Up Control
5	D-BU	1307	Power Window Master Switch Lockout Signal
6	L-GN	170	Power Window Master Switch Right Rear Up Signal

DIAGNOSTIC INFORMATION AND PROCEDURES

DIAGNOSTIC CODE INDEX

DIAGNOSTIC CODE INDEX

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DTC	Description
DTC B3127, B3128, B3132, B3133, B3137, or B3138	** MULTIPLE VALUES **
DTC B3132 or B3133	** MULTIPLE VALUES **
DTC B3137 or B3138	** MULTIPLE VALUES **

DIAGNOSTIC STARTING POINT - DOORS

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

- The identification of the control modules which command the system
- The ability of the control modules to communicate through the serial data circuit
- The identification of any stored diagnostic trouble codes (DTCs) and their status

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

SCAN TOOL OUTPUT CONTROLS

Body Control Module

Scan Tool Output Control	Additional Menu Selection(s)	Description
Door Lock Test	Driver Door Unlock	The BCM actuates the driver door unlock relay when you select UNLOCK. The driver door should unlock. The BCM actuates the door lock relay when you select LOCK. All doors and liftgate should lock.
Door Lock Test	Passenger Door Unlock	The BCM actuates the door unlock relay when you select UNLOCK. All passenger doors and liftgate should unlock. The BCM actuates the door lock relay when you select LOCK. All doors and liftgate should lock.

SCAN TOOL DATA LIST

Scan Tool Data List

Scan Tool Parameter	Data List	Units Displayed	Typical Data Value
Operating Conditions: Ignition ON, Engine OFF, All doors closed			
Battery 1	Door Locks	Volts	Varies
Driver Door Switch	Switch Inputs	High/Low	High with door closed

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Driver Unlock Relay Cmd.	Door Locks	On/Off	Off
Driver Unlock Relay Fdbk.	Door Locks	High/Low	Low
Liftgate Ajar Switch	Switch Inputs	High/Low	High with liftgate closed
Lock All Relay Cmd.	Door Locks	On/Off	Off
Lock All Relay Fdbk.	Door Locks	High/Low	Low
Lock Switch	Door Locks/Switch Inputs	On/Off	Off
Pass Door Switches	Switch Inputs	High/Low	High with doors closed
Pass. Unlock Relay Cmd.	Door Locks	On/Off	Off
Pass. Unlock Relay Fdbk.	Door Locks	High/Low	Low
Remote Lock Cmd.	Door Locks	Yes/No	No
Remote Panic Cmd.	Door Locks	Yes/No	No
Remote Unlock Cmd.	Door Locks	Yes/No	No
Unlock Switch	Door Locks/Switch Inputs	On/Off	Off

SCAN TOOL DATA DEFINITIONS**Battery 1**

The scan tool displays 0-25.5 volts. The state of the battery voltage received by the body control module.

Driver Door Switch

The scan tool displays High/Low. Low is displayed when the driver door is open, High is displayed when the driver door is closed.

Driver Unlock Relay Cmd.

The scan tool displays On/Off. This output of the BCM displays the state of the driver door unlock relay control command. On is displayed when the BCM is providing battery voltage to the driver door unlock relay control circuit.

Driver Unlock Relay Fdbk.

The scan tool displays High/Low. This input to the BCM displays the state of the driver door unlock relay control circuit. High is displayed when the BCM senses the driver door unlock relay control circuit is not open or shorted to ground while battery voltage

is applied to the driver door unlock relay control circuit.

Liftgate Ajar Switch

The scan tool displays High/Low. Low is displayed when the liftgate is open, High is displayed when the liftgate is closed.

Lock All Relay Cmd.

The scan tool displays On/Off. This output of the BCM displays the state of the door lock control command. On is displayed when the BCM is providing battery voltage to the door lock control circuit.

Lock All Relay Fdbk.

The scan tool displays High/Low. This input to the BCM displays the state of the door lock control circuit. High is displayed when the BCM senses the door lock control circuit is not open or shorted to ground while battery voltage is applied to the door lock control circuit.

Lock Switch

The scan tool displays On/Off. This input to the BCM displays the state of the door lock switches. On is displayed when the BCM senses any door lock switch is pressed to the lock position.

Pass Door Switches

The scan tool displays High/Low. Low is displayed when at least one passenger door is open, High is displayed when all passenger doors are closed.

Pass. Unlock Relay Cmd.

The scan tool displays On/Off. This output of the BCM displays the state of the door unlock control command. On is displayed when the BCM is providing battery voltage to the door unlock control circuit.

Pass. Unlock Relay Fdbk.

The scan tool displays High/Low. This input to the BCM displays the state of the door unlock control circuit. High is displayed when the BCM senses the door unlock control circuit is not open or shorted to ground while battery voltage is applied to the door unlock control circuit.

Remote Lock Cmd.

The scan tool displays Yes/No. This input to the BCM displays the state of the door lock request from the remote keyless entry (RKE) transmitter. Yes is displayed when the RKE transmitter lock button is pressed. For more information on the RKE system, refer to **Keyless Entry System Description and Operation** in Keyless Entry.

Remote Panic Cmd.

The scan tool displays Yes/No. This input to the BCM displays the state of the door lock request from the remote keyless entry (RKE) transmitter. Yes is displayed when the RKE transmitter panic button is pressed. For more information on the RKE system, refer to **Keyless Entry System Description and Operation** in Keyless Entry.

Remote Unlock Cmd.

The scan tool displays Yes/No. This input to the BCM displays the state of the door lock request from the remote keyless entry (RKE) transmitter. Yes is displayed when the RKE transmitter unlock button is pressed. For more information on the RKE system, refer to **Keyless Entry System Description and Operation** in Keyless Entry.

Unlock Switch

The scan tool displays On/Off. This input to the BCM displays the state of the door lock switches. On is displayed when the BCM senses any door lock switch is pressed to the unlock position.

DTC B3127, B3128, B3132, B3133, B3137, OR B3138

DTC Descriptors

This diagnostic procedure supports the following DTCs:

- DTC B3127 LF Door Only Unlock Circuit Low
- DTC B3128 LF Door Only Unlock Circuit High
- DTC B3132: All Unlock Circuit Low
- DTC B3133: All Unlock Circuit High
- DTC B3137: All Door Lock Circuit Low
- DTC B3138: All Door Lock Circuit High

Diagnostic Fault Information

Perform the **Diagnostic System Check - Vehicle** prior to using this diagnostic procedure.

Diagnostic Fault Information

Circuit	Short to	Open/High	Short to	Signal
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	Ground	Resistance	Voltage	Performance
Relay Switch B+	1,2,3	1,2,3	--	--
Door Lock Switch B+	1,2,3	1,2,3	--	--
Door Lock Control	B3137	B3138	B3138	--
Door Unlock Control	B3132	B3133	B3133	--
Driver Door Unlock Relay Control	B3127	B3128	B3128	--
Passenger Door Lock Switch Unlock Supply Voltage	2,3	2,3	2,3	--
Passenger Door Lock Switch Lock Supply Voltage	1	1	1	--
Door Latch Control	1,2,3	1,3	1,3	--
Liftgate Latch Control	1,2,3	1,3	1,3	--
Ground	--	1,2,3	1,2,3	--
1. Door Locks Inoperative 2. Driver Door Unlock Inoperative 3. Door Unlock Inoperative				

Circuit/System Description

The body control module (BCM) controls the driver door unlock relay. Voltage is applied to the driver door unlock relay through the driver door unlock relay control circuit when the BCM senses a door unlock switch activation or a keyless entry unlock command.

Conditions for Running the DTC

Battery positive voltage is between 9-16 volts.

Conditions for Setting the DTC**DTC B3127**

The BCM detects a short to ground in the driver door unlock relay control circuit while commanding the driver door unlock relay.

DTC B3128

The BCM detects an open in the driver door unlock relay control circuit.

DTC B3132

The BCM detects a short to ground in the door unlock control circuit while commanding the door unlock relay.

DTC B3133

The BCM detects an open in the door unlock control circuit.

DTC B3137

The BCM detects a short to ground in the door lock control circuit while commanding the door lock relay.

DTC B3138

The BCM detects an open in the door lock control circuit.

Action Taken When the DTC Sets

- The BCM stores the DTC to memory.
- The power door locks will not operate

Conditions for Clearing the DTC

- This DTC will change from current to history when the fault is no longer present.
- A history DTC will clear after 100 consecutive ignition cycles if the condition for the malfunction is no longer present.
- The technician issues a scan tool CLEAR DTCs command.

Reference Information**Schematic Reference**

- **Door Lock/Indicator Schematics**
- **BODY REAR END SCHEMATICS**

Connector End View Reference

- **Power Door Systems Connector End Views**
- **COMPUTER/INTEGRATING SYSTEMS CONNECTOR END VIEWS**
- **BODY REAR END CONNECTOR END VIEWS**

Electrical Information Reference

- **Circuit Testing**
- **Connector Repairs**
- **Testing for Intermittent Conditions and Poor Connections**
- **Wiring Repairs**

Scan Tool Reference

- **SCAN TOOL DATA LIST**

- **SCAN TOOL DATA DEFINITIONS**

- **Scan Tool Output Controls**

Circuit/System Testing

1. Ignition OFF, disconnect the appropriate relay.
2. Test for less than 1.0 ohm of resistance between the relay coil ground circuit and ground.
 - If greater than the specified range, test the relay ground circuit for an open/high resistance.
3. Connect a test lamp between the relay coil control circuit and the relay coil ground circuit.
4. Command the appropriate relay ON and OFF with a scan tool. The test lamp should turn ON and OFF when changing between the commanded states.
 - If the test lamp is always OFF, test the relay coil control circuit for a short to ground or an open/high resistance. If the circuit tests normal, replace the BCM.
 - If the test lamp is always ON, test the relay coil control circuit for a short to voltage. If the circuit tests normal, replace the BCM.
5. If all circuits test normal, test or replace the appropriate relay.

Component Testing**Relay Test**

1. Ignition OFF, disconnect the applicable relay.
2. Test for 60-200 ohms of resistance between terminals 85 and 86.
 - If the resistance is not within the specified range, replace the relay.
3. Test for infinite resistance between the following terminals:
 - 30 and 86
 - 30 and 87
 - 30 and 85
 - 85 and 87.
 - If less than infinite resistance, replace the relay.
4. Test for less than 2 ohms of resistance between terminals 30 and 87A.
 - If greater than 2 ohms, replace the relay.
5. Install a 3-amp fused jumper wire between relay terminal 85 and 12 volts. Install a jumper wire between relay terminal 86 and ground. Measure for less than 2 ohms of resistance between terminals 30 and 87.
 - If greater than 2 ohms, replace the relay.

Perform the Diagnostic Repair Verification after completing the diagnostic procedure.

- **RELAY REPLACEMENT (WITHIN AN ELECTRICAL CENTER) or RELAY REPLACEMENT (ATTACHED TO WIRE HARNESS)**
- **CONTROL MODULE REFERENCES** for BCM replacement, setup and programming.

DTC B3132 OR B3133

Circuit Description

The body control module (BCM) controls the door unlock relay. Voltage is applied to the door unlock relay through the door unlock control circuit when the BCM senses a door unlock switch activation or a keyless entry unlock command.

DTC Descriptors

This diagnostic procedure supports the following DTCs:

- DTC B3132 All Door Unlock Circuit Low
- DTC B3133 All Door Unlock Circuit High

Conditions for Running the DTC

- Battery positive voltage is between 9-16 volts.
- DTC B1327 and DTC B1328 are not current.

Conditions for Setting the DTC

- The BCM detects an open in the door unlock control circuit.
- The BCM detects a short to ground in the door unlock control circuit while commanding the door unlock relay.
- An open coil in the passenger door unlock relay.

Action Taken When the DTC Sets

- The door unlock relay will be inoperative.
- The BCM stores either DTC B3132 or DTC B3133 in memory.

Conditions for Clearing the DTC

- A history DTC will clear after 100 consecutive fault free ignition cycles.
- A scan tool may be used to clear the DTC.

Diagnostic Aids

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- The following conditions may cause the DTC to set:
 - An open or short to ground in the door unlock control circuit
 - A faulty door unlock relay
 - The BCM is shorted to ground internally.
- If the DTC is a history DTC, the fault may be intermittent. Refer to **Testing for Intermittent Conditions and Poor Connections** in Wiring Systems.

Test Description

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

2: Listen for an audible noise when the door unlock relay is commanded. Command the door locks to lock and unlock. Repeat the commands as necessary.

3: Verifies that the BCM is providing voltage to the door unlock relay.

4: Tests for an open in the door unlock relay ground circuit.

DTC B3132 or B3133

Step	Action	Yes	No
Schematic Reference: Door Lock/Indicator Schematics Connector End View Reference: Power Door Systems Connector End Views			
1	Did you perform the Diagnostic System Check - Vehicle?	Go to Step 2	Go to Diagnostic System Check - Vehicle in Vehicle DTC Information
2	1. Install a scan tool. 2. Turn ON the ignition, with the engine OFF. 3. With a scan tool, command the door unlock relay ON. Does the door unlock relay energize when commanded?	Go to Diagnostic Aids	Go to Step 3
3	1. Turn OFF the ignition. 2. Remove the door unlock relay. 3. Turn ON the ignition, with the engine OFF. 4. Probe the door unlock control circuit with a test lamp connected to ground.		

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	5. With a scan tool, command the door unlock relay ON. Does the test lamp flash when the door unlock relay is commanded ON?	Go to Step 4	Go to Step 5
4	Connect a test lamp between the door unlock relay ground circuit and battery positive voltage. Does the test lamp illuminate?	Go to Step 7	Go to Step 8
5	Test for an open or short to ground in the door unlock control circuit. Refer to Circuit Testing and Wiring Repairs in Wiring Systems. Did you find and correct the condition?	Go to Step 11	Go to Step 6
6	Inspect for poor connections at the body control module (BCM). Refer to Testing for Intermittent Conditions and Poor Connections and Connector Repairs in Wiring Systems. Did you find and correct the condition?	Go to Step 11	Go to Step 9
7	Inspect for poor connections at the door unlock relay. Refer to Testing for Intermittent Conditions and Poor Connections and Connector Repairs in Wiring Systems. Did you find and correct the condition?	Go to Step 11	Go to Step 10
8	Repair open in the door unlock relay ground circuit. Refer to Wiring Repairs in Wiring Systems. Did you complete the repair?	Go to Step 11	-
9	Replace the BCM. Refer to Control Module References in Computer/Integrating Systems for replacement, setup and programming. Did you complete the replacement?	Go to Step 11	-
10	Replace the door unlock relay. Refer to Relay Replacement (Within an Electrical Center) or Relay Replacement (Attached to Wire Harness) in Wiring Systems. Did you complete the replacement?	Go to Step 11	-
	1. Use the scan tool in order to clear the DTCs.		

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11	2. Operate the vehicle within the Conditions for Running the DTC as specified in the supporting text.		
	Does the DTC reset?	Go to Step 2	System OK

DTC B3137 OR B3138

Circuit Description

The body control module (BCM) controls the door lock relay. Voltage is applied to the door lock relay through the door lock control circuit when the BCM senses a door lock switch activation or a keyless entry lock command.

DTC Descriptors

This diagnostic procedure supports the following DTCs:

- DTC B3137 All Door Lock Circuit Low
- DTC B3138 All Door Lock Circuit High

Conditions for Running the DTC

- Battery positive voltage is between 9-16 volts.
- DTC B1327 and DTC B1328 are not current.

Conditions for Setting the DTC

- The BCM detects an open in the door lock control circuit.
- The BCM detects a short to ground in the door lock control circuit while commanding the door lock relay.
- An open coil in the door lock relay.

Action Taken When the DTC Sets

- The door lock relay will be inoperative.
- The BCM stores either DTC B3137 or DTC B3138 in memory.

Conditions for Clearing the DTC

- A history DTC will clear after 100 consecutive fault free ignition cycles.
- A scan tool may be used to clear the DTC.

Diagnostic Aids

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- The following conditions may cause the DTC to set:
 - An open or short to ground in the door lock control circuit
 - A faulty door lock relay
 - The BCM is shorted to ground internally.
- If the DTC is a history DTC, the fault may be intermittent. Refer to **Testing for Intermittent Conditions and Poor Connections** in Wiring Systems.

Test Description

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

2: Listen for an audible noise when the door lock relay is commanded. Command the door locks to lock and unlock. Repeat the commands as necessary.

3: Verifies that the BCM is providing voltage to the door lock relay.

4: Tests for an open in the door lock relay ground circuit.

DTC B3137 or B3138

Step	Action	Yes	No
Schematic Reference: Door Lock/Indicator Schematics Connector End View Reference: Power Door Systems Connector End Views			
1	Did you perform the Diagnostic System Check - Vehicle?	Go to Step 2	Go to Diagnostic System Check - Vehicle in Vehicle DTC Information
2	1. Install a scan tool. 2. Turn ON the ignition, with the engine OFF. 3. With a scan tool, command the door lock relay ON. Does the door lock relay energize when commanded?	Go to Diagnostic Aids	Go to Step 3
3	1. Turn OFF the ignition. 2. Remove the door lock relay. 3. Turn ON the ignition, with the engine OFF. 4. Probe the door lock control circuit with a test lamp connected to ground.		

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	5. With a scan tool, command the door lock relay ON. Does the test lamp flash when the door lock relay is commanded ON?	Go to Step 4	Go to Step 5
4	Connect a test lamp between the door lock relay ground circuit and battery positive voltage. Does the test lamp illuminate?	Go to Step 7	Go to Step 8
5	Test for an open or short to ground in the door lock control circuit. Refer to Circuit Testing and Wiring Repairs in Wiring Systems. Did you find and correct the condition?	Go to Step 11	Go to Step 6
6	Inspect for poor connections at the body control module (BCM). Refer to Testing for Intermittent Conditions and Poor Connections and Connector Repairs in Wiring Systems. Did you find and correct the condition?	Go to Step 11	Go to Step 9
7	Inspect for poor connections at the door lock relay. Refer to Testing for Intermittent Conditions and Poor Connections and Connector Repairs in Wiring Systems. Did you find and correct the condition?	Go to Step 11	Go to Step 10
8	Repair open in the door lock relay ground circuit. Refer to Wiring Repairs in Wiring Systems. Did you complete the repair?	Go to Step 11	-
9	Replace the BCM. Refer to Control Module References in Computer/Integrating Systems for replacement, setup and programming. Did you complete the replacement?	Go to Step 11	-
10	Replace the door lock relay. Refer to Relay Replacement (Within an Electrical Center) or Relay Replacement (Attached to Wire Harness) in Wiring Systems. Did you complete the replacement?	Go to Step 11	-
	1. Use the scan tool in order to clear the DTCs. 2. Operate the vehicle within the		

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11	Conditions for Running the DTC as specified in the supporting text.		
	Does the DTC reset?	Go to Step 2	System OK

SYMPTOMS - DOORS

- IMPORTANT:**
1. **Perform Diagnostic System Check - Vehicle in Vehicle DTC Information before using the symptom tables in order to verify that all of the following are true:**
 - There are no DTCs set.
 - The body control module (BCM) can communicate via the serial data link.
 2. **Review the system operation in order to familiarize yourself with the system functions. Refer to the following:**
 - Power Windows Description and Operation
 - Power Door Locks Description and Operation
 - Outside Mirror Description and Operation

Visual/Physical Inspection

Several of the symptom procedures ask for a careful visual/physical check. This step is extremely important - it could lead to correcting a problem without further checks and can save valuable time. These checks include the following:

- Inspect for aftermarket devices which could affect the operation of the power door systems. Refer to Checking Aftermarket Accessories in Wiring Systems.
- Inspect the easily accessible or visible system components and harness connectors for obvious damage or conditions which could cause the symptom.

Intermittents

IMPORTANT: Check for proper installation of electrical components if an intermittent condition exists. Inspect for aftermarket theft deterrent devices, lights and cellular phones. Ensure that no aftermarket equipment is connected to the class 2 circuit. If you can not locate an intermittent condition, a cellular phone signal may cause the condition. Faulty electrical connections or wiring may also be the cause of intermittent conditions. Refer to Testing for Intermittent Conditions and Poor Connections in Wiring Systems.

IMPORTANT: The problem may or may not turn on the **SERVICE VEHICLE SOON** indicator or store a DTC. Do not use the symptom tables to diagnose intermittent conditions. The malfunction must be present in order to locate the problem.

Poor electrical connections or wiring cause most intermittent conditions. Perform a careful visual/physical check for the following conditions:

- Poor mating of the connector halves or a terminal not fully seated in the connector body
- An improperly formed or damaged terminal
- Reform or replace connector terminals in the problem circuit in order to insure proper contact tension.
- Poor terminal to wire connection requires removing the terminal from the connector body in order to perform the check.

Use a scan tool in order to help detect intermittent conditions. The scan tool has several features that can be used to locate an intermittent condition. The snapshot feature can capture and store data parameters within the scan tool when the malfunction occurs. This information can then be reviewed in order to see what caused the malfunction.

Symptom List

Refer to a symptom diagnostic procedure from the following list in order to diagnose a symptom that does not set a DTC:

- **Power Windows Inoperative - All**
- **Power Windows Inoperative - One (Front Power Windows) or Power Windows Inoperative - One (Rear Power Windows)**
- **Power Windows Inoperative - Express Down Function**
- **Power Windows Inoperative - Lockout Function**
- **Power Door Locks Inoperative - All Doors and Switches**
- **Power Door Locks Inoperative - One Door or Switch**
- **Power Door Locks Inoperative - Lockout Feature**
- **Power Mirrors Inoperative**

POWER WINDOWS INOPERATIVE - ALL

Power Windows Inoperative - All

Step	Action	Yes	No
Schematic Reference: Power Window Schematics Connector End View Reference: Power Door Systems Connector End Views			
	Did you perform the Diagnostic System		Go to

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1	Check - Vehicle?	Go to Step 2	<u>Diagnostic System Check - Vehicle</u> in Vehicle DTC Information
2	Operate all power windows from all power window switches. Did all the power windows operate from all power window switches correctly?	Go to <u>Testing for Intermittent Conditions and Poor Connections</u> in Wiring Systems	Go to Step 3
3	Did any power window operate from any power window switch?	Go to <u>Symptoms - Doors</u>	Go to Step 4
4	1. Disconnect the main power window switch connector. 2. Turn ON the ignition, with the engine OFF. 3. Connect a test lamp between the accessory voltage circuit of the main power window switch connector and a good ground. Does the test lamp illuminate?	Go to Step 5	Go to Step 6
5	Connect a test lamp between the accessory voltage circuit and the ground circuit of the main power window switch connector. Does the test lamp illuminate?	Go to Step 10	Go to Step 13
6	1. Turn OFF the ignition. 2. Remove the power window relay. 3. Connect a test lamp between the power window relay battery positive voltage circuit at the power window relay harness connector and a good ground. Does the test lamp illuminate?	Go to Step 8	Go to Step 7
	Test the following circuits of the main power window switch for a short to ground: • Accessory Voltage • Power window motor left front up		

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7	control • Power window motor left front down control • Power window master switch left rear up signal • Power window master switch left rear down signal • Power window master switch lockout signal of the LR window switch • Power window master switch lockout signal of the RR window switch • Power window master switch right rear up signal • Power window master switch right rear down signal • Power window motor right front up control • Power window motor right front down control • Power window motor left rear up control • Power window motor left rear down control • Power window motor right rear up control • Power window motor right rear down control		
	Did you find and correct the condition?	Go to Step 17	Go to Step 12
8	Connect a test lamp between the battery positive voltage circuit and the ground circuit of the power window relay connector. Does the test lamp illuminate?		
		Go to Step 9	Go to Step 14
9	Test the accessory voltage circuit of the main power window switch for a high resistance or an open. Refer to Circuit Testing and Wiring Repairs in Wiring Systems.		

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	Did you find and correct the condition?	Go to Step 17	Go to Step 11
10	Inspect for poor connections at the main power window switch connector. Refer to Testing for Intermittent Conditions and Poor Connections and Connector Repairs in Wiring Systems. Did you find and correct the condition?	Go to Step 17	Go to Step 16
11	Inspect for poor connections at the power window relay connector. Refer to Testing for Intermittent Conditions and Poor Connections and Connector Repairs in Wiring Systems. Did you find and correct the condition?	Go to Step 17	Go to Step 15
12	Repair the short to ground in the accessory voltage circuit of the main power window switch. Refer to Wiring Repairs in Wiring Systems. Did you complete the repair?	Go to Step 17	-
13	Repair the open or high resistance in the main power window switch ground circuit. Refer to Wiring Repairs in Wiring Systems. Did you complete the repair?	Go to Step 17	-
14	Repair the open or high resistance in the power window relay ground circuit. Refer to Wiring Repairs in Wiring Systems. Did you complete the repair?	Go to Step 17	-
15	Replace the power window relay. Refer to Relay Replacement (Within an Electrical Center) or Relay Replacement (Attached to Wire Harness) in Wiring Systems. Did you complete the replacement?	Go to Step 17	-
16	Replace the main power window switch. Refer to Power Window Switch Replacement . Did you complete the replacement?	Go to Step 17	-
17	Operate the system in order to verify the repair. Did you correct the condition?	System OK	Go to Step 2

POWER WINDOWS INOPERATIVE - ONE (FRONT POWER WINDOWS)

Test Description

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The number below refers to the step number on the diagnostic table.

3: The rear passenger power window switches on the main switch share common accessory voltage and ground circuits with the front windows. If the rear passenger power windows operate properly from the main switch the accessory voltage and ground circuits can be presumed good.

Power Windows Inoperative - One (Front Power Windows)

Step	Action	Yes	No
Schematic Reference: Power Window Schematics			
Connector End View Reference: Power Door Systems Connector End Views			
1	Did you review the Power Windows Description and Operation?	Go to Step 2	Go to Symptoms - Doors
2	1. Turn ON the ignition, with the engine OFF. 2. Operate the front power windows from the main power window switch. Do the front power windows operate properly?	Go to Testing for Intermittent Conditions and Poor Connections in Wiring Systems	Go to Step 3
3	Operate the rear passenger windows from the main power window switch. Do the rear passenger windows operate properly?	Go to Step 4	Go to Power Windows Inoperative - All
4	1. Disconnect the inoperative front power window motor. 2. Connect a test lamp to a good ground. 3. Probe the power window motor up circuit at the power window motor harness connector. 4. Activate the power window switch in the up direction. Does the test lamp illuminate?	Go to Step 5	Go to Step 7
5	1. With the test lamp still connected to a good ground, probe the power window motor down circuit at the power window motor harness connector. 2. Activate the power window switch in		

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	the down direction.		
	Does the test lamp illuminate?	Go to Step 6	Go to Step 8
6	1. Connect a test lamp between the power window motor up and down circuits at the power window motor harness connector. 2. Activate the power window switch in the up and down directions. Does the test lamp illuminate in both directions?	Go to Step 10	Go to Step 9
7	Test the power window motor up circuit for high resistance, an open or short to ground. Refer to Circuit Testing and Wiring Repairs in Wiring Systems. Did you find and correct the condition?	Go to Step 13	Go to Step 9
8	Test the power window motor down circuit for high resistance, an open or short to ground. Refer to Circuit Testing and Wiring Repairs in Wiring Systems. Did you find and correct the condition?	Go to Step 13	Go to Step 10
9	Inspect for poor connections at the main power window switch. Refer to Testing for Intermittent Conditions and Poor Connections and Connector Repairs in Wiring Systems. Did you find and correct the condition?	Go to Step 13	Go to Step 11
10	Inspect for poor connections at the power window motor. Refer to Testing for Intermittent Conditions and Poor Connections and Connector Repairs in Wiring Systems. Did you find and correct the condition?	Go to Step 13	Go to Step 12
11	Replace the main power window switch. Refer to Power Window Switch Replacement. Did you complete the replacement?	Go to Step 13	-
12	Replace the power window motor. Refer to Window Regulator Motor Replacement - Front Door. Did you complete the replacement?	Go to Step 13	-

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13	Operate the system in order to verify the repair. Did you correct the condition?	System OK	Go to Step 2
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POWER WINDOWS INOPERATIVE - ONE (REAR POWER WINDOWS)

Power Windows Inoperative - One (Rear Power Windows)

Step	Action	Yes	No
Schematic Reference: Power Window Schematics Connector End View Reference: Power Door Systems Connector End Views			
1	Did you review the Power Window Description and Operation?	Go to Step 2	Go to Symptoms - Doors
2	1. Turn ON the ignition, with the engine OFF. 2. Turn OFF the window lockout switch. 3. Operate the rear passenger windows up and down from both the rear passenger window switch and the main power window switch. Do the rear passenger windows operate properly from both switches?	Go to Testing for Intermittent Conditions and Poor Connections in Wiring Systems	Go to Step 3
3	Does the rear passenger window operate from the main power window switch and not the rear passenger window switch?	Go to Step 5	Go to Step 4
4	Does the rear passenger window operate from the rear passenger window switch and not the main power window switch?	Go to Step 6	Go to Step 7
5	1. Disconnect the passenger power window switch. 2. Connect a test lamp between the window lockout control circuit at the passenger power window switch harness connector and a good ground. Does the test lamp illuminate?	Go to Step 17	Go to Step 12
6	Does the driver window operate from the main power window switch?	Go to Step 20	Go to Power Windows Inoperative - All

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7	1. Disconnect the passenger power window motor. 2. Connect a test lamp between power window motor up circuit at the passenger power window motor harness connector and a good ground. 3. Operate the passenger power window in the up direction from the main power window switch. Did the test lamp illuminate?	Go to Step 8	Go to Step 10
8	1. Connect a test lamp between power window motor down circuit at the passenger power window motor harness connector and a good ground. 2. Operate the passenger power window in the down direction from the main power window switch. Did the test lamp illuminate?	Go to Step 9	Go to Step 11
9	1. Connect a test lamp between power window motor up and down circuits at the passenger power window motor harness connector. 2. Operate the passenger power window in the up and down directions. Did the test lamp illuminate in both directions?	Go to Step 18	Go to Step 19
10	1. Disconnect the passenger power window switch. 2. Connect a test lamp between the power window master switch up signal circuit at the passenger power window switch harness connector and a good ground. 3. Operate the passenger power window in the up direction from the main power window switch. Did the test lamp illuminate?	Go to Step 15	Go to Step 13

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11	1. Disconnect the passenger power window switch. 2. Connect a test lamp between the power window master switch down signal circuit at the passenger power window switch harness connector and a good ground. 3. Operate the passenger power window in the down direction from the main power window switch. Did the test lamp illuminate?	Go to Step 16	Go to Step 14
12	Test for high resistance or an open in the window lockout control circuit. Refer to Circuit Testing and Wiring Repairs in Wiring Systems. Did you find and correct the condition?	Go to Step 23	Go to Step 20
13	Test for high resistance or an open in the power window master switch up signal circuit. Refer to Circuit Testing and Wiring Repairs in Wiring Systems. Did you find and correct the condition?	Go to Step 23	Go to Step 19
14	Test for high resistance or an open in the power window master switch down signal circuit. Refer to Circuit Testing and Wiring Repairs in Wiring Systems. Did you find and correct the condition?	Go to Step 23	Go to Step 19
15	Test for high resistance or an open in the power window motor up control circuit. Refer to Circuit Testing and Wiring Repairs in Wiring Systems. Did you find and correct the condition?	Go to Step 23	Go to Step 17
16	Test for high resistance or an open in the power window motor down control circuit. Refer to Circuit Testing and Wiring Repairs in Wiring Systems. Did you find and correct the condition?	Go to Step 23	Go to Step 17
17	Inspect for poor connections at the passenger power window switch. Refer to Testing for Intermittent Conditions and Poor Connections and Connector Repairs in Wiring Systems.		

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	Did you find and correct the condition?	Go to Step 23	Go to Step 22
18	Inspect for poor connections at the passenger power window motor. Refer to Testing for Intermittent Conditions and Poor Connections and Connector Repairs in Wiring Systems. Did you find and correct the condition?	Go to Step 23	Go to Step 21
19	Inspect for poor connections at the main power window switch. Refer to Testing for Intermittent Conditions and Poor Connections and Connector Repairs in Wiring Systems. Did you find and correct the condition?	Go to Step 23	Go to Step 20
20	Replace the main power window switch. Refer to Power Window Switch Replacement . Did you complete the replacement?	Go to Step 23	-
21	Replace the rear passenger power window motor. Refer to Window Regulator Motor Replacement - Rear Door . Did you complete the replacement?	Go to Step 23	-
22	Replace the passenger power window switch. Refer to Power Window Switch Replacement . Did you complete the replacement?	Go to Step 23	-
23	Operate the system in order to verify the repair. Did you correct the condition?	System OK	Go to Step 2

POWER WINDOWS INOPERATIVE - EXPRESS DOWN FUNCTION

Power Windows Inoperative - Express Down Function

Step	Action	Yes	No
Schematic Reference: Power Window Schematics Connector End View Reference: Power Door Systems Connector End Views			
1	Did you perform the Diagnostic System Check - Vehicle?	Go to Step 2	Go to Diagnostic System Check - Vehicle in Vehicle DTC Information
	Operate the driver window.		Go to

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2	Does the window operate normally with the exception of the express down function?	Go to Step 3	Symptoms - Doors
3	Replace the driver power window switch. Refer to Power Window Switch Replacement . Is the repair complete?	Go to Step 4	-
4	Operate the system to verify the repair. Did you correct the condition?	System OK	Go to Step 2

POWER WINDOWS INOPERATIVE - LOCKOUT FUNCTION

Power Windows Inoperative - Lockout Function

Step	Action	Yes	No
Schematic Reference: Power Window Schematics Connector End View Reference: Power Door Systems Connector End Views			
1	Did you perform the Diagnostic System Check - Vehicle?	Go to Step 2	Go to Diagnostic System Check - Vehicle in Vehicle DTC Information
2	Verify that the rear window lockout function does not work properly. Does the lockout function operate properly?	Go to Testing for Intermittent Conditions and Poor Connections in Wiring Systems	Go to Step 3
3	IMPORTANT: Verify the power window switch lockout is not engaged. 1. Turn OFF the ignition. 2. Disconnect the front power window switch. 3. Test the front power window switch lockout signal circuit for a short to voltage. Refer to Circuit Testing and Wiring Repairs in Wiring Systems. Did you find and correct the condition?	Go to Step 5	Go to Step 4
4	Replace the front power window switch. Refer to Power Window Switch Replacement .		

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	Is the repair complete?	Go to Step 5	-
5	Operate the system in order to verify the repair. Did you correct the condition?	System OK	Go to Step 2

DOOR AJAR INDICATOR MALFUNCTION**Door Ajar Indicator Malfunction**

Step	Action	Yes	No
Schematic Reference: <u>Door Lock/Indicator Schematics</u> Connector End View Reference: <u>Power Door Systems Connector End Views</u>			
1	Did you perform the Diagnostic System Check - Vehicle?	Go to Step 2	Go to <u>Diagnostic System Check - Vehicle</u> in Vehicle DTC Information
2	Open and close the driver and passenger doors one at a time while monitoring the instrument panel cluster (IPC). Do the door ajar indicators operate properly?	Go to <u>Testing for Intermittent Conditions and Poor Connections</u> in Wiring Systems	Go to Step 3
3	Do the dome lamps operate properly with the opening and closing of each of the doors?	Go to Step 4	Go to <u>Symptoms - Lighting Systems</u> in Lighting Systems
4	Replace the IPC. Refer to <u>Control Module References</u> in Computer/Integrating Systems for replacement, setup and programming. Did you complete the replacement?	Go to Step 5	-
5	Operate the system in order to verify the repair. Did you correct the condition?	System OK	Go to Step 2

POWER DOOR LOCKS INOPERATIVE - ALL DOORS AND SWITCHES**Power Door Locks Inoperative - All Doors and Switches**

Step	Action	Yes	No
Schematic Reference: <u>Door Lock/Indicator Schematics</u>			

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Connector End View Reference: Power Door Systems Connector End Views, Computer/Integrating Systems Connector End Views in Computer/Integrating Systems, or Electrical Center Identification Views in Wiring Systems

1	Did you perform the Diagnostic System Check - Vehicle?	Go to Step 2	Go to <u>Diagnostic System Check - Vehicle</u> in Vehicle DTC Information
2	Verify that all door locks and switches are inoperative. Do the power door locks operate normally?	Go to <u>Testing for Intermittent Conditions and Poor Connections</u> in Wiring System	Go to Step 3
3	1. Install a scan tool. 2. Turn ON the ignition, with the engine OFF. 3. With a scan tool, command the doors to lock and unlock. Do the door lock actuators lock and unlock with each command?	Go to Step 4	Go to Step 5
4	Is the LOCK/MIRROR fuse open?	Go to Step 8	Go to Step 5
5	Is the DR LCK fuse open?	Go to Step 9	Go to Step 6
6	Test the battery positive voltage circuit of the lock switches for an open or high resistance. Refer to <u>Circuit Testing</u> and <u>Wiring Repairs</u> in Wiring Systems. Did you find and correct the condition?	Go to Step 11	Go to Step 7
7	Inspect for poor connections at the body control module (BCM). Refer to <u>Testing for Intermittent Conditions and Poor Connections</u> and <u>Connector Repairs</u> in Wiring Systems. Did you find and correct the condition?	Go to Step 11	Go to Step 10
	Repair the short to ground in one of the following driver or passenger door lock switch circuits: • Battery positive voltage • Passenger door lock switch lock		

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8	supply voltage • Passenger door lock switch unlock supply voltage Refer to Wiring Repairs in Wiring Systems. Did you complete the repair?	Go to Step 11	-
9	Repair the short to ground in one of the following circuits: • Driver door lock actuator unlock control • Door lock actuator lock control • Door lock actuator unlock control Refer to Wiring Repairs in Wiring Systems. Did you complete the repair?	Go to Step 11	-
10	Replace the BCM. Refer to Control Module References in Computer/Integrating Systems for replacement, setup, and programming Did you complete the replacement?	Go to Step 11	-
11	Operate the system in order to verify the repair. Did you find and correct the condition?	System OK	Go to Step 2

POWER DOOR LOCKS INOPERATIVE - ONE DOOR OR SWITCH

Power Door Locks Inoperative - One Door or Switch

Step	Action	Yes	No
Schematic Reference: <u>Door Lock/Indicator Schematics</u> Connector End View Reference: <u>Power Door Systems Connector End Views</u>, <u>Computer/Integrating Systems Connector End Views</u> in Computer/Integrating Systems, or <u>Electrical Center Identification Views</u> in Wiring Systems			
1	Did you perform the Diagnostic System Check - Vehicle?	Go to Step 2	Go to Diagnostic System Check - Vehicle in Vehicle DTC Information

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2	Verify that one door lock switch or actuator fault is present. Do the power door locks operate normally?	Go to Testing for Intermittent Conditions and Poor Connections in Wiring System	Go to Step 3
3	Is the door lock switch the inoperative component?	Go to Step 4	Go to Step 6
4	Are both the LOCK and UNLOCK functions inoperative?	Go to Step 10	Go to Step 5
5	Is the LOCK function the inoperative function?	Go to Step 11	Go to Step 12
6	Is the driver door lock actuator the inoperative component?	Go to Step 7	Go to Step 8
7	1. Disconnect the driver door lock actuator. 2. Connect a test lamp between the driver door lock actuator unlock control circuit and the door lock actuator lock control circuit of the driver door lock actuator electrical connector. 3. Activate a door lock switch to the LOCK and UNLOCK positions. Does the test lamp illuminate?	Go to Step 16	Go to Step 13
8	1. Disconnect the appropriate lock actuator. 2. Connect a test lamp between the lock actuator unlock control circuit and the lock actuator lock control circuit of the appropriate lock actuator electrical connector. 3. Activate a door lock switch to the LOCK position. Does the test lamp illuminate?	Go to Step 9	Go to Step 14
9	Activate a door lock switch to the UNLOCK position. Does the test lamp illuminate?	Go to Step 17	Go to Step 15
	Test the battery positive voltage circuit from the LOCK/MIRROR fuse to the door		

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10	lock switch for an open. Refer to Circuit Testing and Wiring Repairs in Wiring Systems. Did you find and correct the condition?	Go to Step 25	Go to Step 18
11	Test the passenger door lock switch lock supply voltage circuit for an open or short to battery. Refer to Circuit Testing and Wiring Repairs in Wiring Systems. Did you find and correct the condition?	Go to Step 25	Go to Step 19
12	Test the passenger door lock switch unlock supply voltage circuit for an open or short to battery. Refer to Circuit Testing and Wiring Repairs in Wiring Systems. Did you find and correct the condition?	Go to Step 25	Go to Step 19
13	Test the driver door lock actuator unlock control circuit for an open or short to battery. Refer to Circuit Testing and Wiring Repairs in Wiring Systems. Did you find and correct the condition?	Go to Step 25	Go to Step 15
14	Test the appropriate lock actuator lock control circuit for an open or short to battery. Refer to Circuit Testing and Wiring Repairs in Wiring Systems. Did you find and correct the condition?	Go to Step 25	Go to Step 20
15	Test the appropriate lock actuator unlock control circuit for an open or short to battery. Refer to Circuit Testing and Wiring Repairs in Wiring Systems. Did you find and correct the condition?	Go to Step 25	Go to Step 20
16	Inspect for poor connections at the driver door lock actuator. Refer to Testing for Intermittent Conditions and Poor Connections and Connector Repairs in Wiring Systems. Did you find and correct the condition?	Go to Step 25	Go to Step 21
17	Inspect for poor connections at the appropriate lock actuator. Refer to Testing for Intermittent Conditions and Poor Connections and Connector Repairs in Wiring Systems. Did you find and correct the condition?	Go to Step 21	Go to Step 21
	Inspect for poor connections at the appropriate door lock switch. Refer to		

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18	Testing for Intermittent Conditions and Poor Connections and Connector Repairs in Wiring Systems. Did you find and correct the condition?	Go to Step 25	Go to Step 22
19	Inspect for poor connections at the body control module (BCM). Refer to Testing for Intermittent Conditions and Poor Connections and Connector Repairs in Wiring Systems. Did you find and correct the condition?	Go to Step 25	Go to Step 23
20	Inspect for poor connections at the I/P fuse block harness connectors. Refer to Testing for Intermittent Conditions and Poor Connections and Connector Repairs in Wiring Systems. Did you find and correct the condition?	Go to Step 25	Go to Step 24
21	Replace the appropriate lock actuator. Refer to Latch Replacement - Front Door or Latch Replacement - Rear Door . Did you complete the repair?	Go to Step 25	-
22	Replace the appropriate door lock switch. Refer to Power Door Lock Switch Replacement . Did you complete the repair?	Go to Step 25	-
23	Replace the BCM. Refer to Control Module References in Computer/Integrating Systems for replacement, setup, and programming. Did you complete the replacement?	Go to Step 25	-
24	Replace the appropriate door lock relay. Refer to Relay Replacement (Within an Electrical Center) or Relay Replacement (Attached to Wire Harness) in Wiring Systems. Did you complete the repair?	Go to Step 25	-
25	Operate the system in order to verify the repair. Did you find and correct the condition?	System OK	Go to Step 2

POWER DOOR LOCKS INOPERATIVE - LOCKOUT FEATURE

Power Door Locks Inoperative - Lockout Feature

Step	Action	Yes	No
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Schematic Reference: Door Lock/Indicator Schematics**Connector End View Reference: Power Door Systems Connector End Views or Computer/Integrating Systems Connector End Views in Computer/Integrating Systems**

1	Did you perform the Diagnostic System Check - Vehicle?	Go to Step 2	Go to <u>Diagnostic System Check - Vehicle</u> in Vehicle DTC Information
2	Verify that the power door locks lockout feature is inoperative. Does the power door locks lockout feature operate normally?	Go to <u>Testing for Intermittent Conditions and Poor Connections</u> in Wiring Systems	Go to Step 3
3	Are the power door locks inoperative?	Go to <u>Symptoms - Doors</u>	Go to Step 4
4	1. Close all the doors. 2. Open and close each door while observing the courtesy lamps. Did the courtesy lamps illuminate for each door tested?	Go to Step 5	Go to <u>Courtesy Lamps Inoperative</u> in Lighting Systems
5	1. Insert the ignition key fully into the ignition cylinder. 2. Open the driver door. Does the chime activate?	Go to Step 6	Go to <u>Chime Inoperative</u> in Instrument Panel, Gages, and Console
6	Replace the body control module (BCM). Refer to <u>Control Module References</u> in Computer/Integrating Systems for replacement, setup, and programming. Did you complete the replacement?	Go to Step 7	-
7	Operate the system in order to verify the repair. Did you find and correct the condition?	System OK	Go to Step 3

POWER MIRRORS INOPERATIVE**Diagnostic Aids**

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- If the power mirror system fuse is open and a short to ground in the battery positive voltage circuit is not detected, the fault could be a short to ground in one of the power mirror control circuits. This would open the power mirror system fuse when the mirror switch is pressed.
- If both power mirrors are inoperative on one or more axis, the most probable cause is a power mirror switch failure. However the fault could be an open circuit on two or more of the power mirror control circuits.
- The power mirror assembly is equipped with a pigtail harness and is not serviceable. If an internal open or short is detected in the power mirror assembly, replace the power mirror assembly.

Test Description

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

6: This step tests the integrity of both the mirror control circuits and the power mirror switch. If both power mirrors are inoperative on one or more axis, begin testing by disconnecting one of the power mirrors, if an open circuit is detected and repaired for that power mirror, repeat step 6 for the other power mirror.

7: This step tests the integrity of the battery positive voltage circuit not the fuse.

Power Mirrors Inoperative

Step	Action	Yes	No
Schematic Reference: Outside Mirror Schematics			
Connector End View Reference: Power Door Systems Connector End Views			
1	Did you review the Outside Mirror Description and Operation?	Go to Step 2	Go to Outside Mirror Description and Operation
2	1. Place the mirror selector switch in the left mirror position. 2. Operate the mirror position switch in the up, down, left and right directions and note the operation. 3. Place the mirror selector switch in the right mirror position. 4. Operate the mirror position switch in the up, down, left and right directions and note the operation. Do both power mirrors operate properly?	Go to Testing for Intermittent Conditions and Poor Connections in Wiring Systems	Go to Step 3
	Are both the left and right power mirrors		

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3	completely inoperative?	Go to Step 4	Go to Step 6
4	1. Disconnect the power mirror switch. 2. Probe the battery positive voltage circuit of the power mirror switch harness connector with a test lamp that is connected to ground. Does the test lamp illuminate?	Go to Step 5	Go to Step 7
5	Connect a test lamp between the battery positive voltage circuit of the power mirror switch harness connector and the ground circuit of the power mirror switch harness connector. Does the test lamp illuminate?	Go to Step 9	Go to Step 15
6	1. Disconnect the inoperative power mirror. 2. Connect a test lamp between the appropriate mirror motor control circuits of the power mirror harness connector. 3. Place the mirror selector switch to the mirror to be tested. 4. Operate the power mirror switch in both directions for the functions being tested. Does the test lamp illuminate in both directions?	Go to Step 12	Go to Step 8
7	Test the battery positive voltage circuit of the power mirror switch for a short to ground or an open. Refer to Circuit Testing and Wiring Repairs in Wiring Systems. Did you find and correct the condition?	Go to Step 18	Go to Step 9
8	Test the mirror motor control circuits for an open. Refer to Circuit Testing and Wiring Repairs in Wiring Systems. Did you find and correct the condition?	Go to Step 18	Go to Step 9
	1. If the power mirrors were previously disconnected, connect the power mirrors.		

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9	2. If the power mirror switch was not previously disconnected, disconnect the power mirror switch. 3. Probe each of the power mirror motor control circuits of the power mirror switch harness connector with a test lamp that is connected to battery positive voltage. Did the test lamp illuminate at any of the power mirror motor control circuits?	Go to Step 13	Go to Step 10
10	Probe each of the power mirror motor control circuits of the power mirror switch harness connector with a test lamp that is connected to a good ground. Did the test lamp illuminate at any of the power mirror motor control circuits?	Go to Step 14	Go to Step 11
11	Inspect for poor connections at the harness connector of the power mirror switch. Refer to Testing for Intermittent Conditions and Poor Connections and Connector Repairs in Wiring Systems. Did you find and correct the condition?	Go to Step 18	Go to Step 16
12	Inspect for poor connections at the harness connector of the power mirror. Refer to Testing for Intermittent Conditions and Poor Connections and Connector Repairs in Wiring Systems. Did you find and correct the condition?	Go to Step 18	Go to Step 17
13	Repair the short to ground in the power mirror motor control circuit. Refer to Circuit Testing and Wiring Repairs in Wiring Systems. Did you complete the repair?	Go to Step 18	-
14	Repair the short to battery positive voltage in the power mirror motor control circuit. Refer to Circuit Testing and Wiring Repairs in Wiring Systems. Did you complete the repair?	Go to Step 18	-
15	Repair the open in the power mirror switch ground circuit. Refer to Circuit Testing and Wiring Repairs in Wiring Systems.		

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	Did you complete the repair?	Go to Step 18	-
16	Replace the power mirror switch. Refer to Power Mirror Switch Replacement . Did you complete the replacement?	Go to Step 18	-
17	Replace the power mirror. Refer to Mirror Replacement . Did you complete the replacement?	Go to Step 18	-
18	Operate the system in order to verify the repair. Did you correct the condition?	System OK	Go to Step 3

REPAIR INSTRUCTIONS

POWER WINDOW SWITCH REPLACEMENT

Removal Procedure

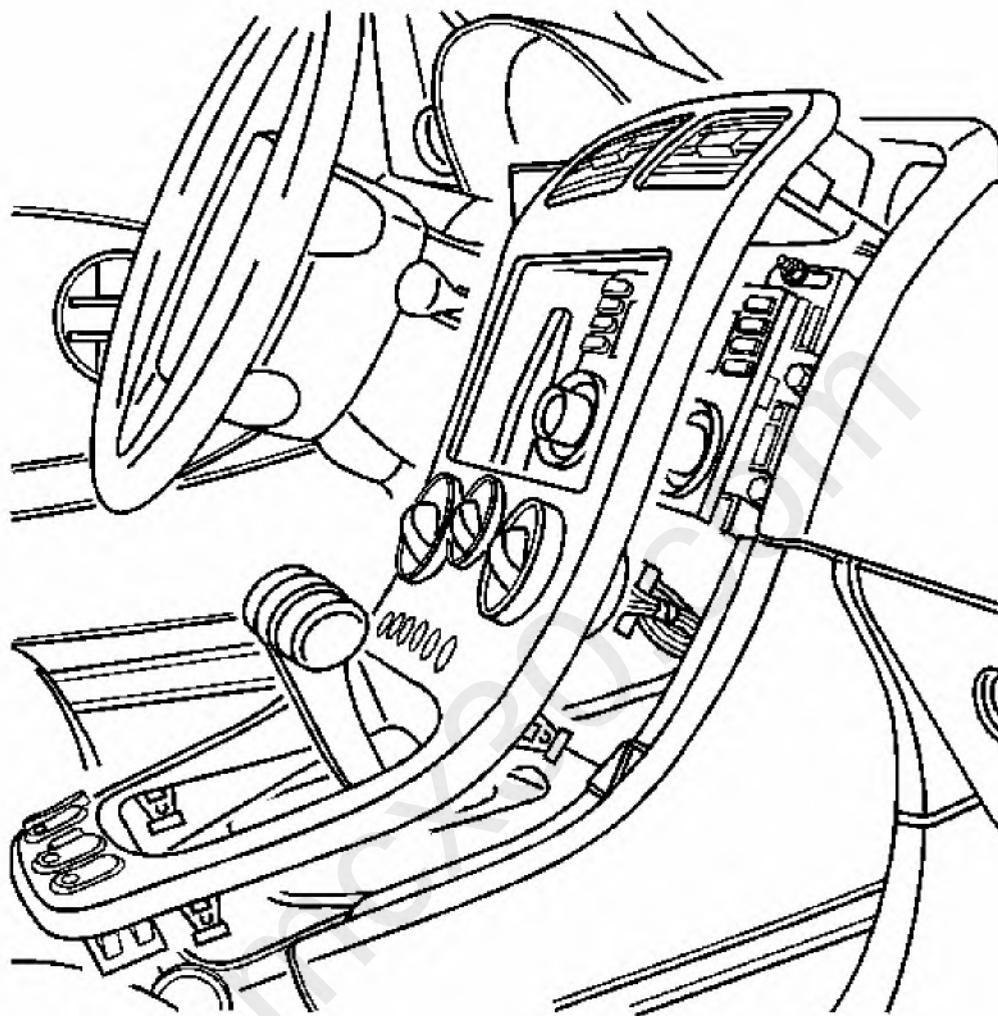


Fig. 6: View Of Center Console Trim Bezel
Courtesy of GENERAL MOTORS CORP.

1. Remove the console shift lever bezel. Refer to **Trim Bezel Replacement - Center** in Instrument Panel, Gages, and Console.

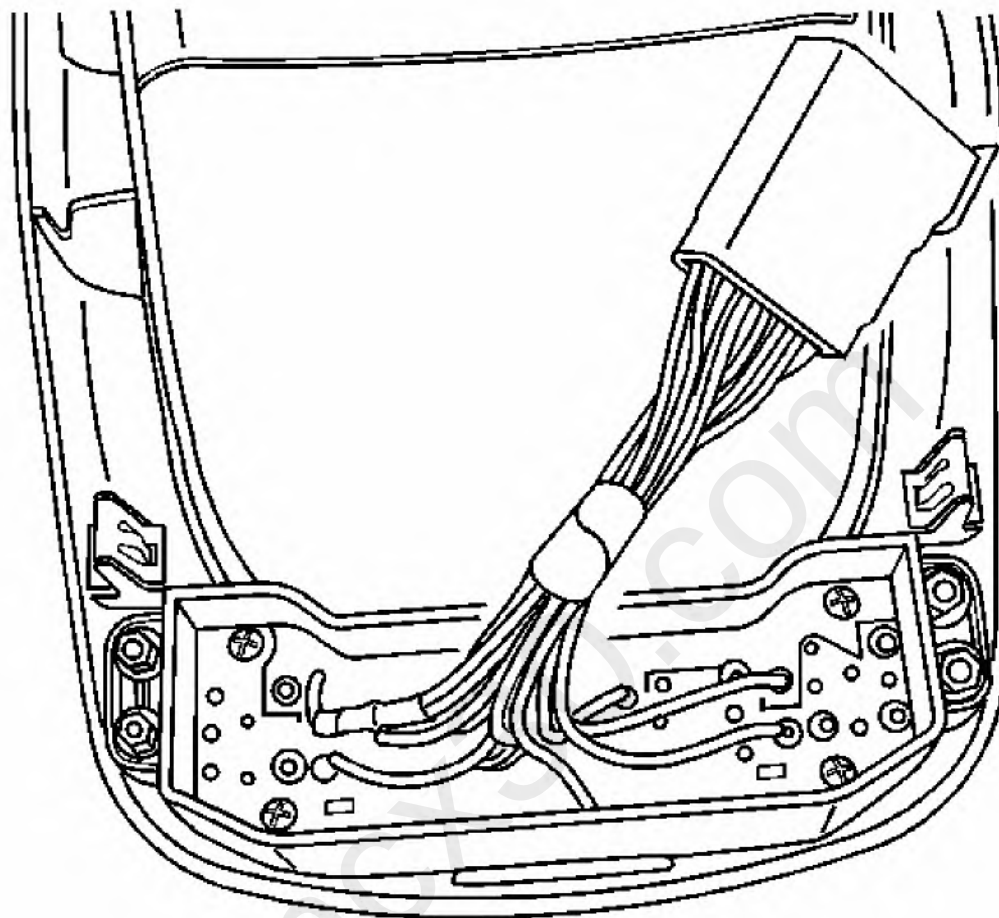


Fig. 7: Removing Screws From Power Window Switch Assembly
Courtesy of GENERAL MOTORS CORP.

2. Remove the screws from the power window switch assembly.

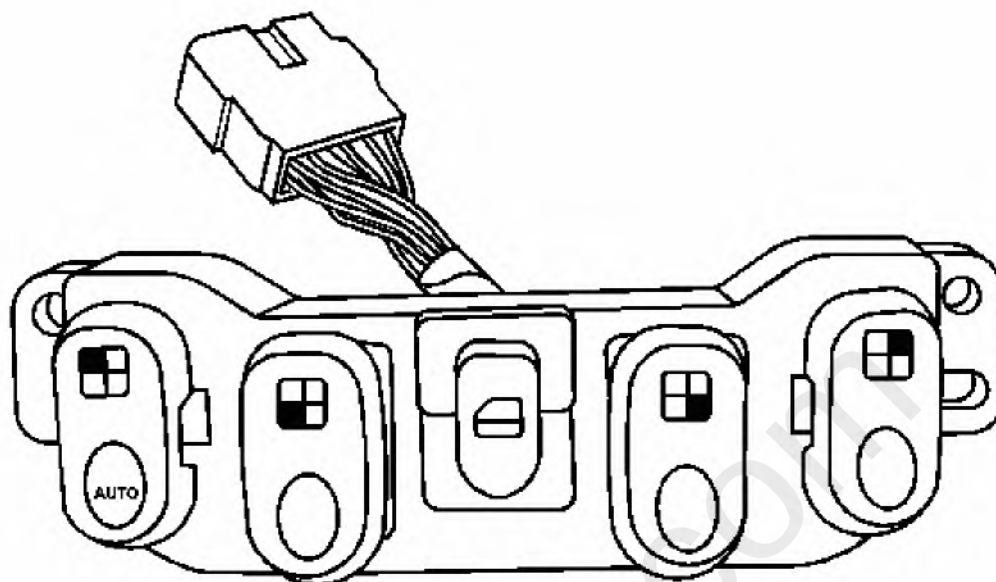


Fig. 8: View Of Power Window Switch Assembly
Courtesy of GENERAL MOTORS CORP.

3. Remove the switch assembly from the bezel.

Installation Procedure

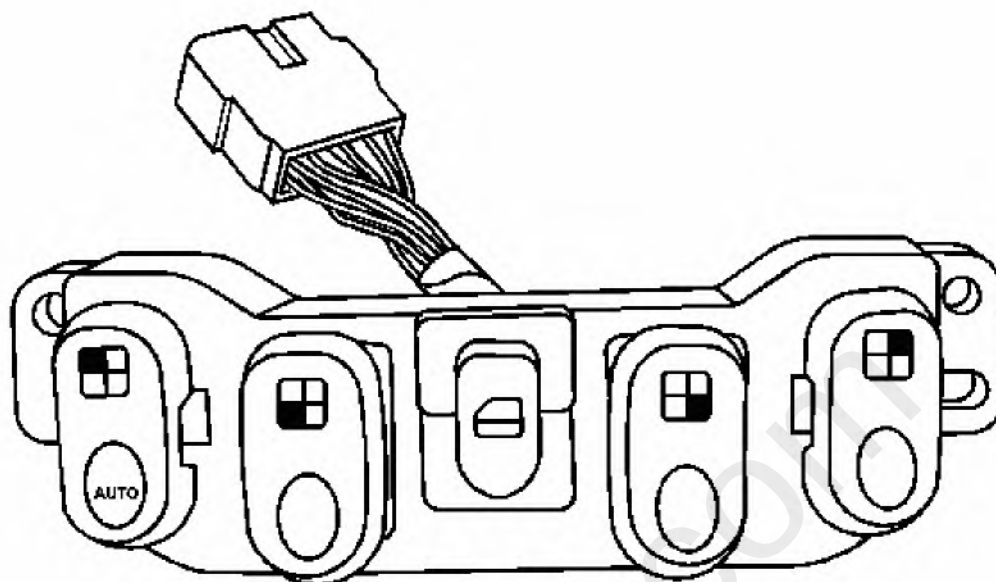


Fig. 9: View Of Power Window Switch Assembly
Courtesy of GENERAL MOTORS CORP.

1. Position the switch assembly.

NOTE: Refer to Fastener Notice in Cautions and Notices.

2. Install the screws to the switch assembly.

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

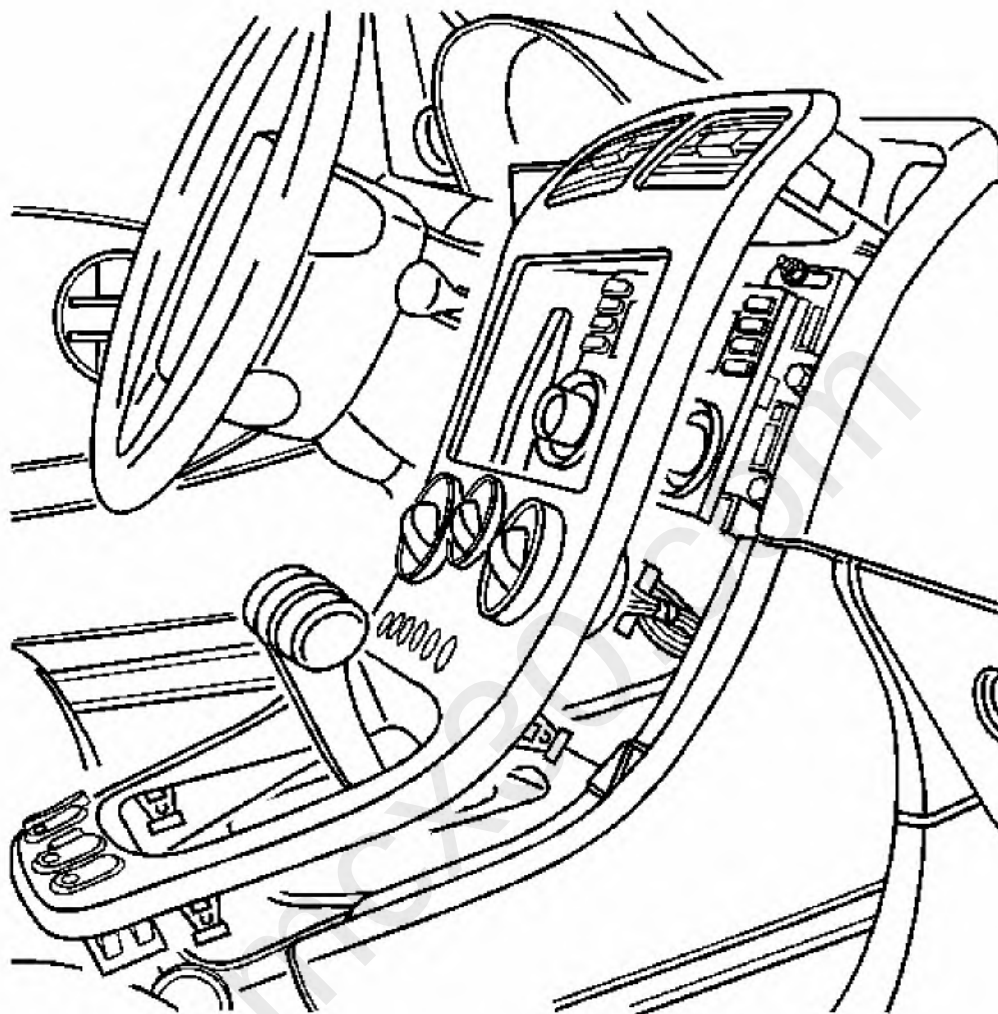


Fig. 10: View Of Center Console Trim Bezel
Courtesy of GENERAL MOTORS CORP.

3. Install the console shift lever bezel. Refer to **Trim Bezel Replacement - Center** in Instrument Panel, Gages, and Console.

POWER WINDOW SWITCH REPLACEMENT - REAR DOOR

Removal Procedure

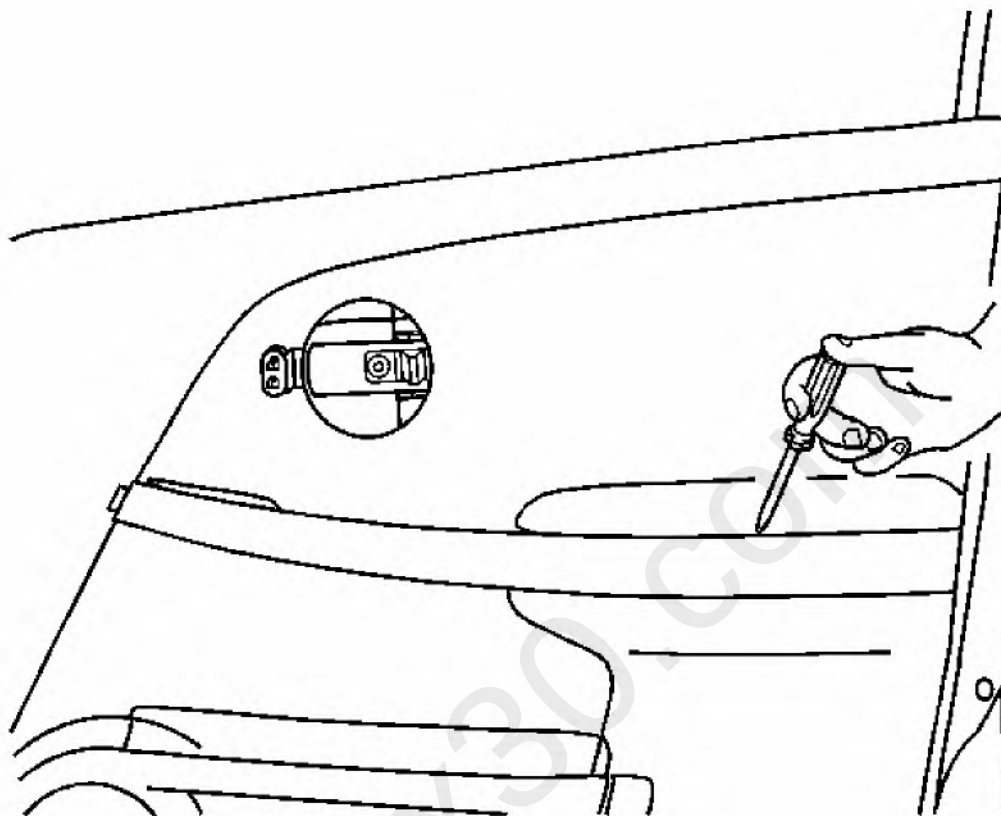


Fig. 11: View Of Door Trim Panel & Armrest Cover
Courtesy of GENERAL MOTORS CORP.

1. Remove the door trim panel. Refer to **Trim Panel Replacement - Side Rear Door**.

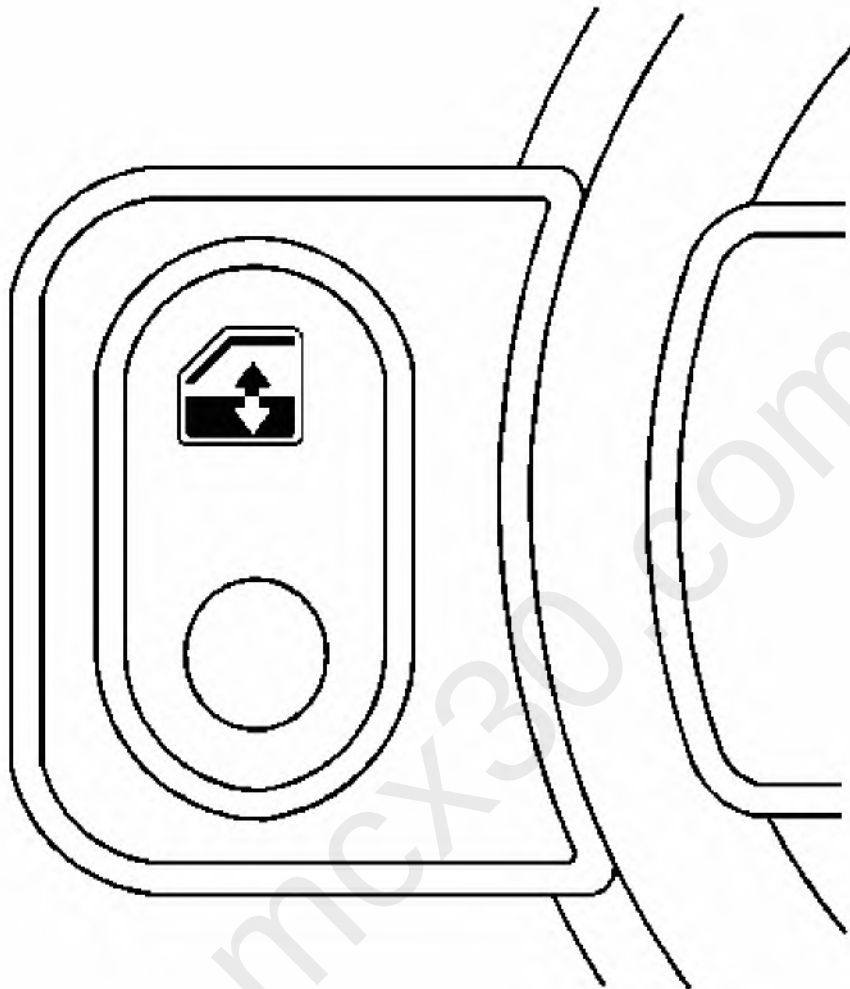


Fig. 12: View Of Rear Door Power Window Switch
Courtesy of GENERAL MOTORS CORP.

2. Use a flat-bladed tool to pry the switch from the door handle assembly.
3. Disconnect the electrical connector. Remove the switch.

Installation Procedure

1. Connect the electrical connector to the switch..

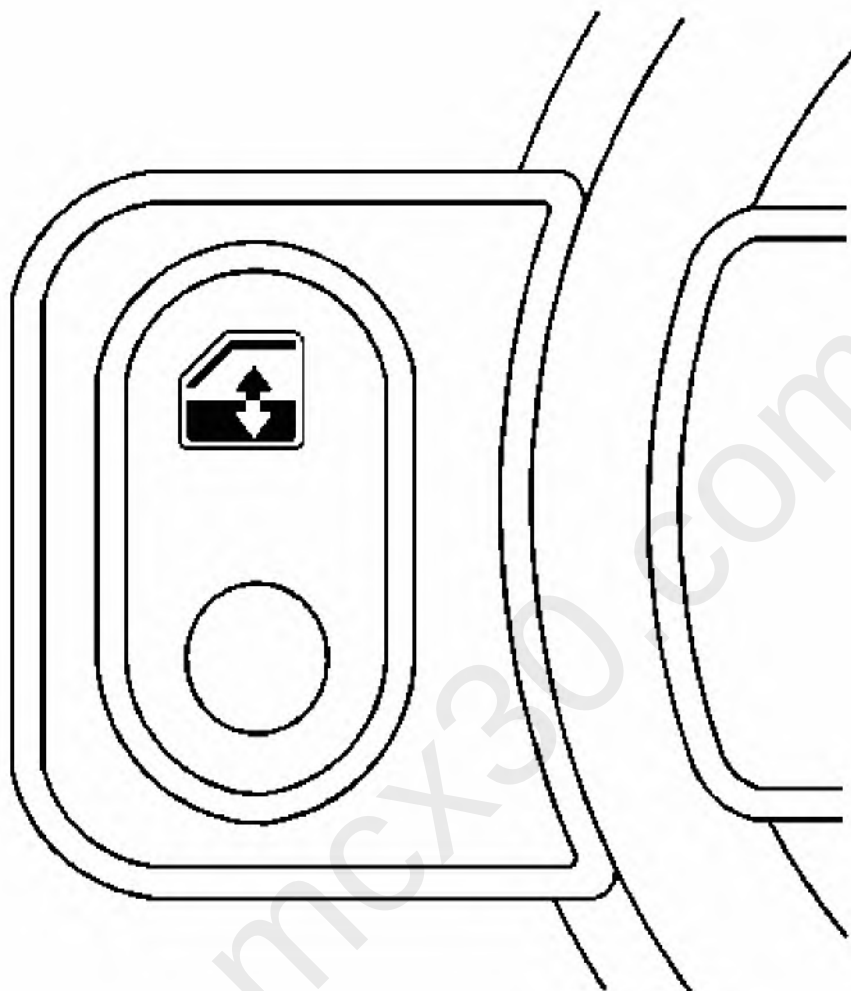


Fig. 13: View Of Rear Door Power Window Switch
Courtesy of GENERAL MOTORS CORP.

2. Position the switch on the door handle assembly. Push in the switch to seat.

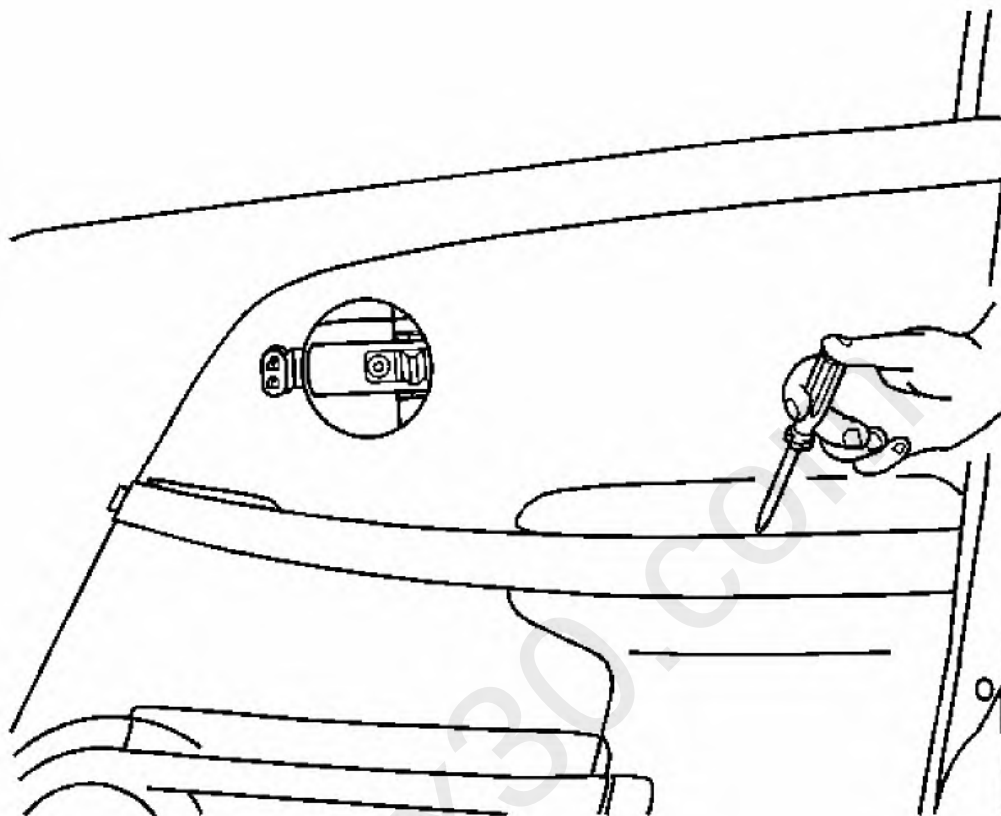


Fig. 14: View Of Door Trim Panel & Armrest Cover
Courtesy of GENERAL MOTORS CORP.

3. Install the door trim panel assembly. Refer to **Trim Panel Replacement - Side Rear Door**.

POWER DOOR LOCK SWITCH REPLACEMENT

Removal Procedure

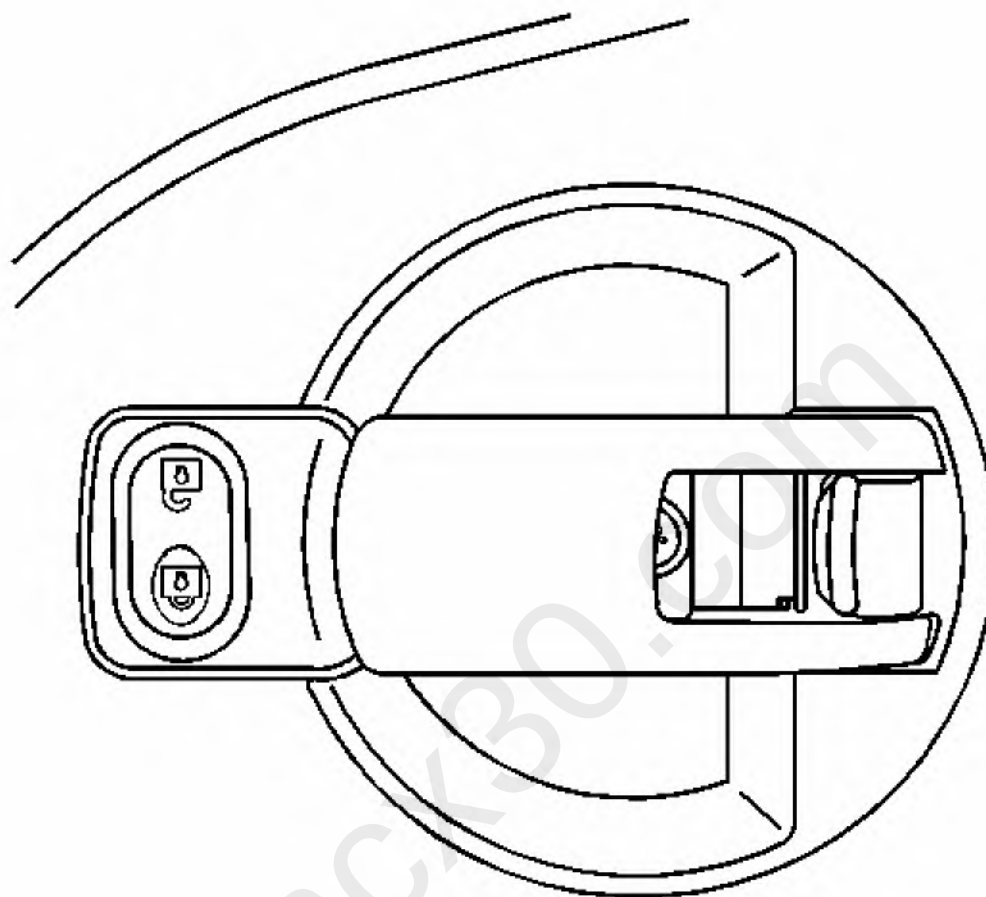


Fig. 15: View Of Power Door Lock Switch
Courtesy of GENERAL MOTORS CORP.

1. Remove the door trim panel. Refer to **Trim Panel Replacement - Side Front Door**.

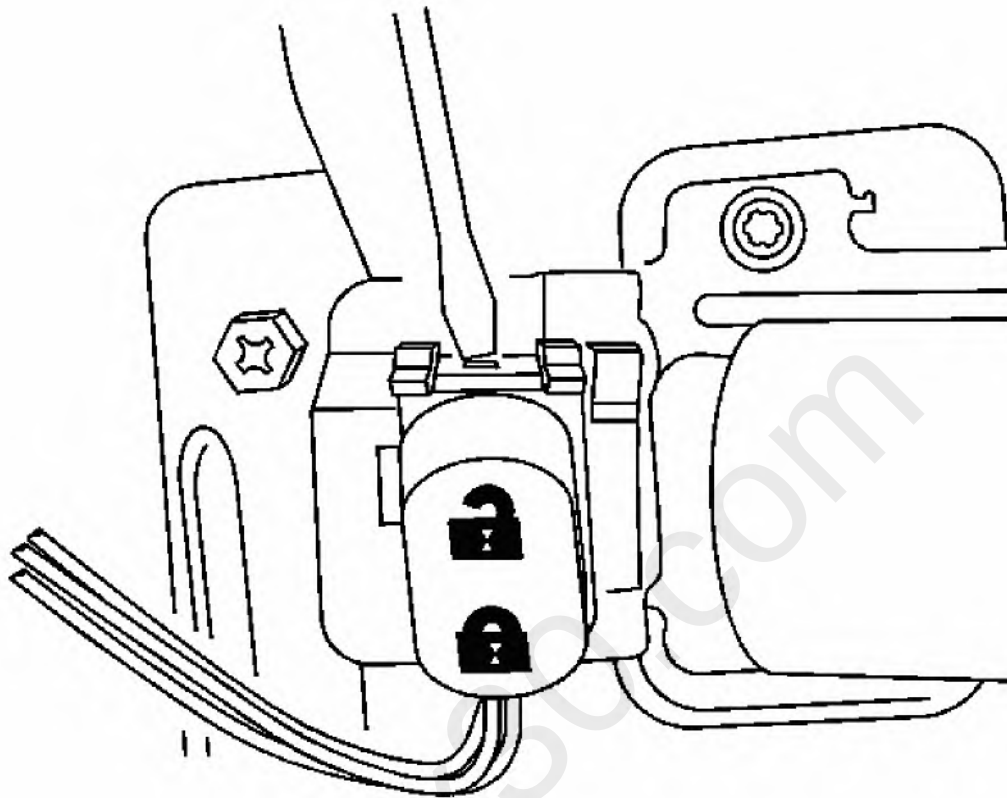


Fig. 16: Removing Power Door Lock Switch From Door Handle Assembly
Courtesy of GENERAL MOTORS CORP.

2. Use a flat-bladed tool to pry the switch from the door handle assembly.
3. Disconnect the electrical connector. Remove the switch.

Installation Procedure

1. Connect the electrical connector to the switch.
2. Position the switch on the door handle assembly. Push inward to seat the switch.

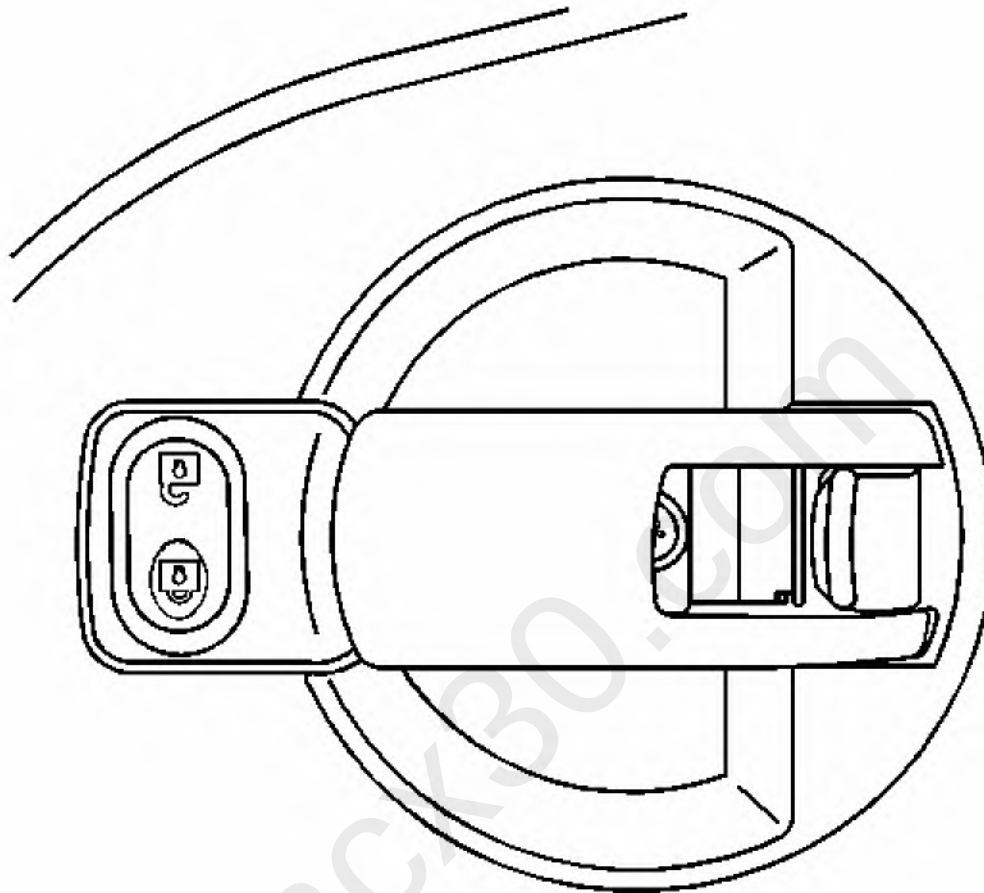


Fig. 17: View Of Power Door Lock Switch
Courtesy of GENERAL MOTORS CORP.

3. Install the door trim panel. Refer to **Trim Panel Replacement - Side Front Door**.

POWER MIRROR SWITCH REPLACEMENT

Removal Procedure

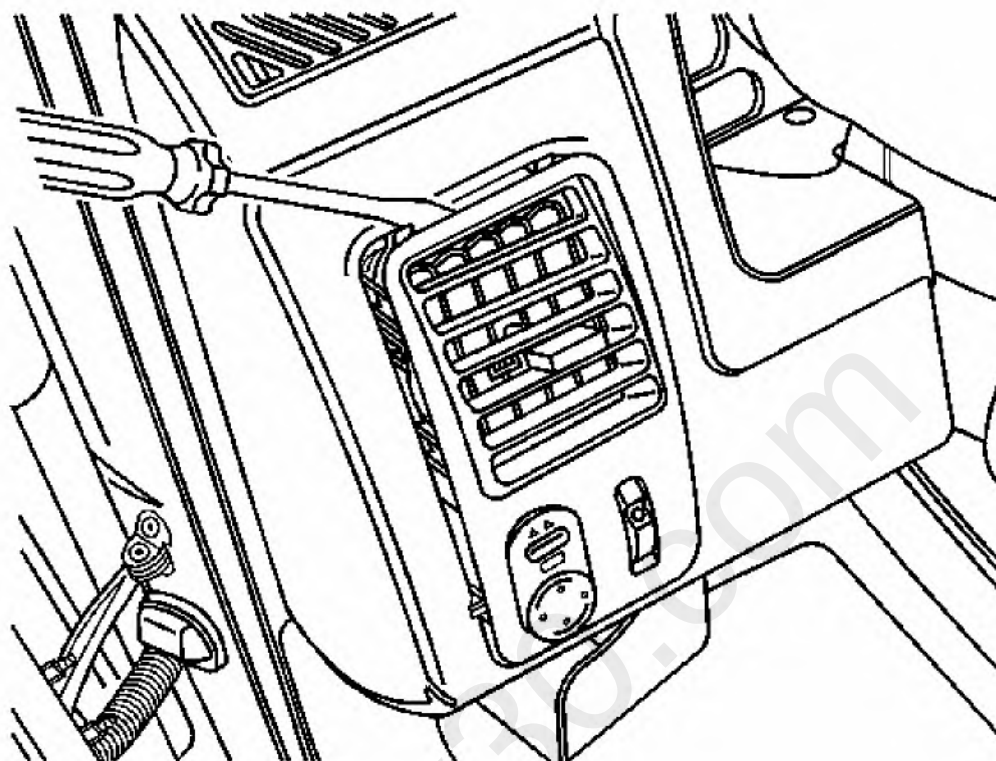


Fig. 18: Removing/Installing Left Front Air Deflector
Courtesy of GENERAL MOTORS CORP.

1. Use a flat blade tool to remove the left front air deflector.

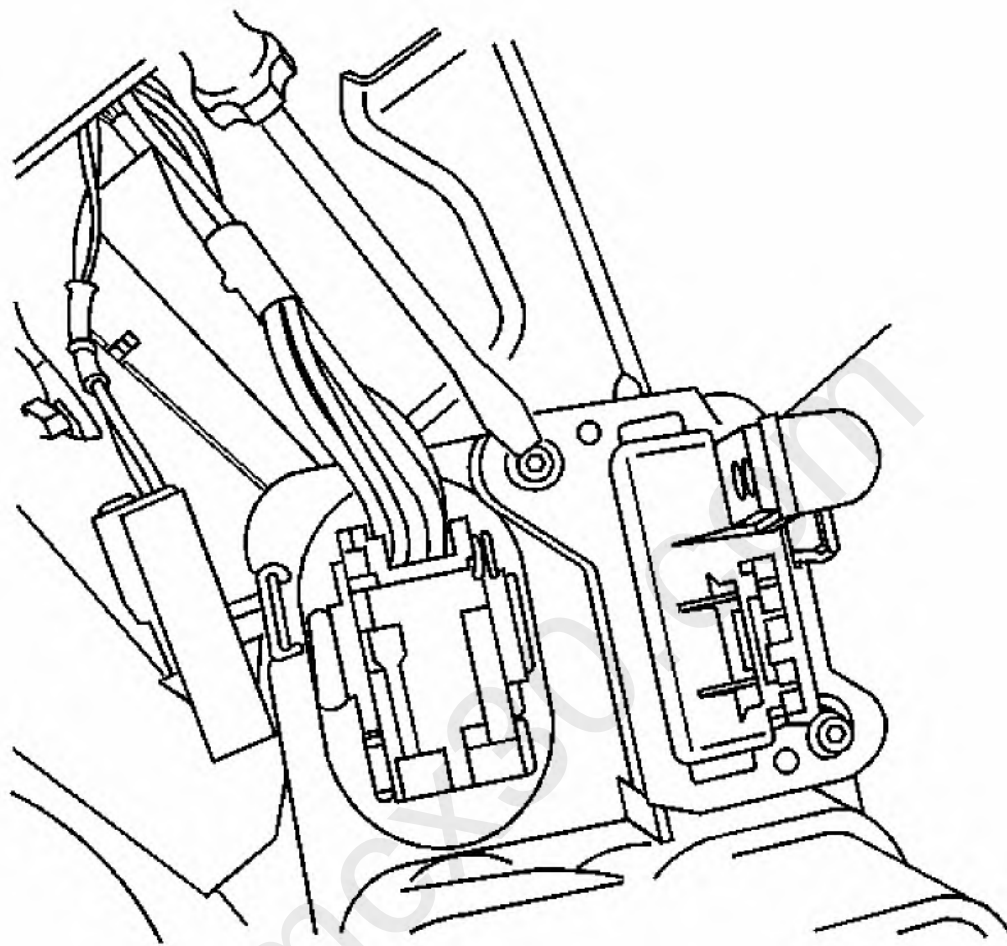


Fig. 19: View Of Power Mirror Switch Electrical Connection
Courtesy of GENERAL MOTORS CORP.

2. Disconnect the electrical connection from the power mirror switch

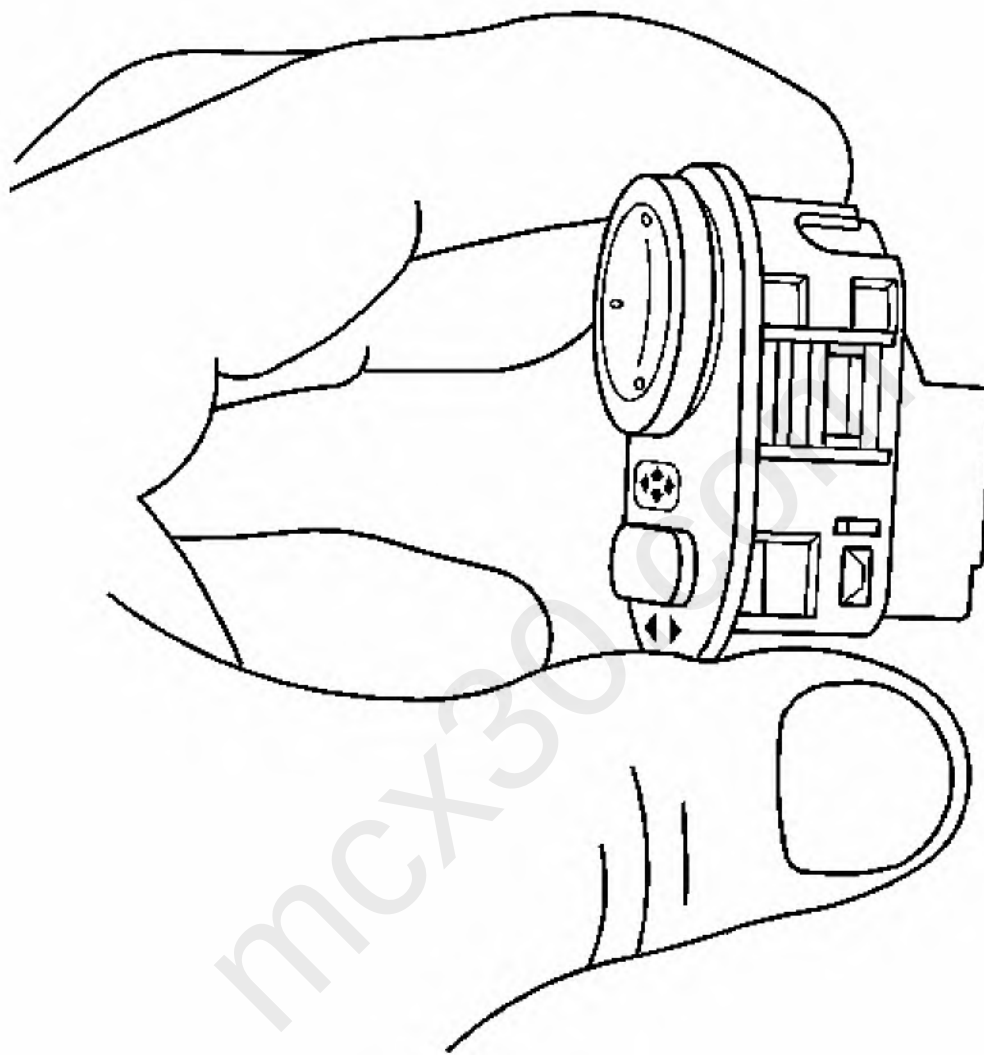


Fig. 20: View Of Power Mirror Switch
Courtesy of GENERAL MOTORS CORP.

3. Remove the power mirror switch.

Installation Procedure

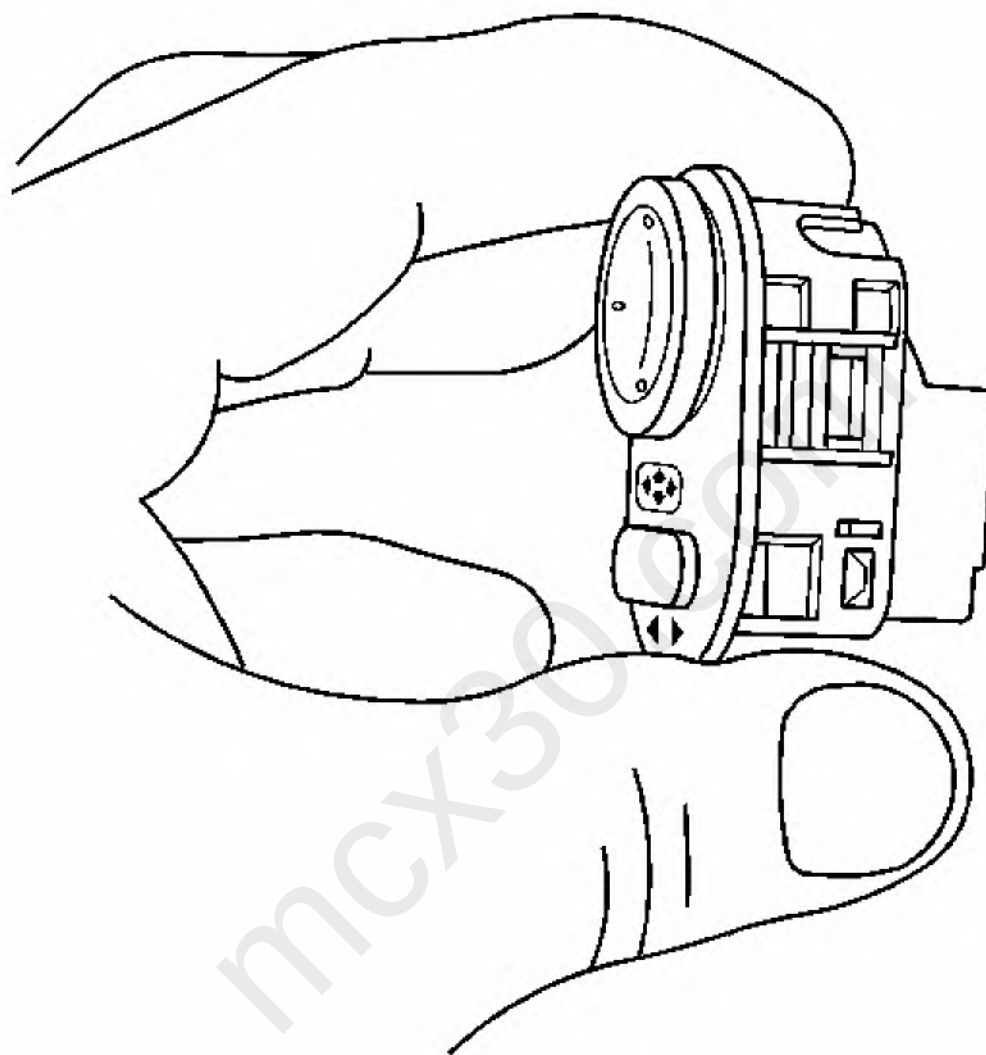


Fig. 21: View Of Power Mirror Switch
Courtesy of GENERAL MOTORS CORP.

1. Install the power mirror switch to the air deflector.

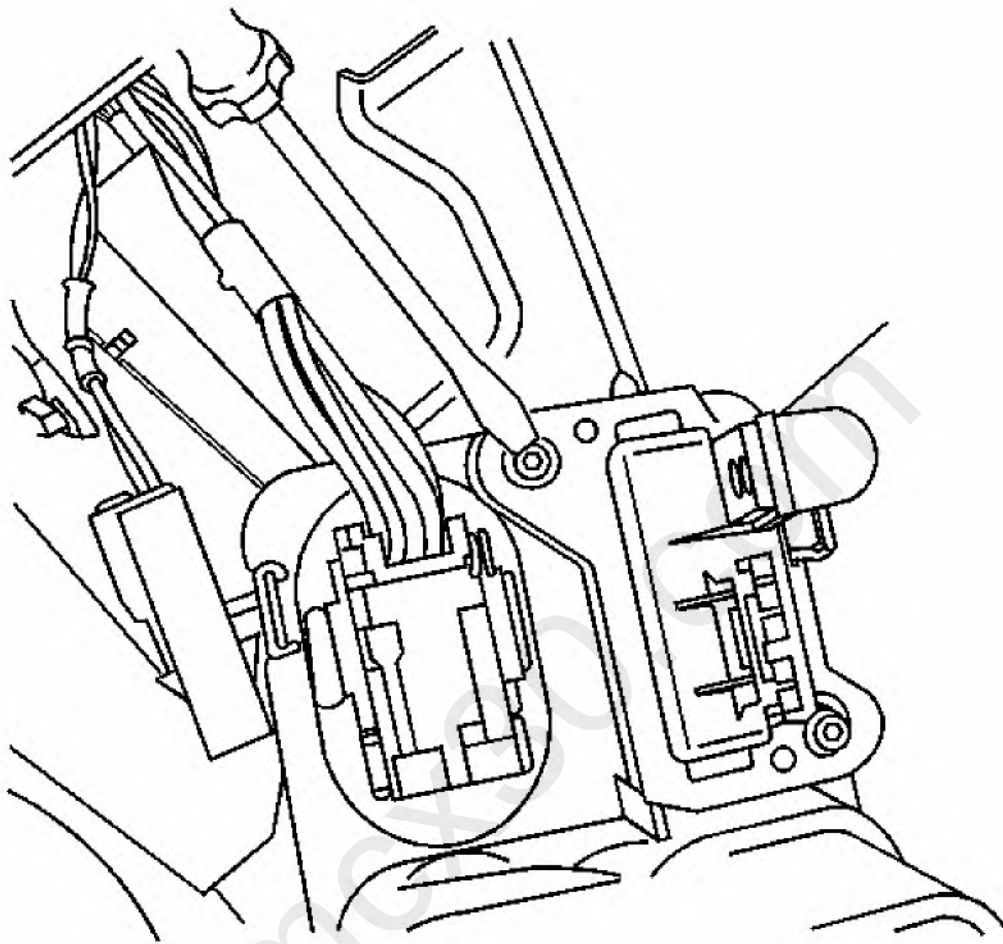


Fig. 22: View Of Power Mirror Switch Electrical Connection
Courtesy of GENERAL MOTORS CORP.

2. Connect the electrical connection to the power mirror switch

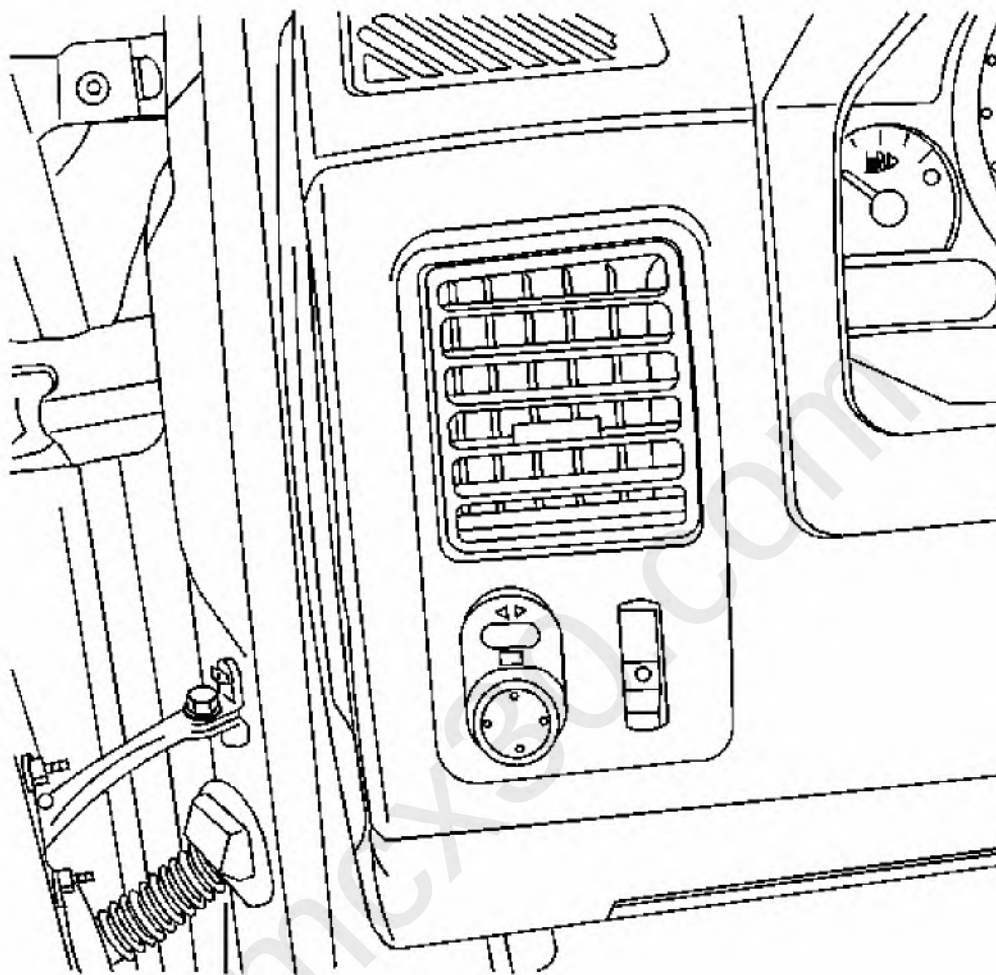


Fig. 23: Installing Left Front Air Deflector To Instrument Panel
Courtesy of GENERAL MOTORS CORP.

3. Push the air deflector to the instrument panel until the air deflector is seated.

WINDOW REGULATOR HANDLE REPLACEMENT - DOOR

Removal Procedure

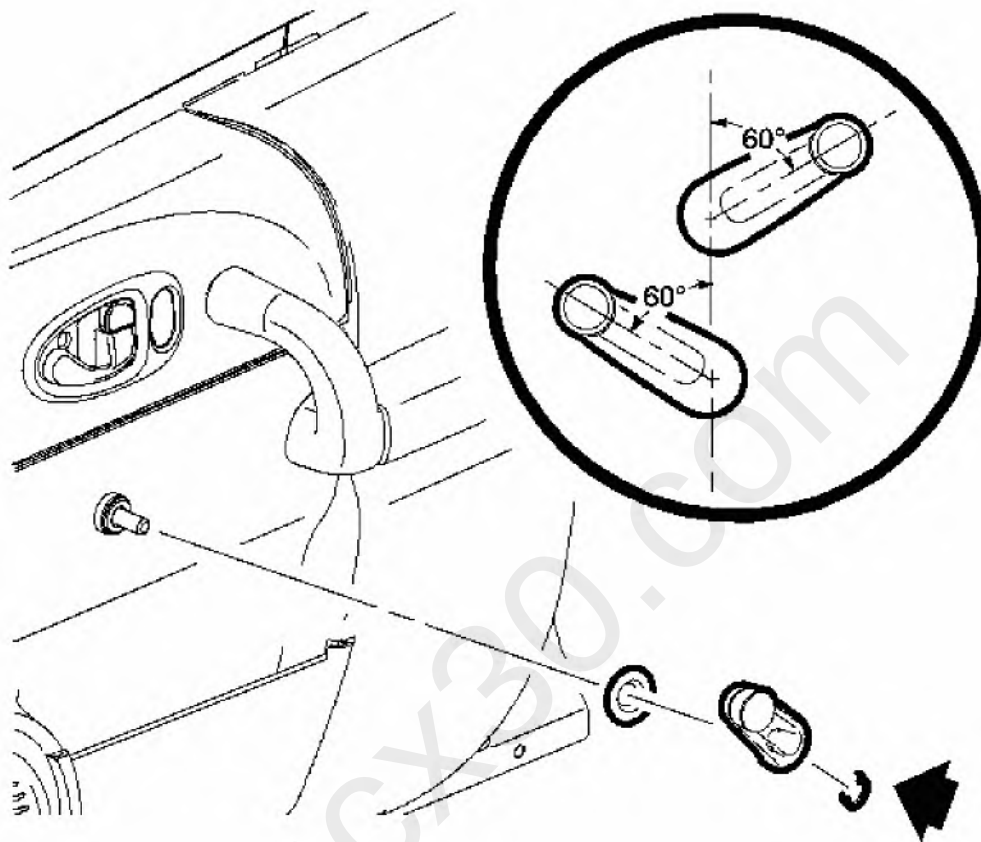


Fig. 24: View Of Window Regulator Handle
Courtesy of GENERAL MOTORS CORP.

1. Using a standard handle tool, disengage the retention spring from the window regulator handle.
2. Remove the handle and the bearing plate.

Installation Procedure

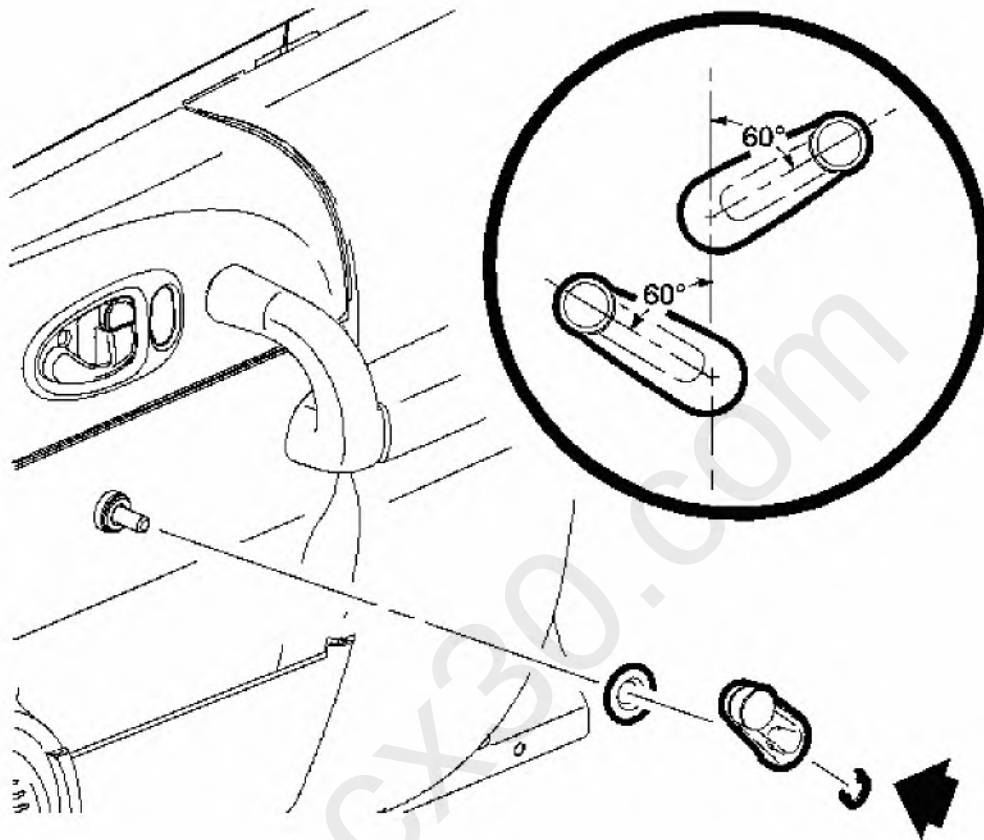


Fig. 25: View Of Window Regulator Handle
Courtesy of GENERAL MOTORS CORP.

1. Install the retention spring on the window regulator handle.
2. Install the bearing plate on the regulator spindle.
3. Install the handle to the regulator spindle at a position 60 degrees forward of the up position. The illustration shows the proper angle for both the right and the left side doors.

TRIM PANEL REPLACEMENT - UPPER EXTENSION

Removal Procedure

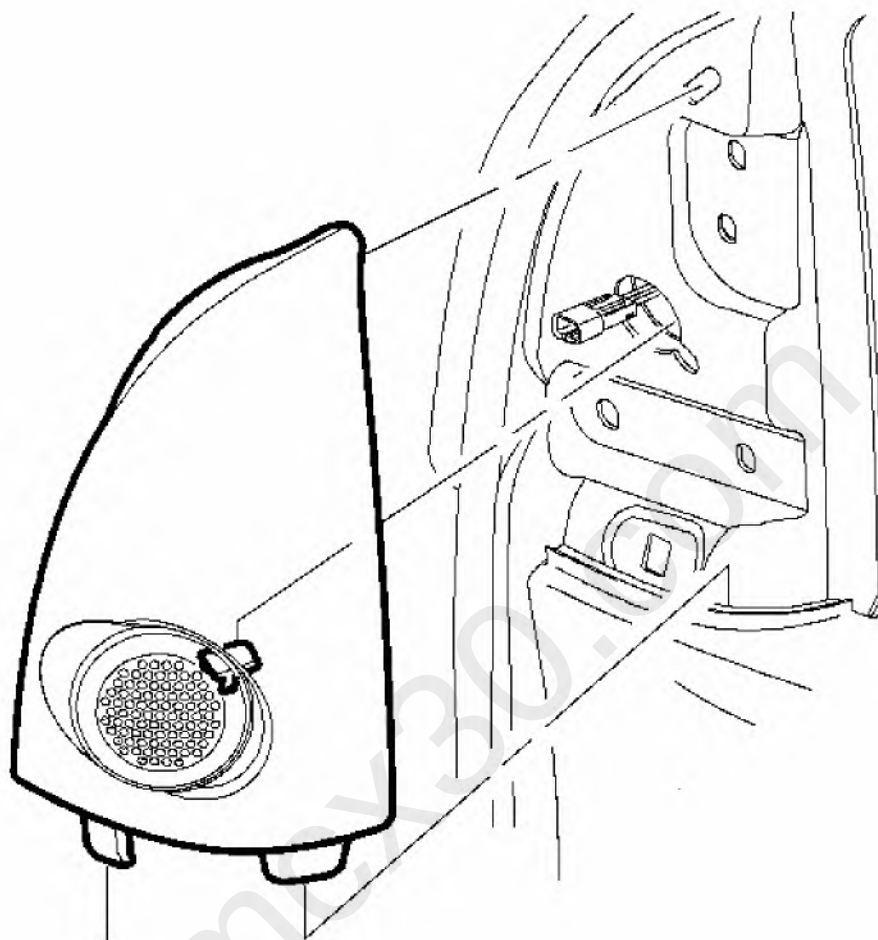


Fig. 26: View Of Upper Extension Trim Panel
Courtesy of GENERAL MOTORS CORP.

1. Gently pull at the top end of the extension panel cover to disengage the attaching clips.
2. Lift the extension panel out from behind the door trim panel.
3. While holding the extension panel, disconnect the electrical connector from the speaker.

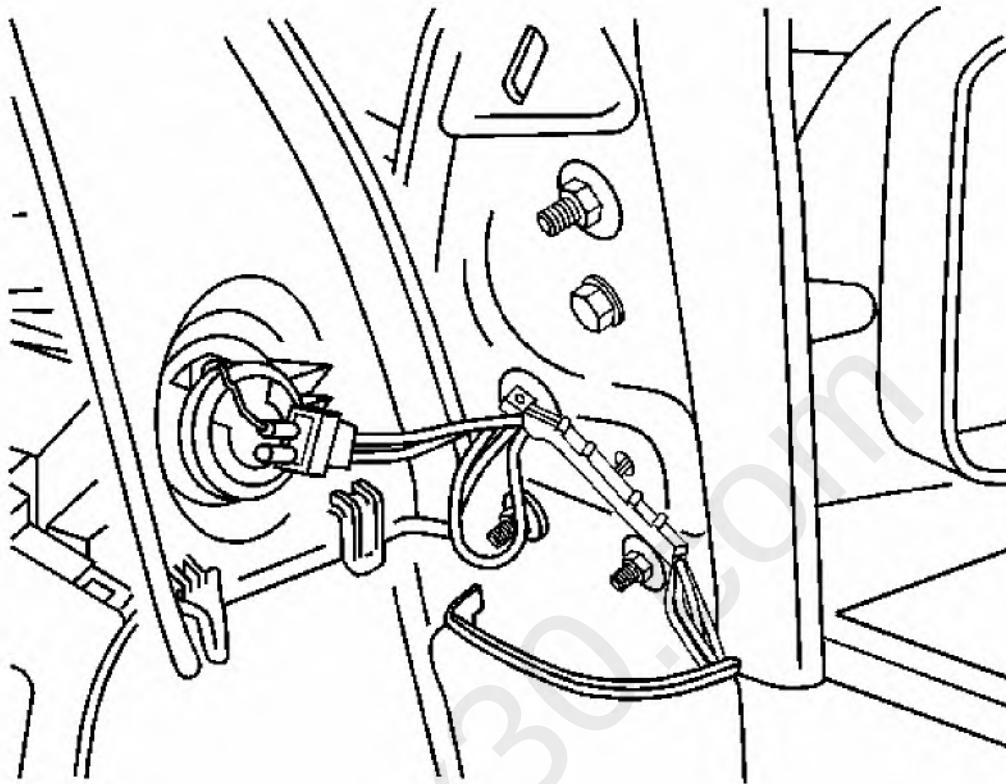


Fig. 27: View Of Speaker Electrical Connector
Courtesy of GENERAL MOTORS CORP.

4. While holding the extension panel, disconnect the electrical connector from the speaker.

Installation Procedure

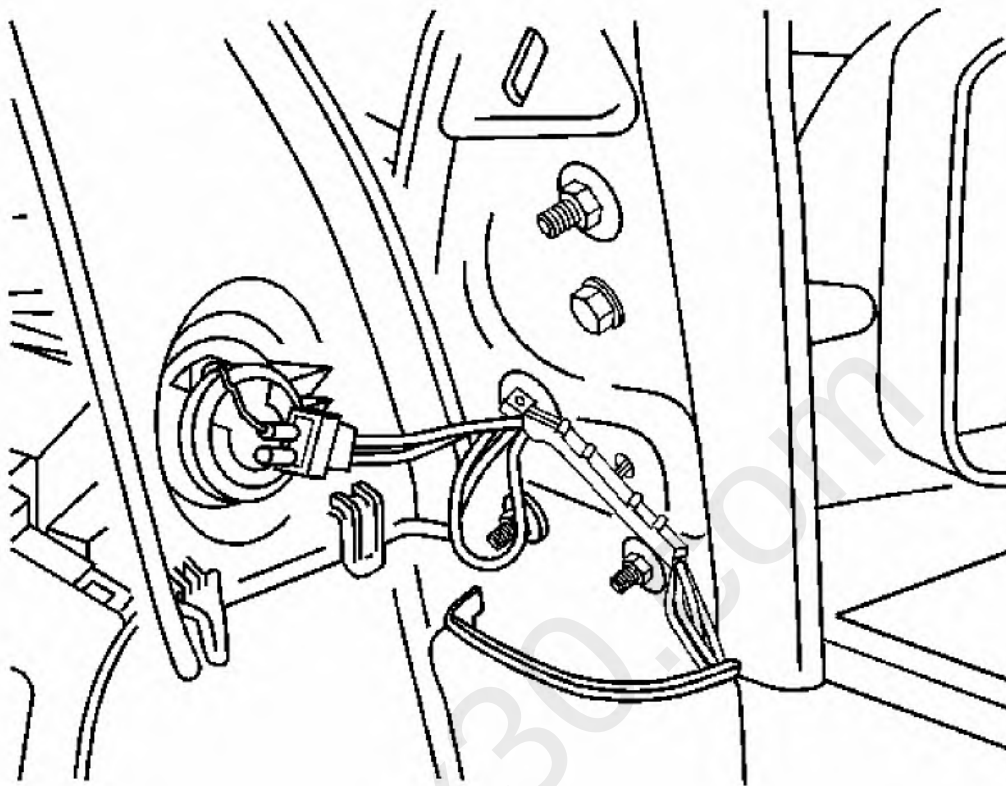


Fig. 28: View Of Speaker Electrical Connector
Courtesy of GENERAL MOTORS CORP.

1. Connect the electrical connector to the speaker.

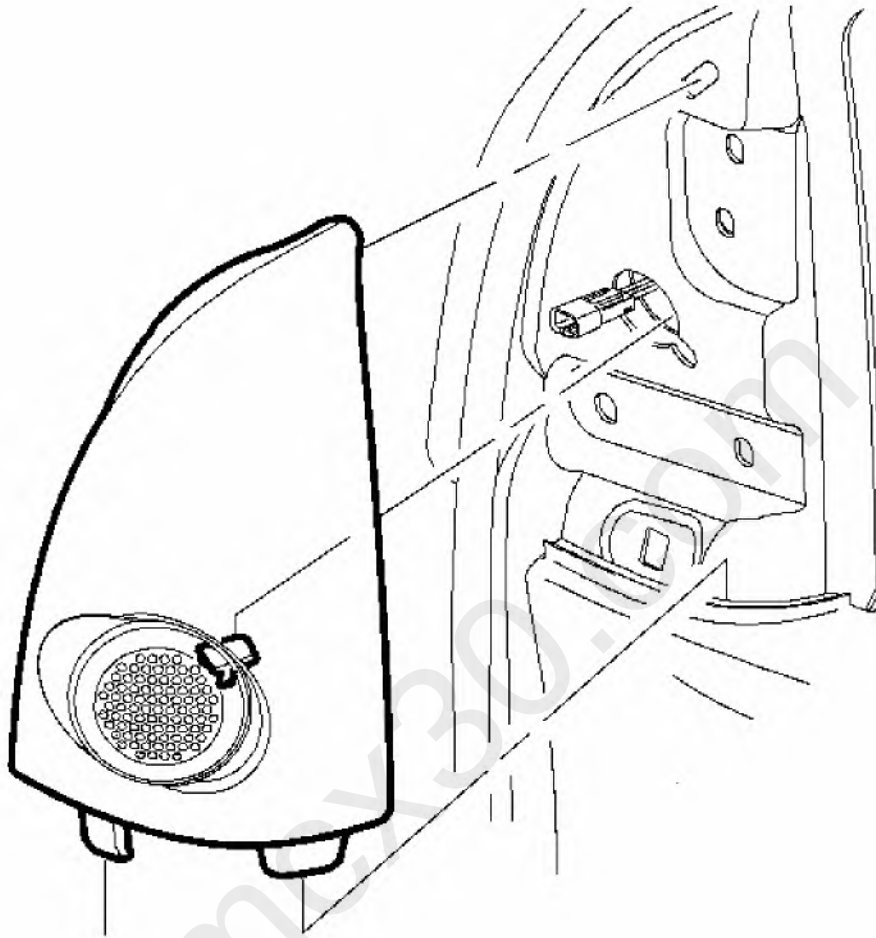


Fig. 29: View Of Upper Extension Trim Panel
Courtesy of GENERAL MOTORS CORP.

2. Position the extension panel over the door trim panel with the extension panel mounting tabs behind the door trim panel.
3. Gently push on the extension panel to engage the attaching clips.

TRIM PANEL REPLACEMENT - SIDE FRONT DOOR

Removal Procedure

1. Remove the trim panel upper extension. Refer to **Trim Panel Replacement - Upper Extension**.

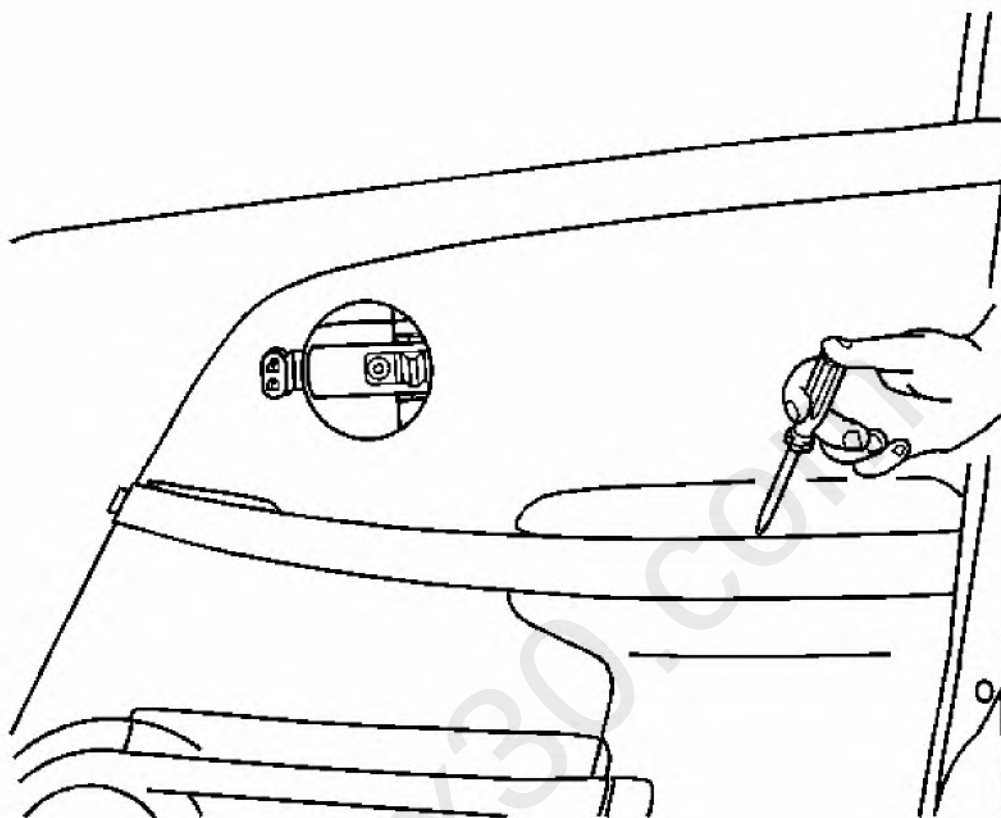


Fig. 30: View Of Door Trim Panel & Armrest Cover
Courtesy of GENERAL MOTORS CORP.

2. Remove the armrest trim cover.

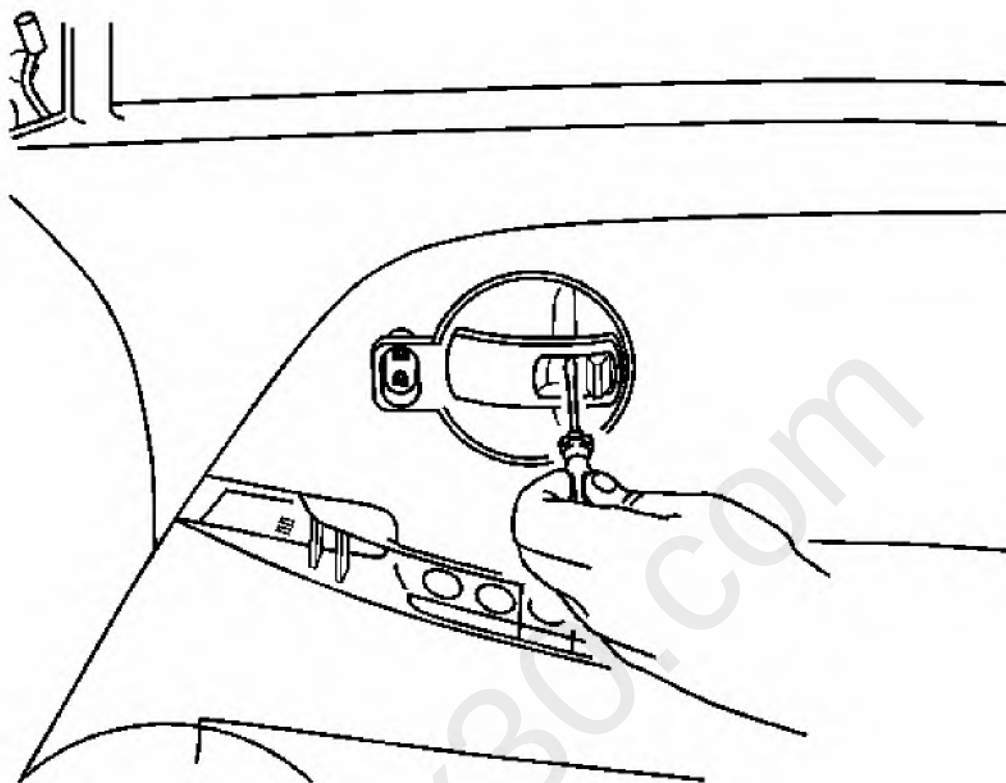


Fig. 31: View Of Door Handle Bezel
Courtesy of GENERAL MOTORS CORP.

3. Remove the door handle bezel.

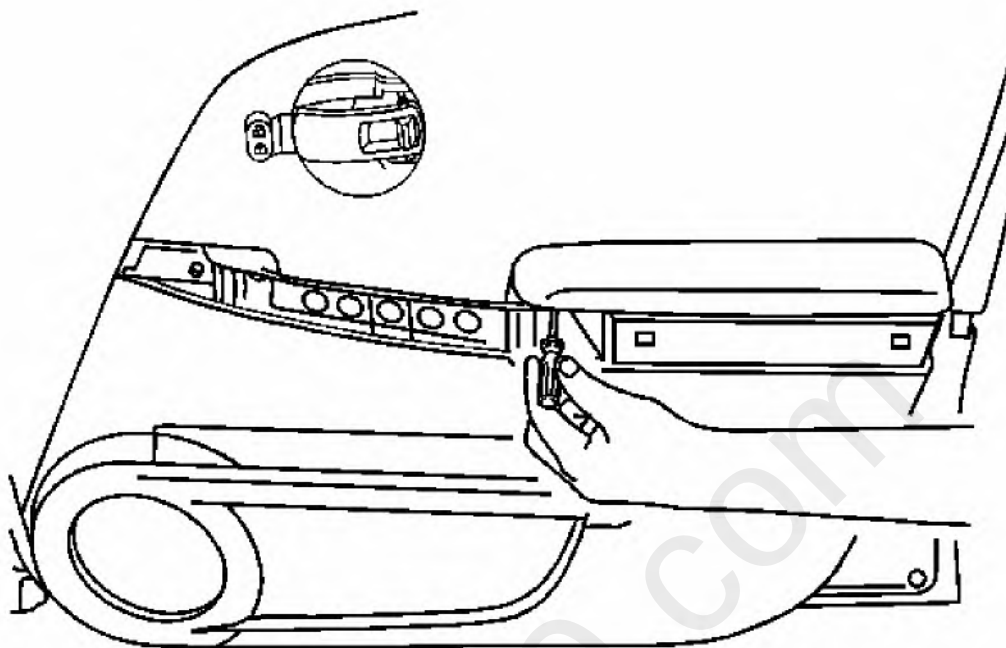


Fig. 32: Removing/Installing Door Trim Panel Fasteners
Courtesy of GENERAL MOTORS CORP.

4. Remove the door trim panel fasteners.

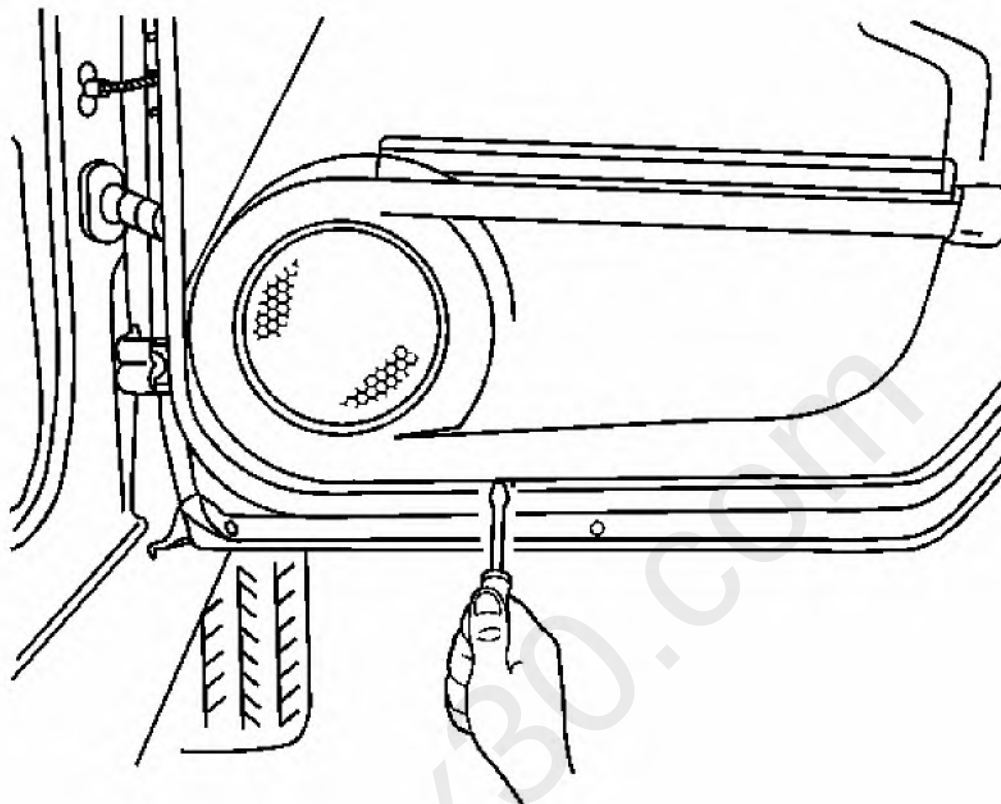


Fig. 33: Removing Door Trim Panel
Courtesy of GENERAL MOTORS CORP.

5. Remove the door trim panel

Installation Procedure

1. Align the door trim panel to the door. Press firmly to seat all trim panel fasteners.

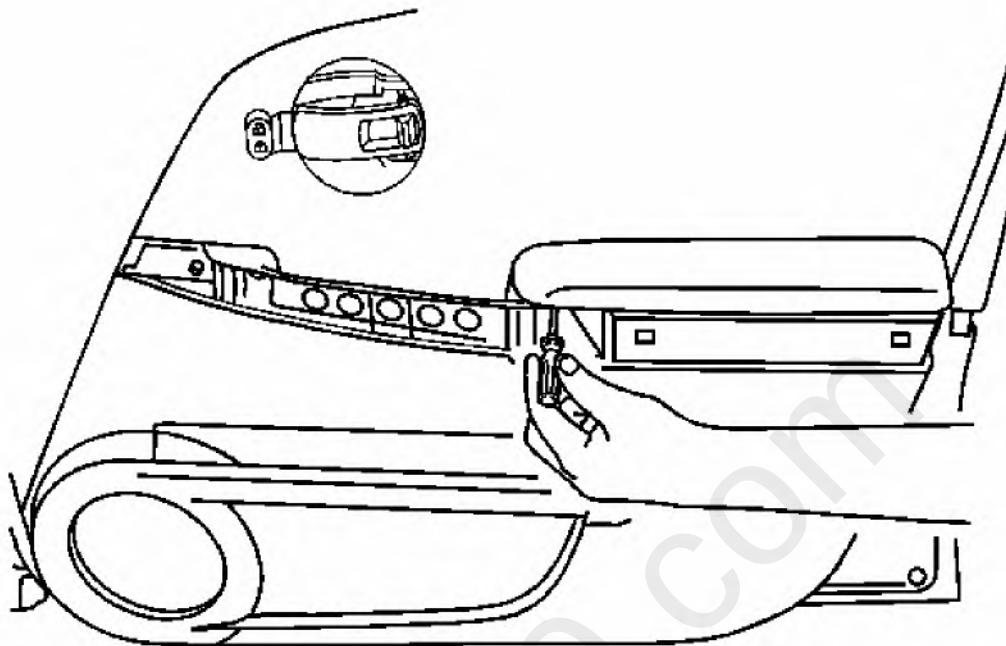


Fig. 34: Removing/Installing Door Trim Panel Fasteners
Courtesy of GENERAL MOTORS CORP.

NOTE: Refer to Fastener Notice in Cautions and Notices.

2. Install the door trim panel fasteners.

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

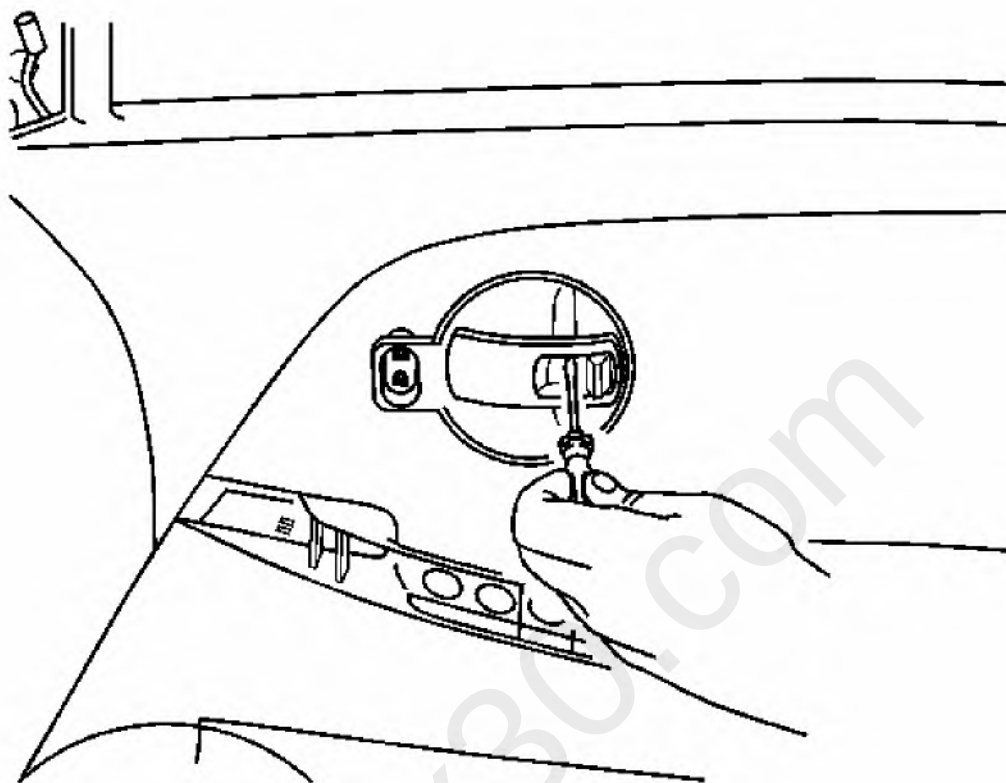


Fig. 35: View Of Door Handle Bezel
Courtesy of GENERAL MOTORS CORP.

3. Install the door handle bezel.

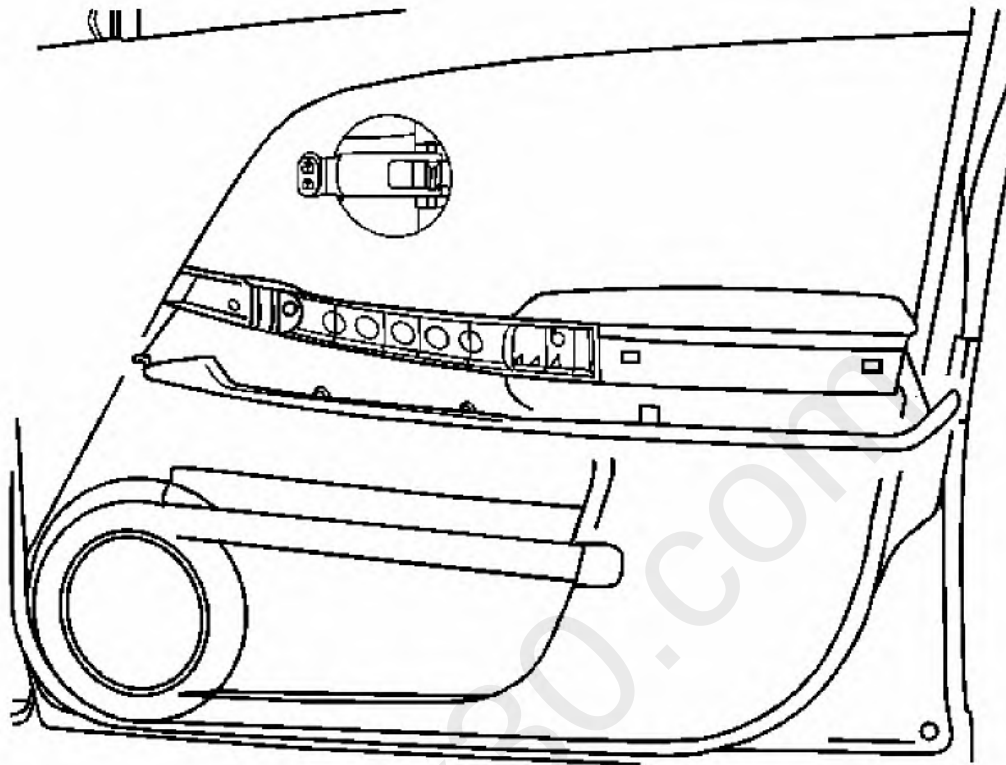


Fig. 36: Installing Armrest Trim Cover
Courtesy of GENERAL MOTORS CORP.

4. Install the armrest trim cover.

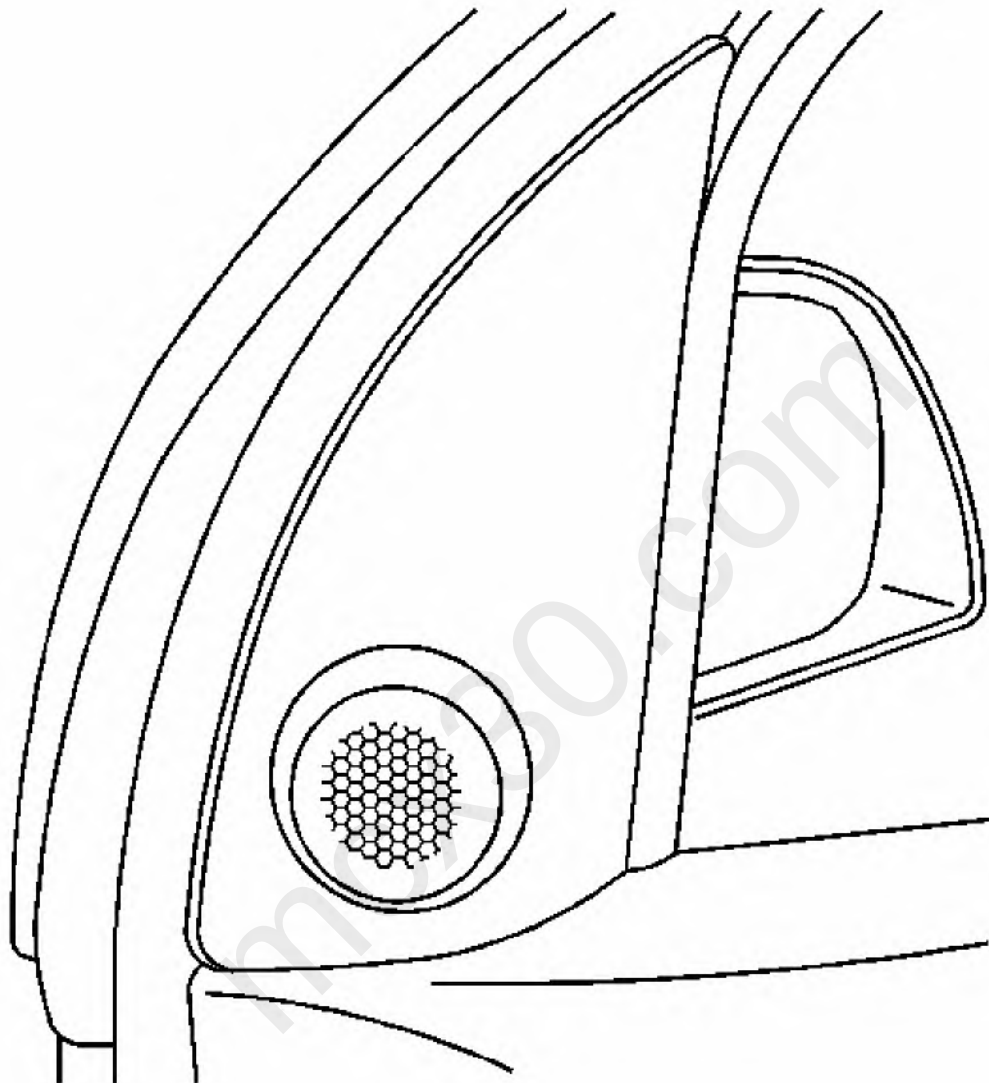


Fig. 37: View Of Trim Panel Upper Extension
Courtesy of GENERAL MOTORS CORP.

5. Install the trim panel upper extension. Refer to **Trim Panel Replacement - Upper Extension**.

TRIM PANEL REPLACEMENT - SIDE REAR DOOR

Removal Procedure

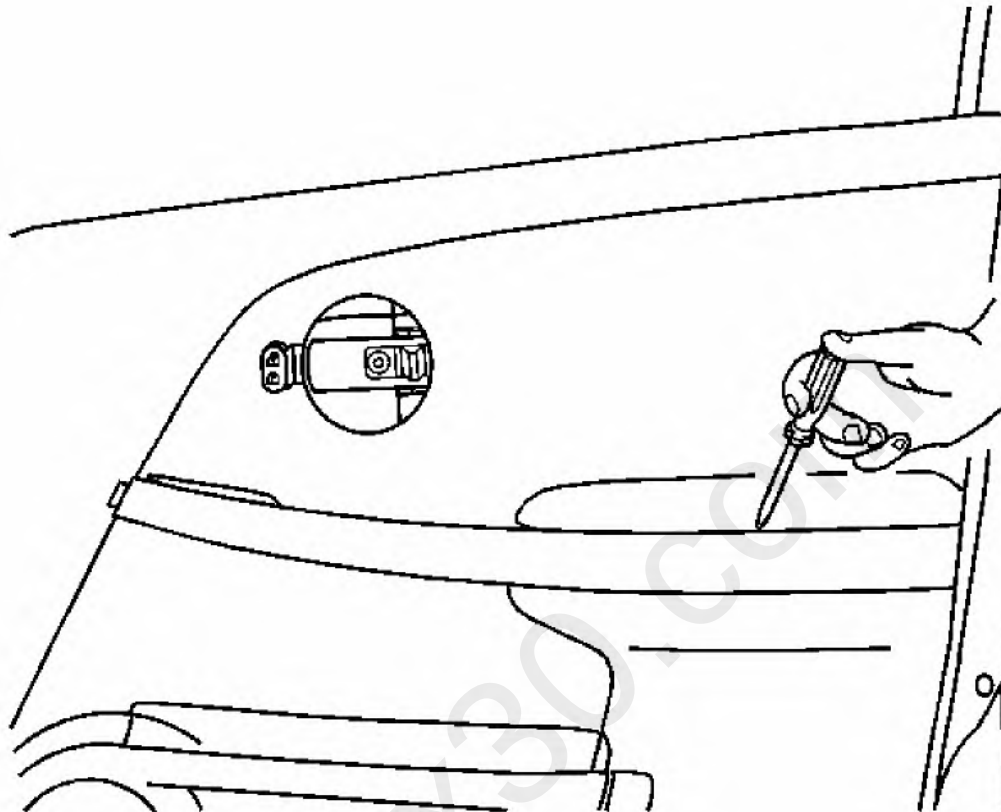


Fig. 38: View Of Door Trim Panel & Armrest Cover
Courtesy of GENERAL MOTORS CORP.

1. Remove the armrest cover.

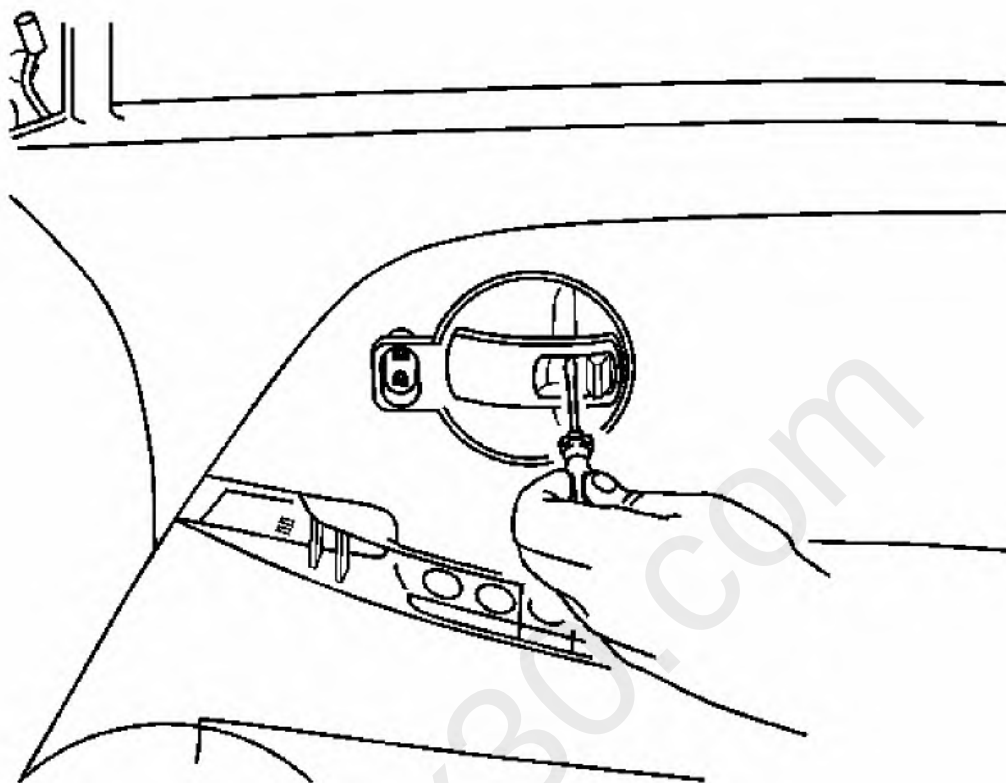


Fig. 39: View Of Door Handle Bezel
Courtesy of GENERAL MOTORS CORP.

2. Remove the door handle bezel.

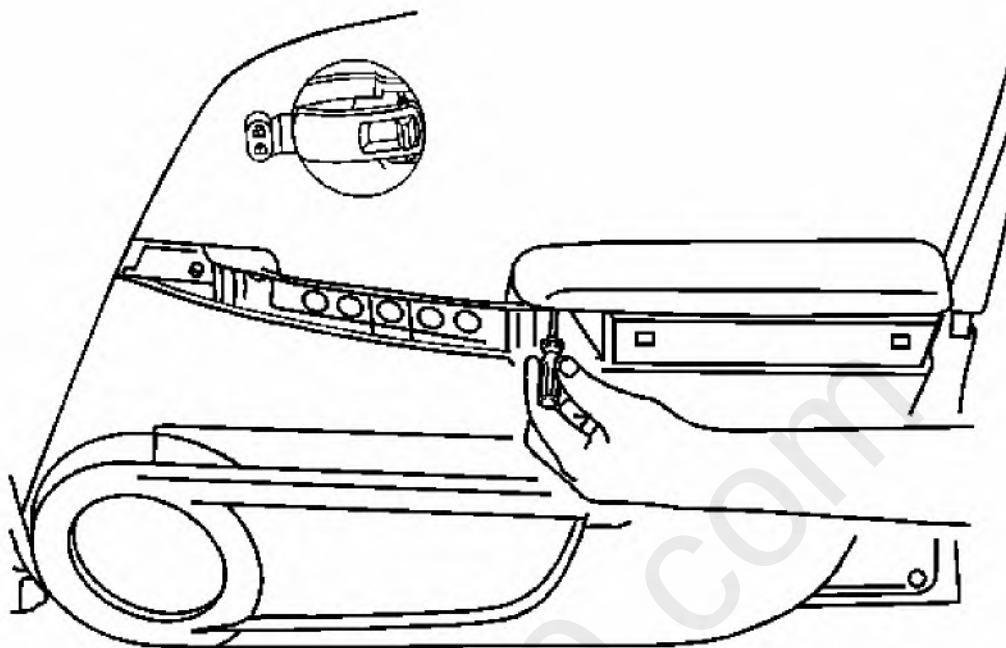


Fig. 40: Removing/Installing Door Trim Panel Fasteners
Courtesy of GENERAL MOTORS CORP.

3. Remove the door trim panel fasteners.

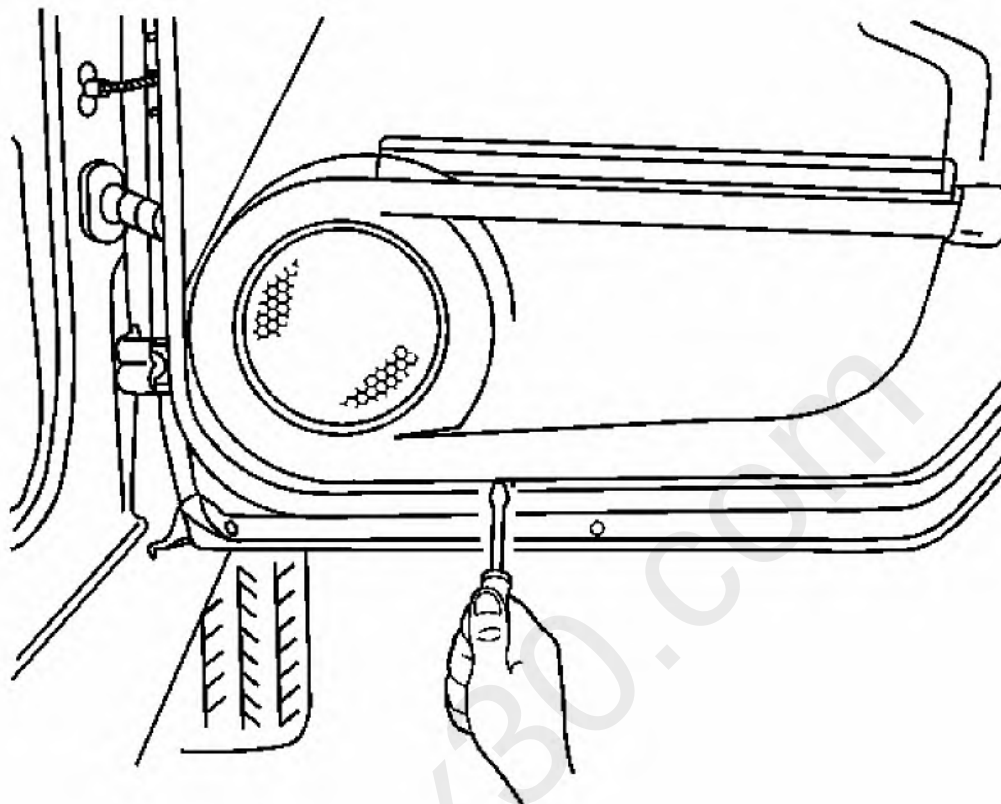


Fig. 41: Removing Door Trim Panel
Courtesy of GENERAL MOTORS CORP.

4. Remove the door trim panel.

Installation Procedure

1. Align the door trim panel to the door. Press firmly to seat all trim panel fasteners.

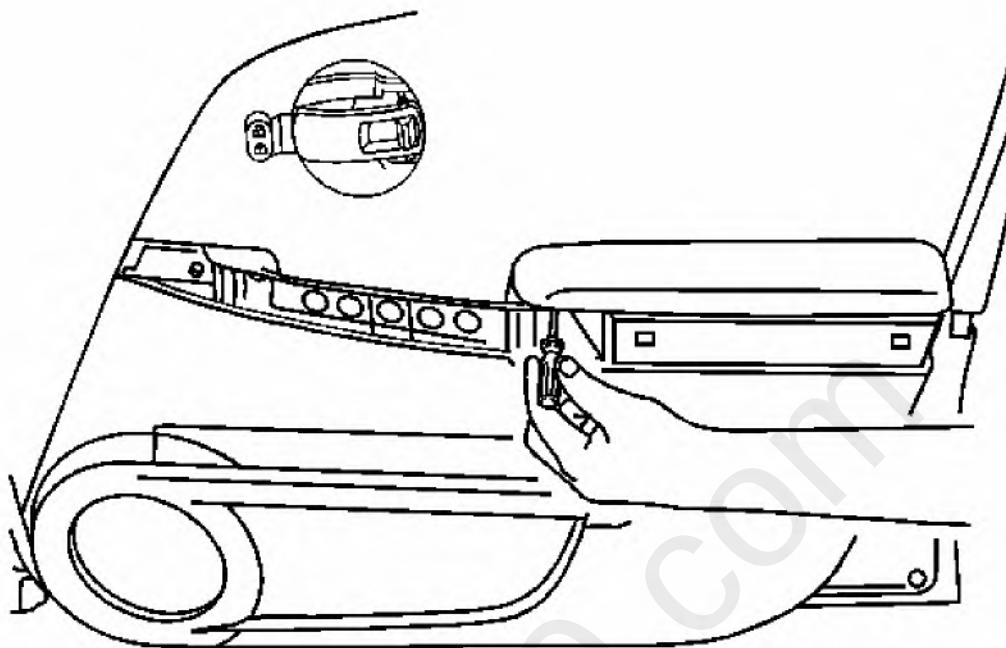


Fig. 42: Removing/Installing Door Trim Panel Fasteners
Courtesy of GENERAL MOTORS CORP.

NOTE: Refer to Fastener Notice in Cautions and Notices.

2. Install the door trim panel fasteners.

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

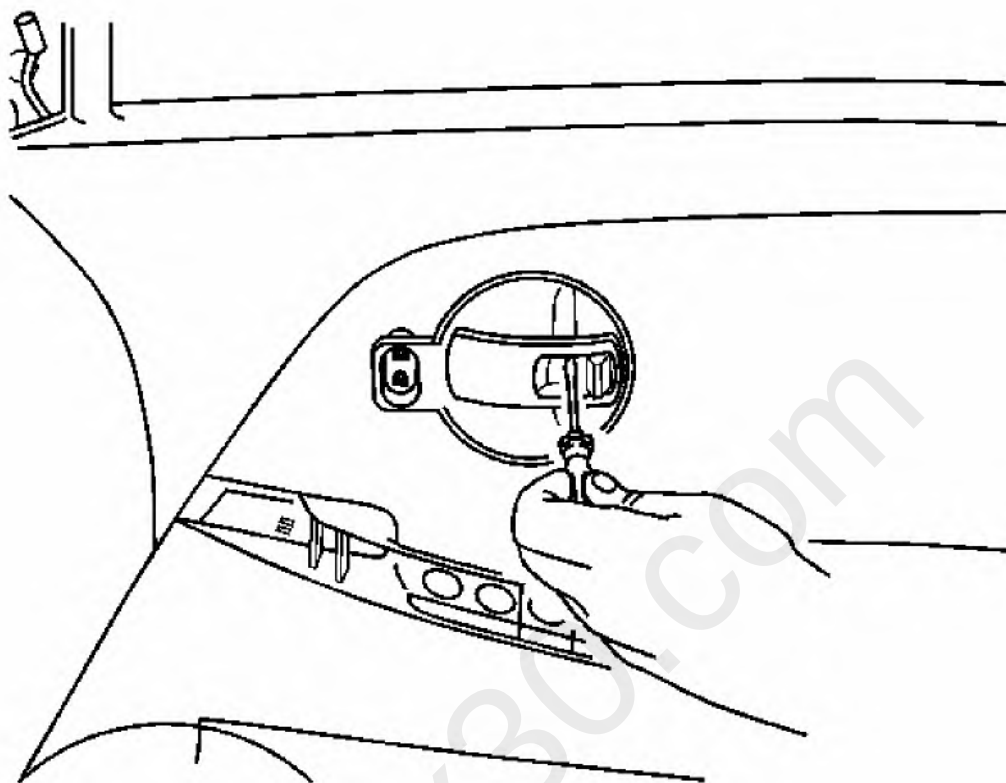


Fig. 43: View Of Door Handle Bezel
Courtesy of GENERAL MOTORS CORP.

3. Install the door handle bezel.

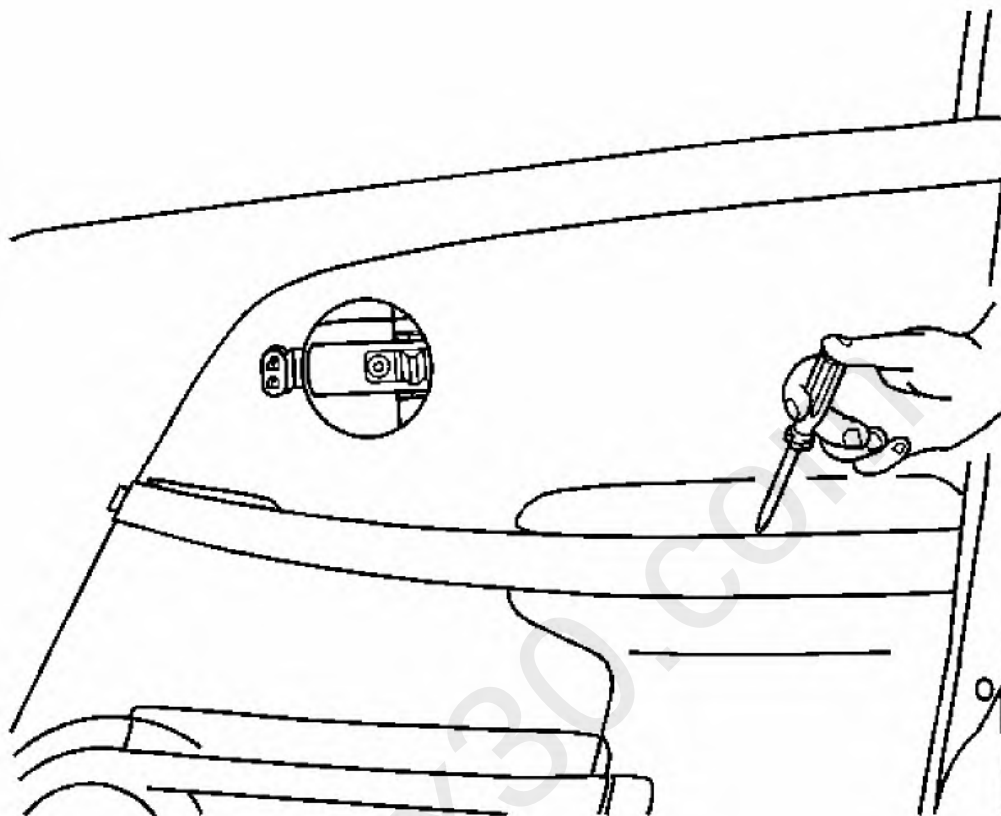


Fig. 44: View Of Door Trim Panel & Armrest Cover
Courtesy of GENERAL MOTORS CORP.

4. Install the armrest cover.

WATER DEFLECTOR REPLACEMENT - FRONT DOOR

Removal Procedure

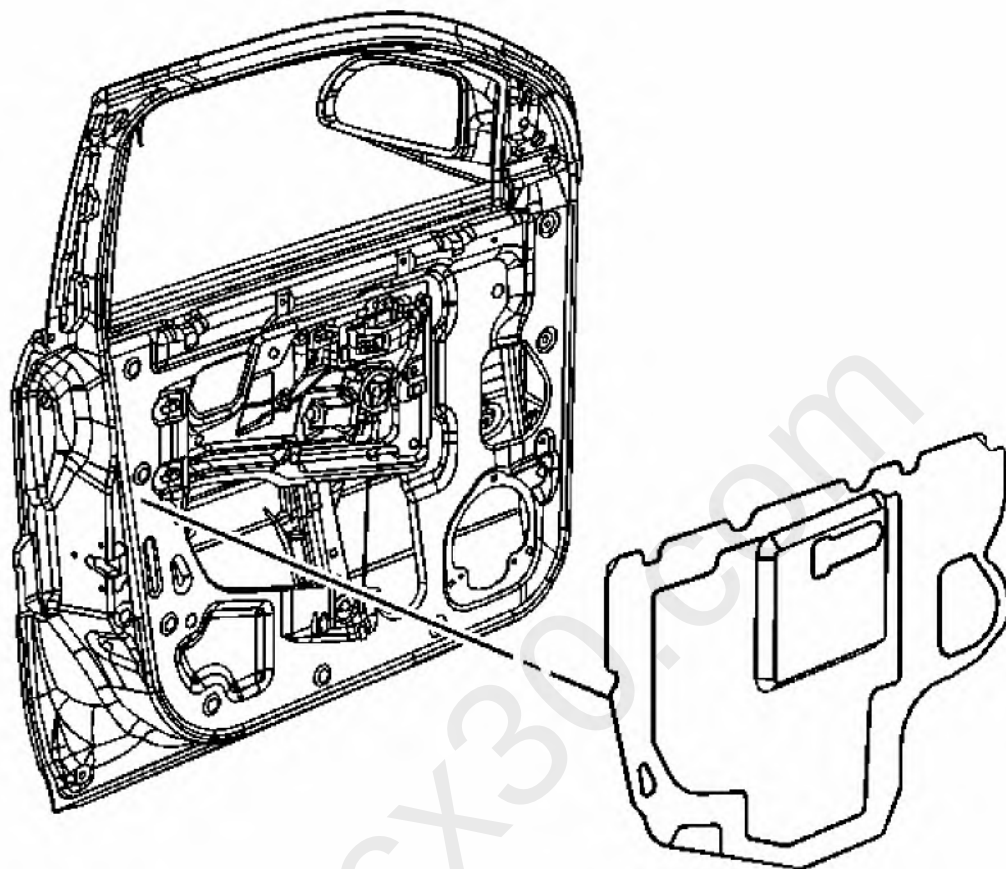


Fig. 45: View Of Front Door Water Deflector
Courtesy of GENERAL MOTORS CORP.

1. Remove the front door trim panel. Refer to **Trim Panel Replacement - Side Front Door**.
2. Remove the front door water deflector, starting at the top rear corner, pull downward.

Installation Procedure

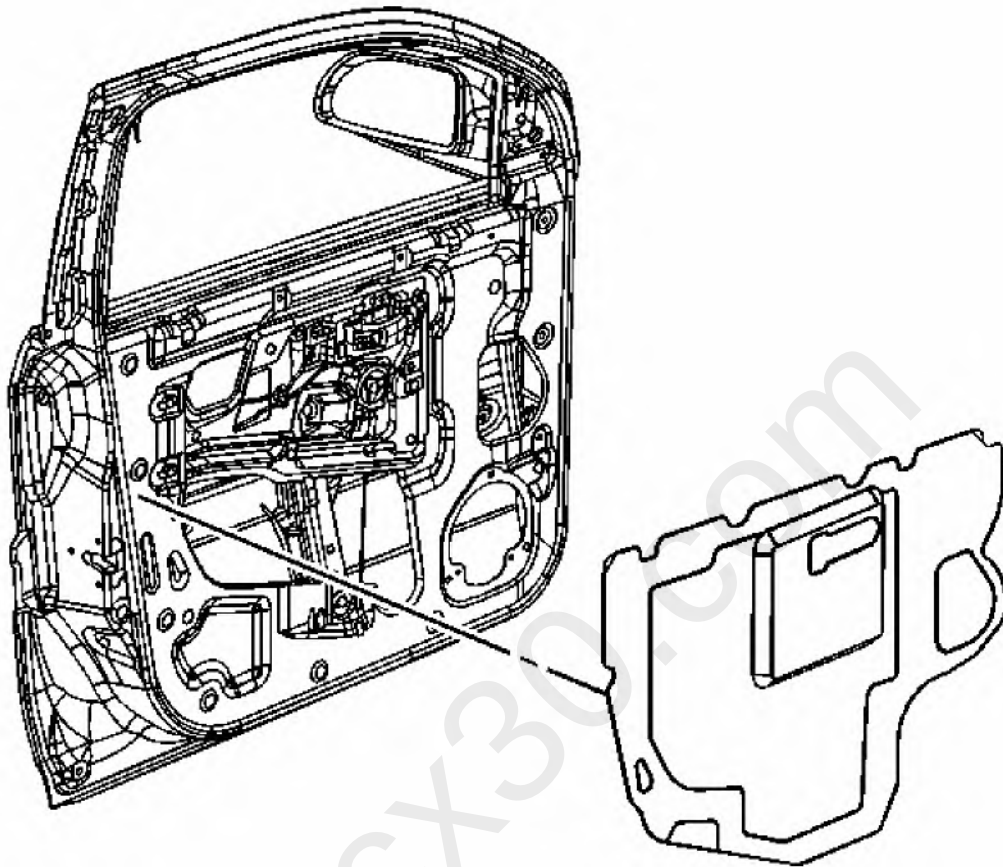


Fig. 46: View Of Front Door Water Deflector
Courtesy of GENERAL MOTORS CORP.

1. Align the locating tabs near the top edge of the water deflector to the door structure.
2. Stretch the water deflector tight across the top edge and set in place.
3. Wet-out adhesive around the entire perimeter of the water deflector to ensure proper sealing.
4. Install the front door trim panel front. Refer to **Trim Panel Replacement - Side Front Door**.

WATER DEFLECTOR REPLACEMENT - REAR DOOR

Removal Procedure

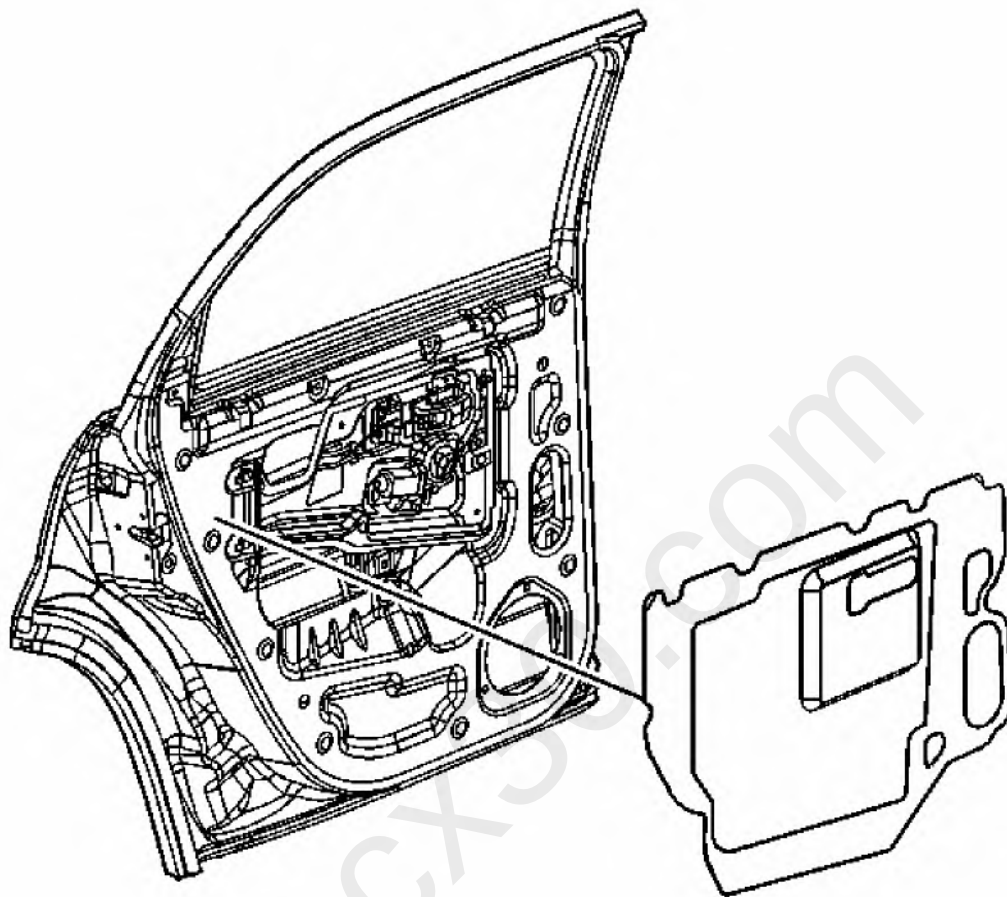


Fig. 47: View Of Rear Door Water Deflector
Courtesy of GENERAL MOTORS CORP.

1. Remove the door trim panel. Refer to **Trim Panel Replacement - Side Rear Door**.
2. Remove the rear door water deflector, starting at the top rear corner, pull the water deflector away from the door structure.

Installation Procedure

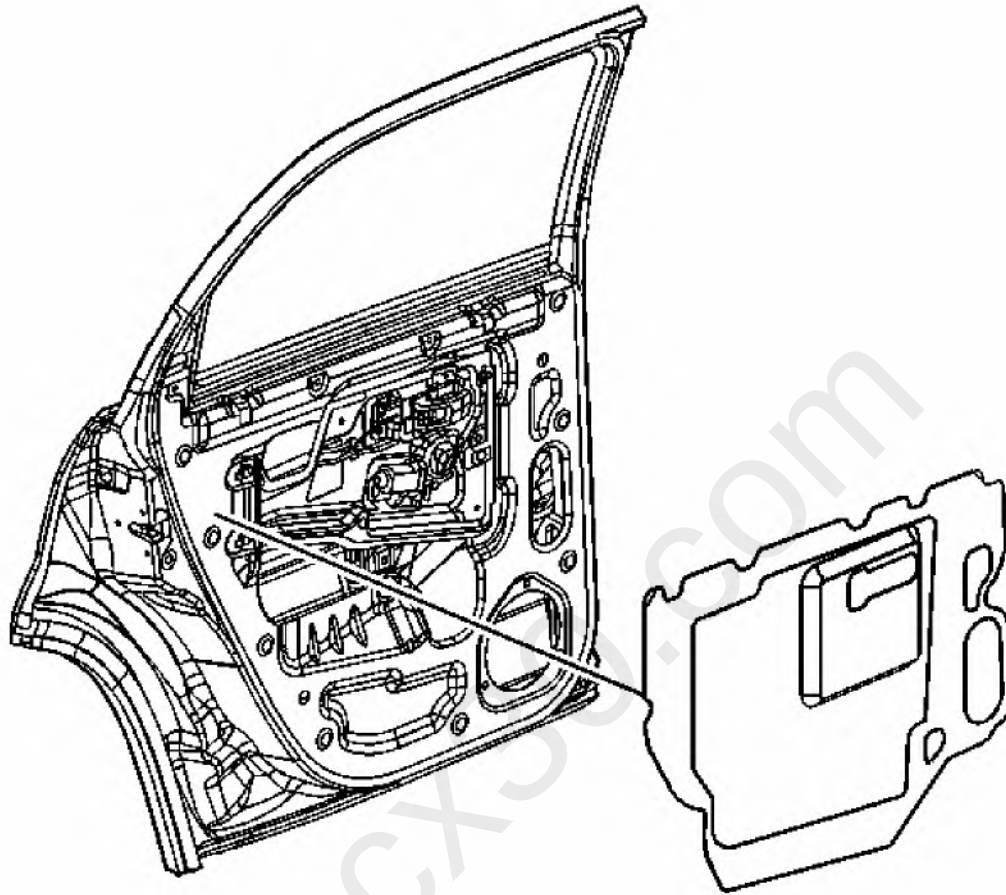


Fig. 48: View Of Rear Door Water Deflector
Courtesy of GENERAL MOTORS CORP.

1. Align the locating tabs near the top edge of the water deflector to the door structure.
2. Stretch the water deflector tight across the top edge and set in place.
3. Wet-out adhesive around the entire perimeter of the water deflector to ensure proper sealing.
4. Install the door trim panel. Refer to **Trim Panel Replacement - Side Rear Door**.

DOOR ADJUSTMENT - FRONT

CAUTION: In order to prevent SIR deployment, personal injury, or unnecessary SIR system repairs, do not strike the door or the door pillar in the area of the side impact sensor (SIS). Turn OFF the ignition and remove the key when performing service in the area of the SIS.

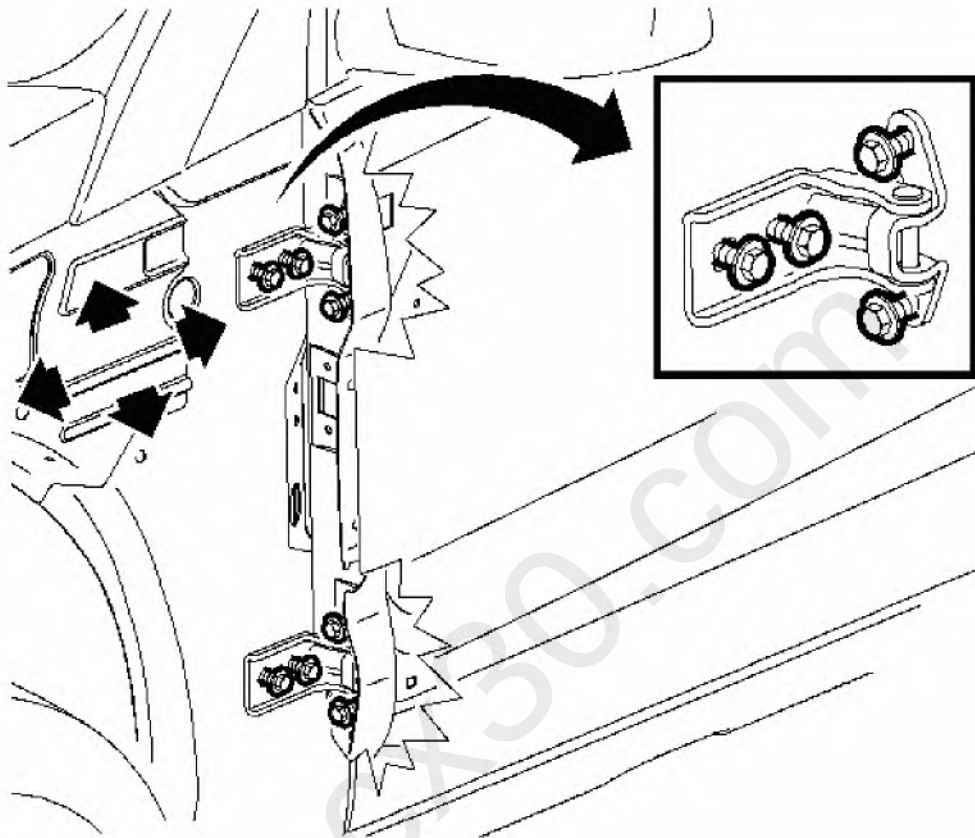


Fig. 49: View Of Front Door
Courtesy of GENERAL MOTORS CORP.

1. Remove the door lock striker. Refer to **Door Striker Replacement - Front Door**.
2. For up, down, forward, or rearward adjustment, loosen the hinge to hinge pillar bolts.
3. Move the door within the door opening to achieve the best alignment and operation.

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

4. Tighten all of the hinge fasteners that were loosened.

Tighten: Tighten the hinge fasteners to 25 N.m (18 lb ft).

5. Install the striker to the approximate proper position.

6. Adjust the door striker. Refer to **Door Striker Adjustment - Front Door**.
7. Inspect the door weatherstrips for proper fit.

DOOR REPLACEMENT - FRONT

Removal Procedure

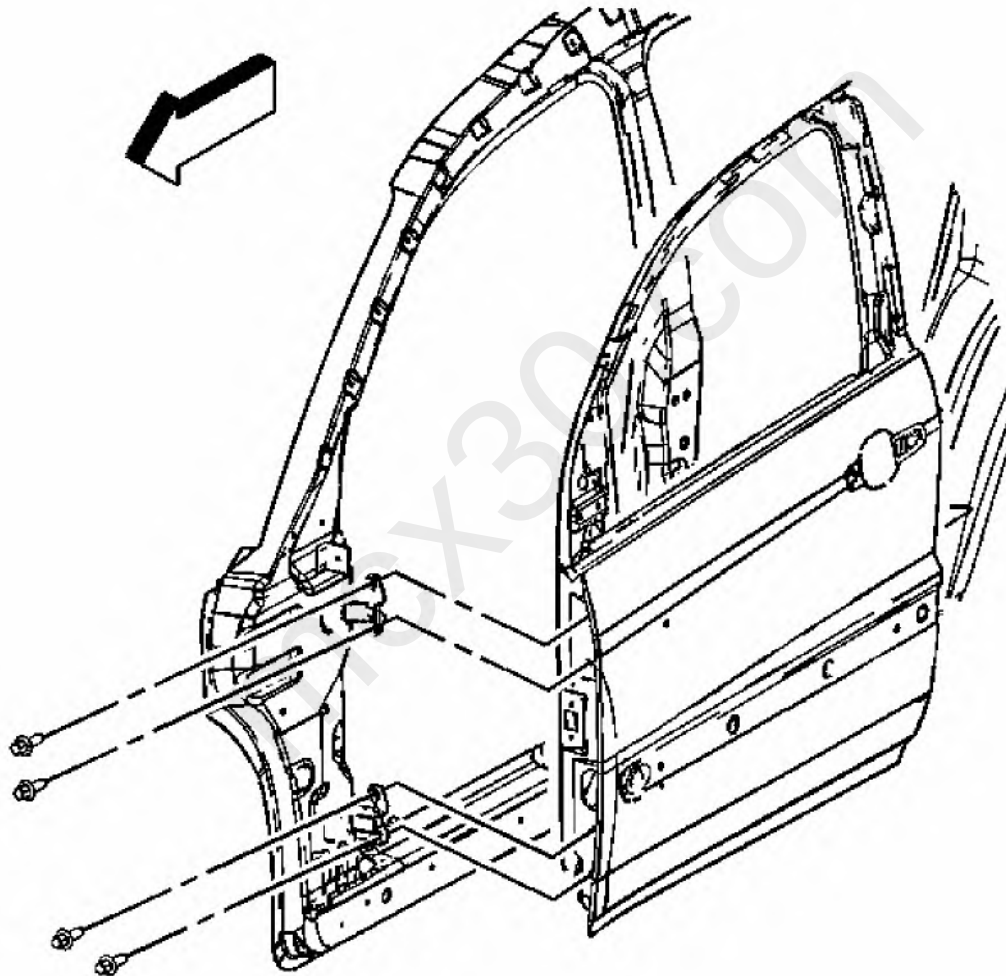


Fig. 50: View Of Front Door
Courtesy of GENERAL MOTORS CORP.

CAUTION: In order to prevent SIR deployment, personal injury, or unnecessary SIR system repairs, do not strike the door or the door pillar in the area of the side impact sensor (SIS). Turn OFF the ignition and remove the key when

performing service in the area of the SIS.

1. Remove the front fender. Refer to **Fender Replacement - Front** in Body Front End.
2. Disconnect the wiring harness connectors at the door jamb.
3. Remove the front door check link. Refer to **Door Check Link Replacement - Front**.
4. Support the door.
5. Using a soft marker, mark around the outside of the hinge for installation purposes.
6. With the aid of an assistant, remove the door hinge to body bolts.
7. With the aid of an assistant, remove the front door from the vehicle.

Installation Procedure

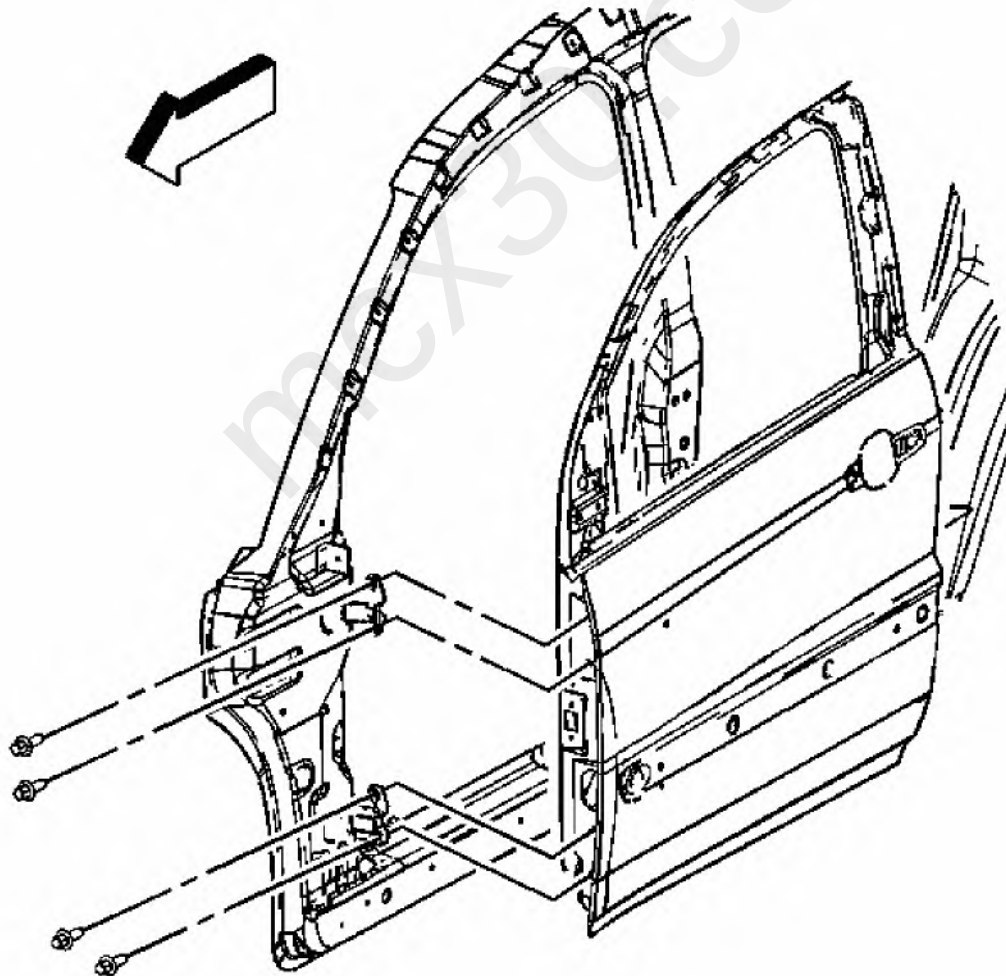


Fig. 51: View Of Front Door

Courtesy of GENERAL MOTORS CORP.

1. With the aid of an assistant, position the front door and loosely install all hinge to body bolts.

NOTE: Refer to Fastener Notice in Cautions and Notices.

2. Align the hinge with the marks made during the removal procedure.

Tighten: Tighten the hinge to body bolts to 25 N.m (18 lb ft).

3. Install the front door check link. Refer to Door Check Link Replacement - Front.
4. Engage wiring harness grommet into door and install the front door wiring harness.
5. Connect the wiring harness connectors at the door jamb.
6. Verify the door is aligned properly. If door adjustment is required, refer to Door Adjustment - Front.
7. Install the front fender. Refer to Fender Replacement - Front in Body Front End.

DOOR ADJUSTMENT - REAR

CAUTION: In order to prevent SIR deployment, personal injury, or unnecessary SIR system repairs, do not strike the door or the door pillar in the area of the side impact sensor (SIS). Turn OFF the ignition and remove the key when performing service in the area of the SIS.

1. Remove the door striker. Refer to Door Striker Replacement - Rear Door.
2. For up, down, forward, or rearward adjustment, loosen the hinge to hinge pillar bolts.
3. Move the door within the door opening to achieve the best alignment and operation.

NOTE: Refer to Fastener Notice in Cautions and Notices.

4. Tighten all of the hinge fasteners that were loosened.

Tighten: Tighten the hinge fasteners to 25 N.m (18 lb ft).

5. Install the striker to the approximate proper position.
6. Adjust the door striker. Refer to Door Striker Adjustment - Rear Door.
7. Inspect the door weatherstrips for proper fit.

DOOR REPLACEMENT - REAR

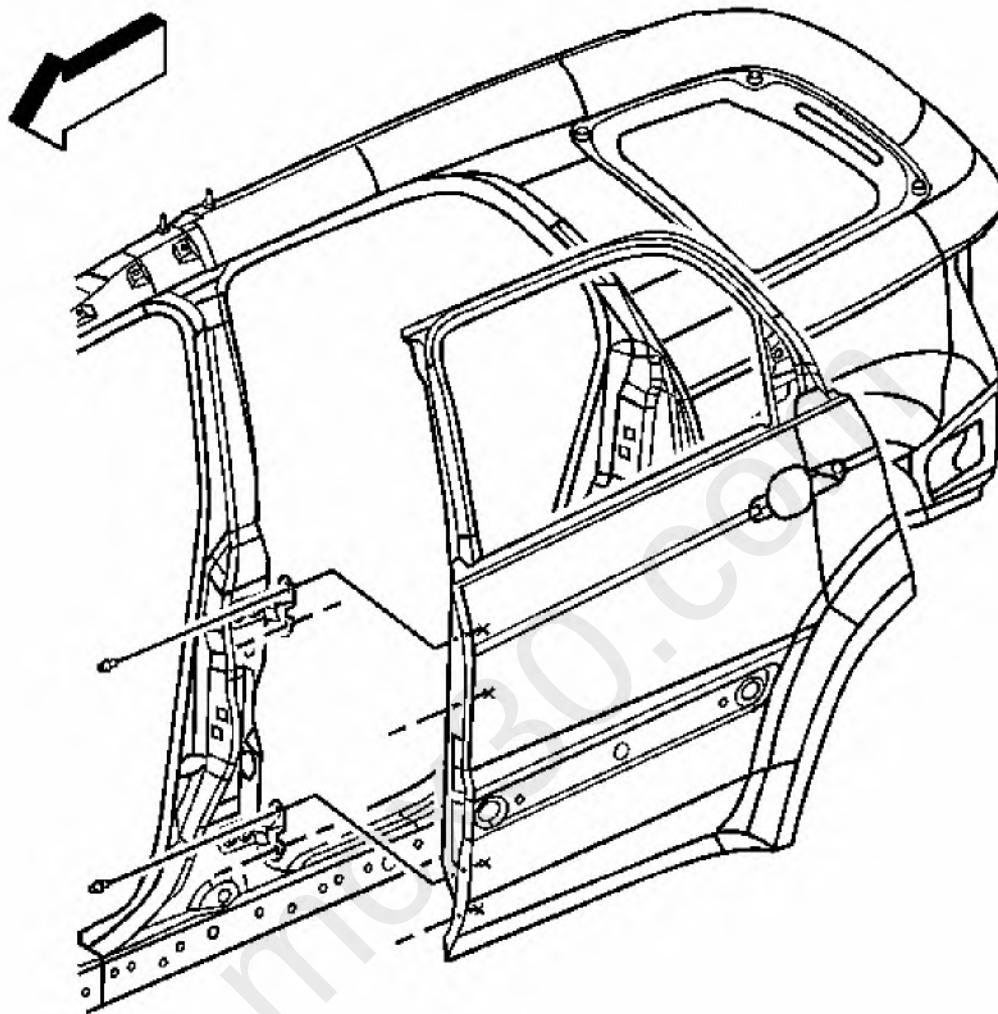


Fig. 52: View Of Rear Door
Courtesy of GENERAL MOTORS CORP.

CAUTION: In order to prevent SIR deployment, personal injury, or unnecessary SIR system repairs, do not strike the door or the door pillar in the area of the side impact sensor (SIS). Turn OFF the ignition and remove the key when performing service in the area of the SIS.

1. Disconnect the wiring harness at the door jamb.
2. Remove the rear door check link. Refer to **Door Check Link Replacement - Rear**.
3. Support the door.

4. Using a soft marker, mark around the outside of the hinge for installation purposes.
5. With the aid of an assistant, remove the door hinge to body bolts.
6. With the aid of an assistant, remove the rear door from the vehicle.

Installation Procedure

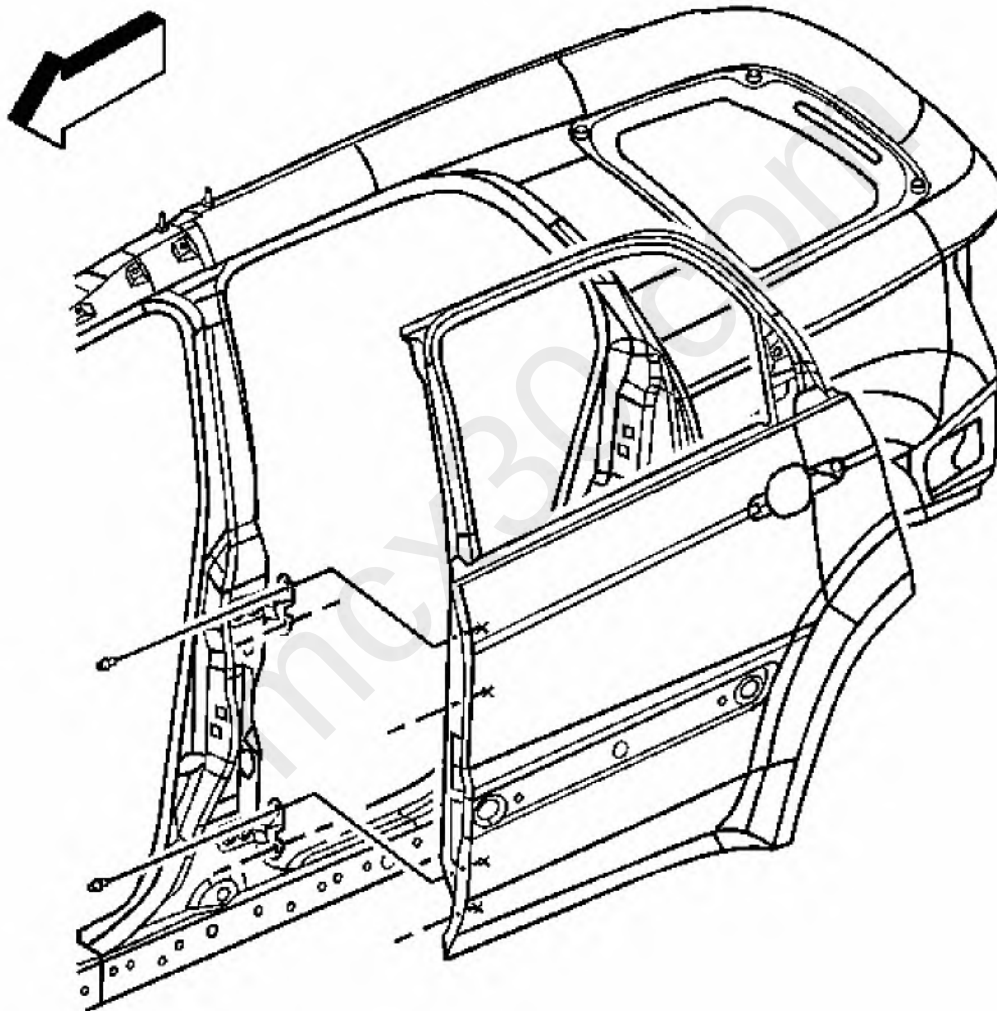


Fig. 53: View Of Rear Door
Courtesy of GENERAL MOTORS CORP.

1. With the aid of an assistant, position the rear door and loosely install all hinge to body bolts.

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

2. Align the hinge with the marks made during the removal procedure.

Tighten: Tighten the hinge to body bolts to 25 N.m (18 lb ft).

3. Install the rear door check link. Refer to **Door Check Link Replacement - Rear**.
4. Engage wiring harness grommet into door and install the rear door wiring harness.
5. Connect the wiring harness at the door jamb.
6. Verify the door is aligned properly. If door adjustment is required, refer to **Door Adjustment - Rear**.

HINGE REPLACEMENT - FRONT DOOR

Removal Procedure

CAUTION: In order to prevent SIR deployment, personal injury, or unnecessary SIR system repairs, do not strike the door or the door pillar in the area of the side impact sensor (SIS). Turn OFF the ignition and remove the key when performing service in the area of the SIS.

1. Remove the front fender. Refer to **Fender Replacement - Front** in Body Front End.

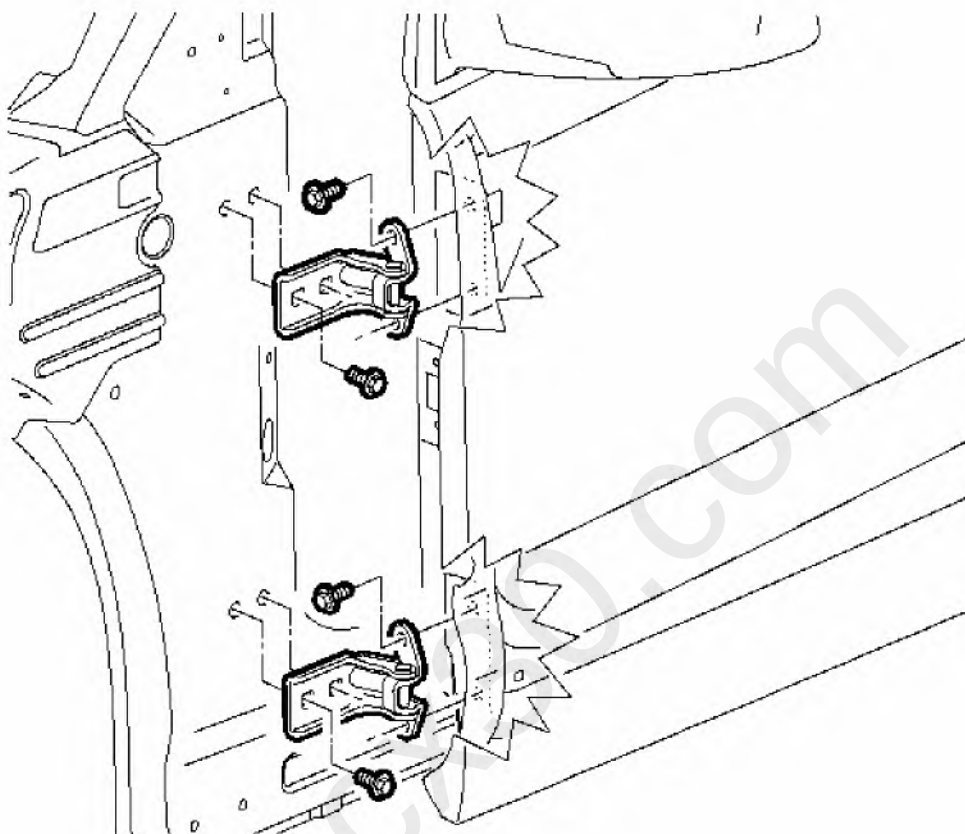


Fig. 54: Removing/Installing Hinge Front Door
Courtesy of GENERAL MOTORS CORP.

2. Mark around the hinge location with a soft marker for installation alignment purposes.
3. Support the door.
4. With the door fully latched on the striker, remove the hinge to door bolts.
5. Remove the hinge to body bolts and remove the hinges one at a time.

Installation Procedure

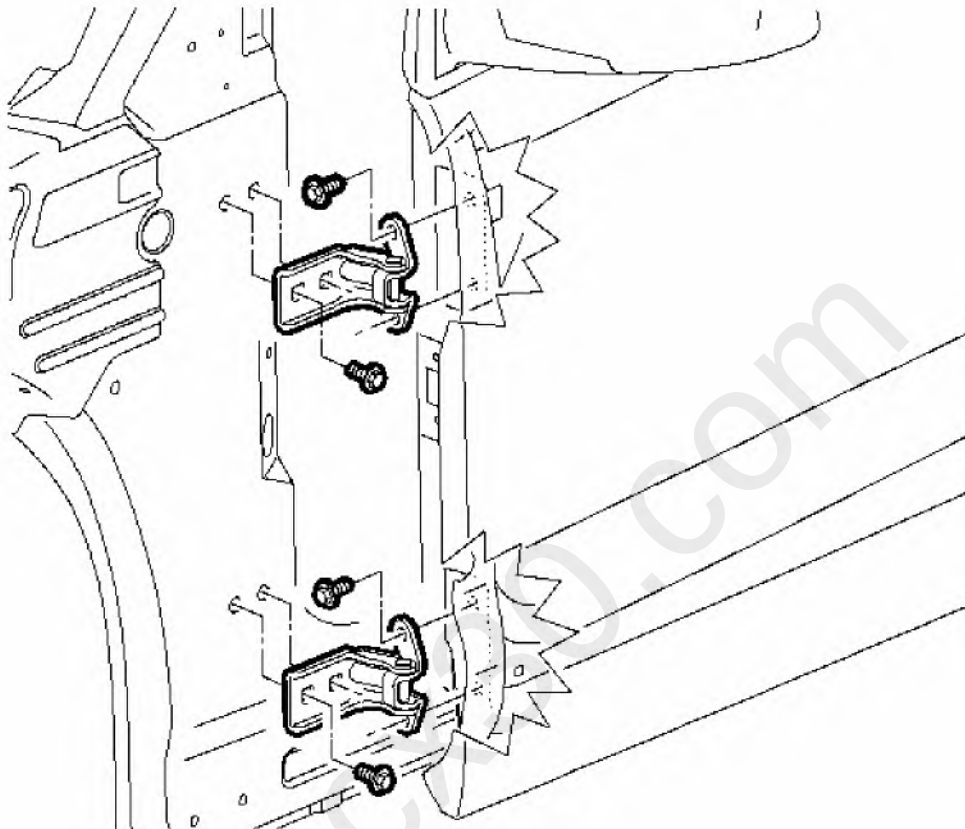


Fig. 55: Removing/Installing Hinge Front Door
Courtesy of GENERAL MOTORS CORP.

1. Position the hinge to the vehicle with the marks made prior to removal.

NOTE: Refer to Fastener Notice in Cautions and Notices.

2. Install the hinge to door bolts.

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

3. Install the hinge to body bolts.

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

4. Inspect the door for proper alignment. Refer to **Door Adjustment - Front**.
5. Install the front fender. Refer to **Fender Replacement - Front** in Body Front End.

HINGE REPLACEMENT - REAR DOOR

Removal Procedure

CAUTION: In order to prevent SIR deployment, personal injury, or unnecessary SIR system repairs, do not strike the door or the door pillar in the area of the side impact sensor (SIS). Turn OFF the ignition and remove the key when performing service in the area of the SIS.

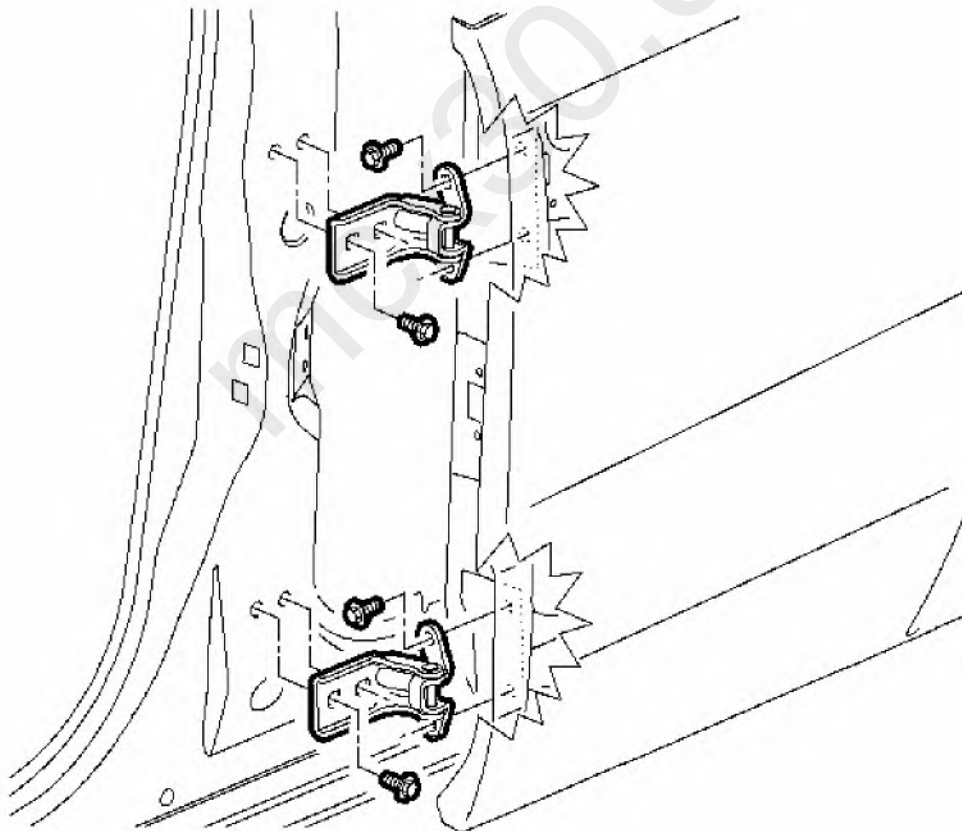


Fig. 56: Removing/Installing Hinge Rear Door
Courtesy of GENERAL MOTORS CORP.

1. Mark around the hinge location with a soft marker for installation alignment purposes.
2. Support the door.
3. With the door fully latched on the striker, remove the hinge to door bolts.
4. Remove the hinge to body bolts and remove the hinges one at a time.

Installation Procedure

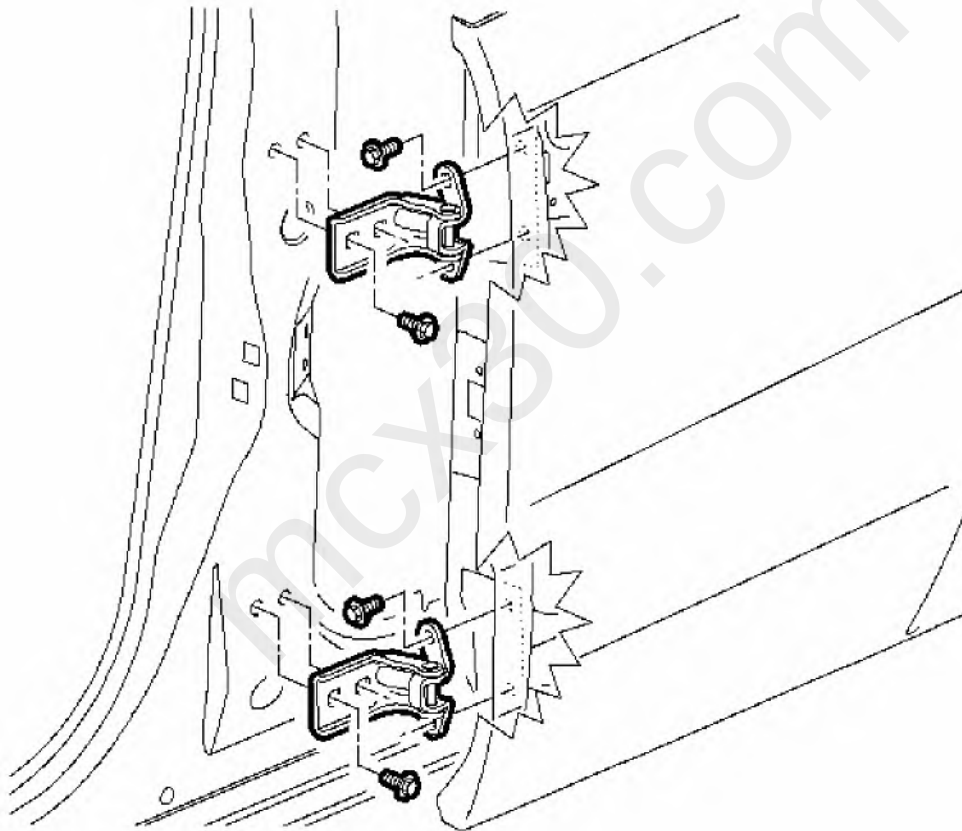


Fig. 57: Removing/Installing Hinge Rear Door
Courtesy of GENERAL MOTORS CORP.

1. Position the hinge to the vehicle with the marks made prior to removal.

NOTE: Refer to Fastener Notice in Cautions and Notices.

2. Install the hinge to door bolts.

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

3. Install the hinge to body bolts.

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

4. Inspect the door for proper alignment. Refer to **Door Adjustment - Rear**.

DOOR CHECK LINK REPLACEMENT - FRONT

Removal Procedure

CAUTION: In order to prevent SIR deployment, personal injury, or unnecessary SIR system repairs, do not strike the door or the door pillar in the area of the side impact sensor (SIS). Turn OFF the ignition and remove the key when performing service in the area of the SIS.

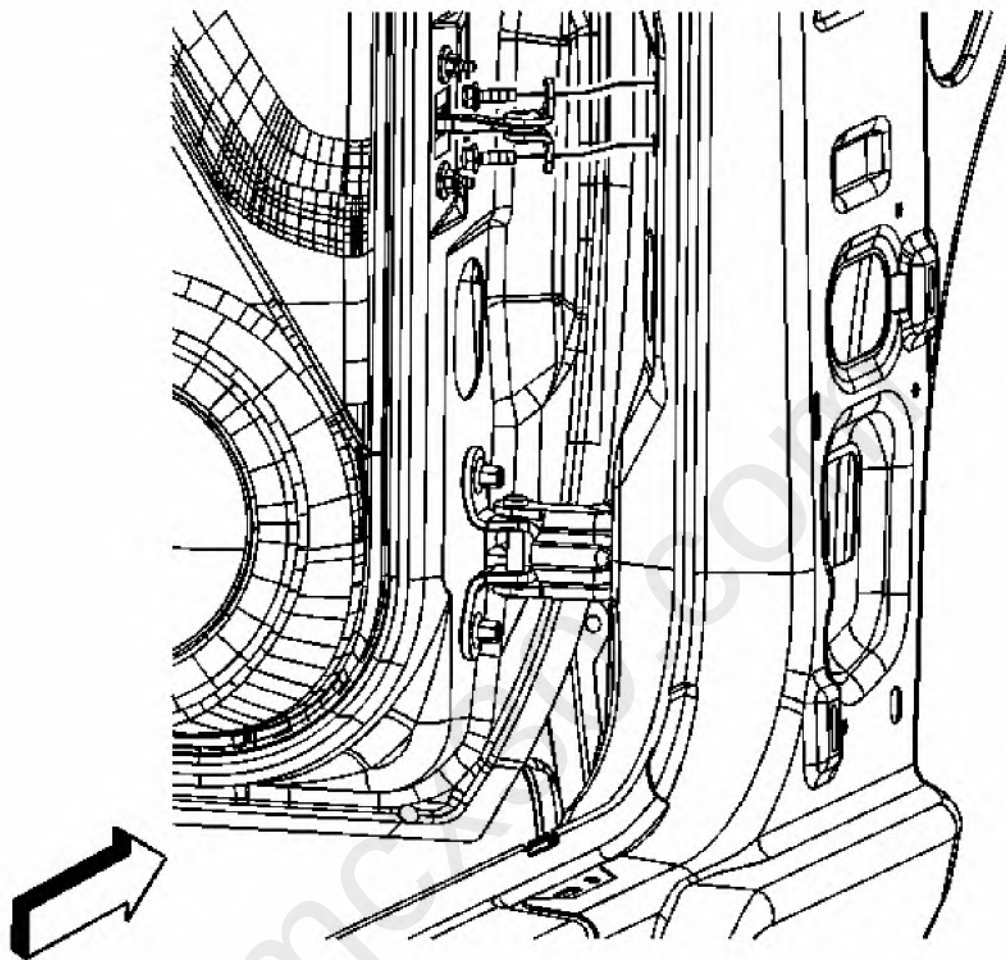


Fig. 58: View Of Front Door Check Link Bolts
Courtesy of GENERAL MOTORS CORP.

1. Remove the front door trim panel. Refer to **Trim Panel Replacement - Side Front Door**.
2. Remove the front door lower speaker. Refer to **Speaker Replacement - Front Door** in Entertainment.
3. Remove the check link bolts at the hinge pillar.

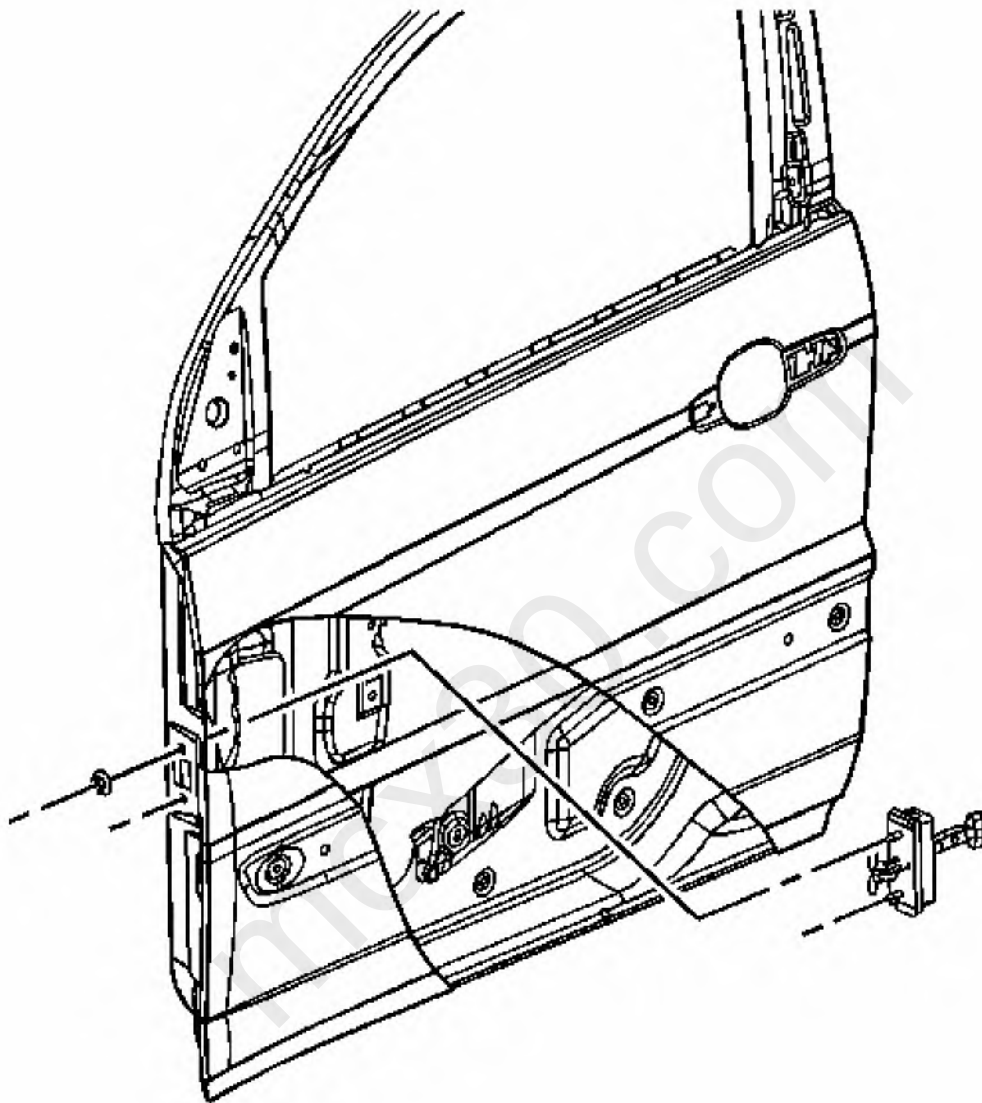


Fig. 59: View Of Front Door Check Link & Nuts
Courtesy of GENERAL MOTORS CORP.

4. Remove the check link nuts from the door frame.
5. Remove the check link from the door through the speaker opening.

Installation Procedure

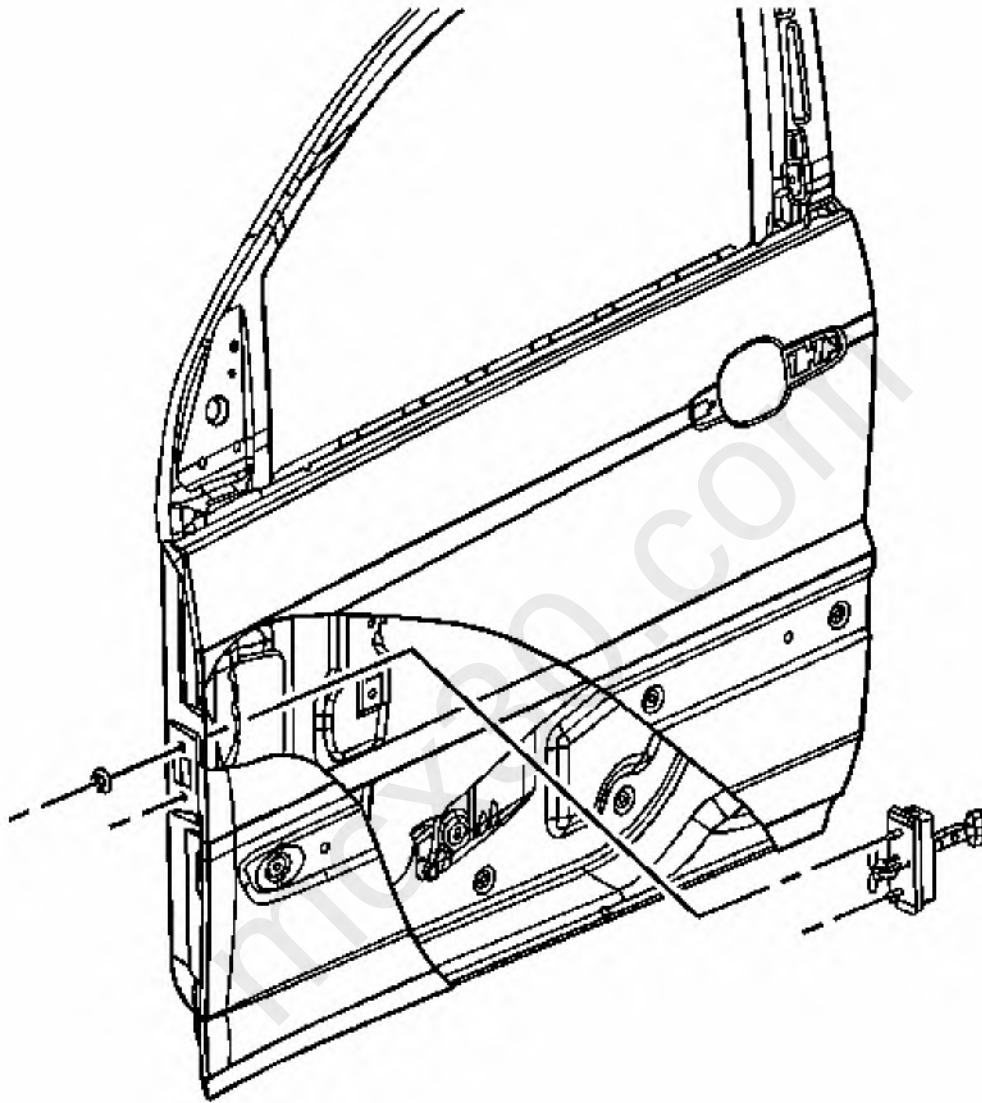


Fig. 60: View Of Front Door Check Link & Nuts
Courtesy of GENERAL MOTORS CORP.

1. Install the check link to the door frame.

NOTE: Refer to Fastener Notice in Cautions and Notices.

2. Install the nuts to the check link.

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

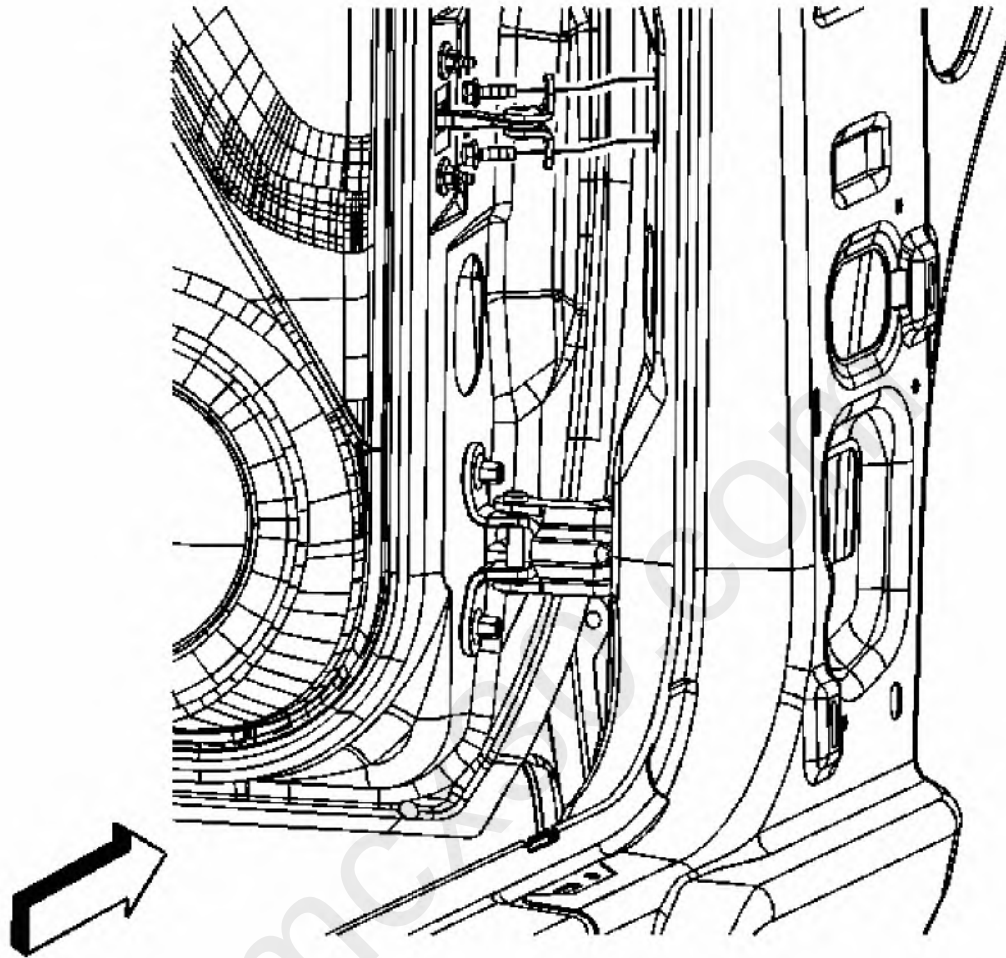


Fig. 61: View Of Front Door Check Link Bolts
Courtesy of GENERAL MOTORS CORP.

3. Install the check link bolts.

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

4. Install the front door lower speaker. Refer to Speaker Replacement - Front Door in Entertainment.
5. Install the front door trim panel. Refer to Trim Panel Replacement - Side Front Door.

DOOR CHECK LINK REPLACEMENT - REAR

Removal Procedure

CAUTION: In order to prevent SIR deployment, personal injury, or unnecessary SIR system repairs, do not strike the door or the door pillar in the area of the side impact sensor (SIS). Turn OFF the ignition and remove the key when performing service in the area of the SIS.

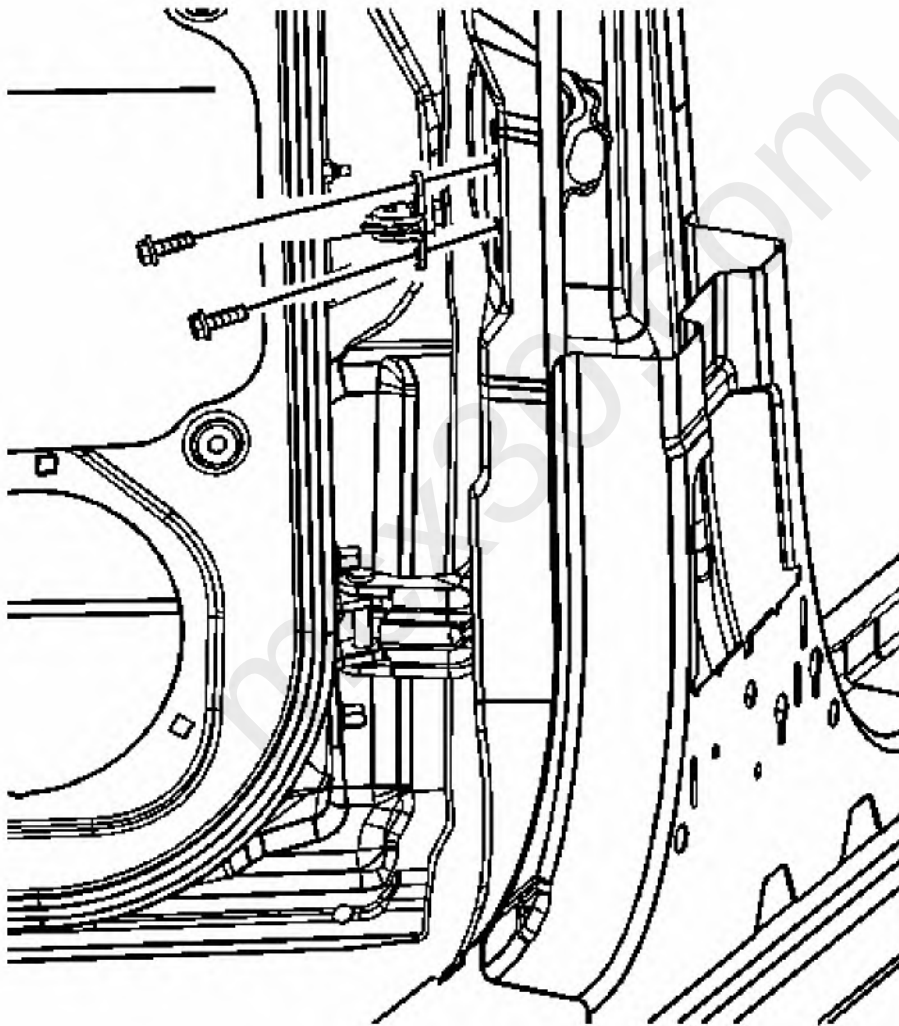


Fig. 62: View Of Rear Door Check Link Bolts
Courtesy of GENERAL MOTORS CORP.

1. Remove the rear door trim panel. Refer to **Trim Panel Replacement - Side Rear Door**.
2. Remove the rear door lower speaker. Refer to **Speaker Replacement - Rear Door** in

Entertainment.

3. Remove the check link bolts at the hinge pillar.

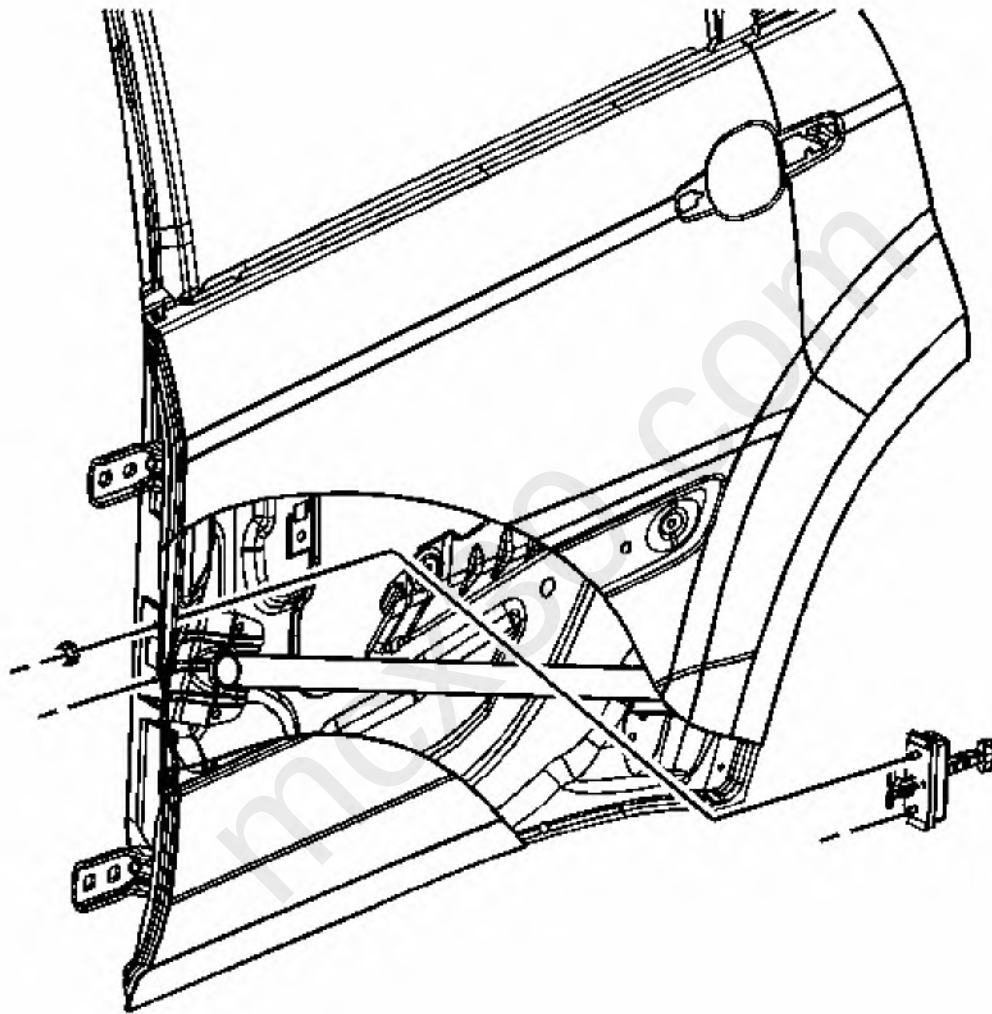


Fig. 63: View Of Rear Door Check Link & Nuts
Courtesy of GENERAL MOTORS CORP.

4. Remove the check link nuts from the door frame.
5. Remove the check link from the door through the speaker opening.

Installation Procedure

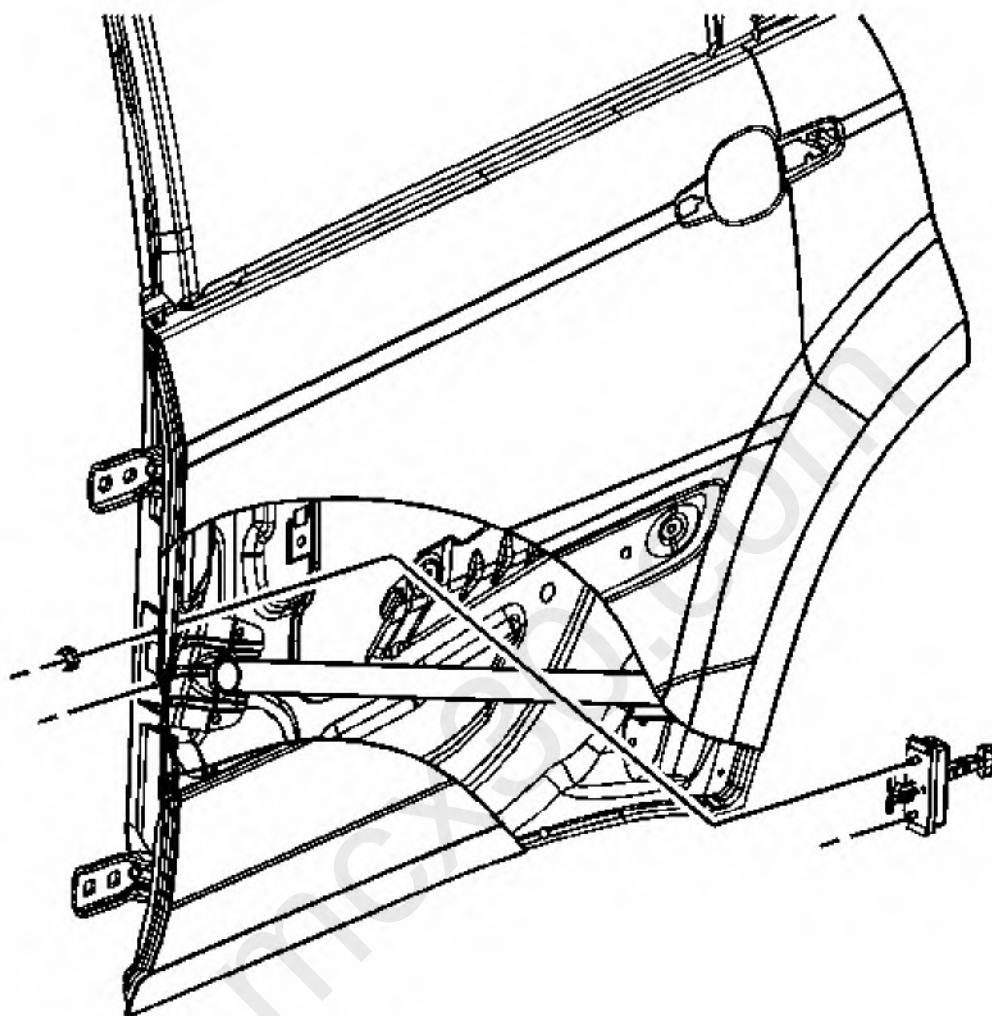


Fig. 64: View Of Rear Door Check Link & Nuts
Courtesy of GENERAL MOTORS CORP.

1. Install the check link to the door frame.

NOTE: Refer to Fastener Notice in Cautions and Notices.

2. Install the nuts to the check link.

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

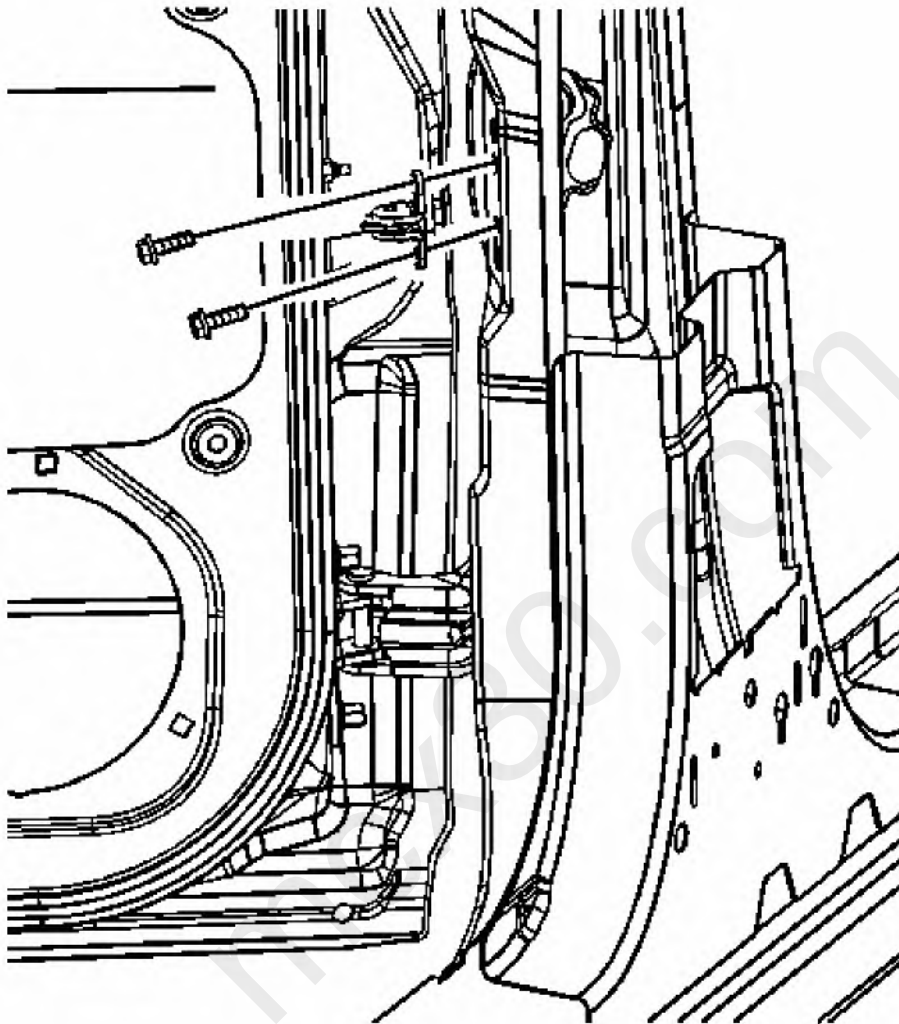


Fig. 65: View Of Rear Door Check Link Bolts
Courtesy of GENERAL MOTORS CORP.

3. Install the check link bolts.

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

4. Install the rear door lower speaker. Refer to **Speaker Replacement - Rear Door** in Entertainment.
5. Install the rear door trim panel. Refer to **Trim Panel Replacement - Side Rear Door**.

Removal Procedure

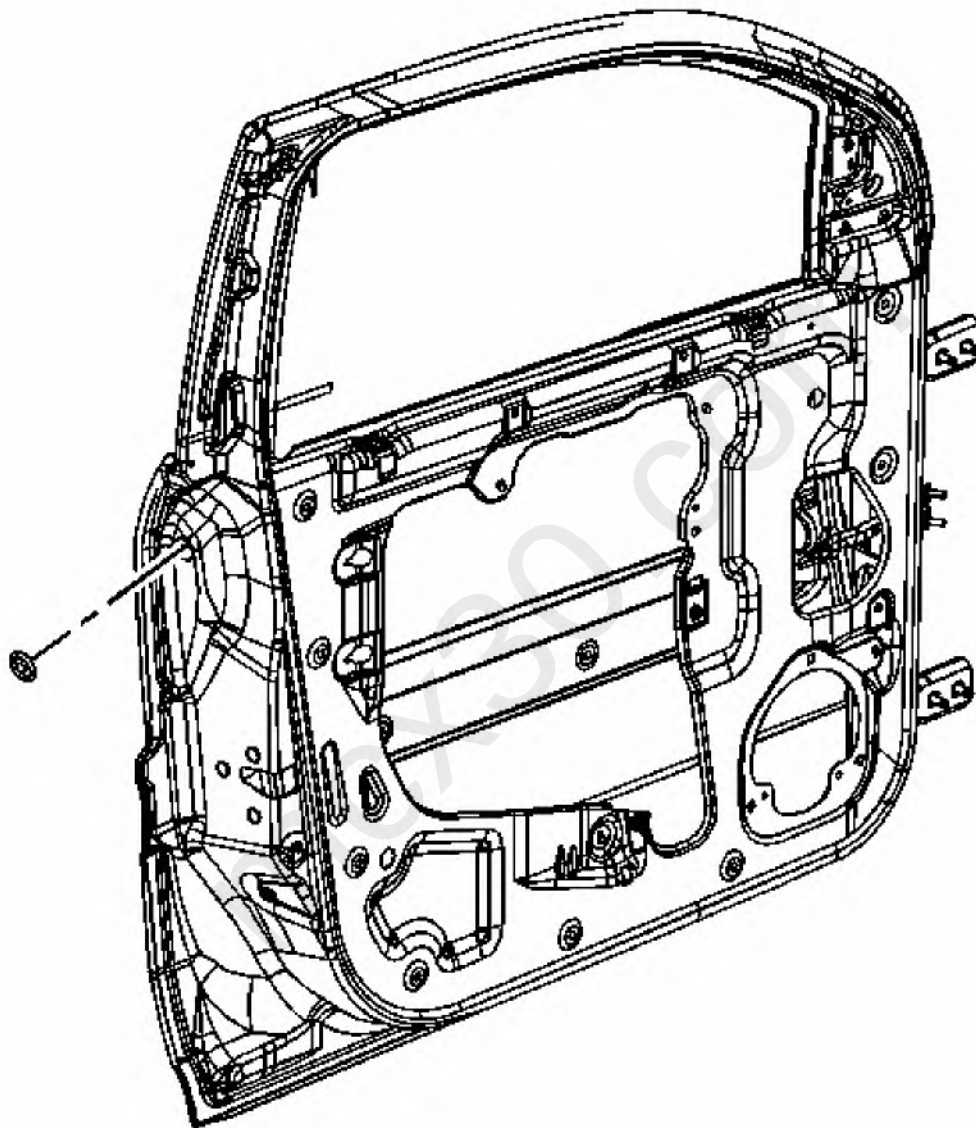


Fig. 66: View Of Front Outside Door Handle Bolt Cap
Courtesy of GENERAL MOTORS CORP.

1. Remove the door handle bolt cap.
2. Remove the door handle screw through the door shut face.

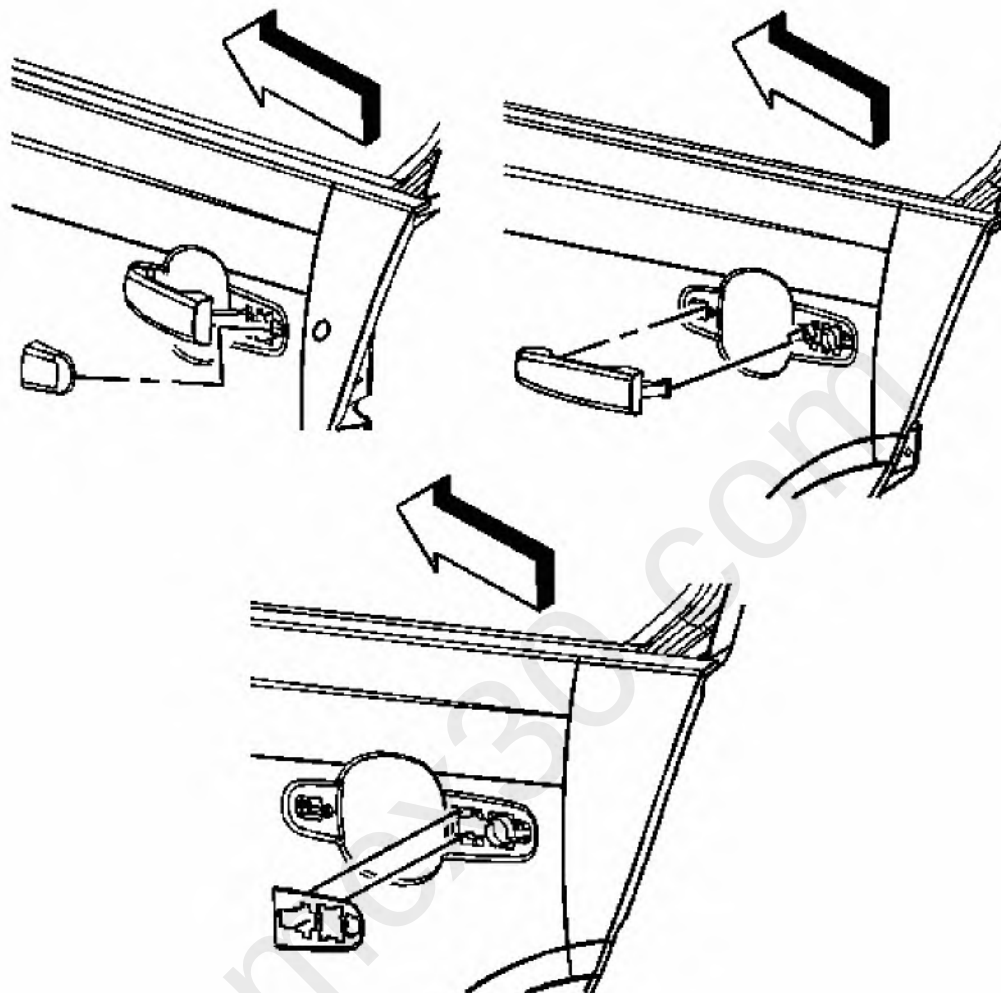


Fig. 67: View Of Outside Door Handle, Cap & Gasket
Courtesy of GENERAL MOTORS CORP.

3. Remove the door handle cap.
4. Remove the door handle by sliding rearward and pulling away from the door.
5. Remove the gasket, if necessary.

Installation Procedure

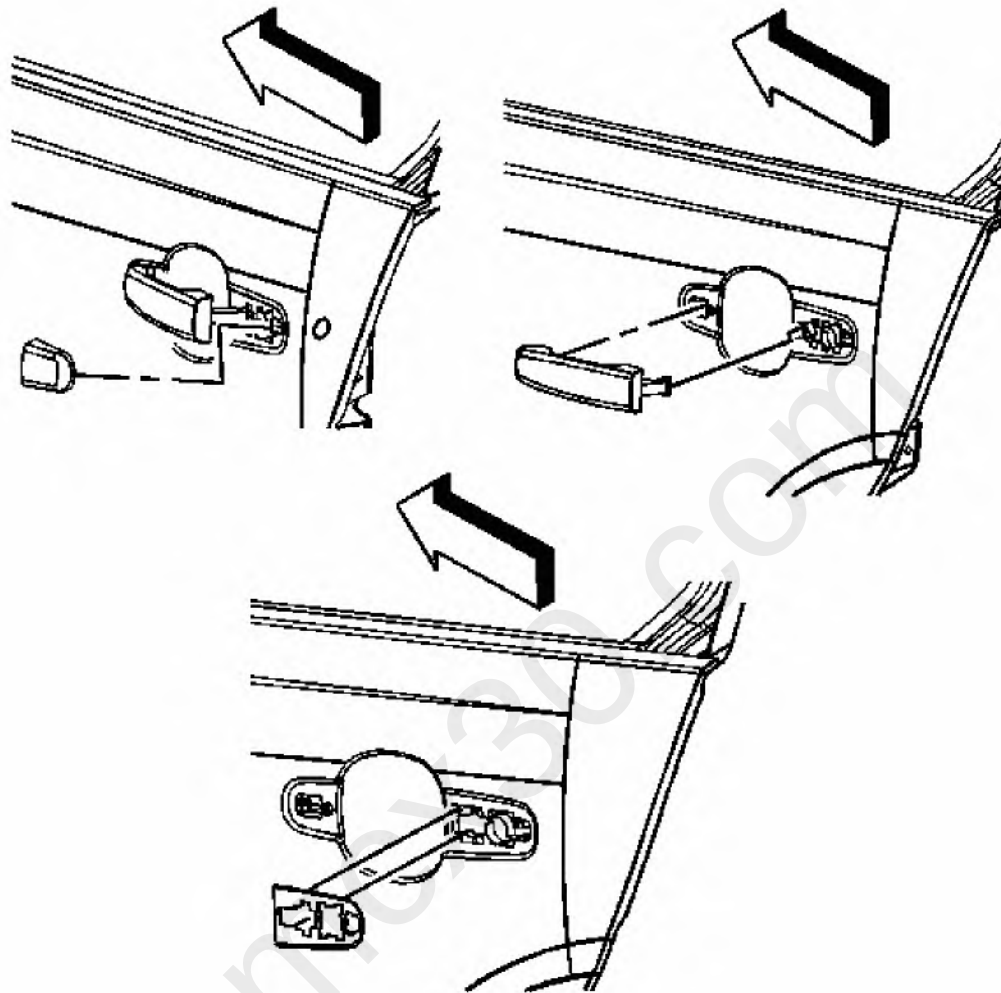


Fig. 68: View Of Outside Door Handle, Cap & Gasket
Courtesy of GENERAL MOTORS CORP.

1. Install the gasket, if necessary.
2. Install the handle by placing into position and sliding rearward ensuring to engage the outside handle lever.
3. Install the door handle cap.

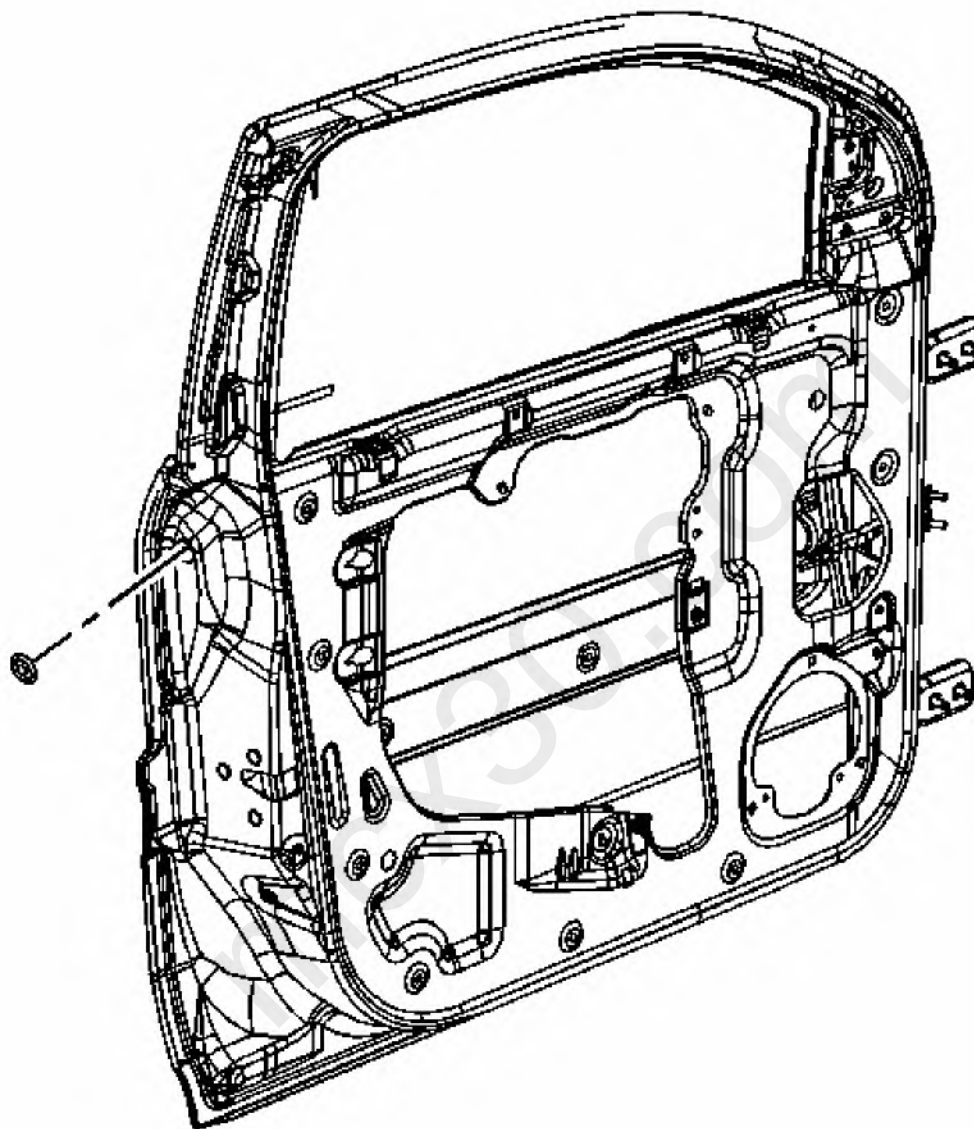


Fig. 69: View Of Front Outside Door Handle Bolt Cap
Courtesy of GENERAL MOTORS CORP.

NOTE: Refer to Fastener Notice in Cautions and Notices.

4. Install the door handle screw through door shut face.

Tighten: Tighten the screw to 8 N.m (71 lb in).

5. Install the door handle bolt cap.

DOOR HANDLE REPLACEMENT - REAR OUTSIDE

Removal Procedure

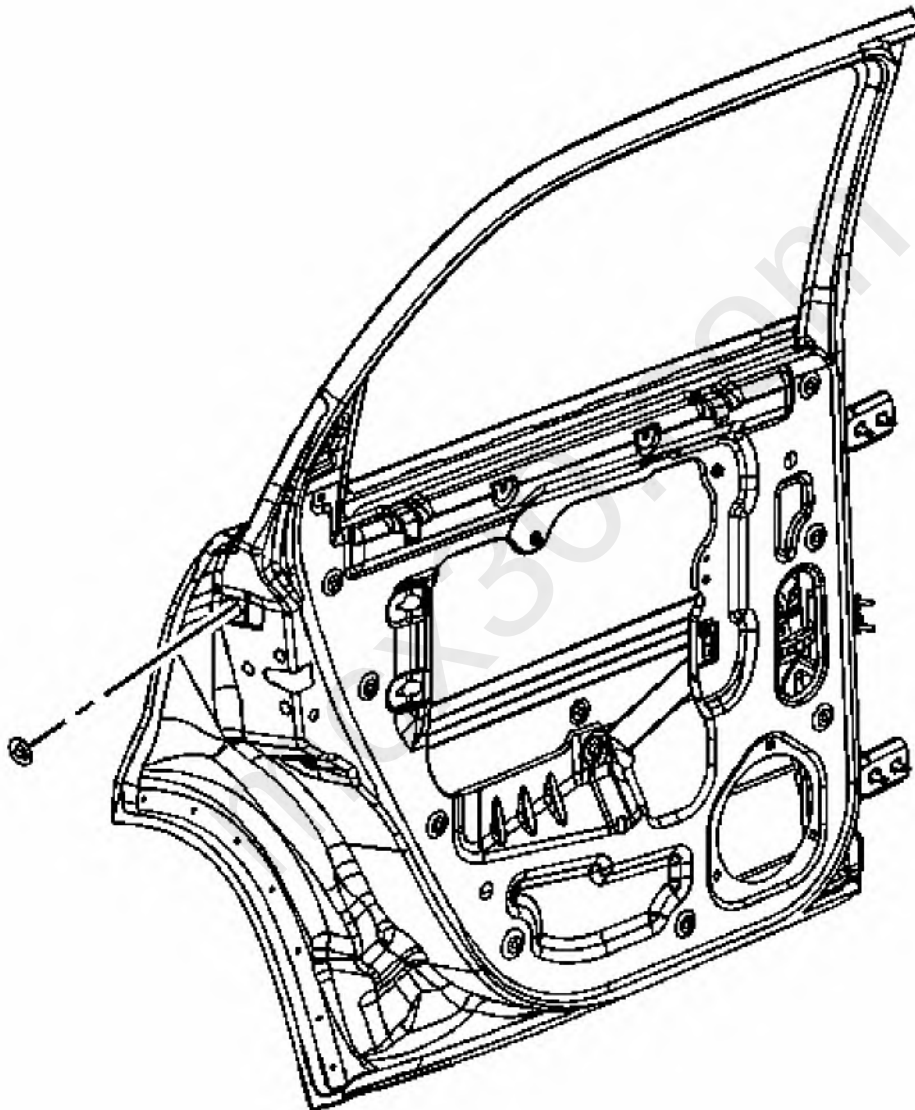


Fig. 70: View Of Rear Outside Door Handle Bolt Cap
Courtesy of GENERAL MOTORS CORP.

1. Remove the door handle bolt cap.
2. Remove the door handle screw through the door shut face.

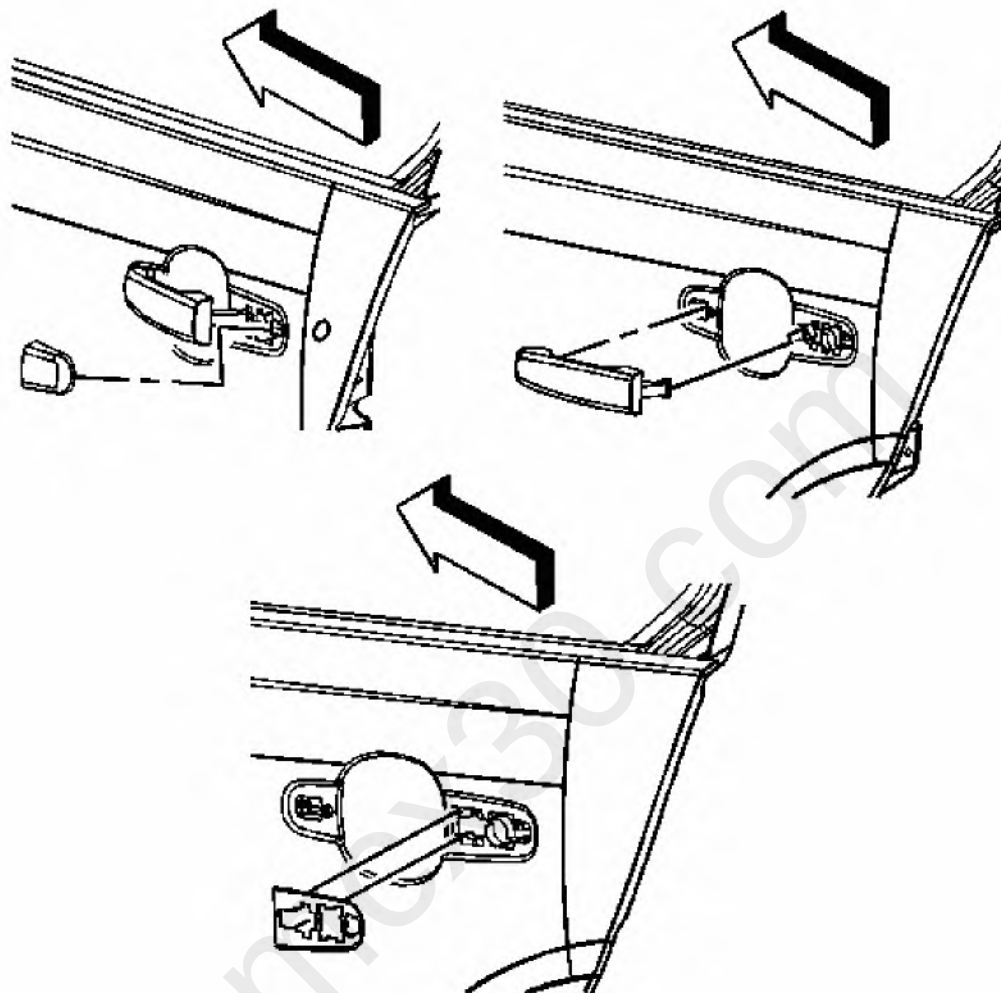


Fig. 71: View Of Outside Door Handle, Cap & Gasket
Courtesy of GENERAL MOTORS CORP.

3. Remove the door handle cap.
4. Remove the door handle by sliding rearward and pulling away from the door.
5. Remove the gasket, if necessary.

Installation Procedure

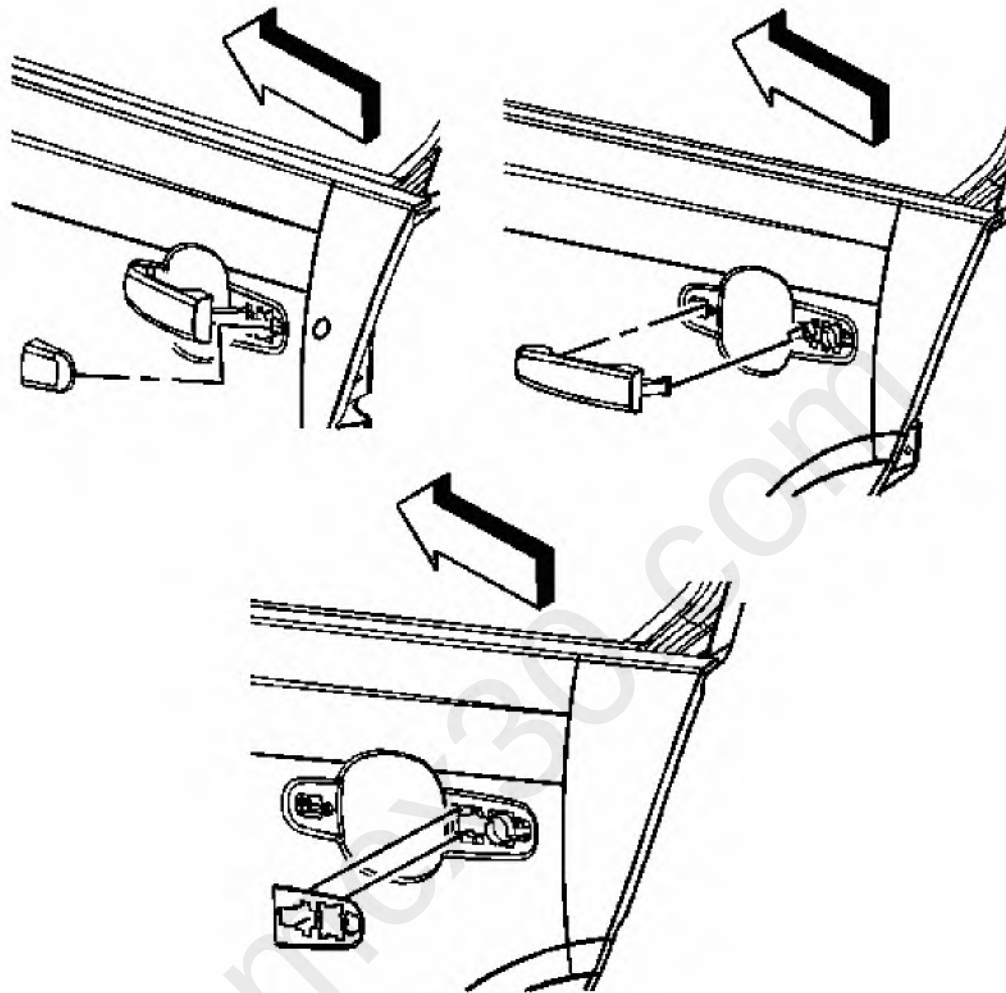


Fig. 72: View Of Outside Door Handle, Cap & Gasket
Courtesy of GENERAL MOTORS CORP.

1. Install the gasket, if necessary.
2. Install the handle by placing into position and sliding rearward ensuring to engage the outside handle lever.
3. Install the door handle cap.

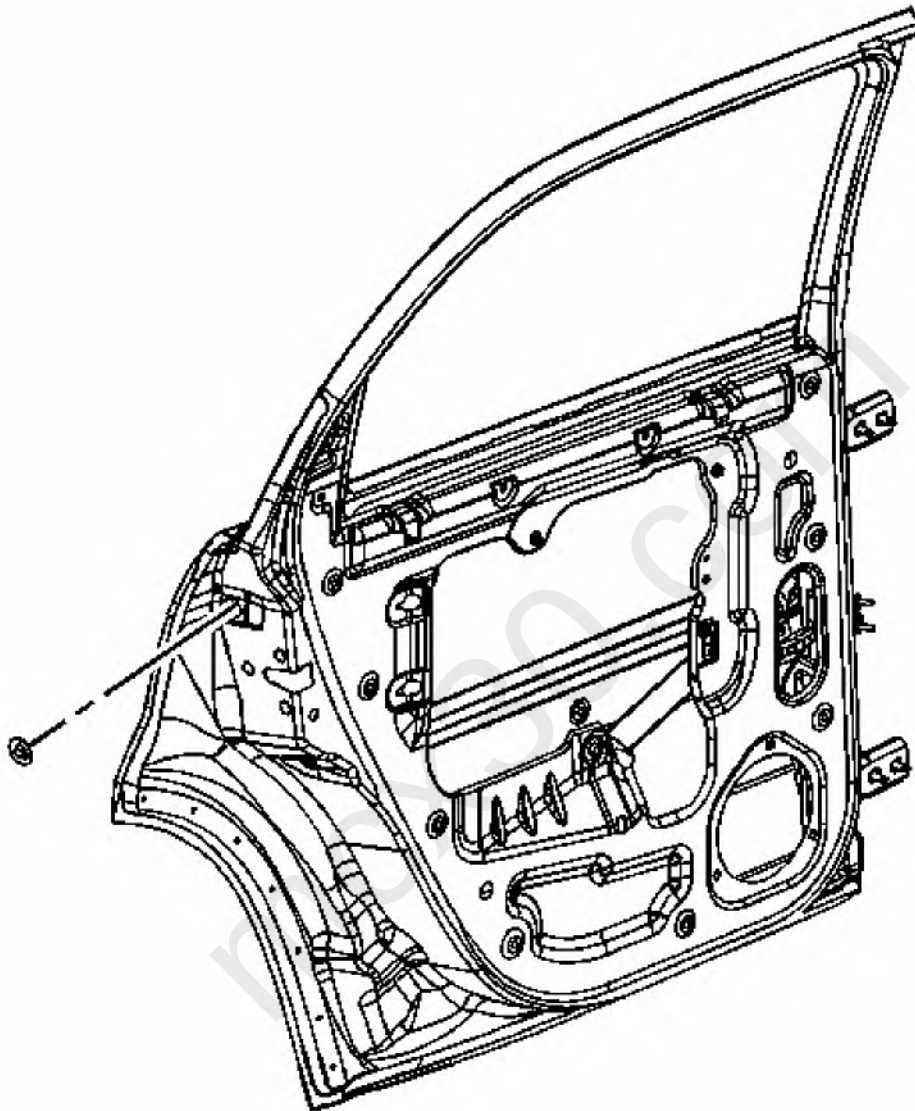


Fig. 73: View Of Rear Outside Door Handle Bolt Cap
Courtesy of GENERAL MOTORS CORP.

NOTE: Refer to Fastener Notice in Cautions and Notices.

4. Install the door handle screw through the door shut face.

Tighten: Tighten the screw to 8 N.m (71 lb in).

5. Install the door handle bolt cap.

DOOR HANDLE REPLACEMENT - INSIDE

Removal Procedure

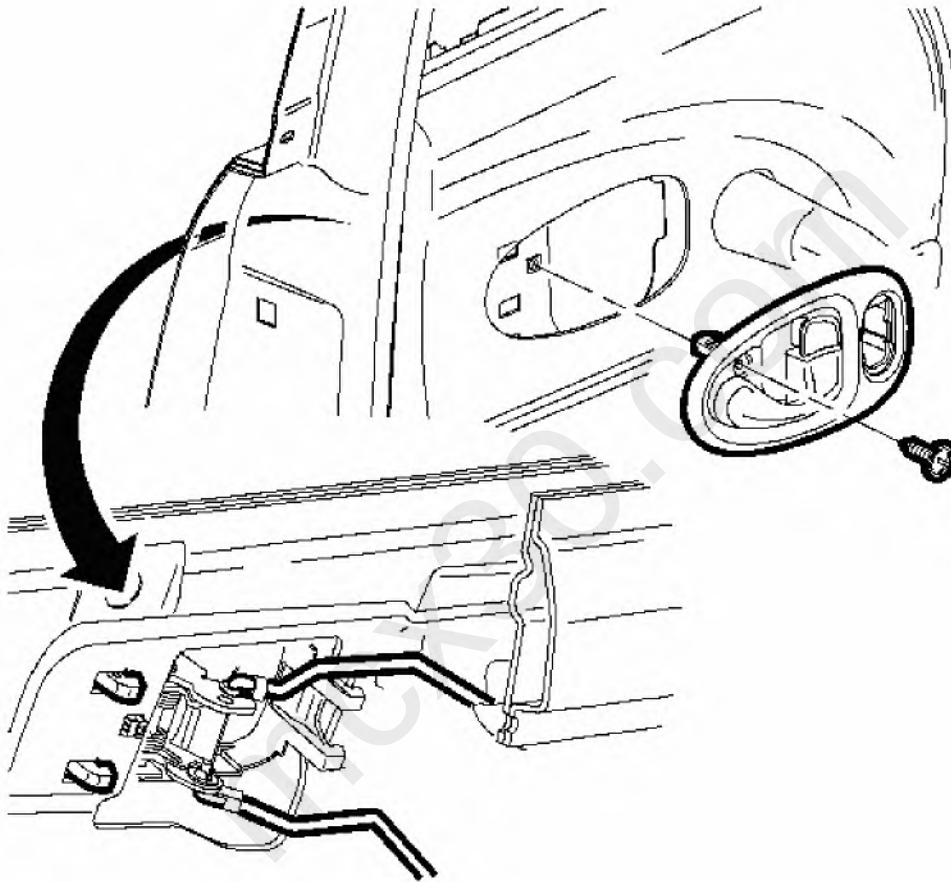


Fig. 74: View Of Inside Door Handle
Courtesy of GENERAL MOTORS CORP.

1. Remove the screw from the center of the inside handle pocket.
2. Slide the handle forward and pull outward to expose the lock rods.
3. Using a thin-bladed tool, disengage the rods from the retaining clips.
4. If the vehicle is equipped with power windows, disconnect the electrical connector from the switch by depressing the retaining tabs.

Installation Procedure

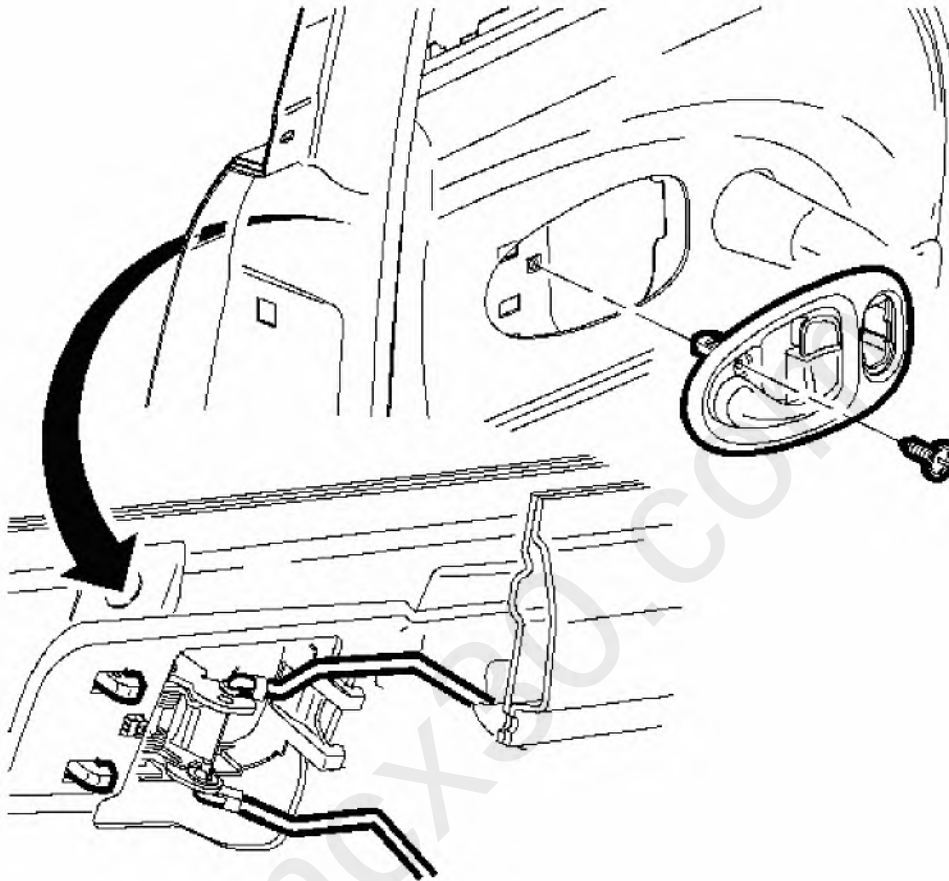


Fig. 75: View Of Inside Door Handle
Courtesy of GENERAL MOTORS CORP.

1. Connect the electrical connector to the power window switch.
2. Position the inside handle to the door trim and partially seat the rear tangs.
3. Lift the lock rods into the retaining clips. Secure the rods into the handle by latching the clips over the rods.
4. Push the handle into the trim panel and slide rearward to fully engage the tangs. Verify that the rods clear the water deflector.

NOTE: Refer to Fastener Notice in Cautions and Notices.

5. Install the screw in the handle.

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

6. Verify the correct installation of the lock rods by testing for smooth movement of the lock button and of the inside handle.

LOCK CYLINDER REPLACEMENT - DOOR

Removal Procedure

IMPORTANT: Do not attempt repairs in order to correct lock cylinder discrepancies. Replace the lock cylinder.

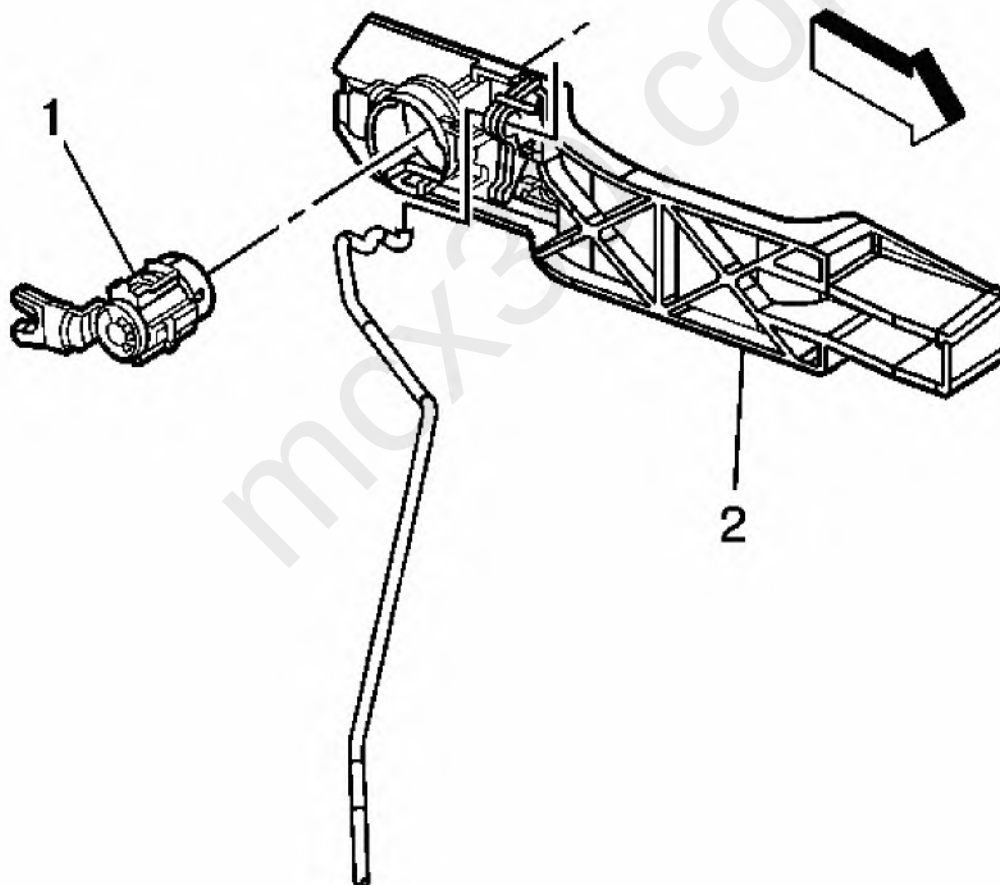


Fig. 76: View Of Lock Cylinder Retainer Clip & Outside Door Handle Housing
Courtesy of GENERAL MOTORS CORP.

1. Remove the front door window regulator module. Refer to **Window Regulator Replacement - Front Door**.

2. Remove the lock cylinder retainer clip (1).
3. Remove the lock cylinder from the outside door handle housing (2).

Installation Procedure

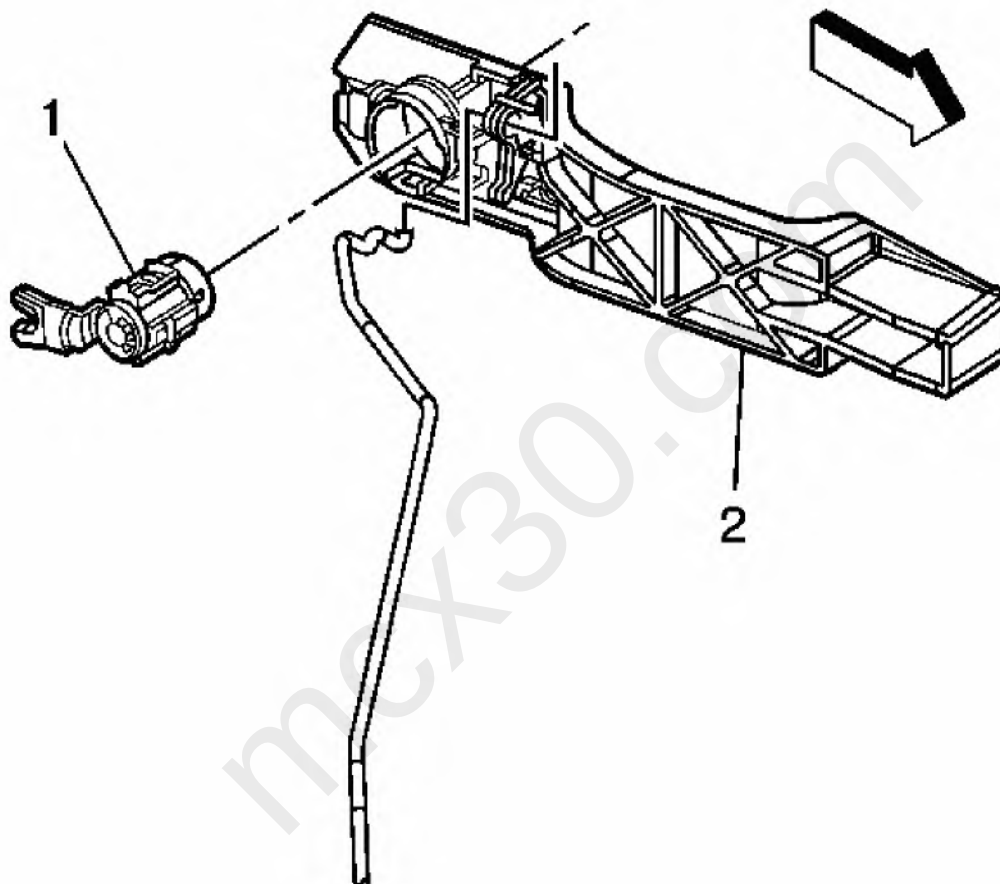


Fig. 77: View Of Lock Cylinder Retainer Clip & Outside Door Handle Housing
Courtesy of GENERAL MOTORS CORP.

1. Install the lock cylinder to the outside door handle housing (2).
2. Install the lock cylinder retainer clip (1).
3. Install the front door window regulator module. Refer to **Window Regulator Replacement - Front Door**.

LATCH REPLACEMENT - FRONT DOOR

Removal Procedure

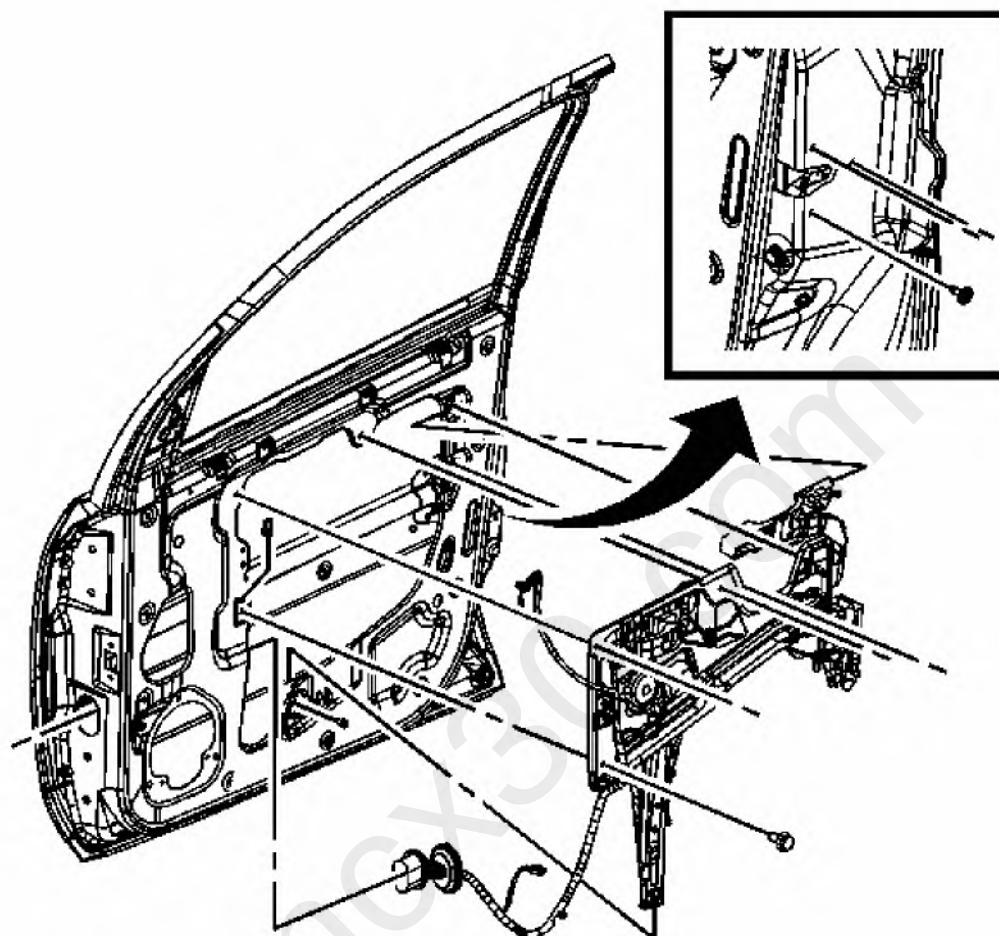


Fig. 78: View Of Front Door Window Regulator Module
Courtesy of GENERAL MOTORS CORP.

1. Remove the front door window regulator module. Refer to **Window Regulator Replacement - Front Door**.
2. Disconnect the outside handle rod from the latch.

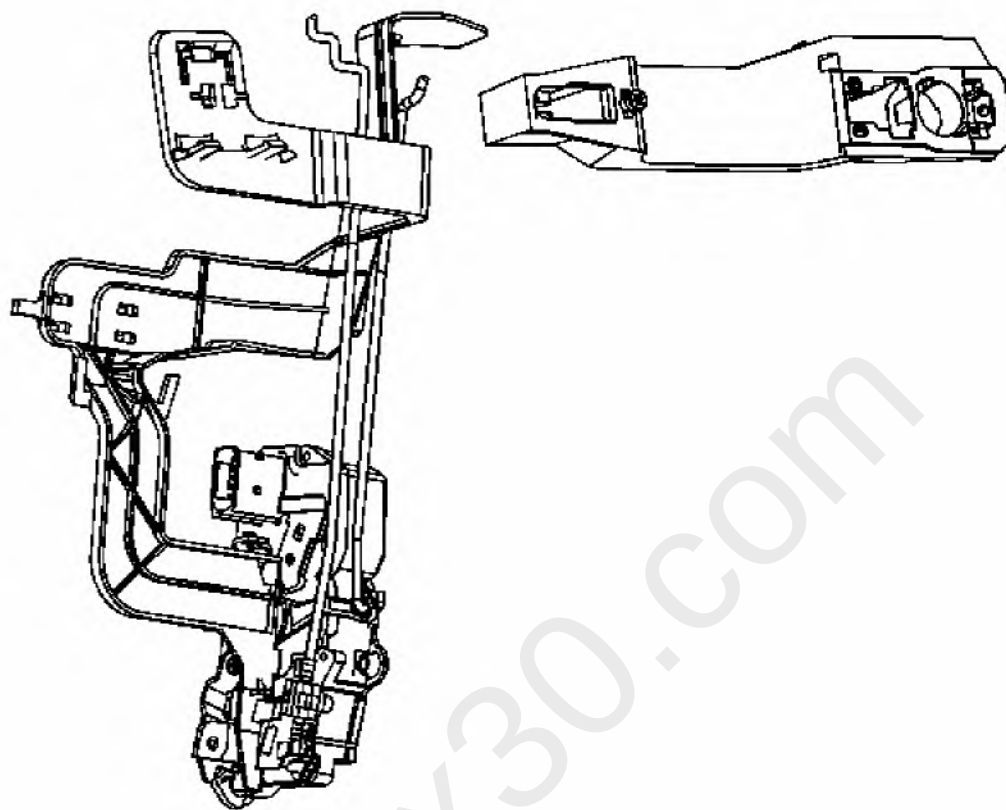


Fig. 79: View Of Outside Handle Bracket & Lock Cylinder Rod
Courtesy of GENERAL MOTORS CORP.

3. Remove the outside handle bracket.
4. Disconnect the lock cylinder rod from the latch.
5. Disconnect the latch electrical connector.

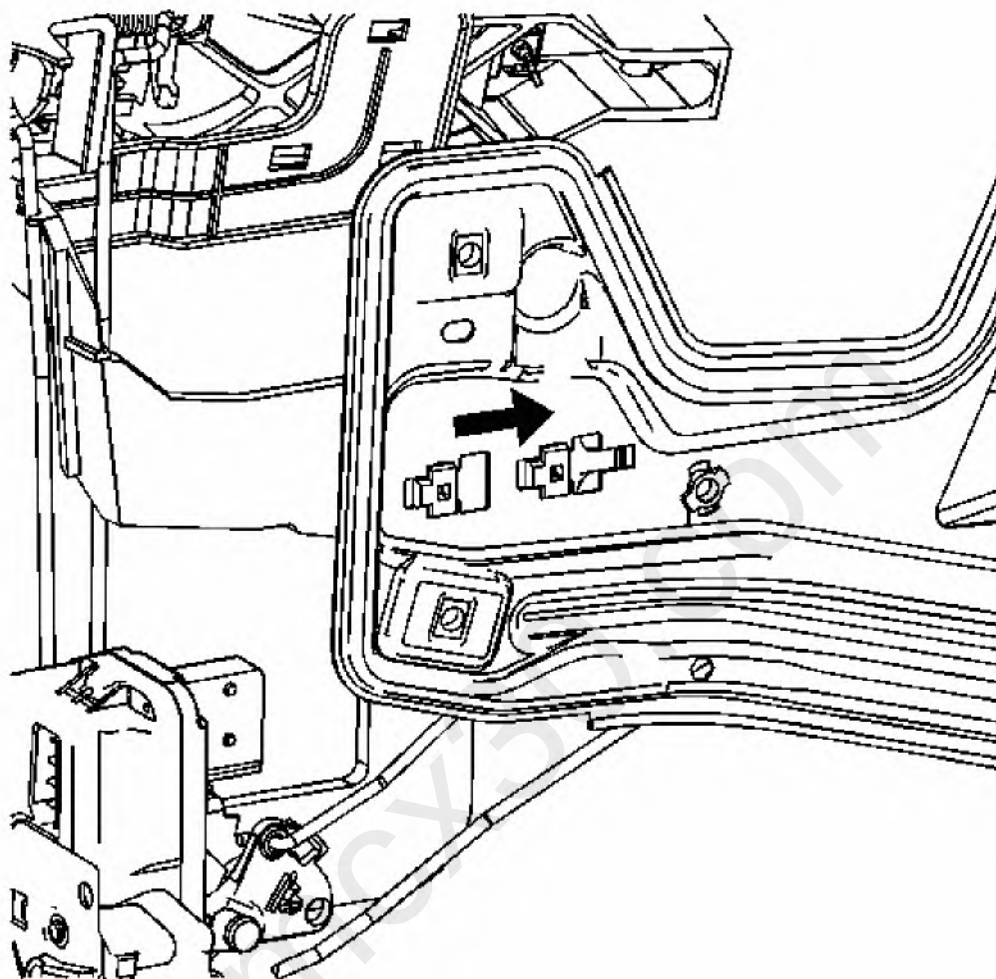


Fig. 80: View Of Latch Arm, Inside Handle Rod & Lock Button Rod
Courtesy of GENERAL MOTORS CORP.

6. Disconnect the latch arm from the window regulator module by depressing the tab and sliding rearward.
7. Disconnect the inside handle rod and lock button rod by twisting the latch.

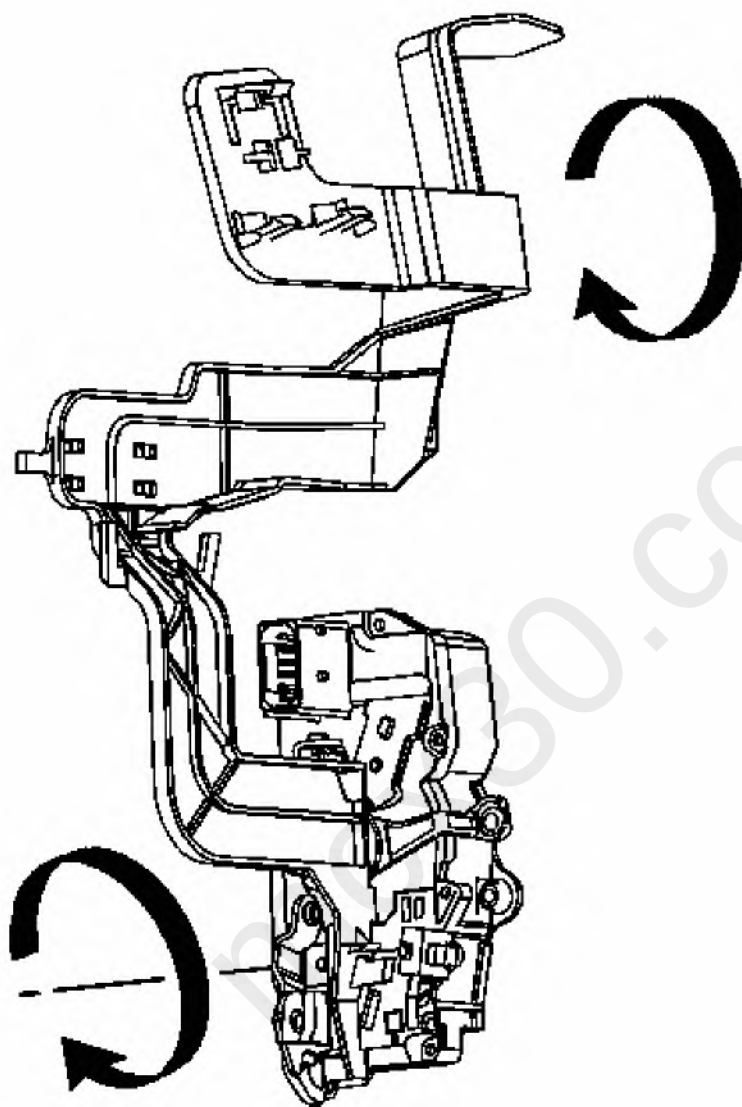


Fig. 81: Removing/Installing Latch
Courtesy of GENERAL MOTORS CORP.

8. Remove the latch from the latch arm by twisting.

Installation Procedure

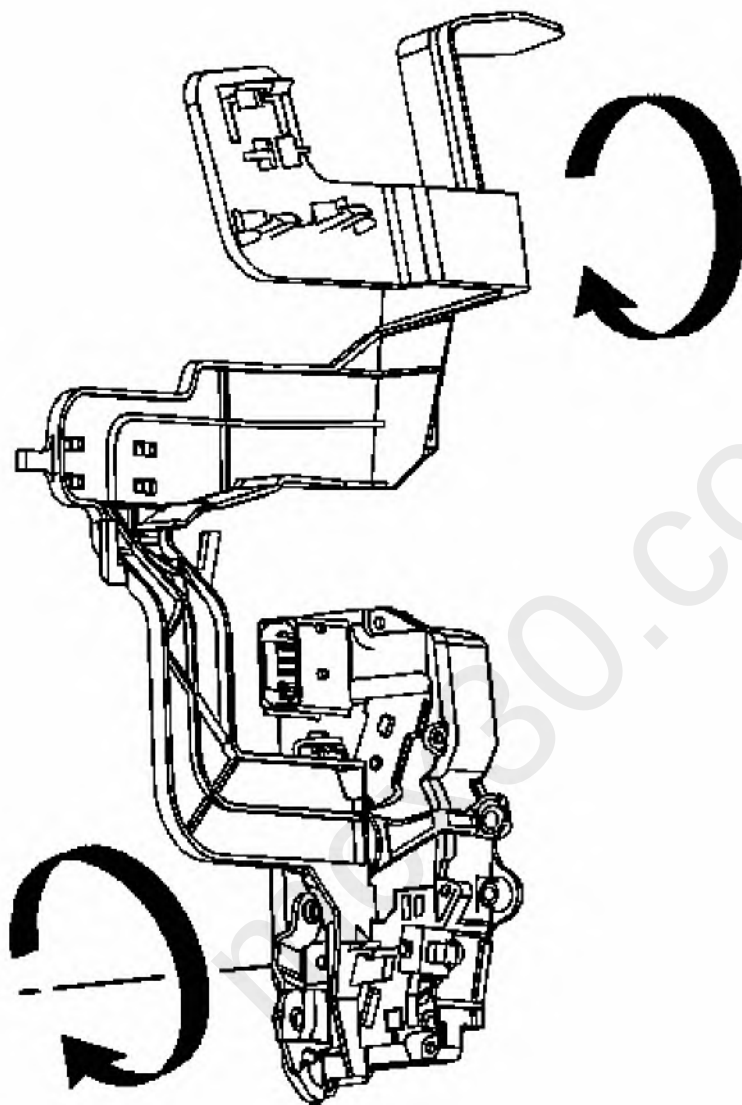


Fig. 82: Removing/Installing Latch
Courtesy of GENERAL MOTORS CORP.

1. Install the latch to the latch arm by twisting.
2. Connect the inside handle rod and lock button rod by aligning the rods with clips and twisting the latch.

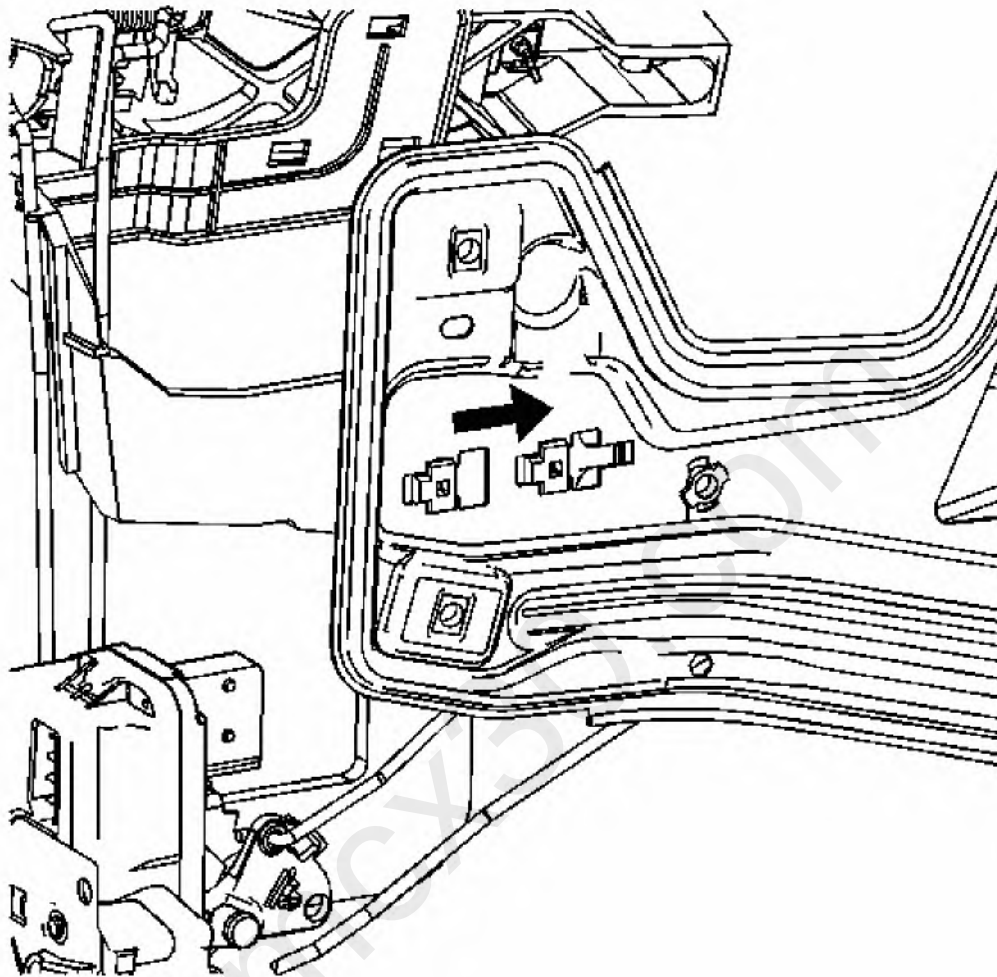


Fig. 83: View Of Latch Arm, Inside Handle Rod & Lock Button Rod
Courtesy of GENERAL MOTORS CORP.

3. Connect the latch arm to the window regulator module by depressing the table and sliding rearward.
4. Connect the latch electrical connector.
5. Connect the lock cylinder rod to the latch.

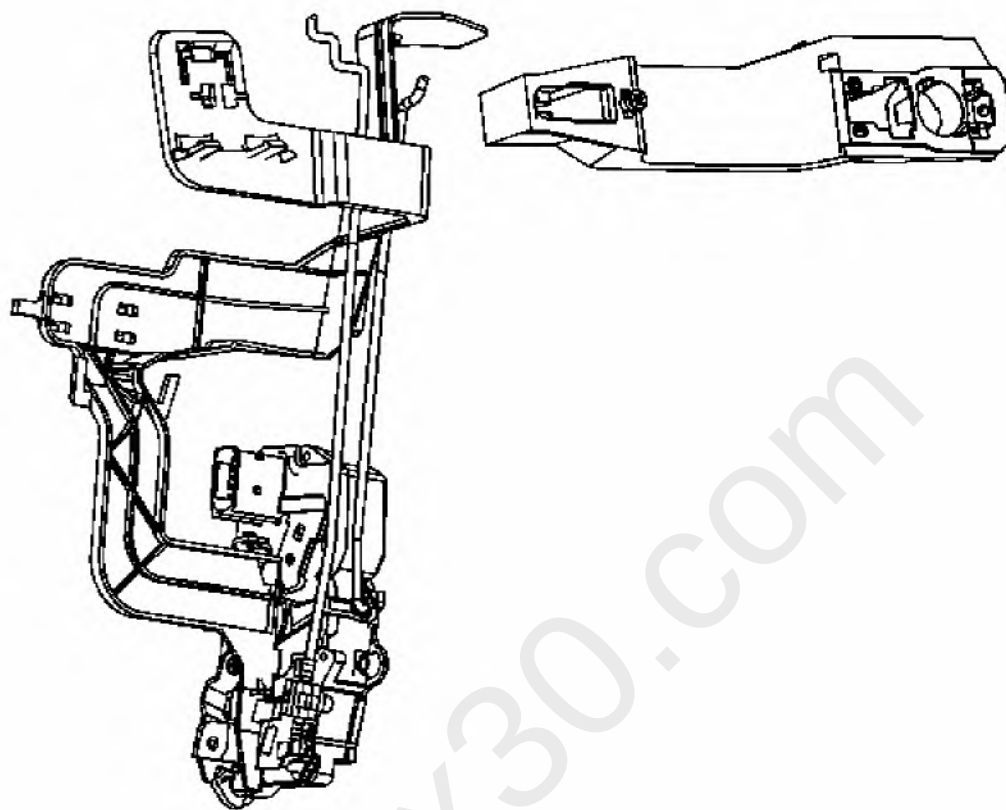


Fig. 84: View Of Outside Handle Bracket & Lock Cylinder Rod
Courtesy of GENERAL MOTORS CORP.

6. Install the outside handle bracket.
7. Connect the outside handle rod to the latch.

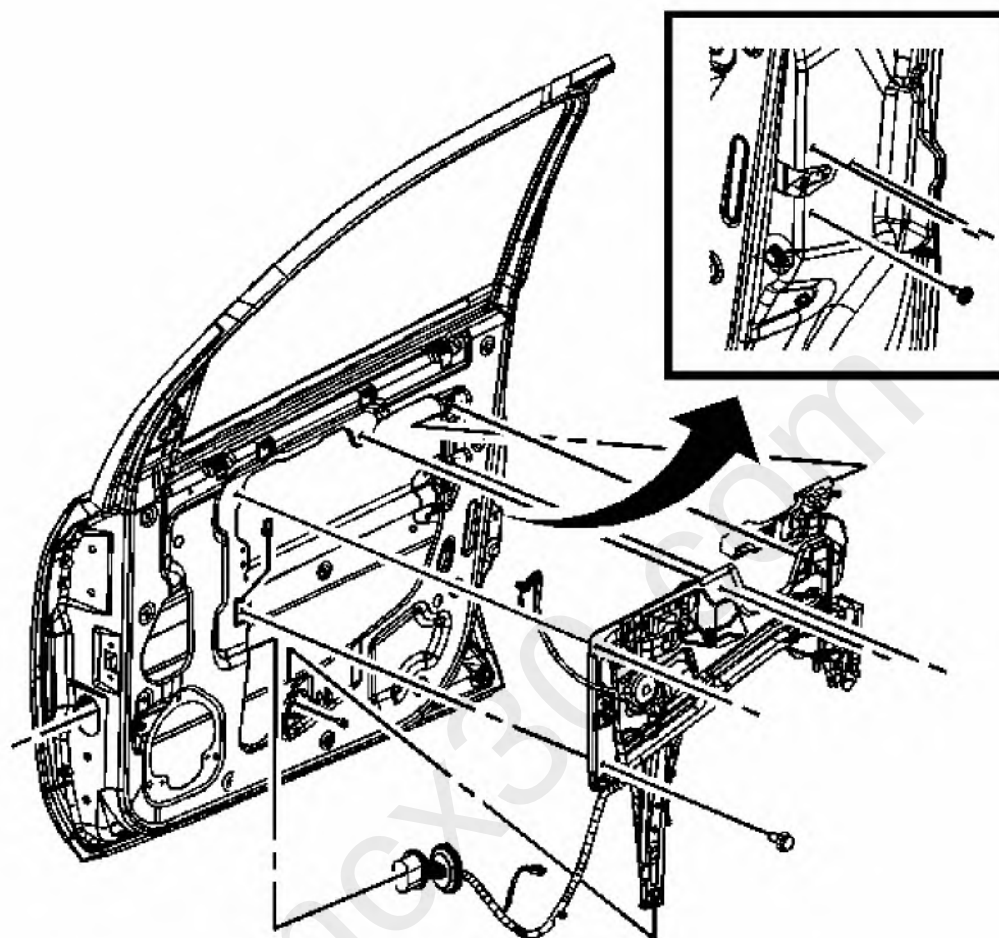


Fig. 85: View Of Front Door Window Regulator Module
Courtesy of GENERAL MOTORS CORP.

8. Install the front door window regulator module. Refer to **Window Regulator Replacement - Front Door**.

LATCH REPLACEMENT - REAR DOOR

Removal Procedure

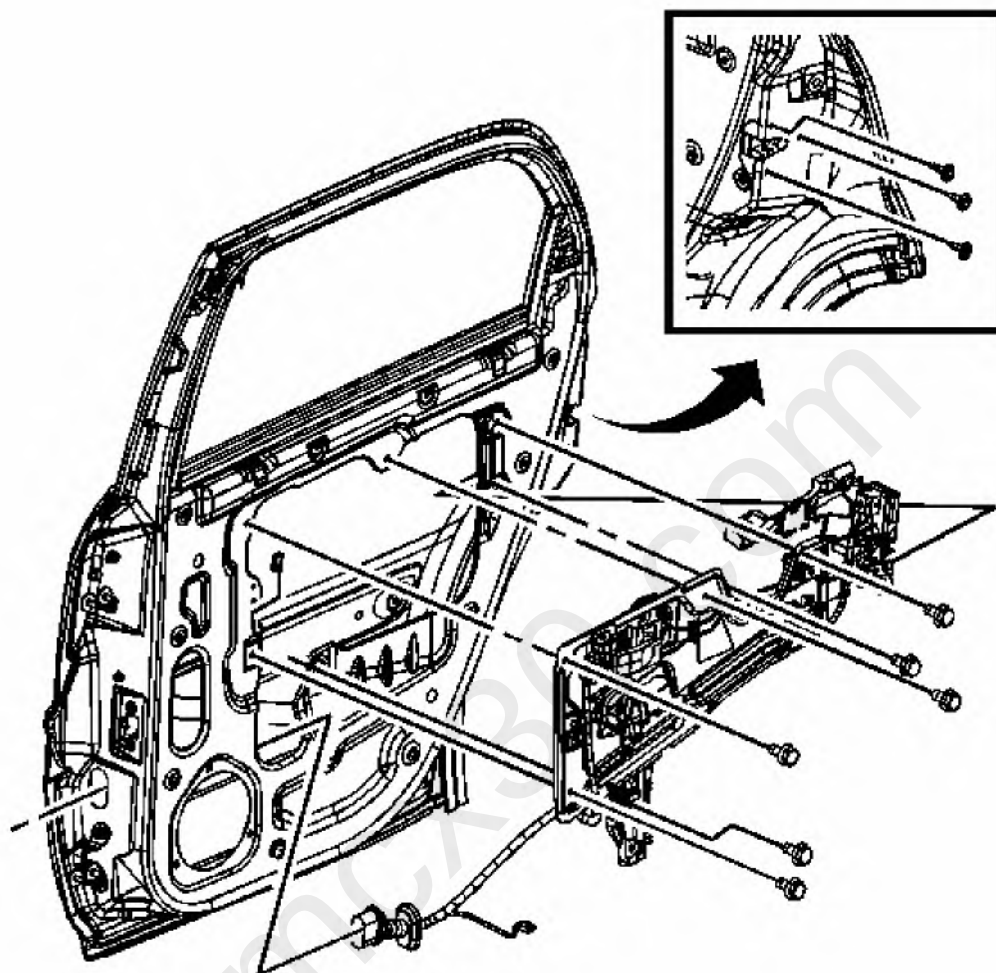


Fig. 86: View Of Rear Door Window Regulator Module
Courtesy of GENERAL MOTORS CORP.

1. Remove the rear door window regulator module. Refer to **Window Regulator Replacement - Rear Door**.
2. Disconnect the outside handle rod from the latch.

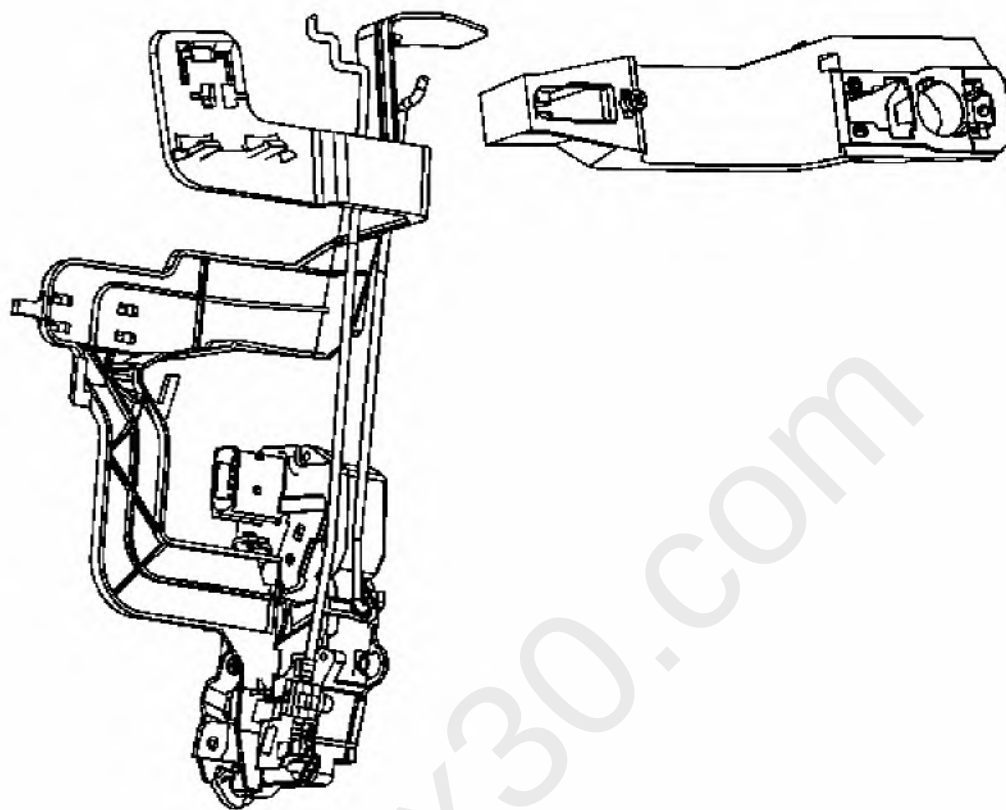


Fig. 87: View Of Outside Handle Bracket & Lock Cylinder Rod
Courtesy of GENERAL MOTORS CORP.

3. Remove the outside handle bracket.
4. Disconnect the latch electrical connector.

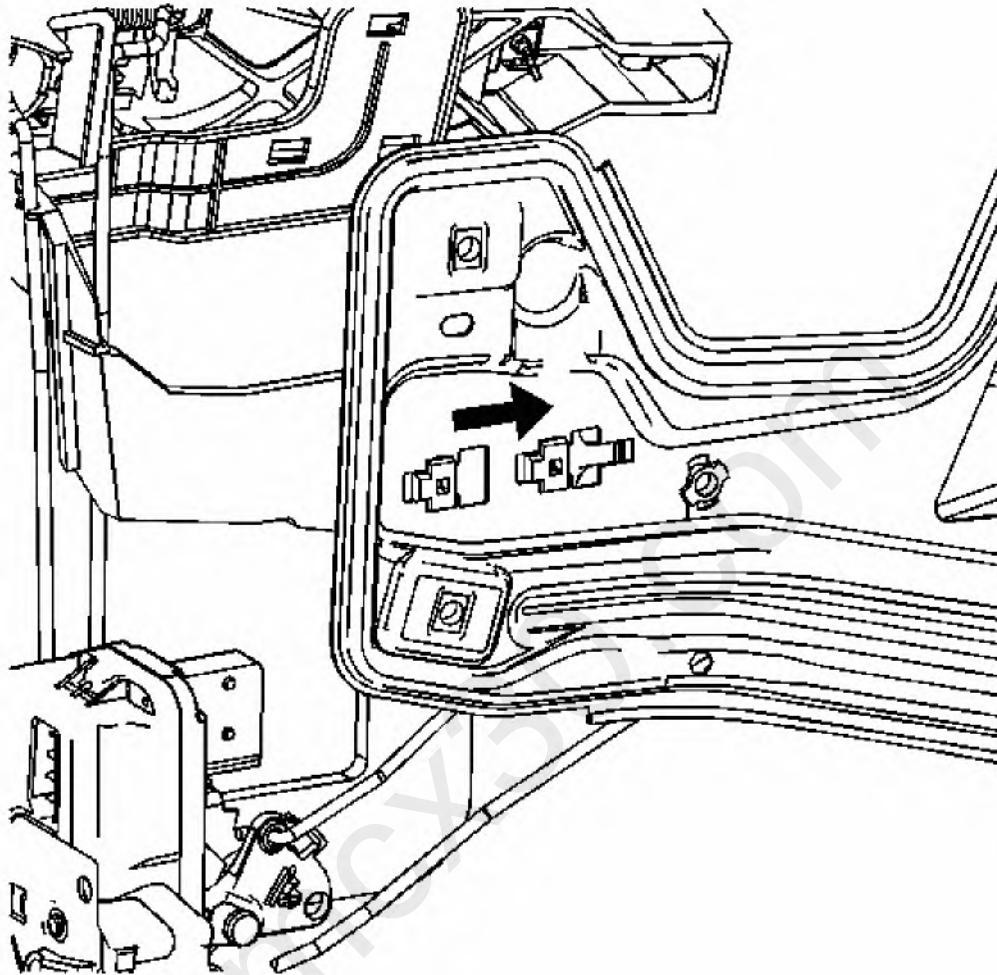


Fig. 88: View Of Latch Arm, Inside Handle Rod & Lock Button Rod
Courtesy of GENERAL MOTORS CORP.

5. Disconnect the latch arm from the window regulator module by depressing the tab and sliding rearward.
6. Disconnect the inside handle rod and lock button rod by twisting the latch.

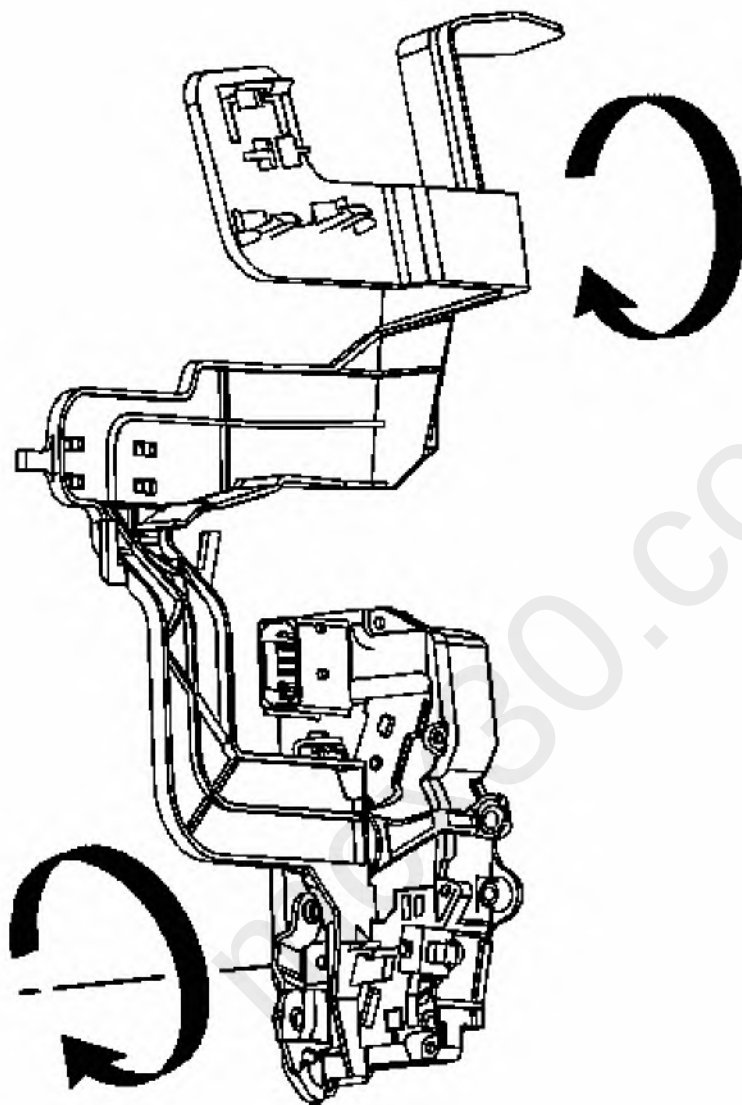


Fig. 89: Removing/Installing Latch
Courtesy of GENERAL MOTORS CORP.

7. Remove the latch from the latch arm by twisting.

Installation Procedure

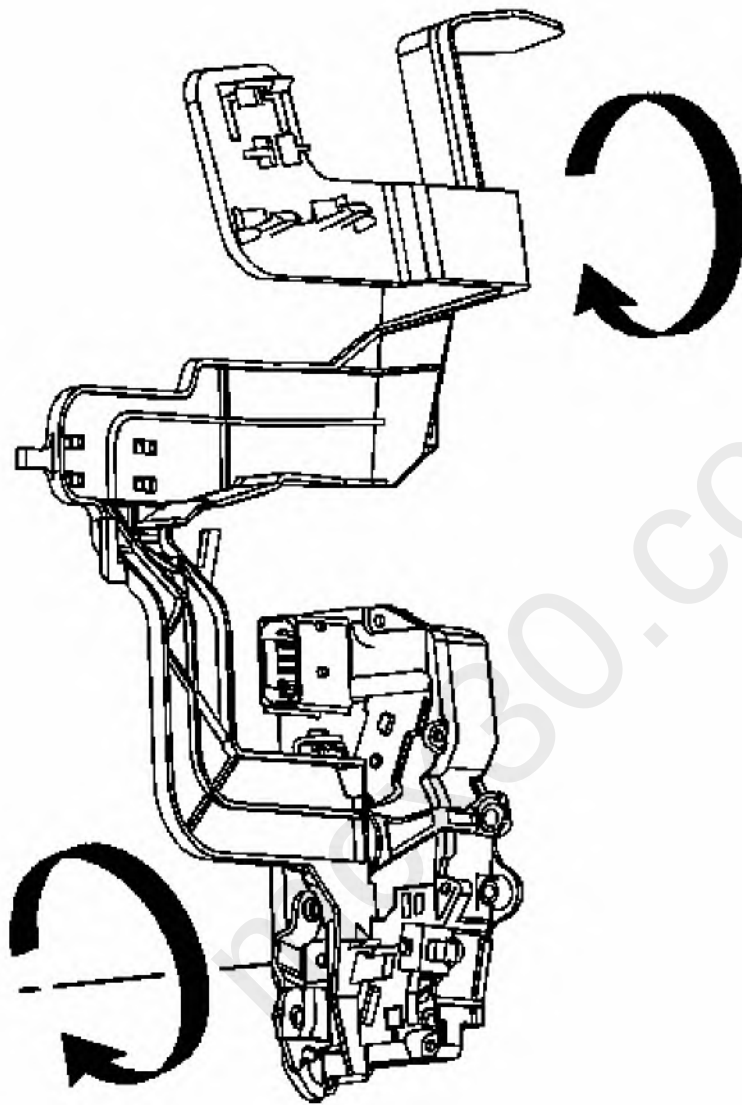


Fig. 90: Removing/Installing Latch
Courtesy of GENERAL MOTORS CORP.

1. Install the latch to the latch arm by twisting.
2. Connect the inside handle rod and lock button rod by aligning the rods with clips and twisting the latch.

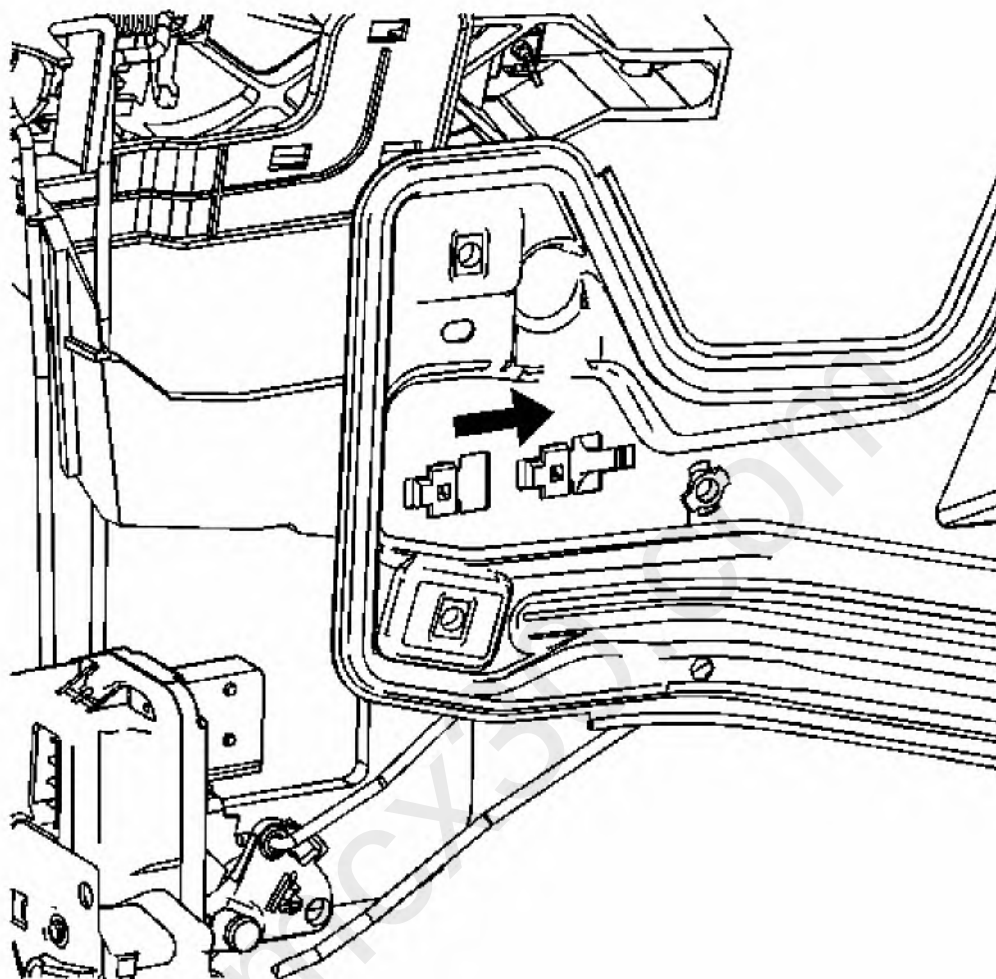


Fig. 91: View Of Latch Arm, Inside Handle Rod & Lock Button Rod
Courtesy of GENERAL MOTORS CORP.

3. Connect the latch arm to the window regulator module by depressing the table and sliding rearward.
4. Connect the latch electrical connector.

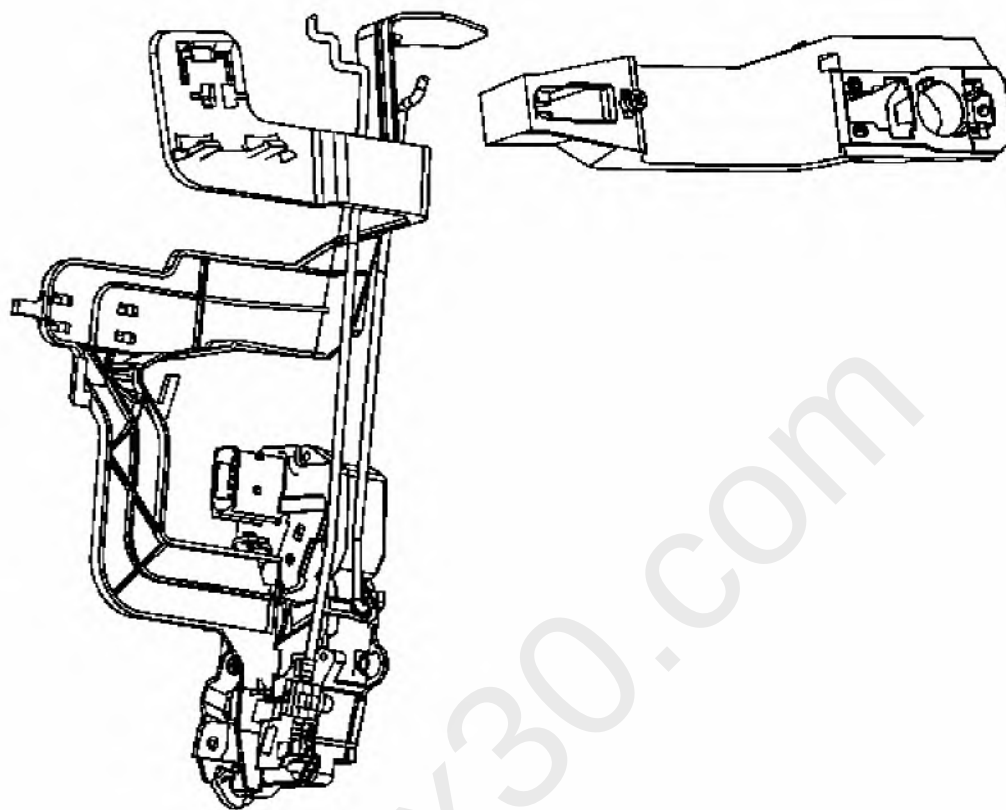


Fig. 92: View Of Outside Handle Bracket & Lock Cylinder Rod
Courtesy of GENERAL MOTORS CORP.

5. Install the outside handle bracket.
6. Connect the outside handle rod to the latch.

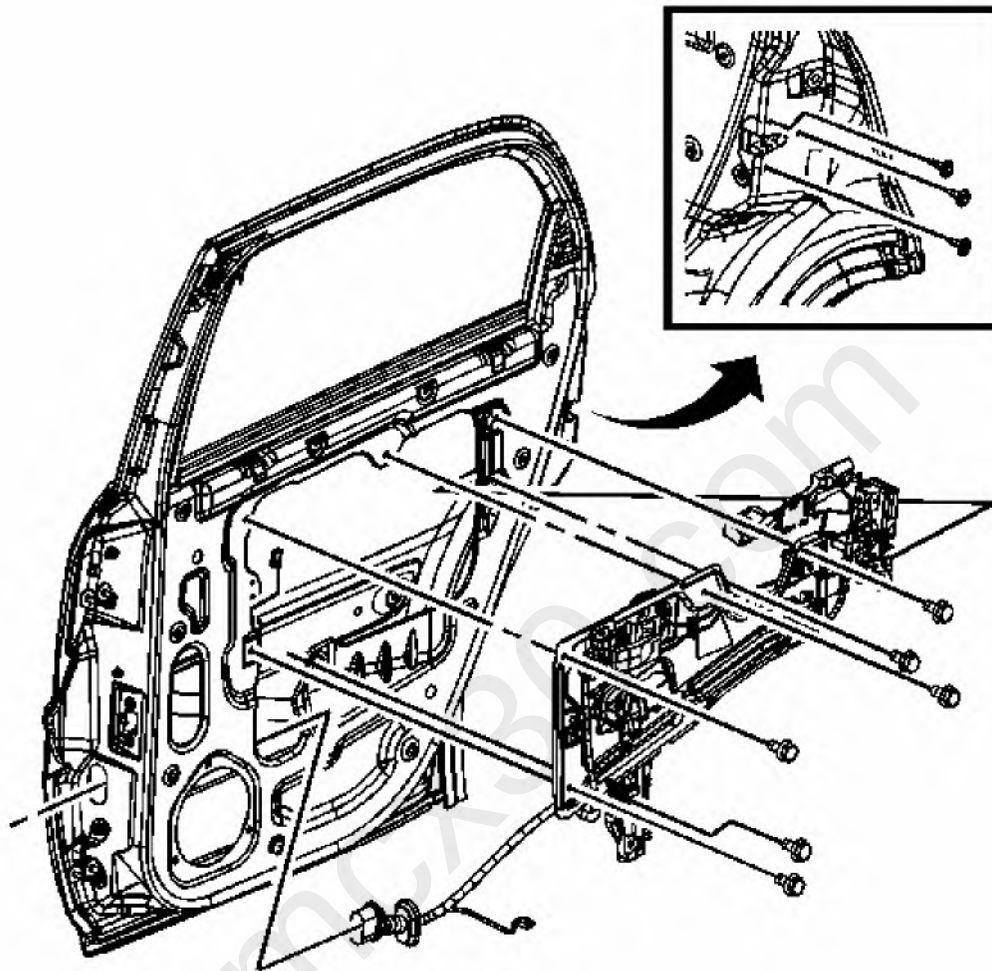


Fig. 93: View Of Rear Door Window Regulator Module
Courtesy of GENERAL MOTORS CORP.

7. Install the rear door window regulator module. Refer to Window Regulator Replacement - Rear Door.

DOOR STRIKER ADJUSTMENT - FRONT DOOR

To determine if striker adjustment is required, proceed as follows:

CAUTION: In order to prevent SIR deployment, personal injury, or unnecessary SIR system repairs, do not strike the door or the door pillar in the area of the side impact sensor (SIS). Turn OFF the ignition and remove the key when

performing service in the area of the SIS.

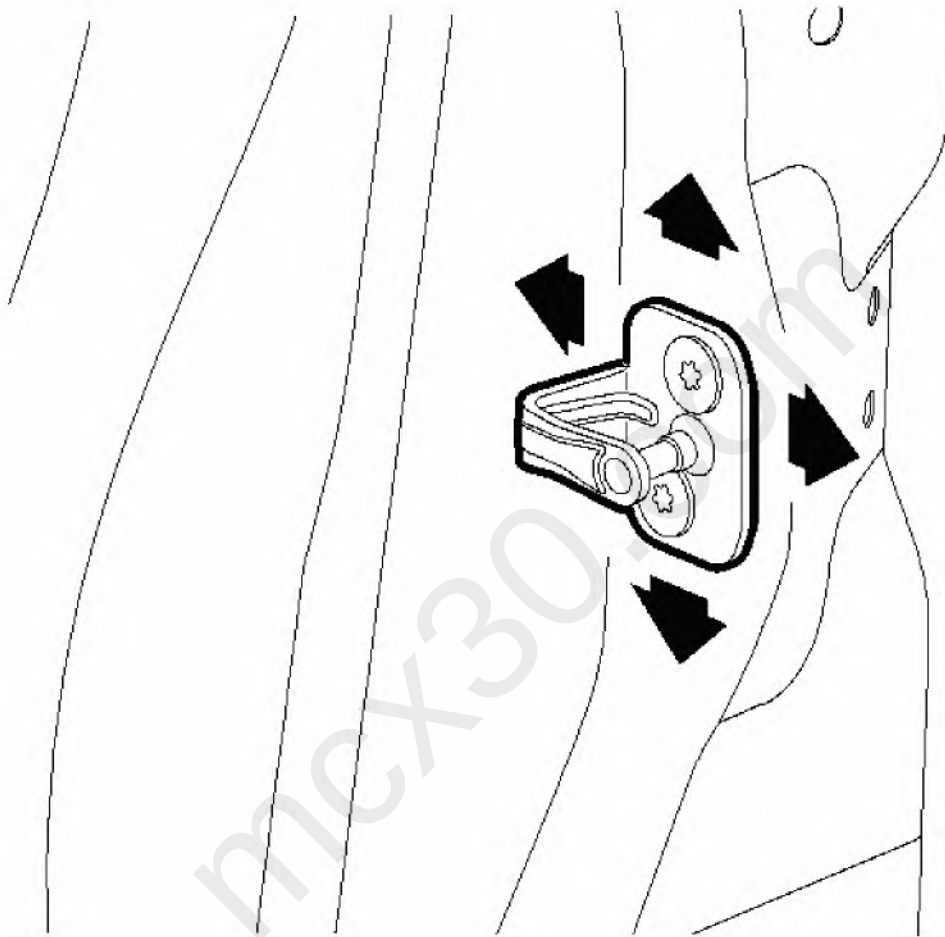


Fig. 94: View Of Front Door Striker
Courtesy of GENERAL MOTORS CORP.

1. Ensure the door is properly aligned within the door opening before proceeding with the striker adjustment.
2. Close the door onto the striker and note if the door drags on the striker causing the door to move upward or downward upon contact with the striker. Also note the closing effort to fully engage the latch.
3. Using a grease pencil, mark around the striker for reference of the original position. Loosen the striker.
4. Move the striker to eliminate drag on the striker and door latch and to achieve the proper door position within the door opening. Start with the up/down position, then

position the striker to achieve proper alignment to the door opening. Set the in/out adjustment for the proper door seal engagement making sure the door closing efforts are correct.

NOTE: Refer to Fastener Notice in Cautions and Notices.

5. Tighten the striker bolts.

Tighten: Tighten the door striker bolts to 25 N.m (18 lb ft).

DOOR STRIKER REPLACEMENT - FRONT DOOR

Removal Procedure

CAUTION: In order to prevent SIR deployment, personal injury, or unnecessary SIR system repairs, do not strike the door or the door pillar in the area of the side impact sensor (SIS). Turn OFF the ignition and remove the key when performing service in the area of the SIS.

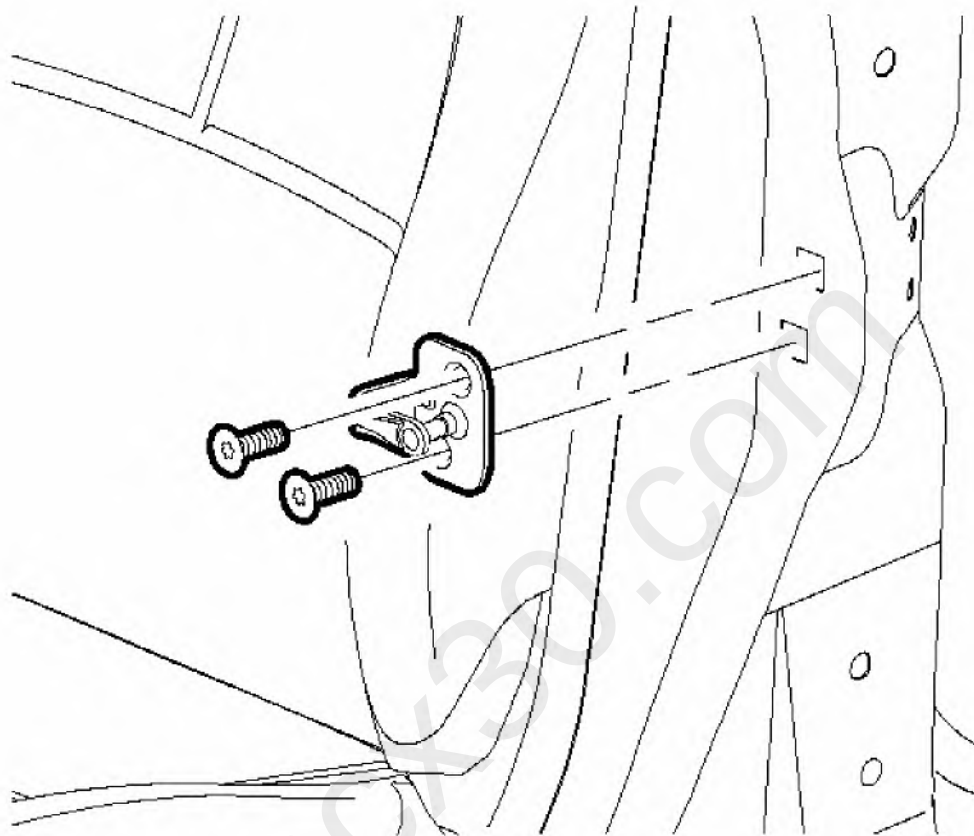


Fig. 95: View Of Front Door Striker
Courtesy of GENERAL MOTORS CORP.

1. Using a grease pencil, mark around the striker for installation purposes.
2. Remove the bolts.
3. Remove the striker.

Installation Procedure

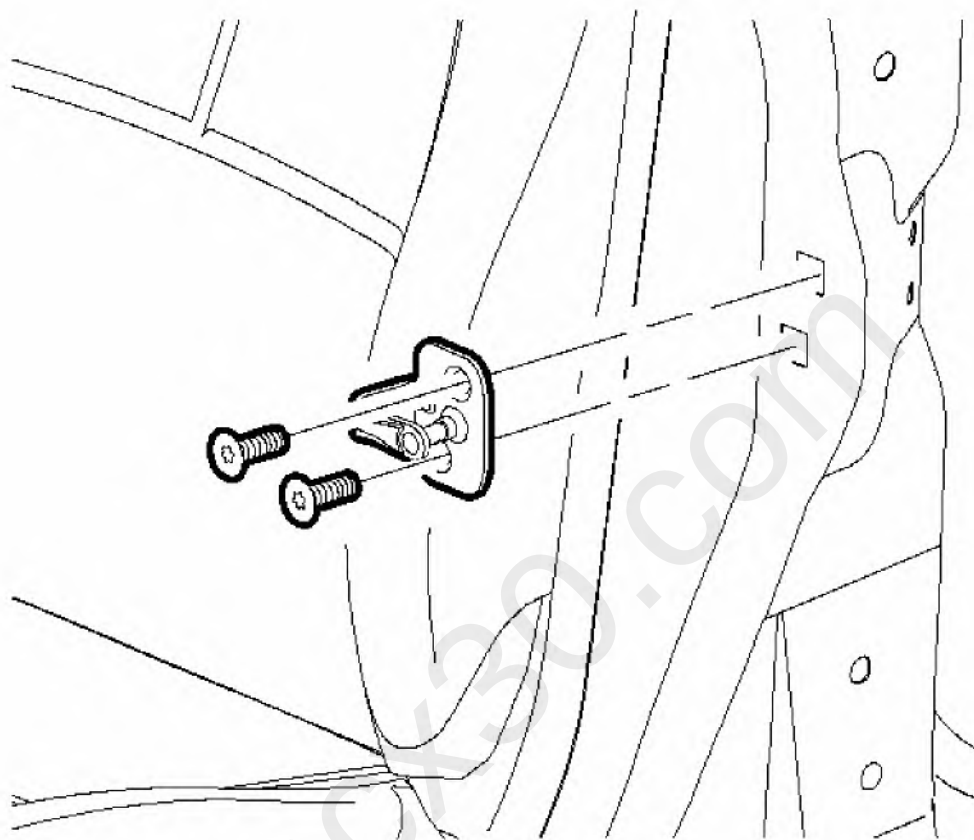


Fig. 96: View Of Front Door Striker
Courtesy of GENERAL MOTORS CORP.

1. Loosely install the striker with the bolts.
2. Align the striker with the marks made prior to removal.
3. Tighten the bolts.
4. Inspect the door closing and align the striker as required.

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

5. Tighten the striker bolts.

Tighten: Tighten the door striker bolts to 25 N.m (18 lb ft).

DOOR STRIKER ADJUSTMENT - REAR DOOR

To determine if striker adjustment is required, proceed as follows:

CAUTION: In order to prevent SIR deployment, personal injury, or unnecessary SIR system repairs, do not strike the door or the door pillar in the area of the side impact sensor (SIS). Turn OFF the ignition and remove the key when performing service in the area of the SIS.

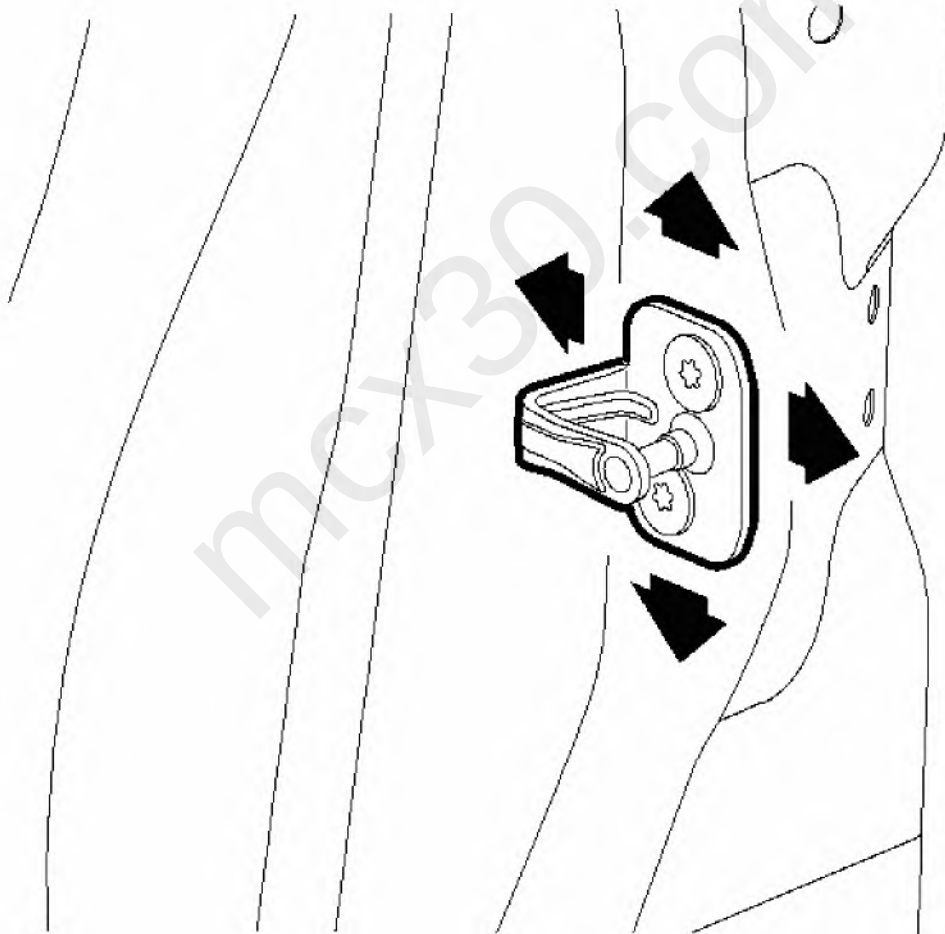


Fig. 97: View Of Front Door Striker
Courtesy of GENERAL MOTORS CORP.

1. Ensure the door is properly aligned within the door opening before proceeding with the striker adjustment.

2006 Chevrolet Equinox LS

2006 ACCESSORIES & EQUIPMENT Doors - Equinox & Torrent

2. Close the door onto the striker and note if the door drags on the striker causing the door to move upward or downward upon contact with the striker. Also note the closing effort to fully engage the latch.
3. Using a grease pencil, mark around the striker for reference of the original position. Loosen the striker.
4. Move the striker to eliminate drag on the striker and door latch and to achieve the proper door position within the door opening. Start with the up/down position, then position the striker to achieve proper alignment to the door opening. Set the in/out adjustment for the proper door seal engagement making sure the door closing efforts are correct.

NOTE: Refer to Fastener Notice in Cautions and Notices.

5. Tighten the striker bolts.

Tighten: Tighten the door striker bolts to 25 N.m (18 lb ft).

DOOR STRIKER REPLACEMENT - REAR DOOR

Removal Procedure

CAUTION: In order to prevent SIR deployment, personal injury, or unnecessary SIR system repairs, do not strike the door or the door pillar in the area of the side impact sensor (SIS). Turn OFF the ignition and remove the key when performing service in the area of the SIS.

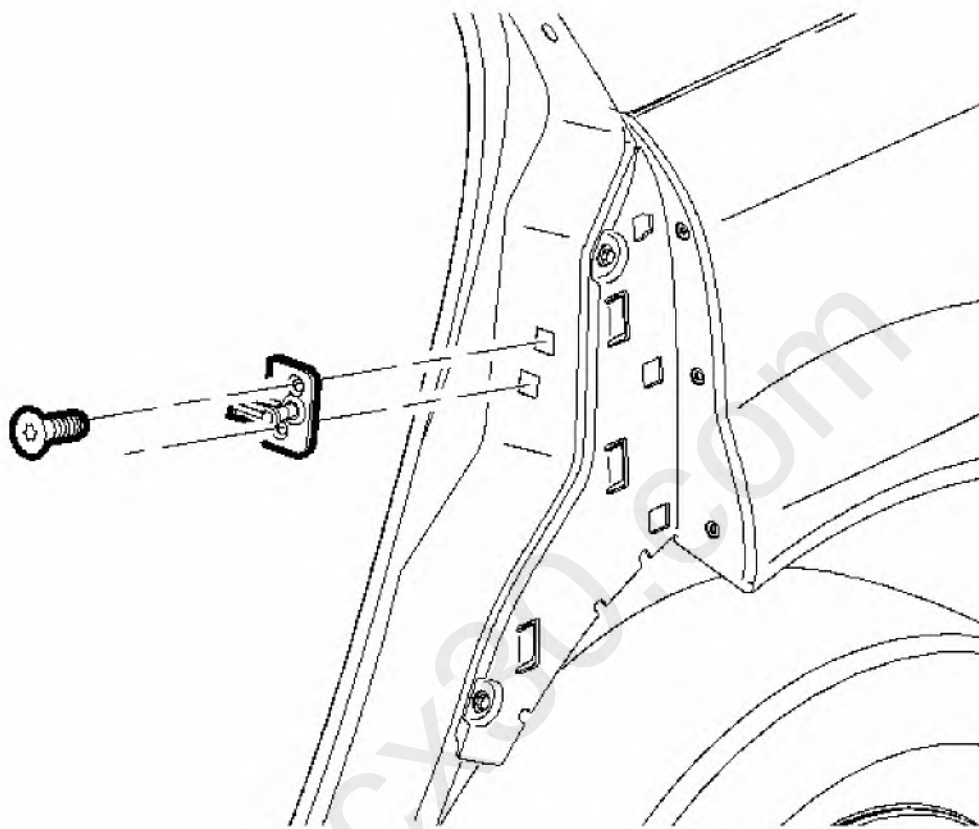


Fig. 98: Removing/Installing Door Striker
Courtesy of GENERAL MOTORS CORP.

1. Using a grease pencil, mark around the striker for installation purposes.
2. Remove the screws.
3. Remove the striker.

Installation Procedure

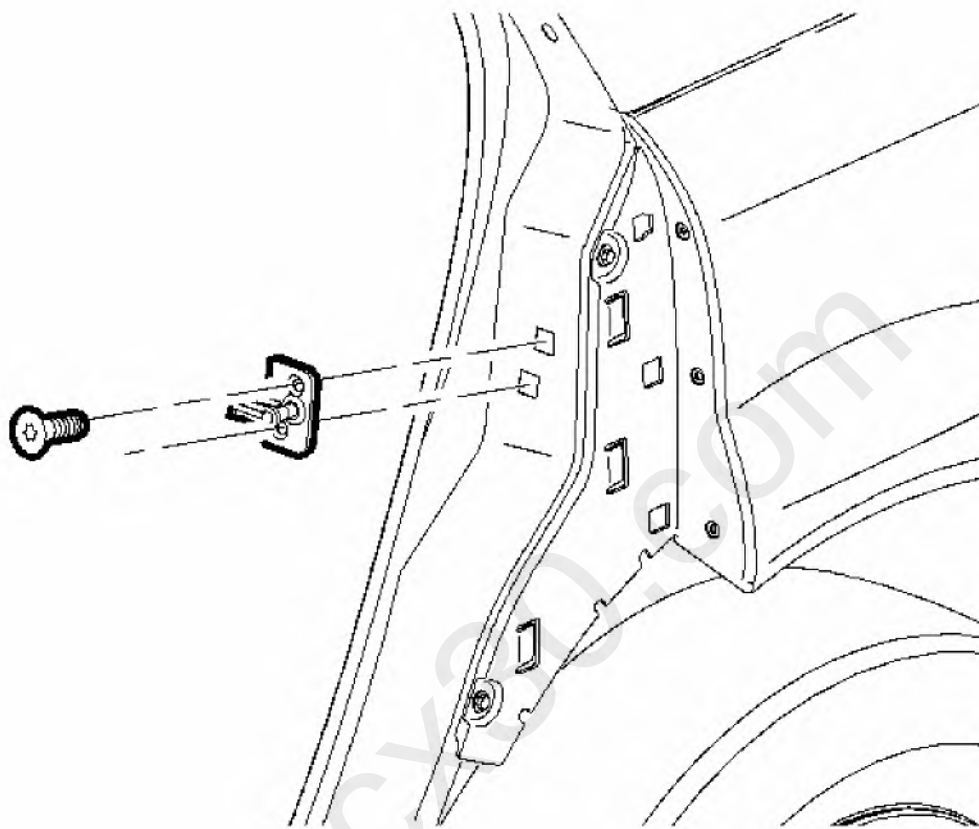


Fig. 99: Removing/Installing Door Striker
Courtesy of GENERAL MOTORS CORP.

1. Install the striker loosely with the bolts.
2. Align the striker with the marks made prior to removal.
3. Tighten the bolts.
4. Inspect the door closing and align the striker as required.

NOTE: Refer to Fastener Notice in Cautions and Notices.

5. Tighten the striker bolts.

Tighten: Tighten the door striker bolts to 25 N.m (18 lb ft).

WINDOW REGULATOR REPLACEMENT - FRONT DOOR

Removal Procedure

1. Remove the front door outside handle. Refer to **Door Handle Replacement - Front Outside**.
2. Remove the front door window run channel assembly. Refer to **Window Run Channel Replacement - Front Door**.
3. Remove the front door lower speaker. Refer to **Speaker Replacement - Front Door** in Entertainment.
4. Disconnect the mirror electrical connector.
5. Disconnect the 4 electrical connector rosebuds (2 at the mirror and 2 under the speaker).

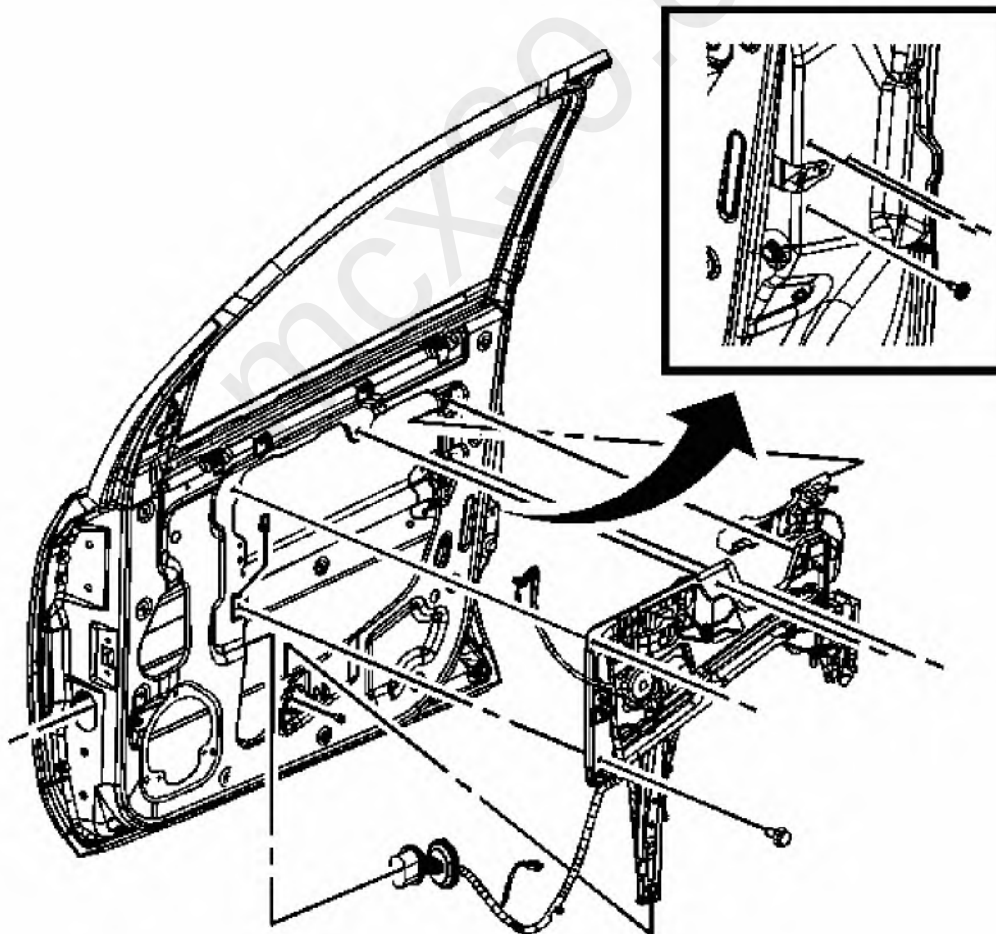


Fig. 100: View Of Front Door Window Regulator Module

Courtesy of GENERAL MOTORS CORP.

6. Loosen the 2 rear module bolts.
7. Remove the 4 remaining module bolts.
8. Remove the 3 latch bolts from the door shut face.
9. Disconnect the door harness at the door jamb.
10. Remove the window regulator module from the door.

Installation Procedure

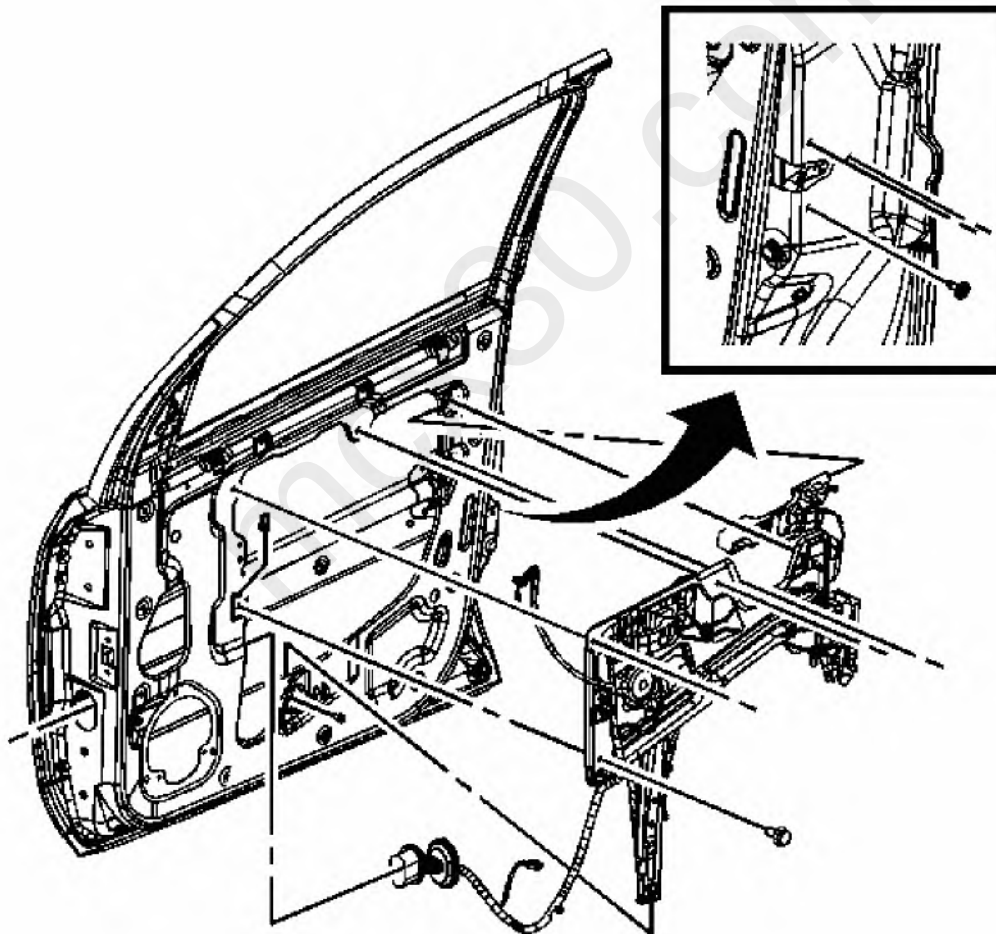


Fig. 101: View Of Front Door Window Regulator Module
Courtesy of GENERAL MOTORS CORP.

1. Install the window regulator module into the door.
2. Connect the door harness at the door jamb.

NOTE: Refer to Fastener Notice in Cautions and Notices.

3. Install the 3 latch bolts to the door shut face.

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

4. Install the 4 module bolts.

Tighten: Tighten the bolts to 8 N.m (71 lb in).

5. Connect the 4 electrical connector rosebuds (2 at the mirror and 2 under the speaker).
6. Connect the mirror electrical connector.
7. Install the front door lower speaker. Refer to Speaker Replacement - Front Door in Entertainment.
8. Install the front door window run channel assembly. Refer to Window Run Channel Replacement - Front Door.
9. Install the front door outside handle. Refer to Door Handle Replacement - Front Outside.

WINDOW REGULATOR REPLACEMENT - REAR DOOR

Removal Procedure

1. Remove the rear door outside handle. Refer to Door Handle Replacement - Rear Outside.
2. Remove the rear door window run channel assembly. Refer to Window Run Channel Replacement - Rear Door.
3. Remove the rear door lower speaker. Refer to Speaker Replacement - Rear Door in Entertainment.
4. Disconnect the electrical connector rosebuds.

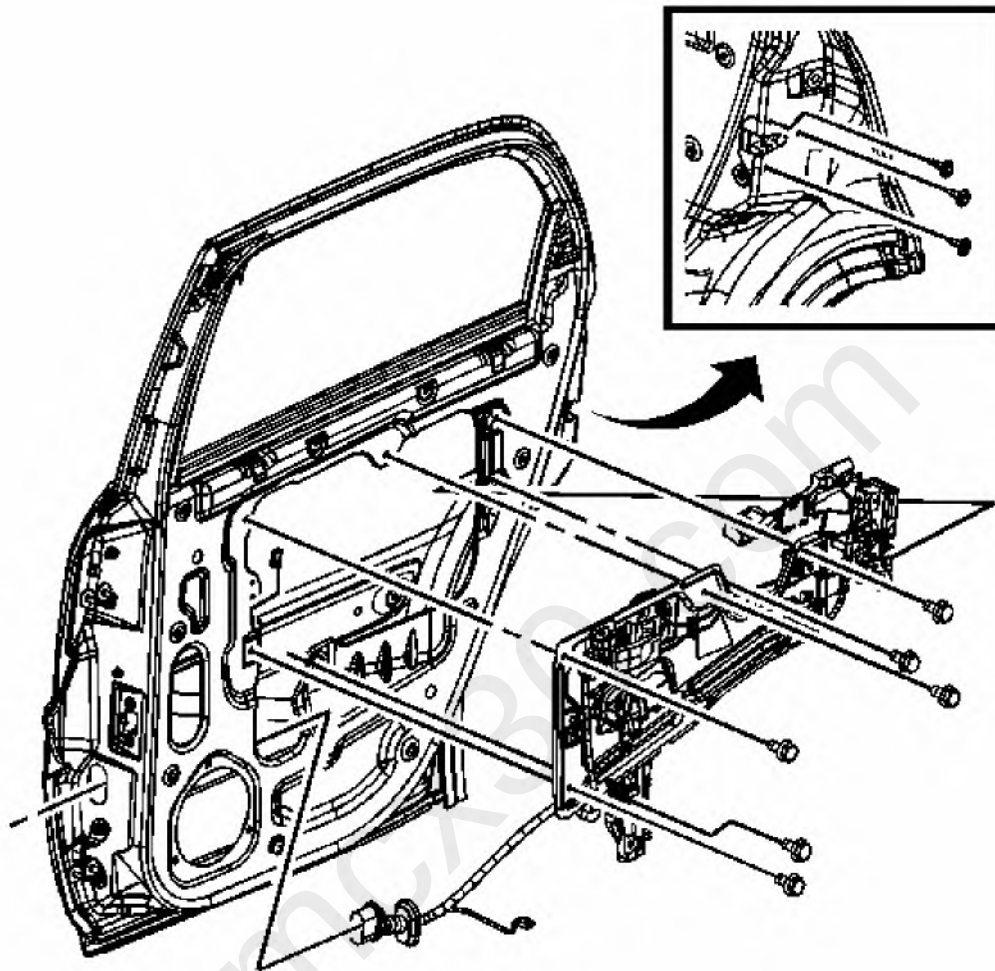


Fig. 102: View Of Rear Door Window Regulator Module
Courtesy of GENERAL MOTORS CORP.

5. Loosen the 2 rear module bolts.
6. Remove the 4 remaining module bolts.
7. Remove the 3 latch bolts from the door shut face.
8. Disconnect the door harness at the door jamb.
9. Remove the window regulator module from the door.

Installation Procedure

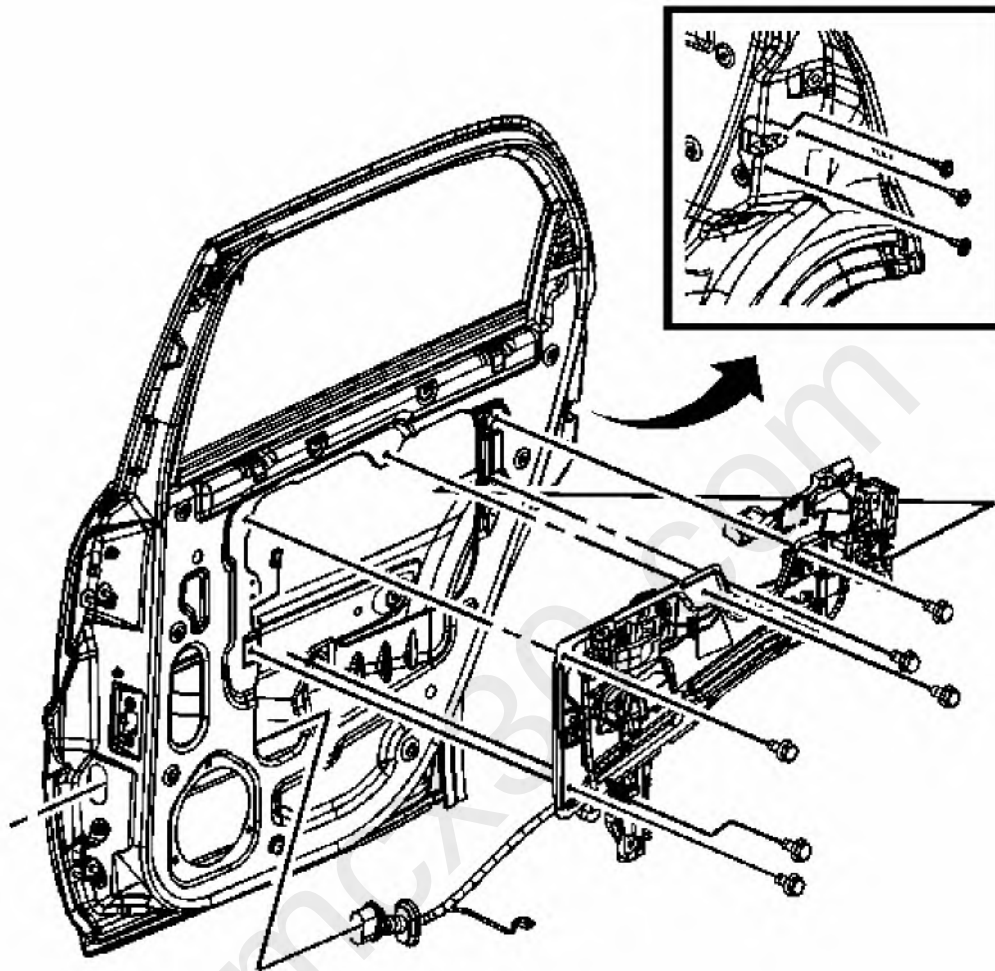


Fig. 103: View Of Rear Door Window Regulator Module
Courtesy of GENERAL MOTORS CORP.

1. Install the window regulator module into the door.
2. Connect the door harness at the door jamb.

NOTE: Refer to Fastener Notice in Cautions and Notices.

3. Install the 3 latch bolts to the door shut face.

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

4. Install the 4 module bolts.

Tighten: Tighten the bolts to 8 N.m (71 lb in).

5. Connect the electrical connector rosebuds.
6. Install the rear door lower speaker. Refer to **Speaker Replacement - Rear Door** in Entertainment.
7. Install the rear door window run channel assembly. Refer to **Window Run Channel Replacement - Rear Door**.
8. Install the rear door outside handle. Refer to **Door Handle Replacement - Rear Outside**.

WINDOW REGULATOR MOTOR REPLACEMENT - FRONT DOOR

Removal Procedure

1. Remove the front door trim panel. Refer to **Trim Panel Replacement - Side Front Door**.
2. Remove the water deflector. Refer to **Water Deflector Replacement - Front Door**.
3. Disconnect the electrical connector from the front door window regulator motor.

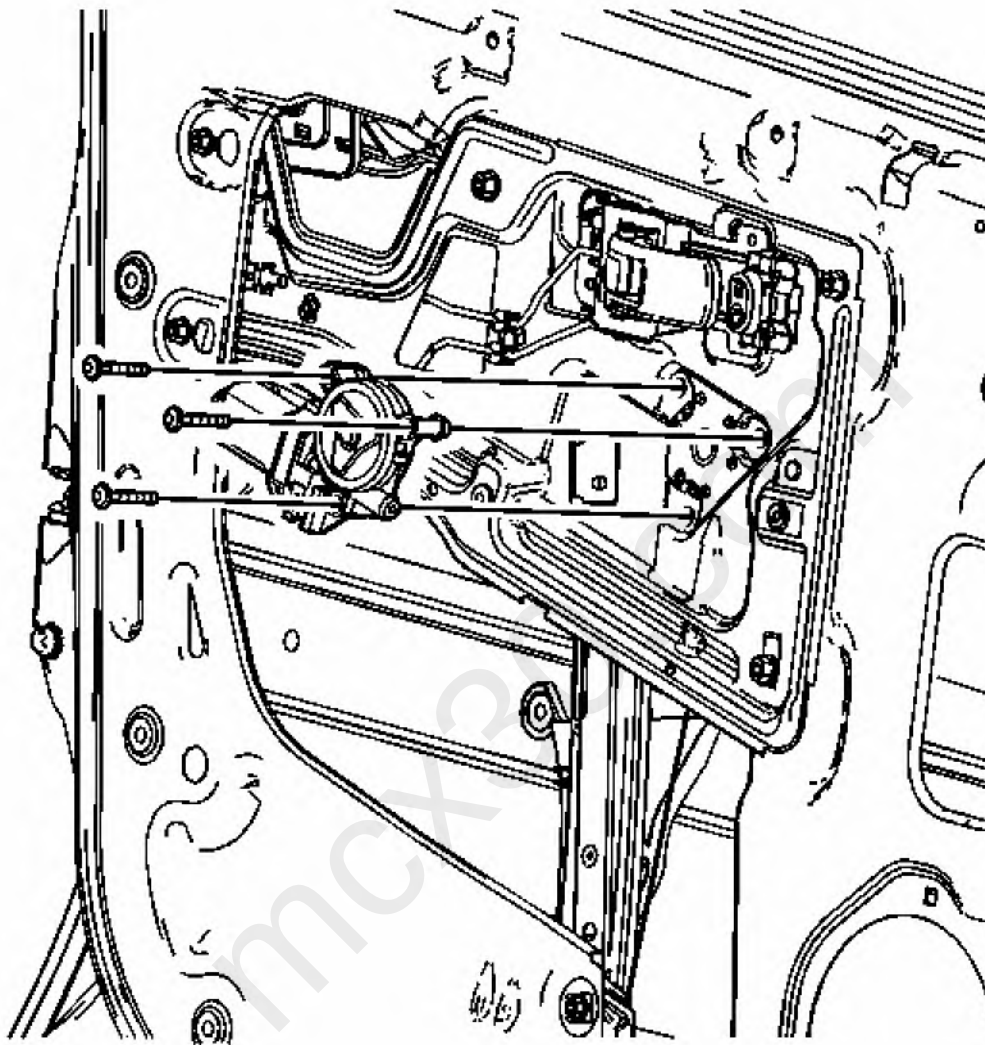


Fig. 104: View Of Door Window Regulator Motor
Courtesy of GENERAL MOTORS CORP.

4. Remove the window from the regulator.
 1. Raise the window.
 2. Tape the window into position.
5. Remove the front door window regulator motor screws.

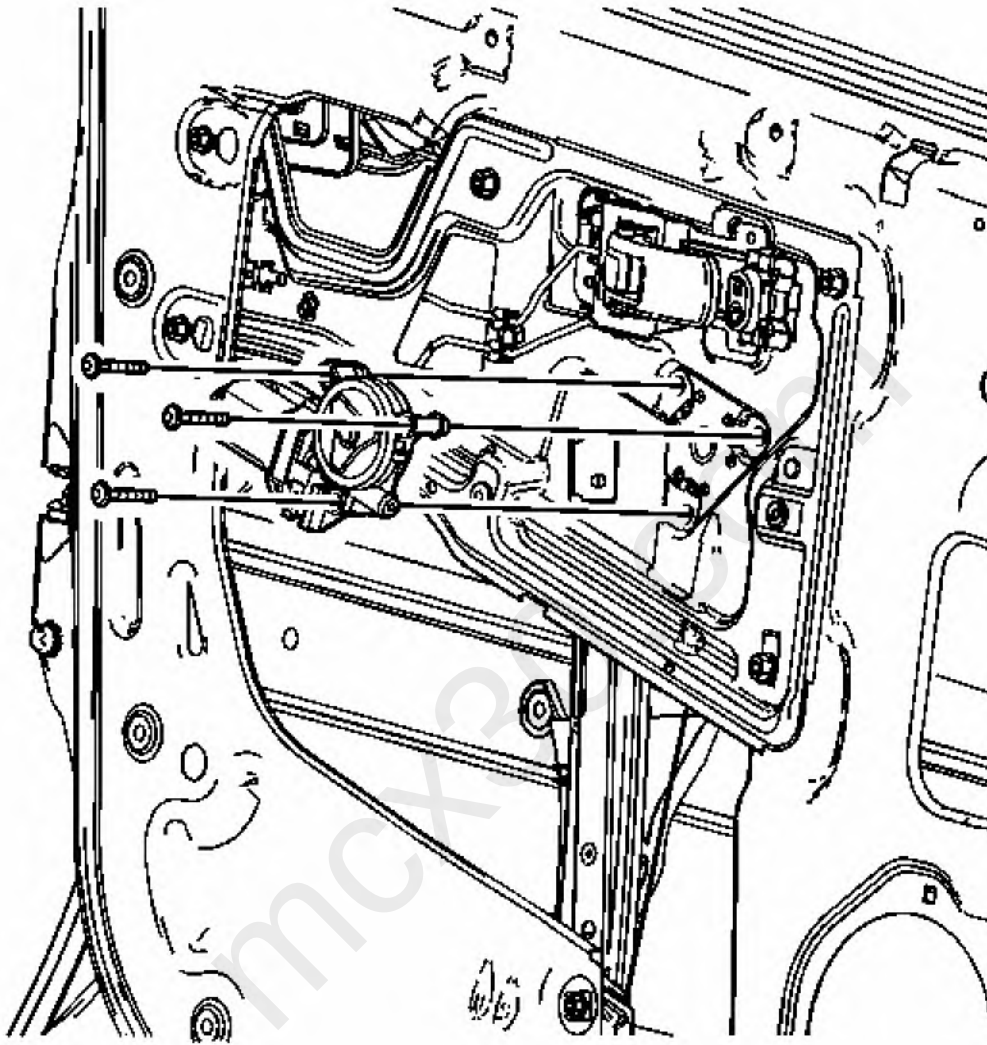


Fig. 105: View Of Door Window Regulator Motor
Courtesy of GENERAL MOTORS CORP.

1. Align the front door window regulator motor assembly to the front door window regulator.

NOTE: Refer to Fastener Notice in Cautions and Notices.

2. Install the front door window regulator motor to regulator screws.

Tighten: Tighten the front door window regulator motor to door screws to 8 N.m (71 lb in).

3. Connect the electrical connector to the front door window regulator motor.
4. Install the water deflector. Refer to **Water Deflector Replacement - Front Door**.
5. Install the front door trim panel. Refer to **Trim Panel Replacement - Side Front Door**.

WINDOW REGULATOR MOTOR REPLACEMENT - REAR DOOR

Removal Procedure

1. Remove the rear door trim panel. Refer to **Trim Panel Replacement - Side Rear Door**.
2. Remove the water deflector. Refer to **Water Deflector Replacement - Rear Door**.
3. Disconnect the electrical connector from the rear door window regulator motor.

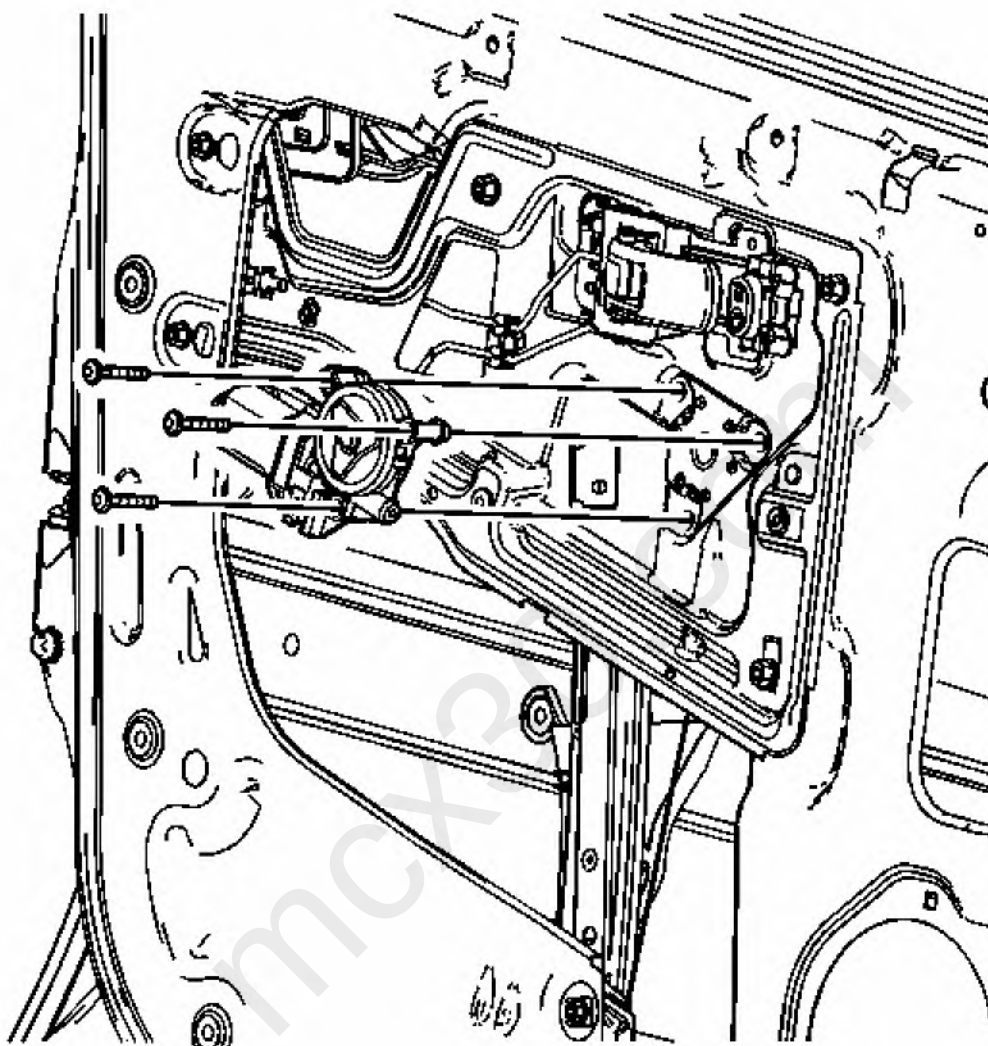


Fig. 106: View Of Door Window Regulator Motor
Courtesy of GENERAL MOTORS CORP.

4. Remove the rear door window regulator motor to regulator screws.
5. Remove the rear door window regulator motor assembly.

Installation Procedure

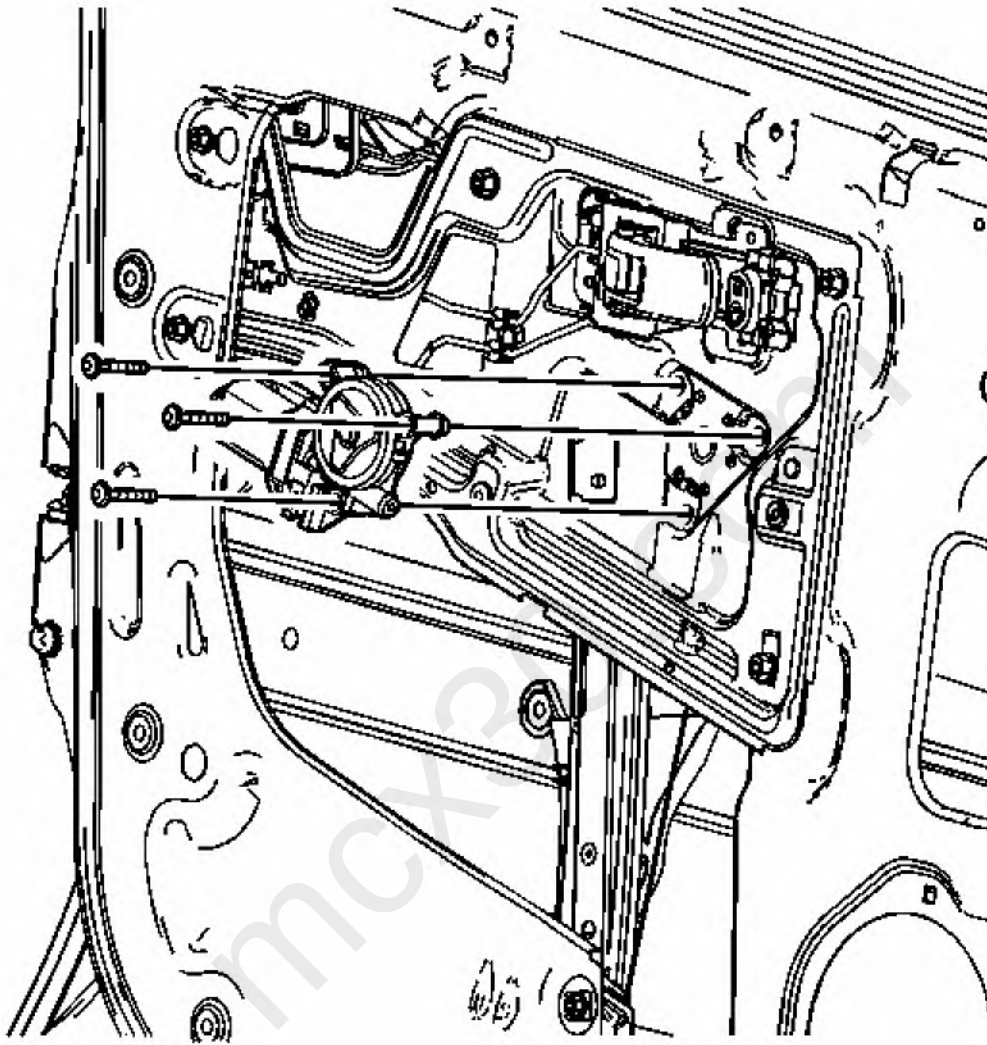


Fig. 107: View Of Door Window Regulator Motor
Courtesy of GENERAL MOTORS CORP.

1. Align the rear door window regulator motor assembly to the rear door window regulator.

NOTE: Refer to Fastener Notice in Cautions and Notices.

2. Install the rear door window regulator motor to regulator screws.

Tighten: Tighten the rear door window regulator motor to regulator screws to 8 N.m (71 lb in).

3. Connect the electrical connector to the rear door window regulator motor.
4. Install the water deflector. Refer to **Water Deflector Replacement - Rear Door**.
5. Install the rear door trim panel. Refer to **Trim Panel Replacement - Side Rear Door**.

WINDOW REPLACEMENT - FRONT DOOR

Removal Procedure

1. Remove the inner front door trim panel. Refer to **Trim Panel Replacement - Side Front Door**.
2. Remove the front door water deflector. Refer to **Water Deflector Replacement - Front Door**.

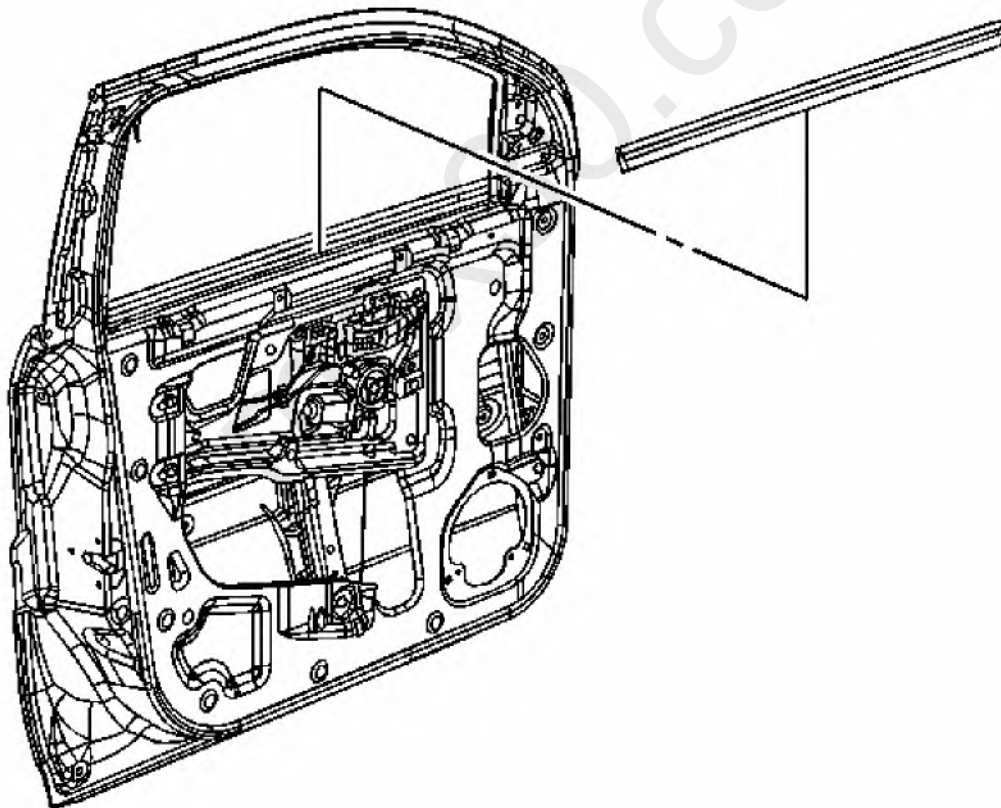


Fig. 108: View Of Inner Belt Seal (Front Door)
Courtesy of GENERAL MOTORS CORP.

3. Remove the inner belt seal. Refer to **Sealing Strip Replacement - Front Door Window Belt Inner**.

4. Lower window to access window release tab.

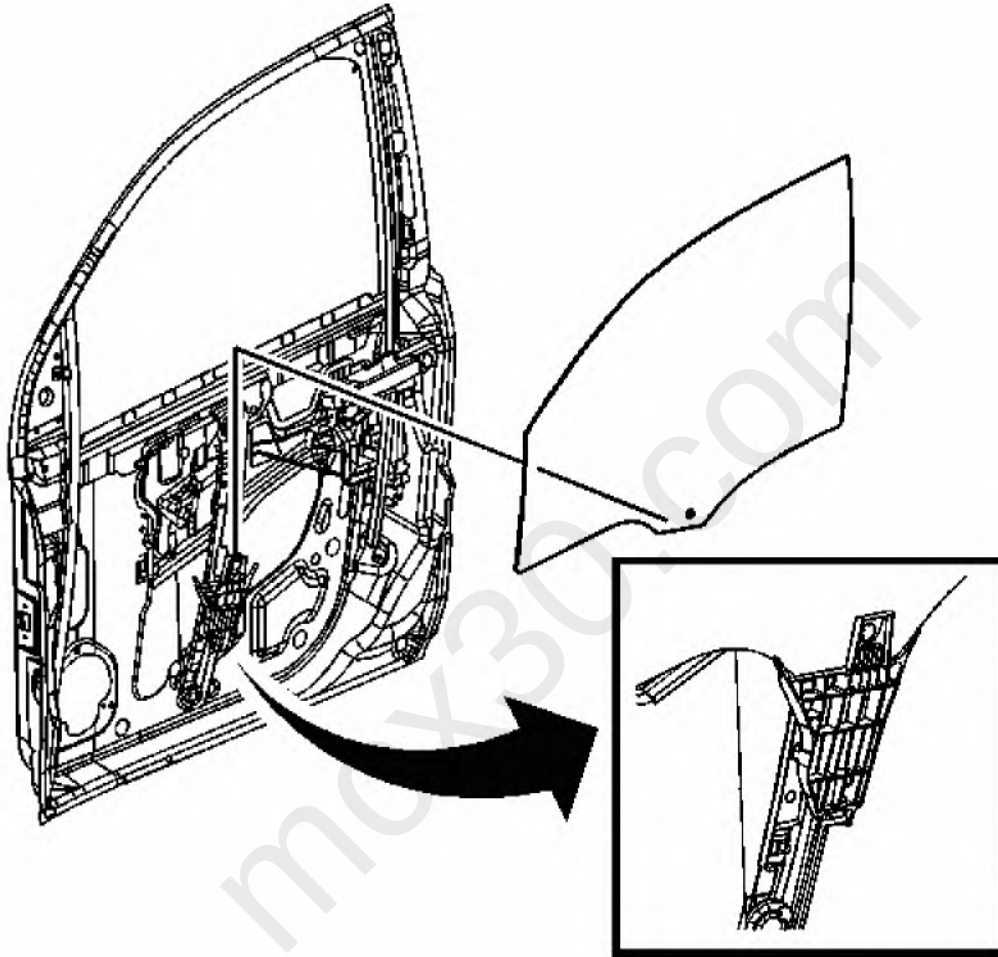


Fig. 109: Removing Front Door Window
Courtesy of GENERAL MOTORS CORP.

5. Depress the window release tab with a flat-bladed tool.
6. Pull the window out of the window regulator guide plate.
7. Slide the window down and out of the primary window run channels.
8. Remove the window by tilting outboard and pulling the window out of the door.

Installation Procedure

1. Install the window by sliding the window into the door through the outside.
2. Install the window into the primary window run channels and position into the

regulator guide plate.

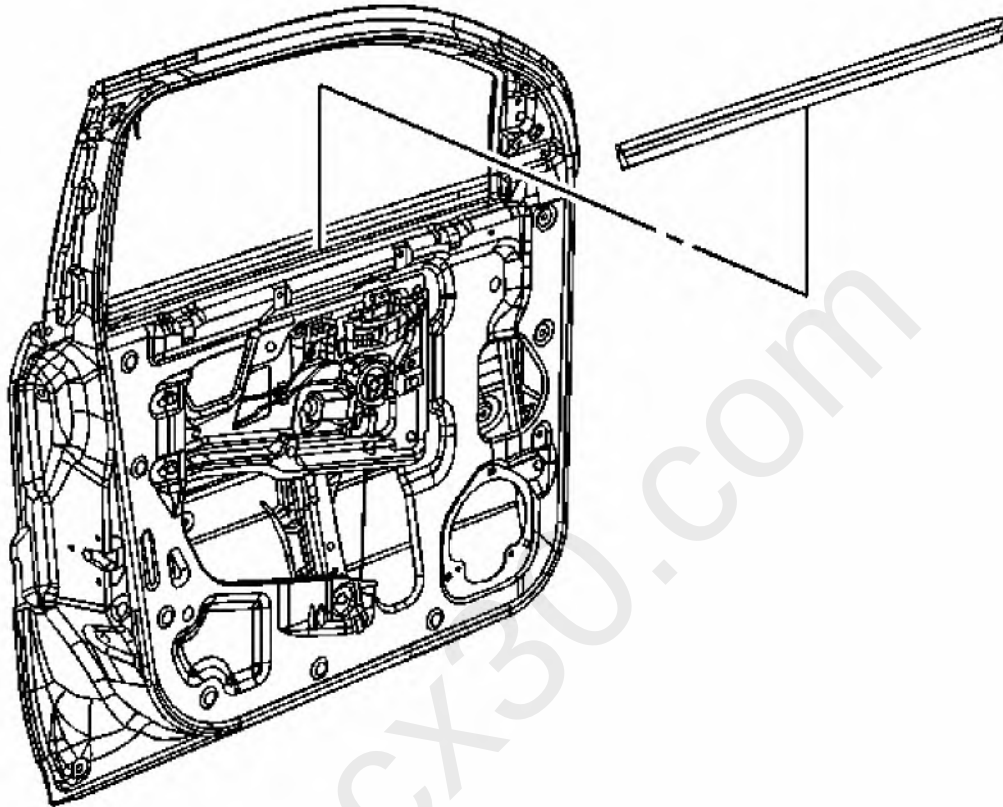


Fig. 110: View Of Inner Belt Seal (Front Door)
Courtesy of GENERAL MOTORS CORP.

3. Install the inner belt seal. Refer to Sealing Strip Replacement - Front Door Window Belt Inner.
4. Install the front door water deflector. Refer to Water Deflector Replacement - Front Door.
5. Install the front inner door trim panel. Refer to Trim Panel Replacement - Side Front Door.
6. Operate the window to inspect the operation.

WINDOW REPLACEMENT - REAR DOOR

Removal Procedure

1. Remove the inner rear door trim panel. Refer to Trim Panel Replacement - Side Rear

Door.

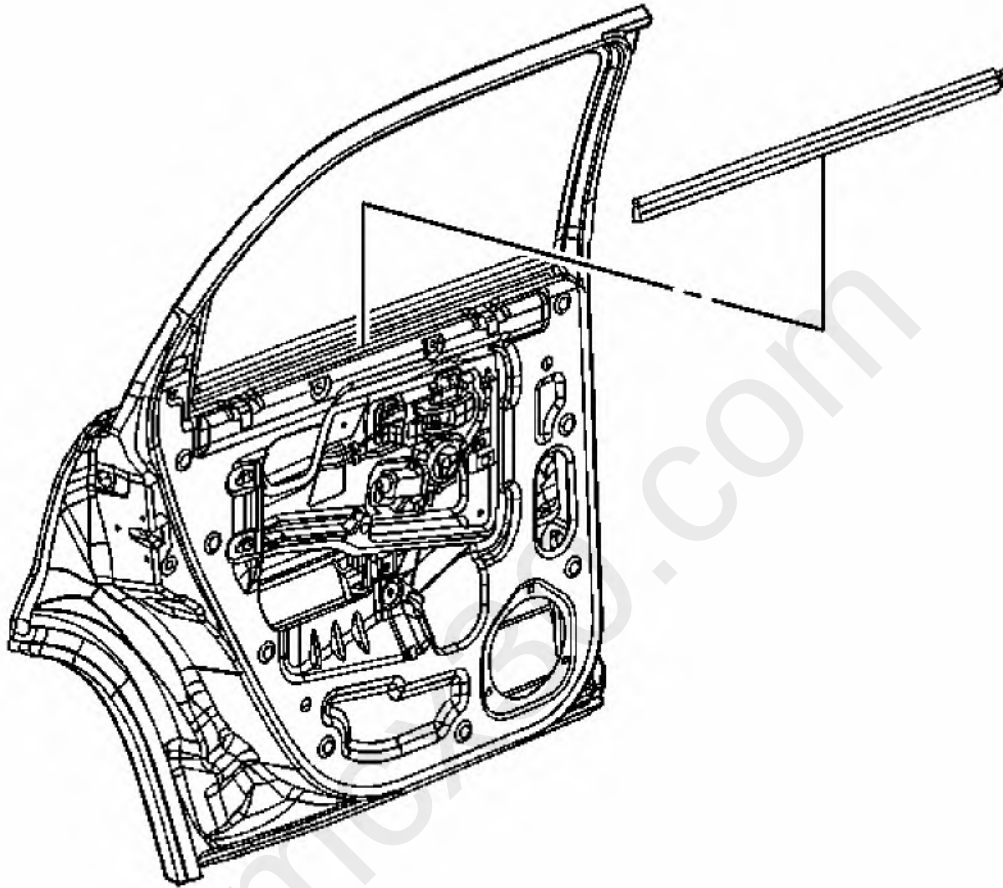


Fig. 111: View Of Inner Belt Seal (Rear Door)
Courtesy of GENERAL MOTORS CORP.

2. Remove the inner belt seal. Refer to **Sealing Strip Replacement - Rear Door Window Belt Inner**.
3. Remove the rear door water deflector. Refer to **Water Deflector Replacement - Rear Door**.
4. Remove the door frame appliques. Refer to **Door Frame Applique Replacement - Front**.

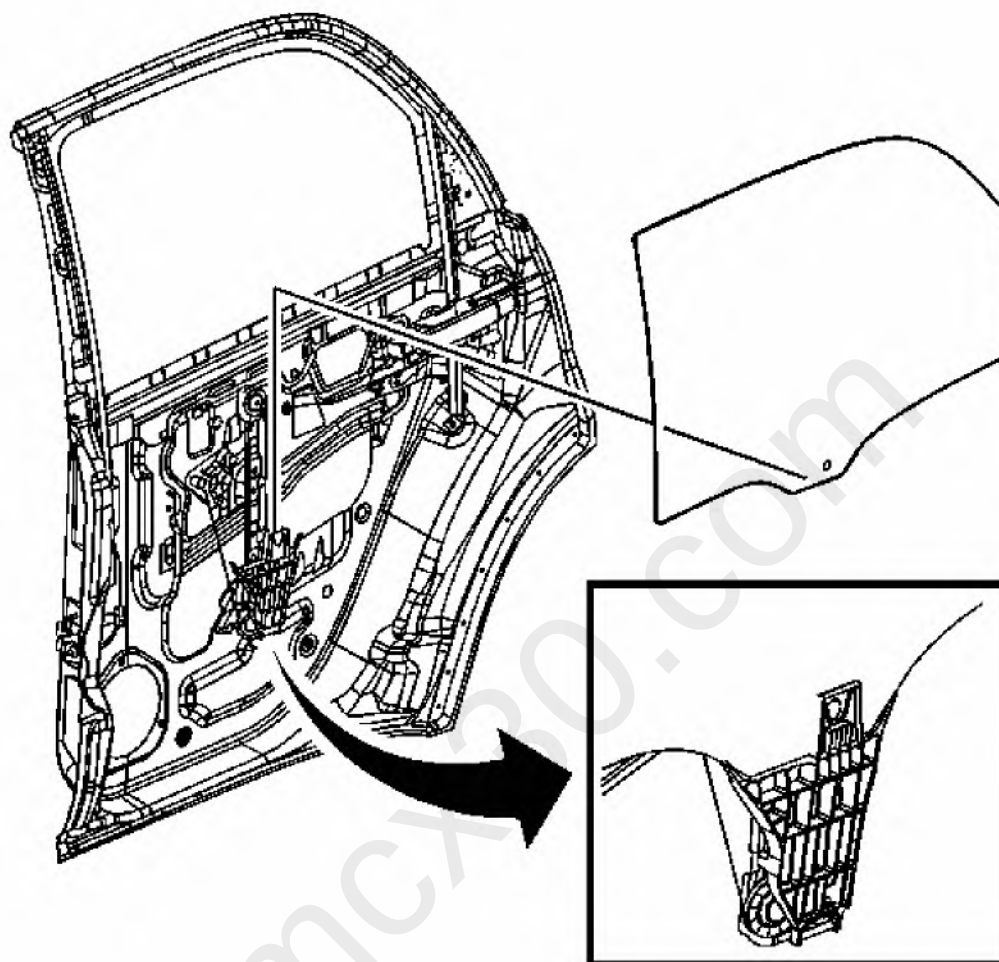


Fig. 112: Removing/Installing Rear Door Window
Courtesy of GENERAL MOTORS CORP.

5. Lower window to access the window release tab.

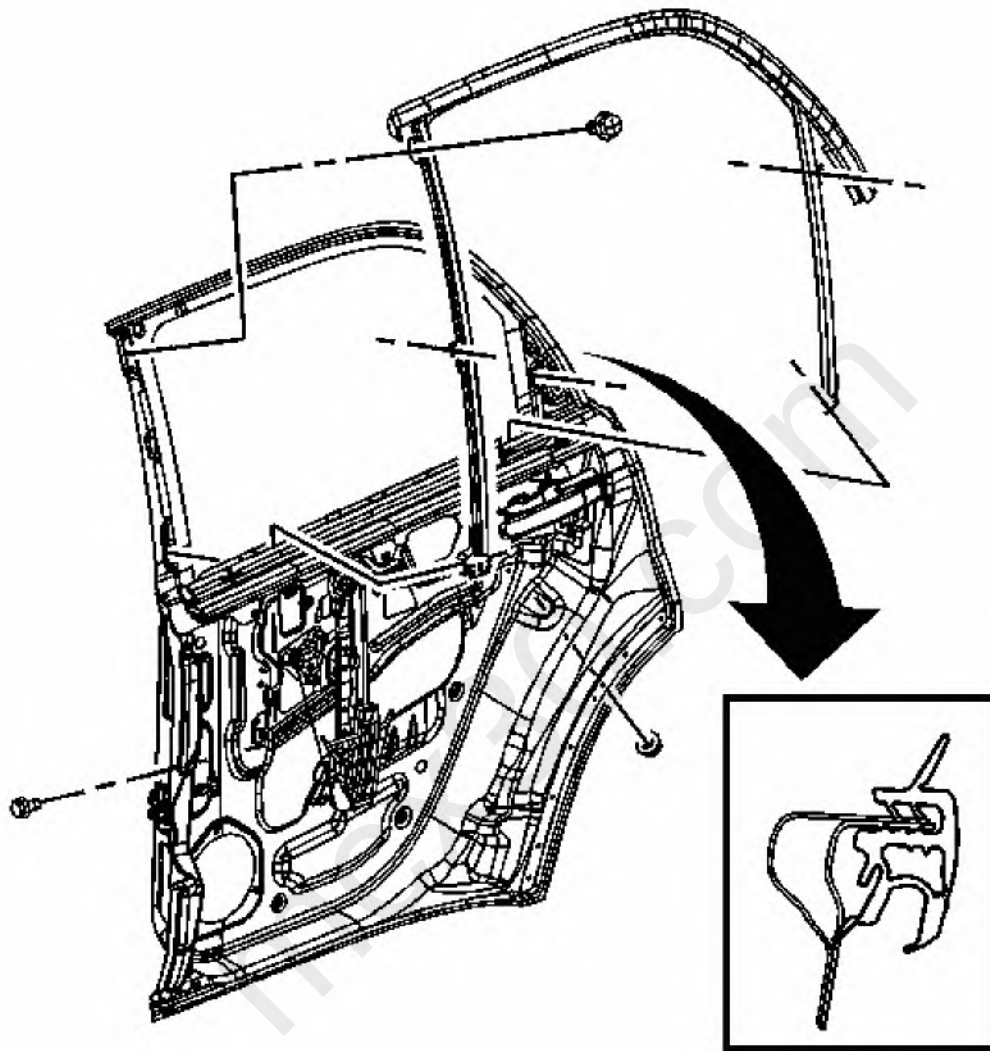


Fig. 113: View Of Rear Door Window Run Channel & Bolts
Courtesy of GENERAL MOTORS CORP.

6. Remove the window run channel bolts and loosen the window run channel.
7. Depress the window release tab with a flat-bladed tool.
8. Pull the window out of the window regulator guide plate.
9. Slide the window down and out of the primary window run channels.
10. Remove the window through the door belt opening.

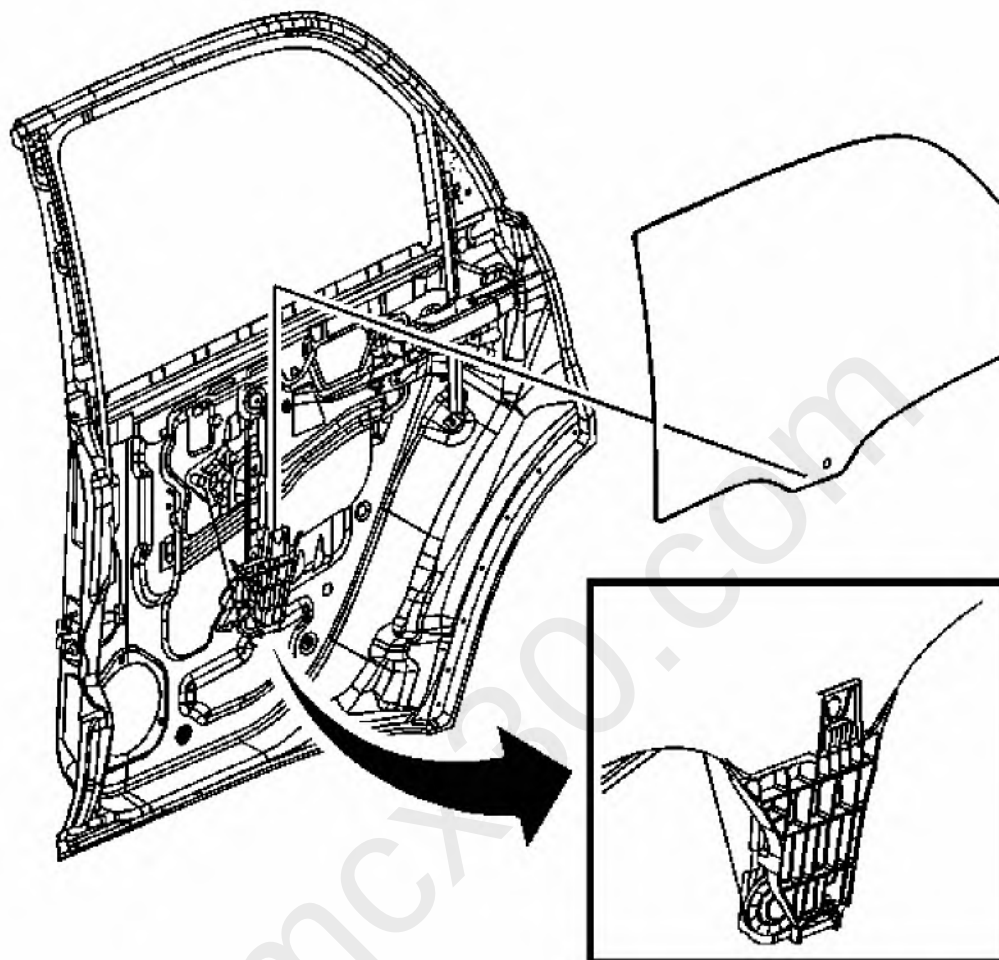


Fig. 114: Removing/Installing Rear Door Window
Courtesy of GENERAL MOTORS CORP.

1. Install the window by sliding the window into the door through the outside door belt opening.
2. Install the window into the primary window run channels and position into the regulator guide plate.

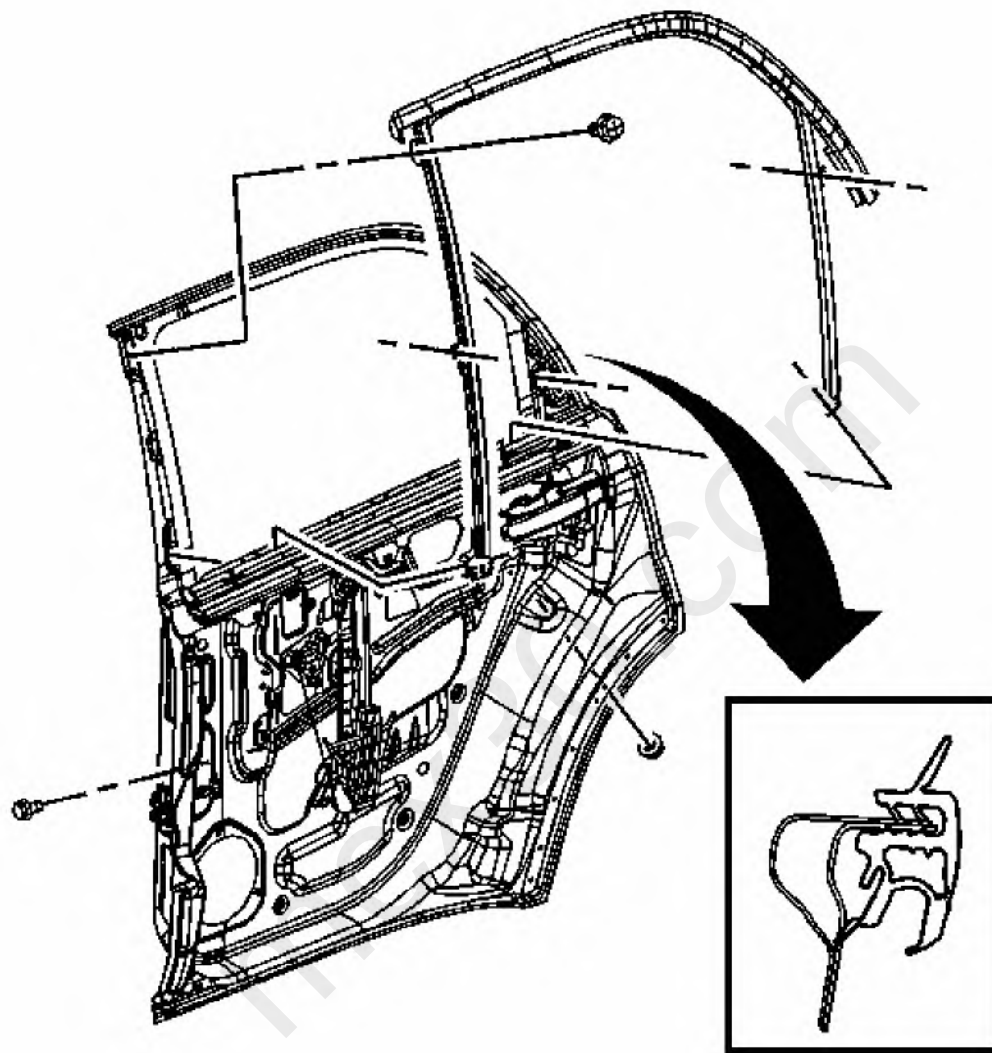


Fig. 115: View Of Rear Door Window Run Channel & Bolts
Courtesy of GENERAL MOTORS CORP.

NOTE: Refer to Fastener Notice in Cautions and Notices.

3. Install the window run channel bolts.

Tighten: Tighten the bolts to 8 N.m (71 lb in).

4. Install the rear door water deflector. Refer to Water Deflector Replacement - Rear Door.

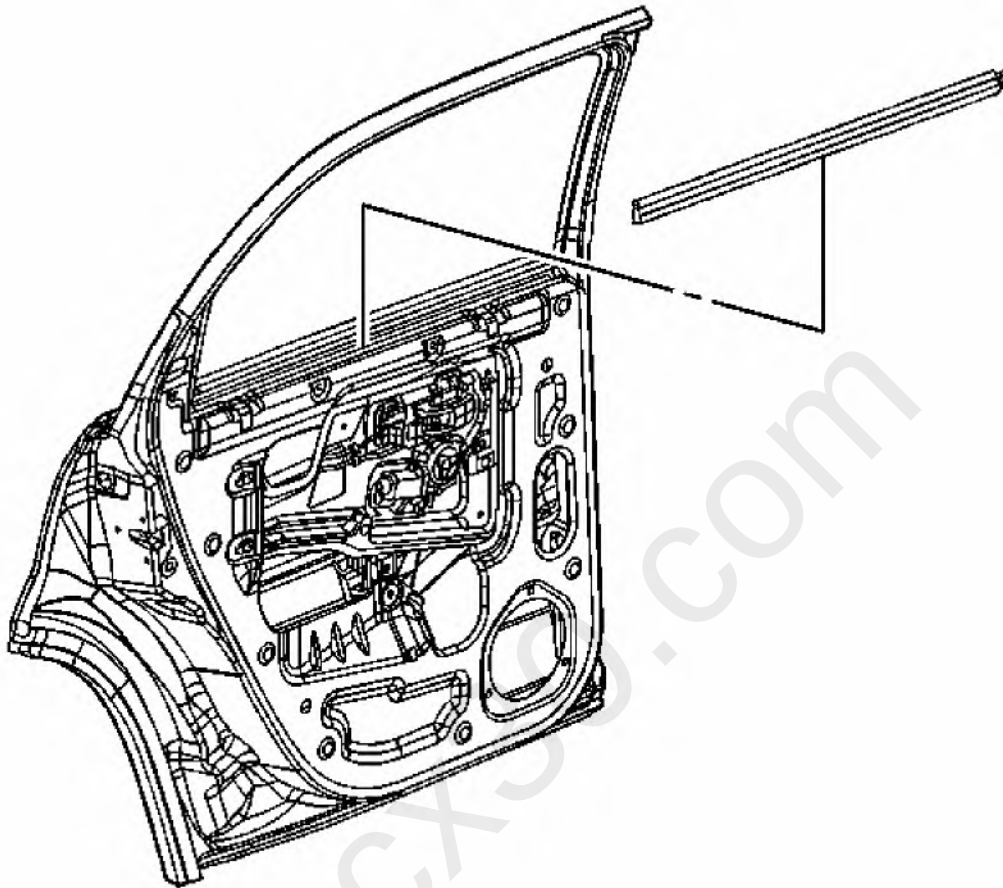


Fig. 116: View Of Inner Belt Seal (Rear Door)
Courtesy of GENERAL MOTORS CORP.

5. Install the inner belt seal. Refer to **Sealing Strip Replacement - Rear Door Window Belt Inner**.
6. Install the rear inner door trim panel. Refer to **Trim Panel Replacement - Side Rear Door**.
7. Install the door frame appliques. Refer to **Door Frame Applique Replacement - Front**.
8. Operate the window to inspect the operation.

WINDOW WEATHERSTRIP RUN CHANNEL ASSEMBLY REPLACEMENT - FRONT

Removal Procedure

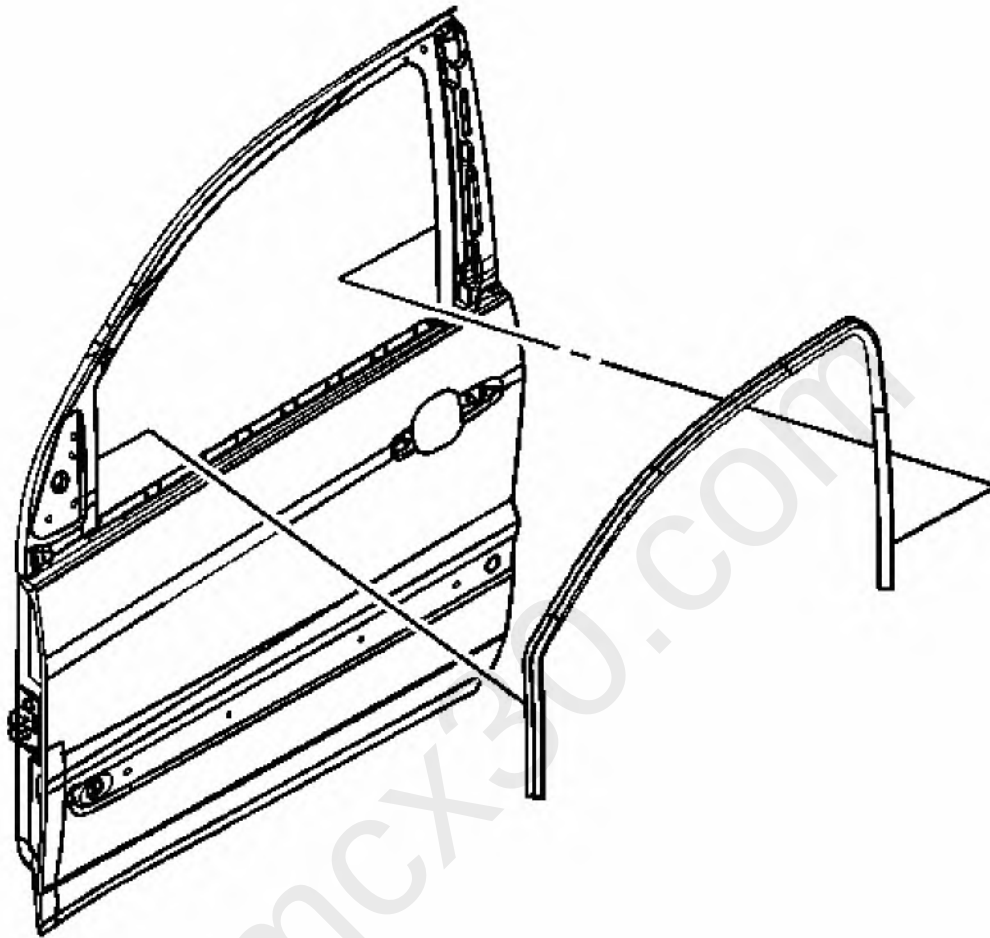


Fig. 117: View Of Front Window Weatherstrip Run Channel Assembly
Courtesy of GENERAL MOTORS CORP.

1. Lower the front door window.
2. Remove the front door trim panel. Refer to **Trim Panel Replacement - Side Front Door**.
3. Remove the inner belt seal. Refer to **Sealing Strip Replacement - Front Door Window Belt Inner**.
4. Starting at one end, carefully pull the window weatherstrip run channel assembly from the door frame.

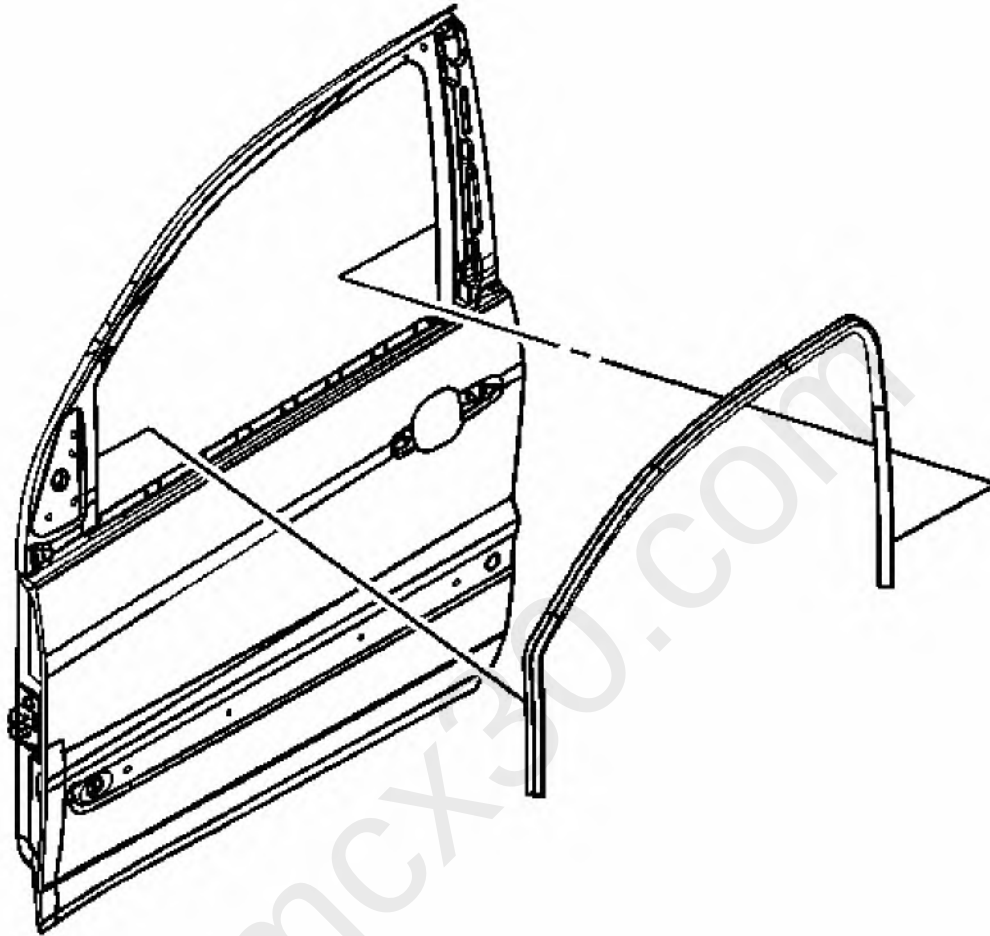


Fig. 118: View Of Front Window Weatherstrip Run Channel Assembly
Courtesy of GENERAL MOTORS CORP.

1. Install the window weatherstrip run channel assembly.
 1. Starting at the lower rear corner of the window opening, press the weatherstrip run channel onto the door flange.
 2. Ensure the channel is fully secured into the upper corners of the door frame.
2. Install the inner belt seal. Refer to **Sealing Strip Replacement - Front Door Window Belt Inner**.
3. Install the front door trim panel. Refer to **Trim Panel Replacement - Side Front Door**.

Removal Procedure

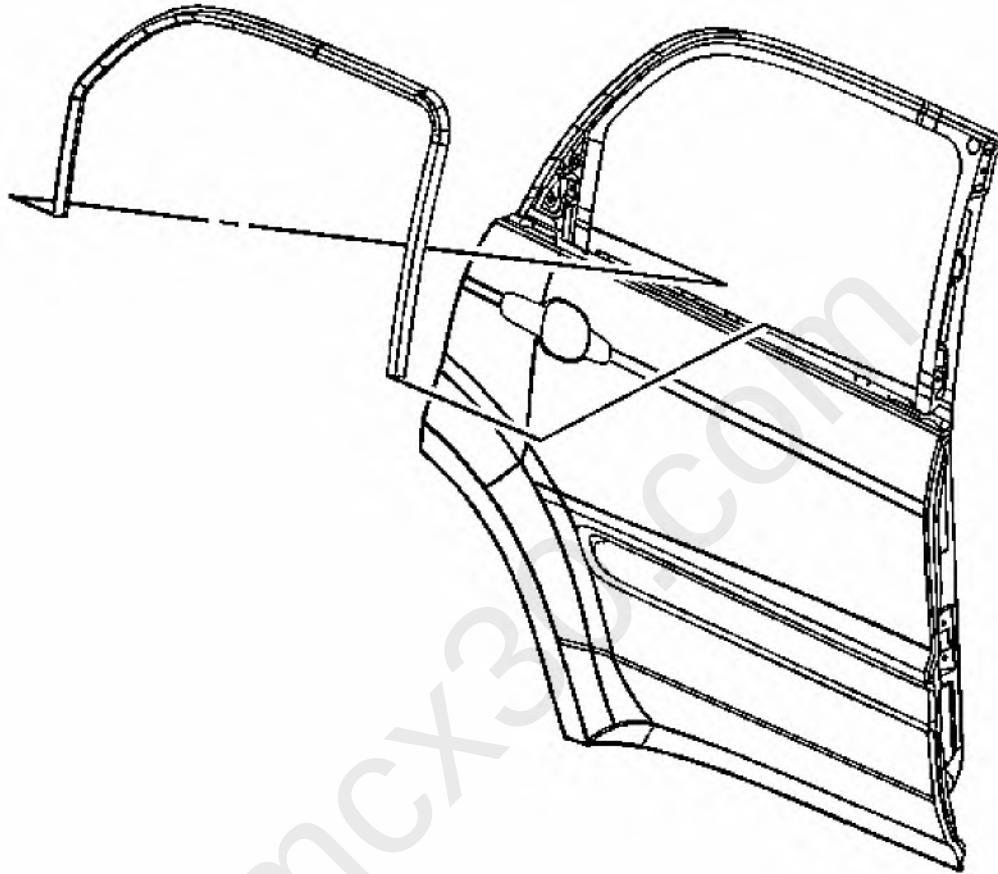


Fig. 119: View Of Rear Window Weatherstrip Run Channel Assembly
Courtesy of GENERAL MOTORS CORP.

1. Lower the rear door window.
2. Remove the rear door trim panel. Refer to **Trim Panel Replacement - Side Rear Door**.
3. Remove the inner belt seal. Refer to **Sealing Strip Replacement - Rear Door Window Belt Inner**.
4. Starting at one end, carefully pull the window weatherstrip run channel assembly from the door frame.

Installation Procedure

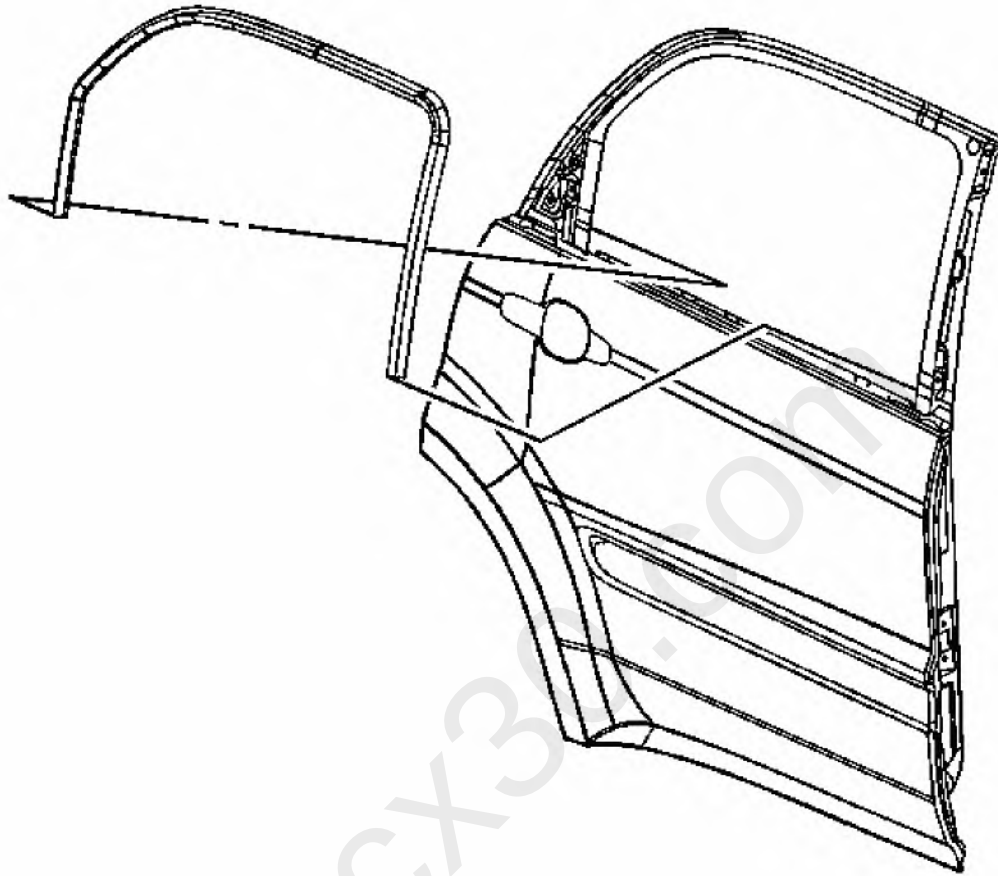


Fig. 120: View Of Rear Window Weatherstrip Run Channel Assembly
Courtesy of GENERAL MOTORS CORP.

1. Align the notch in the window weatherstrip seal to the fixed window post and press the weatherstrip onto the window flange.
 1. Press the weatherstrip run channel onto the door flange.
 2. Ensure the channel is fully secured into the upper corners of the door frame.
2. Install the inner belt seal. Refer to **Sealing Strip Replacement - Rear Door Window Belt Inner**.
3. Install the rear door trim panel. Refer to **Trim Panel Replacement - Side Rear Door**.

WINDOW RUN CHANNEL REPLACEMENT - REAR DOOR

Removal Procedure

1. Remove the rear door window. Refer to **Window Replacement - Rear Door**.

2. Remove the rear door window weatherstrip run channel assembly. Refer to **Window Weatherstrip Run Channel Assembly Replacement - Rear**.

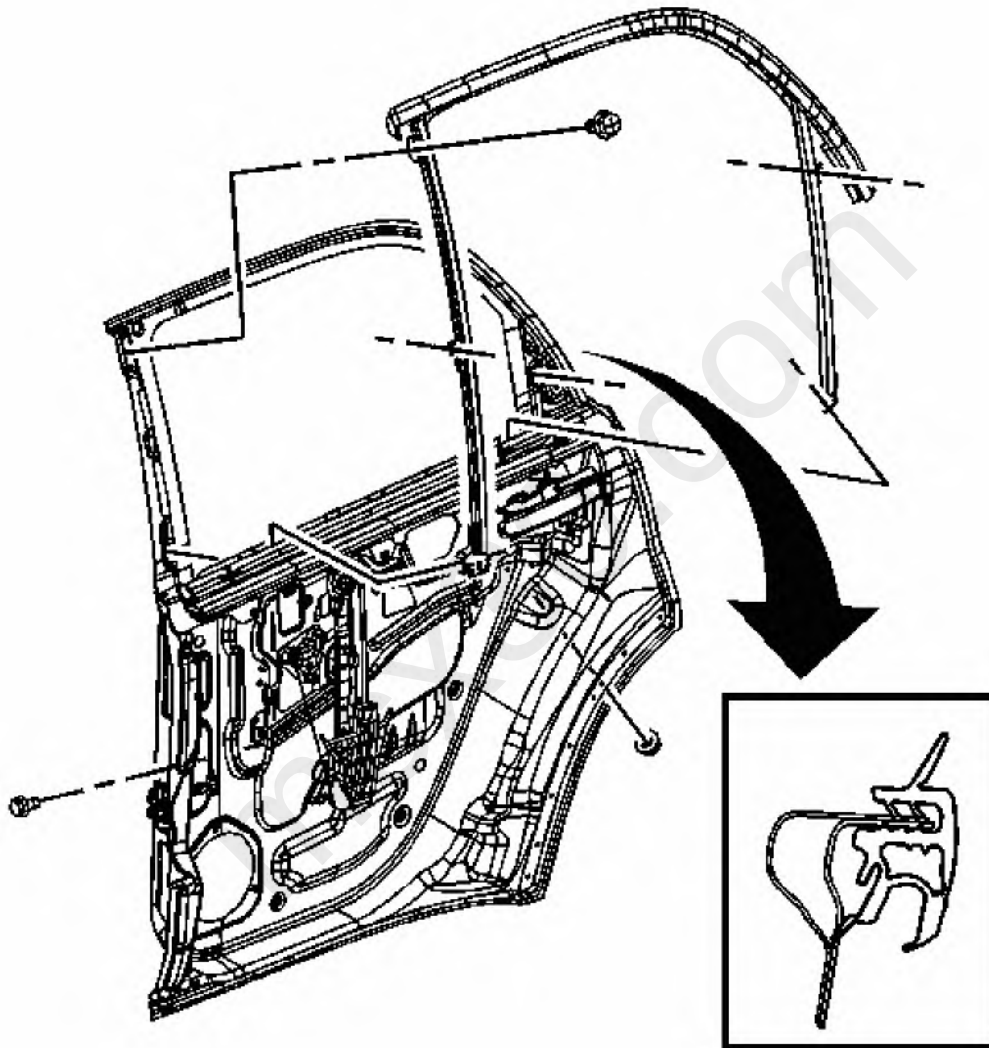


Fig. 121: View Of Rear Door Window Run Channel & Bolts
Courtesy of GENERAL MOTORS CORP.

3. Remove the rear door window run channel and fixed window assembly.
 1. Starting from the front corner of the door, remove the seal from the door header flange.
 2. Remove the seal assembly from the door.

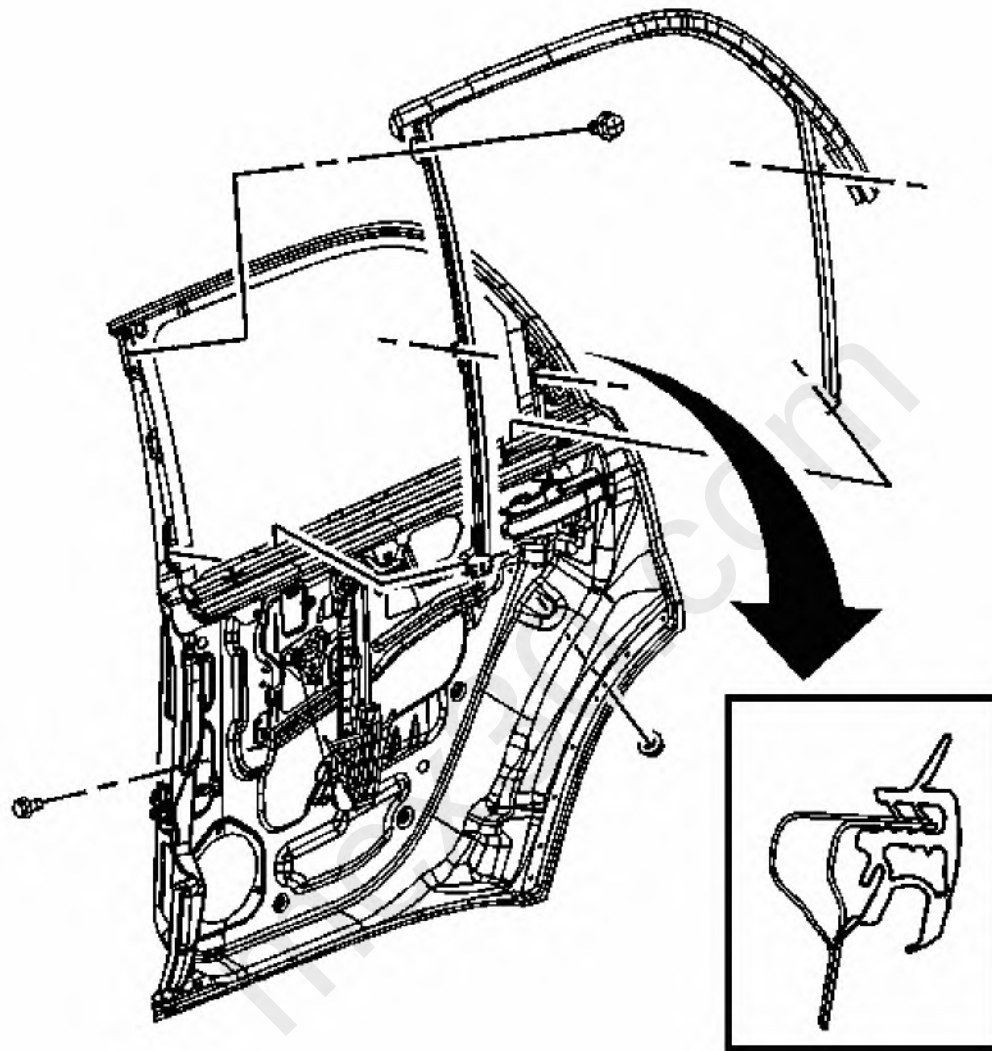


Fig. 122: View Of Rear Door Window Run Channel & Bolts
Courtesy of GENERAL MOTORS CORP.

1. Install the window run channel seal assembly.
 1. Place the seal assembly into the door frame.
 2. Place the seal assembly on the door header.
 3. Install the seal to the door header flange, starting from the front corner.
2. Install the rear door window weatherstrip run channel assembly. Refer to **Window Weatherstrip Run Channel Assembly Replacement - Rear**.
3. Install the rear door window. Refer to **Window Replacement - Rear Door**.

WINDOW RUN CHANNEL REPLACEMENT - FRONT DOOR

Removal Procedure

1. Remove the front door window. Refer to Window Replacement - Front Door.
2. Remove the front door window weatherstrip run channel assembly. Refer to Window Weatherstrip Run Channel Assembly Replacement - Front.
3. Remove the outside rearview mirror. Refer to Mirror Replacement.
4. Remove the front door frame applique. Refer to Door Frame Applique Replacement - Front.

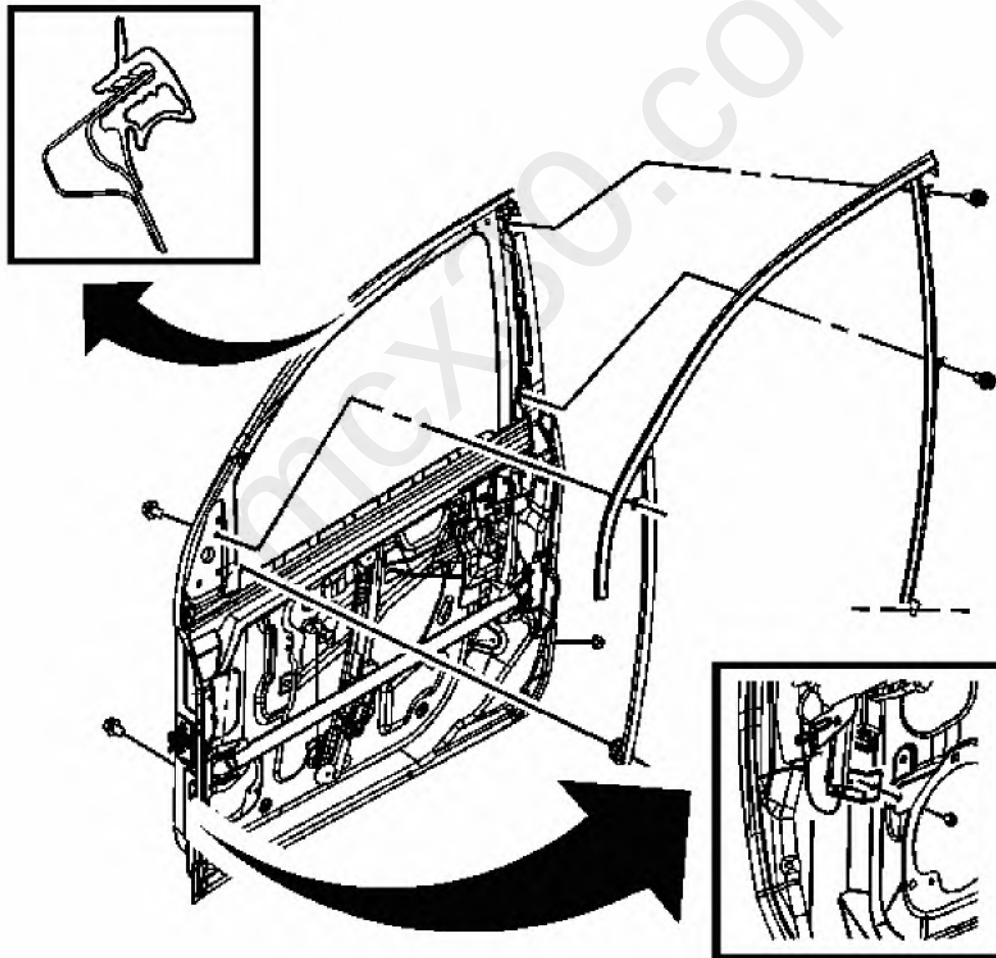


Fig. 123: View Of Front Door Window Run Channel & Bolts
Courtesy of GENERAL MOTORS CORP.

5. Remove the window run channel bolts.
6. Remove the front door window run channel. Starting from the rear corner of the door, remove the seal from the door header flange.

Installation Procedure

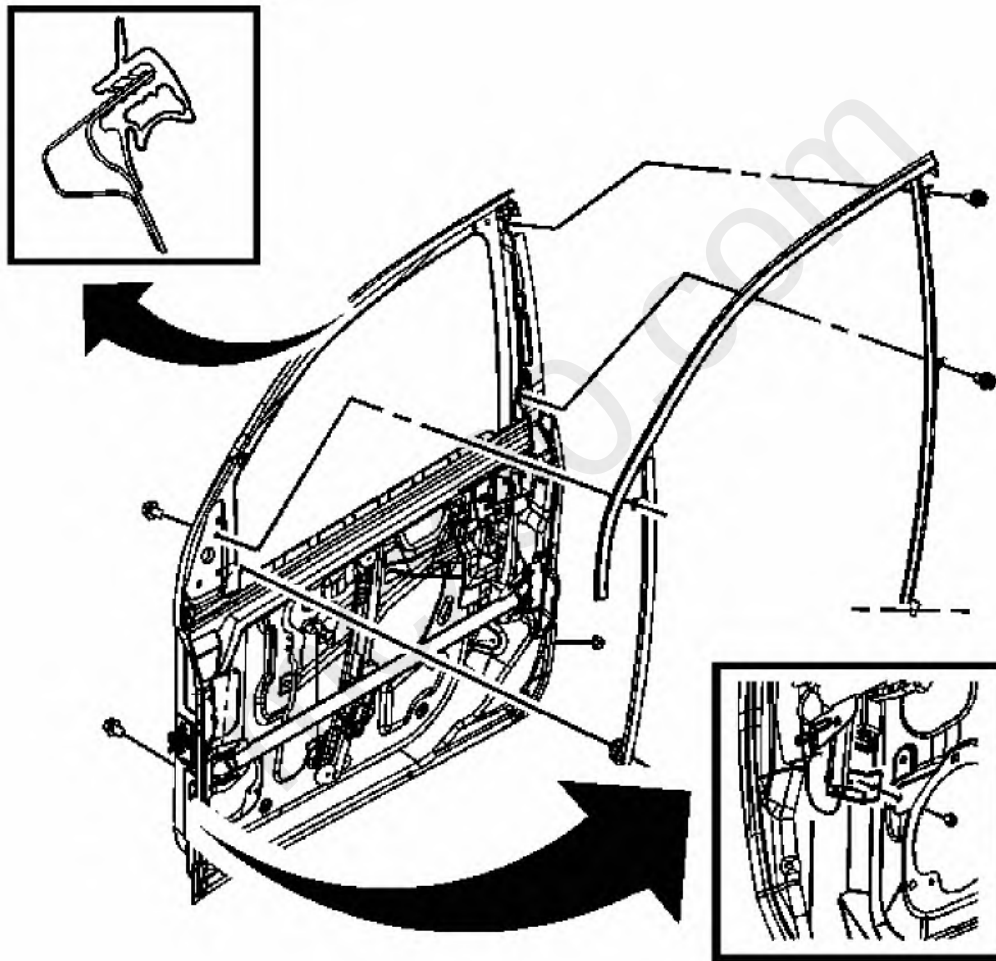


Fig. 124: View Of Front Door Window Run Channel & Bolts
Courtesy of GENERAL MOTORS CORP.

NOTE: Refer to Fastener Notice in Cautions and Notices.

1. Install the window run channel seal to the door header flange, starting from the rear corner.

Tighten: Tighten the bolts to 8 N.m (71 lb in).

2. Install the front door window weatherstrip run channel assembly. Refer to **Window Weatherstrip Run Channel Assembly Replacement - Front**.
3. Install the front door frame applique. Refer to **Door Frame Applique Replacement - Front**.
4. Install the outside rearview mirror. Refer to **Mirror Replacement**.
5. Install the front door window. Refer to **Window Replacement - Front Door**.

DOOR FRAME APPLIQUE REPLACEMENT - FRONT

Removal Procedure

mcx30.com

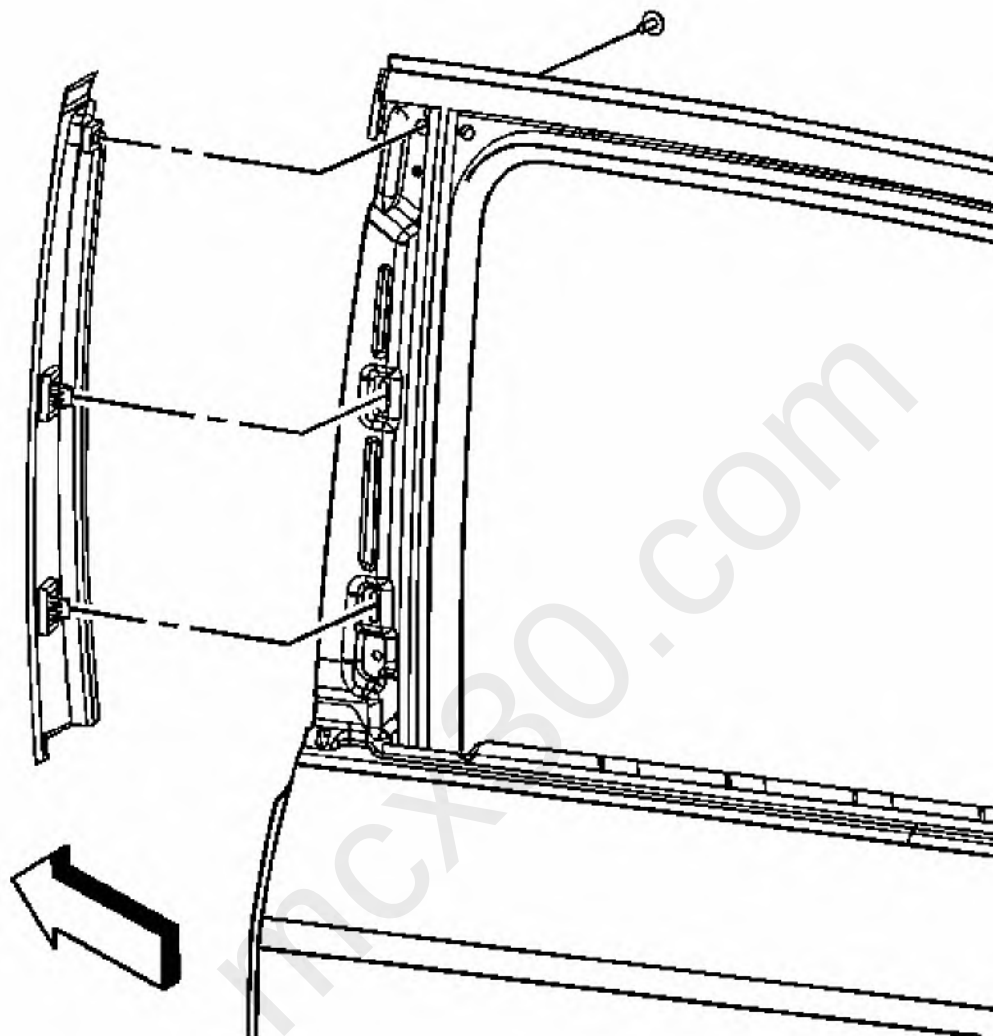


Fig. 125: View Of Door Frame Applique
Courtesy of GENERAL MOTORS CORP.

1. Remove the front door applique screws.
2. Remove the front door applique from the door.

Installation Procedure

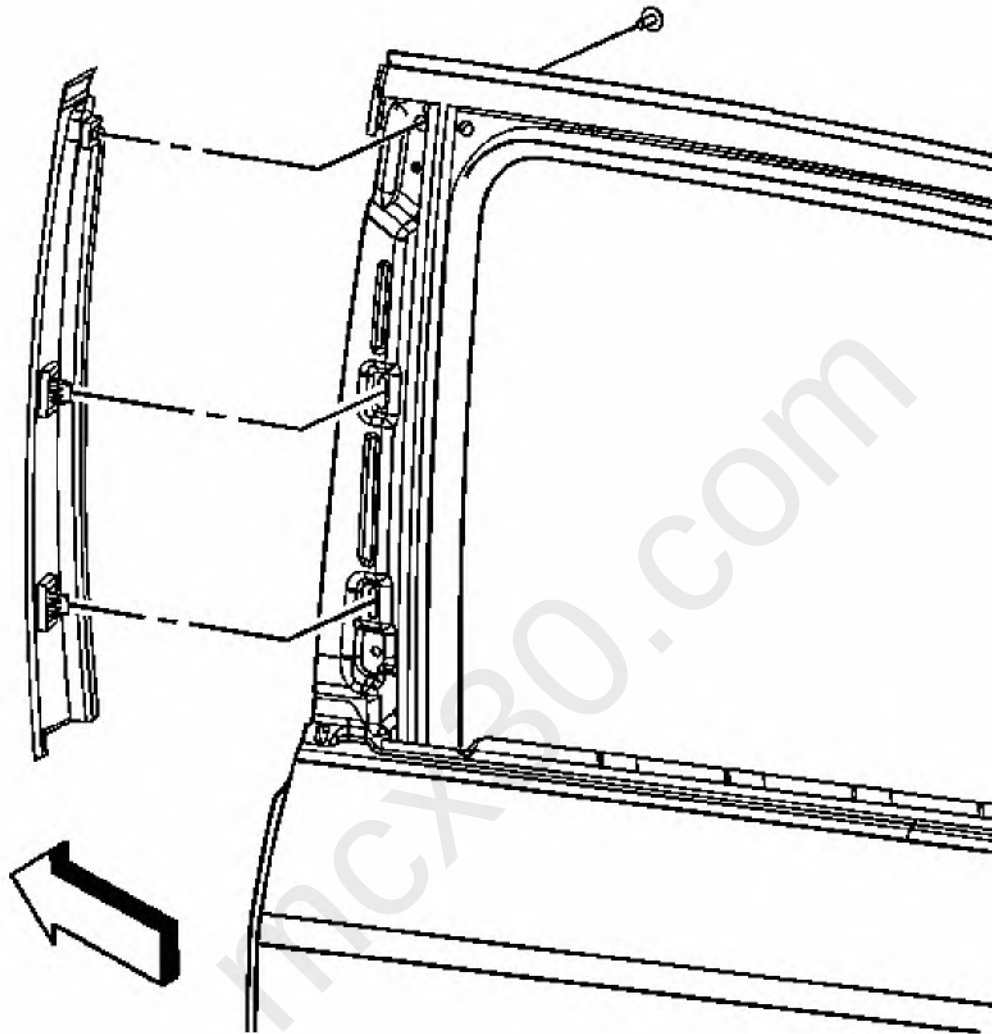


Fig. 126: View Of Door Frame Applique
Courtesy of GENERAL MOTORS CORP.

1. Position the applique between the outer belt seal and the door structure.

NOTE: Refer to Fastener Notice in Cautions and Notices.

2. Install the applique screws.

Tighten: Tighten the screws to 2 N.m (20 lb in).

Removal Procedure

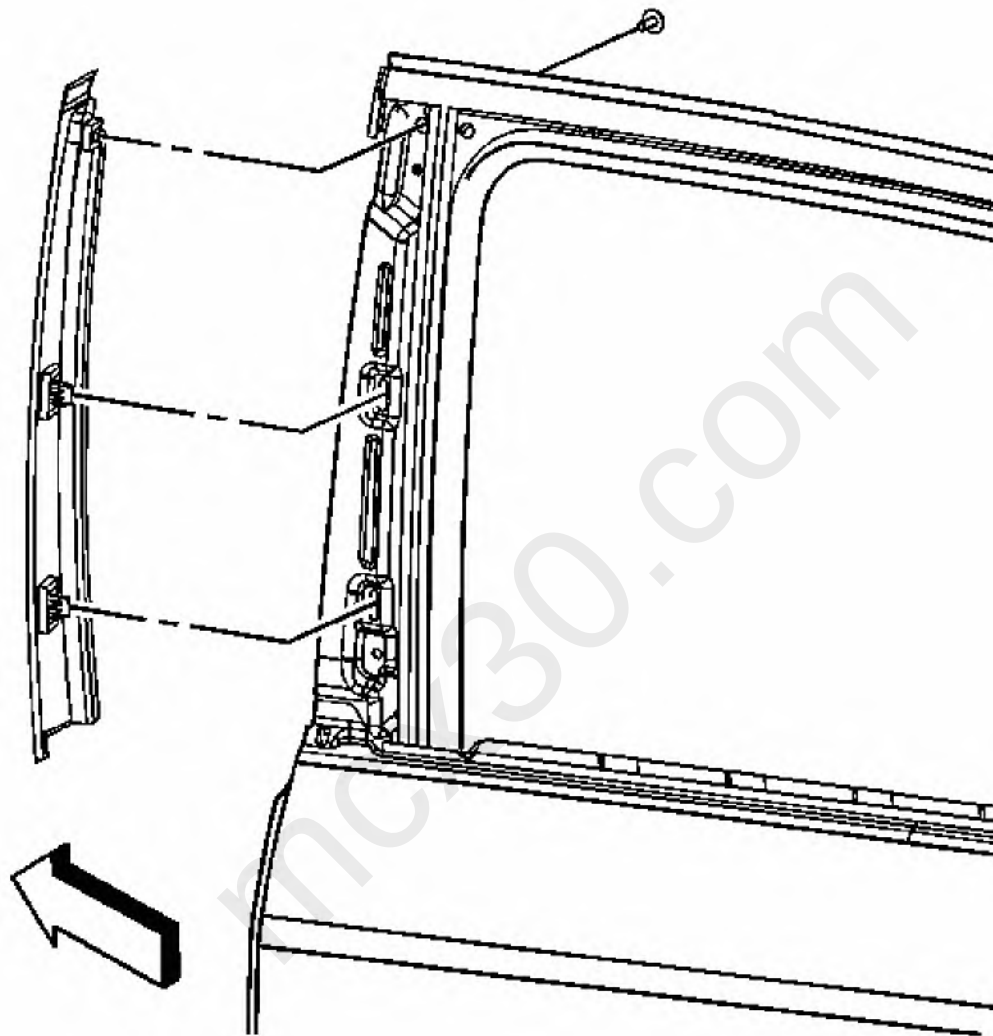


Fig. 127: View Of Door Frame Applique
Courtesy of GENERAL MOTORS CORP.

1. Remove the rear door front applique screws.
2. Remove the rear door front applique from the door.

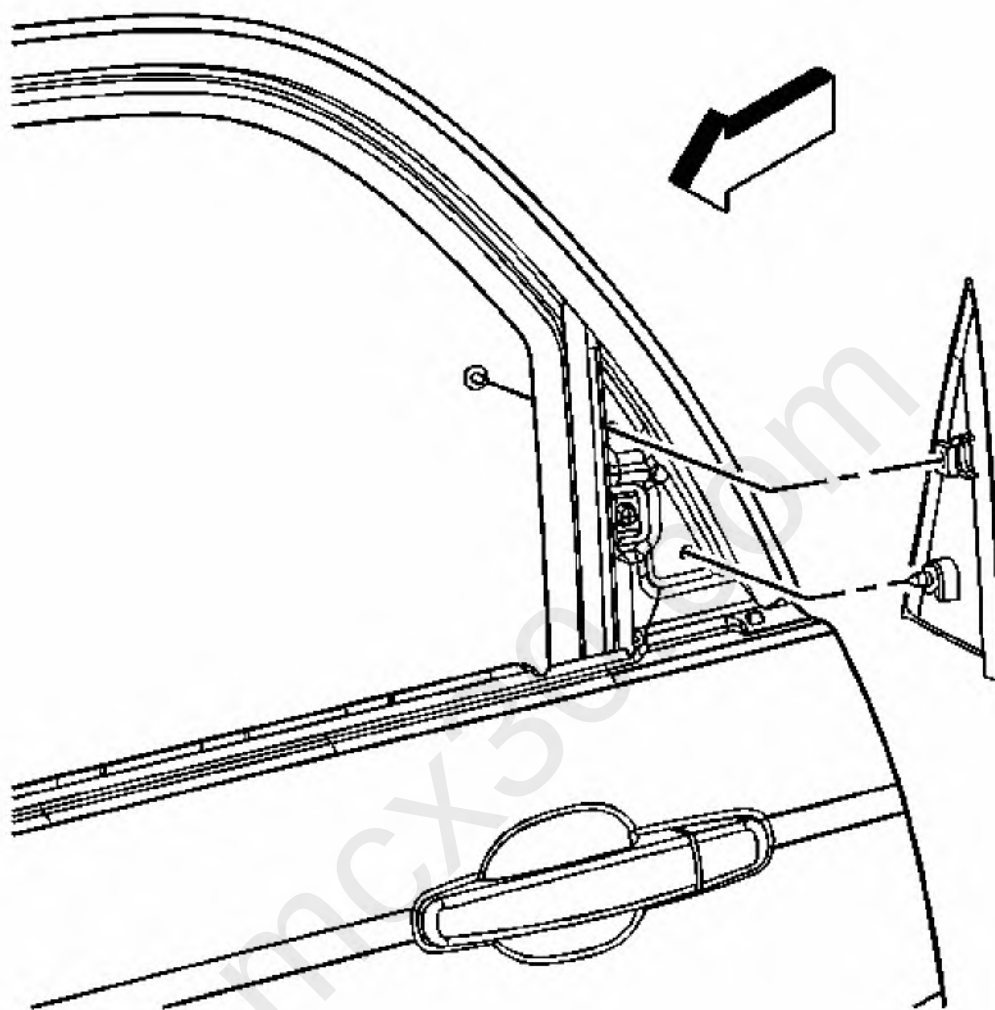


Fig. 128: View Of Rear Door Rear Applique
Courtesy of GENERAL MOTORS CORP.

3. Remove the rear door rear applique screw.
4. Remove the rear door rear applique.

Installation Procedure

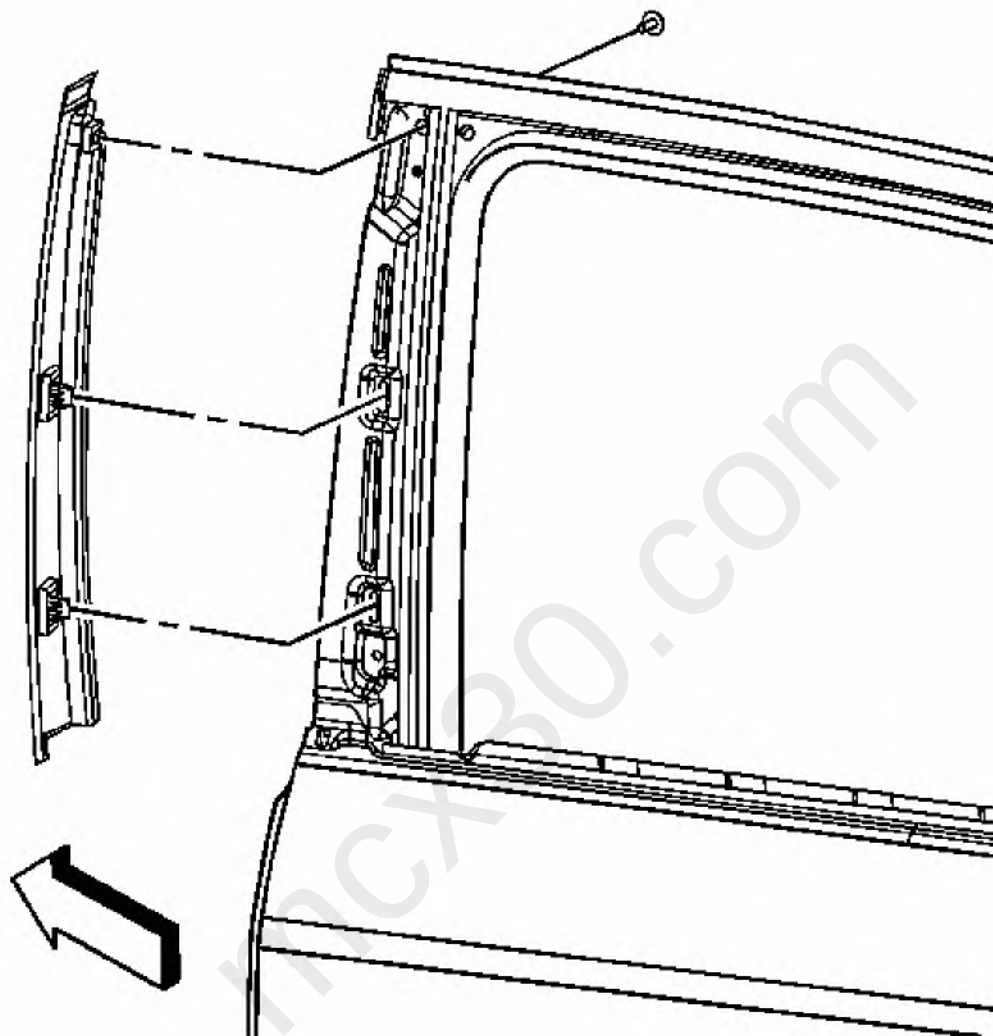


Fig. 129: View Of Door Frame Applique
Courtesy of GENERAL MOTORS CORP.

1. Position the appliques between the outer belt seal and the door structure.

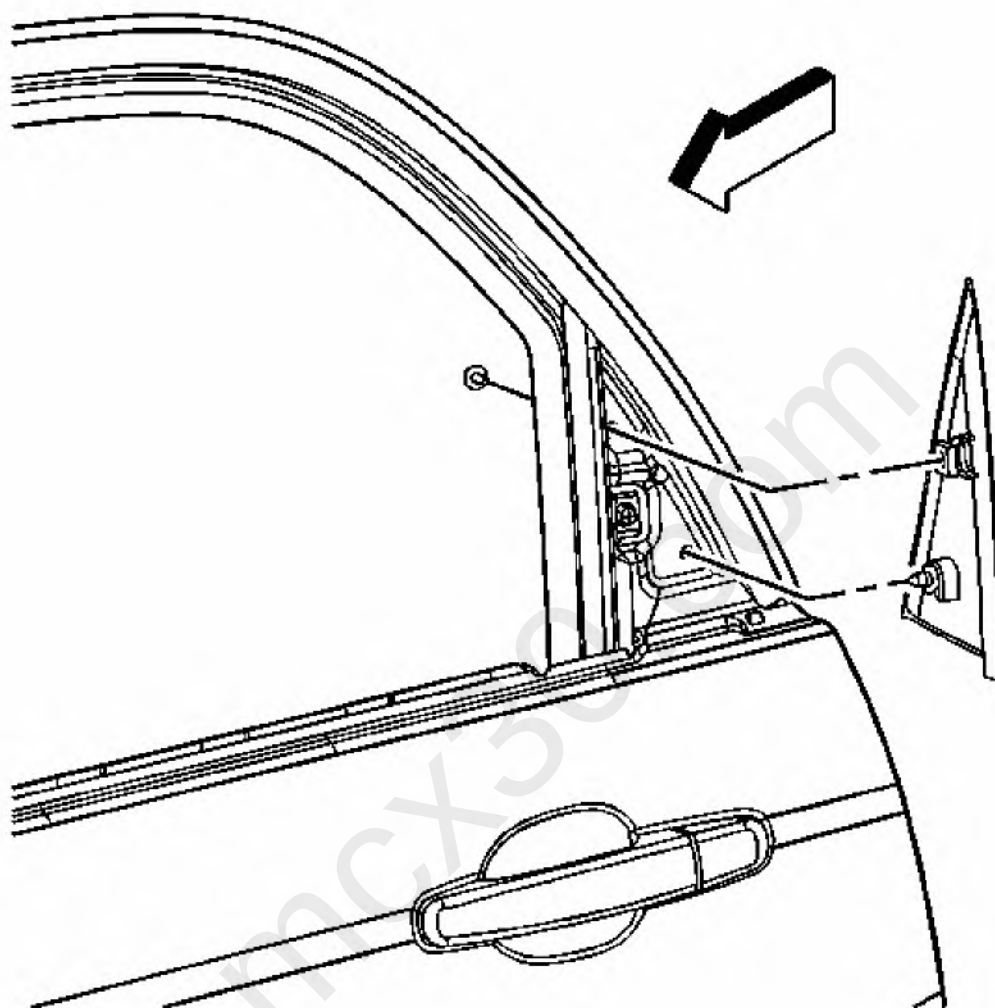


Fig. 130: View Of Rear Door Rear Applique
Courtesy of GENERAL MOTORS CORP.

NOTE: Refer to Fastener Notice in Cautions and Notices.

2. Install the applique screws.

Tighten: Tighten the screws to 2 N.m (20 lb in).

SEALING STRIP REPLACEMENT - FRONT DOOR WINDOW BELT OUTER

Removal Procedure

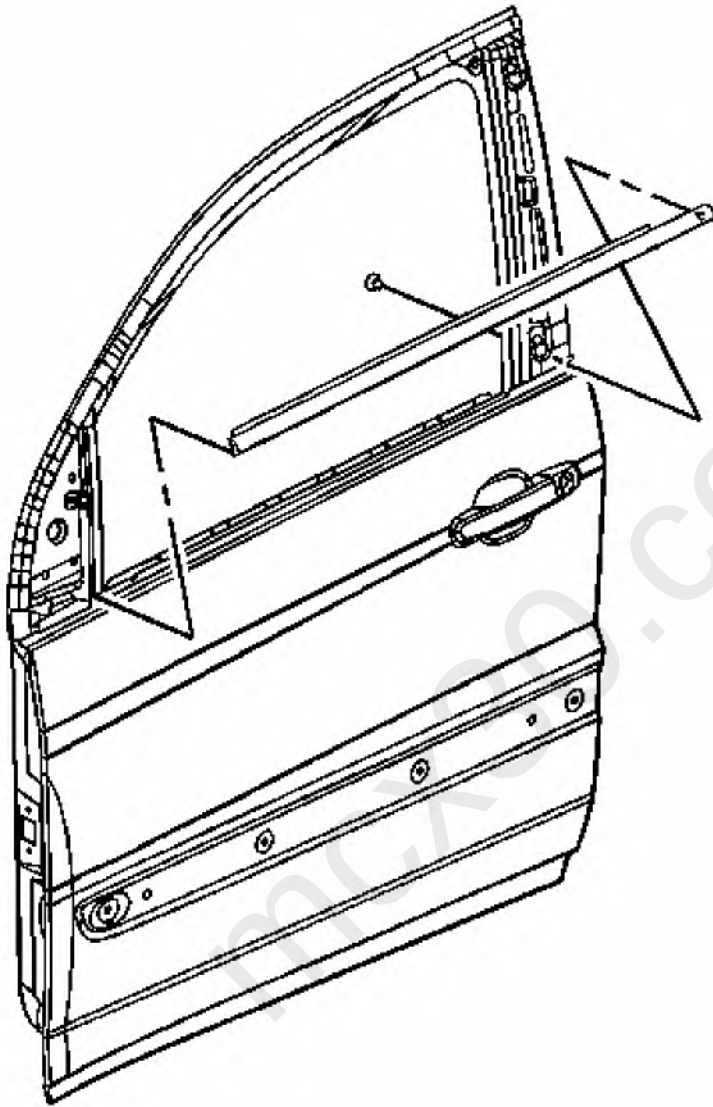


Fig. 131: View Of Outer Belt Seal (Front Door Window)
Courtesy of GENERAL MOTORS CORP.

1. Remove the belt seal retaining screw at the rear edge of the door.
2. Remove the outside rearview mirror. Refer to **Mirror Replacement**.
3. Remove the outer belt seal by lifting up on the seal starting at the rear and working forward.

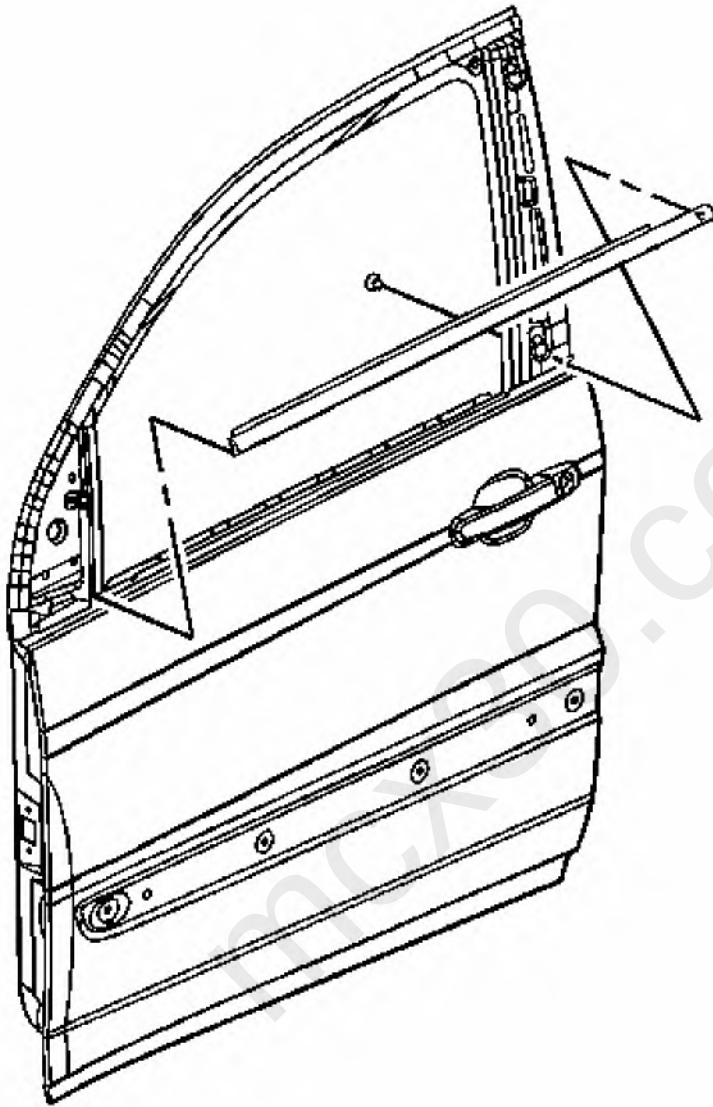


Fig. 132: View Of Outer Belt Seal (Front Door Window)
Courtesy of GENERAL MOTORS CORP.

1. Align the outer belt seal fastener location with the hole in the door structure and outer panel retaining tabs.
2. Starting at the rear of the belt seal, push the belt seal down onto the flange until fully seated.
3. Install the outside rearview mirror. Refer to **Mirror Replacement**.

NOTE: Refer to Fastener Notice in Cautions and Notices.

4. Install the outer belt seal retaining screw.

Tighten: Tighten the screw to 1.5 N.m (13 lb in).

SEALING STRIP REPLACEMENT - REAR DOOR WINDOW BELT OUTER

Removal Procedure

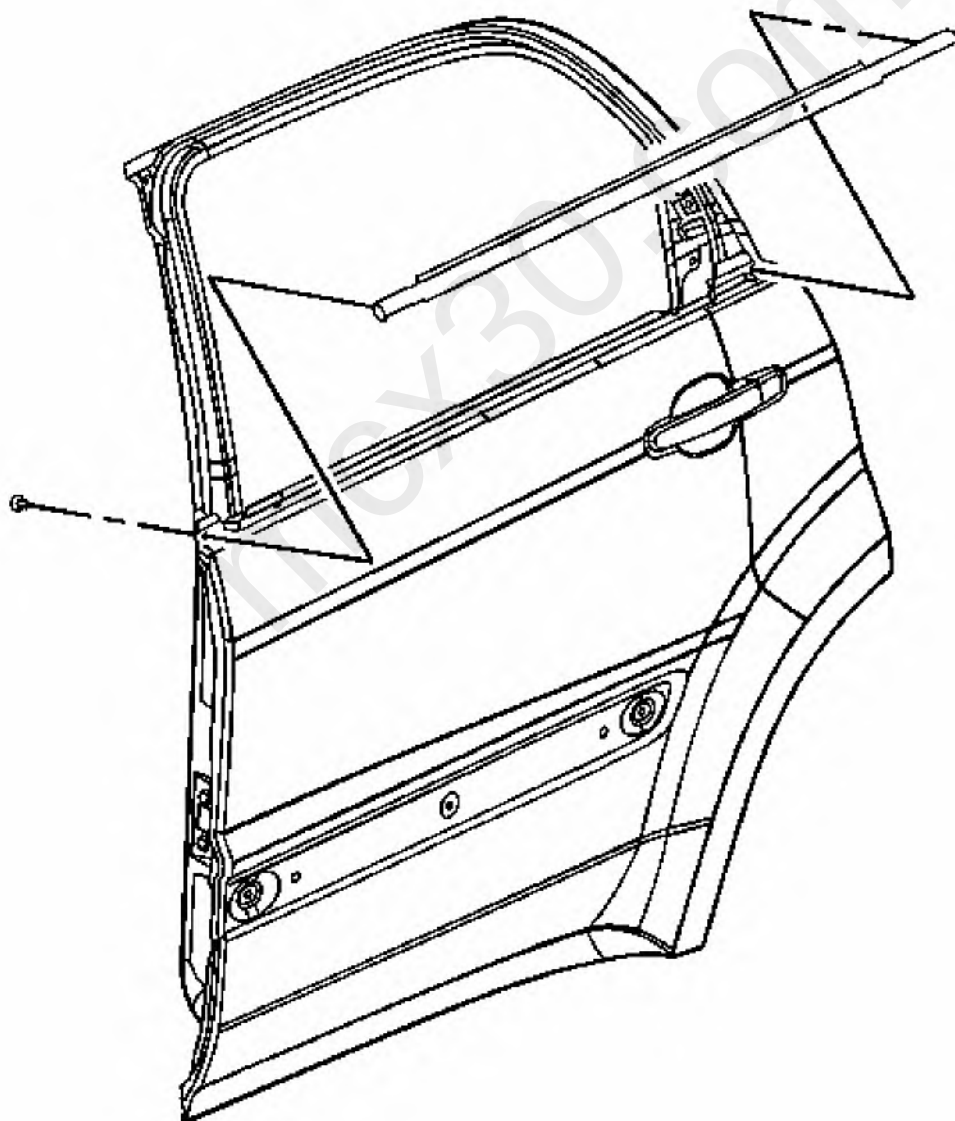


Fig. 133: View Of Outer Belt Seal (Rear Door Window)
Courtesy of GENERAL MOTORS CORP.

1. Remove the belt seal retaining screw at the front edge of the door.
2. Remove the outer belt seal by lifting up on the seal starting at the rear and working forward.

Installation Procedure

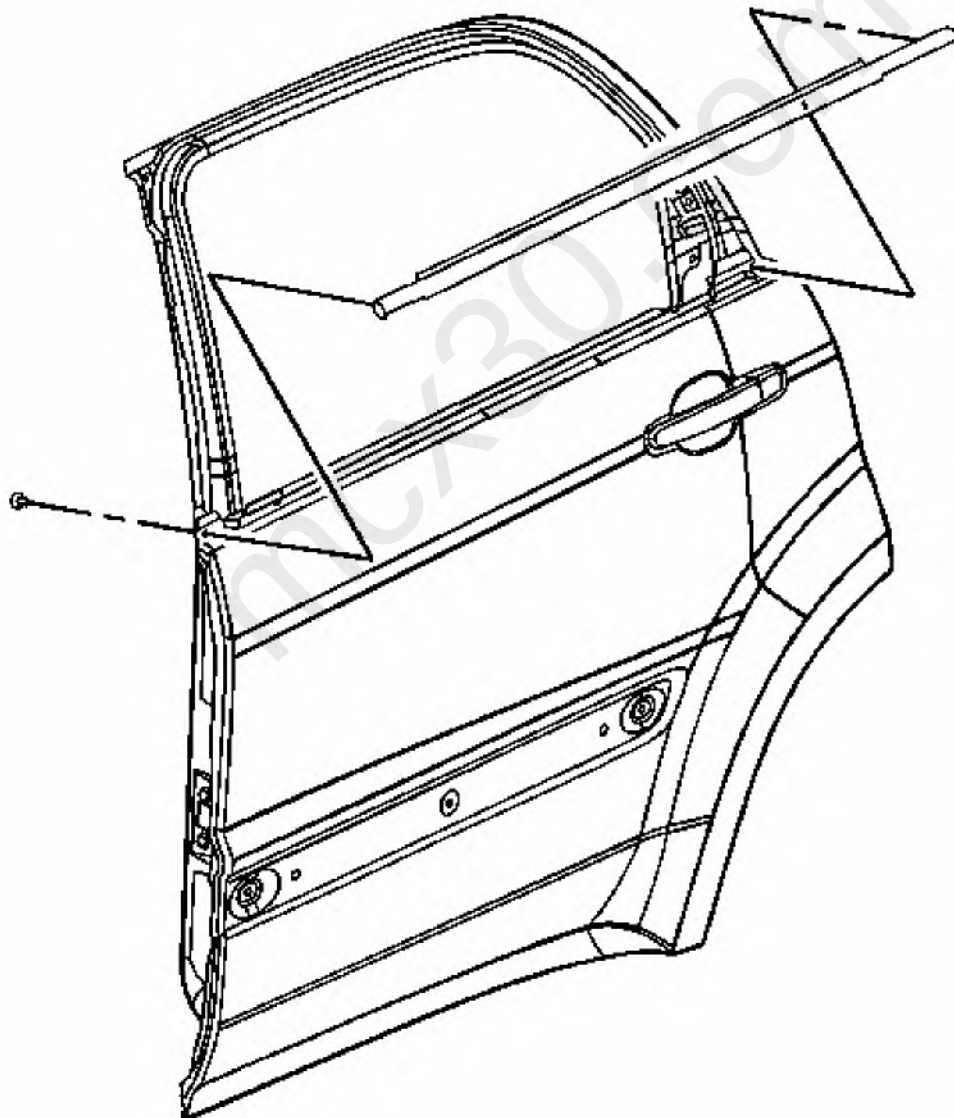


Fig. 134: View Of Outer Belt Seal (Rear Door Window)

Courtesy of GENERAL MOTORS CORP.

1. Align the outer belt seal fastener location with the hole in the door structure and outer panel retaining tabs.
2. Starting at the rear of the belt seal, push the belt seal down onto the flange until fully seated.

NOTE: Refer to Fastener Notice in Cautions and Notices.

3. Install the outer belt seal retaining screw.

Tighten: Tighten the screw to 1.5 N.m (13 lb in).

SEALING STRIP REPLACEMENT - FRONT DOOR WINDOW BELT INNER

Removal Procedure

1. Remove the front door trim panel. Refer to Trim Panel Replacement - Side Front Door.

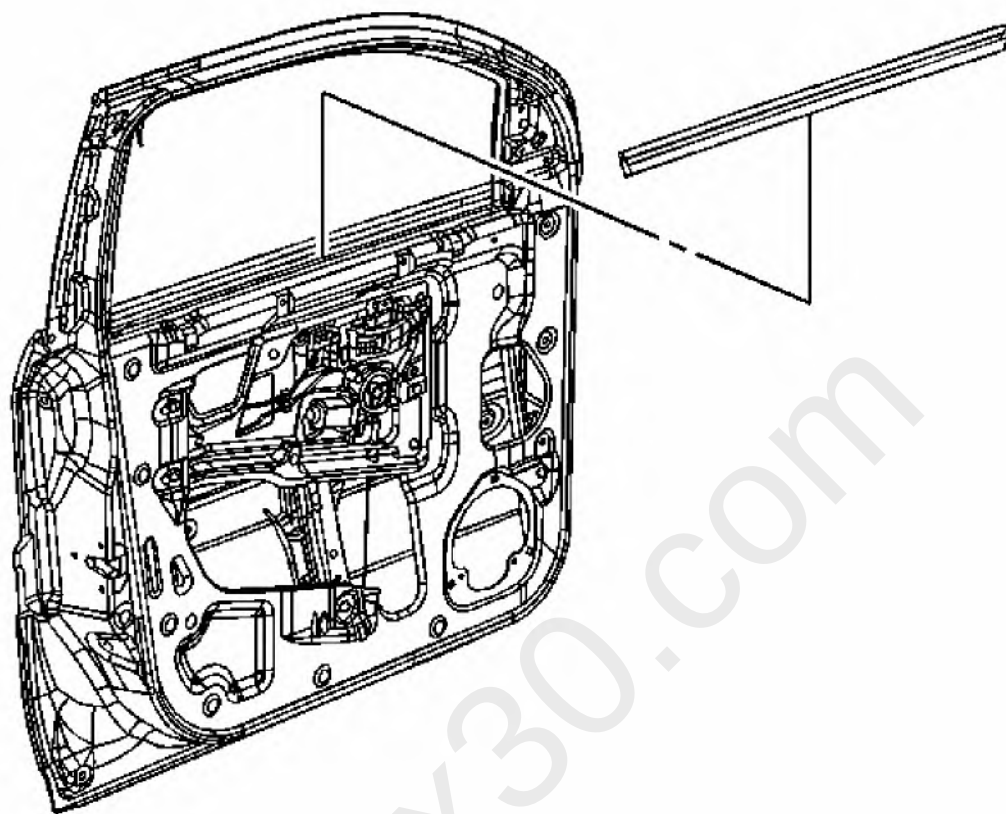


Fig. 135: View Of Inner Belt Seal (Front Door)
Courtesy of GENERAL MOTORS CORP.

2. Remove the inner belt seal from the door.

Installation Procedure

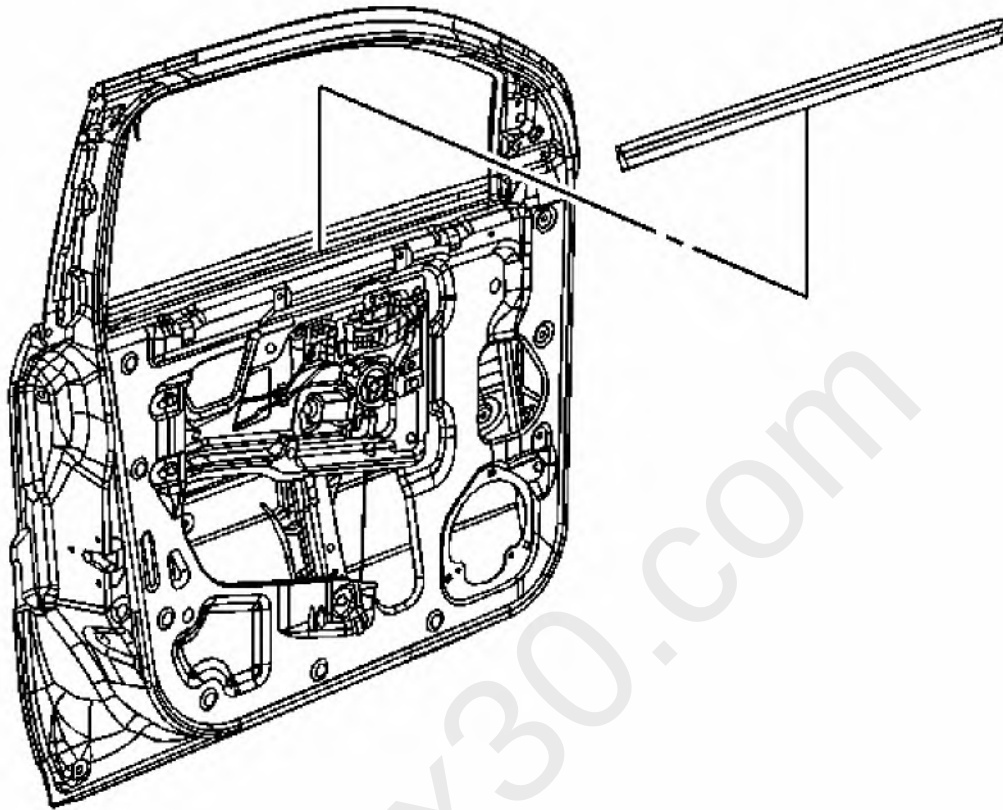


Fig. 136: View Of Inner Belt Seal (Front Door)
Courtesy of GENERAL MOTORS CORP.

1. Install the inner belt seal.
2. Install the front door trim panel. Refer to **Trim Panel Replacement - Side Front Door**.

SEALING STRIP REPLACEMENT - REAR DOOR WINDOW BELT INNER

Removal Procedure

1. Remove the rear door trim panel. Refer to **Trim Panel Replacement - Side Rear Door**.

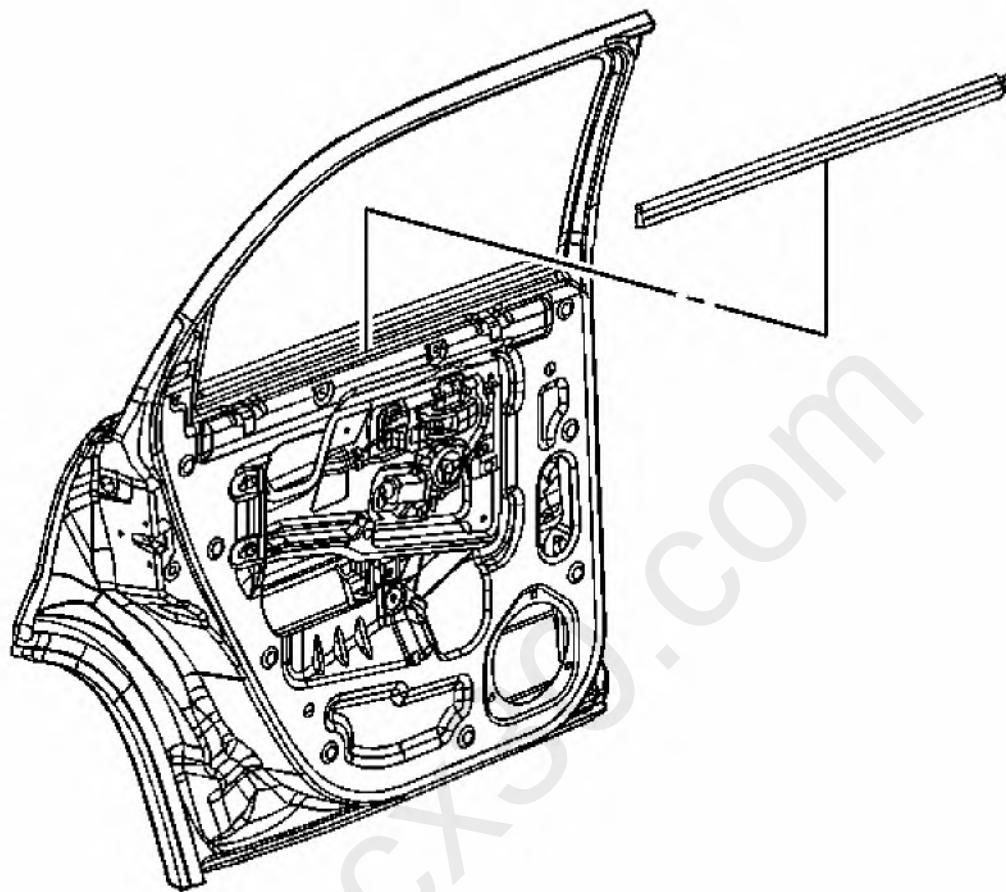


Fig. 137: View Of Inner Belt Seal (Rear Door)
Courtesy of GENERAL MOTORS CORP.

2. Remove the inner belt seal from the door.

Installation Procedure

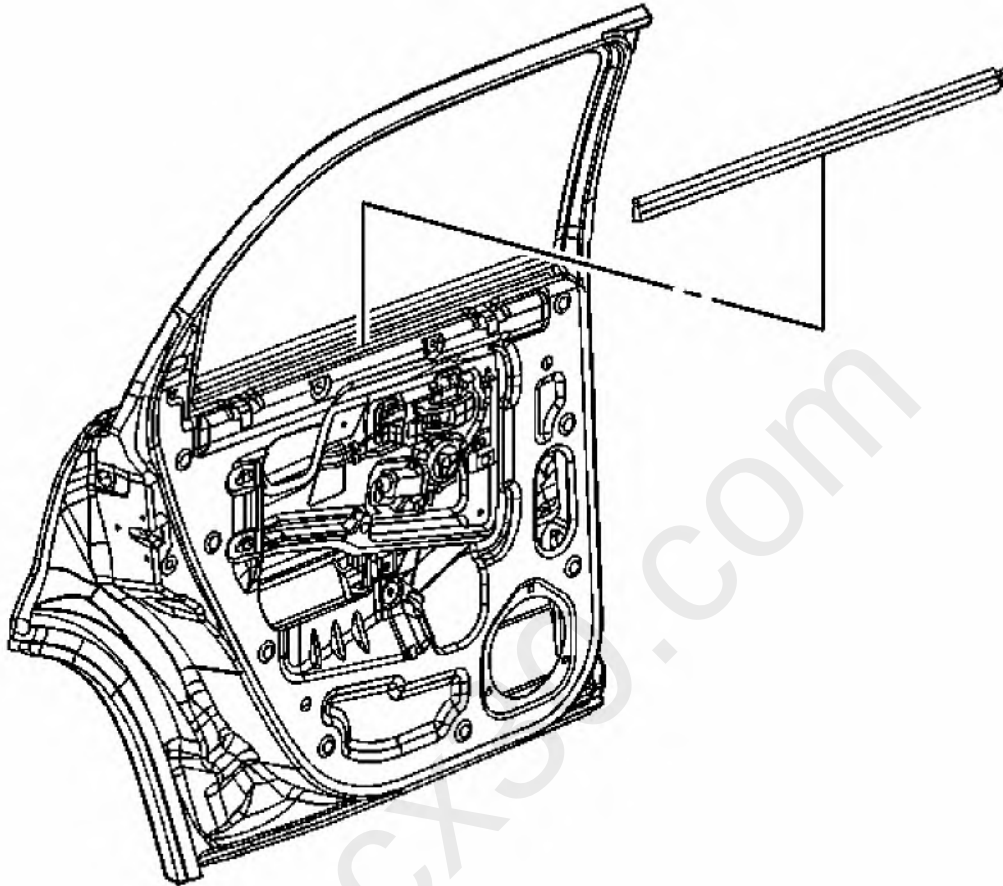


Fig. 138: View Of Inner Belt Seal (Rear Door)
Courtesy of GENERAL MOTORS CORP.

1. Install the inner belt seal.
2. Install the front door trim panel. Refer to **Trim Panel Replacement - Side Rear Door**.

WEATHERSTRIP REPLACEMENT - FRONT DOOR OPENING

Removal Procedure

1. Remove the front door carpet retainer. Refer to **Carpet Retainer Replacement - Front** in Interior Trim.
2. Remove the front door weatherstrip seal from the door flange by starting at the seal joint at the bottom of the door opening.

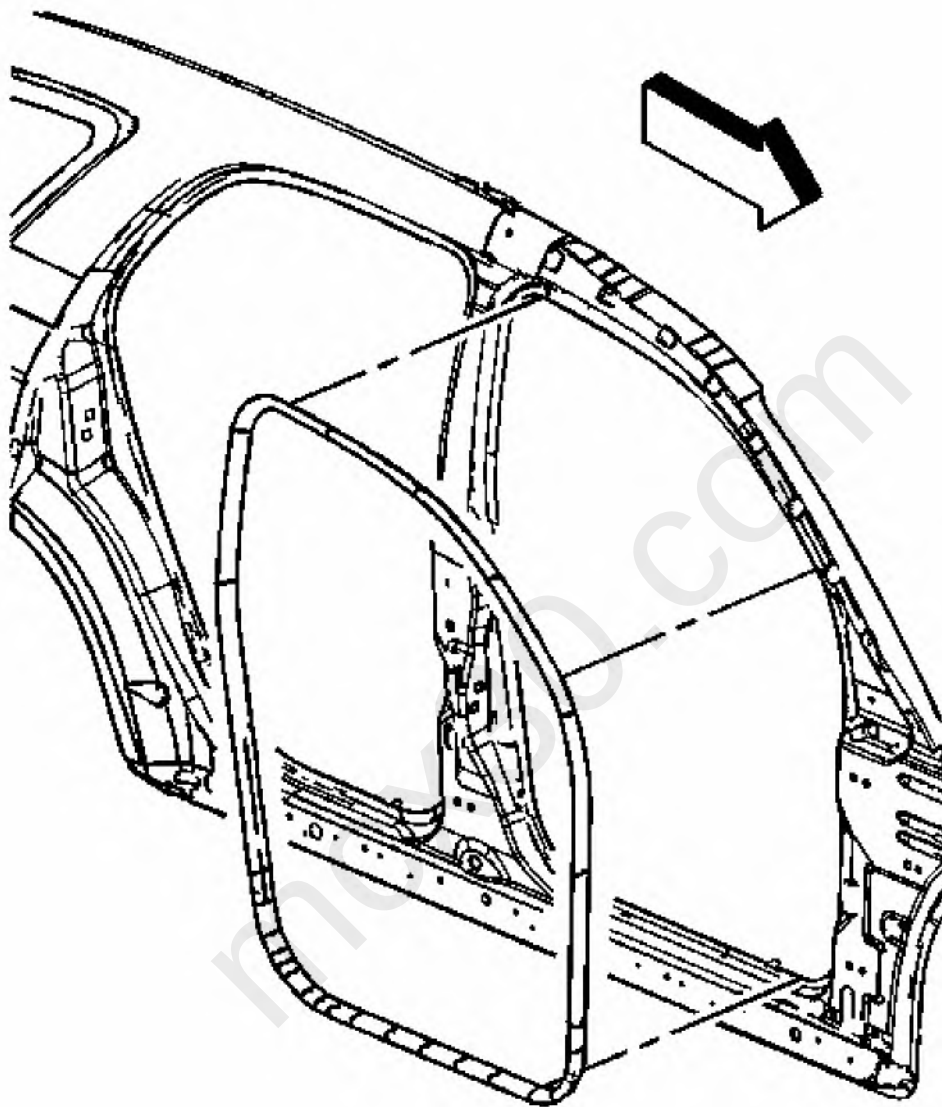


Fig. 139: View Of Front Door Opening Weatherstrip
Courtesy of GENERAL MOTORS CORP.

3. Separate the seal at the joint, note the position for installation.
4. Remove the seal from the door flange.

Installation Procedure

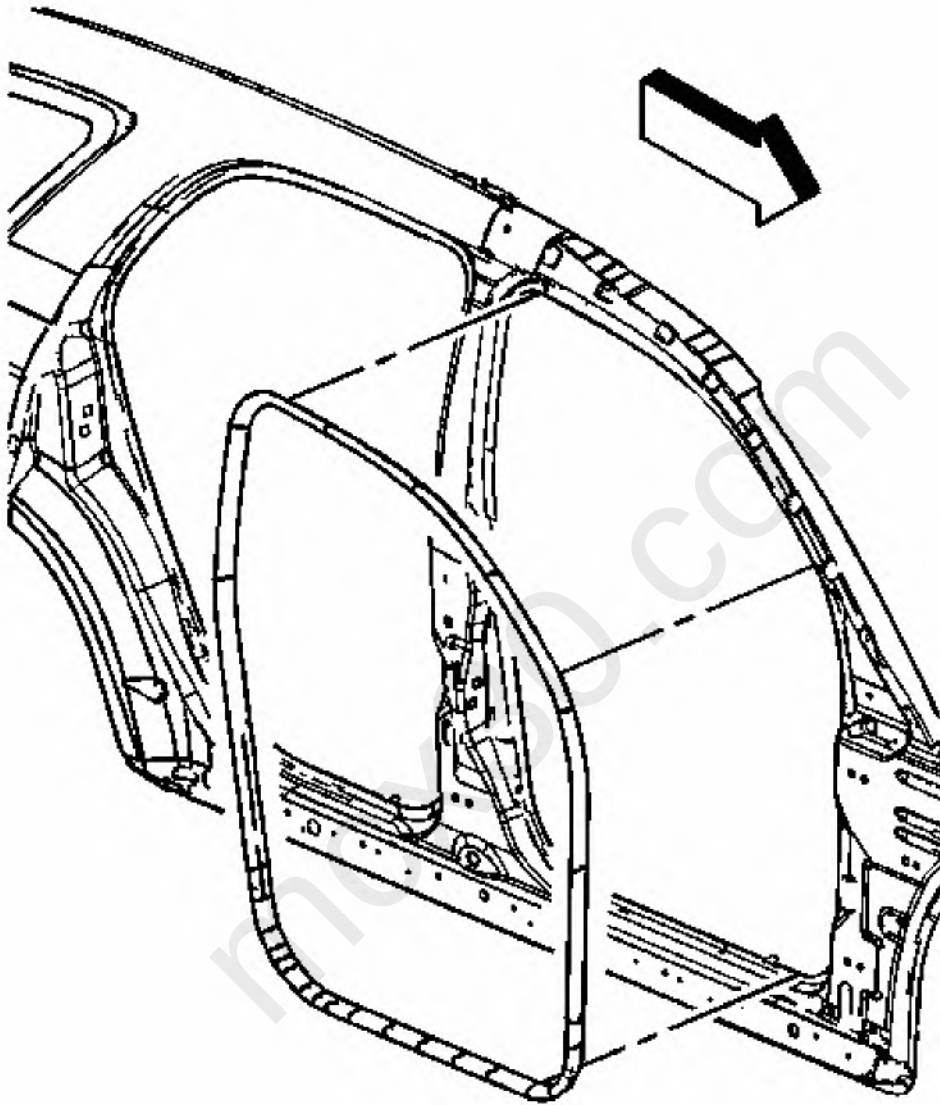


Fig. 140: View Of Front Door Opening Weatherstrip
Courtesy of GENERAL MOTORS CORP.

1. Position the seal over the flange in the position noted in the removal procedure.
2. Press the seal over the flange firmly to fully secure.
3. Locate an exposed end of the ripcord at the seal joint and pull the ripcord around the door opening. If the seal lip is positioned under any door trim, this process will bring the seal lip over the door trim and headliner.
4. Secure the seal lip under the end of the instrument panel.

5. Install the front door carpet retainer. Refer to **Carpet Retainer Replacement - Front** in Interior Trim.

WEATHERSTRIP REPLACEMENT - REAR DOOR OPENING

Removal Procedure

1. Remove the rear door carpet retainer. Refer to **Carpet Retainer Replacement - Rear** in Interior Trim.
2. Remove the rear door weatherstrip seal from the door flange by starting at the seal joint at the bottom of the door opening.

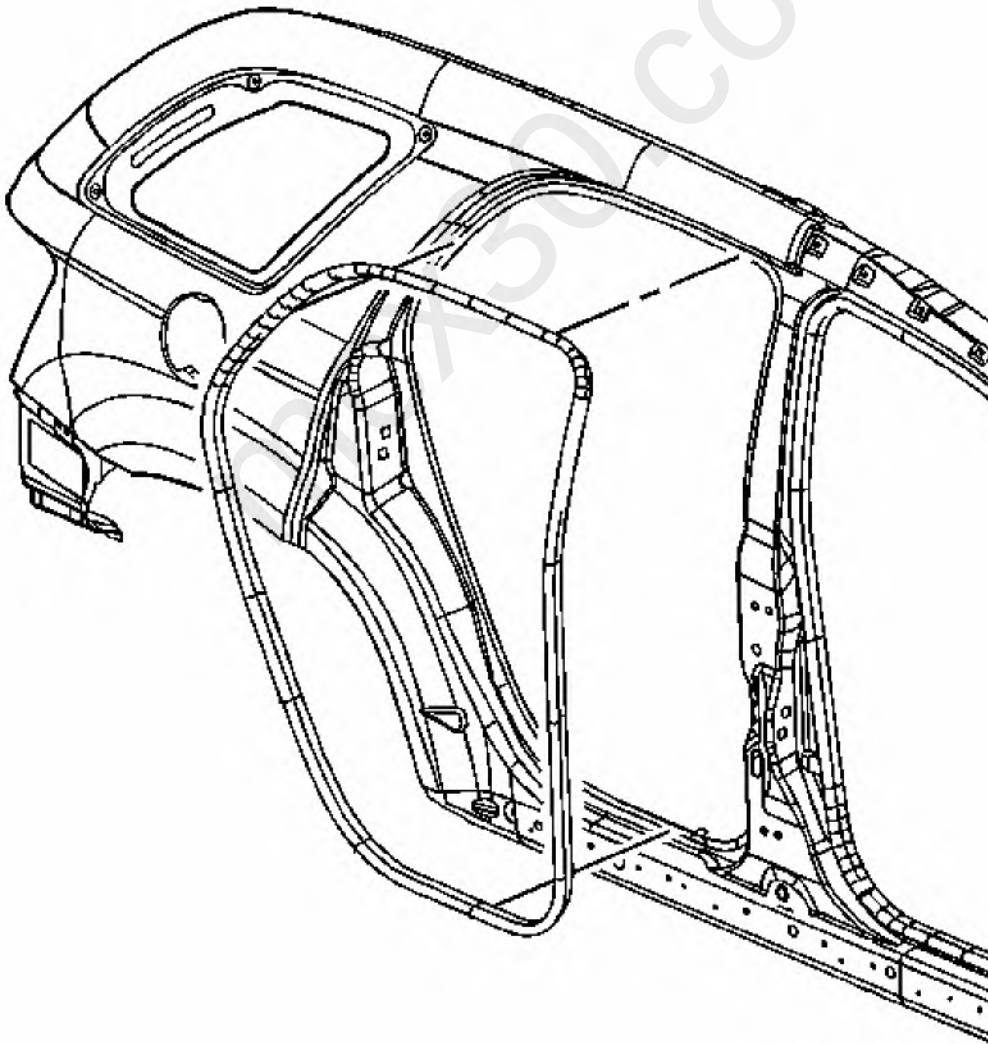


Fig. 141: View Of Rear Door Opening Weatherstrip
Courtesy of GENERAL MOTORS CORP.

3. Separate the seal at the joint, note the position for installation.
4. Remove the seal from the door flange.

Installation Procedure

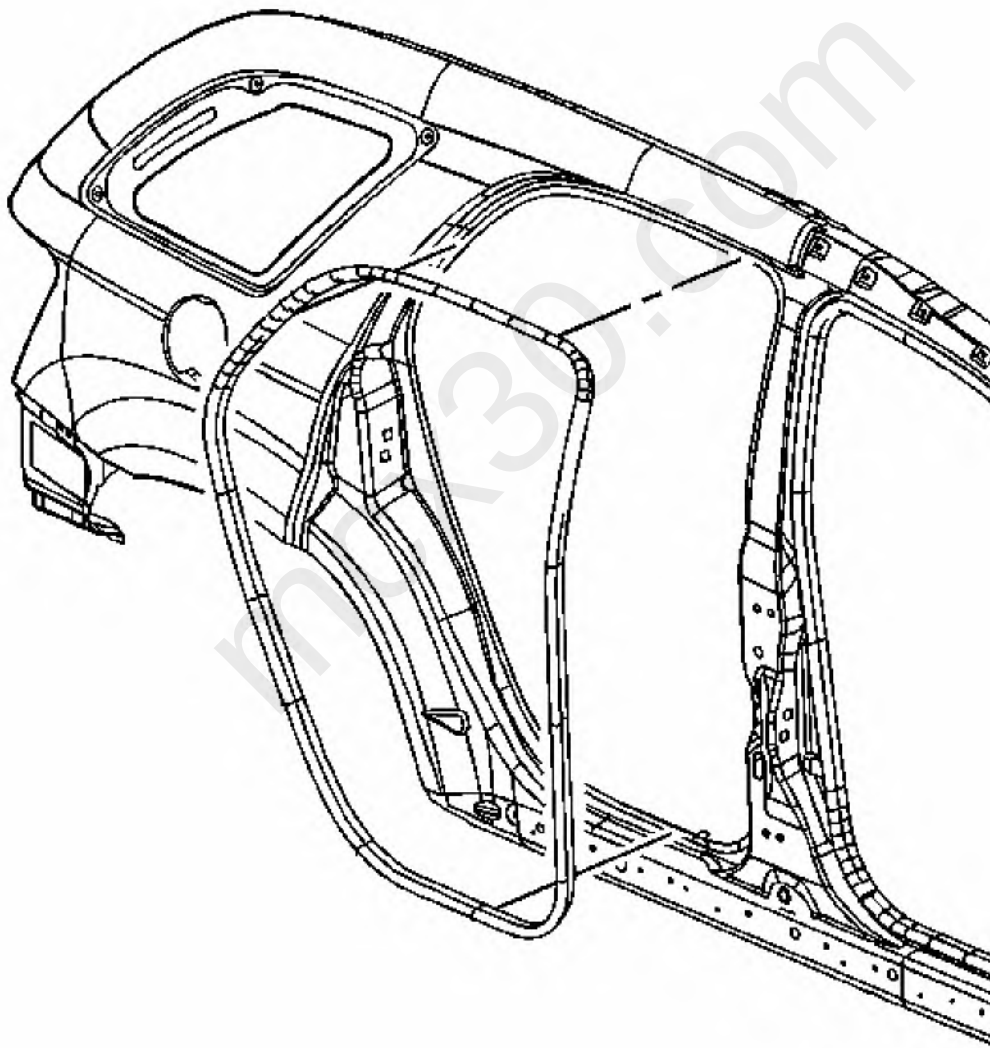


Fig. 142: View Of Rear Door Opening Weatherstrip
Courtesy of GENERAL MOTORS CORP.

1. Position the seal over the flange in the position noted in the removal procedure.

2. Press the seal over the flange firmly to fully secure.
3. Locate an exposed end of the ripcord at the seal joint and pull the ripcord around the door opening. If the seal lip is positioned under any door trim, this process will bring the seal lip over the door trim and headliner.
4. Install the rear door carpet retainer. Refer to **Carpet Retainer Replacement - Rear** in Interior Trim.

MIRROR REPLACEMENT

Removal Procedure

1. Remove the front door upper trim panel extension. Refer to **Trim Panel Replacement - Upper Extension**.

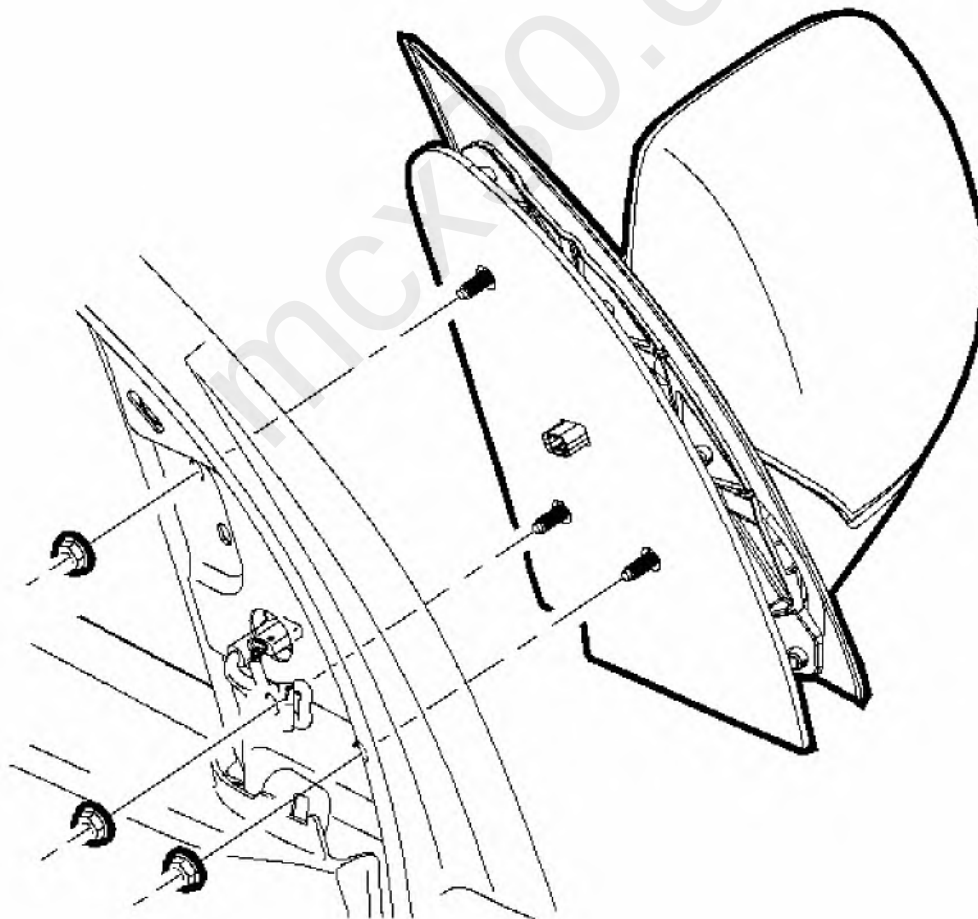


Fig. 143: View Of Mirror

Courtesy of GENERAL MOTORS CORP.

2. Disconnect the mirror electrical connector, if equipped.
3. Remove the mirror to door nuts.
4. Remove the mirror from the door.

Installation Procedure

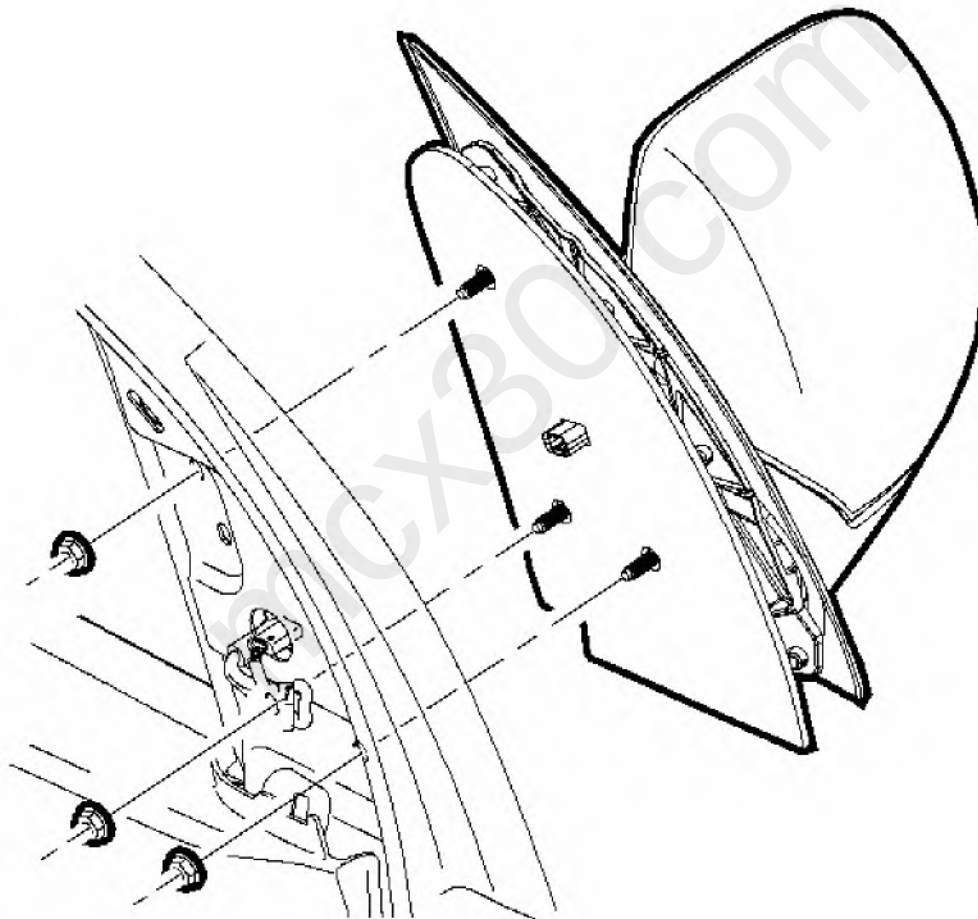


Fig. 144: View Of Mirror
Courtesy of GENERAL MOTORS CORP.

1. Position the mirror to the door.

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

2. Install the outside rearview mirror nuts.

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

3. Connect the electrical connector to the mirror, if equipped.
4. Inspect the operation of the mirror.
5. Install the front door upper trim panel extension. Refer to **Trim Panel Replacement - Upper Extension**.

GLASS REPLACEMENT - MIRROR

Removal Procedure

CAUTION: Refer to **Glass and Sheet Metal Handling Caution** in Cautions and Notices.

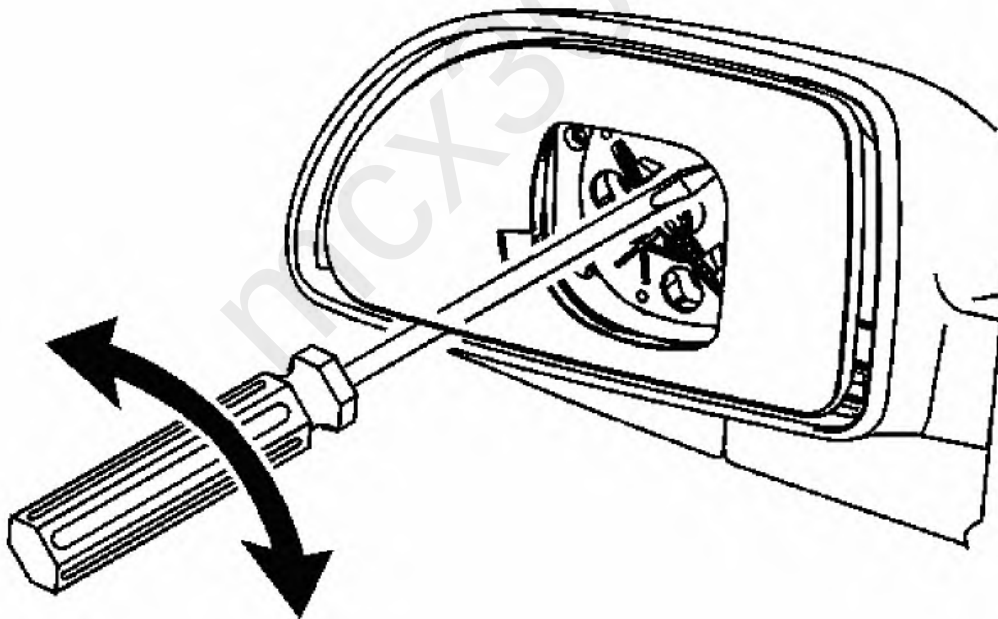


Fig. 145: View Of Glass Mirror
Courtesy of GENERAL MOTORS CORP.

1. Cover the mirror glass with tape.
2. Rotate mirror glass to expose the outer edge.
3. Insert a large flat-bladed tool into the slot between the mirror glass and mounting base.

4. Gently pry the mirror glass until the glass releases off the base.
5. Remove the glass.

Installation Procedure

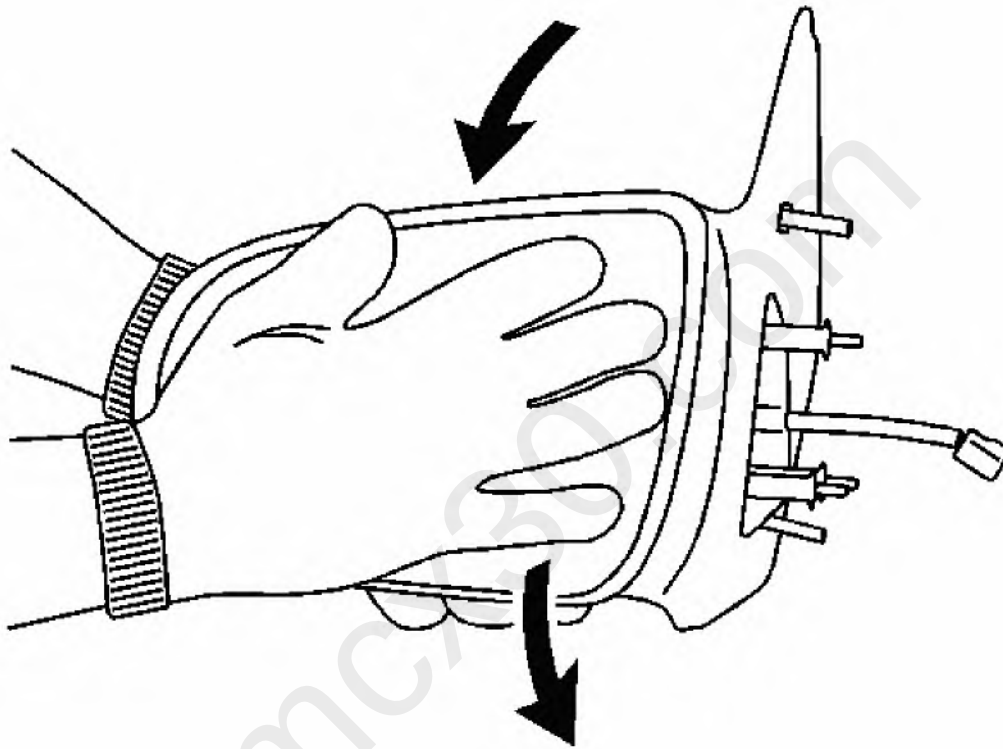


Fig. 146: Mirror Glass & Motor
Courtesy of GENERAL MOTORS CORP.

1. Align the new mirror glass with the mounting base.
2. Install the mirror glass to the mirror motor with the palm of the hand on the center of the glass, pressing in until fully seated.
3. Inspect the mirror for proper operation.

DESCRIPTION AND OPERATION

POWER WINDOWS DESCRIPTION AND OPERATION

Power Windows System Components

The power window system consists of the following components:

- Main power window switch-Controls the up and down operation of all power windows
- LR power window switch-Controls the up and down operation of the LR power window
- RR power window switch-Controls the up and down operation of the RR power window
- Window lockout switch-Part of the main power window switch and enables or disables rear power window operation from the rear window switches
- Power window motors in each of the doors
- PWR WDW 30 A fuse-Located in the underhood fuse block and provides voltage to the power window relay at all times
- Power window relay-Located in the underhood fuse block and provides voltage to the power window switches when the ignition is in ACC or RUN

Power Window System Controls

The power window system will operate any time the ignition is the ACC or RUN position. The main power window switch located in the console contains individual window switches for each of the power windows. All windows may be controlled up and down from the main power window switch. The individual rear passenger power window switches will only control the up and down operation of their respective power window.

Power Window Motor Operation

Each power window contains a reversible power window motor. The direction the window travels is dependent upon the polarity of the supply voltage. By reversing polarity of the supply voltage the window motor will move up or down. Each power window motor is internally circuit breaker protected.

Main Power Window/Switch Operation

Battery voltage is supplied to the main power window switch through the accessory voltage supply circuit. The main power window switch also receives a constant ground source. The power window motor control circuits are connected to ground through the normally closed up and down contacts of the main power window switch. When the main power window switch is placed in the down position, the power window motor down control circuit is switched to 12 volts which is applied to the down side of the power window motor. Since the other side of the power window motor is connected to ground through the normally closed contacts of the up switch, the window travels down. By placing the power window switch in the up position, the polarity of the power window motor is reversed and the window travels up.

Driver Power Window Express Down Operation

If the driver power window switch is pressed momentarily in the down position past the first

detent, the window will express down to the full open position when the switch is released. To cancel the express down operation, momentarily press the driver power window to the up position.

Rear Passenger Power Window/Switch Operation

The rear passenger power window switches receive battery voltage through the power window master switch lockout signal circuit when the window lockout function is disabled. Ground for the rear passenger power window motors is supplied through the normally closed up and down contacts of both rear passenger power window switches and the main power window switch. When either rear passenger power window switch is placed in the down position, the power window motor down control circuit is switched to 12 volts which is applied to the down side of the rear passenger power window motor. Since the other side of the rear passenger power window motor is connected to ground through the normally closed up contacts of both the rear passenger and main power window switches, the window travels down. By placing the rear passenger power window switch in the up position, the polarity of the power window motor is reversed and the window travels up.

The rear passenger power windows can also be controlled from the main power window switches.

Power Window Lockout Operation

The main power window switch contains a window lockout switch. The window lockout switch completes or interrupts the window lockout control circuit. If the window lockout switch is enabled, there is no voltage available at the rear power window switches and the rear power windows will not operate from the rear power window switches. The rear power windows will operate from the console power window switches.

POWER DOOR LOCKS DESCRIPTION AND OPERATION

Door Lock System Components

The power door lock system consists of the following components:

- Driver door lock switch-Provides a switched voltage signal to the body control module (BCM) for both lock and unlock switch activations
- Front passenger door lock switch-Provides a switched voltage signal to the BCM for both lock and unlock switch activations
- Door lock relay-Located in the instrument panel (I/P) fuse block and controls the locking of all doors and liftgate
- Door unlock relay-Located in the I/P fuse block and controls the unlocking of the passenger doors and liftgate
- Driver door unlock relay-Located in the I/P fuse block and controls the unlocking of the driver door

- BCM-Class 2 module which requires programming when replaced
- Reversible door lock actuators in each of the doors
- LOCK/MIRROR 10 A fuse-Located in the I/P fuse block, supplies power for the door lock switches and relays
- DR LCK 20 A fuse-Located in the I/P fuse block, supplies power to the relays

Door Lock System Controls

The power door lock system can be controlled by any of the following:

- Power door lock switch activation
- Keyless entry lock or unlock command
- Delayed locking command
- Automatic door lock command
- Lockout prevention command
- An air bag deployment

Door Lock and Unlock Operation

When a door lock switch is activated in the lock or unlock position the BCM will receive a voltage signal on either the door lock switch lock or unlock signal circuits.

The BCM, upon receipt of a lock switch lock or unlock signal, will switch the appropriate lock relay control circuit(s) to battery positive voltage. This will energize the appropriate lock or unlock relay(s). The relay will supply voltage to the door lock actuator lock or unlock control circuits to one side of the lock actuator. Since the opposing side of the lock actuators are connected to ground through the other lock actuator control circuit and the normally closed contacts of the lock or unlock relay, the doors and liftgate will then lock or unlock appropriately.

Three relays are used to operate the lock. Driver door unlock, passenger door unlock and all door lock. This is done to isolate the driver door lock actuator so it can be unlocked by itself using the keyless entry transmitter.

Automatic Door Lock Operation

This body control module (BCM) controlled feature can be personalized to driver preference. Refer to **Power Door Systems Connector End Views** and **Vehicle Personalization** in Personalization.

The BCM will automatically lock the vehicle doors if the following conditions exist:

- All vehicles doors are closed.

- The ignition is in the ON position.
- The vehicle is shifted out of PARK.

The BCM will then unlock the doors when the ignition is placed in the OFF position.

Delayed Locking Operation

With any door open and a door lock switch is activated in the lock position, the body control module (BCM) will give three audible chimes. When the door is closed, the BCM will cycle the internal door lock relay to lock the doors after approximately five seconds. This feature can be overridden by activating the door lock switch a second time and the doors will lock even with a door open.

Lockout Prevention Operation

The body control module (BCM) will lock all doors and unlock the driver door with a door lock switch lock activation if a vehicle door is open and the ignition key is fully inserted in the ignition. The lockout prevention feature can be overridden if a lock command is received from the keyless entry system.

Unlock After Air Bag Deployment

This feature will unlock all of the vehicle doors 15 seconds after an air bag deployment.

DOOR AJAR INDICATOR DESCRIPTION AND OPERATION**Door Ajar Indicator System Components**

The door ajar indicator system consists of the following components:

- The body control module (BCM)
- The instrument panel cluster (IPC)
- The driver information center (DIC)
- The driver door jamb switch
- The passenger door jamb switch
- The left rear door jamb switch
- The right rear door jamb switch
- The liftgate actuator/ajar switch

Driver and Passenger Door Ajar Operation

The body control module (BCM) receives a discrete input from the respective jamb switch to indicate the status of the door. The BCM then communicates this status to the instrument panel cluster (IPC) via a class 2 message. The IPC, upon receipt of this class 2 message, will

illuminate the appropriate ajar message in the driver information center (DIC) and also send a class 2 message to the radio to activate the door ajar audible warning when the following conditions are met:

- The transmission is removed from PARK.
- The vehicle speed is greater than 8.05 km/h (5 mph).

OUTSIDE MIRROR DESCRIPTION AND OPERATION

Power Mirror System Components

The power mirror system consists of the following components:

- Mirror direction switch-Controls the left, right, up and down movements of the mirrors
- Mirror select switch-Allows the operator to select the mirror to be moved
- Left outside mirror-Contains both the horizontal and vertical mirror motors
- Right outside mirror-Contains both the horizontal and vertical mirror motors
- LOCK/MIRROR 10 A fuse-Located in the instrument panel (I/P) fuse block and supplies power for the power mirror system

Each of the outside power mirrors contains 2 motors. The up-down motor operates the vertical directions and the left-right motor operates the horizontal directions. Each of the power mirror motors are internally circuit breaker protected.

Power Mirror System Controls

The outside mirror switch incorporates a mirror select switch and a 4 position mirror direction switch.

The mirror select switch allows the driver to select the mirror to be moved by pressing the switch to L position enabling the left outside mirror or pressing the switch to R position enabling the right outside mirror.

The mirror direction switch is a 4 position switch that allows the operator to move the selected mirror up, down, left or right.

Power Mirror System Operation

The outside mirror switch receives power through the battery positive voltage circuit from the LOCK/MIRROR 10 A fuse in the instrument panel (I/P) fuse block. The outside mirror switch also receives a constant ground.

The 4 positions of the direction switch have multiple switch contacts. When not in use, the directional contacts are isolated from any circuit. Each of the contacts are connected to opposing sides of the appropriate mirror motors through the selector switch. The selector

switch interrupts or completes these circuits depending on the position of the selector switch, L or R.

If the mirror select switch is placed in the L position and the up switch is pressed, battery voltage will be supplied to the driver outside mirror vertical motor through the driver mirror motor up control circuit and return to the mirror switch through the driver mirror motor left/down control circuit, then to ground and the mirror will move up. If the down switch is pressed, the driver mirror motor left/down control circuit supplies battery voltage and the driver mirror motor up control circuit completes the path to the mirror switch, then to ground and the mirror will move down.

The remainder of the mirror functions operate in the same manner as described above. Placing the mirror direction switch in opposing positions, left/right or up/down, will reverse the voltage polarity to the mirror motor, utilizing the same circuits and the mirror will move accordingly.