

2004 Cadillac SRX

2004 ACCESSORIES & EQUIPMENT Doors - SRX

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Doors - SRX

SPECIFICATIONS

FASTENER TIGHTENING SPECIFICATIONS

Fastener Tightening Specifications

Application	Specification	
	Metric	English
Check Link Fasteners	9 N.m	80 lb in
Door Latch Screws	10 N.m	90 lb in
Door Striker Screws	28 N.m	21 lb ft
Door Trim Panel Screws	1 N.m	9 lb in
Hinge-to-Body Bolts	25 N.m	18 lb ft
Hinge-to-Door Bolts	25 N.m	18 lb ft
Inside Door Handle Fasteners	2 N.m	18 lb in
Mirror Nuts	9 N.m	80 lb in
Outside Door Handle Bolts	5 N.m	44 lb in
Rear Stationary Window Division Post Bolt	9 N.m	80 lb in
Upper Auxiliary Molding Screws	2 N.m	18 lb in
Window Clamp Nuts	11 N.m	95 lb in
Window Regulator Bolts	9 N.m	80 lb in

SCHEMATIC AND ROUTING DIAGRAMS

POWER WINDOW SCHEMATICS

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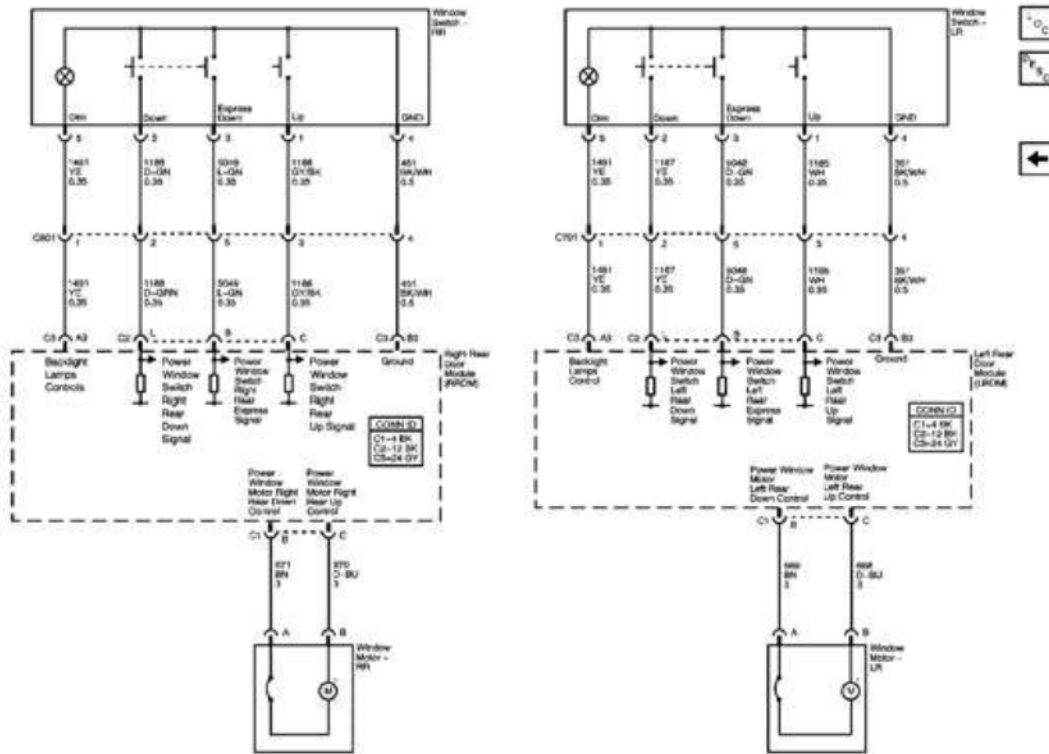


Fig. 2: Rear Power Windows Schematic
 Courtesy of GENERAL MOTORS CORP.

DOOR LOCK/INDICATOR SCHEMATICS

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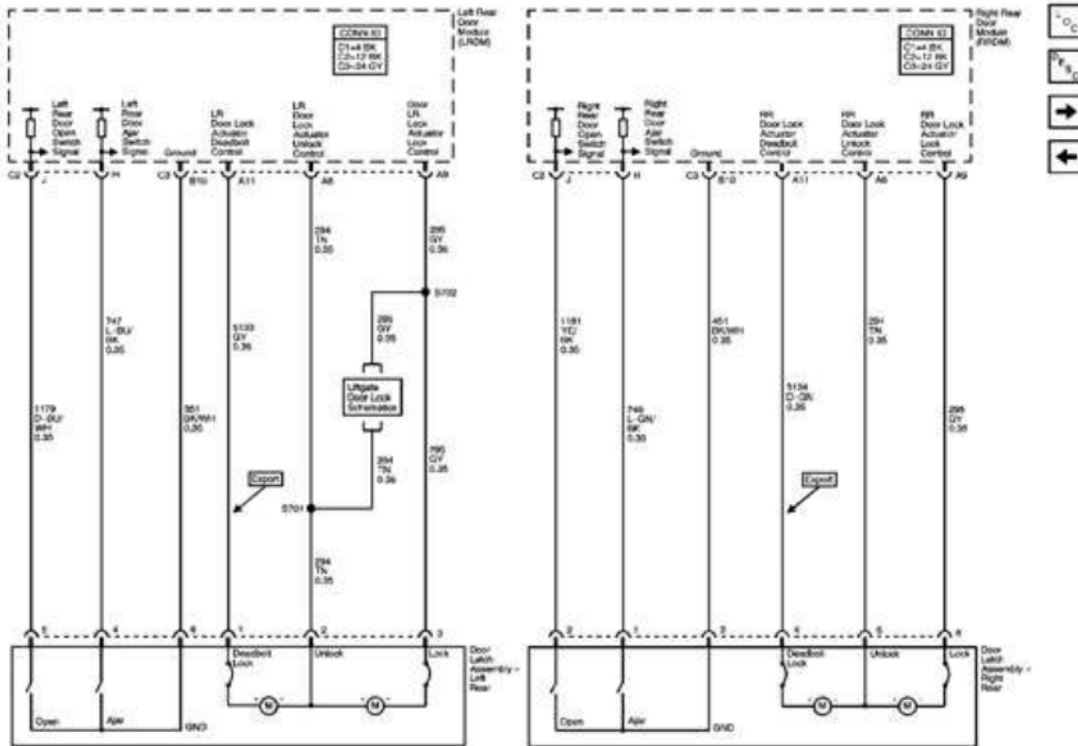
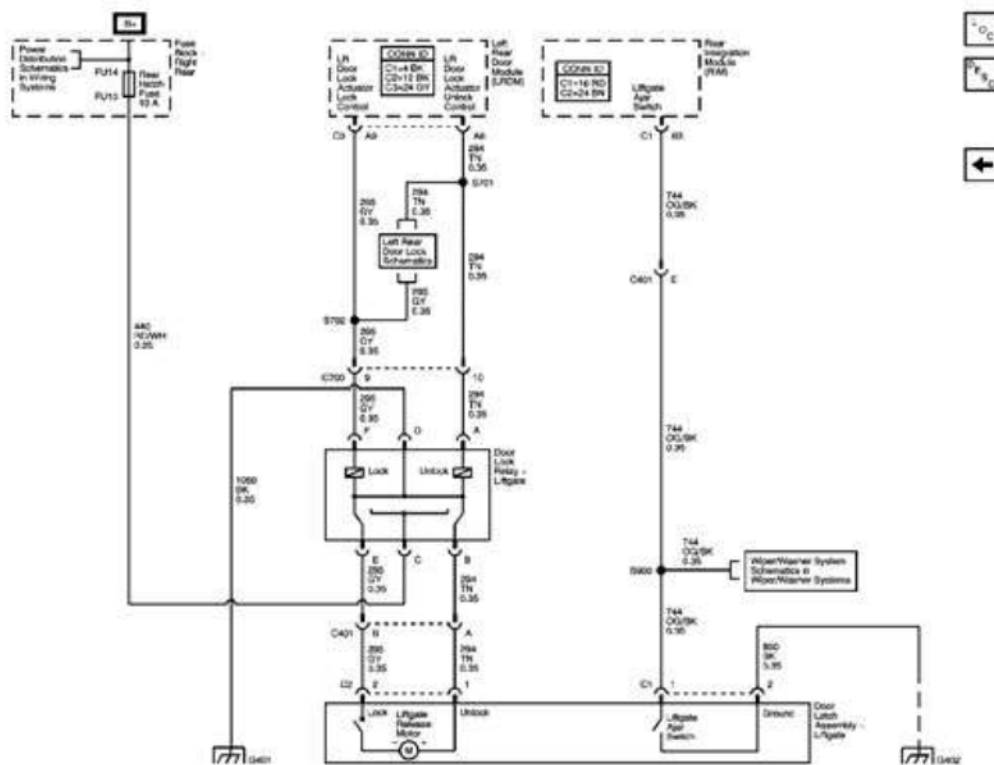


Fig. 5: Left Rear & Right Rear Door Lock Schematic
 Courtesy of GENERAL MOTORS CORP.

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OUTSIDE MIRROR SCHEMATICS

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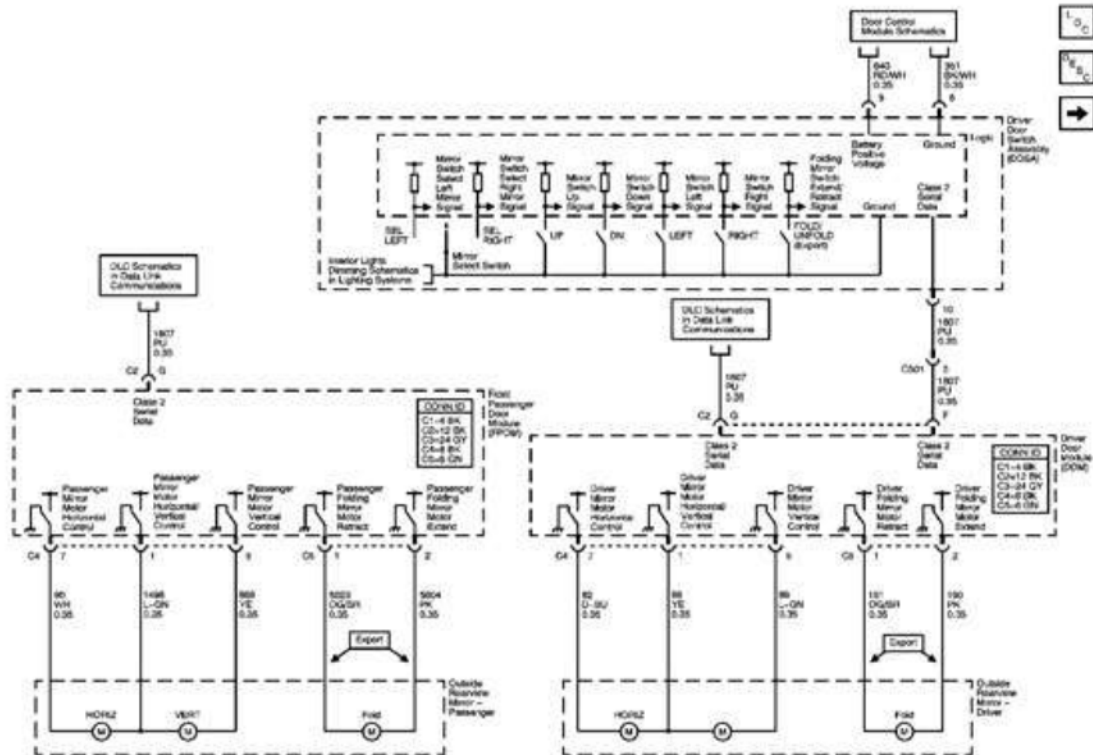


Fig. 7: Driver & Passenger Power Outside Mirrors (w/o A45) Schematic
 Courtesy of GENERAL MOTORS CORP.

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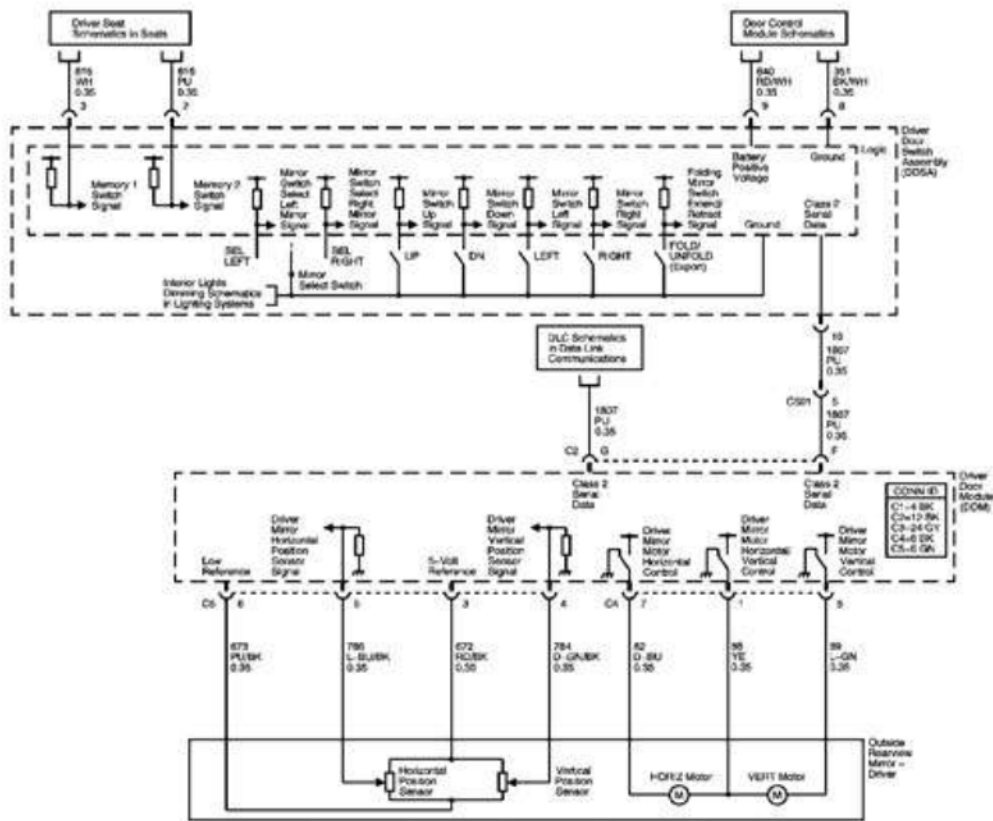


Fig. 8: Driver Power Outside Mirror (A45) Schematic
 Courtesy of GENERAL MOTORS CORP.

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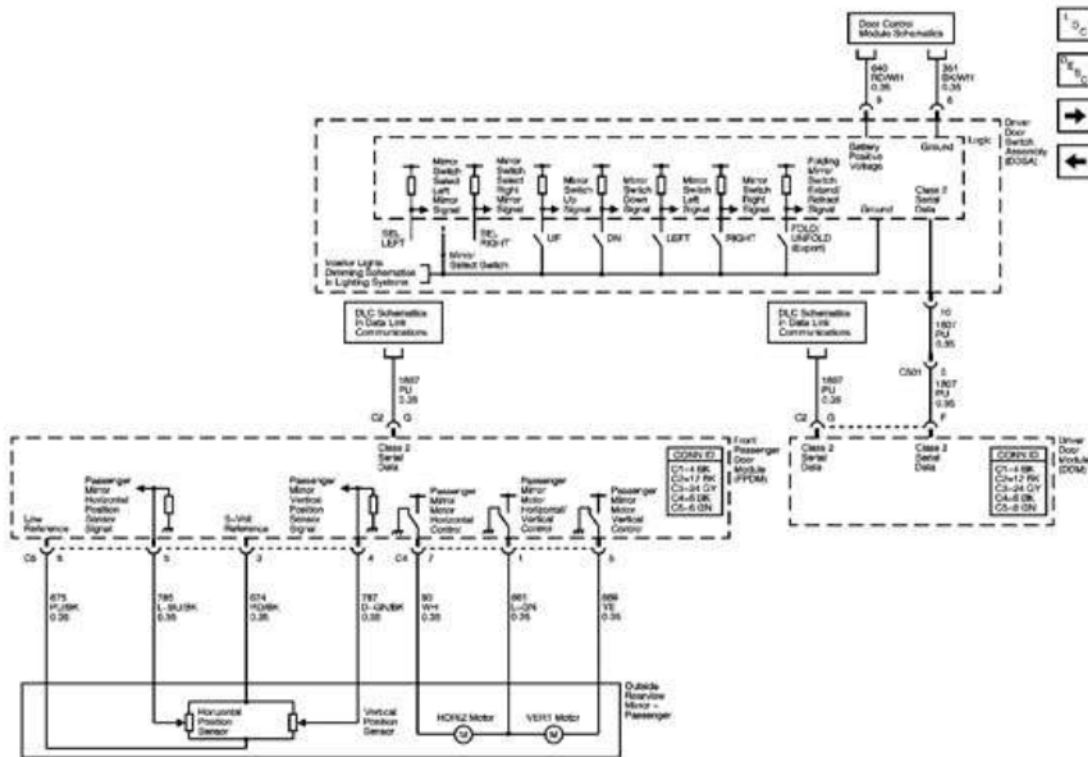


Fig. 9: Front Passenger Power Outside Mirror (A45) Schematic
 Courtesy of GENERAL MOTORS CORP.

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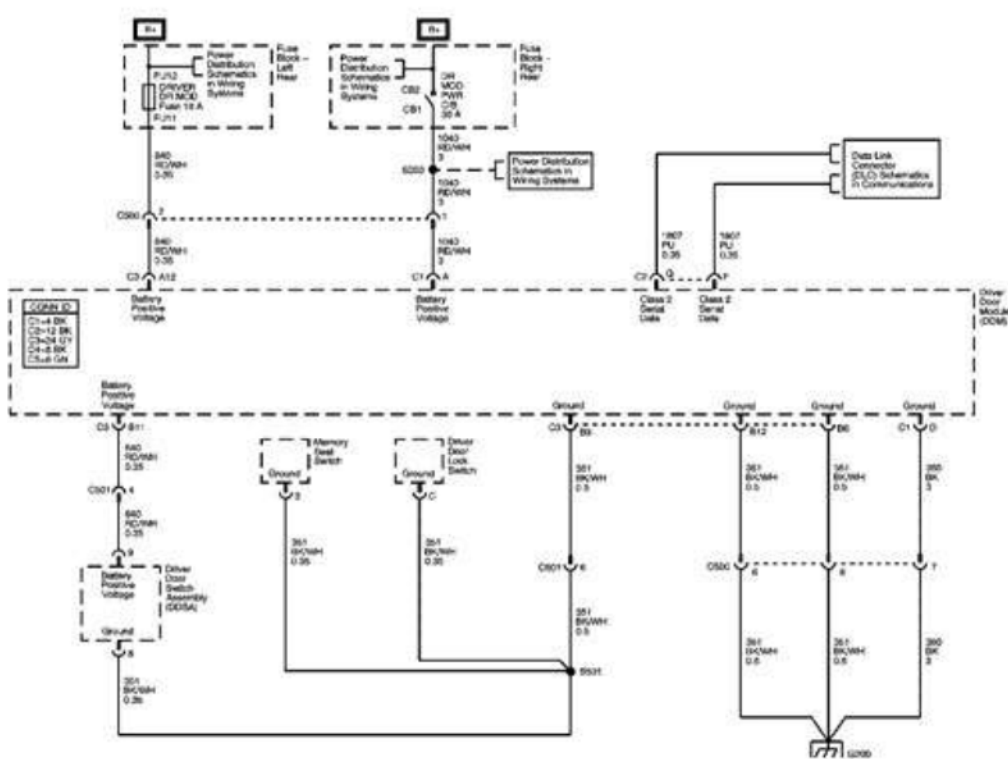


Fig. 11: DDM Power, Ground & Serial Data Schematic
 Courtesy of GENERAL MOTORS CORP.

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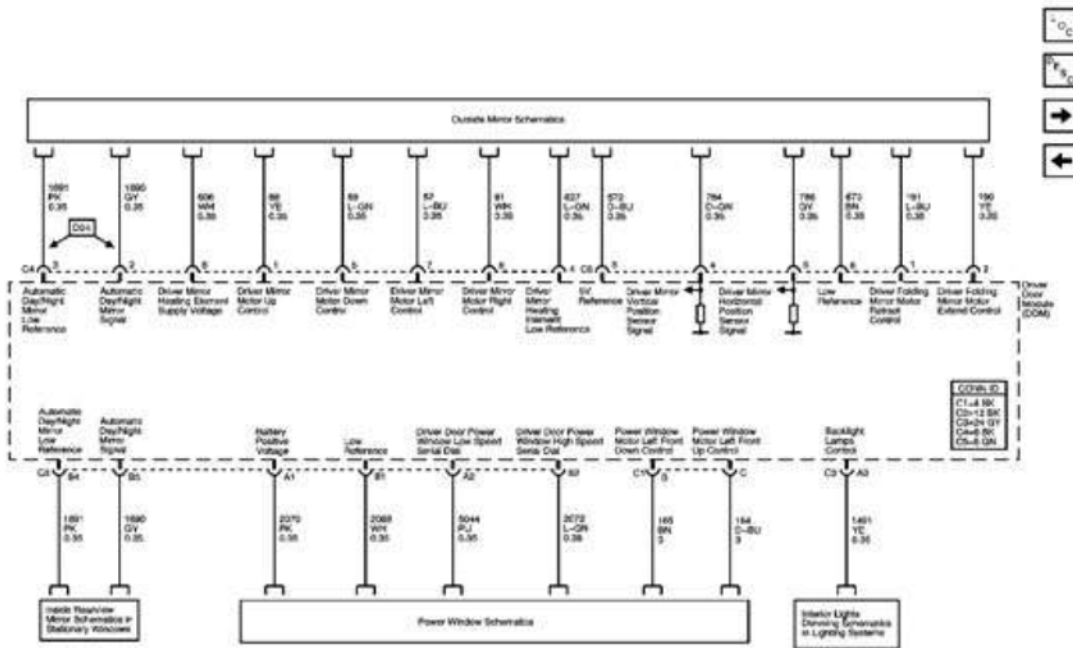


Fig. 12: DDM Signals/Controls Schematic - 1 Of 2
Courtesy of GENERAL MOTORS CORP.

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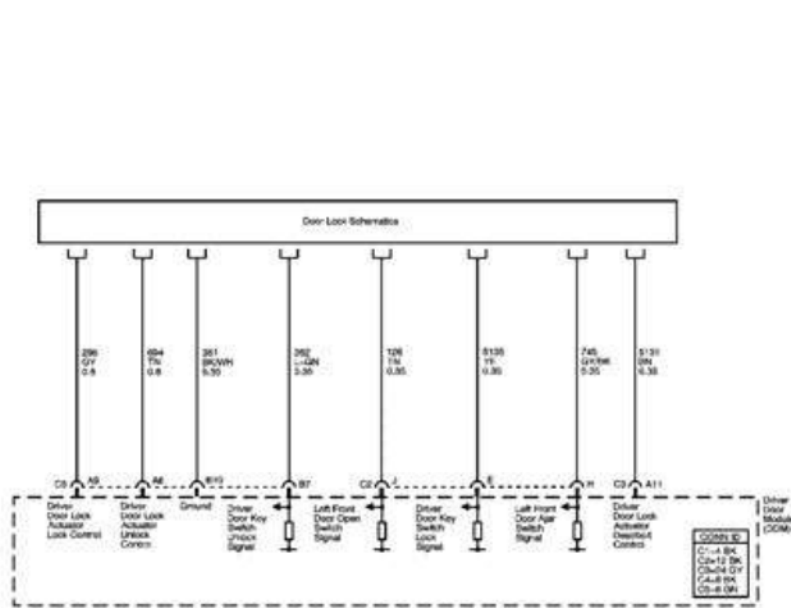


Fig. 13: DDM Signals/Controls Schematic - 2 Of 2
 Courtesy of GENERAL MOTORS CORP.

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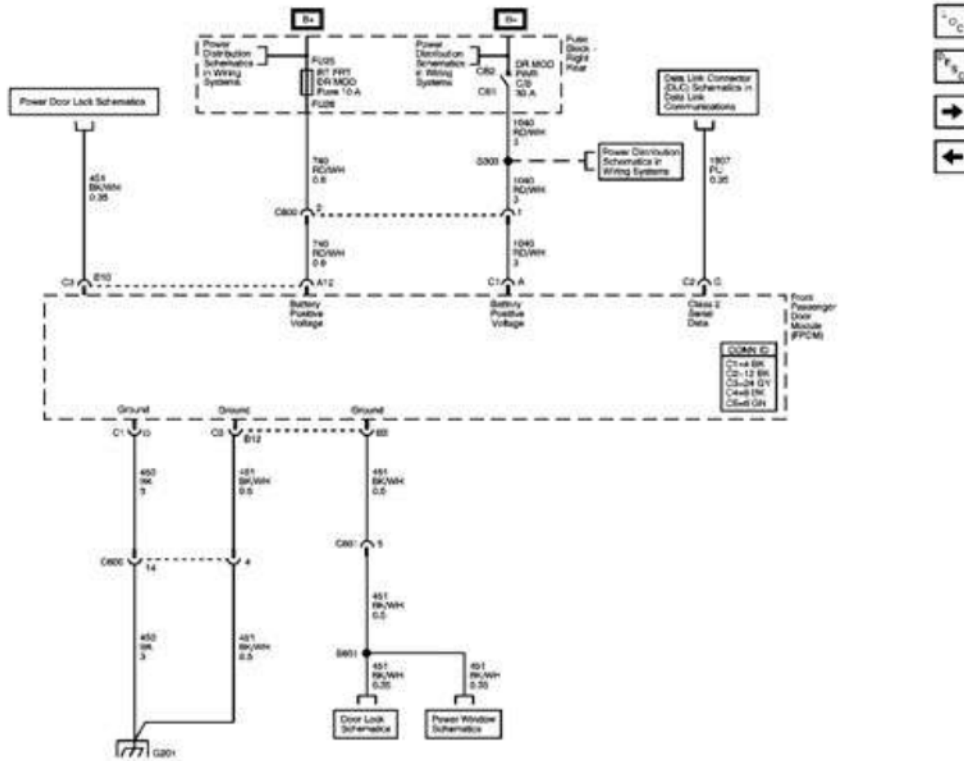


Fig. 14: FPDM Power, Ground & Serial Data Schematic
 Courtesy of GENERAL MOTORS CORP.

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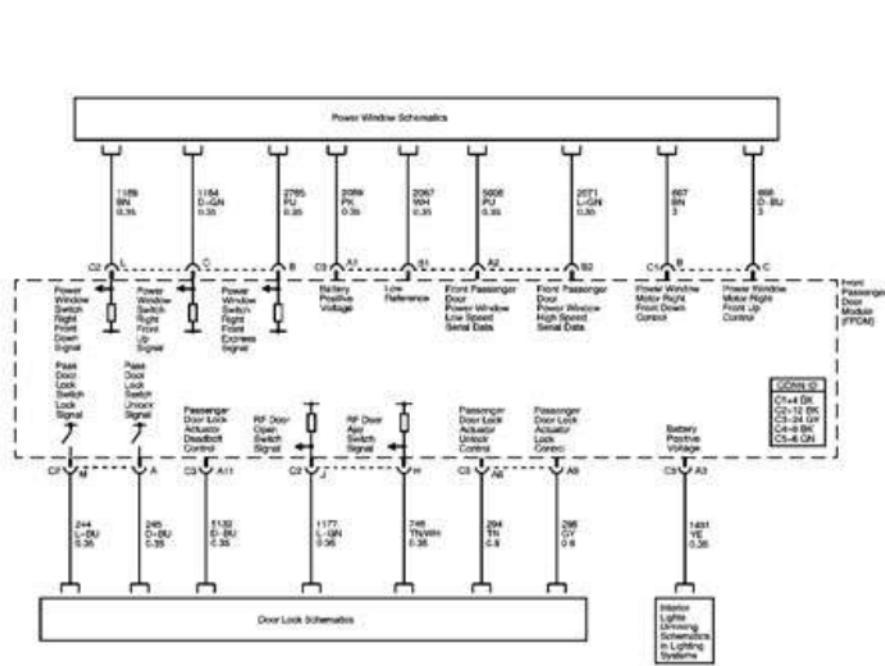


Fig. 15: FPDM Signals/Controls Schematic - 1 Of 2
 Courtesy of GENERAL MOTORS CORP.

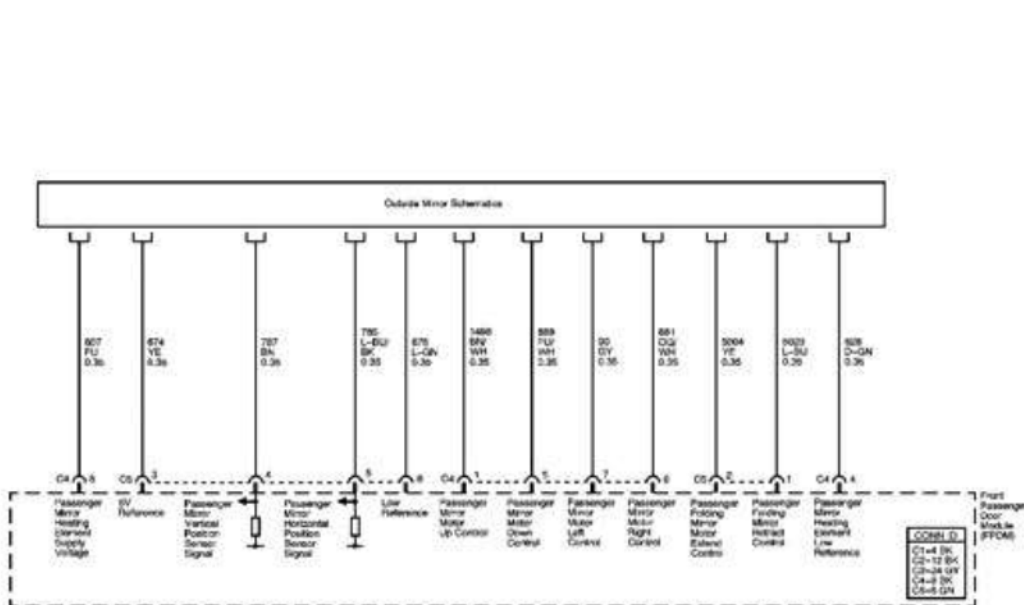


Fig. 16: FPDm Signals/Controls Schematic - 2 Of 2
 Courtesy of GENERAL MOTORS CORP.

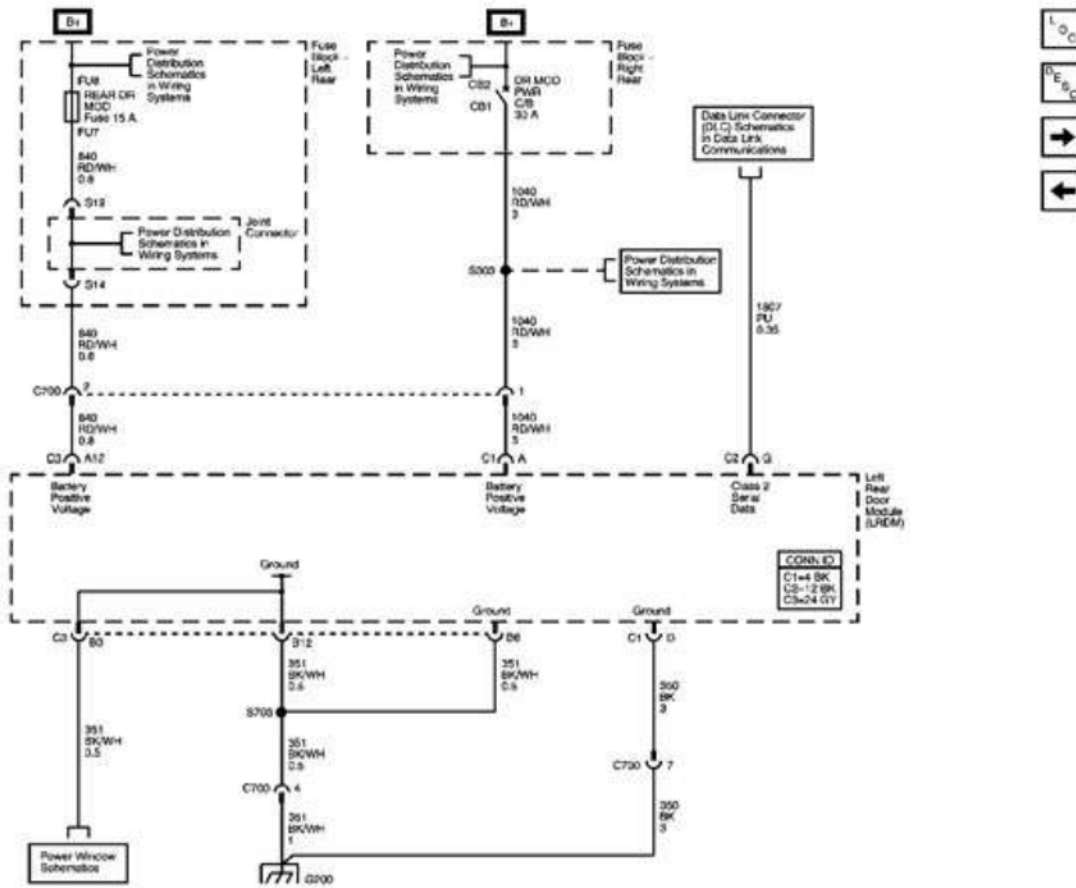


Fig. 17: LRDM Power, Ground & Serial Data Schematic
 Courtesy of GENERAL MOTORS CORP.

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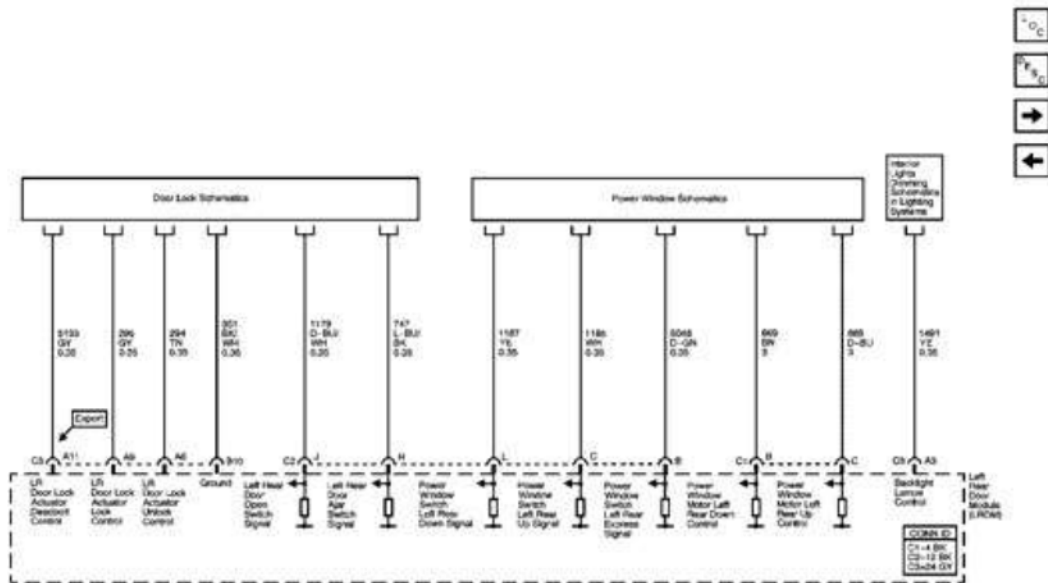
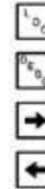


Fig. 18: LRDM Signals/Controls Schematic
Courtesy of GENERAL MOTORS CORP.

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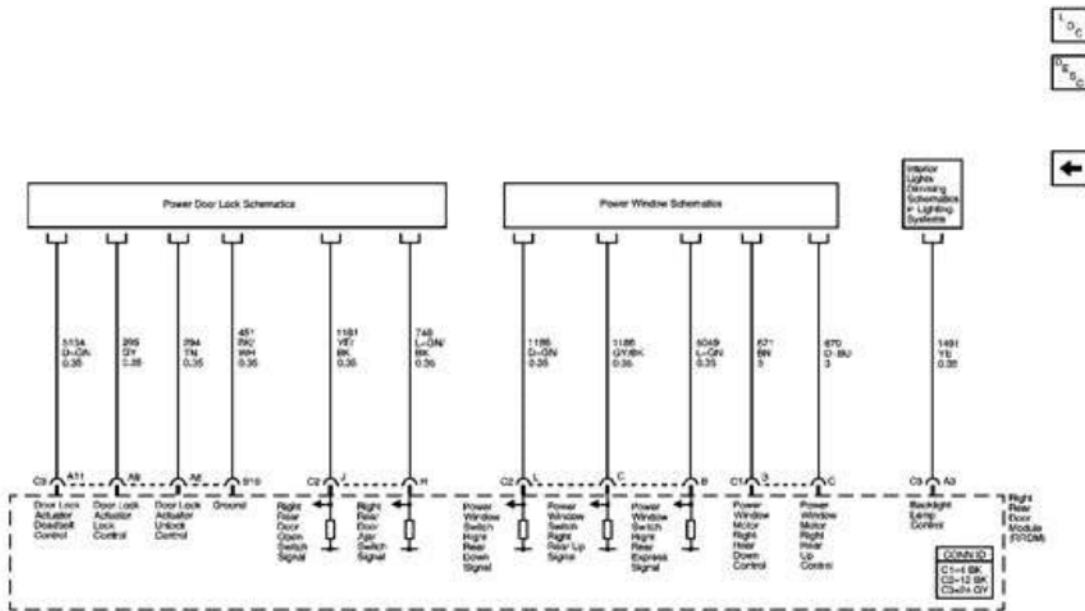


Fig. 20: RRDM Signals/Controls Schematic
Courtesy of GENERAL MOTORS CORP.

COMPONENT LOCATOR

POWER DOOR SYSTEMS COMPONENT VIEWS

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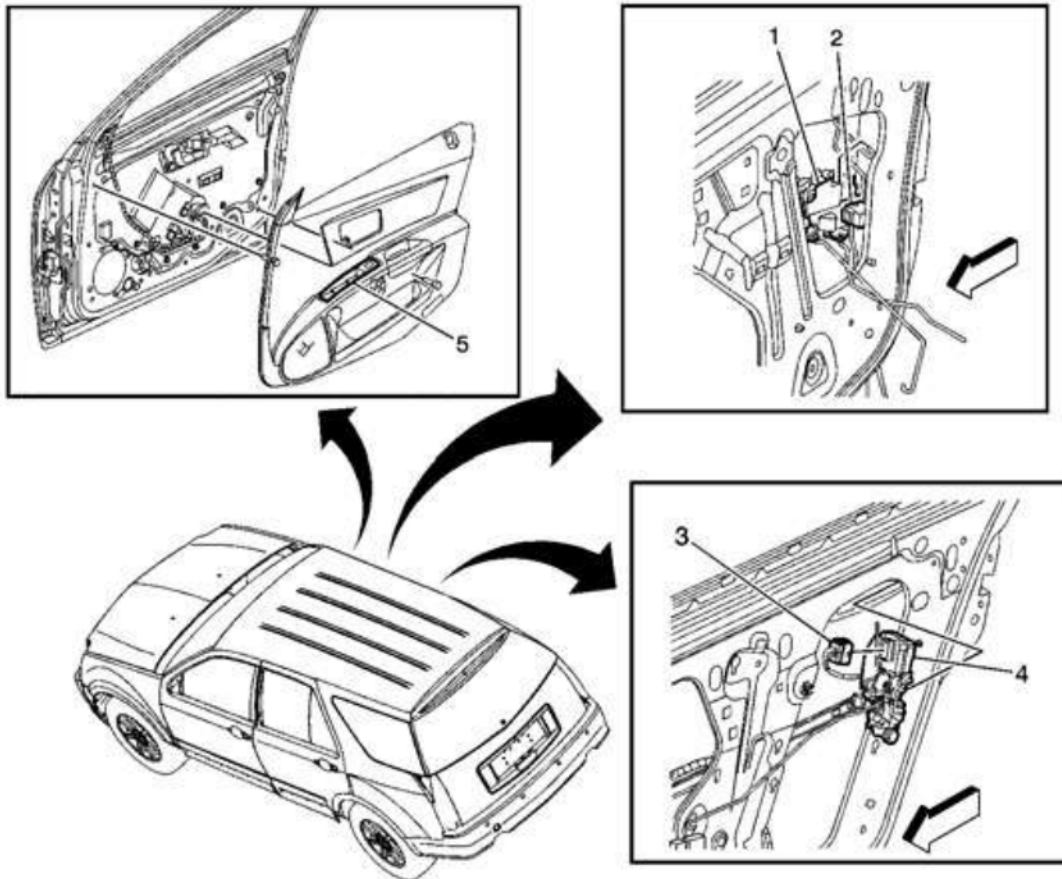


Fig. 21: Right Doors Component View
Courtesy of GENERAL MOTORS CORP.

Callouts For Fig. 21

Callout	Component Name
1	Door Latch Assembly - Front Passenger, Driver Similar
2	Door Latch Assembly - Front Passenger Connector
3	Door Latch Assembly - RR Connector
4	Door Latch Assembly - RR, LR Similar
5	Window Switch - Front Passenger

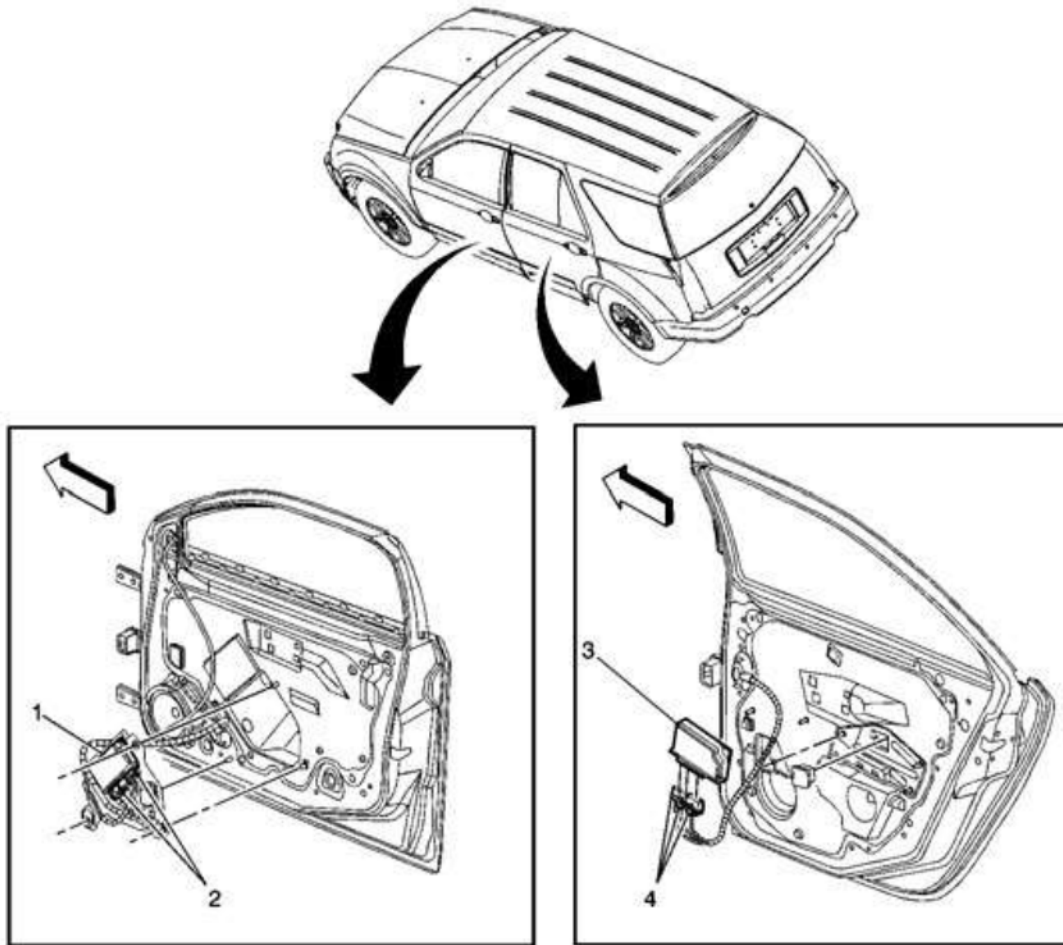


Fig. 22: Right Door Modules Component View
Courtesy of GENERAL MOTORS CORP.

Callouts For Fig. 22

Callout	Component Name
1	Right Front Door Module (RFDM) - LFDM Similar
2	RFDM Connectors - LFDM Similar
3	Right Rear Door Module (RRDM) - LRDM Similar
4	RRDM Connectors - LRDM Similar

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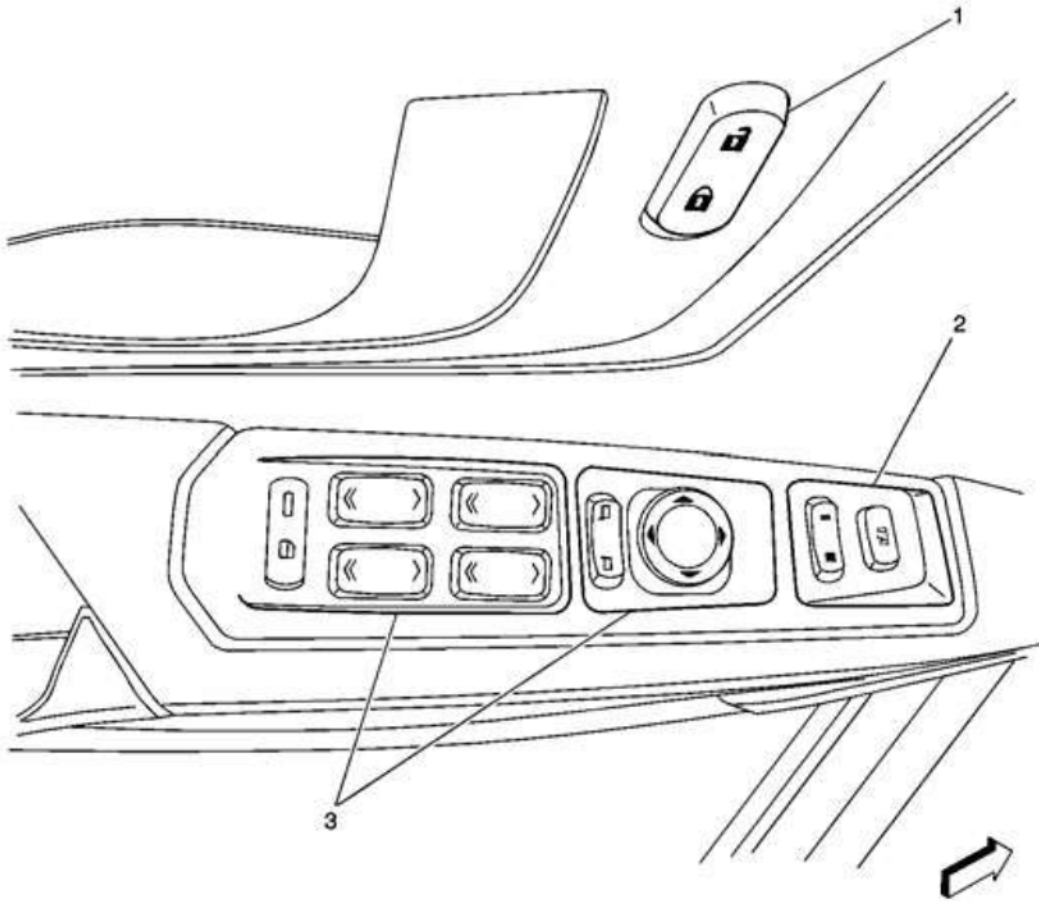


Fig. 23: Driver Door Switches Component View
Courtesy of GENERAL MOTORS CORP.

Callouts For Fig. 23

Callout	Component Name
1	Door Lock Switch - Driver, Passenger Similar
2	Memory Seat Switch (A45)
3	Driver Door Switch Assembly (DDSA)

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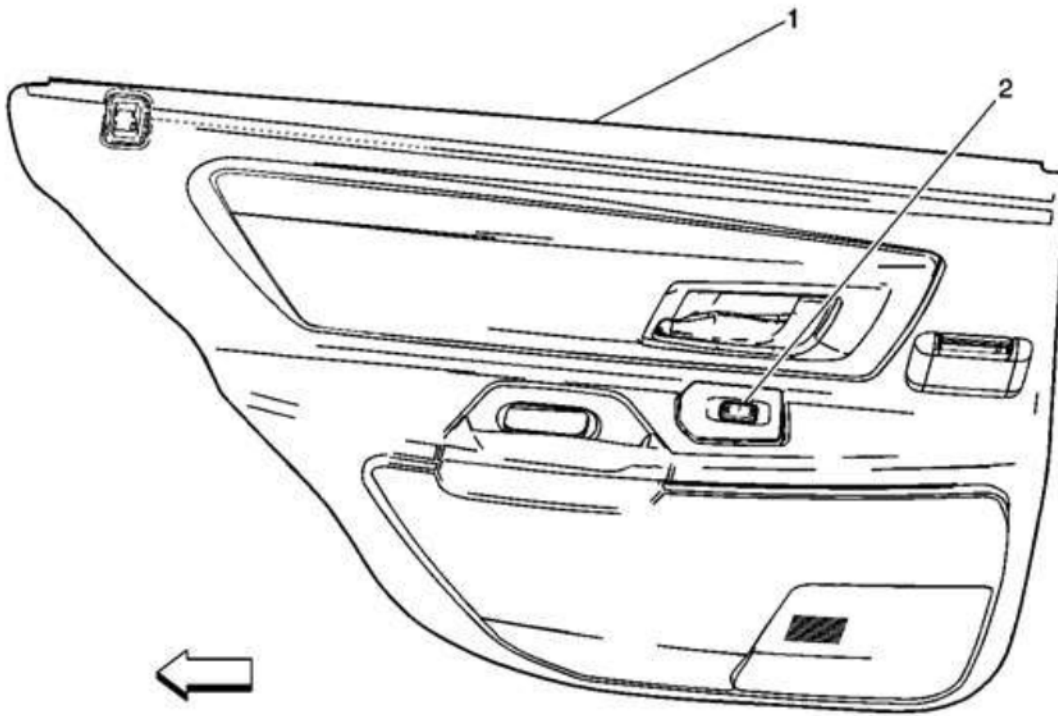


Fig. 24: Window Switch Component View - LR
Courtesy of GENERAL MOTORS CORP.

Callouts For Fig. 24

Callout	Component Name
1	Door - LR
2	Window Switch - LR, RR Similar

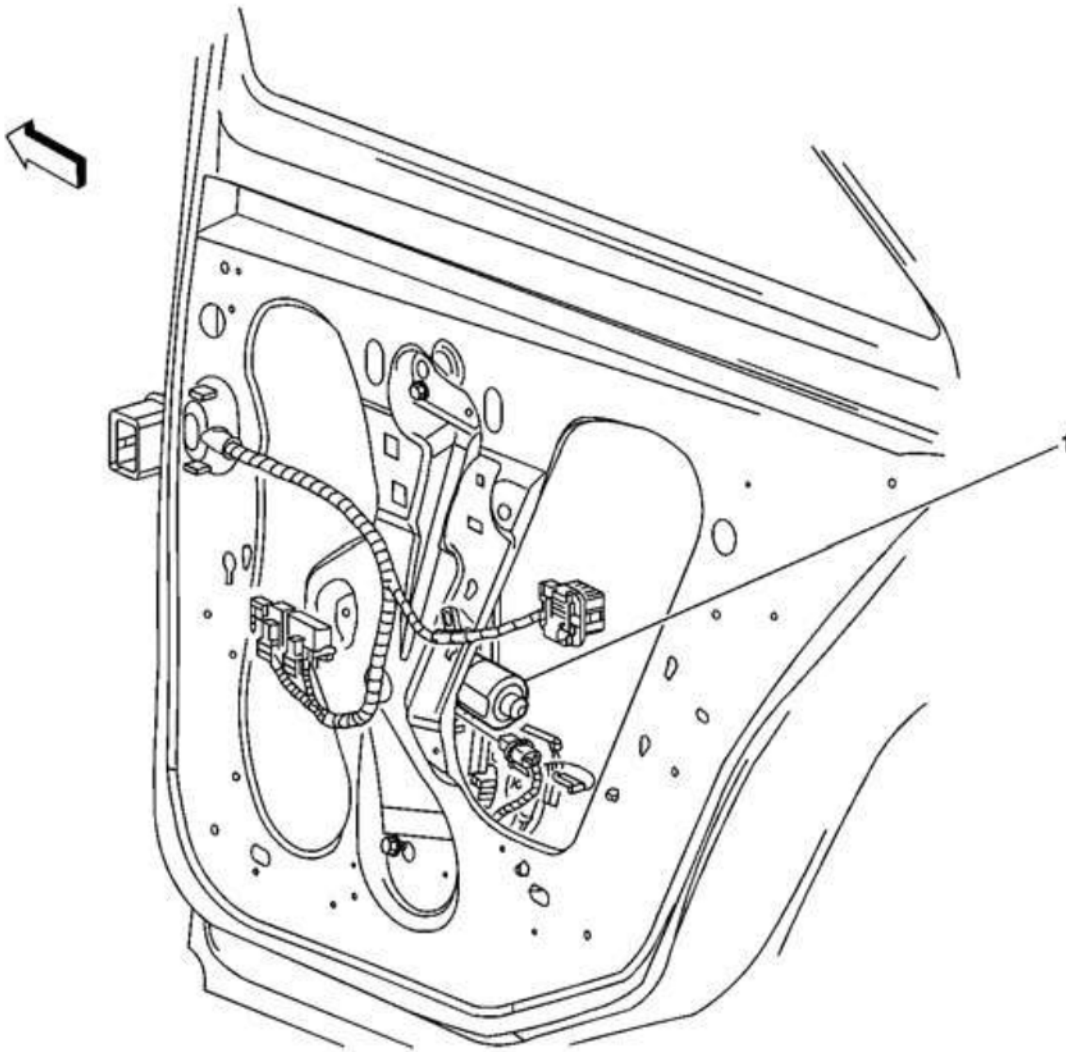


Fig. 25: Window Motor Component View - LR
 Courtesy of GENERAL MOTORS CORP.

Callouts For Fig. 25

Callout	Component Name
1	Window Motor - LR, RR Similar

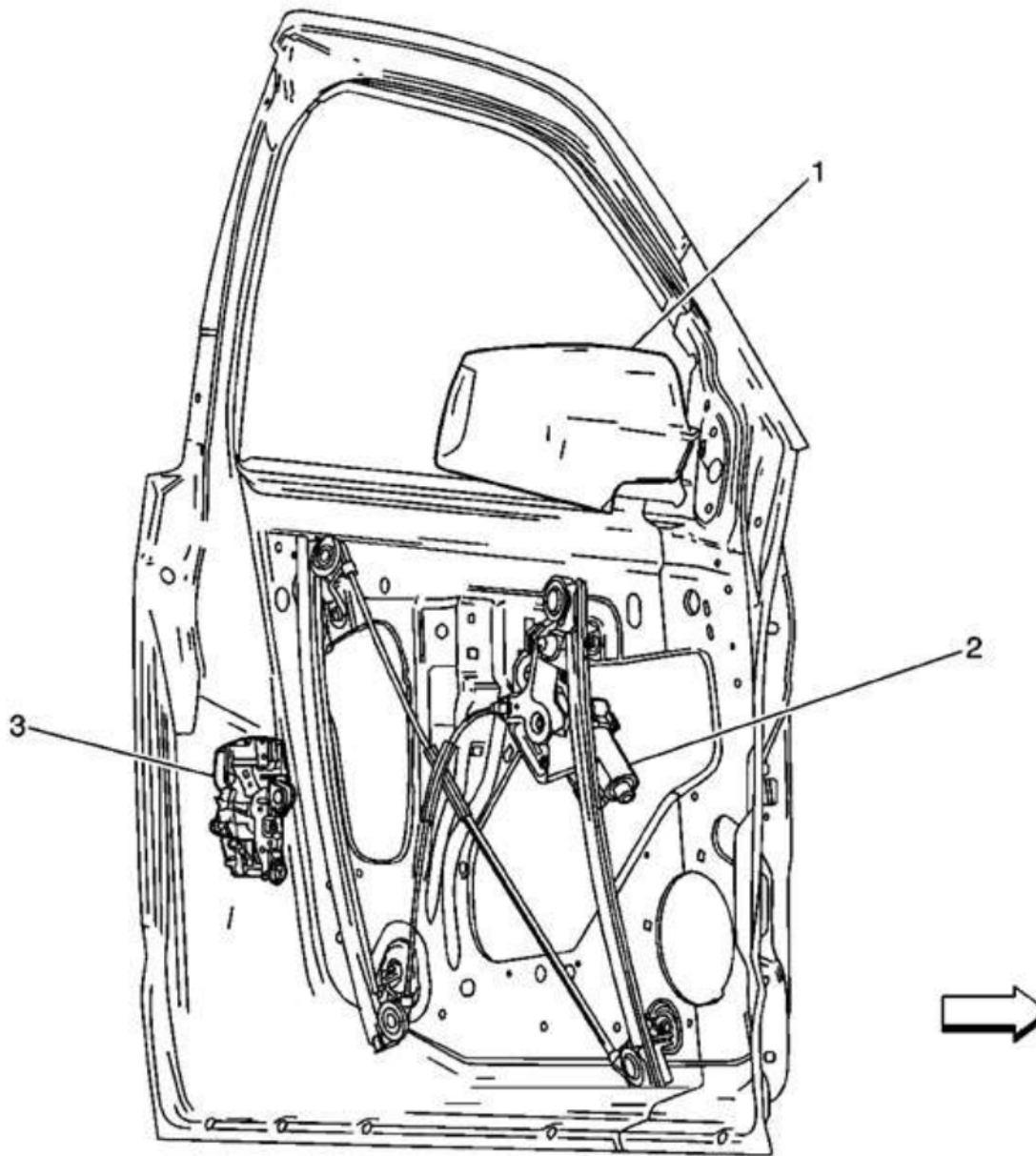


Fig. 26: Front Passenger Door Component View
 Courtesy of GENERAL MOTORS CORP.

Callouts For Fig. 26

Callout	Component Name
1	Outside Rearview Mirror (OSRVM) - Passenger
2	Window Motor - Front Passenger
3	Door Latch Assembly - Front Passenger

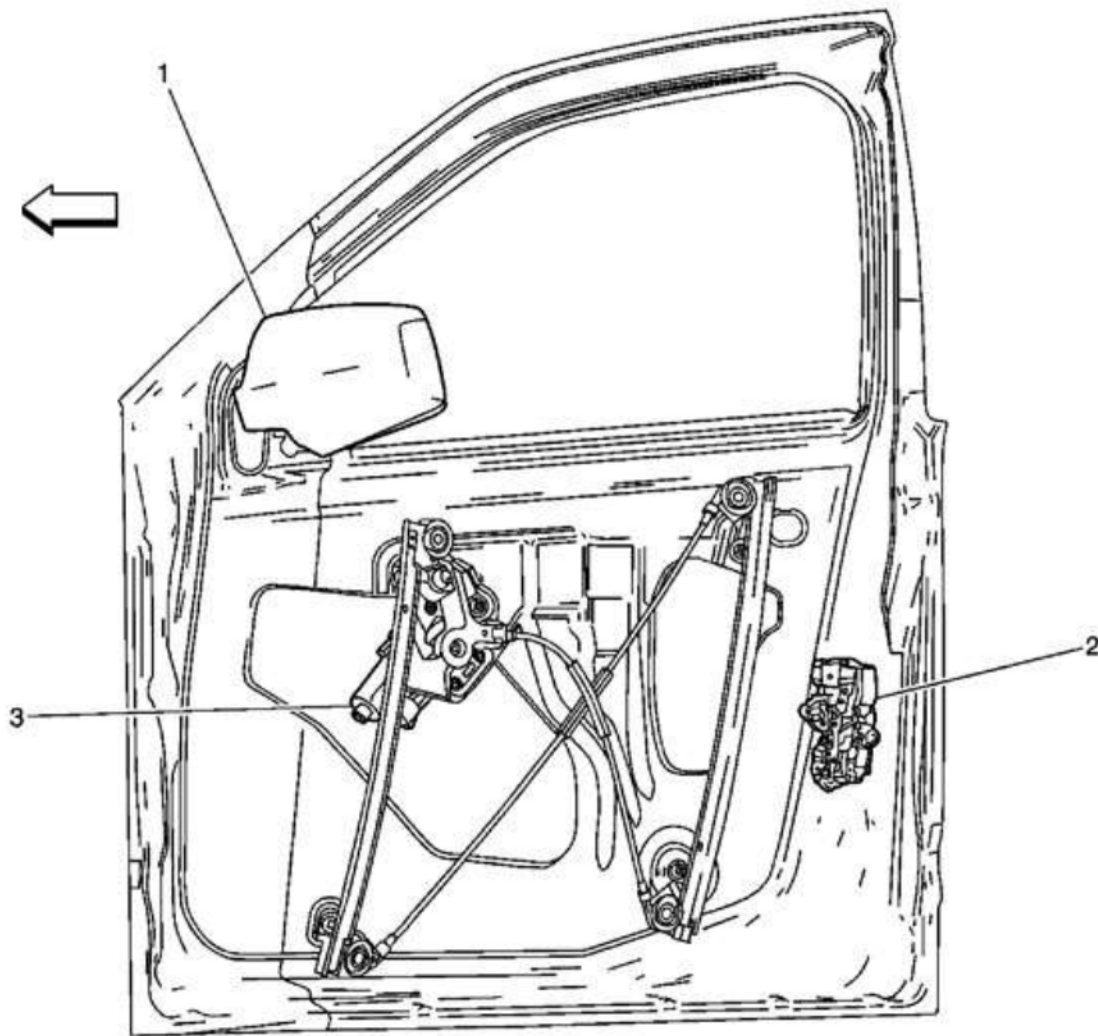


Fig. 27: Driver Door Component View
Courtesy of GENERAL MOTORS CORP.

Callouts For Fig. 27

Callout	Component Name
1	Outside Rearview Mirror - Driver
2	Door Latch Assembly - Driver
3	Window Motor - Driver

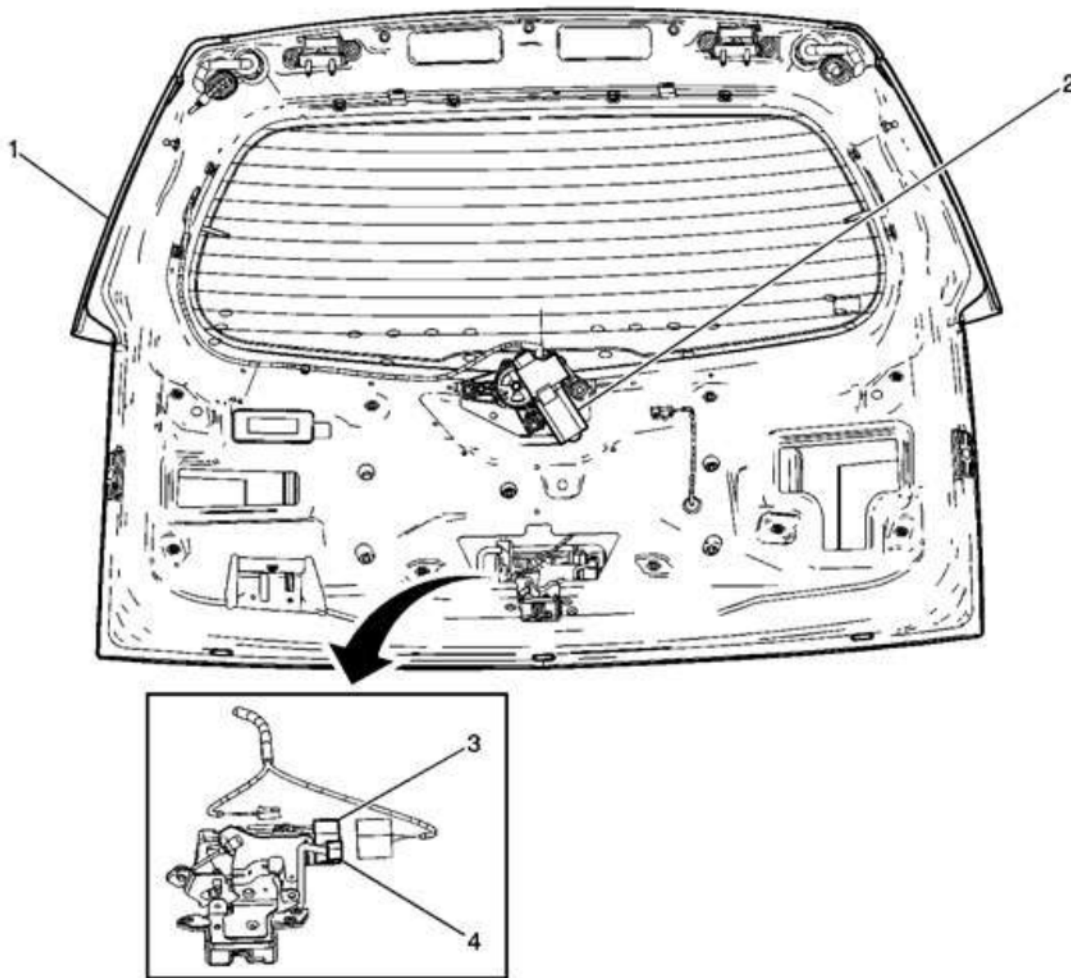


Fig. 28: Liftgate Latch Assembly Component View
 Courtesy of GENERAL MOTORS CORP.

Callouts For Fig. 28

Callout	Component Name
1	Liftgate
2	Rear Wiper Motor Assembly
3	Liftgate Latch
4	Liftgate Ajar Switch

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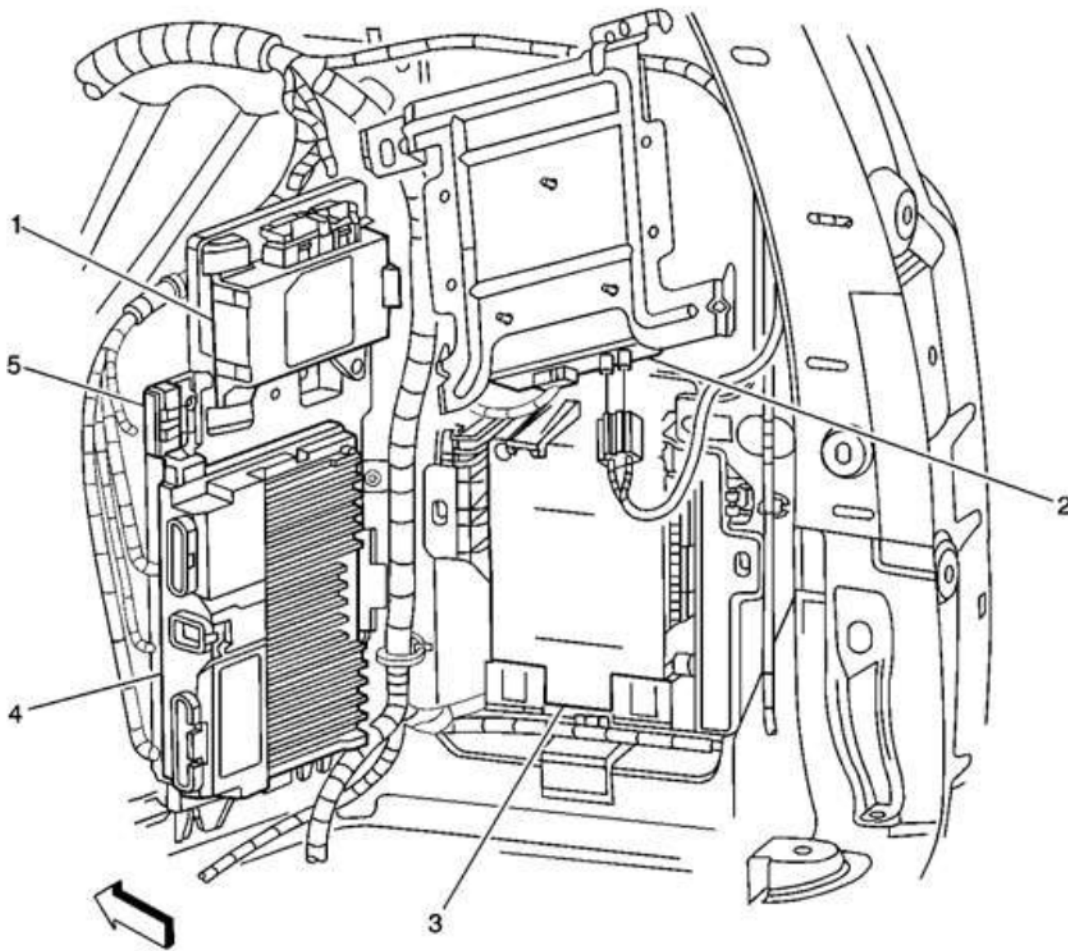


Fig. 29: Right Rear Of Vehicle Behind Trim Panel Component View
Courtesy of GENERAL MOTORS CORP.

Callouts For Fig. 29

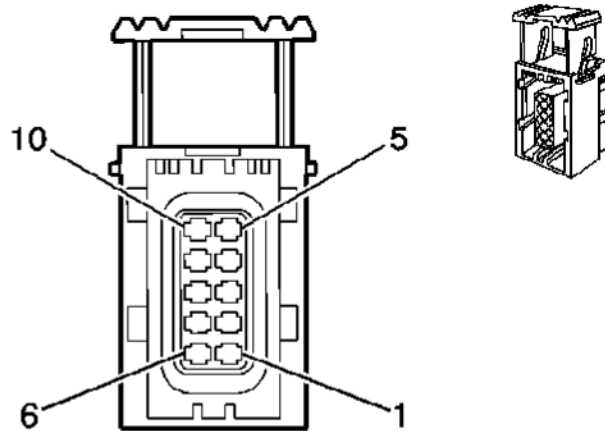
Callout	Component Name
1	Rear Integration Module (RIM)
2	Digital Radio Receiver (U2K)
3	Vehicle Communication Interface Module (VCIM) (UE1)
4	Suspension Control Module (F55)
5	Liftgate Lock/Unlock Relay

POWER DOOR SYSTEMS CONNECTOR END VIEWS

Door Latch Assembly Terminal Identification - Driver

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Connector Part Information

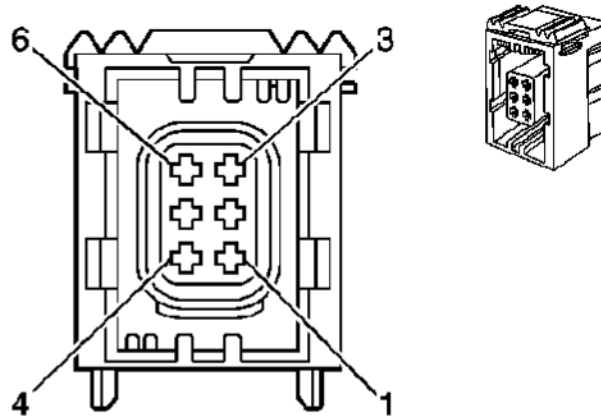
- 6-1355688-1
- 10-Way F AMP (BK)

Pin	Wire Color	Circuit No.	Function
1	-	-	Not Used
2	TN	694	Driver Door Lock Actuator Unlock Control
3	GY	295	Door Lock Actuator Lock Control
4	YE	5135	Driver Door Key Switch Lock Signal
5	-	-	Not Used
6	GY/BK	745	Left Front Door Ajar Switch Signal
7	TN	126	Left Front Door Open Switch Signal
8	BK/WH	351	Ground
9	L-GN	262	Driver Door Key Switch Signal
10	-	-	Not Used

Door Latch Assembly Terminal Identification- Front Passenger

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Connector Part Information

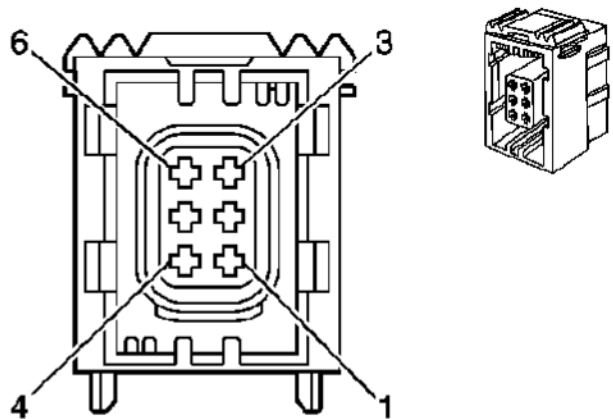
- 6-1355683-1
- 6-Way F AMP (BK)

Pin	Wire Color	Circuit No.	Function
1	TN/WH	746	Right Front Door Ajar Switch Signal
2	L-GN	1177	Right Front Door Open Switch Signal/Door Open Switch Signal
3	BK/WH	451	Ground
4	-	-	Not Used
5	TN	294	Door Lock Actuator Unlock Control
6	GY	295	Door Lock Actuator Lock Control

Door Latch Assembly Terminal Identification - LR

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Connector Part Information

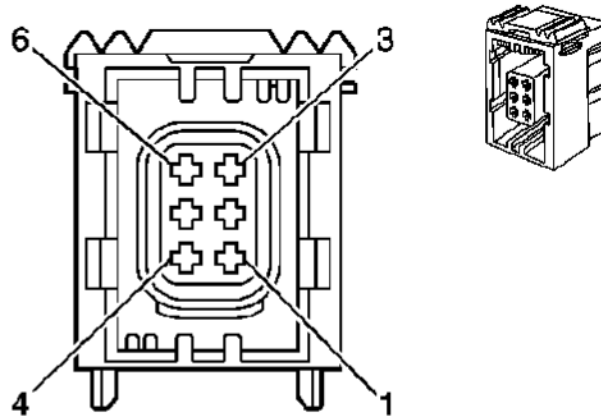
- 6-1355683-1
- 6-Way F AMP (BK)

Pin	Wire Color	Circuit No.	Function
1	-	-	Not Used
2	TN	294	Door Lock Actuator Unlock Control
3	GY	295	Door Lock Actuator Lock Control
4	L-BU/BK	747	Left Rear Door Ajar Switch Signal
5	D-BU/WH	1179	Left Rear Door Open Switch Signal
6	BK/WH	351	Ground

Door Latch Assembly Terminal Identification - RR

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Connector Part Information

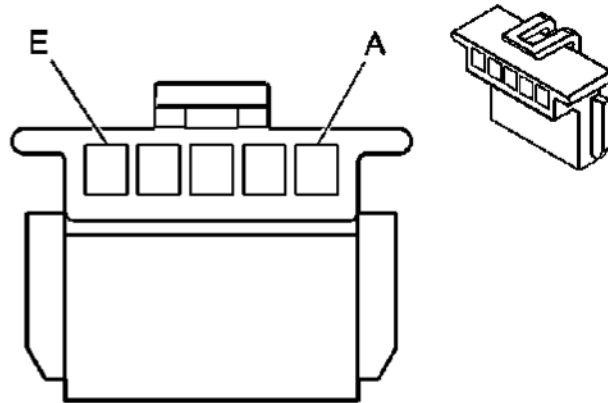
- 6-1355683-1
- 6-Way F AMP (BK)

Pin	Wire Color	Circuit No.	Function
1	L-GN/BK	748	Right Rear Door Ajar Switch Signal
2	YE/BK	1181	Right Rear Door Open Switch Signal/Rear Door Open Switch Signal
3	BK/WH	451	Ground
4	-	-	Not Used
5	TN	294	Door Lock Actuator Unlock Control
6	GY	295	Door Lock Actuator Lock Control

Door Lock Switch Terminal Identification - Driver

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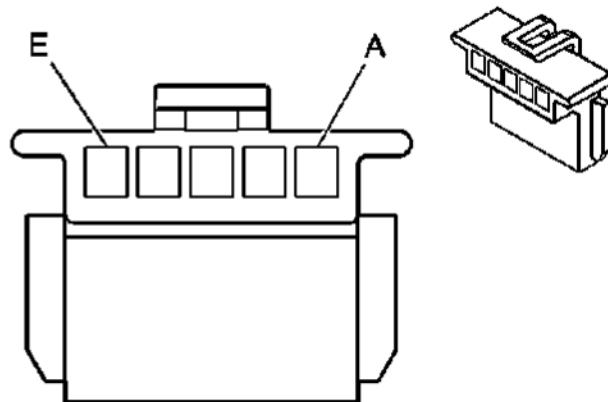


Connector Part Information

- 12124997
- 5-Way F Metri-Pack 150 Series (BK)

Pin	Wire Color	Circuit No.	Function
A	YE	1491	Backlight Lamps Control
B	-	-	Not Used
C	BK/WH	351	Ground
D	OG/BK	780	Driver Door Lock Switch Lock Signal
E	OG/BK	781	Driver Door Lock Switch Unlock Signal

Door Lock Switch Terminal Identification - Front Passenger

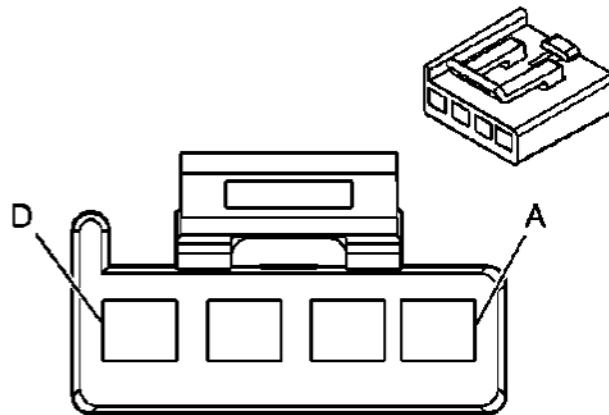


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Connector Part Information		• 12124997 • 5-Way F Micro-Pack 150 Series (BK)	
Pin	Wire Color	Circuit No.	Function
A	YE	1491	Backlight Lamps Control
B	-	-	Not Used
C	BK/WH	451	Ground
D	L-BU	244	Passenger Door Lock Switch Lock (Control or Supply Voltage)
E	D-BU	245	Passenger Door Lock Switch Unlock (Control or Supply Voltage)

Door Module Terminal Identification - Driver C1

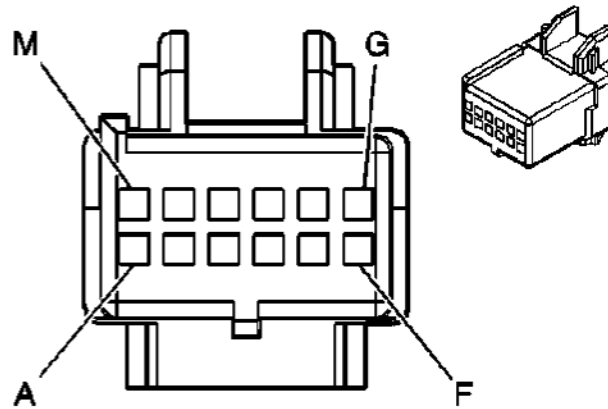


Connector Part Information		• 12052856 • 4-Way F Metri-Pack 280 Series (BK)	
Pin	Wire Color	Circuit No.	Function
A	RD/WH	1040	Battery Positive Voltage
B	BN	165	Power Window Motor Left Front Down Control
C	D-BU	164	Power Window Motor Left Front Up Control
D	BK	350	Ground

Door Module Terminal Identification - Driver C2

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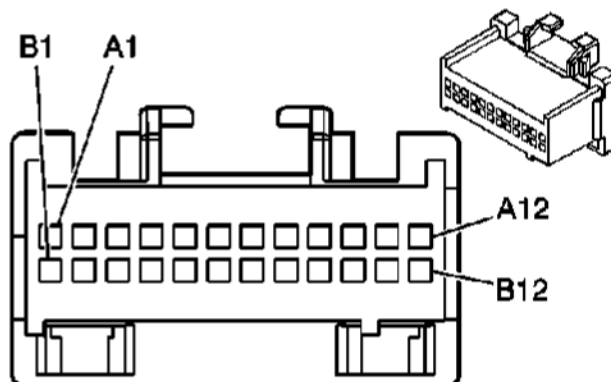


Connector Part Information

- 12064799
- 12-Way F Micro-Pack 100 Series (BK)

Pin	Wire Color	Circuit No.	Function
A-D	-	-	Not Used
E	YE	5135	Driver Door Key Switch Lock Signal
F	PU	1807	Class 2 Serial Data
G	PU	1807	Class 2 Serial Data
H	GY/BK	745	Left Front Door Ajar Switch Signal
J	TN	126	Left Front Door Open Switch Signal
K-M	-	-	Not Used

Door Module Terminal Identification - Driver C3



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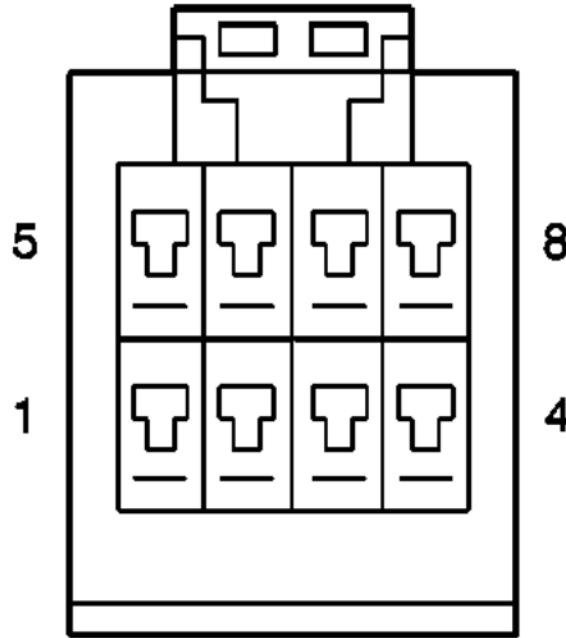
Connector Part Information		• 12110088 • 24-Way F Micro-Pack 100 Series (GY)	
Pin	Wire Color	Circuit No.	Function
A1	PK	2070	Left Front Door Window Intrusion Sensor Reference Voltage
A2	PU	5044	Left Front Door Window Intrusion Signal
A3	YE	1491	Backlight Lamps Control
A4-A5	-	-	Not Used
A6	TN	694	Driver Door Lock Actuator Unlock Control
A7-A8	-	-	Not Used
A9	GY	295	Door Lock Actuator Lock Control
A10-A11	-	-	Not Used
A12	RD/WH	640	Battery Positive Voltage/Inadvertent Power Relay Enable
B1	WH	2068	Left Front Door Window Intrusion Sensor Low Reference
B2	L-GN	2072	Left Front Door Window Intrusion Sensor Signal
B3	BK/WH	351	Ground
B4	PK	1691	Automatic Day/Night Mirror Low Reference
B5	GY	1690	Automatic Day/Night Mirror Signal
B6	BK/WH	351	Ground
B7	L-GN	262	Driver Door Key Switch Signal
B8-B9	-	-	Not Used
B10	BK/WH	351	Ground
B11	RD/WH	640	Battery Positive Voltage/Inadvertent Power Relay Enable
B12	BK/WH	351	Ground

Door Module Terminal Identification - Driver C4

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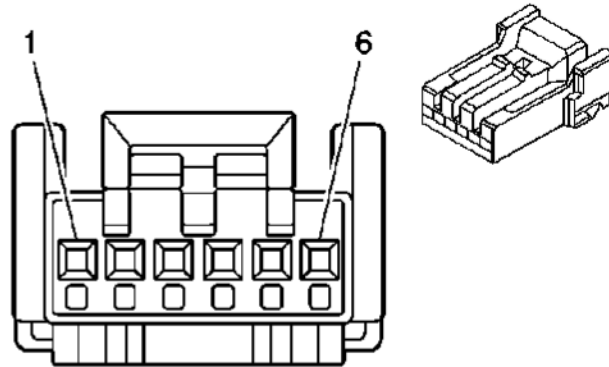


Connector Part Information		• 1759642 • 8-Way F Lowell (BK)	
Pin	Wire Color	Circuit No.	Function
1	YE	88	Driver Mirror Motor Up and Right Control
2	BN	1690	Automatic Day/Night Mirror Signal
3	BN/BK	1691	Automatic Day/Night Mirror Low Reference
4	BK	627	Driver Mirror Heating Element Low Reference
5	L-GN	89	Driver Mirror Motor Down Control
6	-	-	Not Used
7	D-BU	82	Driver Mirror Motor Left Control
8	BK	606	Driver Mirror Heating Element Supply Voltage

Door Module Terminal Identification - Driver C5

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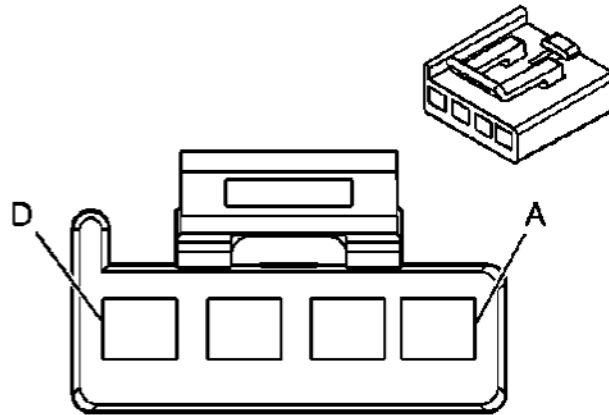


Connector Part Information		• IL-AG5-6S-S3C1 • 6-Way F (L-GN)	
Pin	Wire Color	Circuit No.	Function
1	OG/SR	191	Driver Folding Mirror Motor Retract Control (DR4/D24)
2	PK	190	Driver Folding Mirror Motor Extend Control (DR4/D24)
3	RD/BK	672	5-Volt Reference
4	D-GN/BK	784	Driver Mirror Vertical Position Sensor Signal
5	L-BU/BK	786	Driver Mirror Horizontal Position Sensor Signal
6	PU/BK	673	Low Reference

Door Module Terminal Identification - Front Passenger C1

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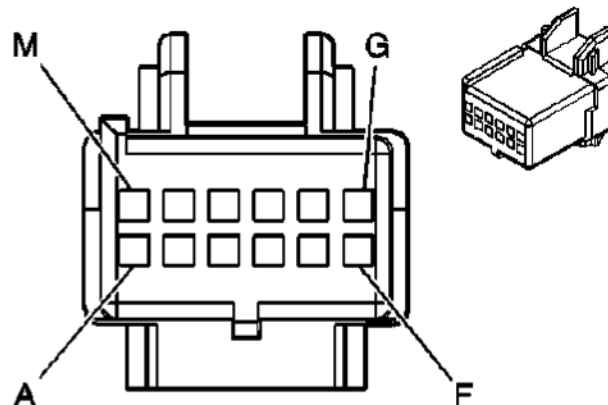


Connector Part Information

- 12052856
- 4-Way F Metri-Pack 280 Series (BK)

Pin	Wire Color	Circuit No.	Function
A	RD/WH	1040	Battery Positive Voltage
B	BN	667	Power Window Motor Right Front Down Control
C	D-BU	666	Power Window Motor Right Front Up Control
D	BK	450	Ground

Door Module Terminal Identification - Front Passenger C2

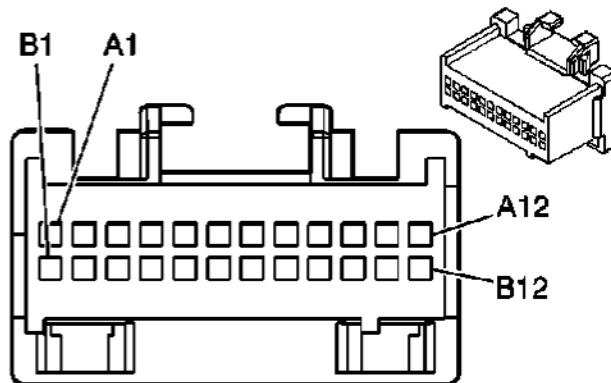


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Connector Part Information		• 12064799 • 12-Way F Micro-Pack 100 Series (BK)	
Pin	Wire Color	Circuit No.	Function
A	D-BU	245	Passenger Door Lock Switch Unlock (Control or Supply Voltage)
B	PU	2765	Power Window Switch Right Front Express Signal
C	D-GN	1184	Power Window Switch Right Front Up Signal
D-F	-	-	Not Used
G	PU	1807	Class 2 Serial Data
H	TN/WH	746	Right Front Door Ajar Switch Signal
J	L-GN	1177	Right Front Door Open Switch Signal/Door Open Switch Signal
K	-	-	Not Used
L	BN	5295	Passenger Window Switch Right Front Down Signal
M	L-BU	244	Passenger Door Lock Switch Lock (Control or Supply Voltage)

Door Module - Front Passenger C3



Connector Part Information		• 12110088 • 24-Way F Micro-Pack 100 Series (GY)	
Pin	Wire Color	Circuit No.	Function

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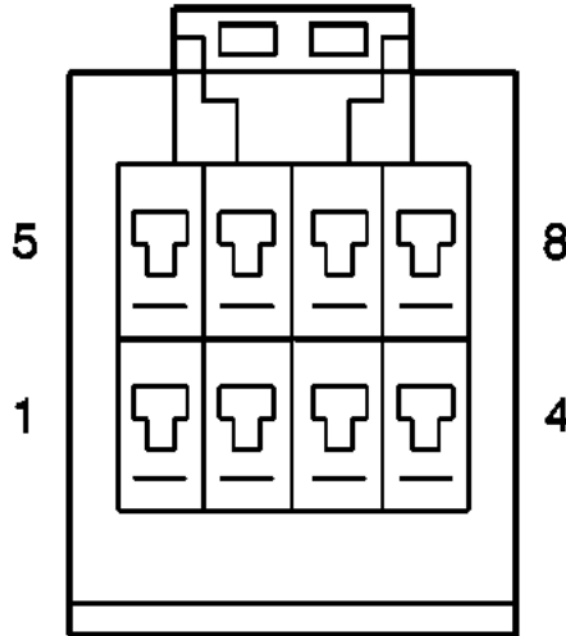
A1	PK	2069	Right Front Door Window Intrusion Sensor Reference Voltage
A2	PU	5006	Right Front Door Window Intrusion Signal
A3	YE	1491	Backlight Lamps Control
A4-A5	-	-	Not Used
A6	TN	294	Door Lock Actuator Unlock Control
A7-A8	-	-	Not Used
A9	GY	295	Door Lock Actuator Lock Control
A10-A11	-	-	Not Used
A12	RD/WH	740	Battery Positive Voltage
B1	WH	2067	Right Front Door Window Intrusion Sensor Low Reference
B2	L-GN	2071	Right Front Door Window Intrusion Sensor Signal
B3	BK/WH	451	Ground
B4-B9	-	-	Not Used
B10	BK/WH	451	Ground
B11	-	-	Not Used
B12	BK/WH	451	Ground

Door Module Terminal Identification - Front Passenger C4



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Connector Part Information

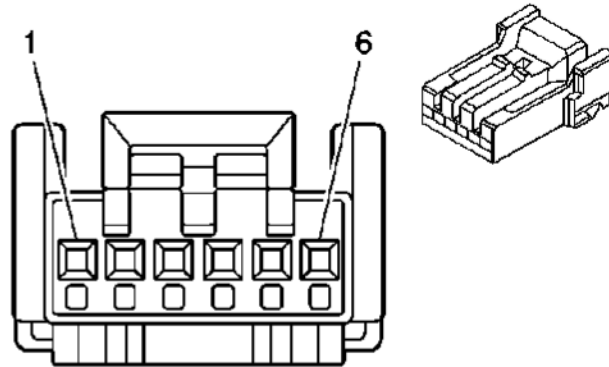
- 1759642
- 8-Way F Lowell (BK)

Pin	Wire Color	Circuit No.	Function
1	L-GN	1498	Passenger Mirror Motor Up and Right Control
2-3	-	-	Not Used
4	BK	628	Passenger Mirror Heating Element Low Reference
5	YE	889	Passenger Mirror Motor Down Control
6	-	-	Not Used
7	WH	90	Passenger Mirror Motor Left Control
8	BK	607	Passenger Mirror Heating Element Supply Voltage

Door Module Terminal Identification - Front Passenger C5

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Connector Part Information

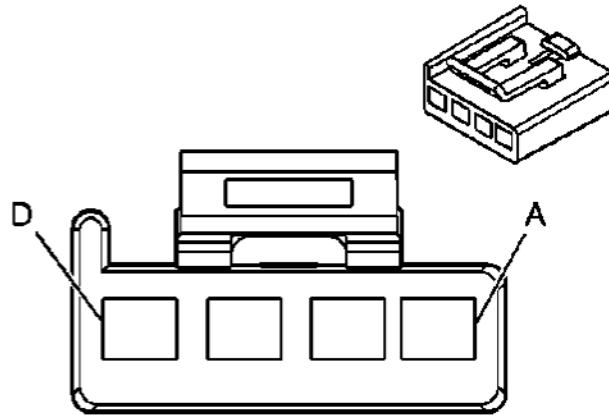
- 6553C1
- 6-Way F (L-GY)

Pin	Wire Color	Circuit No.	Function
1	OG/SR	5023	Passenger Folding Mirror Motor Retract Control (DR4/D24)
2	PK	5004	Passenger Folding Mirror Motor Extend Control (DR4/D24)
3	RD/BK	674	5-Volt Reference
4	D-GN/BK	787	Passenger Mirror Vertical Position Sensor Signal
5	L-BU/BK	785	Passenger Mirror Horizontal Position Sensor Signal
6	PU/BK	675	Low Reference

Door Module Terminal Identification - LR C1

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2004 ACCESSORIES & EQUIPMENT Doors - SRX

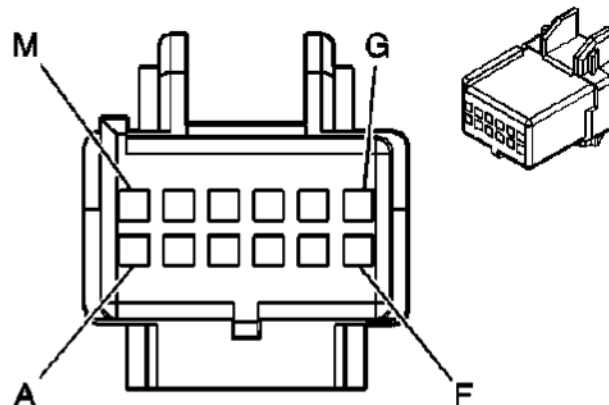


Connector Part Information

- 12052856
- 4-Way F Metri-Pack 280 Series (BK)

Pin	Wire Color	Circuit No.	Function
A	RD/WH	1040	Battery Positive Voltage
B	BN	669	Power Window Motor Left Rear Down Control
C	D-BU	668	Power Window Motor Left Rear Up Control
D	BK	350	Ground

Door Module Terminal Identification - LR C2

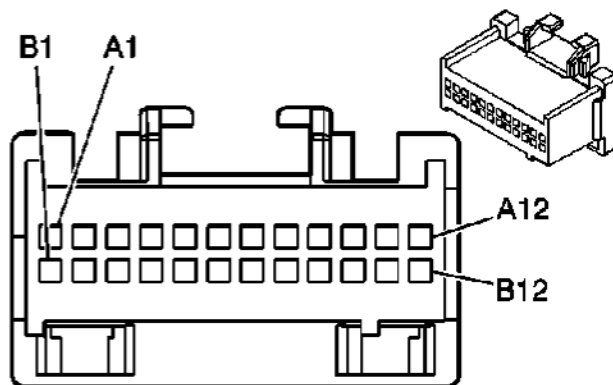


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Connector Part Information		• 12064799 • 12-Way F Micro-Pack 100 Series (BK)	
Pin	Wire Color	Circuit No.	Function
A	-	-	Not Used
B	D-GN	5048	Power Window Switch Left Rear Express Signal
C	WH	1185	Power Window Switch Left Rear Up Signal
D-F	-	-	Not Used
G	PU	1807	Class 2 Serial Data
H	L-BU/BK	747	Left Rear Door Ajar Switch Signal
J	D-BU/WH	1179	Left Rear Door Open Switch Signal
K	-	-	Not Used
L	YE	1187	Power Window Switch Left Rear Down Signal
M	-	-	Not Used

Door Module Terminal Identification - LR C3



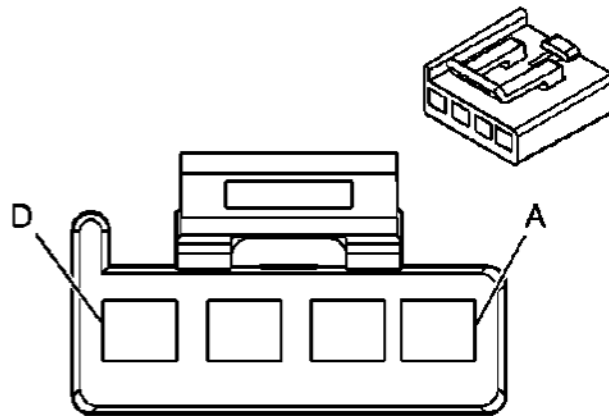
Connector Part Information		• 12110088 • 24-Way F Micro-Pack 100 Series (GY)	
Pin	Wire Color	Circuit No.	Function
A1-A2	-	-	Not Used
A3	YE	1491	Backlight Lamps Control
A4-A5	-	-	Not Used

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A6	TN	294	Door Lock Actuator Unlock Control
A7-A8	-	-	Not Used
A9	GY	295	Door Lock Actuator Lock Control
A10-A11	-	-	Not Used
A12	RD/WH	840	Battery Positive Voltage
B1-B2	-	-	Not Used
B3	BK/WH	351	Ground
B4-B5	-	-	Not Used
B6	BK/WH	351	Ground
B7-B9	-	-	Not Used
B10	BK/WH	351	Ground
B11	-	-	Not Used
B12	BK/WH	351	Ground

Door Module Terminal Identification - RR C1



Connector Part Information

- 12052856
- 4-Way F Metri-Pack 280 Series (BK)

Pin	Wire Color	Circuit No.	Function
A	RD/WH	1040	Battery Positive Voltage
B	BN	671	Power Window Motor Right Rear Down Control
C	D-BU	670	Power Window Motor Right Rear Up Control

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2004 ACCESSORIES & EQUIPMENT Doors - SRX

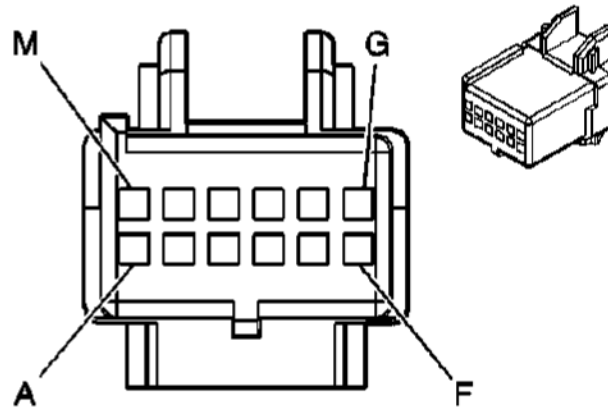
D

BK

450

Ground

Door Module Terminal Identification- RR C2



Connector Part Information

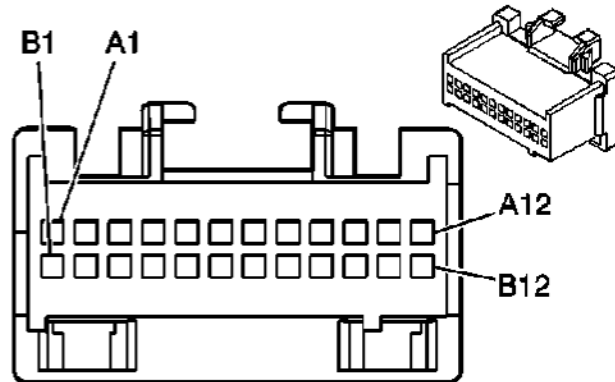
- 12064799
- 12-Way F Micro-Pack 100 Series (BK)

Pin	Wire Color	Circuit No.	Function
A	-	-	Not Used
B	L-GN	5049	Power Window Switch Right Rear Express Signal
C	GY/BK	1186	Power Window Switch Right Rear Up Signal
D-F	-	-	Not Used
G	PU	1807	Class 2 Serial Data
H	L-GN/BK	748	Right Rear Door Ajar Switch Signal
J	YE/BK	1181	Right Rear Door Open Switch Signal/Rear Door Open Switch Signal
K	-	-	Not Used
L	D-GN	1188	Power Window Switch Right Rear Down Signal
M	-	-	Not Used

Door Module Terminal Identification - RR C3

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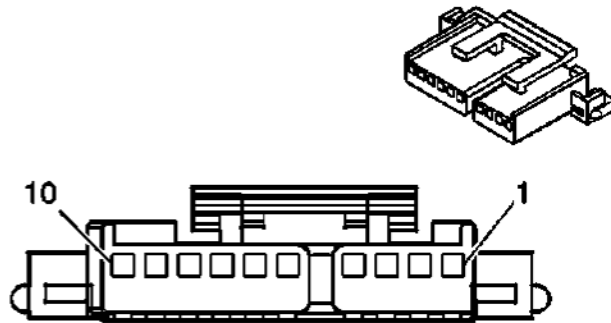


Connector Part Information		• 12110088 • 24-Way F Micro-Pack 100 Series (GY)	
Pin	Wire Color	Circuit No.	Function
A1-A2	-	-	Not Used
A3	YE	1491	Backlight Lamps Control
A4-A5	-	-	Not Used
A6	TN	294	Door Lock Actuator Unlock Control
A7-A8	-	-	Not Used
A9	GY	295	Door Lock Actuator Lock Control
A10-A11	-	-	Not Used
A12	RD/WH	840	Battery Positive Voltage
B1-B2	-	-	Not Used
B3	BK/WH	451	Ground
B4-B9	-	-	Not Used
B10	BK/WH	451	Ground
B11	-	-	Not Used
B12	BK/WH	451	Ground

Door Switch Module Terminal Identification - Driver

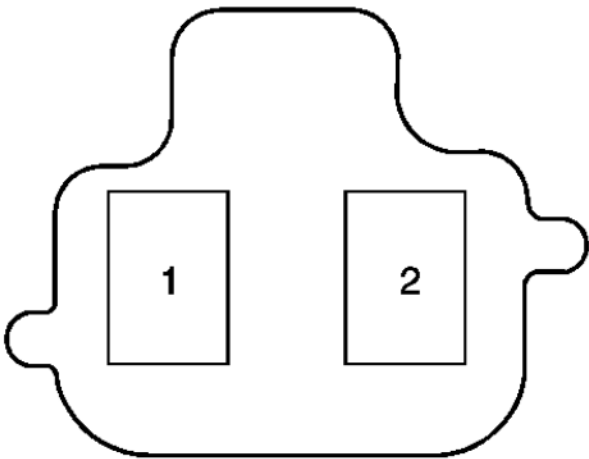
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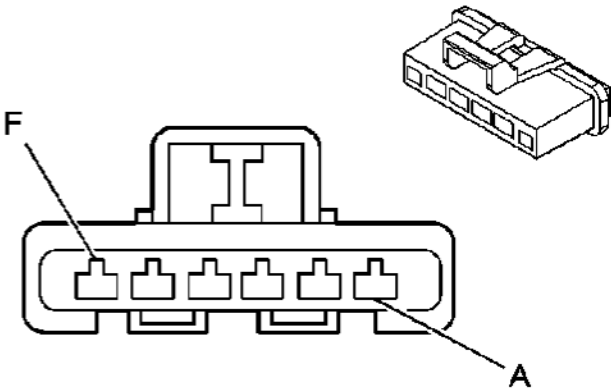
Connector Part Information		• 12047531 • 10-Way F Micro-Pack 100 Series (BK)	
Pin	Wire Color	Circuit No.	Function
1	-	-	Not Used
2	PU	616	Memory 2 Switch Signal
3	WH	615	Memory 1 Switch Signal
4	-	-	Not Used
5	YE	1491	Backlight Lamps Control
6	OG/BK	781	Driver Door Lock Switch Unlock Signal
7	OG/BK	780	Driver Door Lock Switch Lock Signal
8	BK/WH	351	Ground
9	RD/WH	640	Battery Positive Voltage/Inadvertent Power Relay Enable
10	PU	1807	Class 2 Serial Data

Liftgate Latch Terminal Identification



Connector Part Information		• 7283-1225-30 • 2-Way F Yazaki (BK)	
Pin	Wire Color	Circuit No.	Function
1	TN	294	Door Lock Actuator Unlock Control
2	GY	295	Door Lock Actuator Lock Control

Liftgate Lock/Unlock Relay Terminal Identification



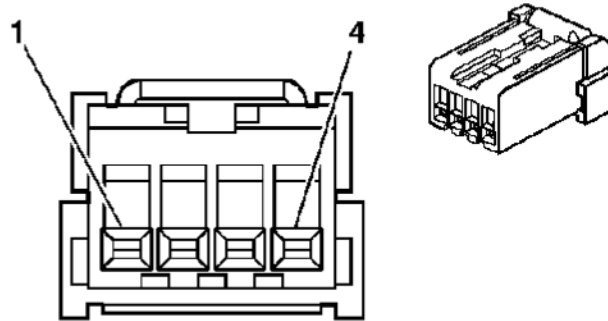
Connector Part Information		• 12059561 • 6-Way F Metri-Pack Mixed Series (BK)	

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Pin	Wire Color	Circuit No.	Function
A	TN	294	Door Lock Actuator Unlock Control
B	TN	294	Door Lock Actuator Unlock Control
C	RD/WH	440	Battery Positive Voltage
D	BK	1050	Ground
E	GY	295	Door Lock Actuator Lock Control
F	GY	295	Door Lock Actuator Lock Control

Memory/Personalization Function Switch Terminal Identification



Connector Part Information

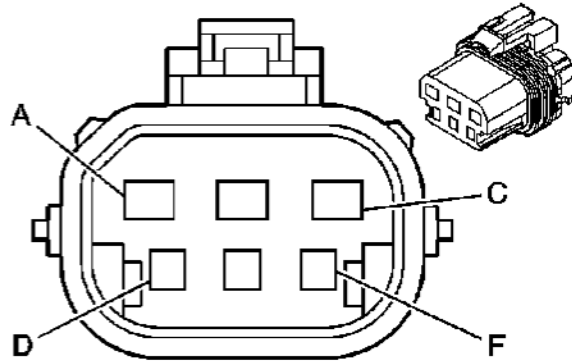
- C174966
- 4-Way F Multi-Lock (BK)

Pin	Wire Color	Circuit No.	Function
1	YE	1491	Backlight Lamps Control
2	PU	616	Memory 2 Switch Signal
3	BK/WH	351	Ground
4	WH	615	Memory 1 Switch Signal

Window Motor Terminal Identification - Driver

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Connector Part Information

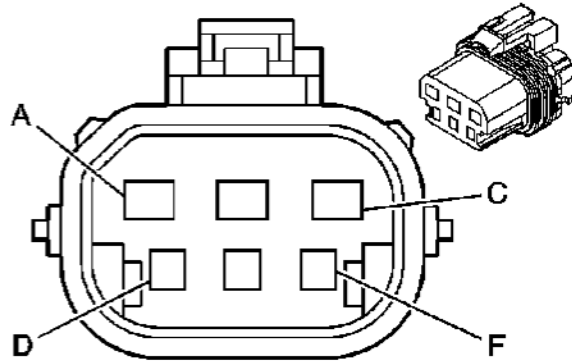
- 12186347
- 6-Way F Metri-Pack 150, 280 Mixed Series (GY)

Pin	Wire Color	Circuit No.	Function
A	D-BU	164	Power Window Motor Left Front Up Control
B	WH	2068	Left Front Door Window Intrusion Sensor Low Reference
C	BN	165	Power Window Motor Left Front Down Control
D	L-GN	2072	Left Front Door Window Intrusion Sensor Signal
E	PU	5044	Left Front Door Window Intrusion Signal
F	PK	2070	Left Front Door Window Intrusion Sensor Reference Voltage

Window Motor Terminal Identification - Front Passenger

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Connector Part Information

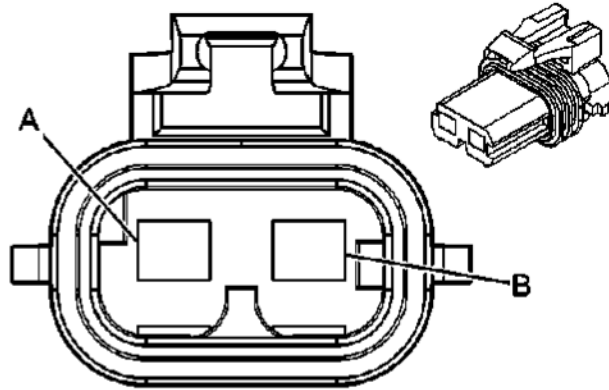
- 12186347
- 6-Way F Metri-Pack (GY)

Pin	Wire Color	Circuit No.	Function
A	D-BU	666	Power Window Motor Right Front Up Control
B	WH	2067	Right Front Door Window Intrusion Sensor Low Reference
C	BN	667	Power Window Motor Right Front Down Control
D	L-GN	2071	Right Front Door Window Intrusion Sensor Signal
E	PU	5006	Right Front Door Window Intrusion Signal
F	PK	2069	Right Front Door Window Intrusion Sensor Reference Voltage

Window Motor Terminal Identification - LR

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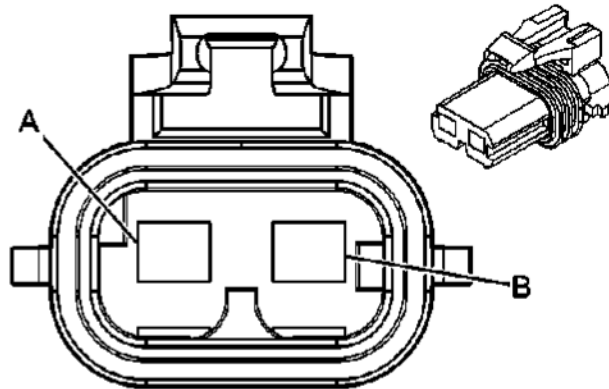


Connector Part Information

- 12129487
- 2-Way F Metri-Pack 280 Series, Flexlock, Sealed (GY)

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

Window Motor Terminal Identification - RR

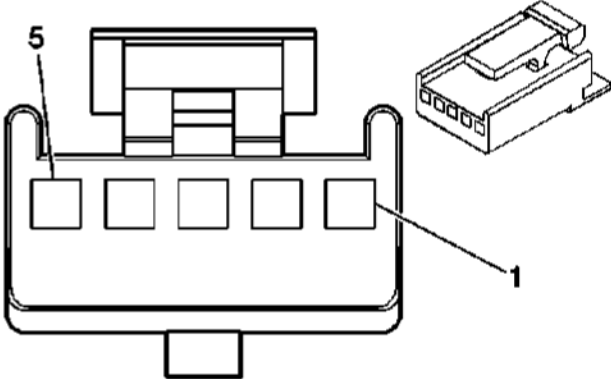


Connector Part Information

- 12129487
- 2-Way F Metri-Pack 280 Series, Flexlock,

		Sealed (GY)	
Pin	Wire Color	Circuit No.	Function
A	BN	671	Power Window Motor Right Rear Down Control
B	D-BU	670	Power Window Motor Right Rear Up Control

Window Switch Terminal Identification - Front Passenger



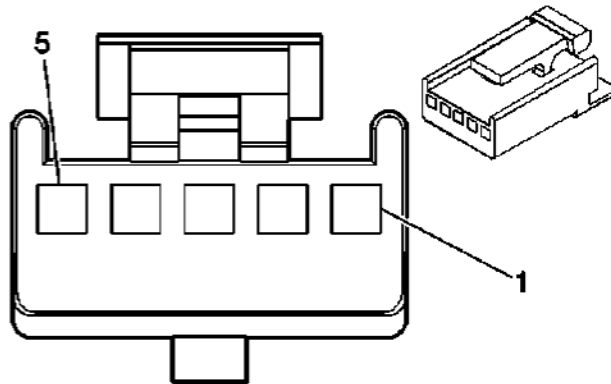
Connector Part Information		12064982 5-Way F Micro-Pack 100 Series (BK)	
Pin	Wire Color	Circuit No.	Function
1	D-GN	1184	Power Window Switch Right Front Up Signal
2	BN	5295	Power Window Switch Right Front Down Signal
3	PU	2765	Power Window Switch Right Front Express Signal
4	BK/WH	451	Ground
5	YE	1491	Backlight Lamps Control

Window Switch Terminal Identification - LR

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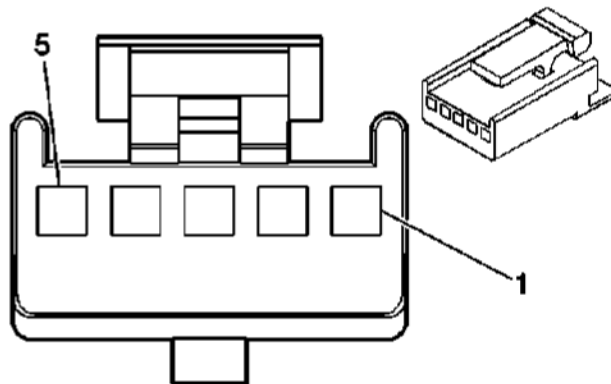


Connector Part Information

- 12064982
- 5-Way F Micro-Pack 100 Series (BK)

Pin	Wire Color	Circuit No.	Function
1	WH	1185	Power Window Switch Left Rear Up Signal
2	YE	1187	Power Window Switch Left Rear Down Signal
3	D-GN	5048	Power Window Switch Left Rear Express Signal
4	BK/WH	351	Ground
5	YE	1491	Backlight Lamps Control

Window Switch Terminal Identification - RR



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Connector Part Information		• 12064982 • 5-Way F Micro-Pack 100 Series (BK)	
Pin	Wire Color	Circuit No.	Function
1	GY/BK	1186	Power Window Switch Right Rear Up Signal
2	D-GN	1188	Power Window Switch Right Rear Down Signal
3	L-GN	5049	Power Window Switch Right Rear Express Signal
4	BK/WH	451	Ground
5	YE	1491	Backlight Lamps Control

DIAGNOSTIC INFORMATION AND PROCEDURES

DIAGNOSTIC STARTING POINT - DOORS

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

- The identification of the control module(s) which command the system
- The ability of the control module(s) 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.

DIAGNOSTIC SYSTEM CHECK - DOOR SYSTEMS

Test Description

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

2: Lack of communication may be due to a partial malfunction of the class 2 serial data circuit or a total malfunction of the class 2 serial data circuit, however, lack of communication may also be caused by an unpowered or ungrounded module. The specified procedure will determine the particular condition. Enabling the headlamps in this step verifies that a door module is not using an alternate path to ground through the switch illumination circuit, a condition which could cause the DTC or malfunction to be intermittent.

4: The symptom list in Symptoms will determine the correct diagnostic procedure to use.

6: The presence of other DTCs which begin with "U" indicate some other system control module is not communicating. The specified procedure will compile all the available information before tests are performed.

7: The presence of DTCs B1004, B1007, and B1009 indicate a module self diagnostic test has detected a malfunction. The specified procedure will compile all the available information before tests are performed.

Diagnostic System Check - Door Systems

Step	Action	Yes	No
1	Install a scan tool. Does the scan tool power up?	Go to Step 2	Go to Scan Tool Does Not Power Up in Data Link Communications
2	- Turn ON the ignition, with the engine OFF. - Turn ON the headlamp switch. - Attempt to establish communication with the following modules: - All door modules (DDM, PFDM, LMDM, RMDM, LRDM, RRDM) - Driver Door Switch Assembly (DDSA) - Instrument Panel Cluster (IPC) - Memory Seat Module (MSM) - Powertrain Control Module (PCM) - Rear Integration Module (RIM) - Remote Function Actuator (RFA) Does the scan tool communicate with all of the Modules?	Go to Step 3	Go to Scan Tool Does Not Communicate with Class 2 Device in Data Link Communications
	IMPORTANT: The engine may start during the following step. Turn OFF the engine as soon as you have observed the Crank power mode. Access the Class 2 Power Mode in the		

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3	Diagnostic Circuit Check on the scan tool. 2. Rotate the ignition switch through all positions while observing the ignition switch power mode parameter. Does the ignition switch parameter reading match the ignition switch position for all switch positions?	Go to Step 4	Go to Power Mode Mismatch in Body Control System
4	With the scan tool, select the display DTCs function for each of the modules listed in step 2. Does the scan tool display any DTCs?	Go to Step 5	Go to Symptoms - Doors
5	Does the scan tool display DTC U1713 or U1714?	Go to Diagnostic Trouble Code (DTC) List	Go to Step 6
6	Does the scan tool display any other DTCs which begin with a "U"?	Go to Scan Tool Does Not Communicate with Class 2 Device in Data Link Communications	Go to Step 6
7	Does the scan tool display DTC B1004, B1007, or B1009?	Go to Diagnostic Trouble Code (DTC) List in Body Control System	Go to Step 7
8	Does the scan tool display DTC B1327 or B1328?	Go to Diagnostic Trouble Code (DTC) List in Engine Electrical	Go to Diagnostic Trouble Code (DTC) List

SCAN TOOL OUTPUT CONTROLS

Driver Door Module (DDM) Scan Tool Output Control

Scan Tool Output Control	Additional Menu Selection(s)	Description
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Mirror Up/Down	Mirror Test	When Up is selected, the driver door module (DDM) powers the driver mirror in the Up direction for approximately 5 seconds. When Down is selected, the driver door module (DDM) powers the driver mirror in the Down direction for approximately 5 seconds.
Mirror Left/Right	Mirror Test	When Left is selected, the driver door module (DDM) powers the driver mirror in the Left direction for approximately 5 seconds. When Right is selected, the driver door module (DDM) powers the driver mirror in the Right direction for approximately 5 seconds.
Mirror Fold	Mirror Test	When In is selected, the driver door module (DDM) powers the driver mirror to fold to the In position. When Out is selected, the driver door module (DDM) powers the driver mirror to fold to the Out position.
Mirror Heat	Mirror Test	When On is selected, the driver door module (DDM) turns On the driver mirror heating element for approximately 5 seconds.
Door Lock/Unlock	Door Lock Test	When Lock is selected, the driver door module (DDM) momentarily pulses the driver door lock motor, locking the driver door. When Unlock is selected, the driver door module (DDM) momentarily pulses the driver door lock motor, unlocking the driver door.
Window Up/Down	Door Window Test	When Up is selected, the driver door module (DDM) powers the driver door window motor in the Up direction until it has reached the limit of its travel. When Down is selected, the driver door module (DDM) powers the driver door window motor in the Down direction until it has reached the limit of its travel.
Window Express Down	Door Window Test	When On is selected, the driver door module (DDM) powers the driver door window motor in the Down direction until it has reached the limit of its travel.
Window Peak	Door Window Test	When On is selected, the driver door module (DDM) applies a 5 amp draw on the driver door

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Detect Discharge		window motor for approximately 5 seconds.
Switch Dimming Feed	Miscellaneous Test	When On is selected, the driver door module (DDM) dims the backlighting on the switches on the drivers door.

Left Rear Door Module (LRDM) Scan Tool Output Control

Scan Tool Output Control	Additional Menu Selection(s)	Description
Door Lock/Unlock	Door Lock Test	When Lock is selected, the left rear door module (LRDM) momentarily pulses the left rear door lock motor, locking the left rear door. When Unlock is selected, the left rear door module (LRDM) momentarily pulses the left rear door lock motor, unlocking the left rear door.
Window Up/Down	Door Window Test	When Up is selected, the left rear door module (LRDM) powers the driver door window motor in the Up direction until it has reached the limit of its travel. When Down is selected, the left rear door module (LRDM) powers the driver door window motor in the Down direction until it has reached the limit of its travel.
Window Express Down	Door Window Test	When On is selected, the left rear door module (LRDM) powers the left rear door window motor in the Down direction until it has reached the limit of its travel.
Window Peak Detect Discharge	Door Window Test	When On is selected, the left rear door module (LRDM) applies a 5 amp draw on the left rear door window motor for approximately 5 seconds.
Switch Dimming Feed	Miscellaneous Test	When On is selected, the left rear door module (LRDM) dims the backlighting on the switches on the left rear door.

Passenger Door Module (PDM) Scan Tool Output Control

Scan Tool Output Control	Additional Menu Selection(s)	Description
Mirror Up/Down	Mirror Test	When Up is selected, the passenger door module (PDM) powers the passenger mirror in the Up direction for approximately 5 seconds. When Down

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		is selected, the passenger door module (PDM) powers the passenger mirror in the Down direction for approximately 5 seconds.
Mirror Left/Right	Mirror Test	When Left is selected, the passenger door module (PDM) powers the passenger mirror in the Left direction for approximately 5 seconds. When Right is selected, the passenger door module (PDM) powers the passenger mirror in the Right direction for approximately 5 seconds.
Mirror Fold	Mirror Test	When In is selected, the passenger door module (PDM) powers the passenger mirror to fold to the In position. When Out is selected, the passenger door module (PDM) powers the passenger mirror to fold to the Out position.
Mirror Heat	Mirror Test	When On is selected, the passenger door module (PDM) turns On the passenger mirror heating element for approximately 5 seconds.
Mirror Curb View	Mirror Test	When On is selected, the passenger door module (PDM) powers the passenger mirror to the Curb View position.
Door Lock/Unlock	Door Lock Test	When Lock is selected, the passenger door module (PDM) momentarily pulses the passenger door lock motor, locking the passenger door. When Unlock is selected, the passenger door module (PDM) momentarily pulses the passenger door lock motor, unlocking the passenger door.
Window Up/Down	Door Window Test	When Up is selected, the passenger door module (PDM) powers the passenger door window motor in the Up direction until it has reached the limit of its travel. When Down is selected, the passenger door module (PDM) powers the passenger door window motor in the Down direction until it has reached the limit of its travel.
Window Express Down	Door Window Test	When On is selected, the passenger door module (PDM) powers the passenger door window motor in the Down direction until it has reached the limit of its travel.
Window Peak	Door Window Test	When On is selected, the passenger door module (PDM) applies a 5 amp draw on the passenger door

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Detect Discharge		window motor for approximately 5 seconds.
Switch Dimming Feed	Miscellaneous Test	When On is selected, the passenger door module (PDM) dims the backlighting in the switches on the passengers door.

Right Rear Door Module (RRDM) Scan Tool Output Control

Scan Tool Output Control	Additional Menu Selection(s)	Description
Door Lock/Unlock	Door Lock Test	When Lock is selected, the right rear door module (RRDM) momentarily pulses the right rear door lock motor, locking the right rear door. When Unlock is selected, the right rear door module (RRDM) momentarily pulses the right rear door lock motor, unlocking the right rear door.
Window Up/Down	Door Window Test	When Up is selected, the right rear door module (RRDM) powers the right rear door window motor in the Up direction until it has reached the limit of its travel. When Down is selected, the right rear door module (RRDM) powers the right rear door window motor in the Down direction until it has reached the limit of its travel.
Window Express Down	Door Window Test	When On is selected, the right rear door module (RRDM) powers the right rear door window motor in the Down direction until it has reached the limit of its travel.
Window Peak Detect Discharge	Door Window Test	When On is selected, the right rear door module (RRDM) applies a 5 amp draw on the right rear door window motor for approximately 5 seconds.
Switch Dimming Feed	Miscellaneous Test	When On is selected, the right rear door module (RRDM) dims the backlighting on the switches on the right rear door.

SCAN TOOL DATA LIST**Driver Door Module (DDM) Scan Tool Data List**

Scan Tool Parameter	Data List	Units Displayed	Typical Data Value
Battery power is the only requirement for Module Information, Inputs and Lock Outputs. Key ON is required for window outputs.			

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8 Digit GM Part Number	Module Information 2	Number	Varies
Battery Voltage	Data	9.0-15.0 Volts	12.8 Volts
Component Serial #8	Module Information 2	Number	8-11th digit
Component Serial #12	Module Information 2	Number	12th digit
Component Serial #13	Module Information 2	Number	13-16th digit
Component Serial #17	Module Information 2	Number	17-18th digit
Deadbolt Actuator	Outputs	OFF/ON	OFF
Door Ajar Switch	Inputs	OFF/ON	OFF
Driver Door Jamb Switch	Inputs	OFF/ON	OFF
Hardware Level	Module Information 1	Number	Varies
Heated Mirror	Outputs	OFF/ON (w/Rear Defogger)	OFF
Julian Date of Build	Module Information 1	Number	Varies
Key Cylinder Lock/Unlock	Inputs	OFF/ON	OFF
Left/Right Sensor	Data	0.5-5.5 Volts	Varies
Lock Actuator	Outputs	Idle/Unlock/Lock	Idle
Mirror Motor	Outputs	Idle/UP/Down/Left/Right/Fold In/Fold Out	Idle
Module ID	Inputs	DDM/LRD/PDM/RRD/RMD/LMD	DDM/LRD
Software Level	Module Information 1	Number	Varies
Switch Dimming	Outputs	Inactive/Active	Inactive
Up/Down Sensor	Data	0.5-5.5 Volts	Varies
Year Module Built	Module Information 1	Number	Varies
Window Current	Data	4-20 Amps	Varies
Window Motor	Outputs	Idle/Up/Down	Idle
Window Motor Peak	Data	4-20 Amps	Varies

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Current

Driver Door Switch Assembly (DDSA) Scan Tool Data List

Scan Tool Parameter	Data List	Units Displayed	Typical Data Value
Battery power is the only requirement for Module Information, Inputs and Lock Outputs. Key ON is required for window outputs.			
8 Digit GM Part Number	ID Information	Number	Varies
Battery Voltage	Data	9.0-15.0 Volts	12.8 Volts
Calibration ID	ID Information	Number	Varies
Component Serial #8	ID Information	Number	8-11th digit
Component Serial #12	ID Information	Number	12th digit
Component Serial #13	ID Information	Number	13-16th digit
Component Serial #17	ID Information	Number	17-18th digit
Door Lock Switch	Inputs	Idle/Lock/Unlock/Invalid	Idle
Julian Date of Build	ID Information	Number	Varies
LF Window Switch	Inputs	Idle/Up/Down/Express Up/Express Dwn.	Idle
LR Window Switch	Inputs	Idle/Up Down/Express Dwn.	Idle
Memory Recall Switches	Inputs	Idle/Memory 1/Memory 2/Exit	Idle
Mirror Fold Switch	Inputs	In/Idle	Idle
Mirror Select Switch	Inputs	Driver/Off/Passenger	Driver
Mirror Switch	Inputs	Idle/Up/Down/Left/Right/Up Left/Down Left/Up Right/Down Right	Idle
Personalization	Inputs	Driver 1/Driver 2	Driver 1
PROM ID	ID Information	Number	Varies
RF Window Switch	Inputs	Idle/Up/Down/Express Up/Express Dwn.	Idle
RR Window Switch	Inputs	Idle/Up Down/Express Dwn.	Idle
Window Lockout LED (output)	Inputs	OFF/ON	OFF
Window Lockout Switch	Inputs	Idle/Pressed	Idle
Year Module Built	ID Information	Number	Varies

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Left Rear Door Module (LRDM) Scan Tool Data List

Scan Tool Parameter	Data List	Units Displayed	Typical Data Value
Battery power is the only requirement for Module Information, Inputs and Lock Outputs. Key ON is required for window outputs.			
8 Digit GM Part Number	Module Information 2	Number	Varies
Battery Voltage	Data	9.0-15.0 Volts	12.8 Volts
Component Serial #8	Module Information 2	Number	8-11th digit
Component Serial #12	Module Information 2	Number	12th digit
Component Serial #13	Module Information 2	Number	13-16th digit
Component Serial #17	Module Information 2	Number	17-18th digit
Deadbolt Actuator	Outputs	OFF/ON	OFF
Door Ajar Switch	Inputs	OFF/ON	OFF
Door Lock Switch	Inputs	Idle/Lock/Unlock/Invalid	Idle
Hardware Level	Module Information 1	Number	Varies
Julian Date of Build	Module Information 1	Number	Varies
Left Rear Door Jamb Switch	Inputs	OFF/ON	OFF
Lock Actuator	Outputs	Idle/Lock/Unlock	Idle
Module ID	Inputs	DDM/LRD/PDM/RRD/LMD/RMD	DDM/LRD
Software Level	Module Information 1	Number	Varies
Switch Dimming	Outputs	Inactive/Active	Inactive
Window Current	Data	4-20 Amps	Varies
Window Motor	Outputs	Idle/Up/Down	Idle
Window Motor Peak Current	Data	4-20 Amps	Varies
Window Switch Inputs	Inputs	Idle/Up/Down/Express Down	Idle
	Module		

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Year Module Built	Information 1	Number	Varies
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Passenger Door Module (PFDM) Scan Tool Data List

Scan Tool Parameter	Data List	Units Displayed	Typical Data Value
Battery power is the only requirement for Module Information, Inputs and Lock Outputs. Key ON is required for window outputs.			
8 Digit GM Part Number	Module Information 2	Number	Varies
Battery Voltage	Data	9.0-15.0 Volts	12.8 Volts
Component Serial #8	Module Information 2	Number	8-11th digit
Component Serial #12	Module Information 2	Number	12th digit
Component Serial #13	Module Information 2	Number	13-16th digit
Component Serial #17	Module Information 2	Number	17-18th digit
Deadbolt Actuator	Outputs	OFF/ON	OFF
Door Ajar Switch	Inputs	OFF/ON	OFF
Door Lock Switch	Inputs	Idle/Lock/Unlock/Invalid	Idle
Hardware Level	Module Information 1	Number	Varies
Heated Mirror	Outputs	OFF/ON (w/Rear Defogger)	OFF
Julian Date of Build	Module Information 1	Number	Varies
Left/Right Sensor	Data	0.5-5.5 Volts	Varies
Lock Actuator	Outputs	Idle/Lock/Unlock	Idle
Mirror Motor	Outputs	Idle/Up/Down/Left/Right/Fold In/Fold Out	Idle
Module ID	Inputs	DDM/LRD/PDM/RRD/LMD/RMD	PDM/RRD
Pass. Door Jamb Sw.	Inputs	OFF/ON	OFF
Software Level	Module Information 1	Number	Varies
Switch Dimming	Outputs	Inactive/Active	Inactive
Up/Down Sensor	Data	0.5-5.5 Volts	Varies

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Window Current	Data	4-20 Amps	Varies
Window Motor	Outputs	Idle/Up/Down	Idle
Window Motor Peak Current	Data	4-20 Amps	Varies
Window Switch Inputs	Inputs	Idle/Up/Down/Express Up/Express Down	Idle
Year Module Built	Module Information 1	Number	Varies

Right Rear Door Module (RRDM) Scan Tool Data List

Scan Tool Parameter	Data List	Units Displayed	Typical Data Value
Battery power is the only requirement for Module Information, Inputs and Lock Outputs. Key ON is required for window outputs.			
8 Digit GM Part Number	Module Information 2	Number	Varies
Battery Voltage	Data	9.0-15.0 Volts	12.8 Volts
Component Serial #8	Module Information 2	Number	8-11th digit
Component Serial #12	Module Information 2	Number	12th digit
Component Serial #13	Module Information 2	Number	13-16th digit
Component Serial #17	Module Information 2	Number	17-18th digit
Deadbolt Actuator	Outputs	OFF/ON	OFF
Door Ajar Sw.	Inputs	OFF/ON	OFF
Door Lock Switch	Inputs	Idle/Lock/Unlock/Invalid	Idle
Hardware Level	Module Information 1	Number	Varies
Julian Date of Build	Module Information 1	Number	Varies
Lock Actuator	Outputs	Idle/Lock/Unlock	Idle
Module ID	Inputs	DDM/LRD/PDM/RRD/LMD/RMD	PDM/RRD
Right Rear Door Jamb Sw.	Inputs	OFF/ON	OFF
	Module		

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Software Level	Information 1	Number	Varies
Switch Dimming	Outputs	Inactive/Active	Inactive
Window Current	Data	4-20 AMPS	Varies
Window Motor	Outputs	Idle/Up/Down	Idle
Window Motor Peak Current	Data	4-20 AMPS	Varies
Window Switch Inputs	Inputs	Idle/Up/Down/Express Down	Idle
Year Module Built	Module Information 1	Number	Varies

Rear Integration Module (RIM) Scan Tool Data List

Scan Tool Parameter	Data List	Units Displayed	Typical Data Value
8 Digit GM Part Number	ID Information	Number	Varies
Battery Voltage	Data	9.0-15.0 Volts	12.8 Volts
Component Serial #8	ID Information	Number	8- 11th digit
Component Serial #12	ID Information	Number	12th digit
Component Serial #13	ID Information	Number	13-16th digit
Component Serial #17	ID Information	Number	17-18th digit
Driver Door Jamb Sw.	CTD Alarm Triggers	OFF/ON	OFF
Hardware ID	ID Information	Number	Varies
Julian Date of Build	ID Information	Number	Varies
Left Rear Door Jamb Sw.	CTD Alarm Triggers	OFF/ON	OFF
Manufacturing Site	ID Information	Number	Varies
Pass. Door Jamb Sw.	CTD Alarm Triggers	OFF/ON	OFF
Prom ID	ID Information	Number	Varies
Rt. Rear Door Jamb Sw.	CTD Alarm Triggers	OFF/ON	OFF
Year Module Built	ID Information	Number	Varies

Dash Integration Module (DIM) Scan Tool Data List

Scan Tool Parameter	Data List	Units Displayed	Typical Data Value

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8 Digit GM Part Number	ID Information	Number	Varies
Battery Voltage	Data	9.0-15.0 Volts	12.8 Volts
Calibration ID	ID Information	Number	Varies
Component Serial #8	ID Information	Number	8-11th digit
Component Serial #12	ID Information	Number	12th digit
Component Serial #13	ID Information	Number	13-16th digit
Component Serial #17	ID Information	Number	17-18th digit
Julian Date of Build	ID Information	Number	Varies
Personalization Option	Set Options	(*) Activate/Deactivate	(*) Activate
Prom ID	ID Information	Number	Varies
Year Module Built	ID Information	Number	Varies

SCAN TOOL DATA DEFINITIONS

8-Digit GM Part Number

The scan tool displays the part number for the Door Module (DDSA, DDM, PFDM, LMDM, RMDM, LRDM, or RRDM).

Battery Voltage

The scan tool displays 0 to 25.0 volts. This is the current battery voltage level at the door module.

Calibration ID

The scan tool displays the calibration or program revision level used in the PROM.

Component Serial # 8-11

The scan tool displays the first partition of the door module serial number.

Component Serial # 12

The scan tool displays the second partition of the door module serial number.

Component Serial # 13-16

The scan tool displays the third partition of the door module serial number.

Component Serial # 17-18

The scan tool displays the last partition of the door module serial number.

Deadbolt Actuator

The scan tool displays OFF/ON. This is the door module output to the deadbolt actuator. Upon receiving a valid deadbolt request, the door module supplies voltage and ground to the associated dead bolt actuator to deadbolt the door as requested, and the scan tool displays ON in the appropriate door modules data list. When the door module is not supplying voltage and ground to the associated door lock actuator to deadbolt the door, the scan tool displays OFF.

Dimming

The scan tool displays Inactive/Active. This is the state of the door switches backlighting as detected by the associated door module. When the door switches are illuminated, the scan tool displays Active in the appropriate door modules data list. When the door switches are not illuminated, the scan tool displays Inactive in the appropriate door modules data list.

Door Ajar Switch

The scan tool displays Off/On. Each one of the vehicle doors has a door ajar switch. When a vehicle door is open, the associated door ajar switch closes and the scan tool displays On for that switch in the appropriate door modules data list. When a vehicle door is closed, the associated door ajar switch opens and the scan tool displays Off for that switch in the appropriate door modules data list.

Door Lock Switch

On vehicles w/V4U, the scan tool displays Idle/Lock/Unlock for front and rear door lock switches. On vehicles w/oV4U, the scan tool displays Idle/Lock/Unlock for front door lock switches, and Idle/Lock for rear door lock switches. This is the state of the door lock switch as detected by the associated door module, except for the driver door lock switch, which is detected by the driver door switch assembly (DDSA).

Driver Door Jamb Sw.

The scan tool displays Off/On. This is the state of the driver door jamb switch as detected by the driver door module. When the driver door is open, the switch closes and the scan tool displays On. When the driver door is closed, the switch opens and the scan tool displays Off.

Driver Door Jamb Sw. - Theft Information

The scan tool displays Off/On. This is the state of the driver door jamb switch as detected by the driver door module. When the driver door is open, the switch closes and the scan tool displays On. When the driver door is closed, the switch opens and the scan tool displays Off.

Hardware Level

The scan tool displays a number representing the level of hardware incorporated into the Door Module (DDM, PFDM, LMDM, RMDM, LRDM, or RRDM).

Heated Mirror

The scan tool displays Off/On. This is the driver door module (DDM) or the passenger front door module (PFDM) output to the associated mirror. When the DDM or the PFDM supplies voltage and ground to the associated outside rearview mirror heating element, the scan tool displays On in the appropriate door modules data list. When the DDM or PFDM is not supplying voltage and ground to the associated outside rearview mirror heating element, the scan tool displays Off.

Julian Date Of Build

The scan tool displays a number representing the day of the year the module selected was built.

Key Cylinder Lock/Unlock

The scan tool displays Off/ON. On domestic vehicles, this is the state of the key cylinder unlock switch as detected by the driver door module (DDM). When the door key is inserted into the driver door lock cylinder and turned to the unlock position, the scan tool displays On. When the driver door lock cylinder is not being turned to the unlock position, the scan tool displays Off.

On export vehicles, this is the state of the key cylinder lock switch as detected by the driver door module (DDM). When the door key is inserted into the driver door lock cylinder and turned to the lock position, the scan tool displays On. When the driver door lock cylinder is not being turned to either the lock or unlock position, the scan tool displays Off.

Left/Right Sensor

The scan tool displays 0.25 - 5.50 volts (DDM and PFDM only). This is the mirror horizontal position sensor feedback voltage as detected by the associated front door module,

i.e. driver door module (DDM), or passenger front door module (PFDM). The voltage varies directly with the horizontal position of the associated outside rearview mirror.

Left Rear Door Jamb Sw.

The scan tool displays Off/On. This is the state of the left rear door jamb switch as detected by the left rear door module (LRDM). When the left rear door is open, the switch closes and the scan tool displays On. When the left rear door is closed, the switch opens and the scan tool displays Off.

Left Rear Door Jamb Sw. -Theft Information

The scan tool displays Off/On. This is the state of the left rear door jamb switch as detected by the left rear door module (LRDM). When the left rear door is open, the switch closes and the scan tool displays On. When the left rear door is closed, the switch opens and the scan tool displays Off.

LF Window Switch

The scan tool displays Idle/Up/Down/Express Up/Express Dwn. This is the state of the driver door window switch as detected by the driver door switch assembly (DDSA).

LR Window Switch

The scan tool displays Idle/Up/Down/Express Dwn. This is the state of the drivers left rear window switch as detected by the driver door switch assembly (DDSA).

Lock Actuator

The scan tool displays Idle/Lock/Unlock. This is the door module output to the door lock actuator. Upon receiving a valid Lock or Unlock request, the door module supplies voltage and ground to the associated door lock actuator to lock or unlock the door as requested, and the scan tool displays the corresponding position in the appropriate door modules data list. When the door module is not supplying voltage and ground to the associated door lock actuator to, either lock or unlock the door, the scan tool displays Idle.

Memory Recall Switches

The scan tool displays Idle/ Driver 1/Driver 2/Exit. This is the state of the memory function switch as detected by the driver door switch assembly (DDSA). When a memory function switch button is pressed, the scan tool momentarily displays the function pressed.

Mirror Fold Switch (Export)

The scan tool displays Idle/In. This is the state of the outside rearview mirror power fold switch as detected by the driver door switch assembly (DDSA). When the power fold switch is not being operated the scan tool displays Idle.

Mirror Motor

The scan tool displays Idle/Up/Down/Left/Right/Fold In/Fold Out. This is the driver door module (DDM) or passenger front door module (PFDM) output to the associated outside rearview mirror. When the DDM or the PFDM supplies voltage and ground to the associated driver or passenger mirror motor to move the mirror up, down, left, or right, or to Fold In or Fold Out, the scan tool displays the corresponding direction in the appropriate door modules data list. When the DDM or the PFDM is not supplying voltage and ground to a mirror motor, the scan tool displays Idle.

Mirror Select Switch

The scan tool displays Idle/Driver/Passenger. This is the state of the mirror select switch as detected by the driver door switch assembly (DDSA). The display indicates which mirror, if any, the operator has selected for adjustment.

Mirror Switch

The scan tool displays Up/Down/Left/Right/Up-Left/Up-Right/Down-Left/Down-Right. This is the state of the mirror position adjustment switch as detected by the driver door switch assembly. When the mirror position adjustment switch is operated in any of these directions, the scan tool displays the corresponding direction.

Module ID

The scan tool displays the module identity. The driver door module and the left rear door module display DDM/LRD as an Input. The passenger front door module and the right rear door module display PDM/RRD as an Input. On vehicles w/V4U, the left middle door module and the right middle door module display RMD/LMD as an Input.

Pass. Door Jamb Sw.

The scan tool displays Off/On. This is the state of the passenger front door jamb switch as detected by the passenger front door module (PFDM). When the passenger front door is open, the switch closes and the scan tool displays On. When the passenger front door is

closed, the switch opens and the scan tool displays Off.

Pass. Door Jamb Sw. - Theft Information

The scan tool displays Off/On. This is the state of the passenger front door jamb switch as detected by the passenger front door module (PFDM). When the passenger front door is open, the switch closes and the scan tool displays On. When the passenger front door is closed, the switch opens and the scan tool displays Off.

Personalization

The scan tool displays driver 1 or driver 2. This is the identity of the current driver as detected by the driver door switch assembly (DDSA).

Personalization Option

This is the state of the personalization option as it is stored in the Dash Integration Module (DIM). When Personalization Option is selected, the scan tool displays the directions to activate or deactivate the personalization option. The personalization option is normally set to the activated state during assembly of the vehicle.

PROM ID

The scan tool displays the PROM ID of the driver door switch assembly (DDSA).

RF Window Switch

The scan tool displays Idle/Up/Down/Express Up/Express Dwn. This is the state of the drivers right front window switch as detected by the driver door switch assembly (DDSA).

RR Window Switch

The scan tool displays Idle/Up/Down/Express Dwn. This is the state of the drivers right rear window switch as detected by the driver door switch assembly (DDSA).

Rt. Rear Door Jamb Sw.

The scan tool displays Off/On. This is the state of the right rear door jamb switch as detected by the right rear door module (RRDM). When the right rear door is open, the switch closes and the scan tool displays On. When the right rear door is closed, the switch opens and the scan tool displays Off.

Rt. Rear Door Jamb Sw. -Theft Information

The scan tool displays Off/On. This is the state of the right rear door jamb switch as detected by the right rear door module (RRDM). When the right rear door is open, the switch closes and the scan tool displays On. When the right rear door is closed, the switch opens and the scan tool displays Off.

Software Level

The scan tool displays the four digit number of the software incorporated into the Door Module (DDM, PFDM, LMDM, RMDM, LRDM, or RRDM).

Up/Down Sensor

The scan tool displays 0.25 - 5.50 volts (DDM and PFDM only). This is the mirror vertical position sensor feedback voltage as detected by the associated front door module, i.e. driver door module (DDM), or passenger front door module (PFDM). The voltage varies directly with the vertical position of the associated outside rearview mirror.

Window Current

The scan tool displays amperage. This is the electrical current being used by the window motor during operation as detected by the associated door module.

Window Lockout LED (output)

The scan tool displays Off/On. This is the state of the LED indicator on the window lockout switch button as detected by the driver door switch assembly (DDSA). When the LED light is illuminated, the scan tool displays On. When the LED indicator light is not illuminated, the scan tool displays Off.

Window Lockout Switch

The scan tool displays Idle/Pressed. This is the state of the window lockout switch as detected by the driver door switch assembly (DDSA). When the window lockout switch is not being operated, the scan tool displays Idle.

Window Motor

The scan tool displays Idle/Up/Down. This is the door module output to the associated window. Upon receiving a valid window Up or Down request, the door module supplies

voltage and ground to the associated window motor to move the window in the requested direction and the scan tool displays the corresponding direction in the appropriate door modules data list. When the door module is not supplying voltage and ground to the associated window motor to move the window in either direction, the scan tool displays Idle.

Window Motor Peak Current

The scan tool displays peak amperage. This is the peak electrical current used by the window motor during window operation as detected by the associated door module.

Window Switch Inputs

The scan tool displays Idle/Up/Down/Express Up/Express Dwn. for the front passenger door window, or, Idle/Up/Down/Express Dwn. for a rear door window. This is the state of a passenger door window switch as detected by the associated passenger door module (all door modules except DDSA and DDM).

Year Module Built

The scan tool displays the four digit year of build for the module selected.

DIAGNOSTIC TROUBLE CODE (DTC) LIST

Diagnostic Trouble Code (DTC) List

DTC	Diagnostic Procedure	Module
B1586	<u>DTC B1586</u>	DDM and PFDM
B1591	<u>DTC B1591</u>	DDM and PFDM
B1697	<u>DTC B1697, B1702, B1707, or B1712</u>	DDSA
B1702	<u>DTC B1697, B1702, B1707, or B1712</u>	DDSA
B1707	<u>DTC B1697, B1702, B1707, or B1712</u>	DDSA
B1712	<u>DTC B1697, B1702, B1707, or B1712</u>	DDSA
B1717	<u>DTC B1717</u>	DDSA
B3064 Export Only	<u>DTC B3064 or B3069</u>	DDM
B3069	<u>DTC B3064 or B3069</u>	DDM and PFDM
B3142	<u>DTC B3142, B3147, B3152, or B3157</u>	DDSA
B3147	<u>DTC B3142, B3147, B3152, or B3157</u>	Door Modules except DDM
B3152	<u>DTC B3142, B3147, B3152, or B3157</u>	DDSA

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B3157	<u>DTC B3142, B3147, B3152, or B3157</u>	Door Modules except DDM
B3172	<u>DTC B3172, B3177, B3182, B3187, B3192, B3197, B3282, B3287, or B3292</u>	Door Modules except DDM
B3177	<u>DTC B3172, B3177, B3182, B3187, B3192, B3197, B3282, B3287, or B3292</u>	Door Modules except DDM
B3282	<u>DTC B3172, B3177, B3182, B3187, B3192, B3197, B3282, B3287, or B3292</u>	Door Modules except DDM
B3377	<u>DTC B3377, B3382, B3387, B3392, B3397, B3452, B3457, B3462, B3467, B3472, B3477, B3482, B3517, or B3522</u>	DDSA
B3382	<u>DTC B3377, B3382, B3387, B3392, B3397, B3452, B3457, B3462, B3467, B3472, B3477, B3482, B3517, or B3522</u>	DDSA
B3387	<u>DTC B3377, B3382, B3387, B3392, B3397, B3452, B3457, B3462, B3467, B3472, B3477, B3482, B3517, or B3522</u>	DDSA
B3392	<u>DTC B3377, B3382, B3387, B3392, B3397, B3452, B3457, B3462, B3467, B3472, B3477, B3482, B3517, or B3522</u>	DDSA
B3397	<u>DTC B3377, B3382, B3387, B3392, B3397, B3452, B3457, B3462, B3467, B3472, B3477, B3482, B3517, or B3522</u>	DDSA
B3452	<u>DTC B3377, B3382, B3387, B3392, B3397, B3452, B3457, B3462, B3467, B3472, B3477, B3482, B3517, or B3522</u>	DDSA
B3457	<u>DTC B3377, B3382, B3387, B3392, B3397, B3452, B3457, B3462, B3467, B3472, B3477, B3482, B3517, or B3522</u>	DDSA
B3462	<u>DTC B3377, B3382, B3387, B3392, B3397, B3452, B3457, B3462, B3467, B3472, B3477, B3482, B3517, or B3522</u>	DDSA
B3467	<u>DTC B3377, B3382, B3387, B3392, B3397, B3452, B3457, B3462, B3467, B3472, B3477, B3482, B3517, or B3522</u>	DDSA
B3472	<u>DTC B3377, B3382, B3387, B3392, B3397, B3452, B3457, B3462, B3467, B3472, B3477, B3482, B3517, or B3522</u>	DDSA
	<u>DTC B3377, B3382, B3387, B3392,</u>	

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B3517	<u>B3397, B3452, B3457, B3462, B3467, B3472, B3477, B3482, B3517, or B3522</u>	DDSA
B3522	<u>DTC B3377, B3382, B3387, B3392, B3397, B3452, B3457, B3462, B3467, B3472, B3477, B3482, B3517, or B3522</u>	DDSA
B3527	<u>DTC B3527</u>	DDSA
B3832	<u>DTC B3832 or B3833</u>	DDM and PFDM
U1713	<u>DTC U1713 or U1715</u>	DDM and PFDM
U1714	<u>DTC U1714 or U1716</u>	DDM and PFDM

DTC B1586**Circuit Description**

The LH mirror and the RH mirror horizontal position sensors are potentiometers. The driver door module (DDM) and the passenger door module (PFDM) determine the horizontal position of the mirrors based on the signal voltage from these sensors.

Conditions for Running the DTC

The DDM and the PFDM must be powered up.

Conditions for Setting the DTC

The code will be set when the signal voltage of the mirror horizontal position sensor is above or below the range limits, within 10 percent, for 30 seconds in the requested position. The voltage range limits depend upon what the actual voltage of the 5-volt reference circuit is, and will vary from vehicle to vehicle and from module to module. Use the table below to determine what the failed voltage range limits are for your particular vehicle/module.

DTC B1586

If the Mirror 5-volt reference voltage indicated on the scan tool is closest to:	The code will be set when the sensor signal voltage is:	The code will be set when the sensor signal voltage is:
5.0 volts	0-0.60 volts	4.7-5.0 volts
4.4 volts	0-0.53 volts	4.1-4.4 volts
3.8 volts	0-0.45 volts	3.6-3.8 volts

Action Taken When the DTC Sets

Mirror horizontal memory movements are disabled. Manual movements are not disabled.

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Conditions for Clearing the DTC

When the door modules no longer sense the failure.

Diagnostic Aids

- If the Personalization Option in the dash integration module (DIM) is activated on a vehicle that does not have the A45 Memory Mirrors option, DTCs B1586 and B1591 will be erroneously set. If DTCs B1586 and B1591 are set on a vehicle that does not have the A45 Memory Mirrors option, refer to **Body Control Module (BCM) Programming/RPO Configuration (RIM)** or **Body Control Module (BCM) Programming/RPO Configuration (DIM)** in Body Control System to deactivate the option.
- After readjusting the mirror positions, be sure to reset the mirror memory switch to the new positions.
- If this DTC is set as a history DTC, but not as a current DTC, remove the fuse for the door module that set the DTC for 10 seconds, then reinstall it.

DTC B1586

Step	Action	Value(s)	Yes	No
Schematic Reference: <u>Outside Mirror Schematics</u>				
Connector End View Reference: <u>Power Door Systems Connector End Views</u>				
1	Did you perform the Door Systems Diagnostic System Check?	-	Go to Step 2	Go to <u>Diagnostic System Check - Door Systems</u>
2	Is the vehicle equipped with the A45 Memory Mirrors option?	-	Go to Step 4	Go to Step 3
3	1. Turn OFF the ignition. 2. Install a scan tool. 3. Turn ON the ignition, with the engine OFF. 4. Navigate to the Personalization Option screen of the dash integration module (DIM). 5. Follow the on screen instructions to deactivate the Personalization	-		

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	Option.		Go to Step 12	-
	Did you complete the deactivation?			
4	1. Turn OFF the ignition. 2. Install a scan tool. 3. Turn ON the ignition, with the engine OFF. 4. Using the mirror position adjustment switch, move the applicable mirror to the limits of the Right and Left positions. 5. With the scan tool, observe the Left/Right Sensor parameter in the associated door modules Data list. Does the scan tool indicate that the voltage increases with the right adjustments and decreases with the Left adjustments and is within the specified value?	0.25-5.0 V	Go to Step 12	Go to Step 5
5	1. Turn OFF the ignition. 2. Disconnect the C5 harness connector from the door module that is associated with the inoperative mirror. 3. Turn ON the ignition, with the engine OFF. 4. With the scan tool, observe the Left/Right Sensor parameter in the Data list. Does the scan tool indicate the voltage is greater than the specified value?	3.6 V	Go to Step 6	Go to Step 9
	1. Connect a 3-amp fused jumper between the horizontal position sensor signal circuit and the low reference circuit, at the door module pins.			

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6	2. With the scan tool, observe the Left/Right Sensor parameter in the applicable door module Data list. Does the scan tool indicate the voltage is within the specified value?	0-0.75 V	Go to Step 7	Go to Step 9
7	Measure the voltage of the 5-volt reference circuit at the door module pin. Does the voltage measure within the specified value?	3.50-5.00 V	Go to Step 8	Go to Step 9
8	Inspect for poor connections at the C5 harness connector of the door module associated with the inoperative mirror. 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 12	Go to Step 10
9	Inspect for poor connections at the C5 harness connector of the door module associated with the inoperative mirror. 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 12	Go to Step 11
10	Replace the inoperative mirror. Refer to <u>Mirror Replacement - Power</u>. Did you complete the replacement?	-	Go to Step 12	-
11	IMPORTANT: Perform the setup procedure for the replacement door module. Refer to <u>DCM Programming/RPO Configuration (Export Only)</u>. Replace the door module. Refer to <u>Door Control Module Replacement</u>. Did you complete the replacement?	-	Go to Step 12	-
	1. Clear the DTCs using the scan tool. 2. Operate the vehicle within the Conditions for Running the DTC as			

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12	specified in the supporting text.	-		
	Does the DTC reset?		Go to Step 2	System OK

DTC B1591

Circuit Description

The LH mirror and the RH mirror vertical position sensors are potentiometers. The driver door module (DDM) and the passenger door module (PFDM) determine the vertical position of the mirrors based on the signal voltage from these sensors.

Conditions for Running the DTC

The DDM and the PFDM must be powered up.

Conditions for Setting the DTC

The code will be set when the signal voltage of the mirror vertical position sensor is above or below the range limits, within 10 percent, for 30 seconds in the requested position. The voltage range limits depend upon what the actual voltage of the 5-volt reference circuit is, and will vary from vehicle to vehicle and from module to module. Use the table below to determine what the failed voltage range limits are for your particular vehicle/module.

DTC B1591

If the Mirror 5-volt reference voltage indicated on the scan tool is closest to:	The code will be set when the sensor signal voltage is:	The code will be set when the sensor signal voltage is:
5.0 volts	0-0.60 volts	4.7-5.0 volts
4.4 volts	0-0.53 volts	4.1-4.4 volts
3.8 volts	0-0.45 volts	3.6-3.8 volts

Action Taken When the DTC Sets

Mirror vertical memory movements are disabled. Manual movements are not disabled.

Conditions for Clearing the DTC

When the door modules no longer sense the failure.

Diagnostic Aids

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- If the Personalization Option in the dash integration module (DIM) is activated on a vehicle that does not have the A45 Memory Mirrors option, DTCs B1586 and B1591 will be erroneously set. If DTCs B1586 and B1591 are set on a vehicle that does not have the A45 Memory Mirrors option, refer to **Body Control Module (BCM) Programming/RPO Configuration (RIM)** or **Body Control Module (BCM) Programming/RPO Configuration (DIM)** in Body Control System to deactivate the option.
- After readjusting the mirror positions, be sure to reset the mirror memory switch to the new positions.
- If this DTC is set as a history DTC, but not as a current DTC, remove the fuse for the door module that set the DTC for 10 seconds, then reinstall it.

DTC B1591

Step	Action	Value(s)	Yes	No
Schematic Reference: <u>Outside Mirror Schematics</u>				
Connector End View Reference: <u>Power Door Systems Connector End Views</u>				
1	Did you perform the Door Systems Diagnostic System Check?	-	Go to Step 2	Go to <u>Diagnostic System Check - Door Systems</u>
2	Is the vehicle equipped with the A45 Memory Mirrors option?	-	Go to Step 4	Go to Step 3
3	1. Turn OFF the ignition. 2. Install a scan tool. 3. Turn ON the ignition, with the engine OFF. 4. Navigate to the Personalization Option screen of the dash integration module (DIM). 5. Follow the on screen instructions to deactivate the Personalization Option.	-	Go to Step 12	-
	Did you complete the deactivation?			
	1. Turn OFF the ignition. 2. Install a scan tool.			

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4	- Turn ON the ignition, with the engine OFF. - Using the mirror position adjustment switch, move the applicable mirror to the limits of the Up and Down positions. - With the scan tool, observe the Up/Down Sensor parameter in the associated door modules Data list. Does the scan tool indicate that the voltage increases with the Up adjustments and decreases with the Down adjustments and is within the specified value?	0.25-5.0 V	Go to Step 12	Go to Step 5
5	- Turn OFF the ignition. - Disconnect the C5 harness connector from the door module that is associated with the inoperative mirror. - Turn ON the ignition, with the engine OFF. - With the scan tool, observe the Up/Down Sensor parameter in the Data list. Does the scan tool indicate the voltage is greater than the specified value?	3.6 V	Go to Step 6	Go to Step 9
6	- Connect a 3-amp fused jumper between the vertical position sensor signal circuit and the low reference circuit at the door module pins. - With the scan tool, observe the Up/Down Sensor parameter in the applicable door module Data list. Does the scan tool indicate the voltage is within the specified value?	0-0.75 V	Go to Step 7	Go to Step 9
	Measure the voltage of the 5-volt reference			

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7	circuit at the door module pin. Does the voltage measure within the specified value?	3.50-5.00 V	Go to Step 8	Go to Step 9
8	Inspect for poor connections at the C5 harness connector of the door module associated with the inoperative mirror. 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 12	Go to Step 10
9	Inspect for poor connections at the C5 harness connector of the door module associated with the inoperative mirror. 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 12	Go to Step 11
10	Replace the inoperative mirror. Refer to <u>Mirror Replacement - Power</u> . Did you complete the replacement?	-	Go to Step 12	-
11	IMPORTANT: Perform the setup procedure for the replacement door module. Refer to <u>DCM Programming/RPO Configuration (Export Only)</u> . Replace the door module. Refer to <u>Door Control Module Replacement</u> . Did you complete the replacement?	-	Go to Step 12	-
12	1. Clear the DTCs using the scan tool. 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 B1697, B1702, B1707, OR B1712

Circuit Description

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The switch that failed and generated this diagnostic trouble code (DTC) is a built in part of the driver door switch assembly (DDSA). There are no external circuits. The DDSA contains a microprocessor which takes the signal generated by the switch contacts and assigns a digital message to it. The DDSA then sends this message over the Serial Data Class 2 communications line to the driver door module (DDM) to move the left mirror, or, to the passenger front door module (PDM), to move the right mirror. The DDM or PDM then applies voltage and ground to the appropriate circuits of the appropriate mirror motor to move the mirror vertically and/or horizontally. The mirror motors are reversible.

It should be noted that, when a contact for a mirror position has failed, it will affect both mirrors.

Conditions for Running the DTC

The self diagnostic test runs once every 300 milliseconds regardless of source voltage.

Conditions for Setting the DTC

If the DDSA detects that the switch contacts are closed for more than 30 continuous seconds, it sets the DTC.

Action Taken When the DTC Sets

The DDSA deactivates and ignores inputs from the failed switch contacts and stops sending messages for the failed contacts to the DDM and the PDM. The DDSA will continue to respond to inputs from other non-failed switch contacts.

Conditions for Clearing the DTC

The DDSA clears the current DTC when the switch status changes.

Diagnostic Aids

A sticking switch can cause this DTC to intermittently set current.

DTC B1697, B1702, B1707, or B1712

Step	Action	Yes	No
Schematic Reference: <u>Outside Mirror Schematics</u> Connector End View Reference: <u>Power Door Systems Connector End Views</u>			
1	Did you perform the Door Systems Diagnostic System Check?	Go to Step 2	Go to <u>Diagnostic System Check - Door Systems</u>
	1. Install a scan tool.		

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2	2. Turn ON the ignition, with the engine OFF. 3. With the scan tool, observe the Mirror Switch parameter in the Driver Door Switch Assembly Inputs list. Does the scan tool display the Idle state?	Go to Step 3	Go to Step 4
3	1. Activate the mirror switch to all positions. 2. With the scan tool, observe the Mirror Switch parameter. Does the Mirror Switch parameter change to the corresponding states?	Go to <u>Testing for Intermittent Conditions and Poor Connections</u> in Wiring Systems	Go to Step 4
4	Inspect for poor connections at the driver door switch assembly harness connector. Refer to <u>Testing for Intermittent Conditions and Poor Connections</u> and <u>Connector Repairs</u> in Wiring Systems. Did you find and correct the condition?	Go to Step 6	Go to Step 5
5	Replace the driver door switch assembly (DDSA). Refer to <u>Front Door Switch Replacement</u>. Did you complete the replacement?	Go to Step 6	-
6	1. Use the scan tool in order to clear the DTCs. 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 B1717

Circuit Description

The switch that failed and generated this diagnostic trouble code (DTC) is a built in part of the driver door switch assembly (DDSA). This assembly contains a microprocessor which takes the signal generated by the switch and assigns a digital message to the switch signal. The DDSA then sends this message over the Serial Data Class 2 line to the driver door module (DDM) and the

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passenger front door module (PFDM) to move the mirrors. The DDM and the PFDM then apply voltage and ground to the appropriate circuit of their respective mirror fold motor to fold/retract or unfold/extend the mirrors. The mirror fold motors are reversible.

Conditions for Running the DTC

The self diagnostic test runs once every 30 seconds regardless of source voltage.

Conditions for Setting the DTC

If the DDSA detects that the switch is closed for more than 30 continuous seconds, it sets this DTC.

Action Taken When the DTC Sets

The DDSA deactivates and ignores inputs from the failed switch contacts and stops sending messages for this switch to the DDM and the PFDM. The DDSA will continue to respond to inputs from other non-failed switch contacts.

Conditions for Clearing the DTC

The DDSA clears this DTC when the switch message status changes.

Diagnostic Aids

An intermittently sticking or binding switch may cause this DTC to set. Refer to **Testing for Electrical Intermittents** .

DTC B1717

Step	Action	Yes	No
Schematic Reference: <u>Outside Mirror Schematics</u>			
Connector End View Reference: <u>Power Door Systems Connector End Views</u>			
1	Did you perform the Door Systems Diagnostic System Check?	Go to Step 2	Go to <u>Diagnostic System Check - Door Systems</u>
2	1. Install a Scan tool. 2. Turn ON the ignition, with the engine OFF. 3. With the scan tool, observe the Mirror Fold Switch parameter in the Driver Door Switch Inputs list.		

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	Does the scan tool display the Idle state?	Go to Step 3	Go to Step 4
3	1. Activate the mirror fold switch. 2. With the scan tool, observe the Mirror Fold Switch parameter. Does the Mirror Fold Switch parameter change state?	Go to Diagnostic Aids	Go to Step 4
4	Inspect for poor connections at the driver door switch assembly (DDSA) harness connector. Refer to <u>Testing for Intermittent Conditions and Poor Connections</u> and <u>Connector Repairs</u> in Wiring Systems. Did you find and correct the condition?	Go to Step 6	Go to Step 5
5	Replace the DDSA. Refer to <u>Front Door Switch Replacement</u>. Did you complete the replacement?	Go to Step 6	-
6	1. Use the scan tool in order to clear the DTCs. 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 B3064 OR B3069

Circuit Description (Domestic)

DTC B3069 may be caused by the key cylinder unlock switch or key cylinder unlock switch circuit. The switch, which is contained within the driver door lock actuator, and circuit are part of the Central Door Unlock feature. The driver door module (DDM) supplies battery voltage to the key cylinder unlock switch, via the key cylinder unlock signal circuit, and ground via the ground circuit. The key cylinder unlock switch is operated by a mechanical linkage rod that is connected to the driver door lock cylinder mounted in the driver door.

The key cylinder unlock switch is normally in the open state and is closed by inserting the door key into the driver door lock cylinder and turning to the Unlock position. If the driver door lock cylinder is held to the Unlock position for 3 seconds or longer, or, turned to the Unlock position twice within 3 seconds, the DDM detects the flow of voltage through the key cylinder unlock

switch as an input signal to unlock all doors. The DDM sends a serial data class 2 request to unlock all doors to the rear integration module (RIM), which is the master of all lock/unlock operations. If the RIM determines that conditions are correct for all doors to be unlocked, it sends a serial data class 2 message back to each door module to unlock all doors. All doors then simultaneously unlock.

Circuit Description (Export)

DTC B3064 may be caused by the key cylinder lock switch or key cylinder lock switch circuit. The switch, which is contained within the driver door lock actuator, and circuit are part of the Central Door Lock feature. The DDM supplies battery voltage to the key cylinder lock switch, via the key cylinder lock signal circuit, and ground via the ground circuit. The key cylinder lock switch is operated by a mechanical linkage rod that is connected to the driver door lock cylinder mounted in the driver door.

The key cylinder lock switch is normally in the open state and is closed by inserting the door key into the driver door lock cylinder and turning to the Lock position. The DDM detects the flow of voltage through the key cylinder lock switch as an input signal to lock all doors. The DDM sends a serial data class 2 request to lock all doors to the RIM, which is the master of all lock/unlock operations. If the RIM determines that conditions are correct for all doors to be locked, it sends a serial data class 2 message back to each door module to lock all doors. All doors then immediately lock.

On export vehicles that also have the door lock deadbolt feature, if the driver door lock cylinder is held to the Lock position for 3 seconds or longer, or, turned to the Lock position twice within 3 seconds, all doors will also deadbolt. When the doors are deadbolted, they cannot be manually unlocked.

Conditions for Running the DTC

The DDM must be powered and can not have B1327-Battery Voltage Low or B1328-Battery Voltage High set for the DTC to set.

Conditions for Setting the DTC

If the DDM detects that the key cylinder unlock switch circuit is closed for more than 30 continuous seconds on a domestic vehicle, it sets DTC B3069.

If the DDM detects that the key cylinder lock switch circuit is closed for more than 30 continuous seconds on a export vehicle, it sets DTC B3064.

Action Taken When the DTC Sets

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The DDM ignores signal inputs from this switch and stops sending messages to the RIM for it.

Conditions for Clearing the DTC

The DDM clears this DTC when the switch signal is no longer received, or when the vehicle ignition status changes from OFF to Run.

Diagnostic Aids

An intermittently sticking key cylinder switch can cause this DTC to set. Refer to **Testing for Electrical Intermittents** in Wiring Systems.

For more information on Central Door Unlock, Central Door Lock, deadbolting, and the key cylinder switches, refer to **Power Door Locks Description and Operation**

DTC B3064 or B3069

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 Door Systems Diagnostic System Check?	Go to Step 2	Go to <u>Diagnostic System Check - Door Systems</u>
2	1. Install a scan tool. 2. Turn ON the ignition, with the engine OFF. 3. With a scan tool, observe the Key Cylinder Lock/Unlock parameter in the Driver Door Module, Inputs list.		
	Does the scan tool display Idle?	Go to Step 3	Go to Step 4
3	1. If the vehicle is a domestic vehicle, insert the door key into the driver door lock cylinder, turn and hold it to the Unlock position for 3 seconds or longer. 2. If the vehicle is a export vehicle, insert the door key into the driver door lock cylinder, turn and hold it to the Lock position for 3 seconds or longer. 3. With the scan tool, observe the Key	Go to <u>Testing for Intermittent</u>	

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	Cylinder Lock/Unlock parameter. Does the Key Cylinder Lock/Unlock parameter change to the appropriate state?	<u>Conditions and Poor Connections</u> in Wiring Systems	Go to Step 4
4	1. Turn OFF the ignition. 2. Disconnect the driver door lock actuator harness connector. 3. Turn ON the ignition, with the engine OFF. 4. With a scan tool, observe the Key Cylinder Lock/Unlock parameter. Does the scan tool display Idle?	Go to Step 7	Go to Step 5
5	Test the appropriate key cylinder switch signal circuit for a short to ground. Refer to <u>Circuit Testing</u> and <u>Wiring Repairs</u> in Wiring Systems. Did you find and correct the condition?	Go to Step 10	Go to Step 6
6	Inspect for poor connections at the driver door module (DDM) harness connector. 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 10	Go to Step 8
7	Inspect for poor connections at the driver door lock actuator harness connector. 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 10	Go to Step 9
8	IMPORTANT: Perform the setup procedure for the replacement door module. Refer to <u>DCM Programming/RPO Configuration (Export Only)</u>. Replace the DDM. Refer to <u>Door Control Module Replacement</u>. Did you complete the replacement?	Go to Step 10	-

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9	Replace the driver door lock actuator. Refer to Latch Replacement - Front Door Did you complete the replacement?	Go to Step 10	-
10	1. Use the scan tool in order to clear the DTCs. 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 B3142, B3147, B3152, OR B3157

Circuit Description

The switch that failed and generated the diagnostic trouble code (DTC) is wired to either the driver door switch assembly (DDSA), passenger front door module (PDM), left rear door module (LRDM), or right rear door module (RRDM). When a door lock switch is activated to the Lock or Unlock function, the DDSA, PDM, LRDM, or RRDM receives the switch input and sends the information on, via the serial data class 2 communications line, to the rear integration module (RIM), which is the master of all lock operations. If the RIM determines that the message is a valid request and conditions are correct for a door lock function to occur, it sends its OK back to all the door modules to Lock or Unlock the doors. Each door module supplies power and ground to its associated lock actuator to Lock or Unlock the associated door.

Conditions for Running the DTC

The DDSA, PDM, LRDM or RRDM must be powered and can not have B1327-Battery Voltage Low or B1328-Battery Voltage High set for this DTC to set.

Conditions for Setting the DTC

If the DDSA, PDM, LRDM or RRDM detects that its associated switch is closed to a Lock or Unlock function for more than 30 continuous seconds, it sets the DTC.

Action Taken When the DTC Sets

The DDSA, PDM, LRDM or RRDM ignores inputs from the associated switch until the switch state changes.

Conditions for Clearing the MIL/DTC

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The current DTC will clear when the DDSA, PDM, LRDM or RRDM no longer detects the failure.

Diagnostic Aids

A sticking or binding switch can cause this DTC to set. Refer to **Testing for Intermittent Conditions and Poor Connections** in Wiring Systems.

Test Description

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

2: Inspects the existing state of the lock switch by using the current state of the input parameter.

DTC B3142, B3147, B3152, or B3157

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 Door Systems Diagnostic System Check?	Go to Step 2	Go to <u>Diagnostic System Check - Door Systems</u>
2	1. Install a scan tool. 2. Turn ON the ignition, with the engine OFF. 3. With the scan tool, observe the suspect Door Lock Switch parameter in the appropriate driver door switch assembly (DDSA), passenger front door module (PDM), left rear door module (LRDM), or right rear door module (RRDM) Inputs list. Does the scan tool display Idle?	Go to Step 3	Go to Step 4
3	1. Activate the suspect door lock switch. 2. With the scan tool, observe the appropriate Door Lock Switch parameter. Does the Door Lock Switch parameter change	Go To <u>Testing for Intermittent Conditions and Poor Connections</u> in	

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	state?	Wiring Systems	Go to Step 4
4	1. Turn OFF the ignition. 2. Disconnect the suspect door lock switch harness connector. 3. Turn ON the ignition, with the engine OFF. 4. With the scan tool, observe the appropriate Door Lock Switch parameter. Does the scan tool display Idle?	Go to Step 7	Go to Step 5
5	Test the appropriate door lock switch signal circuit for a short to ground. Refer to <u>Circuit Testing</u> and <u>Wiring Repairs</u> in Wiring Systems. Did you find and correct the condition?	Go to Step 10	Go to Step 6
6	Inspect for poor connections at the appropriate driver door switch assembly (DDSA), passenger front door module (PDM), left rear door module (LRDM) or right rear door module (RRDM) harness connector. 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 10	Go to Step 8
7	Inspect for poor connections at the appropriate door lock switch harness connector. 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 10	Go to Step 9
8	IMPORTANT: Perform the setup procedure for the replacement door module. Refer to <u>DCM Programming/RPO Configuration (Export Only)</u>. Replace the appropriate DDSA, PDM, LRDM, or RRDM. Refer to <u>Front Door Switch Replacement</u> or <u>Door Control Module</u>		

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	<u>Replacement</u> .Did you complete the replacement?	Go to Step 10	-
9	Replace the appropriate door lock switch. Refer to <u>Power Door Lock Switch Replacement</u> . Did you complete the replacement?	Go to Step 10	-
10	1. Use the scan tool in order to clear the DTCs. 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 B3172, B3177, B3182, B3187, B3192, B3197, B3282, B3287, OR B3292**Circuit Description**

This diagnostic trouble code (DTC) is generated by a passenger door window switch or a passenger door window switch circuit. Each passenger door window switch is mounted to the trim panel of the appropriate passenger door. The circuits and contacts of each passenger door window switch receive battery voltage and ground from the corresponding door module, i.e. front passenger door module (PDM), left rear door module (LRDM), or right rear door module (RRDM). When a passenger door window switch is operated, the switch contacts close and the associated door module interprets the flow of voltage as a specific request to move the window up or down. If conditions are correct for window operation to occur, the door module then powers the associated window motor and circuits to move the window.

Conditions for Running the DTC

The PDM, LRDM, or RRDM must be powered and can not have B1327 - Battery Voltage Low or B1328 - Battery Voltage High set for one of these DTCs to set.

Conditions for Setting the DTC

If the PDM, LRDM, or RRDM detects that its associated window switch is closed for more than 15 continuous seconds, it sets the DTC.

Action Taken When the DTC Sets

The action taken depends on which switch contacts are closed:

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- If an up switch contact is closed for more than 15 seconds, both UP and DOWN movements are disabled until the UP switch contact is no longer closed, or, the power mode changes from OFF to RUN.
- If a down switch contact is closed for more than 15 seconds, only the DOWN movement is disabled until the DOWN switch contact is no longer closed, or, the power mode changes from OFF to RUN. UP movement is operational regardless of the DOWN switch state.
- If an express switch contact is closed for more than 15 seconds, the Express movement is disabled until the express switch contact is no longer closed, or, the power mode changes from OFF to RUN.

Conditions for Clearing the DTC

The PDM, LRDM, or RRDM clears the current DTC when the switch message is no longer received.

Diagnostic Aids

An intermittently sticking or binding switch may cause the DTC to set. Refer to **Testing for Electrical Intermittents** in Wiring Systems.

Test Description

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

- 2: This step inspects the module input state by using the normal input status.
- 3: This step inspects to see that the input is seen by the module.
- 4: This step determines if the switch or the switch signal circuits between the switch and its associated module are shorted to ground.

DTC B3172, B3177, B3182, B3187, B3192, B3197, B3282, B3287, or B3292

Step	Action	Yes	No
Schematic Reference: <u>Power Window Schematics</u> and <u>Door Control Module Schematics</u>			
Connector End View Reference: <u>Power Door Systems Connector End Views</u>			
1	Did you perform the Door Systems Diagnostic System Check?	Go to Step 2	Go to <u>Diagnostic System Check - Door Systems</u>
	1. Install a scan tool. 2. Turn ON the ignition, with the engine		

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2	OFF. 3. With a scan tool, observe the Window Switch parameter in the Inputs list of the passenger door module that set the DTC. Does the scan tool display Idle?	Go to Step 3	Go to Step 4
3	1. Activate the appropriate passenger door window switch. 2. With the scan tool, observe the Window Switch parameter for the appropriate passenger door. Does the Window Switch parameter change state?	Go to <u>Testing for Intermittent Conditions and Poor Connections</u> in Wiring Systems	Go to Step 4
4	1. Turn OFF the ignition. 2. Disconnect the appropriate passenger door window switch. 3. Turn ON the ignition, with the engine OFF. 4. With a scan tool, observe the Door Window Switch parameter for the appropriate passenger door. Does the scan tool display Idle?	Go to Step 7	Go to Step 5
5	Test the appropriate window switch signal circuit(s) of the appropriate passenger door window switch for a short to ground. Refer to <u>Circuit Testing</u> and <u>Wiring Repairs</u> in Wiring Systems. Did you find and correct the condition?	Go to Step 10	Go to Step 6
6	Inspect for poor connections at the harness connector of the appropriate passenger door module. Refer to <u>Testing for Intermittent Conditions and Poor Connections</u> and <u>Connector Repairs</u> in Wiring Systems. Did you find and correct the condition?	Go to Step 10	Go to Step 8
	Inspect for poor connections at the harness connector of the appropriate passenger door		

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7	window switch. 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 10	Go to Step 9
8	IMPORTANT: Perform the setup procedure for the replacement door module. Refer to <u>DCM Programming/RPO Configuration (Export Only)</u>. Replace the appropriate passenger door module. Refer to <u>Door Control Module Replacement</u>. Did you complete the replacement?	Go to Step 10	-
9	Replace the appropriate passenger door window switch. Refer to <u>Front Door Switch Replacement</u> or <u>Power Window Switch Replacement - Rear Door</u>. Did you complete the replacement?	Go to Step 10	-
10	1. Use the scan tool in order to clear the DTCs. 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 B3377, B3382, B3387, B3392, B3397, B3452, B3457, B3462, B3467, B3472, B3477, B3482
B3482, B3517, OR B3522

Circuit Description

The window switch or window switch circuits that generate this diagnostic trouble code (DTC) are built-in parts of the driver door switch assembly (DDSA). There are no external circuits. The DDSA internally supplies power and ground to the contacts of each of the integral window switches. When one of the switches is operated, the switch contacts close, providing the DDSA with a specific window switch signal. The DDSA processes this signal, assigns a digital message to it, and sends the message to the appropriate driver door module (DDM), passenger front door module (PDM), left rear door module (LRDM), or right rear door module (RRDM), via the class 2 serial data circuit. The door module, upon receiving the message, examines other relevant

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information available on the class 2 serial data line in order to determine if conditions are correct for window operation to occur. If conditions are correct, the door module applies power and ground to the associated window motor and circuits in order to move the window.

Conditions for Running the DTC

The DDSA must be powered and must not have DTCs B1327 - Battery Low Voltage or B1328 - Battery High Voltage set for this DTC to set.

Conditions for Setting the DTC

If the DDSA determines that the contacts of one of its built in window switches are closed for more than 15 continuous seconds, it sets the DTC.

Action Taken When the DTC Sets

The action taken depends on which switch contacts are closed:

- If any window switch UP contacts are closed for more than 15 seconds, both UP and DOWN signals from that switch will be ignored until the input is no longer detected, or the ignition is cycled from OFF to Run.
- If any window switch DOWN contacts are closed for more than 15 seconds, DOWN signals from that switch will be ignored until the input is no longer detected, or the ignition is cycled from OFF to Run. The window UP function from that switch will still be operational.
- If any window switch EXPRESS contacts are closed for more than 15 seconds, express signals from that switch will be ignored until the DDSA no longer detects the input.
- All passenger door windows will operate normally from their respective passenger door window switch.

Conditions for Clearing the DTC

The DDSA clears the current DTC when it no longer detects a closed window switch, or the ignition is cycled from OFF to Run.

Diagnostic Aids

An intermittently sticking DDSA window switch may set the DTC. If the current DTC sets intermittently, refer to **Testing for Electrical Intermittents** in Wiring Systems.

Test Description

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

2: This step inspects the module input state using the normal input status.

3: This step inspects to see that the input is recognized by the module.

DTC B3377, B3382, B3387, B3392, B3397, B3452, B3457, B3462, B3467, B3472, B3477, B3482, B3517, or B3522

Step	Action	Yes	No
Schematic Reference: <u>Power Window Schematics</u> and <u>Door Control Module Schematics</u>			
Connector End View Reference: <u>Power Door Systems Connector End Views</u>			
1	Did you perform the Door Systems Diagnostic System Check?	Go to Step 2	Go to <u>Diagnostic System Check - Door Systems</u>
2	1. Install a scan tool. 2. Turn ON the ignition, with the engine OFF. 3. With a scan tool, observe the appropriate LF, RF, LR, or RR Window Switch parameter in the driver door switch Inputs list. Does the scan tool display Idle?	Go to Step 3	Go to Step 4
3	1. Activate the appropriate window switch from the driver door switch assembly (DDSA). 2. With the scan tool, observe the appropriate LF, RF, LR, or RR Window Switch parameter. Does the Window Switch parameter change state?	Go to <u>Testing for Intermittent Conditions and Poor Connections</u> in Wiring Systems	Go to Step 4
4	Inspect for poor connections at the DDSA harness connector. Refer to <u>Testing for Intermittent Conditions and Poor Connections</u> and <u>Connector Repairs</u> in Wiring Systems. Did you find and correct the condition?	Go to Step 6	Go to Step 5
5	Replace the DDSA. Refer to <u>Front Door Switch Replacement</u> .		-

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	Did you complete the replacement?	Go to Step 6	
6	1. Use the scan tool in order to clear the DTCs. 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 B3527

Circuit Description

The window lockout switch or circuits that generate this diagnostic trouble code (DTC) are built-in parts of the driver door switch assembly (DDSA). There are no external circuits. The DDSA internally supplies power and ground to the contacts of the window lockout switch. When the window lockout switch is operated, the switch contacts momentarily close to ground, providing the DDSA with a signal. The DDSA processes the signal, assigns a digital message to it, then sends the message to the passenger door modules via the class 2 serial data circuit. Upon receiving a class 2 message to lockout the passenger door windows, the passenger door modules will not allow their associated window to operate from the associated passenger door window switch.

If the window lockout is OFF deactivated, it will transition to ON activated when the switch button is momentarily pressed once. If the window lockout is already ON, it will transition to OFF when the switch button is momentarily pressed once. When the lockout is active, the switch button LED will be illuminated and the passenger door windows will not be operational from the passenger door window switches. However, the passenger door windows can still be operated from the appropriate power window switch built into the DDSA.

Conditions for Running the DTC

With the ignition switch ON, the DDSA inspects the switch inputs every 3 seconds regardless of source voltage.

Conditions for Setting the DTC

If the DDSA determines that the window lockout switch is closed, grounded for more than 30 continuous seconds, it sets this DTC.

Action Taken When the DTC Sets

The DDSA ignores inputs from the window lockout switch.

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Conditions for Clearing the DTC

The DDSA clears the current code when it no longer receives inputs from the lockout switch.

Diagnostic Aids

An intermittently sticking switch can cause this DTC to set. Refer to **Testing for Electrical Intermittents** in Wiring Systems.

Test Description

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

2: This step verifies the existing state of the window lockout switch by using the current state of the input parameter.

DTC B3527

Step	Action	Yes	No
Schematic Reference: <u>Door Control Module Schematics</u> and <u>Power Window Schematics</u>			
Connector End View Reference: <u>Power Door Systems Connector End Views</u>			
1	Did you perform the Door Systems Diagnostic System Check?	Go to Step 2	Go to <u>Diagnostic System Check - Door Systems</u>
2	1. Install a scan tool. 2. Turn ON the ignition with the engine OFF. 3. With the scan tool, observe the Window Lockout Switch parameter in the Driver Door Switch Inputs list. Does the scan tool display Idle?	Go to Step 3	Go to Step 4
3	1. Activate the window lockout switch to the Lockout position. 2. With the scan tool, observe the Window Lockout Switch parameter. Does the parameter change state?	Go to Diagnostic Aids	Go to Step 4
	Inspect for poor connections at the driver door		

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4	switch assembly harness connector. Refer to <u>Testing for Intermittent Conditions and Poor Connections</u> and <u>Connector Repairs</u> in Wiring Systems. Did you find and correct the condition?	Go to Step 6	Go to Step 5
5	Replace the driver door switch assembly (DDSA). Refer to <u>Front Door Switch Replacement</u> . Did you complete the replacement?	Go to Step 6	-
6	1. Use the scan tool in order to clear the DTCs. 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 B3832 OR B3833

Circuit Description

Express Up operation of the front door power windows is monitored and controlled by the front door modules, the window sensors, and the 4 connecting circuits. Each front door window motor has a window sensor mounted to it. The driver door module (DDM) and the passenger front door module (PFDM) each supply battery positive voltage and ground to power their respective window sensors. Each door module communicates with its sensor via a power window high speed serial data circuit, and a power window low speed serial data circuit. The window sensor detects differences in the window motors electrical pulses to determine if there is an obstruction to the travel of the window glass. The door modules use the information generated by the sensors to disable the Express Up movement of a window, or reverse the direction of travel, in the event that a passenger, or other obstacle, has become trapped in it.

The power window low speed serial data circuit is a unique 2-way serial data link between the door module and its sensor. The actual position of the window glass, in relationship to the distance traveled by the window, is communicated via this circuit, as well as state-of-health messages and the direction in which the window is traveling.

Conditions for Running the DTC

The door modules must be powered and can not have DTC B1327 - Battery Voltage Low or

DTC B1328 - Battery Voltage High set for this DTC to set.

Conditions for Setting the DTC

DTC B3832 indicates that a sensor does not know the actual position of its window glass and has sent a Not Normalized/Not Initialized message over the power window low speed serial data circuit to its corresponding door module. If the failure has occurred to the driver side window, the DDM detects the failure and sets the DTC. If the failure has occurred to the passenger side window, the PFDM detects the failure and sets the DTC.

Action Taken When the DTC Sets

The DDM, or the PDM, will not allow the Express Up function for that window to operate. All other window functions for that window will still operate.

Conditions for Clearing the DTC

The DDM or PFDM will clear the current DTC when either the DDM, or the PDM, detects that its corresponding sensor is no longer sending the message.

Diagnostic Aids

DTC B3832 may be set and the Express Up function disabled if the vehicle or the door module has recently lost power for any reason. You should first attempt to re-initialize the Express Up function. Refer to **Window Motor Programming - Express Function**.

If DTC B3832 is accompanied by DTC U1714, utilize the DTC U1714 or U1716 diagnostic table before using this table. Refer to **DTC U1714 or U1716**.

If DTC B3832 is set by itself and the vehicle or door module has not recently lost battery power, it is likely that the window sensor itself has failed.

Test Description

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

2: When DTC B3832 is accompanied by DTC U1713 or DTC U1714, a failure of the window sensor battery voltage circuit, or the window sensor low reference circuit, may be the cause. This step directs you to the correct diagnostic chart where these failures are addressed.

3: This step determines if the window is operational at all. The step does not ask the technician to attempt the Express Up movement because, when DTC B3832 is set current,

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the door module disables the Express Up function.

4: This step addresses the possibility that the DTC may have been set, and Express Up disabled, because the vehicle door module has recently lost power due to a battery disconnect or other reason. Performing the window express programming procedure will eliminate this as the possible cause of the DTC.

DTC B3832 or B3833

Step	Action	Yes	No
Schematic Reference: <u>Power Window Schematics</u>			
Connector End View Reference: <u>Power Door Systems Connector End Views</u>			
1	Did you perform the Door Systems Diagnostic System Check?	Go to Step 2	Go to <u>Diagnostic System Check - Door Systems</u>
2	Is DTC B3832 accompanied by DTCs U1713 and U1714?	Go to <u>DTC U1714 or U1716</u>	Go to Step 3
3	Attempt to operate the inoperative window to the Up, Down, and Express Down positions. Does the window move to the Up, Down, and Express Down positions as expected?	Go to Step 4	Go to <u>Symptoms - Doors</u>
4	Perform the window sensor/motor initialization procedure. Refer to <u>Window Motor Programming - Express Function</u> . Did you complete the window programming procedure?	Go to Step 5	-
5	1. Use the scan tool in order to clear the DTCs. 2. Operate the vehicle within the Conditions for Running the DTC as specified in the supporting text. Does the DTC reset?	Go to Step 6	Go to <u>Testing for Electrical Intermittents</u> in Wiring Systems
6	Inspect for poor connections at the inoperative window sensor/motor assembly harness connector. 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 8	Go to Step 7

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7	Replace the inoperative window sensor/motor assembly. Refer to <u>Window Regulator Replacement - Front Door.</u> Did you complete the replacement?	Go to Step 8	-
8	1. Re-initialize the window sensor/motor assembly. Refer to <u>Window Motor Programming - Express Function.</u> 2. Use the scan tool in order to clear the DTCs. 3. 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 U1713 OR U1715

Circuit Description

Express Up operation of the front door power windows is monitored and controlled by the front door modules and the window sensors. Each front door window motor has a window sensor mounted to it. The driver door module (DDM) and the passenger front door module (PDM) each supply battery voltage and ground to power their respective window sensors. The door modules and sensors communicate with each other via a power window high speed serial data circuit, and a power window low speed serial data circuit. The window sensor detects differences in the window motors electrical pulses to determine if there is an obstruction to the travel of the window glass. The door modules use the information generated by the sensors to disable the Express Up movement of a window, or reverse the direction of travel, in the event that a passenger, or other obstacle, has become trapped in it.

The power window high speed serial data circuit is a unique one-way communications link between the sensor and the door module. The sensor uses a voltage signal, and also a 1 kHz signal, to transmit information, via this circuit, from the sensor to the door module.

Conditions for Running the DTC

The door module must be powered and can not have B1327-Battery Voltage Low or B1328-Battery Voltage High set for this DTC to set.

Conditions for Setting the DTC

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The DTC will be set by the DDM or the PFDM when the DDM or PFDM detects either of the following conditions:

- The power window high speed serial data circuit voltage is a constant low for 112 milliseconds while the window is not moving.
- The power window high speed serial data circuit 1 kHz signal is active for a period of 112 milliseconds while the window is not moving.

Action Taken When the DTC Sets

The DDM or PDM will not allow the Express Up function for that window to operate. All other window functions for that window will still operate.

Conditions for Clearing the DTC

The DDM or PFDM will clear the current DTC when either of the following occurs:

- The DDM, or the PFDM, detects that the power window high speed serial data circuit voltage is no longer low while the window is not moving.
- The DDM, or the PFDM, detects that the power window high speed serial data circuit 1 kHz signal has returned to the inactive state while the window is not moving.

Diagnostic Aids

When DTC U1713 is set, it usually indicates a failure of the power window high speed serial data circuit, however, if DTC U1713 is set only in history and there is no complaint or failure symptom present, clearing the DTC should be the only action necessary. Some vehicles may set DTC U1713 erroneously if a window is operated in one express direction, then suddenly reversed to the opposite express direction. This can occur when the window express direction is quickly reversed by the operator, or during a window reversal triggered by an object becoming trapped between the window glass and the window frame.

DTC U1713 or U1715

Step	Action	Value(s)	Yes	No
Schematic Reference: <u>Power Window Schematics</u>				
Connector End View Reference: <u>Power Door Systems Connector End Views</u>				
1	Did you perform the Door Systems Diagnostic System Check?	-		Go to <u>Diagnostic System Check - Door</u>

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			Go to Step 2	<u>Systems</u>
2	1. Disconnect the window sensor/motor assembly harness connector from the inoperative window motor. 2. Turn ON the ignition, with the engine OFF. 3. Measure the voltage from the power window high speed serial data circuit of the harness connector to a good ground. Does the voltage measure within the specified value?	5.0 - 9.0 V		
			Go to Step 5	Go to Step 3
3	Test the power window high speed serial data circuit for a short to ground. Refer to <u>Circuit Testing</u> and <u>Wiring Repairs</u> in Wiring Systems. Did you find and correct the condition?	-		
			Go to Step 8	Go to Step 4
4	Inspect for poor connections at the appropriate door module harness connector. 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 8	Go to Step 6
5	Inspect for poor connections at the appropriate window sensor/motor assembly harness connector. 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 8	Go to Step 7
6	IMPORTANT: Perform the setup procedure for the replacement door module. Refer to <u>DCM Programming/RPO Configuration (Export Only)</u>. Replace the door module. Refer to <u>Door</u>	-		

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	<u>Control Module Replacement</u> .Did you complete the replacement?		Go to Step 8	-
7	Replace the inoperative window sensor/motor assembly. Refer to <u>Window Regulator Replacement - Front Door</u> . Did you complete the replacement?	-	Go to Step 8	-
8	1. Re-initialize the window sensor/motor. Refer to <u>Window Motor Programming - Express Function</u>. 2. Use the scan tool in order to clear the DTCs. 3. 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 U1714 OR U1716

Circuit Description

Express Up operation of the front door power windows is monitored and controlled by the front door modules and the window sensors. Each front door window motor has a window sensor mounted to it. The driver door module (DDM) and the passenger front door module (PFDM) each supply battery voltage and ground to power their respective window sensors. The door modules and sensors communicate with each other via a power window high speed serial data circuit, and a power window low speed serial data circuit. The window sensor detects differences in the window motors electrical pulses to determine if there is an obstruction to the travel of the window glass. The door modules use the information generated by the sensors to disable the Express Up movement of a window, or reverse the direction of travel, in the event that a passenger, or other obstacle, has become trapped in it.

The power window low speed serial data circuit is a unique two-way serial data communications link between the door module and the sensor. State-of-health messages, position of the window glass in relationship to the distance traveled by the window, and direction in which the window is moving are communicated via this circuit.

Conditions for Running the DTC

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The door modules must be powered and can not have B1327-Battery Voltage Low or B1328-Battery Voltage High set for this DTC to set.

Conditions for Setting the DTC

The DTC will be set by the DDM, or by the PFDM when the DDM or the PFDM has detected any of the following conditions:

- The door module cannot communicate with the sensor over the power window low speed serial data line.
- The power window low speed serial data line is open.
- The power window low speed serial data line is shorted to ground.
- The power window low speed serial data line is shorted to battery.
- The window sensor battery voltage circuit has failed.
- The window sensor low reference circuit has failed.

Action Taken When the DTC Sets

The DDM or the PDM will not allow the Express Up function for that window to operate. All other window functions for that window will still operate.

Conditions for Clearing the DTC

The DDM or the PFDM will clear the current DTC when power window low speed serial data communications between the sensor and associated door module, have returned to normal.

Diagnostic Aids

When DTC U1714 is set, a failure of the power window low speed serial data circuit is the probable cause. However, DTC U1714 may also be set if the window sensor has lost power. This could be due to a failure of the sensor battery voltage circuit, or a failure of the sensor ground circuit.

DTC U1714 or U1716

Step	Action	Value(s)	Yes	No
Schematic Reference: <u>Power Window Schematics</u>				
Connector End View Reference: <u>Power Door Systems Connector End Views</u>				
1	Did you perform the Door Systems Diagnostic System Check?	-		Go to <u>Diagnostic System</u>

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			Go to Step 2	<u>Check - Door Systems</u>
2	1. Turn OFF the ignition. 2. Disconnect the harness connector of the inoperative window sensor/motor assembly. 3. Turn ON the ignition, with the engine OFF. 4. Measure the voltage between the sensor battery voltage circuit and the sensor low reference circuit of the harness connector. Does the voltage measure within the specified value?	9.5 - 16.0 V	Go to Step 4	Go to Step 3
3	Measure the voltage between the sensor battery voltage circuit of the harness connector and a good ground. Does the voltage measure within the specified value?	9.5 - 16.0 V	Go to Step 9	Go to Step 8
4	Measure the voltage between the power window low speed serial data circuit of the harness connector and a good ground. Does the voltage measure within the specified value?	6.0 - 9.5 V	Go to Step 11	Go to Step 5
5	Was the voltage measured in step 4 greater than the specified value?	6.0 - 9.5 V	Go to Step 7	Go to Step 6
6	Test the power window low speed serial data circuit of the window sensor for a short to ground, a high resistance, or an open. Refer to Circuit Testing and Wiring Repairs in Wiring Systems. Did you find and correct the condition?	-	Go to Step 14	Go to Step 10
7	Test the power window low speed serial data circuit of the window sensor for a short to battery. Refer to Circuit Testing and Wiring Repairs in Wiring Systems.	-	Go to Step	

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	Did you find and correct the condition?		14	Go to Step 10
8	Test the battery voltage circuit of the window sensor for a short to ground, a high resistance, or an open. Refer to <u>Circuit Testing</u> and <u>Wiring Repairs</u> in Wiring Systems. Did you find and correct the condition?	-	Go to Step 14	Go to Step 10
9	Test the low reference circuit of the window sensor for a high resistance, an open, or a short to battery. Refer to <u>Circuit Testing</u> and <u>Wiring Repairs</u> in Wiring Systems. Did you find and correct the condition?	-	Go to Step 14	Go to Step 10
10	Inspect for poor connections at the harness connector of the appropriate door module. Refer to <u>Testing for Intermittent Conditions and Poor Connections</u> and <u>Connector Repairs</u> in Wiring Systems. Did you find and correct the condition?	-	Go to Step 14	Go to Step 12
11	Inspect for poor connections at the harness connector of the appropriate window sensor/motor assembly. Refer to <u>Testing for Intermittent Conditions and Poor Connections</u> and <u>Connector Repairs</u> in Wiring Systems. Did you find and correct the condition?	-	Go to Step 14	Go to Step 13
12	IMPORTANT: Perform the setup procedure for the replacement door module. Refer to <u>DCM Programming/RPO Configuration (Export Only)</u> . Replace the door module. Refer to <u>Door Control Module Replacement</u> . Did you complete the replacement?	-	Go to Step 14	-
13	Replace the inoperative window sensor/motor assembly. Refer to <u>Window Regulator Replacement - Front Door</u> . Did you complete the replacement?	-	Go to Step 14	-

14	1. Re-initialize the window sensor/motor. Refer to <u>Window Motor Programming - Express Function</u>. 2. Use the scan tool in order to clear the DTCs. 3. 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
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SYMPTOMS - DOORS

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

1. Perform the **Diagnostic System Check - Door Systems** before using the Symptom Tables in order to verify that all of the following are true:
 - There are no DTCs set.
 - The control module(s) 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**
 - **Door Ajar Indicator Description and Operation**
 - **Outside Mirror Description and Operation**

Visual/Physical Inspection

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

Intermittent

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

Symptom List

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

- **Power Windows Inoperative - All**
- **Power Windows Inoperative - Lockout Function**
- **Power Window Inoperative from Master Switch**
- **Power Window Inoperative - Passenger Door**
- **Power Windows Inoperative - Express Up Function**
- **Door Ajar Indicator Malfunction**
- **Power Door Locks Inoperative**
- **Power Door Locks Inoperative - Key Cylinder Switches**
- **Power Door Locks Inoperative - Endgate/Liftgate**
- **Power Door Locks Inoperative - Deadbolt**
- **Automatic Door Locks Inoperative**
- **Power Mirrors Inoperative**
- **Power Mirrors - Folding Inoperative**
- **Power Mirrors - Memory Recall Position Inaccurate**
- **Power Mirrors - Mirror Tilt Inoperative in Reverse**
- **Heated Mirrors Inoperative - One**

POWER WINDOWS INOPERATIVE - ALL

Diagnostic Aids

The C1 harness connector of each door module contains a separate battery positive voltage circuit that is used exclusively for power window motor operation. However, these individual circuits are spliced into one circuit which is fed by the DR MOD PWR circuit breaker located in the right rear fuse block. If the circuit opens at a point where the separate branches are all connected into one, all power windows will be inoperative. A short to ground anywhere in the circuit will open the DR MOD PWR circuit breaker, which will also cause all power windows to be inoperative. These circuits must not be confused with the positive voltage circuits contained within door module harness connectors C3.

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

2: This step determines if this is the correct chart for the symptom.

6: This step determines if a door module is internally shorted to ground, or the battery positive voltage circuit associated with door module harness connectors C1 is shorted to ground.

Power Windows Inoperative - All

Step	Action	Yes	No
Schematic Reference: <u>Power Window Schematics</u> and <u>Door Control Module Schematics</u> Connector End View Reference: <u>Power Door Systems Connector End Views</u> DEFINITION: All of the power windows simultaneously fail to operate.			
1	Did you perform the Door Systems Diagnostic System Check?	Go to Step 2	Go to <u>Diagnostic System Check - Door Systems</u>
2	1. Turn ON the ignition, with the engine OFF. 2. Attempt to operate the power windows from both the driver door switch assembly, and, from each one of the window switches mounted to the passenger doors. Does any window operate?	Go to <u>Symptoms - Doors</u>	Go to Step 3
3	1. Remove the DR MOD PWR circuit breaker from the fuse block. 2. Probe the battery supply terminal of the DR MOD PWR circuit breaker with a test lamp connected to a good ground. Does the test lamp illuminate?	Go to Step 4	Go to Step 10
4	Connect the test lamp between the 2 fuse block terminals of the DR MOD PWR circuit breaker. Does the test lamp illuminate?	Go to Step 6	Go to Step 5

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5	Operate any one of the power window switches while observing the test lamp. Does the test lamp illuminate?	Go to Step 14	Go to Step 7
6	Disconnect each door module, one at a time, while observing the test lamp. Does the test lamp go out after any module is disconnected?	Go to Step 8	Go to Step 11
7	Test the battery positive voltage circuit associated with door module harness connectors C1, between the splice and the fuse block for an open. Refer to <u>Circuit Testing</u> and <u>Wiring Repairs</u> in Wiring Systems. Did you find and correct the condition?	Go to Step 15	Go to Step 9
8	Inspect for poor connections at the harness connector of the suspect door module. Refer to <u>Testing for Intermittent Conditions and Poor Connections</u> and <u>Connector Repairs</u> in Wiring Systems. Did you find and correct the condition?	Go to Step 15	Go to Step 12
9	Inspect for poor connections at the harness connector of the fuse block. 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 15	Go to Step 13
10	Repair the open in the battery supply circuit of the DR MOD PWR circuit breaker. Refer to <u>Circuit Testing</u> and <u>Wiring Repairs</u> in Wiring Systems. Did you complete the repair?	Go to Step 15	-
11	Repair the short to ground in the battery positive voltage circuit associated with door module harness connectors C1, between the fuse block and the door modules. Refer to <u>Circuit Testing</u> and <u>Wiring Repairs</u> in Wiring Systems. Did you complete the repair?	Go to Step 15	-
	IMPORTANT:		

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12	Perform the setup procedure for the replacement door module. Refer to <u>DCM Programming/RPO Configuration (Export Only)</u> . Replace the door module that is internally shorted to ground. Refer to <u>Door Control Module Replacement</u> . Did you complete the replacement?	Go to Step 15	-
13	Replace the fuse block/wiring harness assembly. Did you complete the replacement?	Go to Step 15	-
14	Replace the DR MOD PWR circuit breaker. Did you complete the replacement?	Go to Step 15	-
15	Operate the system in order to verify the repair. Did you correct the condition?	System OK	Go to Step 2

POWER WINDOWS INOPERATIVE - EXPRESS UP FUNCTION

Power Windows Inoperative - Express Up Function

Step	Action	Value(s)	Yes	No
Schematic Reference: <u>Power Window Schematics</u> Connector End View Reference: <u>Power Door Systems Connector End Views</u> DEFINITION: This test is used when only the Express Up function of a window is inoperative. This test assumes that all DTCs have been diagnosed.				
1	Did you perform the Door Systems Diagnostic System Check?	-	Go to Step 2	Go to <u>Diagnostic System Check - Door Systems</u>
2	Verify that the Power Windows Inoperative - Express Up Function complaint is present. Does the power windows express up system operate as described in the Description and Operation?	-	Go to <u>Testing for Intermittent Conditions and Poor Connections</u> in Wiring Systems	Go to Step 3
	1. Install a scan tool. 2. Turn ON the ignition, with the			

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3	engine OFF. 3. With the scan tool, observe the appropriate Window Switch parameter in the Driver Door Switch, Inputs list. 4. Using the appropriate window switch on the driver door switch assembly, attempt to operate the inoperative window to the Express Up position. Did the parameter change from the Idle state to the Express Up state?	-	Go to Step 4	Go to Step 10
4	Is the window that does not operate in the Express Up mode the passenger front door window?	-	Go to Step 5	Go to Step 6
5	1. With the scan tool, observe the Window Switch Inputs parameter of the Passenger Door Module, Inputs list. 2. Operate the passenger front door window switch to the Express Up position. Did the parameter change from the Idle state to the Express Up state?	-	Go to Step 6	Go to Step 12
6	1. Disconnect the harness connector of the appropriate window sensor/motor assembly. 2. Measure the voltage from the power window high speed serial data circuit of the harness connector to a good ground. Does the voltage measure near the specified value?	5.0 - 9.0 V	Go to Step 11	Go to Step 7
	Test the power window high speed serial data circuit for a short to ground, an open			

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7	or a 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 17	Go to Step 8
8	Test the power window high speed serial data circuit for a short to battery voltage. Refer to <u>Circuit Testing</u> and <u>Wiring Repairs</u> in Wiring Systems. Did you find and correct the condition?	-	Go to Step 17	Go to Step 9
9	Inspect for poor connections at the harness connector of the appropriate door module. Refer to <u>Testing for Intermittent Conditions and Poor Connections</u> and <u>Connector Repairs</u> in Wiring Systems. Did you find and correct the condition?	-	Go to Step 17	Go to Step 13
10	Inspect for poor connections at the harness connector of the driver door switch assembly (DDSA). 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 17	Go to Step 14
11	Inspect for poor connections at the harness connector of the appropriate window sensor/motor assembly. 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 17	Go to Step 15
12	Inspect for poor connections at the harness connector of the inoperative passenger door window switch. 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 17	Go to Step 16
	IMPORTANT: • Test the battery voltage circuit of the			

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13	appropriate window sensor/motor for a short to ground before replacing the door module. Refer to <u>Circuit Testing</u> and <u>Wiring Repairs</u> in Wiring Systems. Perform the setup procedure for the replacement door module. Refer to <u>DCM Programming/RPO Configuration (Export Only)</u>. Replace the door module. Refer to <u>Door Control Module Replacement</u>. Did you complete the replacement?	-	Go to Step 17	-
14	Replace the inoperative DDSA. Refer to <u>Front Door Switch Replacement</u>. Did you complete the replacement?	-	Go to Step 17	-
15	Replace the inoperative window sensor/motor assembly. Refer to <u>Window Regulator Replacement - Front Door</u>. Did you complete the replacement?	-	Go to Step 17	-
16	Replace the inoperative passenger front door window switch. Refer to <u>Front Door Switch Replacement</u>. Did you complete the replacement?	-	Go to Step 17	-
17	- Re-initialize the window sensor/motor. Refer to <u>Window Motor Programming - Express Function</u>. - Operate the system in order to verify the repair. Did you correct the condition?	-	System OK	Go to Step 2

POWER WINDOWS INOPERATIVE - LOCKOUT FUNCTION

Test Description

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

2: This step determines if the indicator is operating properly.

3: This step determines if the driver door switch assembly (DDSA) recognizes the lockout

switch input.

Power Windows Inoperative - Lockout Function

Step	Action	Yes	No
Schematic Reference: <u>Door Control Module Schematics</u> and <u>Power Window Schematics</u> Connector End View Reference: <u>Power Door Systems Connector End Views</u> DEFINITION: This test assumes that all DTCs have been diagnosed.			
1	Did you Perform the Door Systems Diagnostic System Check?	Go to Step 2	Go to <u>Diagnostic System Check - Door Systems</u>
2	1. Turn ON the ignition, with the engine OFF. 2. Observe the lockout LED indicator on the rear window lockout switch button. 3. Momentarily press the lockout switch button. 4. Momentarily press the lockout switch button again. Does the LED indicator illuminate when the lockout switch button is first pressed, then go out when it is pressed again?	Go to Step 3	Go to Step 6
3	IMPORTANT: Make sure that the passenger window lockout option is selected as ON in the vehicle owner customization menu. If the window lockout selection is OFF, set it to ON and verify that the fault is still present. 1. Install a scan tool. 2. With the scan tool, observe the Window Lockout Switch parameter in the Driver Door Switch Inputs list. 3. Momentarily press the lockout switch button. 4. Momentarily press the lockout switch button again.		

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	Does the scan tool display Pressed when you press the switch and Idle when you are not pressing it?	Go to Step 4	Go to Step 6
4	1. Momentarily press the lockout switch button until the lockout switch LED indicator is illuminated. 2. Attempt to operate each rear window from each rear window switch mounted on the rear doors. Did both rear windows still operate from their associated window switch?	Go to Step 6	Go to Step 5
5	Did one of the rear windows still operate in step 4?	Go to Step 7	Go to Testing for Intermittent Conditions and Poor Connections in Wiring Systems
6	Inspect for poor connections at the driver door switch assembly harness 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 10	Go to Step 8
7	Inspect for poor connections at the harness connector of the door module associated with the window that continued to operate. Refer to Testing for Intermittent Conditions and Poor Connections and Connector Repairs in Wiring Systems. Did you find and correct the condition?	Go to Step 10	Go to Step 9
8	Replace the driver door switch assembly (DDSA). Refer to Front Door Switch Replacement. Did you complete the replacement?	Go to Step 10	-
	IMPORTANT: Perform the setup procedure for the replacement door module. Refer to DCM Programming/RPO Configuration (Export Only).		

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9	Replace the door module associated with the window that continued to operate. Refer to <u>Door Control Module Replacement</u> . Did you complete the replacement?	Go to Step 10	-
10	Operate the system in order to verify the repair. Did you correct the condition?	System OK	Go to Step 2

POWER WINDOW INOPERATIVE FROM MASTER SWITCH

Power Window Inoperative from Master Switch

Step	Action	Yes	No
Schematic References: <u>Power Window Schematics</u> and <u>Door Control Module Schematics</u> Connector End View Reference: <u>Power Door Systems Connector End Views</u> DEFINITION: This test is used to diagnose either, an inoperative driver door window, or, a passenger door window that is inoperative only from the driver door. If the inoperative window is inoperative in only the Express Up mode, refer to <u>Power Windows Inoperative - Express Up Function</u> . This test assumes that all DTCs have been diagnosed.			
1	Did you perform the Door Systems Diagnostic System Check?	Go to Step 2	Go to <u>Diagnostic System Check - Door Systems</u>
2	Verify that the Power Window Inoperative from Master Switch complaint is present. Does the power window system operate from the master switch as described in the Description and Operation?	Go to <u>Testing for Intermittent Conditions and Poor Connections</u> in Wiring Systems	Go to Step 3
3	1. Install a scan tool. 2. Turn ON the ignition, with the engine OFF. 3. With the scan tool, observe the LF Window Switch, RF Window Switch, LR Window Switch, and RR Window Switch parameters in the Driver Door Switch Inputs list. 4. Operate each power window switch on the driver door switch assembly (DDSA).		

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	Did the parameters change from the Idle state to the Up, Down, and Express Down states?	Go to Step 4	Go to Step 12
4	Is the inoperative window the driver door window?	Go to Step 5	Go to <u>Power Window Inoperative - Passenger Door</u>
5	1. Turn OFF the ignition. 2. Disconnect the C1 harness connector of the driver door module. 3. Turn ON the ignition, with the engine OFF. 4. Connect a test lamp between the battery positive voltage circuit and the ground circuit of the harness connector. Does the test lamp illuminate?	Go to Step 6	Go to Step 11
6	1. Connect the C1 harness connector of the driver door module. 2. Disconnect the harness connector of the driver door power window motor. 3. Connect a test lamp between the Left Front Up circuit of the harness connector and a good ground. 4. Operate the Driver LF Window switch to the Up position. Does the test lamp illuminate?	Go to Step 7	Go to Step 9
7	1. Connect a test lamp between the Left Front Down circuit of the harness connector and a good ground. 2. Operate the Driver LF Window switch to the Down position. Does the test lamp illuminate?	Go to Step 8	Go to Step 10
	1. Connect a test lamp between the Left Front Up circuit and the Left Front Down circuit of the harness connector.		

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8	2. Operate the Driver LF Window switch to both the Up and Down positions. Does the test lamp illuminate in both the Up and Down positions?	Go to Step 13	Go to Step 14
9	Test the Left Front Up circuit for a short to ground, an open, or a 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 19	Go to Step 14
10	Test the Left Front Down circuit for a short to ground, an open, or a 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 19	Go to Step 14
11	Test the battery positive voltage circuit of the C1 harness connector for an open, or a 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 19	Go to Step 15
12	Inspect for poor connections at the harness connector of the DDSA. 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 19	Go to Step 16
13	Inspect for poor connections at the harness connector of the driver door power window motor. 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 19	Go to Step 17
14	Inspect for poor connections at the harness connector of the driver door module (DDM). 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 19	Go to Step 18

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15	Repair the open ground circuit of the C1 harness connector. Refer to <u>Wiring Repairs</u> in Wiring Systems. Did you complete the repair?	Go to Step 19	-
16	Replace the DDSA. Refer to <u>Front Door Switch Replacement</u> . Did you complete the replacement?	Go to Step 19	-
17	Replace the driver door power window motor. Refer to <u>Window Regulator Replacement - Front Door</u> . Did you complete the replacement?	Go to Step 19	-
18	IMPORTANT: Perform the setup procedure for the replacement door module. Refer to <u>DCM Programming/RPO Configuration (Export Only)</u> . Replace the driver door module (DDM). Refer to <u>Door Control Module Replacement</u> . Did you complete the replacement?	Go to Step 19	-
19	Operate the system in order to verify the repair. Did you correct the condition?	System OK	Go to Step 2

POWER WINDOW INOPERATIVE - PASSENGER DOOR**Test Description**

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

- 3:** This step inspects to see that the door module associated with the inoperative window recognizes the window switch input.
- 4:** This step eliminates the door module battery positive voltage and ground circuits associated with door module connectors C1 as the cause.
- 5:** This step begins to determine if the window motor control circuits, the window motor, or the door module outputs may be the cause of the malfunction.
- 8:** This step eliminates the window switch Up signal circuit as the cause of the malfunction. The step also begins to determine if the window switch may be at fault. If the 3-amp jumper wire fuse opens when the jumper wire is connected, the window switch Up signal circuit may be shorted to battery positive voltage.
- 9:** This step determines if the window switch ground circuit is the cause of the malfunction.

The step also continues to determine if the window switch may be at fault.

10: This step eliminates the window switch Down signal circuit as the cause of the malfunction. The step also continues to determine if the window switch may be at fault. If the 3-amp jumper wire fuse opens when the jumper wire is connected, the window switch Down signal circuit may be shorted to battery positive voltage.

11: This step determines if the window switch is at fault, or if the cause of the malfunction is in the window switch Express signal circuit or door module. If the 3-amp jumper wire fuse opens when the jumper wire is connected, the window switch Express signal circuit may be shorted to battery positive voltage.

Power Window Inoperative - Passenger Door

Step	Action	Yes	No
Schematic References: <u>Power Window Schematics</u> and <u>Door Control Module Schematics</u> Connector End View Reference: <u>Power Door Systems Connector End Views</u> DEFINITION: A passenger door window fails to operate from a passenger door window switch, or, fails to operate from both the passenger door window switch and the driver door switch assembly (DDSA). If the inoperative window is inoperative in only the Express Up direction, refer to <u>Power Windows Inoperative - Express Up Function</u> .			
1	Did you Perform the Door Systems Diagnostic System Check?	Go to Step 2	Go to <u>Diagnostic System Check - Door Systems</u>
2	Verify that the Power Windows Inoperative - Passenger Door complaint is present. Do the passenger door windows operate as described in the Description and Operation?	Go to <u>Testing for Intermittent Conditions and Poor Connections</u> in Wiring Systems	Go to Step 3
3	1. Install a scan tool. 2. Turn ON the ignition, with the engine OFF. 3. With the scan tool, select the passenger door module associated with the inoperative power window. 4. With the scan tool, observe the Window Switch Inputs parameter. 5. Operate the passenger door window		

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	switch associated with the inoperative window to the Up, Down, and Express Down positions. Did the Window Switch Inputs parameter change from the Idle state to the Up, Down, and Express Down states as expected?	Go to Step 4	Go to Step 8
4	1. Turn OFF the ignition. 2. Disconnect the C1 harness connector of the door module associated with the inoperative window. 3. Turn ON the ignition, with the engine OFF. 4. Connect a test lamp between the battery positive voltage circuit and the ground circuit of the harness connector. Does the test lamp illuminate?	Go to Step 5	Go to Step 12
5	1. Turn OFF the ignition. 2. Connect the C1 harness connector of the door module. 3. Disconnect the harness connector of the window motor associated with the inoperative window. 4. Turn ON the ignition, with the engine OFF. 5. Connect a test lamp between the window motor Up circuit of the harness connector and a good ground. 6. Operate the passenger door window switch associated with the inoperative window to the Up position. Does the test lamp illuminate?	Go to Step 6	Go to Step 13
	1. Connect a test lamp between the window motor Down circuit of the harness connector and a good ground.		

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6	2. Operate the passenger door window switch associated with the inoperative window to the Down position. Does the test lamp illuminate?	Go to Step 7	Go to Step 13
7	1. Connect a test lamp between the window motor Up circuit and the window motor Down circuit of the harness connector. 2. Operate the passenger door window switch associated with the inoperative window to both the Up and Down positions. Does the test lamp illuminate for both the Up and Down positions?	Go to Step 16	Go to Step 17
8	1. Turn OFF the ignition. 2. Disconnect the harness connector of the window switch associated with the inoperative window. 3. Connect a 3-amp fused jumper wire between the switch Up signal circuit of the harness connector and a good ground. 4. Turn ON the ignition, with the engine OFF. Does the Window Switch Inputs parameter indicate Up?	Go to Step 9	Go to Step 14
9	1. Turn OFF the ignition. 2. Connect a 3-amp fused jumper wire between the switch ground circuit and the switch Up signal circuit of the harness connector. 3. Turn ON the ignition, with the engine OFF. Does the Window Switch Inputs parameter indicate Up?	Go to Step 10	Go to Step 19

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10	1. Turn OFF the ignition. 2. Connect a 3-amp fused jumper wire between the switch ground circuit and the switch Down signal circuit of the harness connector. 3. Turn ON the ignition, with the engine OFF. Does the Window Switch Inputs parameter indicate Down?	Go to Step 11	Go to Step 14
11	1. Make sure the 3-amp fused jumper wire is still connected between the switch ground circuit and the switch Down signal circuit of the harness connector. 2. Connect an additional 3-amp fused jumper wire between the switch ground circuit and the switch Express signal circuit of the harness connector. Does the Window Switch Inputs parameter indicate Express Down?	Go to Step 15	Go to Step 14
12	Test the battery positive voltage circuit of connector C1 for an open. Refer to <u>Circuit Testing</u> and <u>Wiring Repairs</u> in Wiring Systems. Did you find and correct the condition?	Go to Step 23	Go to Step 18
13	Test the window motor control circuits of the inoperative window for shorts to ground, shorts to each other, and opens. Refer to <u>Circuit Testing</u> and <u>Wiring Repairs</u> in Wiring Systems. Did you find and correct the condition?	Go to Step 23	Go to Step 17
14	Test the appropriate signal circuits, of the inoperative switch, for an open or a short to battery positive voltage. Refer to <u>Circuit Testing</u> and <u>Wiring Repairs</u> in Wiring Systems. Did you find and correct the condition?	Go to Step 23	Go to Step 17

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15	Inspect for poor connections at the harness connector of the inoperative power window switch. Refer to <u>Testing for Intermittent Conditions and Poor Connections</u> and <u>Wiring Repairs</u> in Wiring Systems. Did you find and correct the condition?	Go to Step 23	Go to Step 20
16	Inspect for poor connections at the harness connector of the inoperative window motor. Refer to <u>Testing for Intermittent Conditions and Poor Connections</u> and <u>Wiring Repairs</u> in Wiring Systems. Did you find and correct the condition?	Go to Step 23	Go to Step 21
17	Inspect for poor connections at the harness connector of the inoperative door module. Refer to <u>Testing for Intermittent Conditions and Poor Connections</u> and <u>Wiring Repairs</u> in Wiring Systems. Did you find and correct the condition?	Go to Step 23	Go to Step 22
18	Repair the open ground circuit of connector C1. Refer to <u>Wiring Repairs</u> in Wiring Systems. Did you complete the repair?	Go to Step 23	-
19	Repair the open ground circuit of the inoperative switch. Refer to <u>Wiring Repairs</u> in Wiring Systems. Did you complete the repair?	Go to Step 23	-
20	Replace the inoperative power window switch. Refer to <u>Power Window Switch Replacement - Rear Door</u> . Did you complete the replacement?	Go to Step 23	-
21	Replace the inoperative power window motor. Refer to <u>Window Regulator Replacement - Front Door</u> or <u>Window Regulator Replacement - Rear Door</u> . Did you complete the replacement?	Go to Step 23	-
	IMPORTANT: Perform the setup procedure for the replacement door module. Refer to <u>DCM Programming/RPO Configuration (Export Only)</u> .		

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22	Replace the door module. Refer to <u>Door Control Module Replacement</u> . 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

DOOR AJAR INDICATOR MALFUNCTION

Test Description

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

6: This step determines if the door lock actuator may be the cause of the malfunction. If the 3-amp jumper wire fuse opens when the jumper wire is connected, test the signal circuit for a short to voltage.

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> DEFINITION: Diagnosis of one of the following DIC messages: • DRIVER DOOR AJAR • PASSENGER DOOR AJAR • LEFT REAR DOOR AJAR • RIGHT REAR DOOR AJAR			
1	Did you perform the Door Systems Diagnostic System Check?	Go to Step 2	Go to <u>Diagnostic System Check - Door Systems</u>
2	Verify that the Door Ajar Indicator Malfunction complaint is present. Does the Door Ajar Indicator System operate as described in the System Description and Operation?	Go to <u>Testing for Intermittent Conditions and Poor Connections</u> in Wiring Systems	Go to Step 3
	1. Install a scan tool. 2. Turn ON the ignition, with the engine OFF.		

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3	- Close all doors. - With the scan tool, observe the parameter of each door ajar switch in each door modules Data Display Inputs list: - Driver Door Ajar Switch - Passenger Door Ajar Switch - Left Rear Door Ajar Switch - Right Rear Door Ajar Switch Does the scan tool indicate that the Door Ajar Switch parameter is in the OFF state for all doors?	Go to Step 4	Go to Step 5
4	- Open all of the vehicle doors. - With the scan tool, observe the parameter of each door ajar switch in each door modules Data Display Inputs list: - Driver Door Ajar Switch - Passenger Door Ajar Switch - Left Rear Door Ajar Switch - Right Rear Door Ajar Switch Does the scan tool indicate that the Door Ajar Switch is in the ON state for all doors?	Go to <u>Testing for Intermittent Conditions and Poor Connections</u> in Wiring Systems	Go to Step 6
5	- Turn OFF the ignition. - Disconnect the suspect door lock actuator. - Turn ON the ignition, with the engine OFF. - With the scan tool, observe the appropriate Door Ajar Switch parameter. Does the scan tool display OFF?	Go to Step 11	Go to Step 9
	- Turn OFF the ignition. - Disconnect the suspect door lock actuator. - Connect a 3-amp fused jumper wire between the door ajar switch signal circuit		

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6	and the ground circuit of the door lock actuator harness connector. 4. Turn ON the ignition, with the engine OFF. 5. With the scan tool, observe the appropriate Door Ajar Switch parameter. Does the scan tool display ON?	Go to Step 11	Go to Step 7
7	Test the ground circuit of the door lock actuator 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 14	Go to Step 8
8	Test the door ajar switch signal circuit of the door lock actuator for the following conditions: • An open • A short to voltage • A 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 14	Go to Step 10
9	Test the door ajar signal circuit of the door lock actuator for a short to ground. Refer to <u>Circuit Testing</u> and <u>Wiring Repairs</u> in Wiring Systems. Did you find and correct the condition?	Go to Step 14	Go to Step 10
10	Inspect for poor connections at the harness connector of the suspect door module. Refer to <u>Testing for Intermittent Conditions and Poor Connections</u> and <u>Connector Repairs</u> in Wiring Systems. Did you find and correct the condition?	Go to Step 14	Go to Step 12
11	Inspect for poor connections at the harness connector of the suspect door lock actuator. Refer to <u>Testing for Intermittent Conditions</u>		

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	<u>and Poor Connections</u> and <u>Connector Repairs</u> in Wiring Systems. Did you find and correct the condition?	Go to Step 14	Go to Step 13
12	IMPORTANT: Perform the setup procedure for the replacement door module. Refer to <u>DCM Programming/RPO Configuration (Export Only)</u> . Replace the door module. Refer to <u>Door Control Module Replacement</u> . Did you complete the replacement?	Go to Step 14	-
13	Replace the suspect door lock actuator. Refer to <u>Latch Replacement - Front Door</u> or <u>Latch Replacement - Rear Door</u> . Did you complete the replacement?	Go to Step 14	-
14	Operate the system in order to verify the repair. Did you correct the condition?	System OK	Go to Step 2

POWER DOOR LOCKS INOPERATIVE

Test Description

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

3: This step determines if there is a lock actuator control circuit of one of the rear doors shorted to ground. This condition could open the RRDR MDL fuse located in the rear fuse block and simultaneously set DTCs U1162 and U1163 when the rear door lock actuator is actuated.

4: This step checks to see that the door module associated with the inoperative door lock recognizes the switch inputs. Turning ON the headlamps switch in this step eliminates the possibility of the inoperative door lock switch finding an alternative path to ground through the switch illumination circuit, which could result in the scan tool displaying incorrect lock switch states.

5: This step determines if the lock switch or lock switch circuits are the cause of the malfunction. If the 3-amp jumper wire fuse opens when the jumper wire is connected, test the appropriate switch signal circuits for a short to battery positive voltage.

7: This step determines if the unlock circuit may be the cause of the malfunction. If the test lamp is already illuminated before operating the lock to Unlock, test the door lock actuator Unlock circuit for a short to battery positive voltage.

8: This step determines if the lock circuit may be the cause of the malfunction. If the test lamp is already illuminated before operating the lock to Lock, test the door lock actuator Lock circuit for a short to battery positive voltage.

16: This step directs you to inspect for poor connections at either, the front passenger door module, or, at the driver door switch assembly as a pre-requisite to replacing the front passenger door module or driver door switch assembly. This is because lock switch signals for the driver door are detected and processed by the driver door switch assembly, while lock switch signals for the front passenger door are detected and processed by the front passenger door module.

21: This step directs you to replace either, the front passenger door module or driver door switch assembly. This is because lock switch signals for the driver door are detected and processed by the driver door switch assembly (DDSA), while lock switch signals for the front passenger door are detected and processed by the front passenger door module.

Power Door Locks Inoperative

Step	Action	Yes	No
Schematic Reference: <u>Door Lock/Indicator Schematics</u> Connector End View Reference: <u>Power Door Systems Connector End Views</u> DEFINITION: This test assumes that all DTCs have been diagnosed.			
1	Did you perform the Door Systems Diagnostic System Check?	Go to Step 2	Go to <u>Diagnostic System Check - Door Systems</u>
2	Verify that the Power Door Locks Inoperative complaint is present. Does the power door lock system operate as described in the Description and Operation?	Go to <u>Testing for Intermittent Conditions and Poor Connections</u> in Wiring Systems	Go to Step 3
3	1. Install a scan tool. 2. Close all of the vehicles doors. 3. Turn ON the ignition, with the engine OFF. 4. Operate one of the door lock switches to both the Lock and Unlock positions. Did DTCs U1162 and U1163 simultaneously set current when you operated the lock switch?	Go to Step 14	Go to Step 4

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4	1. Turn ON the headlamps switch. 2. With the scan tool, observe the Door Lock Switch parameter in the Driver Door Switch, Inputs list. 3. Operate the driver door lock switch to both the Lock and Unlock positions. 4. With the scan tool, observe the Door Lock Switch parameter in the front Passenger Door Module, Inputs list. 5. Operate the front passenger door lock switch to both the Lock and Unlock positions. Did the parameters change to both the Lock and Unlock states for both switches?	Go to Step 7	Go to Step 5
5	1. Turn OFF the ignition. 2. Disconnect the inoperative door lock switch harness connector. 3. Connect a 3-amp fused jumper wire between the lock signal circuit of the harness connector and a good ground. 4. Turn On the ignition, with the engine OFF. 5. With the scan tool, observe the appropriate Door Lock Switch parameter. 6. Turn OFF the ignition. 7. Connect the 3-amp fused jumper wire between the unlock signal circuit of the harness connector and a good ground. 8. Turn On the ignition, with the engine OFF. 9. With the scan tool, observe the appropriate Door Lock Switch parameter. Did the parameter change state to both the Lock and Unlock states as expected?	Go to Step 6	Go to Step 10

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6	1. Turn OFF the ignition. 2. Connect the 3-amp fused jumper wire between the lock signal circuit and the ground circuit of the door lock switch harness connector. 3. Turn On the ignition, with the engine OFF. 4. With the scan tool, observe the appropriate Door Lock Switch parameter. Did the parameter change state to Lock as expected?	Go to Step 15	Go to Step 19
7	1. Disconnect the harness connector of the inoperative door lock actuator. 2. Connect a test lamp between the Unlock circuit of the harness connector and a good ground. 3. Operate either one of the front door lock switches to Unlock. Does the test lamp flash once upon operating the switch to UNLOCK?	Go to Step 8	Go to Step 11
8	1. Connect a test lamp between the Lock circuit of the harness connector and a good ground. 2. Operate either one of the front door lock switches to Lock. Does the test lamp flash once upon operating the switch to LOCK?	Go to Step 9	Go to Step 11
9	1. Connect a test lamp between the Unlock circuit and the Lock circuit of the harness connector. 2. Operate either one of the front door lock switches to both Lock and Unlock. Does the test lamp flash once upon operating		

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	the switch to LOCK and once upon operating the switch to UNLOCK?	Go to Step 18	Go to Step 13
10	IMPORTANT: If a power door lock switch signal circuit is found to be shorted to battery positive voltage, the lock switch may need to be replaced. Test the signal circuits of the door lock switch for shorts to each other, a short to battery, or an open. Refer to <u>Circuit Testing</u> and <u>Wiring Repairs</u> in Wiring Systems. Did you find and correct the condition?	Go to Step 24	Go to Step 16
11	Test the control circuits of the door lock actuator for a short to ground or an open. Refer to <u>Circuit Testing</u> and <u>Wiring Repairs</u> in Wiring Systems. Did you find and correct the condition?	Go to Step 24	Go to Step 12
12	Test the control circuits of the door lock actuator for a short to voltage. Refer to <u>Circuit Testing</u> and <u>Wiring Repairs</u> in Wiring Systems. Did you find and correct the condition?	Go to Step 24	Go to Step 17
13	Test the appropriate door module logic ground circuit of the C1 connector for an open. Refer to <u>Circuit Testing</u> and <u>Wiring Repairs</u> in Wiring Systems. Did you find and correct the condition?	Go to Step 24	Go to Step 17
14	Test the control circuits of both rear door lock actuators for a short to ground. Refer to <u>Circuit Testing</u> and <u>Wiring Repairs</u> in Wiring Systems. Did you find and correct the condition?	Go to Step 24	Go to Step 18
15	Inspect for poor connections at the harness connector of the appropriate door lock switch. 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 24	Go to Step 20
	Inspect for poor connections at the appropriate		

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16	harness connector of, either the passenger door module, or, if the inoperative lock is the driver door lock, the driver door switch assembly (DDSA). 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 24	Go to Step 21
17	Inspect for poor connections at the harness connector of the appropriate door module. Refer to <u>Testing for Intermittent Conditions and Poor Connections</u> and <u>Connector Repairs</u> in Wiring Systems. Did you find and correct the condition?	Go to Step 24	Go to Step 22
18	Inspect for poor connections at the harness connector of the inoperative door lock actuator. 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 24	Go to Step 23
19	Repair the open ground circuit of the appropriate door lock switch. Refer to <u>Wiring Repairs</u> in Wiring Systems. Did you find and correct the condition?	Go to Step 24	-
20	Replace the appropriate door lock switch. Refer to <u>Power Door Lock Switch Replacement</u>. Did you complete the replacement?	Go to Step 24	-
21	IMPORTANT: Perform the setup procedure for the replacement passenger door module. Refer to <u>DCM Programming/RPO Configuration (Export Only)</u>. Replace the passenger door module, or, if the inoperative lock is the driver door lock, replace the DDSA. Refer to <u>Door Control Module Replacement</u> or <u>Front Door Switch Replacement</u>. Did you complete the replacement?	Go to Step 24	-
	IMPORTANT:		

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22	Perform the setup procedure for the replacement door module. Refer to <u>DCM Programming/RPO Configuration (Export Only)</u> . Replace the door module. Refer to <u>Door Control Module Replacement</u> . Did you complete the replacement?	Go to Step 24	-
23	Replace the inoperative door lock actuator. Refer to <u>Latch Replacement - Front Door</u> or <u>Latch Replacement - Rear Door</u> . Did you complete the replacement?	Go to Step 24	-
24	Operate the system in order to verify the repair. Did you correct the condition?	System OK	Go to Step 2

POWER DOOR LOCKS INOPERATIVE - KEY CYLINDER SWITCHES

Diagnostic Aids

The key cylinder switches are contained within the driver door lock actuator and are part of the Central Door Unlocking and Central Door Locking and Deadbolt features. The switches are not serviced separately from the door lock actuators. Domestic vehicles are equipped with the Central Door Unlocking feature while export vehicles may be equipped with, either the Central Door Locking, or Central Door Locking and Deadbolt feature. For more information concerning these features, refer to **Power Door Locks Description and Operation**

Test Description

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

3: This step inspects to see that the driver door module recognizes the key cylinder switch input.

Power Door Locks Inoperative - Key Cylinder Switches

Step	Action	Yes	No
Schematic Reference: <u>Door Lock/Indicator Schematics</u> Connector End View Reference: <u>Power Door Systems Connector End Views</u> DEFINITION: The doors do not Unlock from the driver door key lock cylinder, or, the doors do not Lock from the driver door key lock cylinder. This test assumes that all DTCs have been diagnosed.			
	Did you perform the Door Systems Diagnostic		Go to Diagnostic

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1	System Check?	Go to Step 2	<u>System Check - Door Systems</u>
2	Verify that the Power Door Locks Inoperative - Key Cylinder Switches complaint is present. Does the Central Door Lock and Central Door Unlock systems operate as described in the Description and Operation?	Go to <u>Testing for Intermittent Conditions and Poor Connections</u> in Wiring Systems	Go to Step 3
3	1. Install a scan tool. 2. Turn ON the ignition, with the engine OFF. 3. With the scan tool, observe the Key Cylinder Lock/Unlock parameter in the Driver Door Module, Inputs list. 4. If the vehicle is equipped with the Central Door Lock feature, insert the door key into the driver door lock cylinder, turn it to the Lock position and hold it there for 3-5 seconds. 5. If the vehicle is equipped with the Central Door Unlock feature, insert the door key into the driver door lock cylinder, turn it to the Unlock position and hold it there for 3-5 seconds. Does the Key Cylinder Lock/Unlock parameter change to the appropriate state as expected?	Go to Step 8	Go to Step 4
4	1. Turn OFF the ignition. 2. Disconnect the driver door lock actuator harness connector. 3. Turn ON the ignition, with the engine OFF. 4. Install a 3-amp fused jumper wire between the appropriate key cylinder switch signal circuit of the harness connector and a good ground. 5. With the scan tool, observe the Key		

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	Cylinder Lock/Unlock parameter. Does the Key Cylinder Lock/Unlock parameter change to the appropriate state?	Go to Step 5	Go to Step 6
5	1. Install a 3-amp fused jumper wire between the appropriate key cylinder switch signal and ground circuits of the harness connector. 2. With the scan tool, observe the Key Cylinder Lock/Unlock parameter. Does the Key Cylinder Lock/Unlock parameter change to the appropriate state?	Go to Step 7	Go to Step 9
6	Test the appropriate key cylinder switch signal circuit for an open, or a short to ground. Refer to <u>Circuit Testing</u> and <u>Wiring Repairs</u> in Wiring Systems. Did you find and correct the condition?	Go to Step 12	Go to Step 8
7	Inspect for poor connections at the harness connector of the driver door lock actuator. 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 12	Go to Step 10
8	Inspect for poor connections at the appropriate harness connector of the driver door module. Refer to <u>Testing for Intermittent Conditions and Poor Connections</u> and <u>Connector Repairs</u> in Wiring Systems. Did you find and correct the condition?	Go to Step 12	Go to Step 11
9	Repair the open ground circuit of the harness connector. Refer to <u>Wiring Repairs</u> in Wiring Systems. Did you complete the repair?	Go to Step 12	-
10	Replace the driver door lock actuator. Refer to <u>Latch Replacement - Front Door</u> . Did you complete the replacement?	Go to Step 12	-
	IMPORTANT:		

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11	Perform the setup procedure for the replacement door module. Refer to <u>DCM Programming/RPO Configuration (Export Only)</u>		
	Replace the driver door module. Refer to <u>Door Control Module Replacement</u> . Did you complete the replacement?	Go to Step 12	-
12	Operate the system in order to verify the repair. Did you correct the condition?	System OK	Go to Step 2

POWER DOOR LOCKS INOPERATIVE - ENDGATE/LIFTGATE

Test Description

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

6: This step determines if the unlock control circuit between the splice and the liftgate door lock relay may be the cause of the malfunction. If the test lamp is already illuminated before operating the lock to Unlock, test the Unlock control circuit for a short to battery positive voltage.

7: This step determines if the lock control circuit between the splice and the liftgate door lock relay may be the cause of the malfunction. If the test lamp is already illuminated before operating the lock to Lock, test the Lock control circuit for a short to battery positive voltage.

8: This step determines if the unlock circuit between the liftgate door lock relay and the liftgate door latch assembly may be the cause of the malfunction. If the test lamp is already illuminated before operating the lock to Unlock, test the Unlock circuit for a short to battery positive voltage. If the 10-amp Rear Hatch Fuse opens when the lock is operated to Unlock, test the Unlock circuit for a short to ground.

9: This step determines if the lock circuit between the liftgate door lock relay and the liftgate door latch assembly may be the cause of the malfunction. If the test lamp is already illuminated before operating the lock to Lock, test the Lock circuit for a short to battery positive voltage. If the 10-amp Rear Hatch Fuse opens when the lock is operated to Lock, test the Lock circuit for a short to ground.

Power Door Locks Inoperative - Endgate/Liftgate

Step	Action	Yes	No
Schematic Reference: <u>Door Lock/Indicator Schematics</u>			
Connector End View Reference: <u>Power Door Systems Connector End Views</u>			
DEFINITION: This test is used when only the power door lock system of the			

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Endgate/lifgate is inoperative

This test assumes that all DTCs have been diagnosed.

1	Did you perform the Door Systems Diagnostic System Check?	Go to Step 2	Go to <u>Diagnostic System Check - Door Systems</u>
2	Verify that the Power Door Locks Inoperative - Endgate/Liftgate complaint is present. Does the power door lock liftgate system operate as described in the Description and Operation?	Go to <u>Testing for Intermittent Conditions and Poor Connections</u> in Wiring Systems	Go to Step 3
3	Observe the left rear door lock while operating either one of the door lock switches to both the lock and unlock positions. Does the left rear door lock and unlock as expected?	Go to Step 4	Go to <u>Power Door Locks Inoperative</u>
4	1. Disconnect the harness connector of the liftgate door lock relay. 2. Connect a test lamp between the battery positive voltage circuit of the harness connector and a good ground. Does the test lamp illuminate?	Go to Step 5	Go to Step 16
5	Connect the test lamp between the battery positive voltage circuit and the ground circuit of the harness connector. Does the test lamp illuminate?	Go to Step 6	Go to Step 17
6	1. Connect the test lamp between the Unlock control circuit of the harness connector and a good ground. 2. Operate either one of the door lock switches to Unlock. Does the test lamp flash once upon operating the switch to UNLOCK?	Go to Step 7	Go to Step 15
	1. Connect the test lamp between the Lock		

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7	control circuit of the harness connector and a good ground. 2. Operate either one of the door lock switches to Lock. Does the test lamp flash once upon operating the switch to LOCK?	Go to Step 8	Go to Step 15
8	1. Connect the harness connector of the liftgate door lock relay. 2. Disconnect the harness connector of the liftgate door latch assembly. 3. Connect a test lamp between the Unlock circuit of the harness connector and a good ground. 4. Operate either one of the door lock switches to Unlock. Does the test lamp flash once upon operating the switch to UNLOCK?	Go to Step 9	Go to Step 11
9	1. Connect the test lamp between the Lock circuit of the harness connector and a good ground. 2. Operate either one of the door lock switches to Lock. Does the test lamp flash once upon operating the switch to LOCK?	Go to Step 10	Go to Step 11
10	1. Connect the test lamp between the Unlock circuit and the Lock circuit of the harness connector. 2. Operate either one of the door lock switches to both Lock and Unlock. Does the test lamp flash once upon operating the switch to LOCK and once upon operating the switch to UNLOCK?	Go to Step 14	Go to Step 13
	Test the Lock and Unlock circuits between the		

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11	liftgate door lock relay and the liftgate door latch assembly for a short to ground or an open. Refer to <u>Circuit Testing</u> and <u>Wiring Repairs</u> in Wiring Systems. Did you find and correct the condition?	Go to Step 20	Go to Step 12
12	Test the Lock and Unlock circuits between the liftgate door lock relay and the liftgate door latch assembly for a short to voltage. Refer to <u>Circuit Testing</u> and <u>Wiring Repairs</u> in Wiring Systems. Did you find and correct the condition?	Go to Step 20	Go to Step 13
13	Inspect for poor connections at the harness connector of the liftgate door lock relay. 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 20	Go to Step 18
14	Inspect for poor connections at the harness connector of the inoperative liftgate door latch assembly. 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 20	Go to Step 19
15	Repair the open or high resistance in the appropriate Lock or Unlock control circuit, between the splice and the liftgate door lock relay. Refer to <u>Wiring Repairs</u> in Wiring Systems. Did you complete the repair?	Go to Step 20	-
16	Repair the open or short to ground in the battery positive voltage circuit of the liftgate door lock relay. Refer to <u>Wiring Repairs</u> in Wiring Systems. Did you complete the repair?	Go to Step 20	-
17	Repair the open ground circuit of the liftgate door lock relay. Refer to <u>Wiring Repairs</u> in Wiring Systems. Did you complete the repair?	Go to Step 20	-
18	Replace the liftgate door lock relay.		

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	Did you complete the replacement?	Go to Step 20	-
19	Replace the inoperative liftgate door latch assembly. Refer to <u>Latch Replacement - Liftgate</u> in Body Rear End.		-
	Did you complete the replacement?	Go to Step 20	
20	Operate the system in order to verify the repair. Did you correct the condition?	System OK	Go to Step 2

POWER DOOR LOCKS INOPERATIVE - DEADBOLT

Diagnostic Aids

Central Door Lock and Deadbolt functions are controlled by the rear integration module (RIM), the individual door modules and lock actuators, the driver door key lock cylinder, which is mounted in the driver door, and the key cylinder lock switch, which is contained within the driver door lock actuator. For more information on these components and features, refer to **Power Door Locks Description and Operation**.

Test Description

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

4: This step verifies that the keyless entry remote transmitter is functional for the test procedures that follow in steps 7 and 8. The remote transmitter must be used in place of the driver door key cylinder when it is the driver door deadbolt motor being tested in step 8.

8: This step determines if the deadbolt motor has failed. If it is a passenger door deadbolt being tested in this step, either the driver door key cylinder, or the keyless entry remote transmitter may be used to activate the deadbolt. However, if it is the driver door deadbolt being tested in this step, the driver door key cylinder cannot be used to activate the deadbolt because the lock actuator connector containing the key cylinder input circuit has been disconnected in step 7. Care must be taken when observing the test lamp and attempting to activate the deadbolt motor from either the remote transmitter, or the driver door key cylinder. If you are using the remote transmitter, press the transmitter Lock button twice within 3 seconds; the test lamp should flash once. If you are using the driver door key cylinder, either turn the key to the lock position and hold it there for 3 seconds or longer, or, turn it to the lock position twice within 3 seconds; the test lamp should flash once. Repeating either of these activations, however, will not produce another flash of the test lamp until the door has been commanded to undeadbolt. For either method of activation, remember that the door must be commanded to undeadbolt between each deadbolt command in order for the test to be accurate. Failure to follow these guidelines may result in

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misdiagnosis and the unnecessary replacement of parts.

12: This step determines if it is the door module or a deadbolt motor control circuit that has failed.

Power Door Locks Inoperative - Deadbolt

Step	Action	Yes	No
Schematic Reference: <u>Door Lock/Indicator Schematics</u> Connector End View Reference: <u>Power Door Systems Connector End Views</u> DEFINITION: A door lock does not deadbolt, or, none of the door locks will deadbolt. This test is used when only a deadbolt function of the door lock system is inoperative and assumes that all DTCs have been diagnosed.			
1	Did you perform the Door Systems Diagnostic System Check?	Go to Step 2	Go to <u>Diagnostic System Check - Door Systems</u>
2	Review the Central Door Lock and Deadbolt section of the Power Door Locks Description and Operation in order to verify that the Power Door Locks Inoperative-Deadbolt complaint is present. Refer to <u>Power Door Locks Description and Operation</u> . Does the Central Door Lock and Deadbolt system operate as described in the Description and Operation?	Go to <u>Testing for Intermittent Conditions and Poor Connections</u> in Wiring Systems	Go to Step 3
3	1. Install a scan tool. 2. With the scan tool, observe the Key Cylinder Lock/Unlock parameter in the Driver Door Module, Inputs list. 3. Insert the door key into the driver door lock cylinder, turn and hold it to the Lock position for 3 seconds. Does the Key Cylinder Lock/Unlock parameter change from Idle to the appropriate state?	Go to Step 4	Go to Step 5
4	Verify that the door locks can be operated from the Keyless Entry remote transmitter. Do the door locks operate when using the remote transmitter?	Go to Step 7	Go to <u>Keyless Entry System Inoperative</u> in Keyless Entry
	1. Turn OFF the ignition.		

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5	2. Disconnect the harness connector from the driver door lock actuator. 3. Turn ON the ignition, with the engine OFF. 4. Install a 3-amp fused jumper wire between the key cylinder lock switch signal circuit and the key cylinder lock switch ground circuit of the harness connector. 5. With the scan tool, observe the Key Cylinder Lock/Unlock parameter. Does the Key Cylinder Lock/Unlock parameter change from Idle to the appropriate state?	Go to Step 13	Go to Step 6
6	1. Install a 3-amp fused jumper wire between the key cylinder lock switch signal circuit and a good ground. 2. With the scan tool, observe the Key Cylinder Lock/Unlock parameter. Does the Key Cylinder Lock/Unlock parameter change from Idle to the appropriate state?	Go to Step 10	Go to Step 9
7	1. Turn OFF the ignition. 2. Disconnect the harness connector from the door lock actuator associated with the inoperative deadbolt motor. 3. Turn ON the ignition, with the engine OFF. 4. Connect a test lamp between the deadbolt motor control circuit of the harness connector and a good ground. Does the test lamp illuminate?	Go to Step 11	Go to Step 8
	1. Make sure the door associated with the inoperative deadbolt motor locks and unlocks properly. 2. Make sure the test lamp is still connected		

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8	between the deadbolt motor control circuit of the harness connector and a good ground. 3. If the door being tested is the driver door, attempt to deadbolt the door by pressing the Lock button on the Keyless Entry remote transmitter twice within three seconds. 4. If the door being tested is one of the passenger doors, attempt to deadbolt the door by using either the remote transmitter, or the driver door key cylinder.		
	Did the test lamp flash once?	Go to Step 14	Go to Step 12
9	Test the key cylinder Lock switch signal circuit for an open or a 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 21	Go to Step 15
10	Test the key cylinder Lock switch ground circuit for an open or a 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 21	Go to Step 15
11	Test the deadbolt lock motor control circuit for a short to battery voltage. Refer to <u>Circuit Testing</u> and <u>Wiring Repairs</u> in Wiring Systems. Did you find and correct the condition?	Go to Step 21	Go to Step 16
12	Test the deadbolt lock motor control circuit for a short to ground or an open. Refer to <u>Circuit Testing</u> and <u>Wiring Repairs</u> in Wiring Systems. Did you find and correct the condition?	Go to Step 21	Go to Step 16
13	Inspect for poor connections at the harness connector of the driver door lock actuator. Refer to <u>Testing for Intermittent Conditions</u>		

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	<u>and Poor Connections</u> and <u>Connector Repairs</u> in Wiring Systems. Did you find and correct the condition?	Go to Step 21	Go to Step 17
14	Inspect for poor connections at the harness connector of the appropriate door lock actuator. 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 21	Go to Step 18
15	Inspect for poor connections at the harness connector of the driver door module (DDM). 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 21	Go to Step 20
16	Inspect for poor connections at the harness connector of the appropriate door module. Refer to <u>Testing for Intermittent Conditions and Poor Connections</u> and <u>Connector Repairs</u> in Wiring Systems. Did you find and correct the condition?	Go to Step 21	Go to Step 19
17	Replace the driver door lock actuator. Refer to <u>Latch Replacement - Front Door</u> . Did you complete the replacement?	Go to Step 21	-
18	Replace the appropriate door lock actuator. Refer to <u>Latch Replacement - Front Door</u> . Did you complete the replacement?	Go to Step 21	-
19	IMPORTANT: Perform the setup procedure for the replacement door module. Refer to <u>DCM Programming/RPO Configuration (Export Only)</u> . Replace the door module. Refer to <u>Door Control Module Replacement</u> . Did you complete the replacement?	Go to Step 21	-
	IMPORTANT: Perform the setup procedure for the replacement door module. Refer to <u>DCM Programming/RPO Configuration (Export Only)</u> .		

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20	Replace the driver door module. Refer to <u>Door Control Module Replacement</u> . Did you complete the replacement?	Go to Step 21	-
21	Operate the system in order to verify the repair. Did you correct the condition?	System OK	Go to Step 2

AUTOMATIC DOOR LOCKS INOPERATIVE

Diagnostic Aids

Based on the liftgate and side door status information, the rear integration module (RIM), which is the door lock master, determines if automatic door locking functions are permitted. If the RIM determines that either the liftgate or a side door is open, it will not permit the automatic locking function. The RIM relies upon a class 2 serial data message from each door module. For side door status applicable to the automatic door locks, each door module determines the status of its respective door based on a signal received from the door jamb switch, which is contained within the corresponding door lock actuator. However, because the liftgate is not equipped with a door jamb switch, the liftgate ajar indicator switch is used to directly signal the liftgate door status to the RIM.

Test Description

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

3: This step determines if the door jamb switch or circuit may be the cause of the malfunction. If the scan tool display indicates that a door jamb switch is activated when in fact the door is closed, it is likely that a failure has occurred to the door open/jamb switch or its circuits. Because the door jamb switches of the side doors also control the dome/courtesy light, refer to **Symptoms - Lighting Systems** in Body Rear End for diagnosis.

4: This step determines if the liftgate ajar indicator switch may be the cause of the malfunction. There is no door jamb switch for the liftgate. If the scan tool display indicates that the liftgate indicator switch is active when in fact the liftgate is closed, it is likely that a failure has occurred to the liftgate ajar indicator switch or its circuits. Refer to **Symptoms - Body Rear End** in Body Rear End for diagnosis.

Automatic Door Locks Inoperative

Step	Action	Yes	No
Schematic Reference: <u>Door Lock/Indicator Schematics</u>			
Connector End View Reference: Body Control System Connector End Views in Body			

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Control Systems

1	Did you perform the Door Systems Diagnostic System Check?	Go to Step 2	Go to <u>Diagnostic System Check - Door Systems</u>
2	1. Connect a scan tool. 2. Turn the ignition ON, with the engine Off. 3. Read current personalization setting for the automatic door locks. Refer to <u>Driver Personalization</u> in Personalization for a description of door lock mode functions. 4. Close all doors. 5. Shift the gear selector out of park. 6. Shift the gear selector into park. 7. Turn OFF the ignition. Did the power door locks operate as expected for the mode selected?	Go to <u>Testing for Intermittent Conditions and Poor Connections</u> in Wiring Systems	Go to Step 3
3	With the scan tool, observe the Door Jamb Switch parameter of each door in each Door Module, Data Display, Inputs list. • Driver Door Jamb Sw. • Pass. Door Jamb Sw. • Left Rear Door Jamb Sw. • RT Rear Door Jamb Sw. Does the scan tool indicate that the Door Jamb Switch parameter is in the OFF state for all doors?	Go to Step 4	Go to <u>Courtesy Lamps Always On</u> in Lighting Systems
4	With the scan tool, observe the Liftgate Ajar Indicator Switch parameter in the Data Display, Inputs list of the rear integration module (RIM). Does the scan tool indicate that the Liftgate Ajar Indicator Switch parameter is in the Closed state?	Go to Step 5	Go to <u>Liftgate Ajar Indicator Malfunction</u> in Body Rear End
	Inspect for poor connections at the harness		

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5	connector of the RIM. Refer to <u>Testing for Intermittent Conditions and Poor Connections</u> and <u>Connector Repairs</u> in Wiring Systems. Did you find and correct the condition?	Go to Step 7	Go to Step 6
6	IMPORTANT: The Automatic Door Locks personalization mode must be reset following RIM replacement. Refer to <u>Driver Personalization</u> in Personalization. Replace the RIM. Refer to <u>Rear Integration Module Replacement</u> in Wiring Systems. Did you complete the replacement?	Go to Step 7	-
7	Operate the system in order to verify the repair. Did you correct the condition?	System OK	Go to Step 2

POWER MIRRORS INOPERATIVE

Power Mirrors Inoperative

Step	Action	Yes	No
Schematic Reference: <u>Outside Mirror Schematics</u> Connector End View Reference: <u>Power Door Systems Connector End Views</u>			
1	Did you Perform the Door Systems Diagnostic System Check?	Go to Step 2	Go to <u>Diagnostic System Check - Door Systems</u>
2	Verify that the Power Mirrors Inoperative complaint is present. Does the power mirrors system operate as described in the Description and Operation?	Go to <u>Testing for Intermittent Conditions and Poor Connections</u> in Wiring Systems	Go to Step 3
3	1. Install a scan tool. 2. Turn ON the ignition, with the engine OFF. 3. Observe the Mirror Select Switch parameter in the Driver Door Switch, Inputs list. 4. Place the mirror select switch in the Left		

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	and then the Right mirror selection. Did the Mirror Select Switch parameter indicate the appropriate mirror selection?	Go to Step 4	Go to Step 6
4	1. Observe the Mirror Switch parameter in the Driver Door Switch, Inputs list. 2. Operate the mirror position switch to the Up, Down, Left and Right positions. Did the Mirror Switch parameter change from the Idle state to the Up, Down, Left, and Right states as expected?	Go to Step 5	Go to Step 6
5	1. Disconnect the C4 harness connector of the door module associated with the inoperative mirror. 2. Connect a test lamp between the appropriate motor control circuits at the door module pins. 3. Operate the mirror position switch in both directions of the inoperative axis. Does the test lamp illuminate in both directions?	Go to Step 8	Go to Step 7
6	Inspect for poor connections at the harness connector of the driver door switch assembly. 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 12	Go to Step 11
7	Inspect for poor connections at the harness connector of the door module. Refer to <u>Testing for Intermittent Conditions and Poor Connections</u> and <u>Connector Repairs</u> in Wiring Systems. Did you find and correct the condition?	Go to Step 12	Go to Step 10
	Inspect for poor connections at the harness connector of the inoperative outside rearview mirror. Refer to <u>Testing for Intermittent</u>		

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8	<u>Conditions and Poor Connections</u> and <u>Connector Repairs</u> in Wiring Systems. Did you find and correct the condition?	Go to Step 12	Go to Step 9
9	Replace the inoperative outside rearview mirror. Refer to <u>Mirror Replacement - Power</u> . Did you complete the replacement?	Go to Step 12	-
10	IMPORTANT: Perform the setup procedure for the replacement door module. Refer to <u>DCM Programming/RPO Configuration (Export Only)</u> . Replace the door module. Refer to <u>Door Control Module Replacement</u> . Did you complete the replacement?	Go to Step 12	-
11	Replace the driver door switch assembly Refer to <u>Front Door Switch Replacement</u> . Did you complete the replacement?	Go to Step 12	-
12	Operate the system in order to verify the repair. Did you correct the condition?	System OK	Go to Step 2

POWER MIRRORS - FOLDING INOPERATIVE

Power Mirrors - Folding Inoperative

Step	Action	Yes	No
Schematic Reference: <u>Outside Mirror Schematics</u> Connector End View Reference: <u>Power Door Systems Connector End Views</u>			
1	Did you perform the Door Systems Diagnostic System Check?	Go to Step 2	Go to <u>Diagnostic System Check - Door Systems</u>
2	Verify that the Power Mirrors - Folding Inoperative complaint is present. Does the power folding mirrors system operate as described in the Description and Operation?	Go to <u>Testing for Intermittent Conditions and Poor Connections</u> in Wiring Systems	Go to Step 3
	1. Turn OFF the ignition. 2. Install a scan tool.		

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3	- Turn ON the ignition, with the engine OFF. - Observe the Mirror Fold Switch parameter in the Driver Door Switch Inputs list while momentarily pressing the power mirror fold switch. Does the parameter display In or Out when momentarily pressing the fold switch, and Idle when it is not momentarily pressed?	Go to Step 4	Go to Step 9
4	- Turn OFF the ignition - Disconnect the door module C5 harness connector from the door module associated with the inoperative mirror. - Connect a test lamp between the extend and retract circuits at the door module pins. - Turn ON the ignition, with the engine OFF. - Observe the test lamp, while momentarily pressing the fold switch. Does the test lamp illuminate each time the fold switch is momentarily pressed?	Go to Step 5	Go to Step 8
5	Test the folding mirror motor control circuits of the inoperative mirror for an open, or a short to ground. Refer to <u>Circuit Testing</u> and <u>Wiring Repairs</u> in Wiring Systems. Did you find and correct the condition?	Go to Step 13	Go to Step 6
6	Test the folding mirror motor control circuits of the inoperative mirror for a short to battery voltage. Refer to <u>Circuit Testing</u> and <u>Wiring Repairs</u> in Wiring Systems. Did you find and correct the condition?	Go to Step 13	Go to Step 7
7	Inspect for poor connections at the harness connector of the inoperative power mirror. Refer to <u>Testing for Intermittent Conditions and Poor Connections</u> and <u>Connector</u>		

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	<u>Repairs</u> in Wiring Systems. Did you find and correct the condition?	Go to Step 13	Go to Step 10
8	Inspect for poor connections at the harness connector of the door module associated with the inoperative mirror. 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 13	Go to Step 11
9	Inspect for poor connections at the harness connector of the driver door switch assembly (DDSA). 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 13	Go to Step 12
10	Replace the inoperative power mirror. Refer to <u>Mirror Replacement - Power</u> . Did you complete the repair?	Go to Step 13	-
11	IMPORTANT: Perform the setup procedure for the replacement door module. Refer to <u>DCM Programming/RPO Configuration (Export Only)</u> . Replace the door module. Refer to <u>Door Control Module Replacement</u> . Did you complete the repair?	Go to Step 13	-
12	Replace the driver door switch assembly. Refer to <u>Front Door Switch Replacement</u> . Did you complete the repair?	Go to Step 13	-
13	Operate the system in order to verify the repair. Did you correct the condition?	System OK	Go to Step 2

POWER MIRRORS - MEMORY RECALL POSITION INACCURATE

Test Description

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

3: This step verify that Personalization in the driver information center (DIC) is active. The memory mirrors cannot function if Personalization is inactive. A check mark displayed after

the word Personalization indicates it is active.

4: This step verifies that the Personalization Option in the dash integration module (DIM) is activated. The memory mirrors cannot function if the option is turned off. An asterisk displayed beside the option indicates that the option is activated.

5: This step determines if the mirror sensors are capable of sensing mirror position changes.

Power Mirrors - Memory Recall Position Inaccurate

Step	Action	Value(s)	Yes	No
Schematic Reference: <u>Outside Mirror Schematics</u>				
Connector End View Reference: <u>Power Door Systems Connector End Views</u>				
1	Did you perform the Door Systems Diagnostic System Check?	-	Go to Step 2	Go to <u>Diagnostic System Check - Door Systems</u>
2	Verify that the Power Mirrors - Memory Recall Position Inaccurate complaint is present by performing the following: 1. Turn ON the ignition, with the engine OFF. 2. Adjust both outside rearview mirrors to your preference. 3. With the memory switch, set the personalization recall to your adjustments. 4. Adjust both outside rearview mirrors to an extreme position. 5. Press the memory button that was previously programmed. Did both outside rearview mirrors move back to the programmed setting?	-	Go to <u>Testing for Intermittent Conditions and Poor Connections</u> in Wiring Systems	Go to Step 3
	1. Turn ON the ignition, with the engine OFF. 2. Press the radio Tune/SEL button			

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3	to access the main menu of the driver information center (DIC). - With the Tune/SEL button, scroll until SETUP is highlighted. - Press the Tune/SEL button to access the SETUP menu. - With the Tune/SEL button, scroll to the Personalization menu. - Verify that personalization is in the active state by pressing the Tune/SEL button until a check mark appears after the word Personalization. Is personalization in the active state?	-	Go to Step 4	Go to <u>Driver Personalization</u> in Personalization
4	- Install a scan tool - Turn ON the ignition, with the engine OFF. - With the scan tool, navigate to the Setting Options screen of the Dash Integration Module by making the following selections: - Dash Integration Module - Special Functions - Set Options - Personalization Option - Follow the on screen instructions to verify that the Personalization Option is activated. Is the personalization option activated?	-	Go to Step 5	Go to <u>Body Control Module (BCM) Programming/RPO Configuration (RIM) or Body Control Module (BCM) Programming/RPO Configuration (DIM)</u> in Body Control System
	With the scan tool, observe the Up/Down Sensor and Left/Right			

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5	Sensor parameters in the appropriate door module Data list. 2. With the mirror adjustment switches, move the inoperative mirror to the limits of travel in both the vertical and horizontal directions. Does the scan tool indicate both the Up/Down and Left/Right Sensor parameter values change and are within the specified range?	0.25-5.5 V	Go to Step 10	Go to Step 6
6	1. Turn the ignition OFF. 2. Disconnect the C5 harness connector of the door module associated with the inoperative mirror. 3. Turn ON the ignition, with the engine OFF. 4. Measure the voltage of the 5-volt reference circuit at the door module pin. Is the voltage indicated within the specified range?	4.25-5.5 V	Go to Step 7	Go to Step 12
7	With a scan tool, observe the Up/Down Sensor and Left/Right Sensor parameters in the appropriate door module Data list. Is the voltage indicated within the specified range for both sensors?	4.25-5.5 V	Go to Step 8	Go to Step 12
	1. Install a 3-amp fused jumper wire between the mirror sensor return circuit and the horizontal sensor signal circuit at the door module pins. 2. With the scan tool, observe the			

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8	Left/Right Sensor parameter. 3. Install the 3-amp fused jumper wire between the mirror sensor return circuit and the vertical sensor signal circuit at the door module pins. 4. With the scan tool, observe the Up/Down Sensor parameter. Did the scan tool indicate the voltage for each sensor was within the specified range?	0-0.5 V	Go to Step 9	Go to Step 12
9	Inspect for poor connections at the C5 harness connector of the door module associated with the inoperative mirror. 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 13	Go to Step 11
10	Inspect for poor connections at the C5 harness connector of the door module associated with the inoperative mirror. 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 13	Go to Step 12
11	Replace the inoperative outside rear view mirror. Refer to <u>Mirror Replacement - Power</u>. Did you complete the replacement?	-	Go to Step 13	-
	IMPORTANT: Perform the setup procedure for the replacement door module. Refer to <u>DCM Programming/RPO Configuration (Export Only)</u>.			

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12	Replace the door module. Refer to <u>Door Control Module Replacement</u> . Did you complete the replacement?	-	Go to Step 13	-
13	Operate the system in order to verify the repair. Did you correct the condition?	-	System OK	Go to Step 2

MIRRORS - OUTSIDE AUTOMATIC DAY-NIGHT FEATURE INOPERATIVE

Mirrors - Outside Automatic Day-Night Feature Inoperative

Step	Action	Value(s)	Yes	No
Schematic Reference: <u>Inside Rearview Mirror Schematics</u>				
Connector End View Reference: <u>Stationary Windows Connector End Views</u>				
1	Did you perform the Door Systems Diagnostic System Check?	-	Go to Step 2	Go to <u>Diagnostic System Check - Door Systems</u>
2	1. Turn ON the ignition, with the engine OFF. 2. Turn ON the automatic day-night feature of the inside rearview mirror. 3. Cover the sensor on the mirror back, facing the front window. 4. Shine a bright light into the sensor on the mirror face, facing the rear window. Does the inside rearview mirror darken?	-	Go to Step 3	Go to <u>Mirrors - Automatic Day-Night Inoperative</u> in Stationary Windows
3	While shining a bright light into the sensor on the mirror face, facing the rear window, observe the driver outside rearview mirror. Does the driver outside rearview mirror darken?	-	Go to <u>Testing for Intermittent Conditions and Poor Connections</u> in Wiring	

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			Systems	Go to Step 4
4	1. Turn OFF the ignition. 2. Disconnect the harness connector C1 of the driver door module (DDM). 3. Turn ON the ignition, with the engine OFF. 4. Turn ON the automatic day-night feature of the inside rearview mirror. 5. Cover the sensor on the mirror back, facing the front window. 6. Shine a bright light into the sensor on the mirror face, facing the rear window. 7. Measure the voltage between the signal circuit and the low reference circuit of the driver outside mirror element. Is the voltage within the specified range?	0.75-1.5 V	Go to Step 7	Go to Step 5
5	Is the voltage greater than the specified value?	1.5 V	Go to Step 18	Go to Step 6
6	Measure the voltage between the signal circuit of the driver outside mirror element and a good ground. Is the voltage within the specified range?	0.75-1.5 V	Go to Step 13	Go to Step 12
	1. Turn OFF the ignition. 2. Connect the harness connector C1 of the DDM. 3. Carefully disconnect the driver outside rearview mirror face. Refer to <u>Mirror Face Replacement</u>. 4. Turn ON the ignition, with the engine OFF. 5. Turn ON the automatic day-night feature of the inside rearview			

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7	mirror. - Cover the sensor on the mirror back, facing the front window. - Shine a bright light into the sensor on the mirror face, facing the rear window. - Measure the voltage between the signal circuit and the low reference circuit of the driver outside rearview mirror element. Is the voltage within the specified range?	0.75-1.5 V	Go to Step 14	Go to Step 8
8	Is the voltage greater than the specified value?	1.5 V	Go to Step 18	Go to Step 9
9	- Turn OFF the ignition. - Disconnect the harness connector C4 of the DDM. - Measure the resistance of the signal circuit of the driver outside rearview mirror element between the driver outside rearview mirror element and the DDM. Is the resistance less than the specified value?	3 ohms	Go to Step 10	Go to Step 15
10	Measure the resistance between the signal circuit of the driver outside rearview mirror element to a good ground. Is the resistance within the specified range?	OL	Go to Step 11	Go to Step 15
11	Measure the resistance of the low reference circuit of the driver outside rearview mirror element between the driver outside rearview mirror element and the DDM. Is the resistance less than the specified value?	3 ohms	Go to Step 17	Go to Step 15
	Test the signal circuit of the driver outside			

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12	rearview mirror element for an open or short to ground. Refer to <u>Circuit Testing</u> and <u>Wiring Repairs</u> in Wiring Systems. Did you find or correct the condition?	-	Go to Step 23	Go to Step 16
13	Test the low reference circuit of the driver outside rearview mirror element for an open or high resistance. Refer to <u>Circuit Testing</u> and <u>Wiring Repairs</u> in Wiring Systems. Did you find or correct the condition?	-	Go to Step 23	Go to Step 16
14	Inspect for poor connections at the harness connector of the driver outside rearview mirror face. Refer to <u>Testing for Intermittent Conditions and Poor Connections</u> and <u>Connector Repairs</u> in Wiring Systems. Did you find or correct the condition?	-	Go to Step 23	Go to Step 19
15	Inspect for poor connections at the harness connector of the driver outside rearview mirror. Refer to <u>Testing for Intermittent Conditions and Poor Connections</u> and <u>Connector Repairs</u> in Wiring Systems. Did you find or correct the condition?	-	Go to Step 23	Go to Step 20
16	Inspect for poor connections at the harness connector of the inside rearview mirror. Refer to <u>Testing for Intermittent Conditions and Poor Connections</u> and <u>Connector Repairs</u> in Wiring Systems. Did you find or correct the condition?	-	Go to Step 23	Go to Step 21
17	Inspect for poor connections at the harness connector of the DDM. Refer to <u>Testing for Intermittent Conditions and Poor Connections</u> and <u>Connector Repairs</u> in Wiring Systems. Did you find or correct the condition?	-	Go to Step 23	Go to Step 22
	IMPORTANT:			

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18	A short to voltage in the signal circuit of the driver outside rearview mirror element will cause permanent damage to both the driver outside rearview mirror element and the inside rearview mirror. Repair the short to voltage in the signal circuit of the driver outside rearview mirror element. Refer to <u>Wiring Repairs</u> in Wiring Systems. Did you complete the repair?	-	Go to Step 23	-
19	Replace the driver outside rearview mirror face. Refer to <u>Mirror Face Replacement</u>. Did you complete the replacement?	-	Go to Step 23	-
20	Replace the driver outside rearview mirror. Refer to <u>Mirror Replacement - Power</u>. Did you complete the replacement?	-	Go to Step 23	-
21	Replace the inside rearview mirror. Refer to <u>Rearview Mirror Replacement (UE1)</u> or <u>Rearview Mirror Replacement (DD7, DD8)</u> in Stationary Windows. Did you complete the replacement?	-	Go to Step 23	-
22	Replace the DDM. Refer to <u>Door Control Module Replacement</u>. Is the replacement complete?	-	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 MIRRORS - MIRROR TILT INOPERATIVE IN REVERSE

Power Mirrors - Mirror Tilt Inoperative in Reverse

Step	Action	Yes	No
Schematic Reference: <u>Outside Mirror Schematics</u> Connector End View Reference: <u>Power Door Systems Connector End Views</u>			
	Did you perform the Door Systems Diagnostic		Go to Diagnostic

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1	System Check?	Go to Step 2	<u>System Check - Door Systems</u>
2	Verify that the reverse park aid mirror option is turned ON for the current driver. Refer to <u>Driver Personalization</u> in Personalization. Was the option ON or did you turn the reverse park aid option ON?	Go to Step 3	Go to <u>Driver Personalization</u> in Personalization
3	With the mirror control switches, operate the passenger door mirror in both the Up and Down directions. Does the passenger door mirror operate in both directions?	Go to Step 4	Go to <u>Power Mirrors Inoperative</u>
4	1. Start the engine 2. With the brake pedal depressed, move the gear shift selector into reverse. Does the passenger outside rearview mirror tilt downward 10 degrees?	Go to Step 7	Go to Step 5
5	Inspect for poor connections at the harness connector of the passenger door module (PDM). Refer to <u>Testing for Intermittent Conditions and Poor Connections</u> and <u>Connector Repairs</u> in Wiring Systems. Did you find and correct the condition?	Go to Step 7	Go to Step 6
6	IMPORTANT: Perform the setup procedure for the replacement door module. Refer to <u>DCM Programming/RPO Configuration (Export Only)</u> . Replace the PDM. Refer to <u>Door Control Module Replacement</u> Did you complete the replacement?	Go to Step 7	-
7	Operate the system in order to verify the repair. Did you correct the condition?	System OK	Go to Step 2

HEATED MIRRORS INOPERATIVE - ONE

Test Description

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

3: This step determines if the mirror heater feed circuit is shorted to battery positive voltage within the module.

5: This step determines if the mirror heater feed circuit of the mirror pigtail harness is shorted to battery positive voltage.

Heated Mirrors Inoperative - One

Step	Action	Yes	No
Schematic Reference: <u>Outside Mirror Schematics</u>			
Connector End View Reference: <u>Power Door Systems Connector End Views</u>			
1	Did you perform the Door Systems Diagnostic System Check?	Go to Step 2	Go to <u>Diagnostic System Check - Door Systems</u>
2	Verify that the Heated Mirrors Inoperative - One complaint is present Does the heated mirrors system operate as described in the Description and Operation?	Go to <u>Testing for Intermittent Conditions and Poor Connections</u> in Wiring Systems	Go to Step 3
3	1. Turn OFF the ignition 2. Disconnect the C4 harness connector of the door module associated with the inoperative heated mirror. 3. Ensure that all other harness connectors to the door module remain connected. 4. Connect a test lamp between the heater feed circuit and the low reference circuit of the heated mirror at the door module pins. 5. Turn ON the ignition, with the engine OFF Does the test lamp illuminate?	Go to Step 9	Go to Step 4
4	While observing the test lamp, command the mirrors to heat by turning ON the rear window defroster. Does the test lamp illuminate?	Go to Step 5	Go to Step 9

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5	1. Turn OFF the ignition 2. Connect the C4 harness connector of the door module associated with the inoperative heated mirror. 3. Carefully remove the mirror face of the mirror that does not heat. Refer to <u>Mirror Face Replacement</u>. 4. Disconnect the heated mirror harness connector from the mirror face. 5. Connect a test lamp between the mirror heater circuits of the harness connector. 6. Turn ON the ignition, with the engine OFF Does the test lamp illuminate?	Go to Step 7	Go to Step 6
6	While observing the test lamp, command the mirrors to heat by turning ON the rear window defroster. Does the test lamp illuminate?	Go to Step 8	Go to Step 7
7	Inspect for poor connections at the harness connector of the inoperative heated mirror. 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 13	Go to Step 12
8	Inspect for poor connections at the harness connector of the inoperative heated mirror face. 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 13	Go to Step 10
9	Inspect for poor connections at the C4 harness connector of the door module associated with the inoperative outside rear view mirror. 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 13	Go to Step 11

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10	Replace the inoperative heated mirror face. Refer to <u>Mirror Face Replacement</u> . Did you complete the replacement?	Go to Step 13	-
11	IMPORTANT: Perform the setup procedure for the replacement door module. Refer to <u>DCM Programming/RPO Configuration (Export Only)</u> . Replace the door module. Refer to <u>Door Control Module Replacement</u> . Did you complete the replacement?	Go to Step 13	-
12	Replace the inoperative heated mirror. Refer to <u>Mirror Replacement - Power</u> . Did you complete the replacement?	Go to Step 13	-
13	Operate the system in order to verify the repair. Did you correct the condition?	System OK	Go to Step 2

REPAIR INSTRUCTIONS

POWER WINDOW SWITCH REPLACEMENT - REAR DOOR

Removal Procedure

1. Insert a flat-bladed tool under the front edge of the rear door switch.
2. Push the tool firmly towards the switch to disengage the retainer.
3. Lift up on the rear of the switch plate in order to remove the rear switch plate from the door trim panel.
4. Disconnect the electrical connector.
5. Remove the power window switch from the switch plate by disengaging the side snap walls with a small flat-bladed tool.

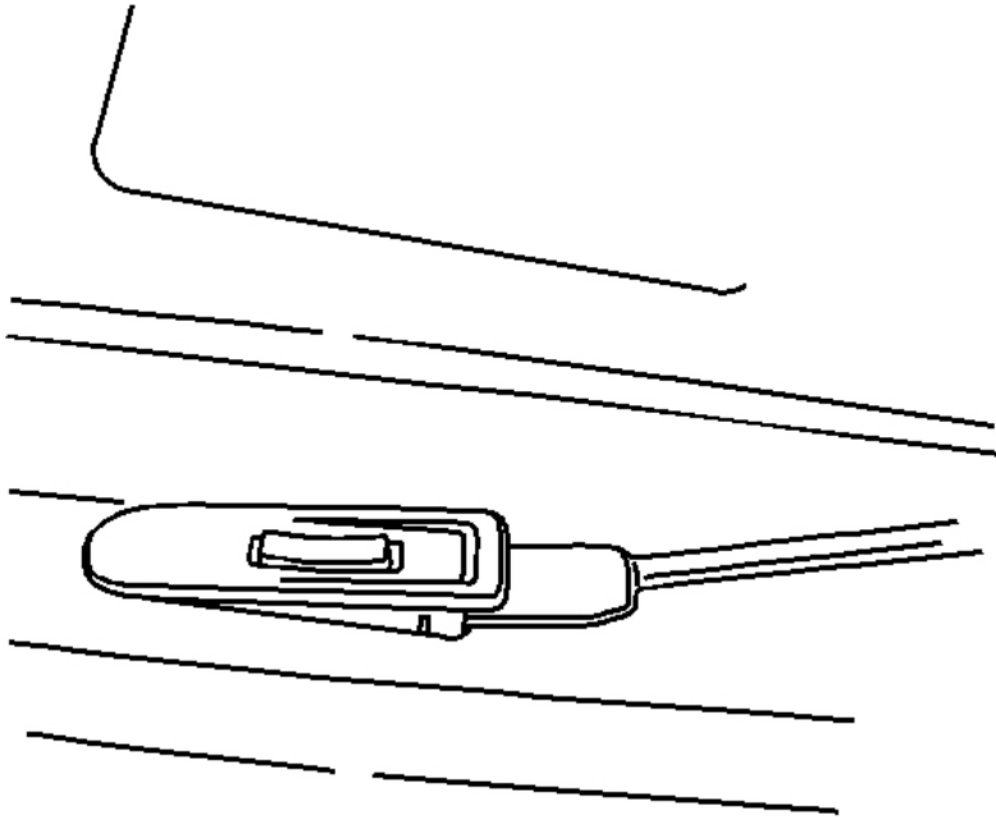


Fig. 30: View Of Power Window Switch
Courtesy of GENERAL MOTORS CORP.

Installation Procedure

1. Connect the electrical connectors.
2. Install the switch into the door trim panel.
3. Engage the front of the switch to the door panel.
4. Press down on the switch evenly to engage the retainer.

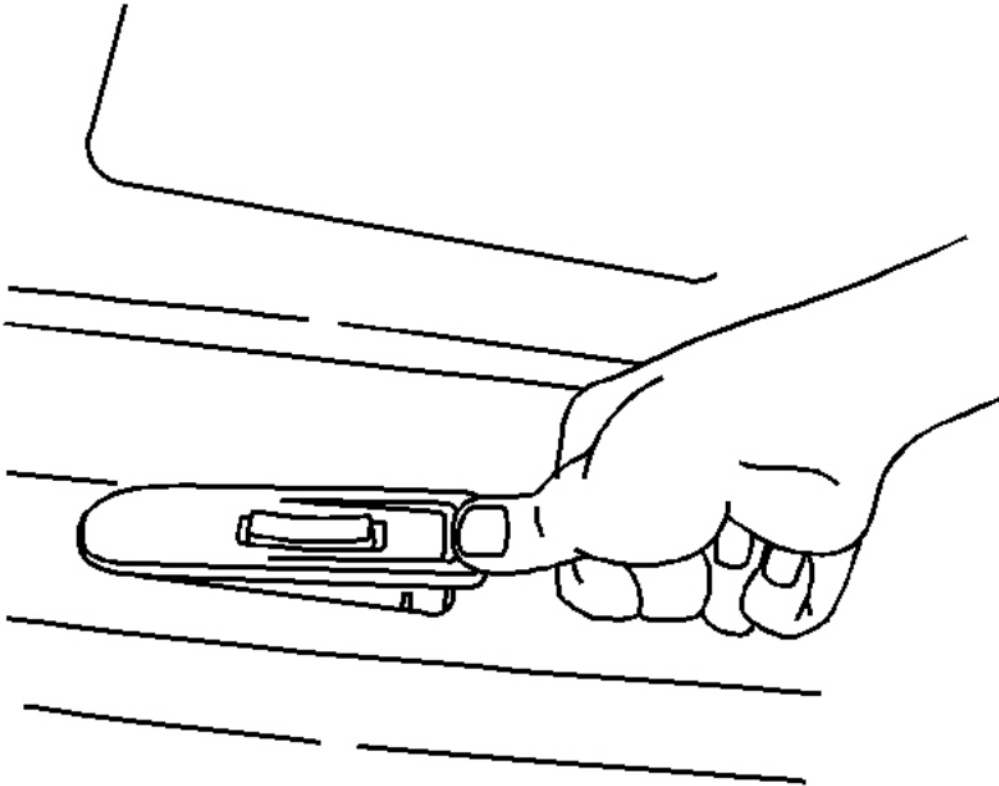


Fig. 31: Installing Power Window Switch
Courtesy of GENERAL MOTORS CORP.

POWER DOOR LOCK SWITCH REPLACEMENT

Removal Procedure

1. Remove the inside handle bezel from the inner door panel in the following order:
 1. Hold the inside handle (1) to the open position.
 2. Insert a flat-bladed tool at the front lower corner of the bezel.
 3. Pry outward on the bezel.
 4. Remove the bezel from the inner door panel.

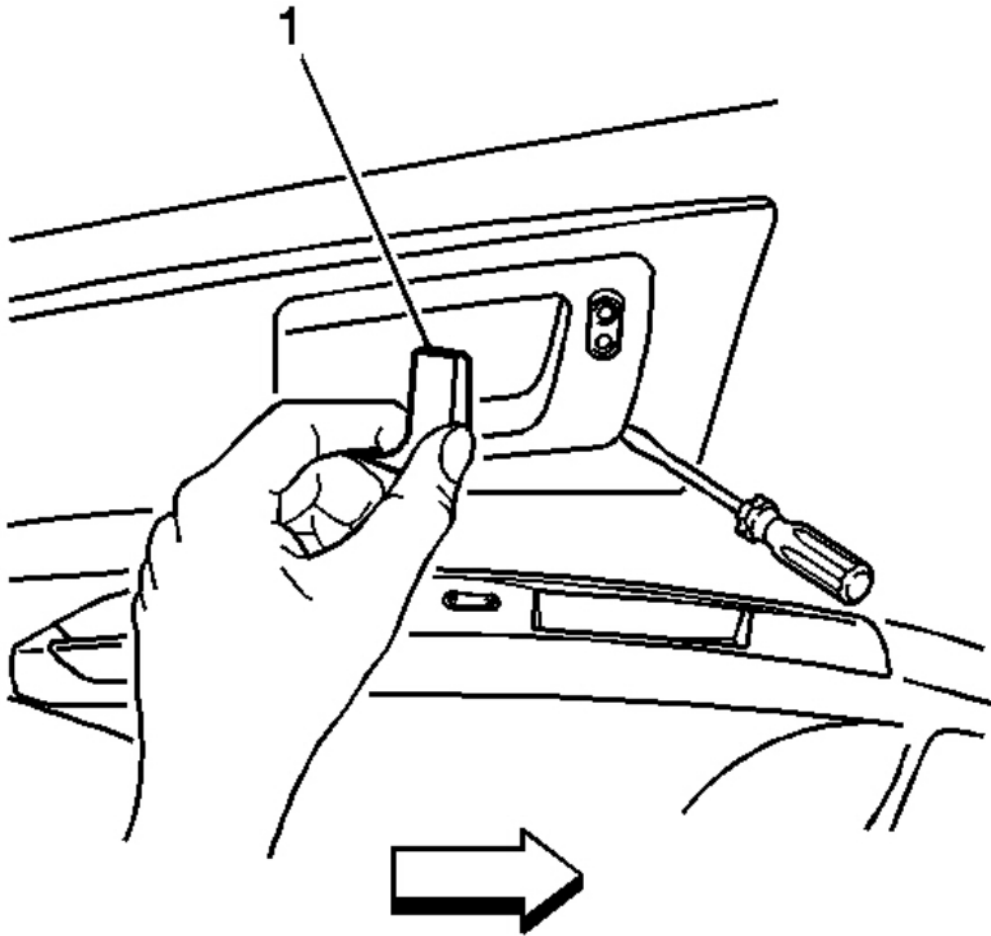


Fig. 32: View Of Inside Handle
Courtesy of GENERAL MOTORS CORP.

2. Disconnect the electrical connector from the lock switch.

Installation Procedure

1. Snap the door lock switch into the door switch bezel.
2. Connect the electrical connector.
3. Slide the bezel over the door handle.
4. Snap the bezel into position by pushing on lower front corner of bezel.

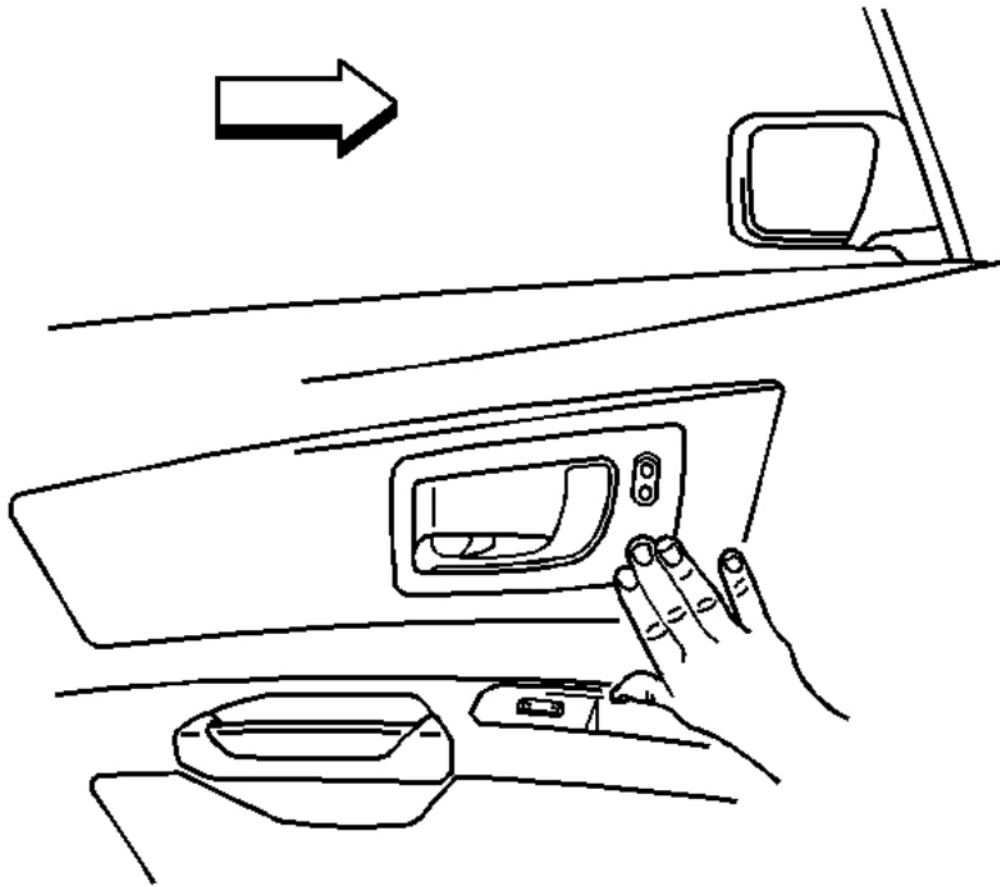


Fig. 33: Installing Inside Handle Bezel
Courtesy of GENERAL MOTORS CORP.

POWER MIRROR SWITCH REPLACEMENT

Removal Procedure

1. Insert a flat bladed tool under the front edge of the front door switch.
2. Push the tool firmly towards the switch to disengage the retainer.
3. Lift up on the rear of the switch plate to remove it from the door trim panel.

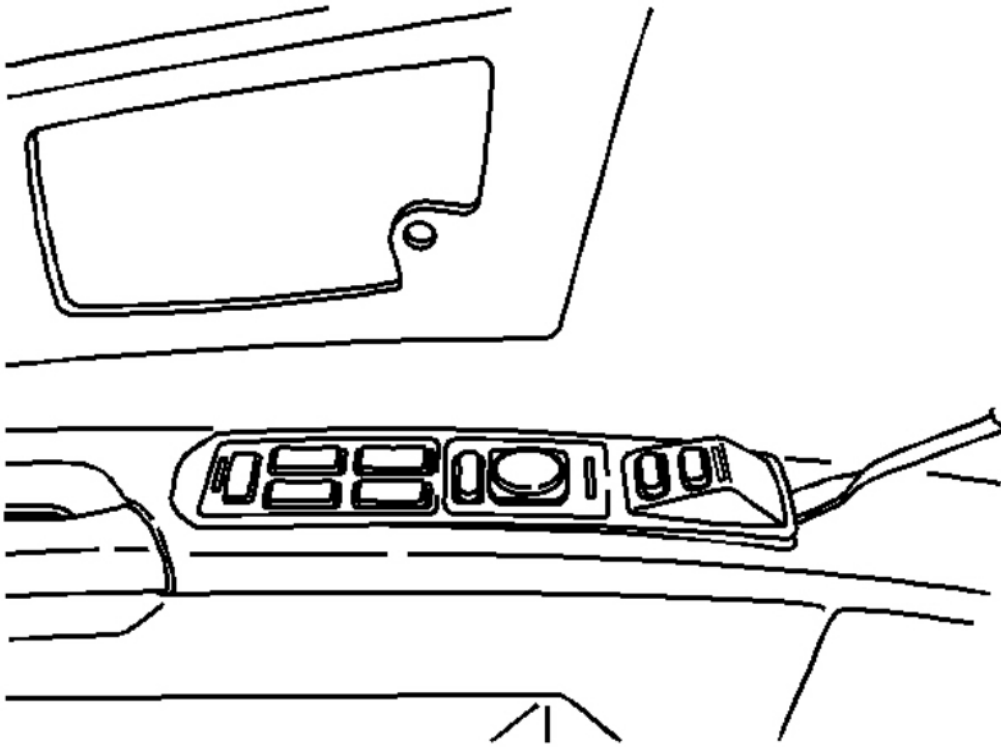


Fig. 34: Removing Switch Plate
Courtesy of GENERAL MOTORS CORP.

4. Disconnect electrical connectors.
5. Remove the appropriate switch from the bezel by disengaging the side snap walls with a small flat bladed tool.

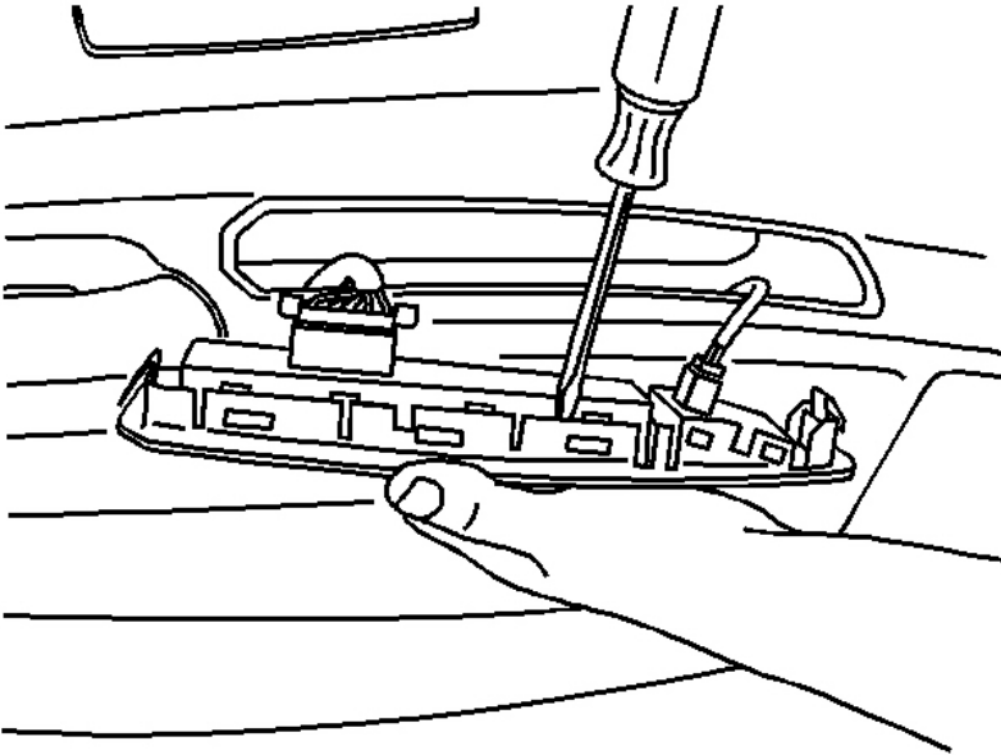


Fig. 35: Disengaging Side Snap Walls
Courtesy of GENERAL MOTORS CORP.

Installation Procedure

1. Snap the switch into the bezel.
2. Connect the electrical connectors.

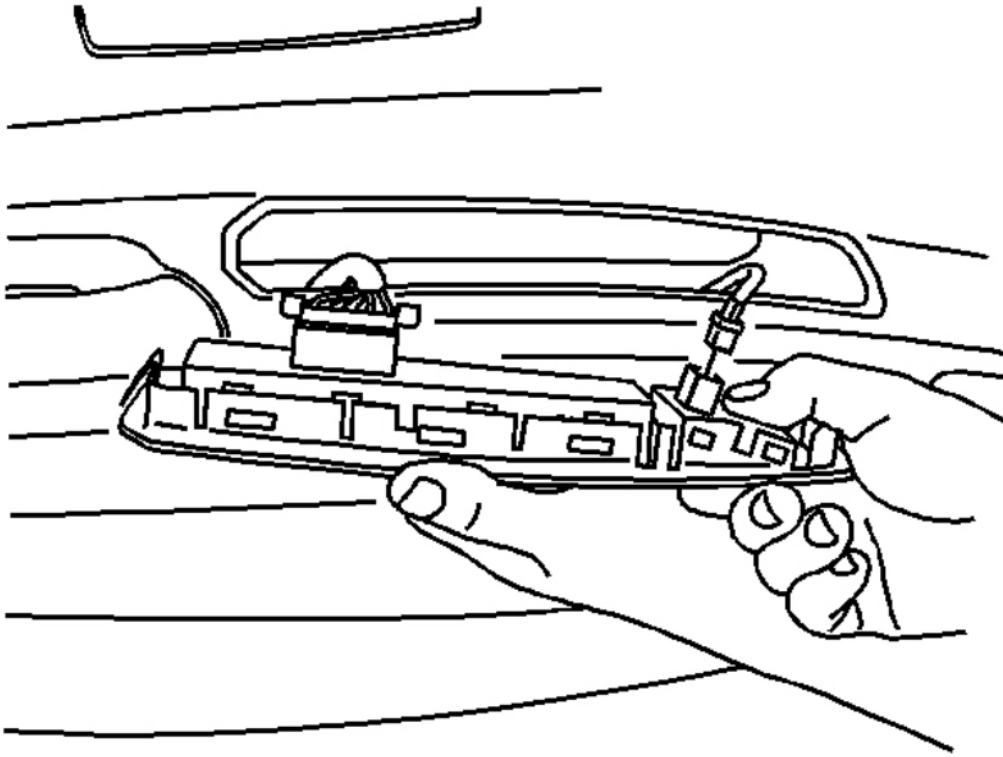


Fig. 36: View Of Switch Electrical Connectors
Courtesy of GENERAL MOTORS CORP.

3. Install the switch into the door trim panel.
4. Engage the rear of the switch to the door panel.
5. Press down on the switch plate evenly to engage the retainer.

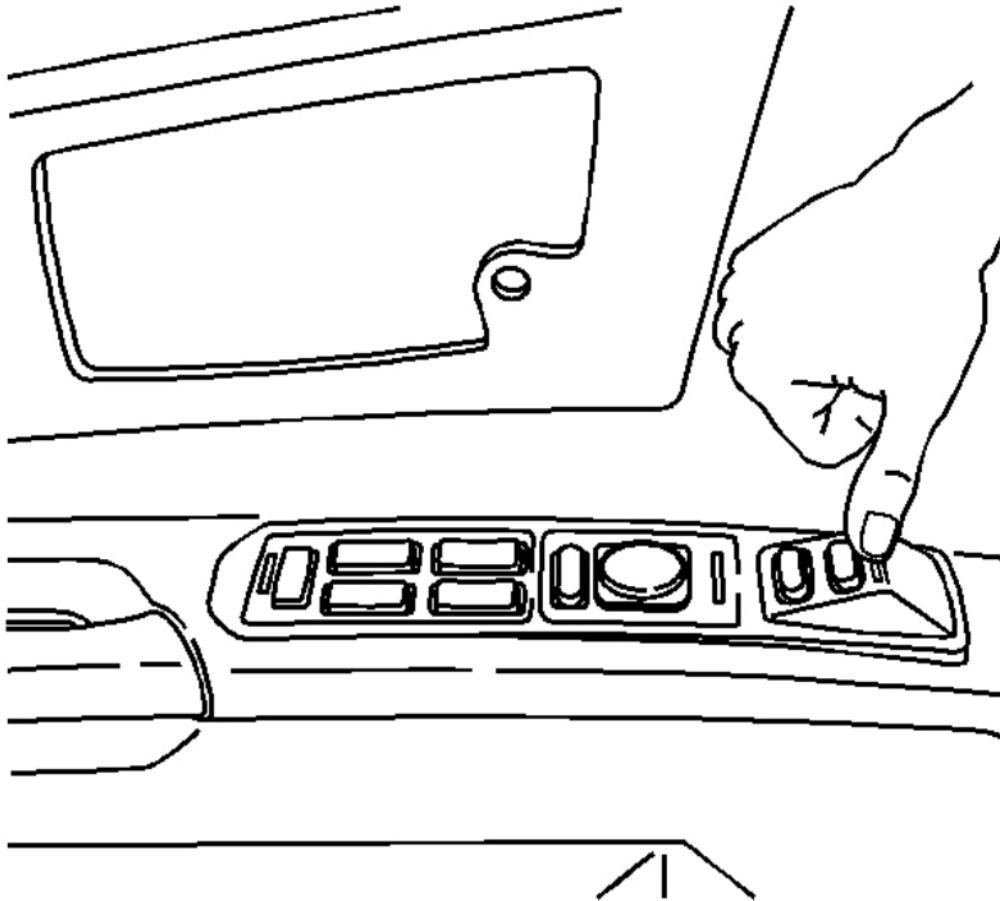


Fig. 37: Installing Switch Plate
Courtesy of GENERAL MOTORS CORP.

FRONT DOOR SWITCH REPLACEMENT

Removal Procedure

1. Insert a flat-bladed tool under the front edge of the front door switch.
2. Push the tool firmly towards the switch to disengage the retainer.
3. Lift up on the rear of the switch plate to remove it from the door trim panel.

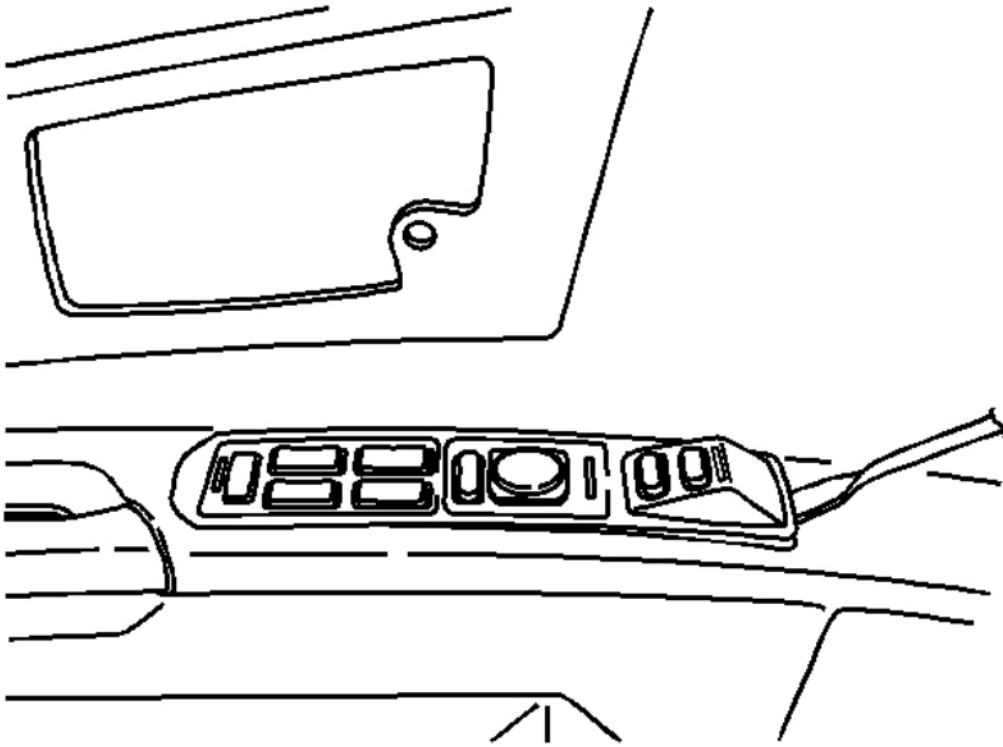


Fig. 38: Removing Switch Plate
Courtesy of GENERAL MOTORS CORP.

4. Disconnect electrical connectors.
5. Remove the appropriate switch from the bezel by disengaging the side snap walls with a small flat-bladed tool.

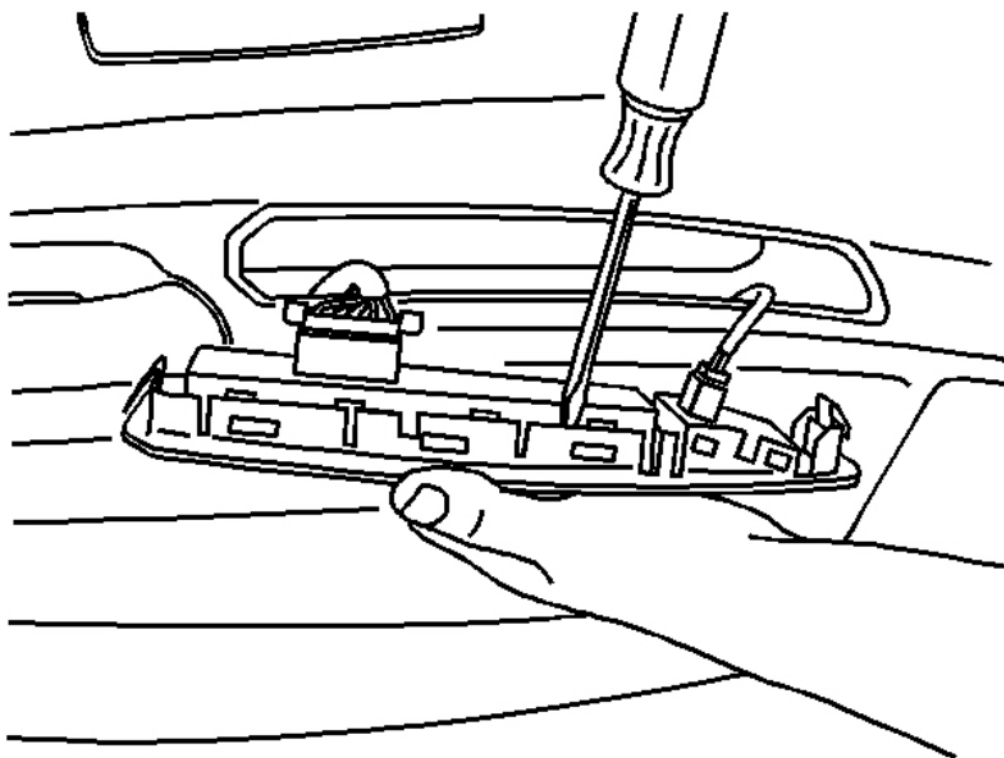


Fig. 39: Disengaging Side Snap Walls
Courtesy of GENERAL MOTORS CORP.

Installation Procedure

1. Snap the switch into the bezel.
2. Connect the electrical connectors.

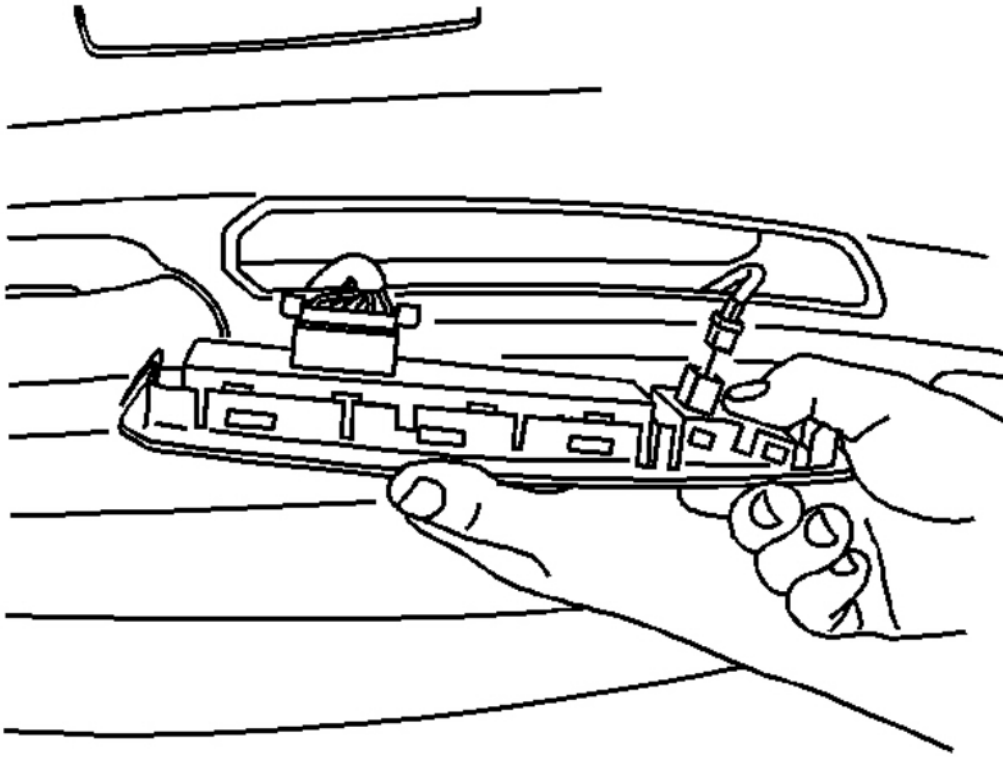


Fig. 40: View Of Switch Electrical Connectors
Courtesy of GENERAL MOTORS CORP.

3. Install the switch into the door trim panel.
4. Engage the rear of the switch to the door panel.
5. Press down on the switch plate evenly to engage the retainer.

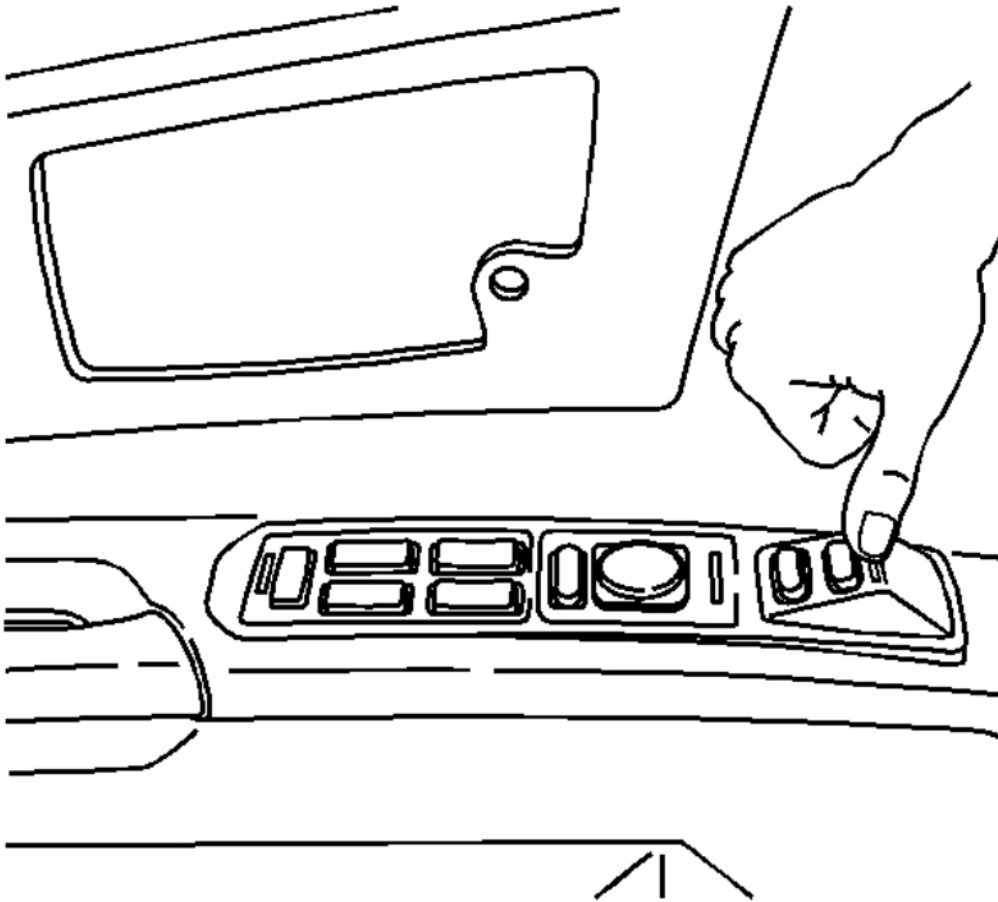


Fig. 41: Installing Switch Plate
Courtesy of GENERAL MOTORS CORP.

DOOR STORAGE BIN REPLACEMENT - FRONT

Removal Procedure

1. Remove the door trim panel. Refer to **Trim Panel Replacement - Side Front Door**.
2. Remove the screws (2) that retain the compartment bin assembly to the door trim.
3. Release the tab (1) that retains the compartment bin to the door trim.

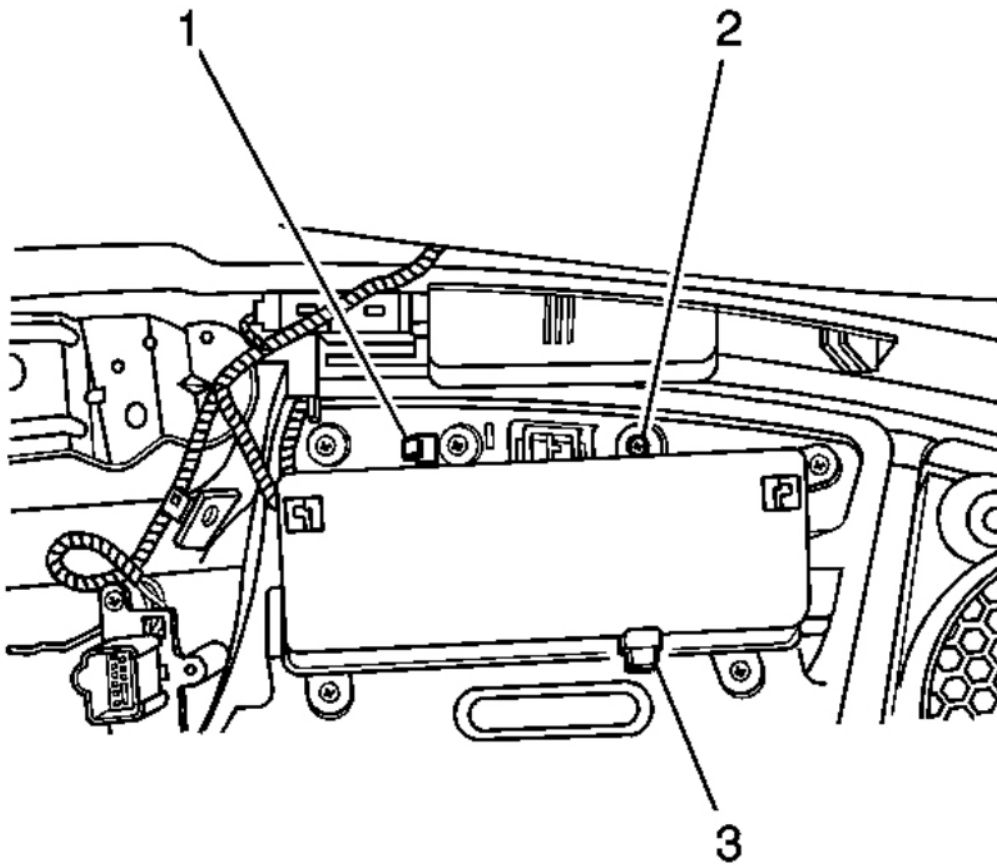


Fig. 42: View Of Compartment Bin
Courtesy of GENERAL MOTORS CORP.

4. Remove the compartment bin from the door trim.
5. Squeeze the tabs (1) on the compartment bin latch together in order to remove the latch.

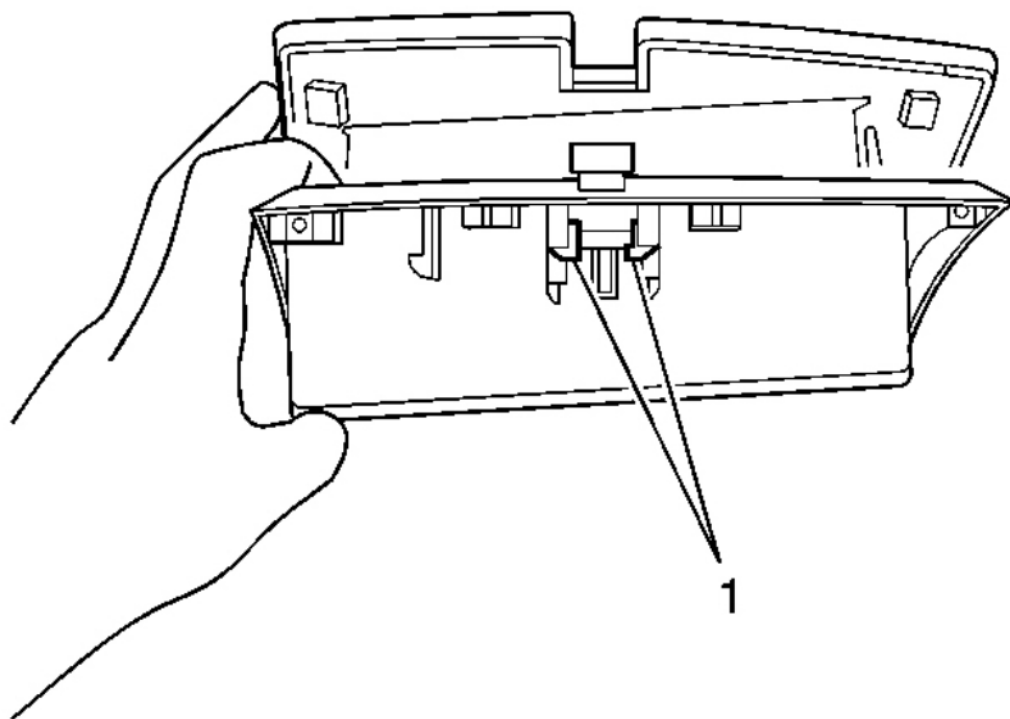


Fig. 43: Locating Compartment Bin Latch Tabs
Courtesy of GENERAL MOTORS CORP.

6. Remove the latch.
7. Remove the hinge (1) from the compartment bin.

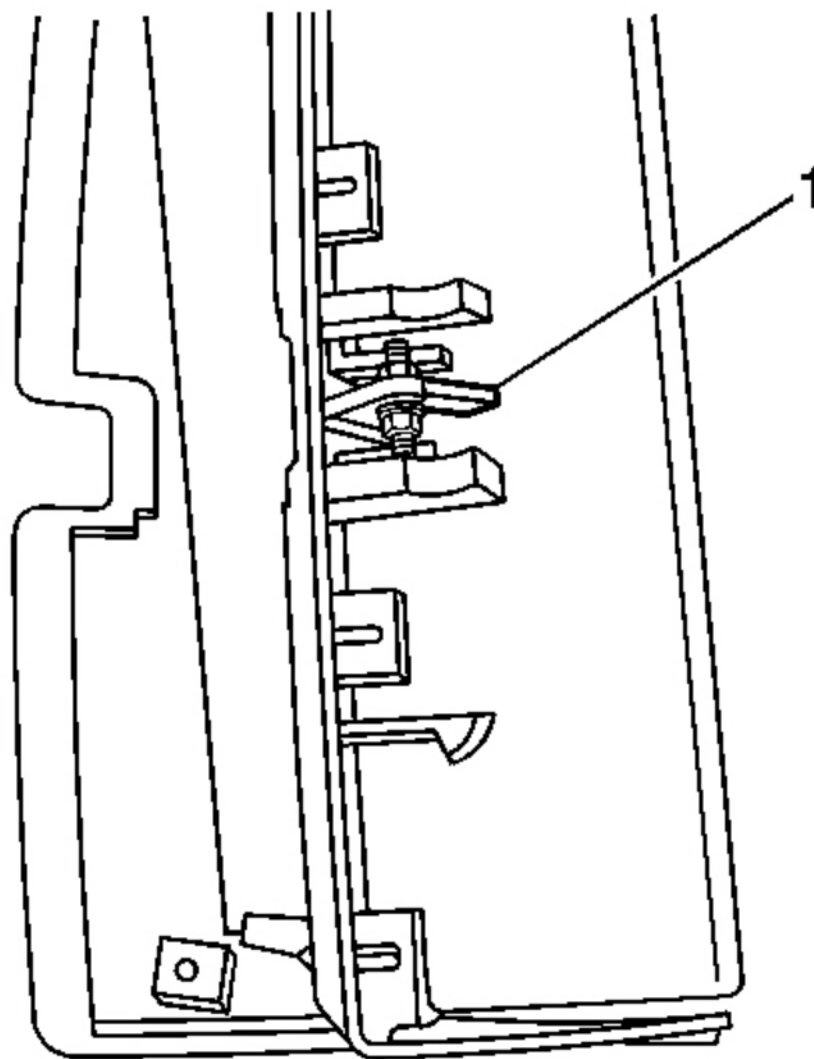


Fig. 44: View Of Compartment Bin Hinge
Courtesy of GENERAL MOTORS CORP.

Installation Procedure

1. Install the hinge (1) to the door compartment bin.

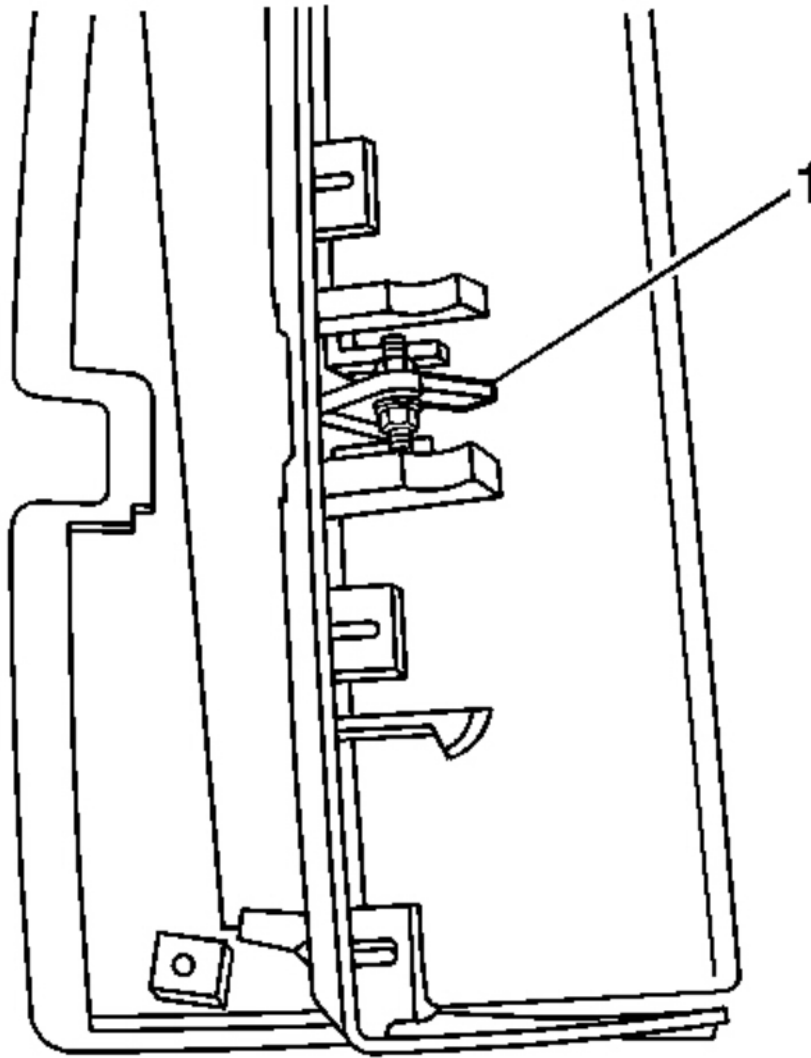


Fig. 45: View Of Compartment Bin Hinge
Courtesy of GENERAL MOTORS CORP.

2. Ensure that the spring is located in the proper position.
3. Install the latch by pushing the latch in until the tabs (1) lock into position.

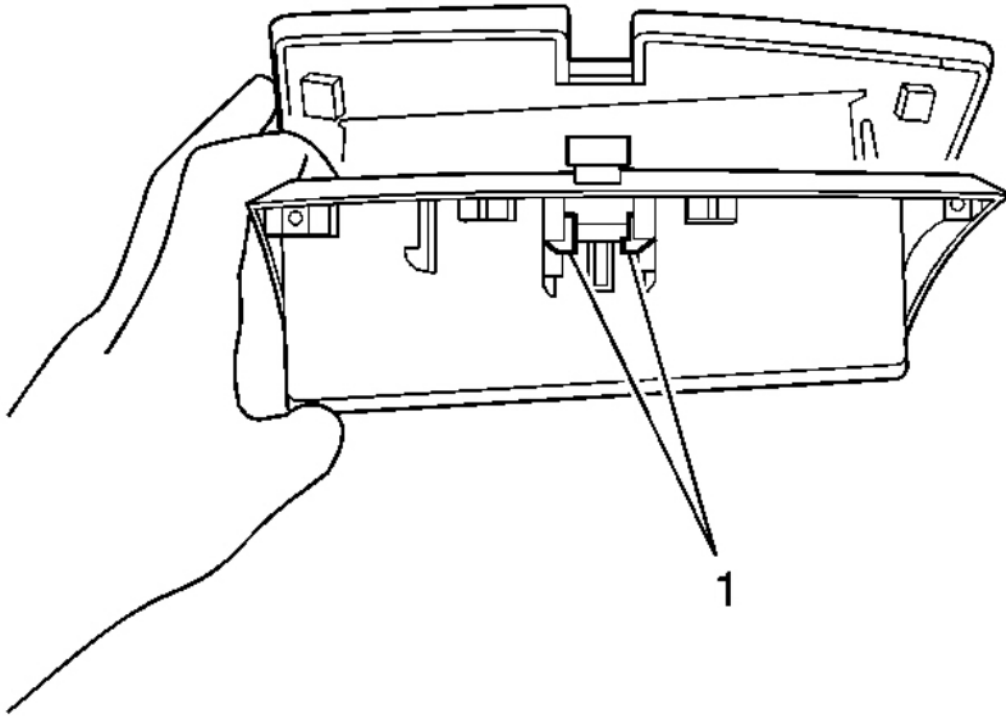


Fig. 46: Locating Compartment Bin Latch Tabs
Courtesy of GENERAL MOTORS CORP.

4. Install the compartment bin to the door trim panel. Ensure the lower tab (3) of the bin is properly located.
5. Engage the locking tab (1) at the top of the compartment bin to the door trim panel.

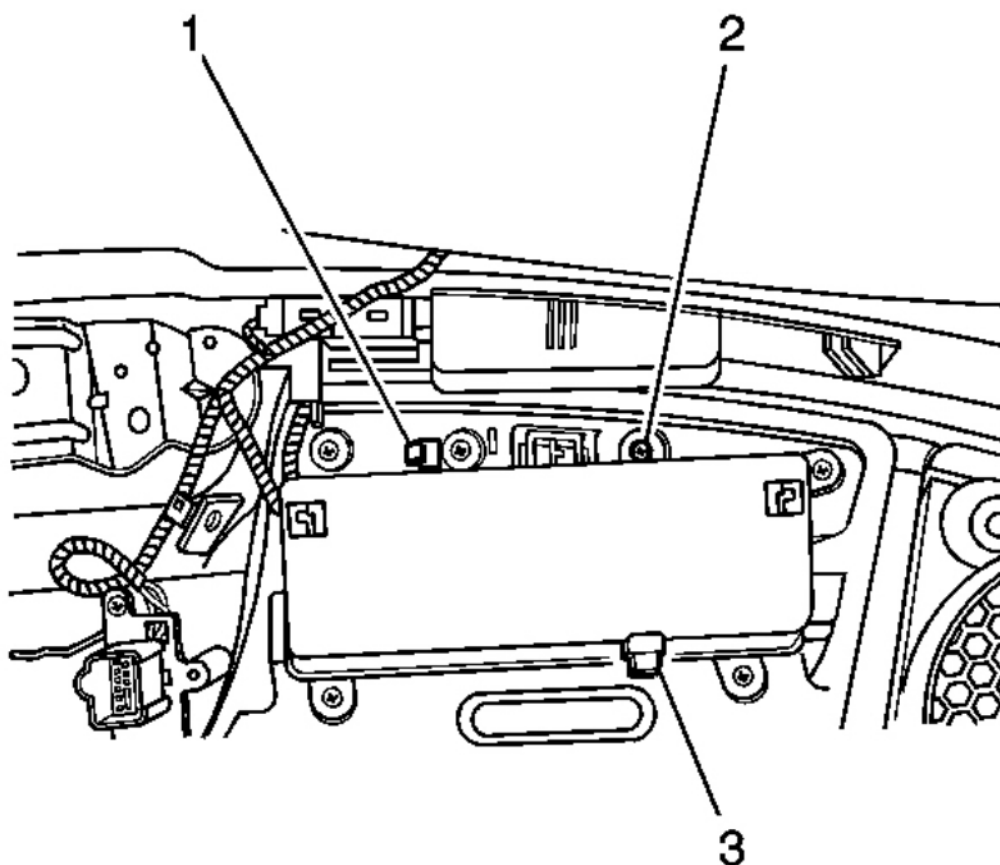


Fig. 47: View Of Compartment Bin
Courtesy of GENERAL MOTORS CORP.

NOTE: Refer to Fastener Notice in Cautions and Notices.

6. Install the door trim panel screws (2).

Tighten: Tighten the screw to 1 N.m (9 lb in).

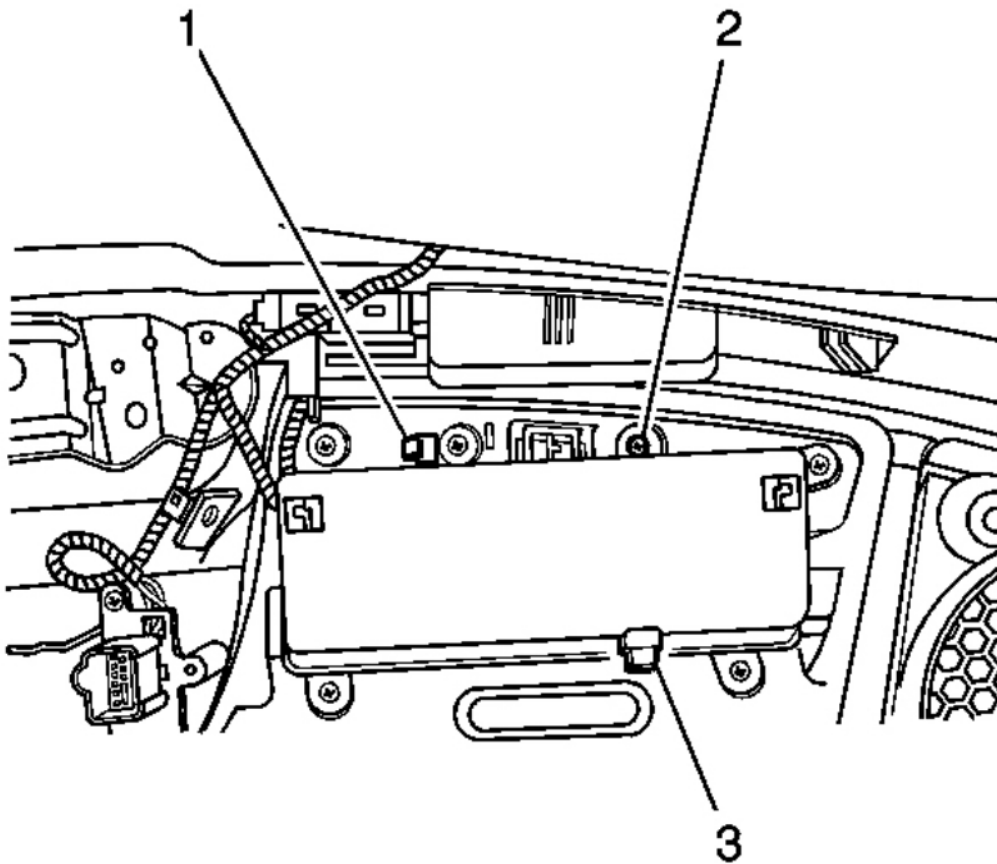


Fig. 48: View Of Compartment Bin
Courtesy of GENERAL MOTORS CORP.

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

TRIM PANEL REPLACEMENT - SIDE FRONT DOOR

Tools Required

J 36796 Clip Zip Clip Removal Tool. See **Special Tools and Equipment**.

Removal Procedure

1. Lower the window.

2. Ensure the manual lock knob (1) is in the unlock position.
3. Insert a flat-bladed tool into the top service notch to disengage the locking clip (2) located at the front of the manual lock knob (1).
4. Remove the manual lock knob (1).

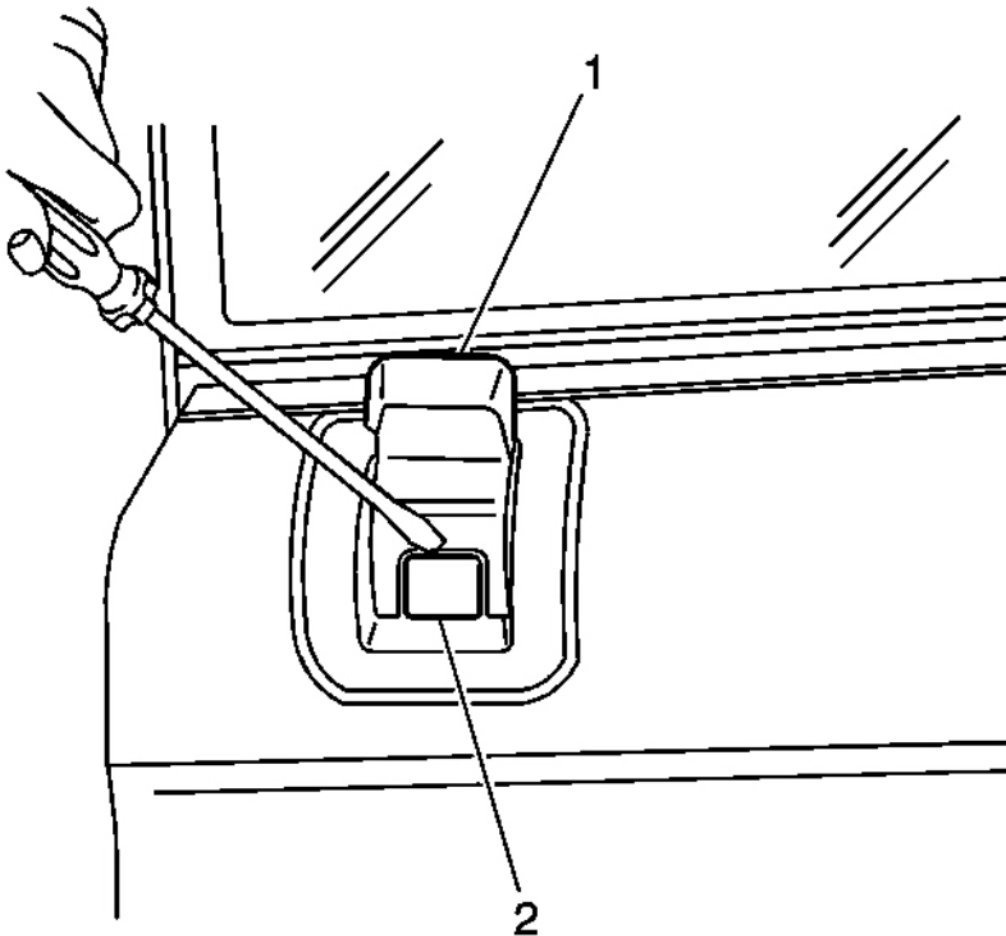


Fig. 49: Disengaging Manual Lock Knob Locking Clip
Courtesy of GENERAL MOTORS CORP.

5. Remove the inside handle bezel (1) from the inner door panel in the following order:
 1. Hold the inside handle to the open position.
 2. Insert a flat-bladed tool at the front lower corner of the bezel.

3. Pry outward on the bezel.
4. Remove the bezel from the inner door panel.

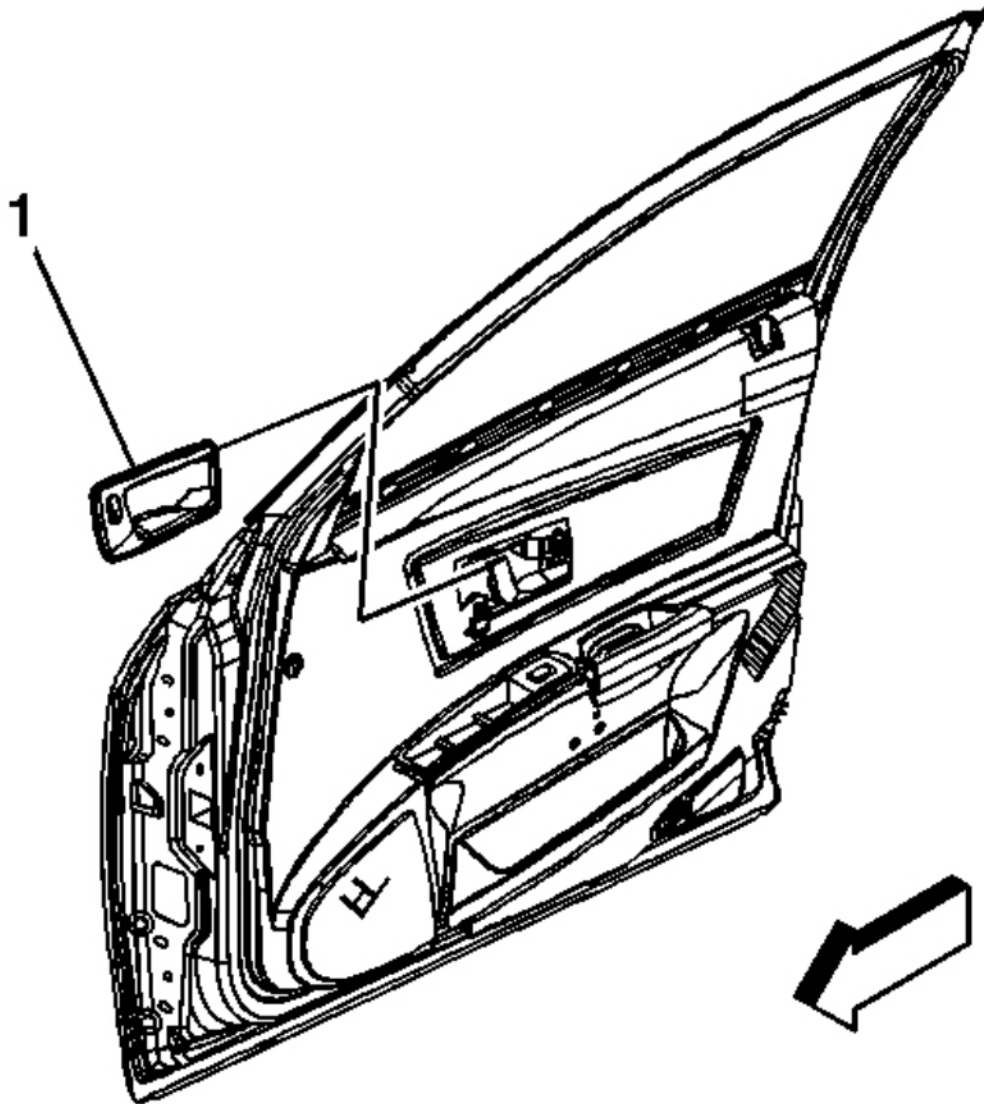


Fig. 50: Identifying Inside Handle Bezel
Courtesy of GENERAL MOTORS CORP.

6. Insert a flat-bladed tool at the top of the trim cover and pry out to remove the cover.

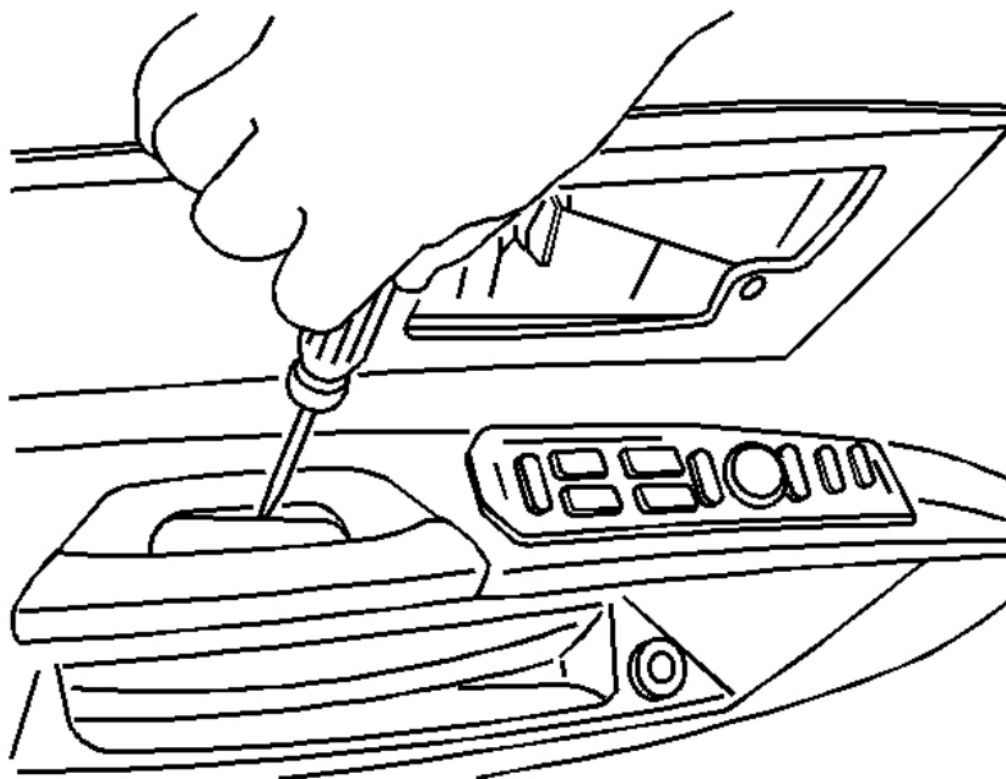


Fig. 51: Prying Off Trim Cover
Courtesy of GENERAL MOTORS CORP.

7. Remove the door trim panel screws (2).

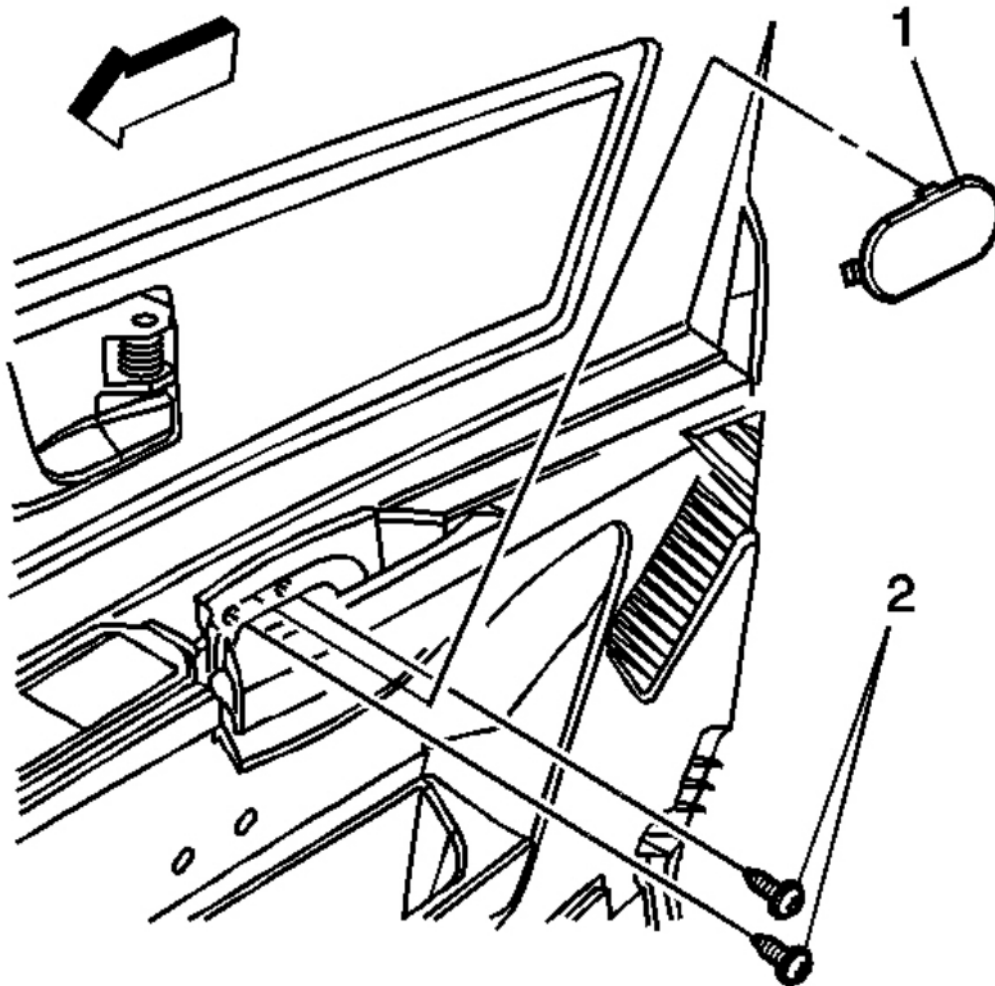


Fig. 52: View Of Door Trim Panel & Screws
Courtesy of GENERAL MOTORS CORP.

8. Use the **J 36796** to release the retainers (1) from around the outside edges of the door trim panel. See **Special Tools and Equipment**.

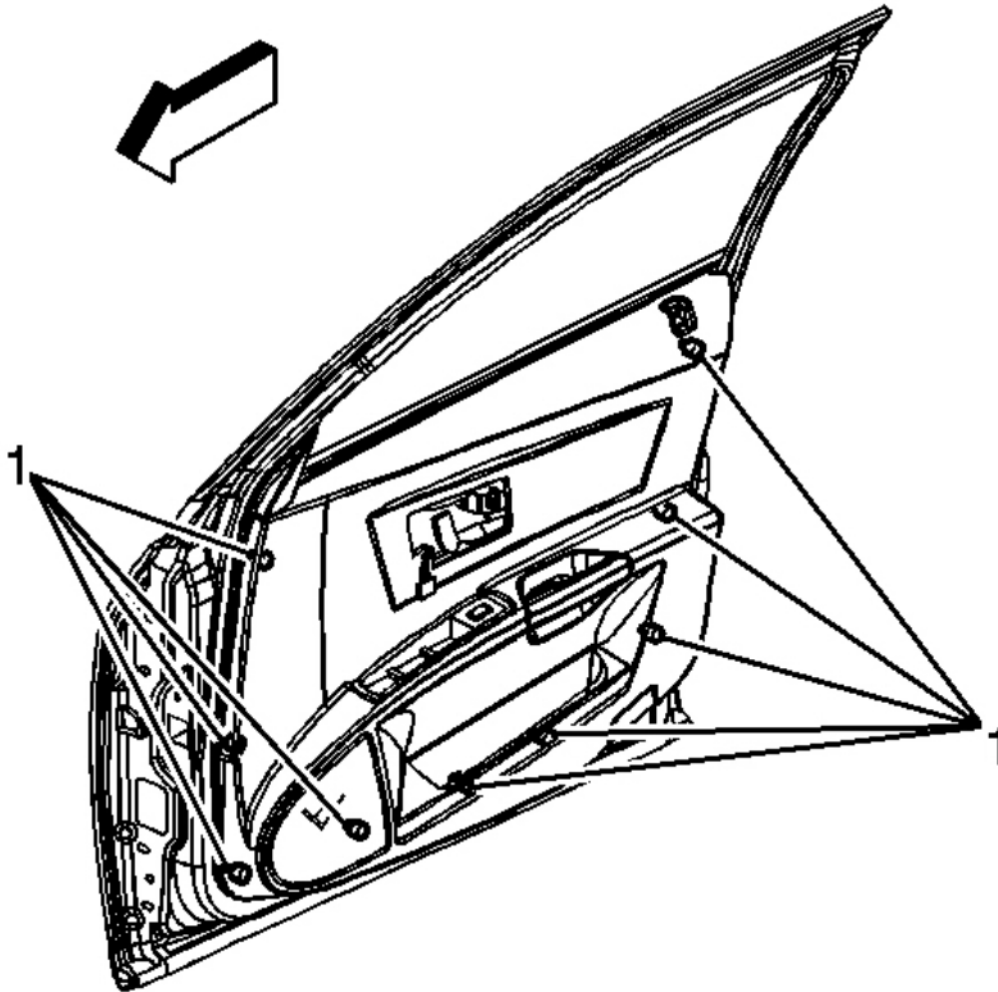


Fig. 53: Locating Door Trim Panel Retainers - Side Front Door
Courtesy of GENERAL MOTORS CORP.

9. Slide the door trim panel upwards to release it from the door.

Installation Procedure

1. Slide the electrical connector (2) into position on the water deflector.
2. Position the door trim panel downward over the manual lock rod.
3. Align the alignment datums (1) and the electrical connector with the door.

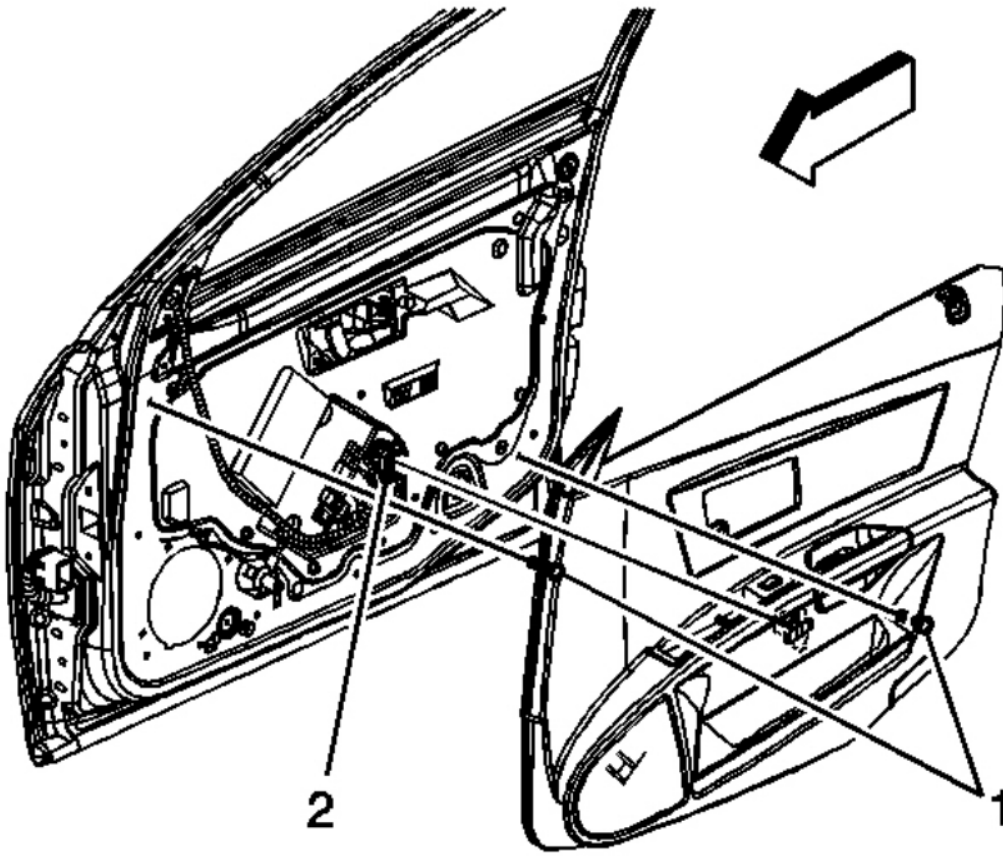


Fig. 54: View Of Alignment Datums & Electrical Connector
Courtesy of GENERAL MOTORS CORP.

4. Install the door trim panel by applying pressure around the door trim panel to secure the retainers (1) to the door.

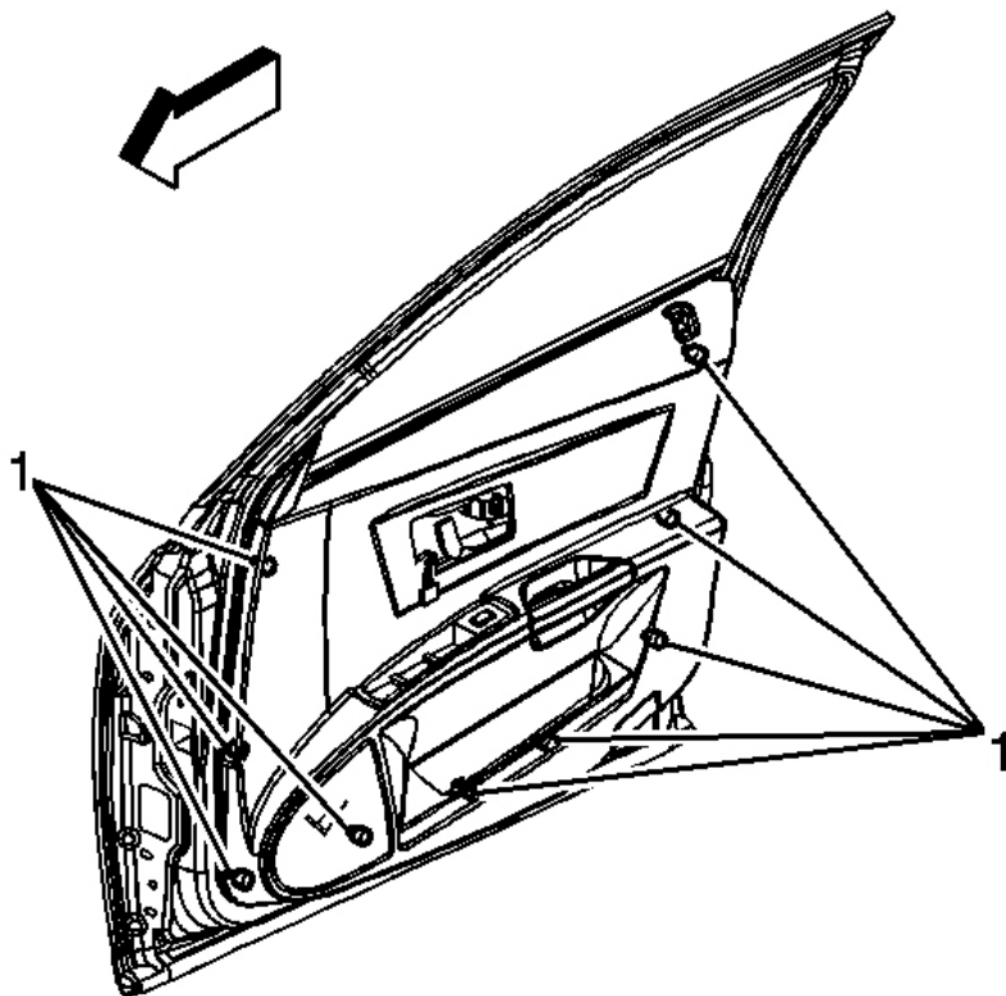


Fig. 55: Locating Door Trim Panel Retainers - Side Front Door
Courtesy of GENERAL MOTORS CORP.

NOTE: Refer to Fastener Notice in Cautions and Notices.

5. Install the door trim panel screws (2).

Tighten: Tighten the screw to 1 N.m (9 lb in).

6. Install the trim cover (1) to the inner door panel.

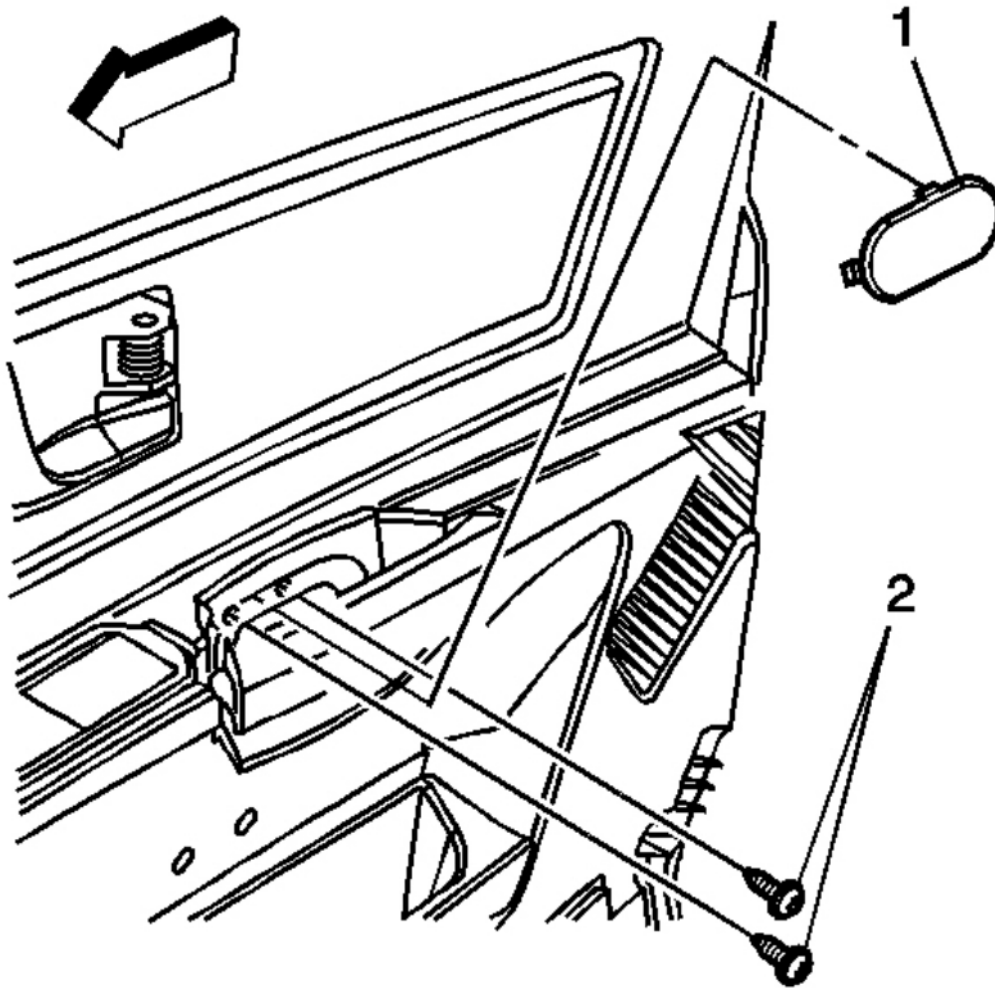


Fig. 56: View Of Door Trim Panel & Screws
Courtesy of GENERAL MOTORS CORP.

7. Install the inside door handle bezel (1) by pulling out on handle and pressing bezel into retainer.

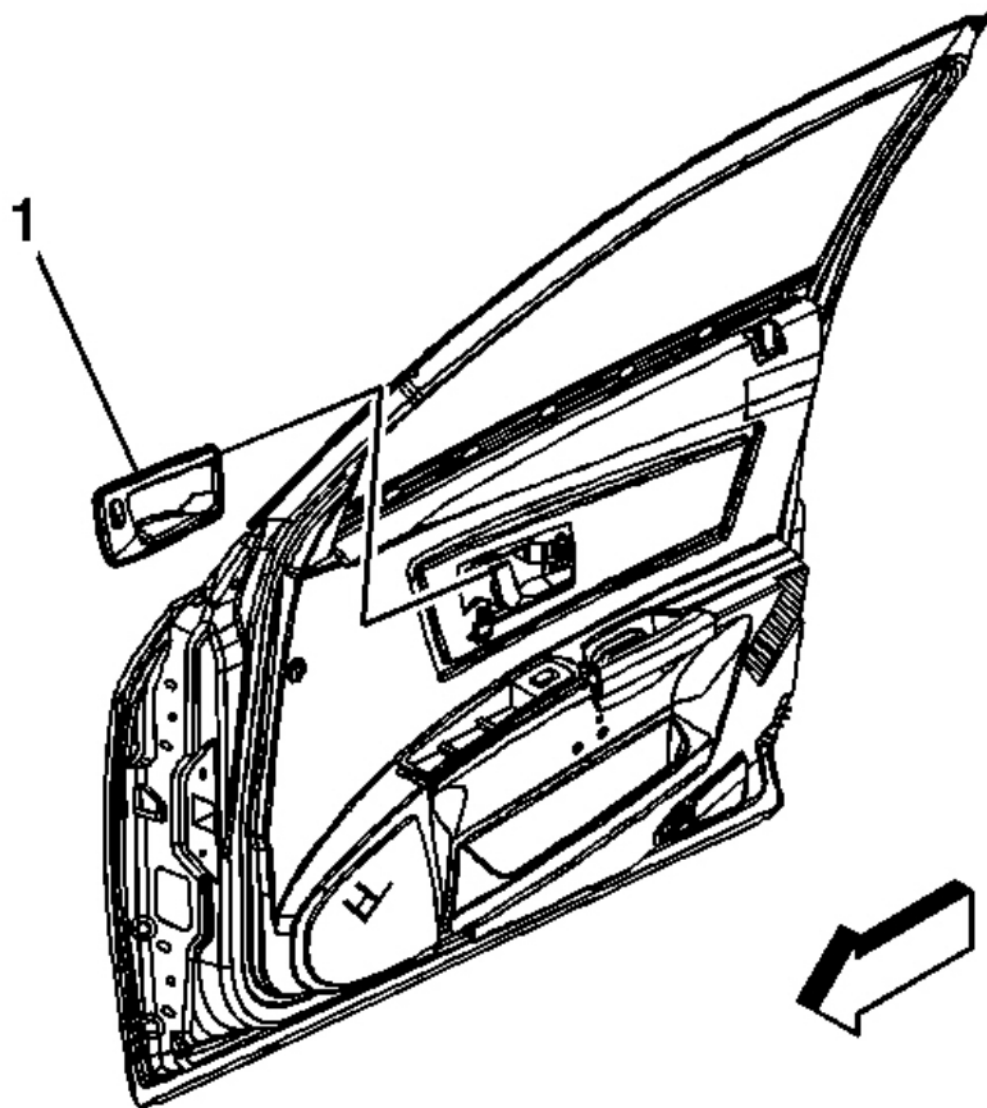


Fig. 57: Identifying Inside Handle Bezel
Courtesy of GENERAL MOTORS CORP.

8. Push down on the door trim panel behind the bezel while performing the following steps.

IMPORTANT: Ensure the manual lock rod is in the full up/unlocked position.

1. Position the manual lock knob (1) into the bezel opening until the locking clip (2) bottoms out on the bezel.
2. Engage the locking clip (2) located at the front of the lock knob (1) to the lock rod.

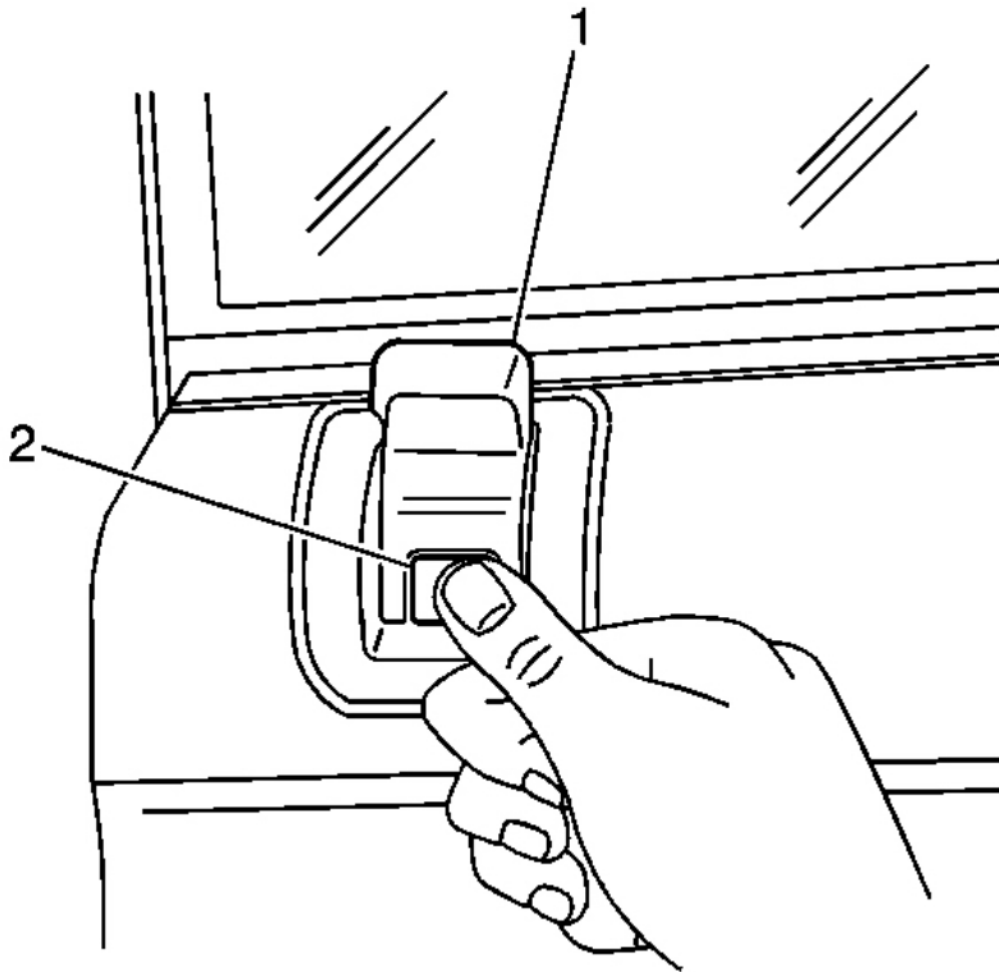


Fig. 58: Engaging Lock Knob Locking Clip
Courtesy of GENERAL MOTORS CORP.

TRIM PANEL REPLACEMENT - SIDE REAR DOOR

Tools Required

J 36796 Clip Zip Clip Removal Tool. See Special Tools and Equipment.

Removal Procedure

1. Lower the window.
2. Ensure the manual lock knob (1) is in the unlock position.
3. Insert a flat-bladed tool into the top service notch in order to disengage the locking clip (2) located at the front of the manual lock knob (1).
4. Remove the manual lock knob (1).

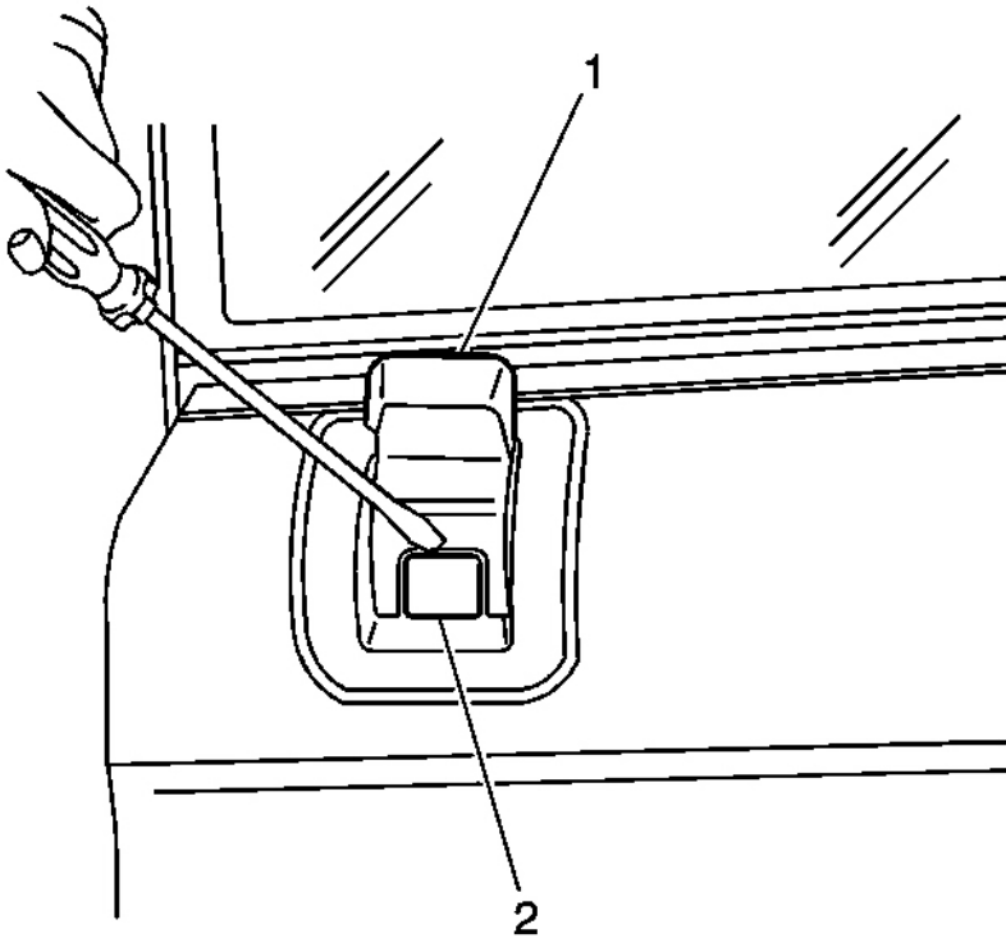


Fig. 59: Disengaging Manual Lock Knob Locking Clip
Courtesy of GENERAL MOTORS CORP.

5. Remove the inside handle bezel (1) from the inner door panel in the following order:
 1. Hold the inside handle to the open position.
 2. Insert a flat-bladed tool at the front lower corner of the bezel.
 3. Pry outward on the bezel.
 4. Remove the bezel from the inner door panel.

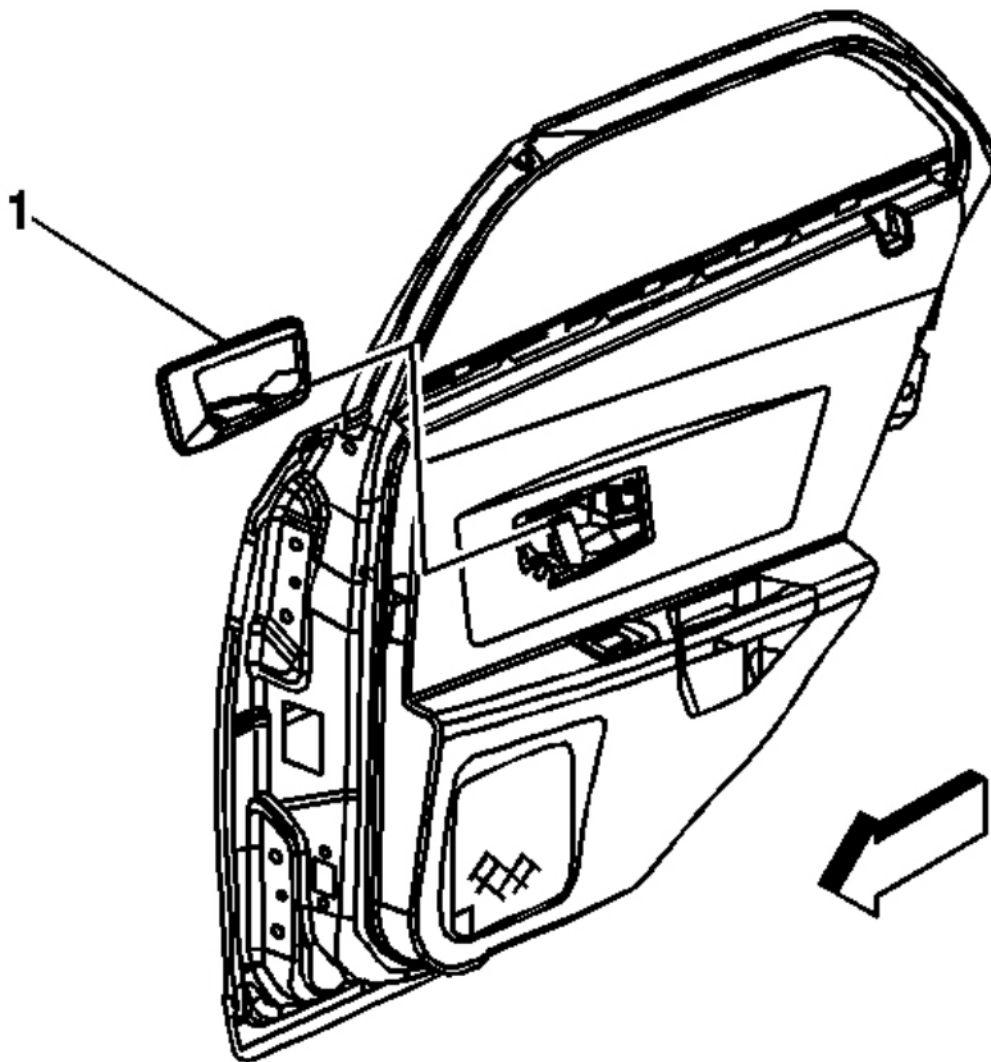


Fig. 60: View Of Inside Handle Bezel

Courtesy of GENERAL MOTORS CORP.

6. Insert a flat-bladed tool at the top of the trim cover (1) and pry out to remove the cover.
7. Remove the door trim panel screws (2).

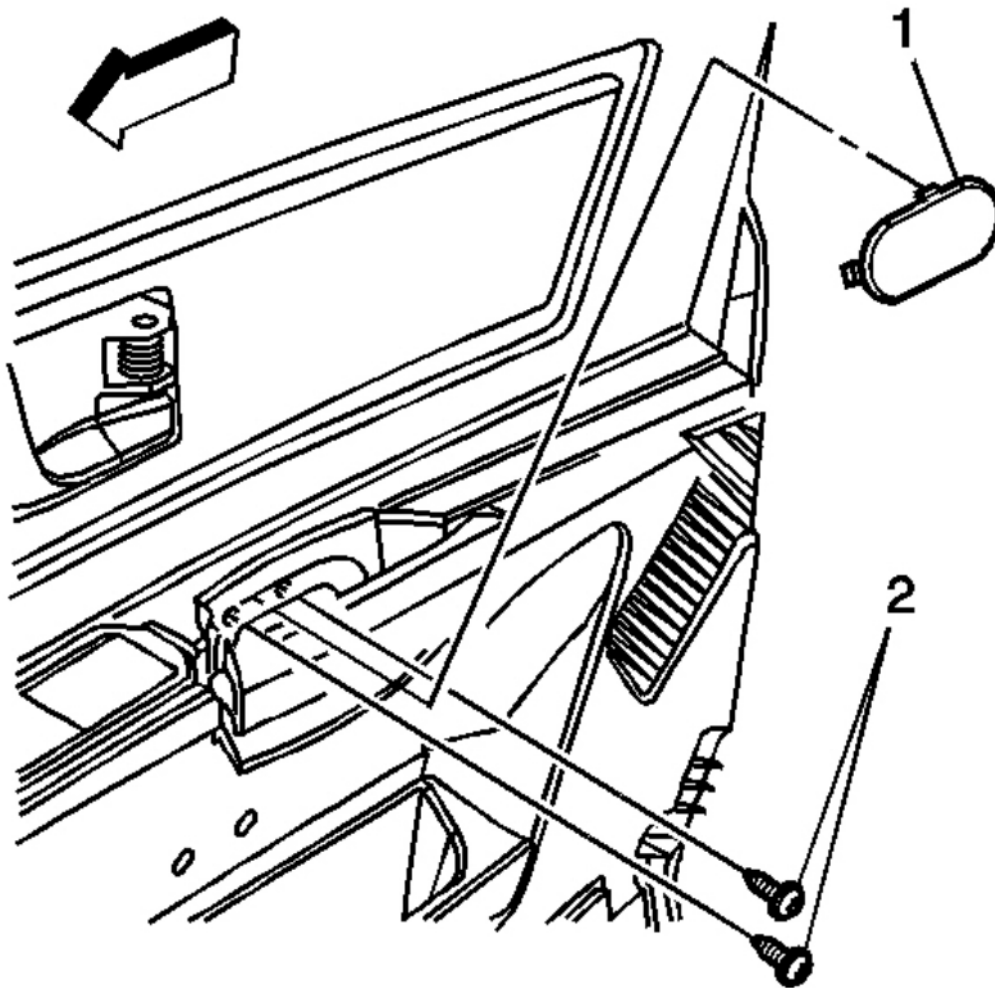


Fig. 61: View Of Door Trim Panel & Screws
Courtesy of GENERAL MOTORS CORP.

8. Use the **J 36796** to release the retainers (1) from around the outside edges of the door trim panel. See **Special Tools and Equipment**.

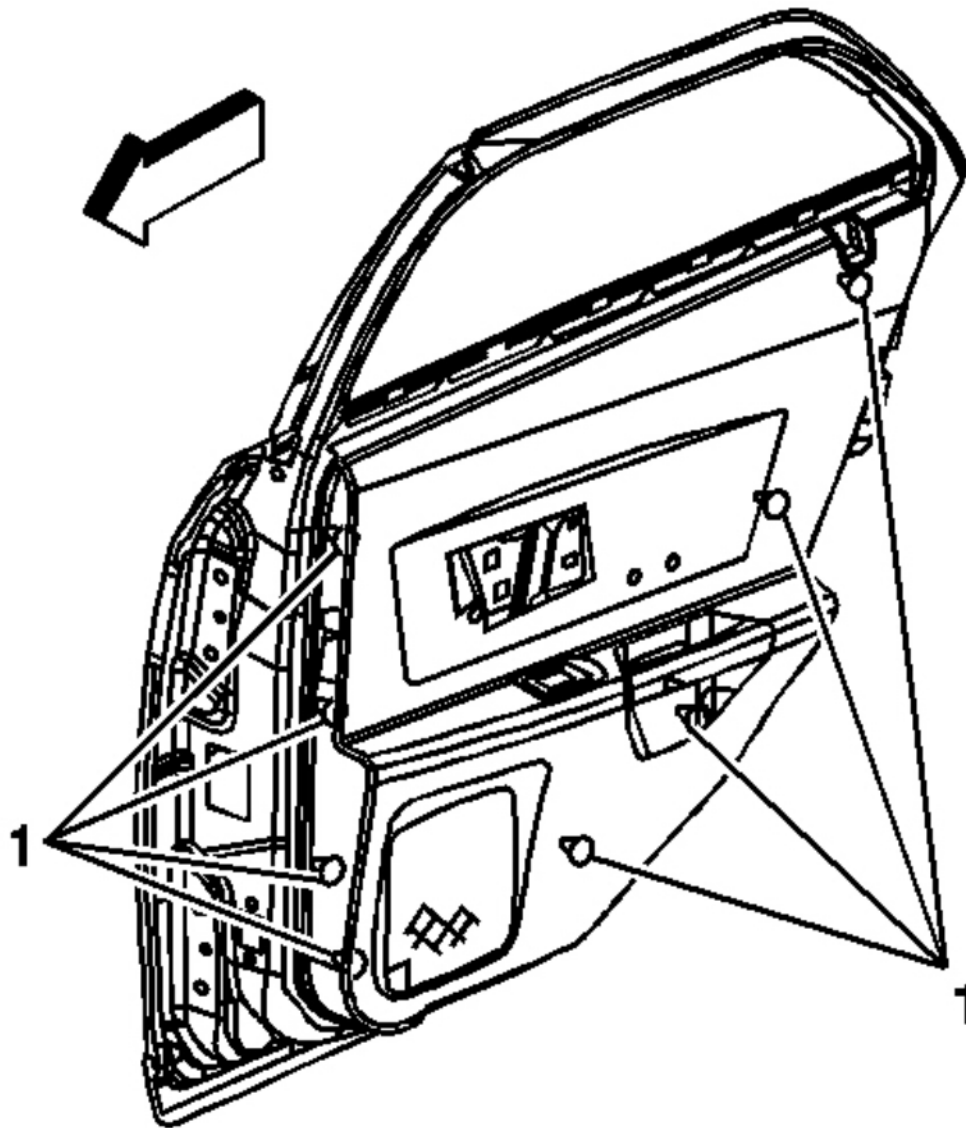


Fig. 62: Locating Door Trim Panel Retainers - Side Rear Door
Courtesy of GENERAL MOTORS CORP.

9. Slide the door trim panel upwards to release it from the door.

1. Position the door trim panel downward over the manual lock rod.
2. Align the alignment datums (1) and the electrical connector with the door.

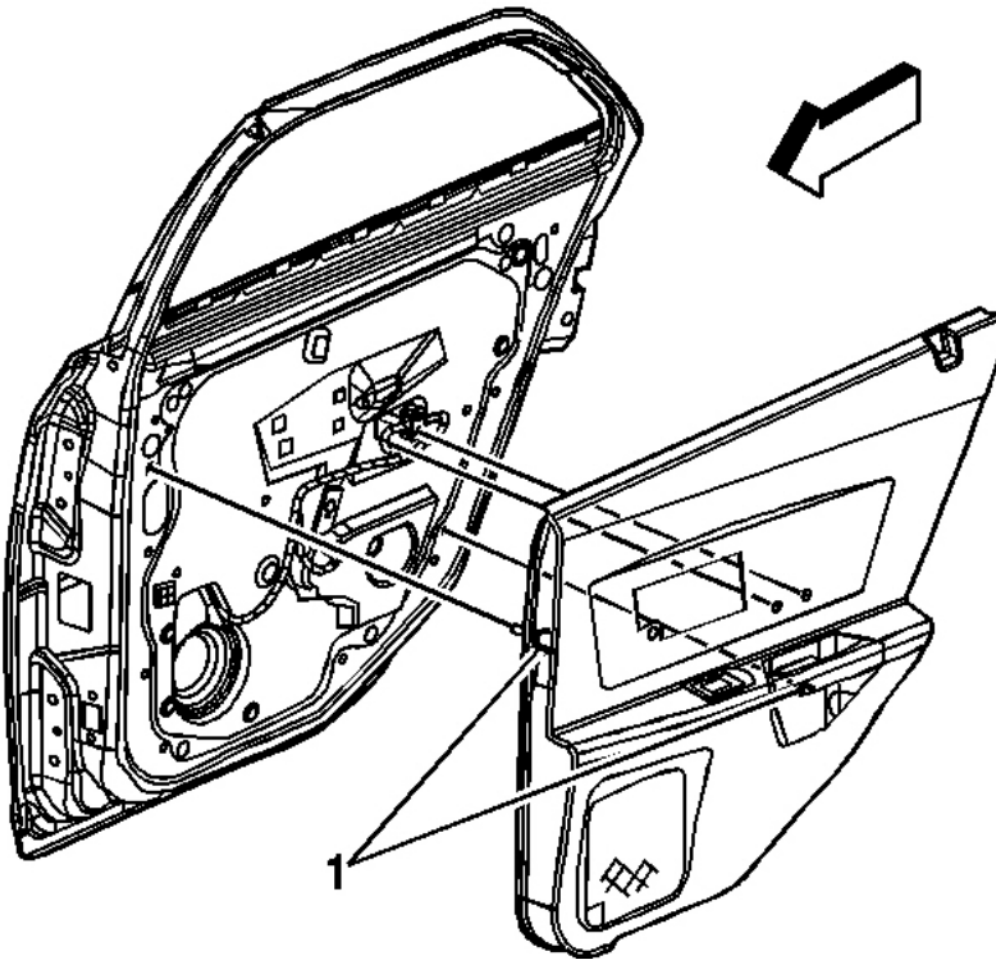


Fig. 63: Locating Alignment Datums
Courtesy of GENERAL MOTORS CORP.

3. Install the door trim panel by applying pressure around the door trim panel to secure the retainers (1) to the door.

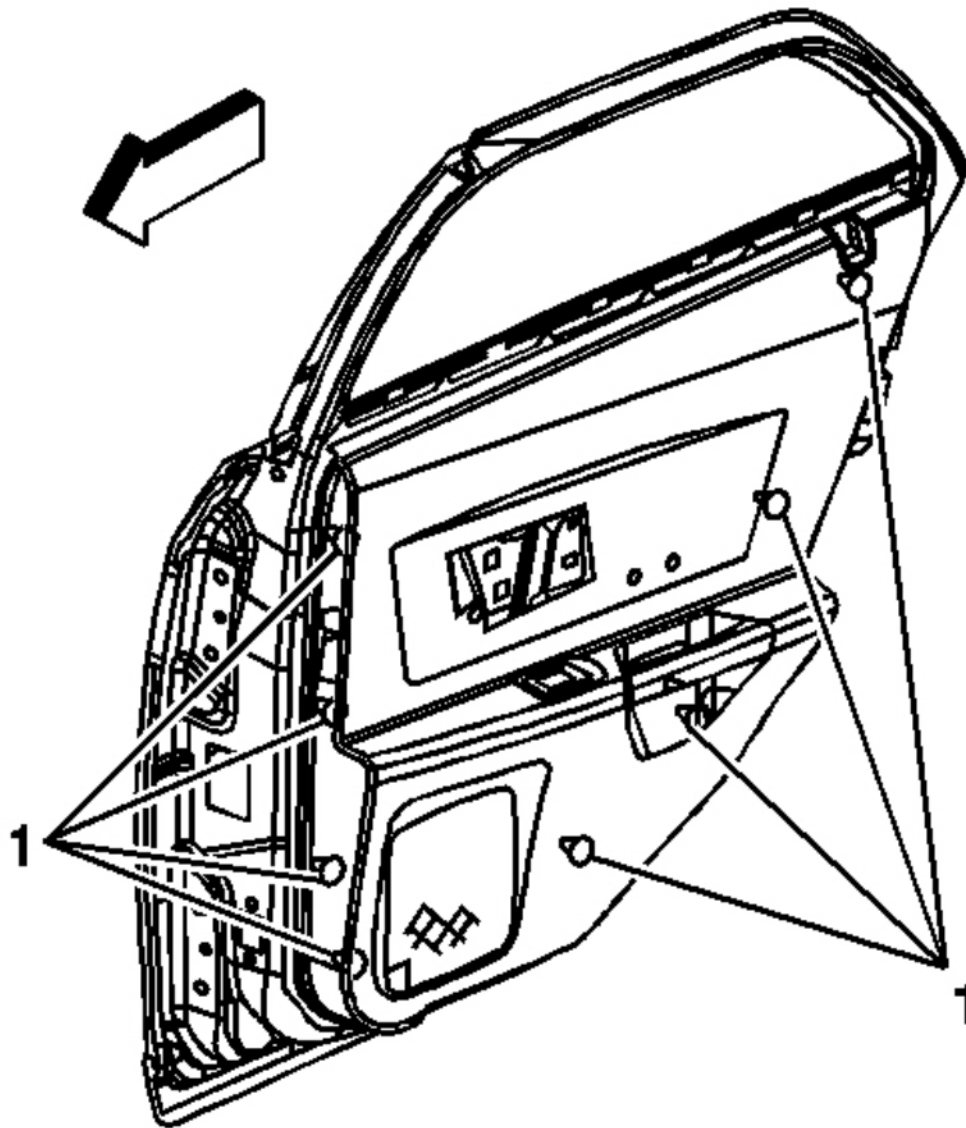


Fig. 64: Locating Door Trim Panel Retainers - Side Rear Door
Courtesy of GENERAL MOTORS CORP.

NOTE: Refer to Fastener Notice in Cautions and Notices.

4. Install the door trim panel screws (2).

Tighten: Tighten the screw to 1 N.m (9 lb in).

5. Install the trim cover (1) to the inner door panel.

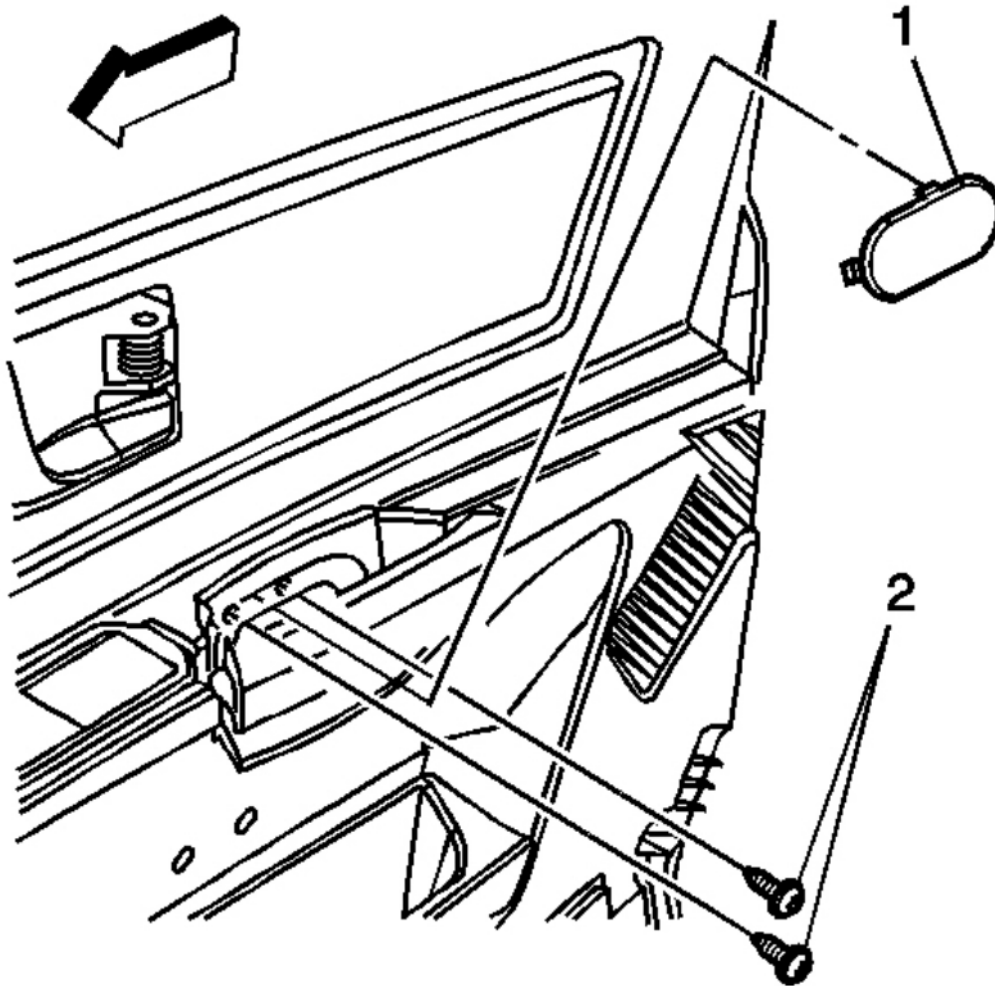


Fig. 65: View Of Door Trim Panel & Screws
Courtesy of GENERAL MOTORS CORP.

6. Install the inside door handle bezel (1) by pulling out on handle and pressing bezel into retainer.

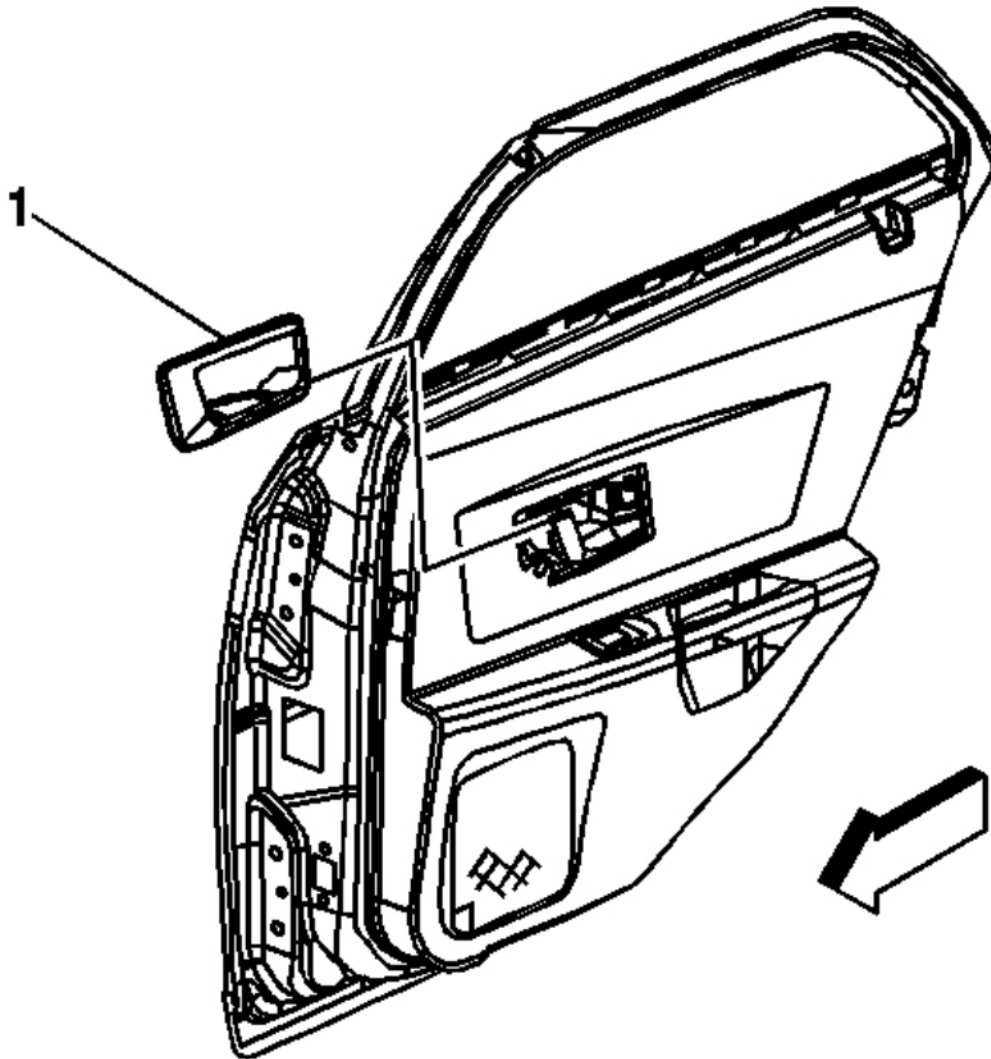


Fig. 66: View Of Inside Handle Bezel
Courtesy of GENERAL MOTORS CORP.

7. Push down on the door trim panel behind the bezel while performing the following steps.

IMPORTANT: Ensure the manual lock rod is in the full up/unlocked position.

1. Position the manual lock knob (1) into the bezel opening until the locking clip (2) bottoms out on the bezel.
2. Engage the locking clip (2) located at the front of the lock knob (1) to the lock rod.

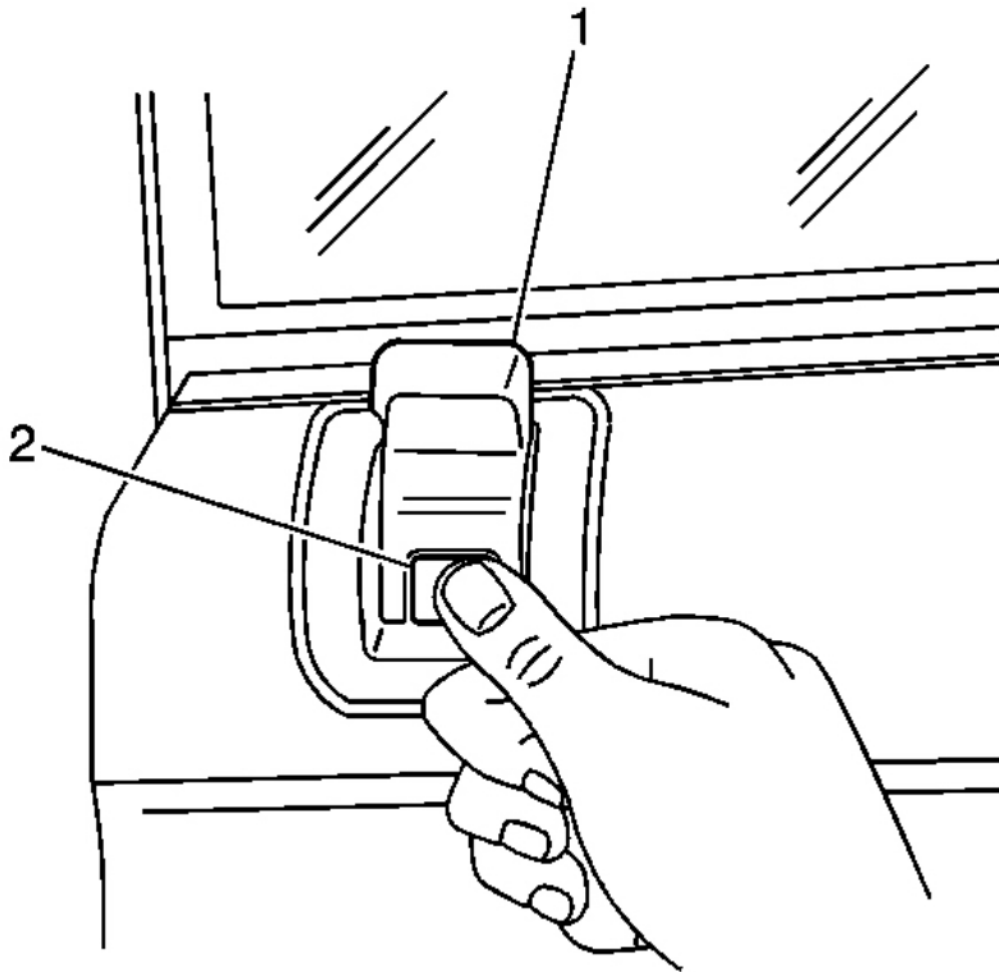


Fig. 67: Engaging Lock Knob Locking Clip
Courtesy of GENERAL MOTORS CORP.

DOOR CONTROL MODULE REPLACEMENT

Removal Procedure

IMPORTANT: This vehicle is equipped with express up, torque sensitive window on the front door windows.

When the battery or the power has been removed from the front door module, the front door module will need to be reprogrammed after power is restored and all repairs are completed.

1. Remove the door trim panel. Refer to **Trim Panel Replacement - Side Rear Door** or **Trim Panel Replacement - Side Front Door**.
2. Remove the door control module (1) by releasing the retainer tabs (2).

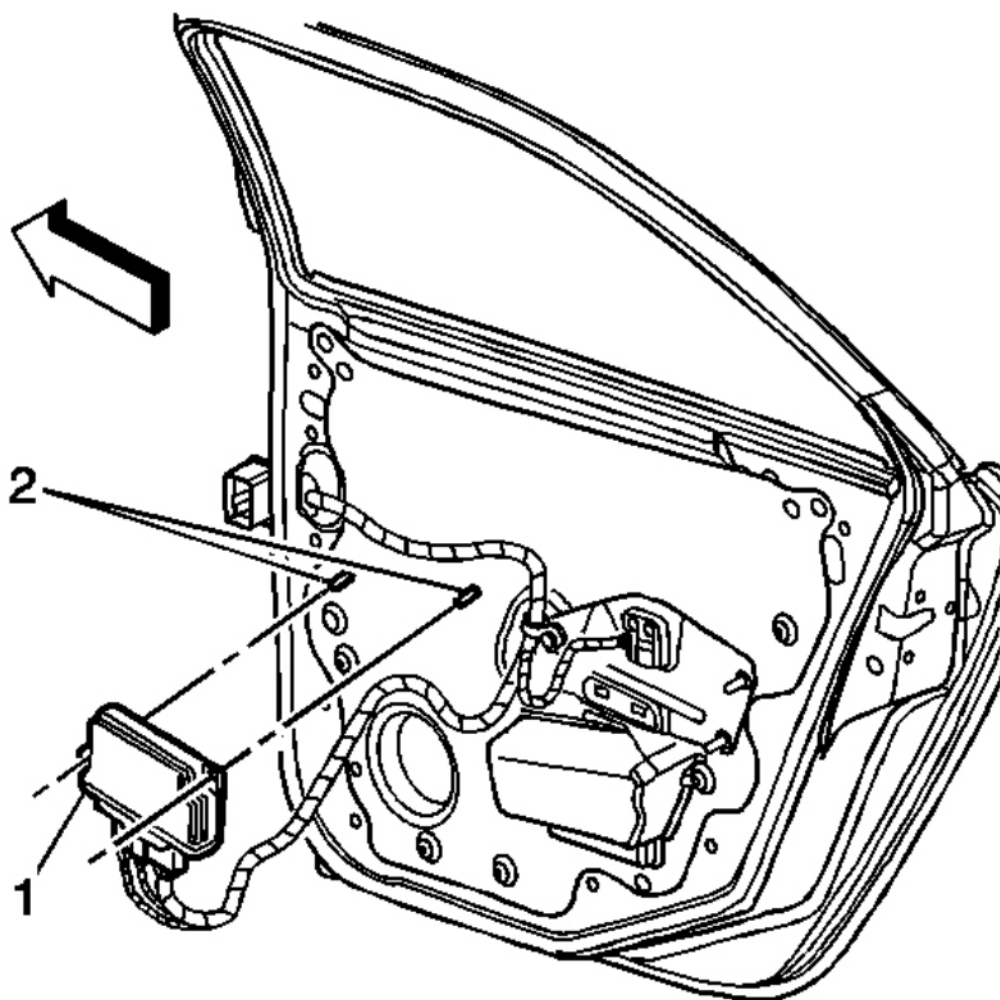


Fig. 68: View Of Door Control Module
Courtesy of GENERAL MOTORS CORP.

3. Disconnect the electrical connectors (1) from the control module (2).

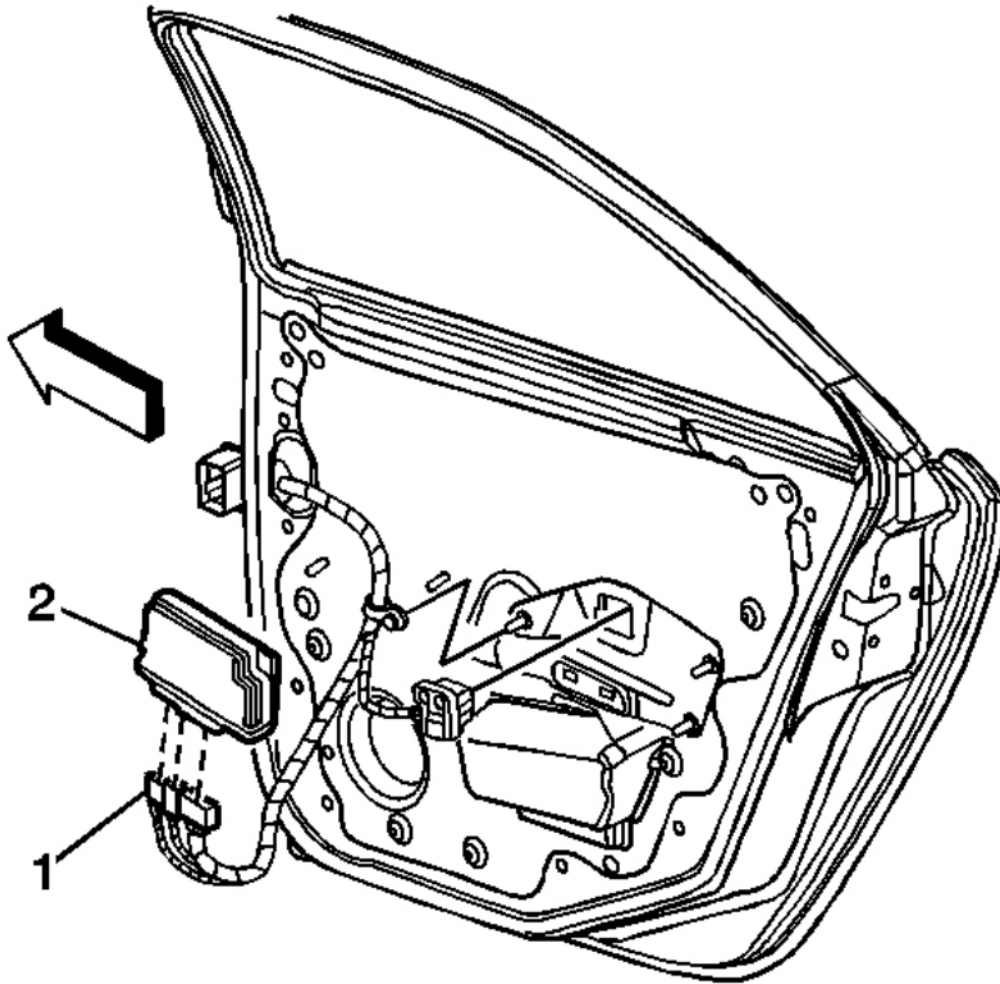


Fig. 69: View Of Door Control Module Electrical Connectors
Courtesy of GENERAL MOTORS CORP.

Installation Procedure

1. Connect the electrical connectors (1) to the control module (2).

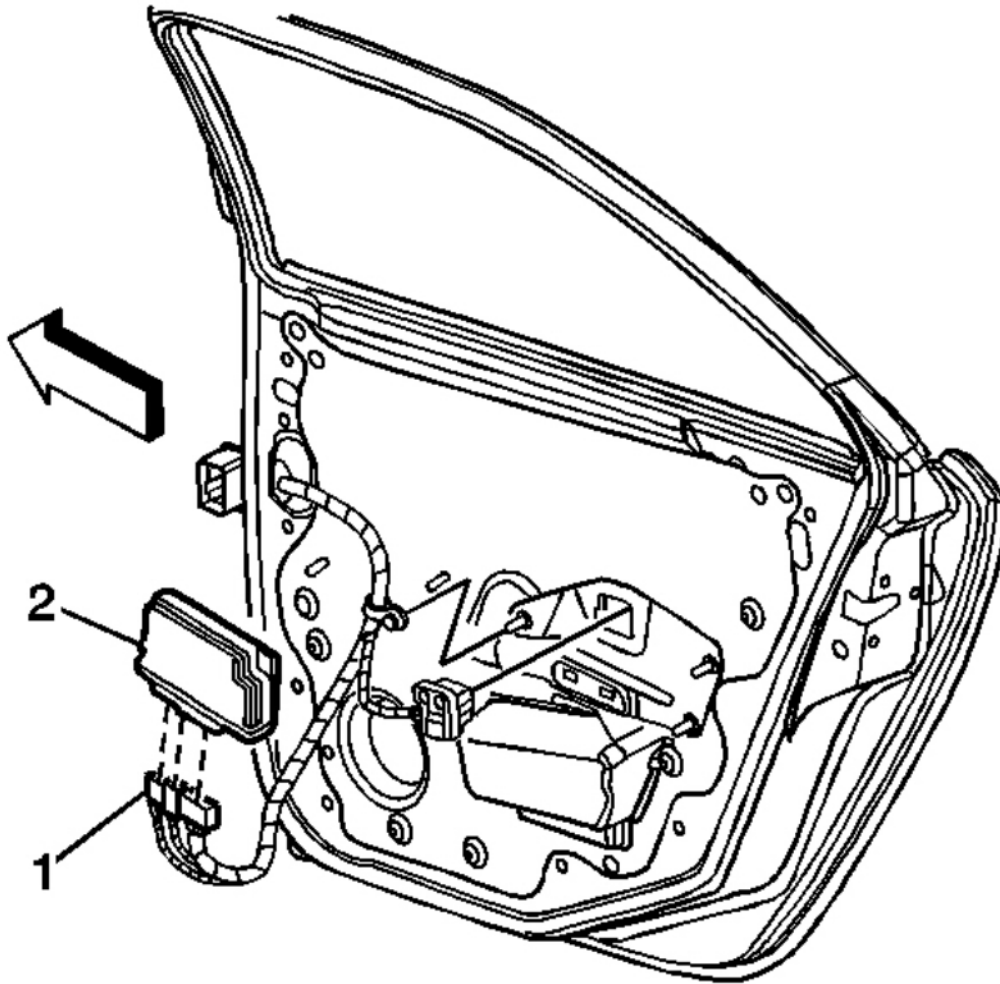


Fig. 70: View Of Door Control Module Electrical Connectors
Courtesy of GENERAL MOTORS CORP.

2. Snap the door module (1) onto the mounting studs (2).

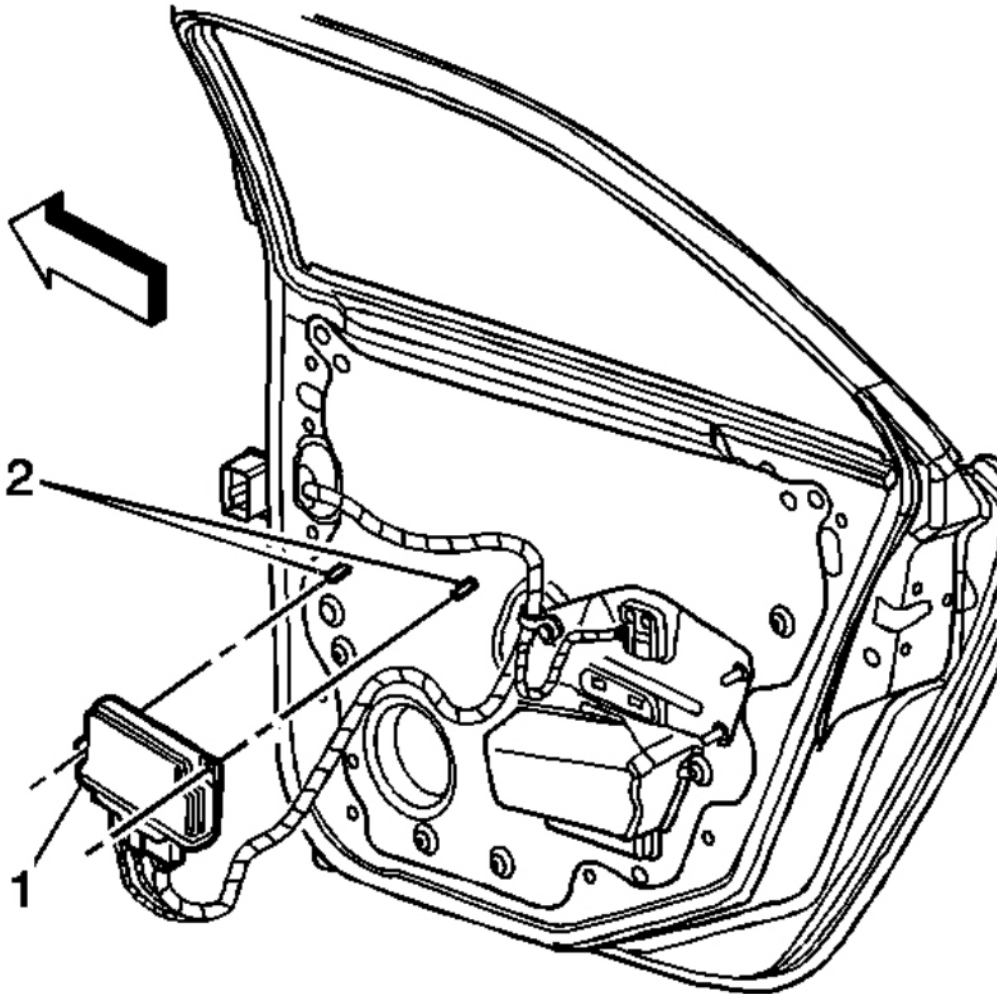


Fig. 71: View Of Door Control Module
Courtesy of GENERAL MOTORS CORP.

3. Install the door trim panel. Refer to **Trim Panel Replacement - Side Rear Door** or **Trim Panel Replacement - Side Front Door**.
4. Reprogram the front door module. Refer to **Window Motor Programming - Express Function**.

When replacing door control modules on export vehicles, the door module must be reprogrammed in order to relearn the vehicle identification number (VIN).

The following steps explain how to program the replaced door control module:

1. With the scan tool, navigate to the main menu for the door module that has been replaced.
2. Select Special Functions.
3. Select Door Zone Module VIN Relearn.
4. Follow the on screen instructions in order to complete the relearn procedure.

WATER DEFLECTOR REPLACEMENT - FRONT DOOR

Removal Procedure

1. Remove the door trim panel. Refer to **Trim Panel Replacement - Side Front Door**.
2. Remove the door module. Refer to **Door Control Module Replacement**.
3. Remove the inside door handle. Refer to **Door Handle Replacement - Front Inside**.
4. Remove the push-in fasteners at the corners of the water deflector.
5. Remove the mirror wire harness retainer from the inner door panel.
6. Pull the water deflector away from the door, while guiding the inside door handle rod through the opening, being careful not to damage the sealer.

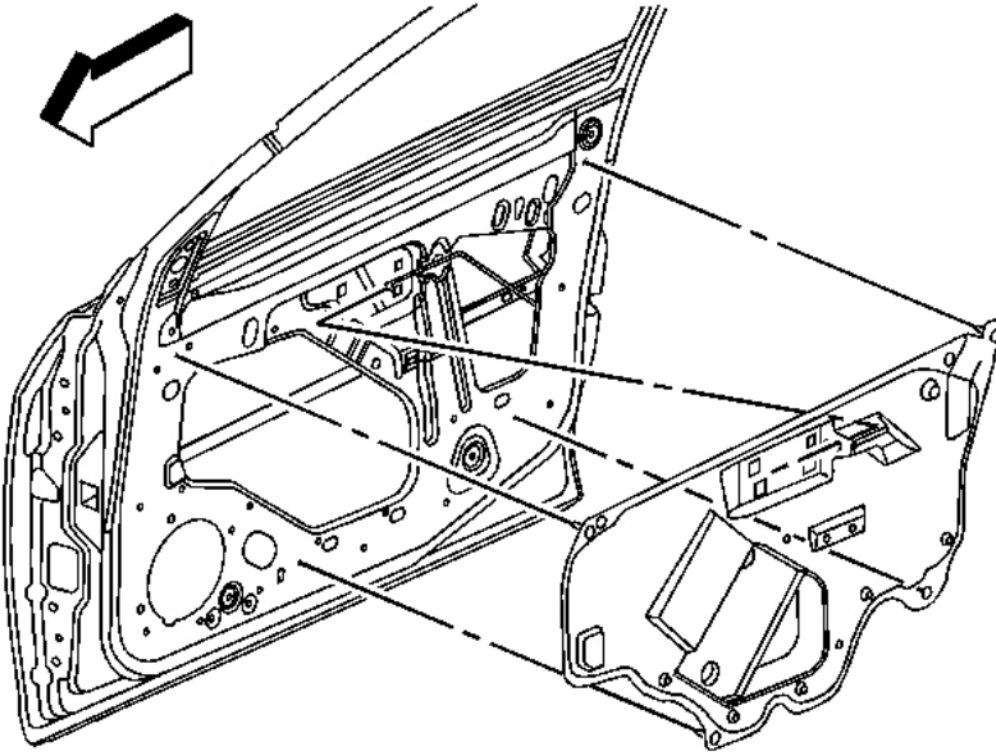


Fig. 72: View Of Front Door Water Deflector
Courtesy of GENERAL MOTORS CORP.

Installation Procedure

1. Clean the water deflector to the inner door panel mating surface with denatured alcohol or the equivalent.
2. Align the water deflector to the door assembly.
3. Route the inside door handle rod through the opening in the water deflector.
4. Install the push-in fasteners at the corners of the water deflector.
5. Seat the water deflector to the door using a rolling tool.

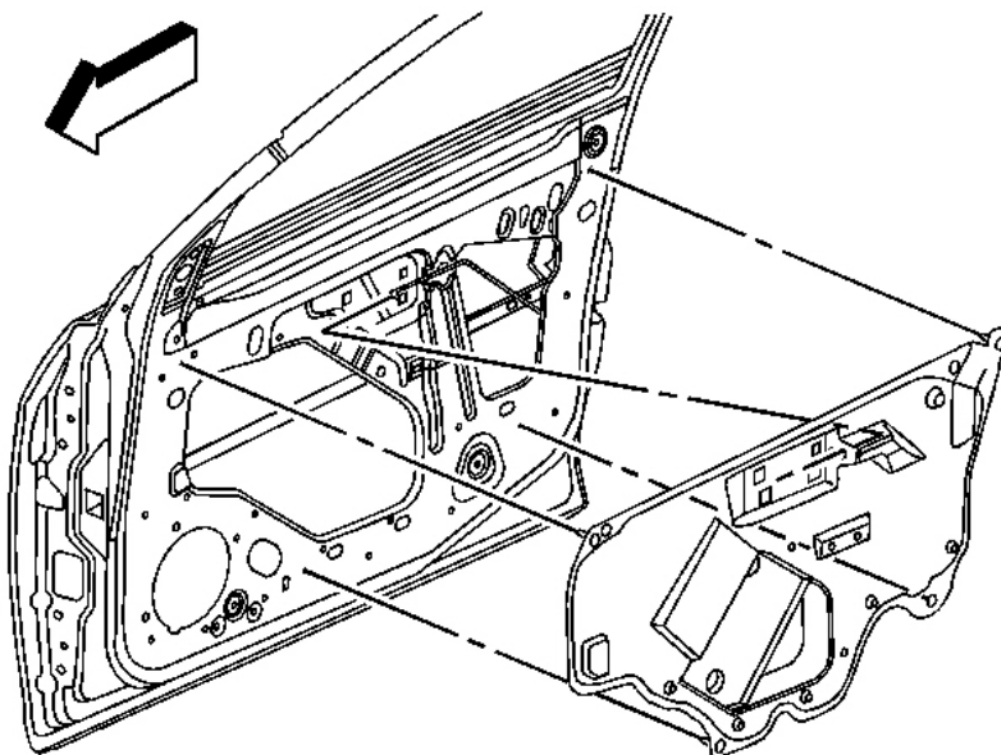


Fig. 73: View Of Front Door Water Deflector
Courtesy of GENERAL MOTORS CORP.

6. Install the inside door handle. Refer to **Door Handle Replacement - Front Inside**.
7. Install the door module. Refer to **Door Control Module Replacement**.
8. Install the door trim panel. Refer to **Trim Panel Replacement - Side Front Door**.

WATER DEFLECTOR REPLACEMENT - REAR DOOR

Removal Procedure

1. Remove the door trim panel. Refer to **Trim Panel Replacement - Side Rear Door**.
2. Remove the door module. Refer to **Door Control Module Replacement**.
3. Remove the inside door handle. Refer to **Door Handle Replacement - Rear Inside**.
4. Remove the push-in fasteners at the corners of the water deflector.

5. Pull the water deflector away from the door, being careful not to damage the sealer.

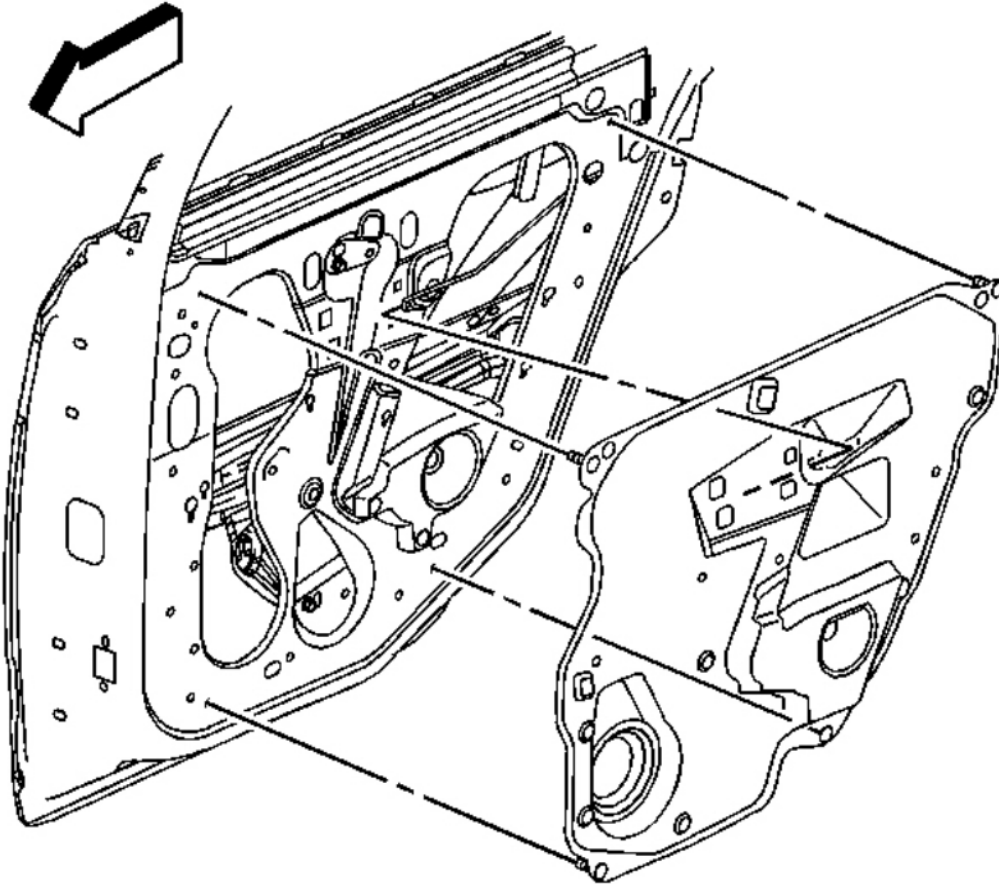


Fig. 74: View Of Rear Door Water Deflector
Courtesy of GENERAL MOTORS CORP.

Installation Procedure

1. Clean the water deflector to the inner door panel mating surface with denatured alcohol or the equivalent.
2. Route the inside handle rod through the opening in the water deflector.
3. Align the water deflector to the door assembly.
4. Install the push-in fasteners at the corners of the water deflector.

5. Seat the water deflector to the door using a rolling tool.

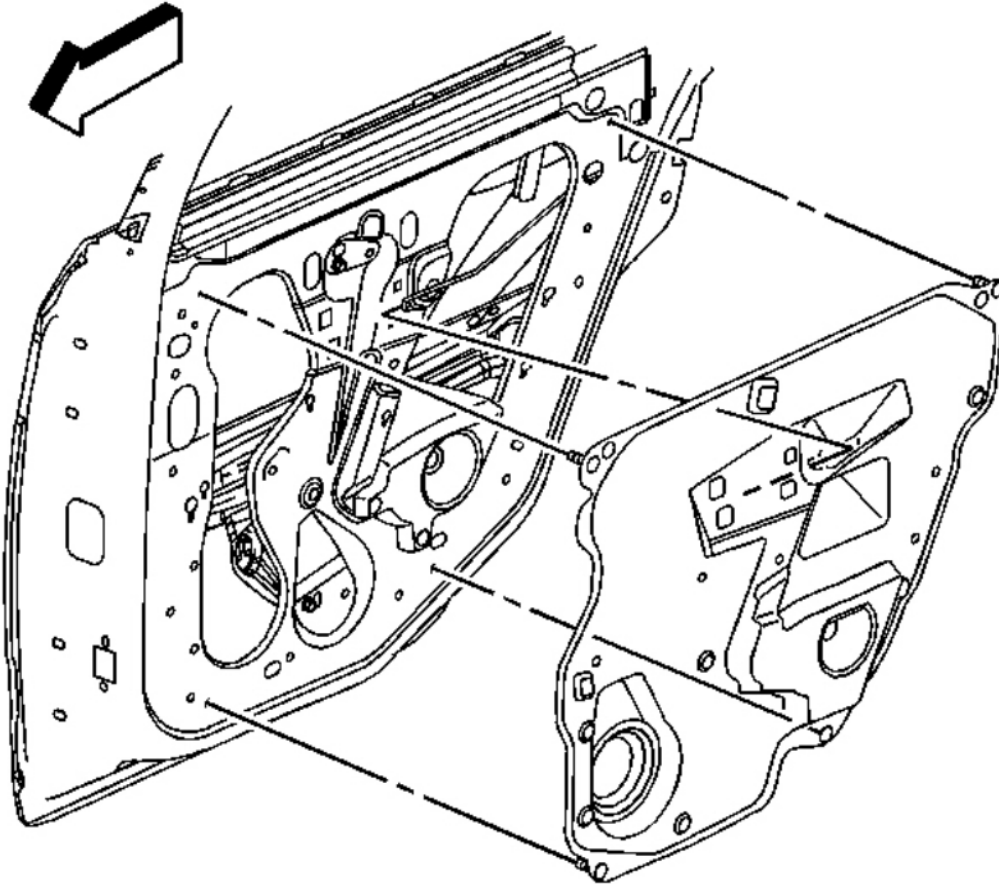


Fig. 75: View Of Rear Door Water Deflector
Courtesy of GENERAL MOTORS CORP.

6. Install the inside door handle. Refer to **Door Handle Replacement - Rear Inside**.
7. Install the door module. Refer to **Door Control Module Replacement**.
8. Install the door trim panel. Refer to **Trim Panel Replacement - Side Rear Door**.

DOOR ADJUSTMENT

1. Loosen the door hinge to pillar bolts. This will allow adjustment of the door at the hinge pillar in the following directions:

- Up or down (c), 0.0-2.0 mm (0.0 - 0.08 in) upwards, 1 mm (0.04 in) upwards preferred.
- Fore or aft (b), 3 - 5 mm (0.12 - 0.20 in) equal gap, 4 mm (0.16 in) preferred.

2. Reposition the door as needed.

NOTE: Refer to Fastener Notice in Cautions and Notices.

3. Position the door fore or aft at the hinge pillar attachment. Perform the following steps as needed:

1. Loosen the bolts.
2. Reposition the door.
3. Tighten the bolts.

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

4. Verify the doors are flush to within 1 mm (0.04 in), with a flushing magnet (1) located in the striker area below the beltline.
5. If in or out adjustment is needed, remove the door hinge. Refer to **Hinge Replacement - Front Door** or **Hinge Replacement - Rear Door**.
6. Drill the door side of the hinge holes with a 13 mm (0.5 in) drill bit in order to allow for 2.5 mm (0.10 in) in or out adjustment.
7. Use replacement bolts, GM P/N 11519454 on the door side of the hinge.
8. Leave the bolts on the door side of the hinge loose.
9. Align the front door to the front fender first, if needed.
10. Position the door in or out. Perform the following steps as needed:
 1. Loosen the bolts.
 2. Reposition the door.
 3. Tighten the bolts.

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

11. Align the rear door to the front door and rear quarter, if needed.
12. Position the door in or out. Perform the following steps as needed:
 1. Loosen the bolts.
 2. Reposition the door.
 3. Tighten the bolts.

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

13. Adjust the seal gap (a) at the door header to 13 - 17 mm (0.52 - 0.68 in), 15 mm (0.60 in) preferred, by placing knee near the beltline and pulling inward or pushing outward.

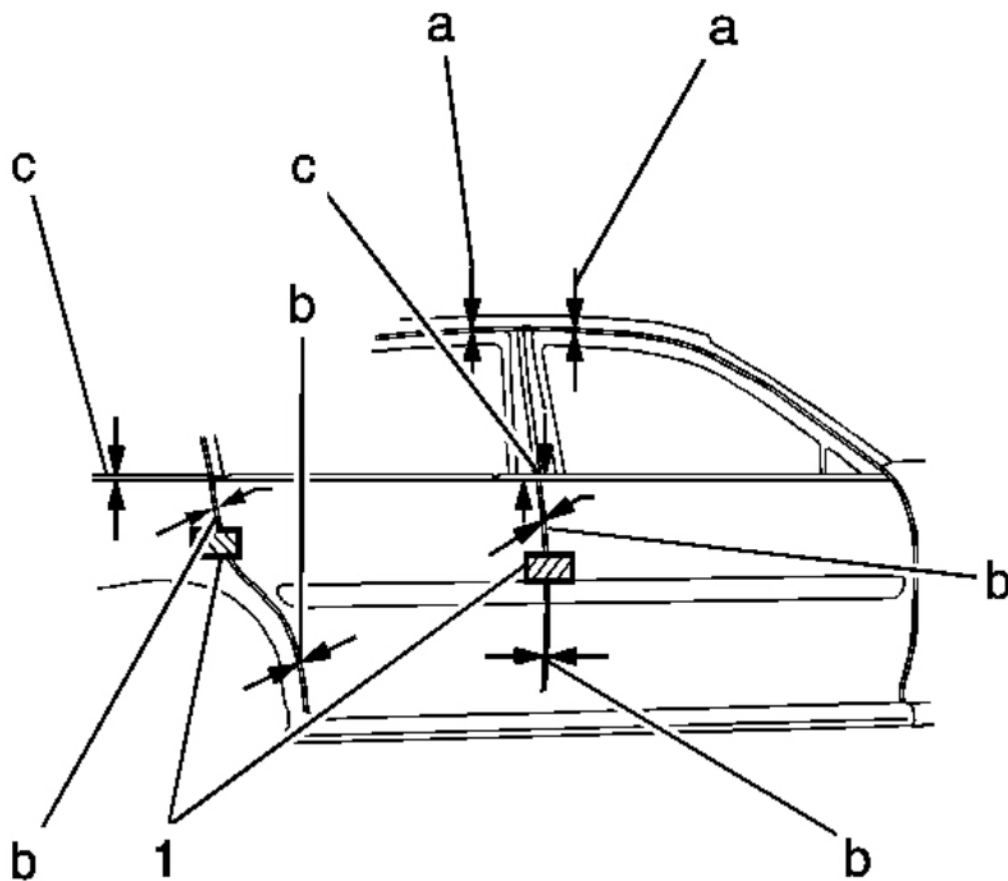


Fig. 76: View Of Door Adjustment
Courtesy of GENERAL MOTORS CORP.

14. Verify door header to door header at the center pillar is flush to within 1 mm (0.04 in). Adjust the door headers if necessary.
15. Verify all door gaps are within specifications.
16. Adjust the lock striker. Refer to **Lock Striker Adjustment - Door.**

DOOR REPLACEMENT - FRONT**Removal Procedure**

1. Remove the door trim panel. Refer to **Trim Panel Replacement - Side Front Door.**
2. Remove the door module. Refer to **Door Control Module Replacement.**
3. Remove the inside door handle. Refer to **Door Handle Replacement - Front Inside.**
4. Remove the water deflector. Refer to **Water Deflector Replacement - Front Door.**
5. Remove the window inner belt sealing strip. Refer to **Sealing Strip Replacement - Front Door Window Belt Inner.**
6. Remove the inner window seal. Refer to **Weatherstrip Replacement - Front Door Window - Inner.**
7. Remove the outside rear view mirror. Refer to **Mirror Replacement - Power.**
8. Remove the window outer belt sealing strip. Refer to **Sealing Strip Replacement - Front Door Window Belt Outer.**
9. Remove the window. Refer to **Window Replacement - Front Door.**
10. Remove the front door upper auxiliary weatherstrip. Refer to **Weatherstrip Replacement - Front Door Upper Auxiliary.**
11. Remove the door frame applique. Refer to **Door Frame Applique Replacement - Front.**
12. Remove the window regulator. Refer to **Window Regulator Replacement - Front Door.**
13. Remove the outside door handle. Refer to **Door Handle Replacement - Front Outside.**
14. Remove the door latch. Refer to **Latch Replacement - Front Door.**
15. Remove the door bottom auxiliary weatherstrip. Refer to **Sealing Strip Replacement - Front Door Bottom Auxiliary.**
16. Disconnect the door wire harness from the body wire harness at the hinge pillar.
17. Remove the wiring harness retainers (1) from the inner door panel.

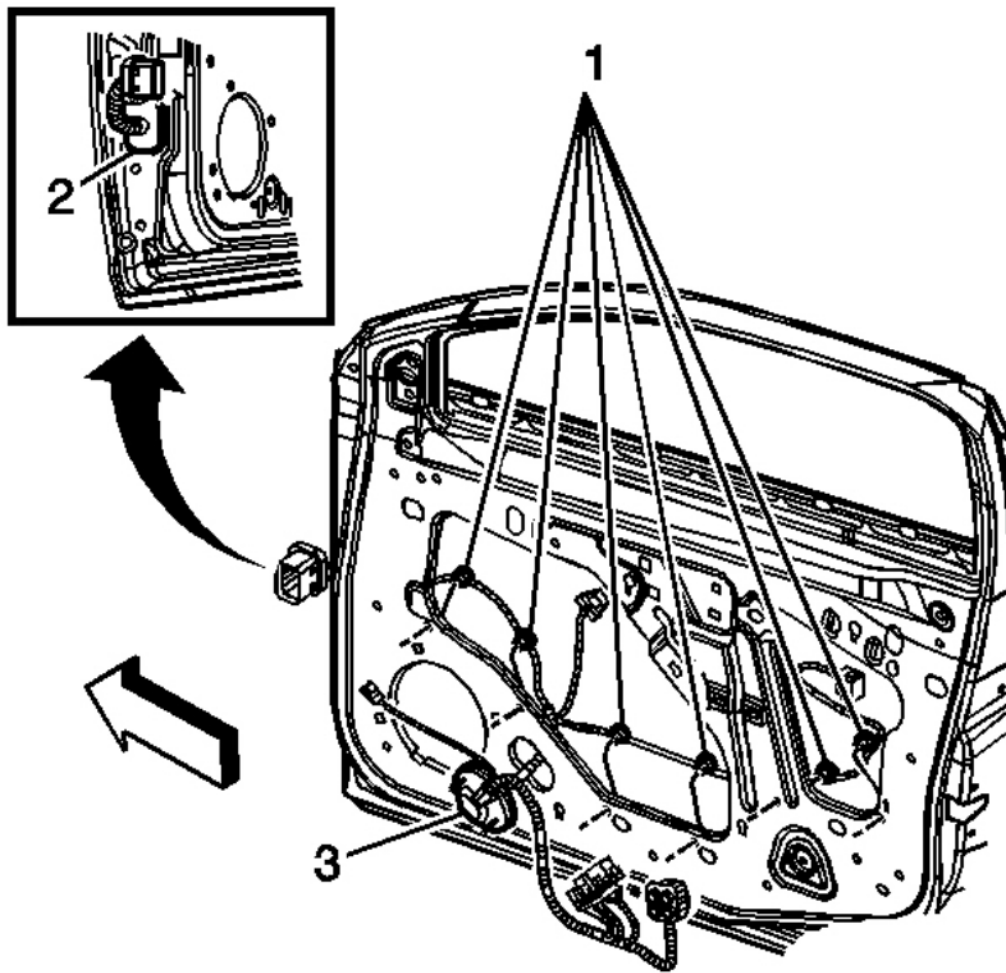


Fig. 77: Locating Front Door Wiring Harness
Courtesy of GENERAL MOTORS CORP.

18. Remove the rubber conduit and the wiring harness from the door.
19. Remove all the plastic nuts and retainers from the door shell.
20. Remove the door check link. Refer to **Door Check Link Replacement - Front.**
21. Support the door.
22. With an assistant, remove the door hinge to door bolts in order to remove the door.

2004 Cadillac SRX

2004 ACCESSORIES & EQUIPMENT Doors - SRX

1. With an assistant, install the door to the vehicle.
2. Support the door.

NOTE: Refer to Fastener Notice in Cautions and Notices.

3. Install the hinge to door bolts.

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

4. Install the door check link. Refer to **Door Check Link Replacement - Front**.
5. Install all the plastic nuts and the retainers into the door shell that were removed during disassembly.
6. Route the wiring harness and the conduit into the door.
7. Install the door wiring harness retainers (1) to the inner door panel.

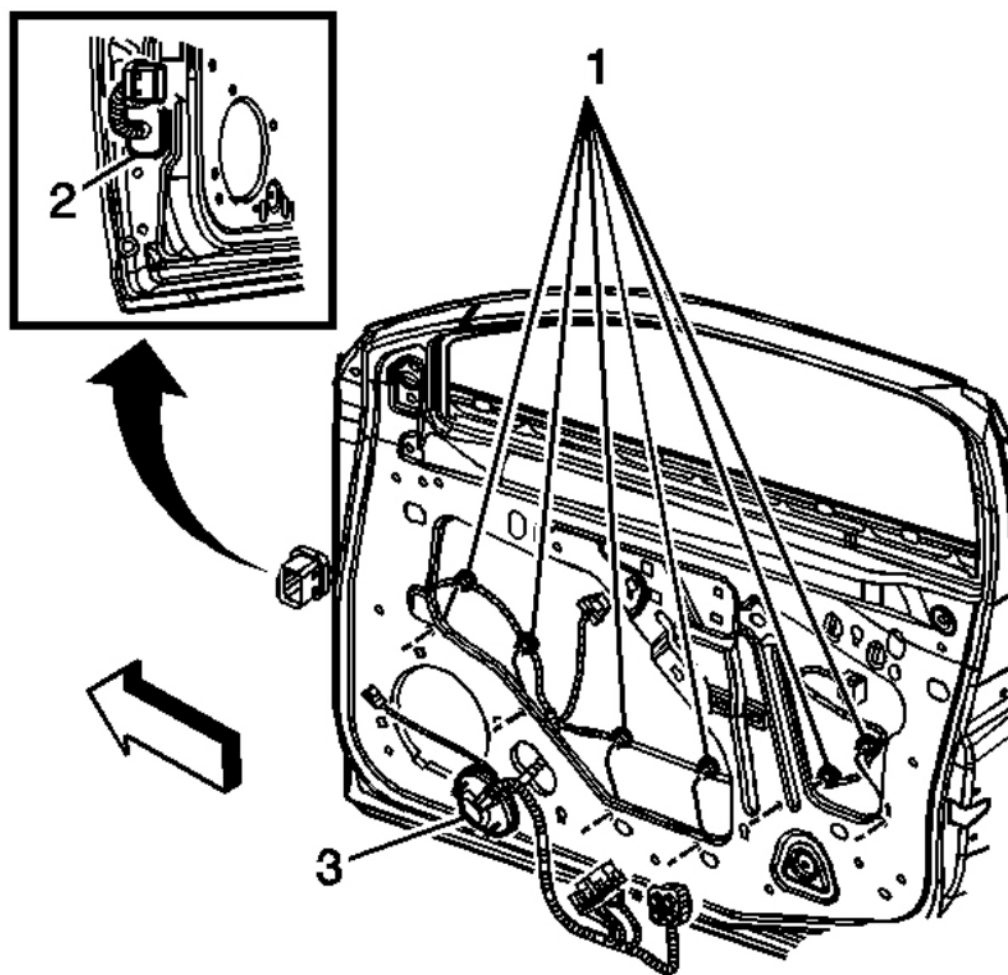


Fig. 78: Locating Front Door Wiring Harness
Courtesy of GENERAL MOTORS CORP.

8. Connect the door wiring harness electrical connector to the body wiring harness electrical connector.
9. Install the wire harness connectors into the hinge pillar.
10. Install the door bottom auxiliary weatherstrip. Refer to **Sealing Strip Replacement - Front Door Bottom Auxiliary**.
11. Install the door latch. Refer to **Latch Replacement - Front Door**.
12. Install the outside door handle. Refer to **Door Handle Replacement - Front Outside**.

13. Install the window regulator. Refer to **Window Regulator Replacement - Front Door**.
14. Install the door frame applique. Refer to **Door Frame Applique Replacement - Front**.
15. Install the window. Refer to **Window Replacement - Front Door**.
16. Install the window outer belt seal strip. Refer to **Sealing Strip Replacement - Front Door Window Belt Outer**.
17. Install the outside rearview mirror. Refer to **Mirror Replacement - Power**.
18. Install the window inner belt seal strip. Refer to **Sealing Strip Replacement - Front Door Window Belt Inner**.
19. Install the front door upper auxiliary weatherstrip. Refer to **Weatherstrip Replacement - Front Door Upper Auxiliary**.
20. Install the water deflector. Refer to **Water Deflector Replacement - Front Door**.
21. Install the inside door handle. Refer to **Door Handle Replacement - Front Inside**.
22. Install the door module. Refer to **Door Control Module Replacement**.
23. Install the door trim panel. Refer to **Trim Panel Replacement - Side Front Door**.
24. Inspect for proper door adjustment. Refer to **Door Adjustment**.
25. Touch up any paint damage to the front door hinge, fasteners, and check link with body color paint.

DOOR REPLACEMENT - REAR

Removal Procedure

1. Mark the location of the hinges, upper and lower, on the door with a grease pencil.
2. Remove the door trim panel. Refer to **Trim Panel Replacement - Side Rear Door**.
3. Remove the door module. Refer to **Door Control Module Replacement**.
4. Remove the inside door handle. Refer to **Door Handle Replacement - Rear Inside**.
5. Remove the water deflector. Refer to **Water Deflector Replacement - Rear Door**.
6. Remove the window inner belt sealing strip. Refer to **Sealing Strip Replacement - Rear Door Window Belt Inner**.
7. Remove the inner window seal. Refer to **Weatherstrip Replacement - Rear Door Window - Inner**.
8. Remove the door window. Refer to **Window Replacement - Rear Door**.
9. Remove the window outer belt sealing strip. Refer to **Sealing Strip Replacement - Rear Door Window Belt Outer**.
10. Remove the rear door stationary window. Refer to **Window/Division Channel - Rear**

Door Stationary.

11. Remove the window regulator. Refer to **Window Regulator Replacement - Rear Door.**
12. Remove the door frame applique. Refer to **Door Frame Applique Replacement - Rear.**
13. Remove the door bottom auxiliary sealing strip. Refer to **Sealing Strip Replacement - Rear Door Bottom Auxiliary.**
14. Remove the front window run channel. Refer to **Window Channel Replacement - Rear Door Front.**
15. Remove the door latch. Refer to **Latch Replacement - Rear Door.**
16. Remove the outside door handle. Refer to **Door Handle Replacement - Rear Outside.**
17. Remove the rear door upper auxiliary weatherstrip. Refer to **Weatherstrip Replacement - Rear Door Upper Auxiliary.**
18. Remove the door check link. Refer to **Door Check Link Replacement - Rear.**
19. Open the front door.
20. Disconnect the door wire harness from the body wire harness (2).
21. Remove the wiring harness retainers from the door (1).

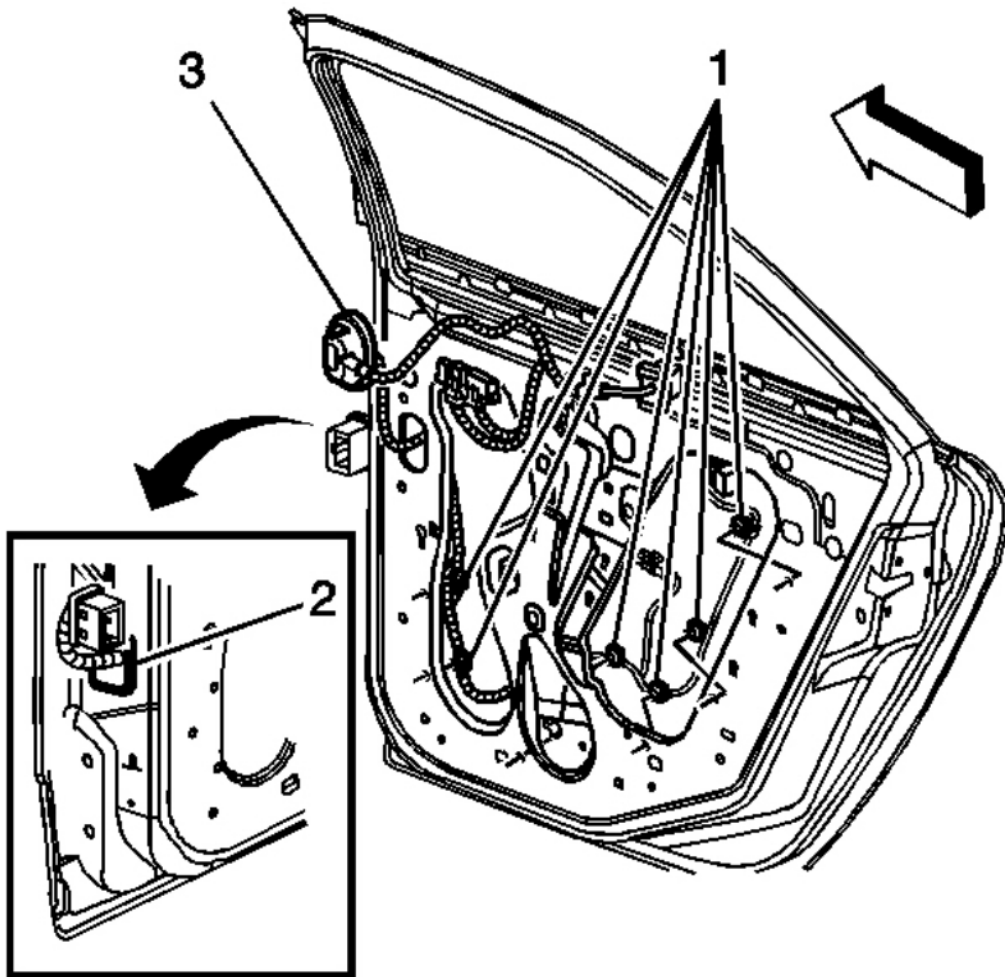


Fig. 79: Locating Rear Door Wiring Harness
Courtesy of GENERAL MOTORS CORP.

22. Remove the rubber conduit and wiring harness from the door.
23. Support the door.
24. With an assistant, remove the hinge to door bolts in order to remove the door.

Installation Procedure

1. With an assistant, install the door to the vehicle.
2. Support the door.

NOTE: Refer to Fastener Notice in Cautions and Notices.

3. Install the hinge to door bolts.

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

4. Install the door check link. Refer to Door Check Link Replacement - Rear.
5. Route the wiring harness and conduit into the door.
6. Install the door wiring harness retainers to the door (1).

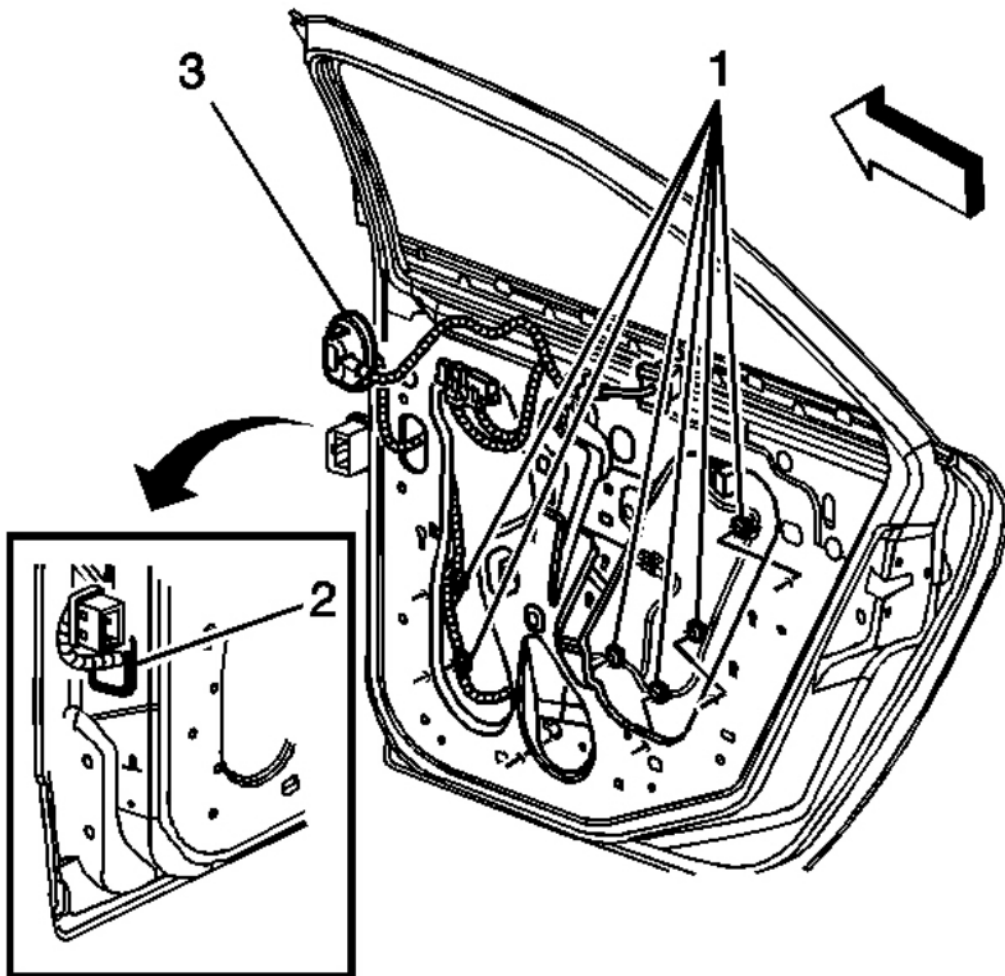


Fig. 80: Locating Rear Door Wiring Harness
Courtesy of GENERAL MOTORS CORP.

7. Connect the door wiring harness electrical connector to the body wiring harness electrical connector (2).
8. Install the rear door upper auxiliary weatherstrip. Refer to **Weatherstrip Replacement - Rear Door Upper Auxiliary**.
9. Install the door latch. Refer to **Latch Replacement - Rear Door**.
10. Install the outside door handle. Refer to **Door Handle Replacement - Rear Outside**.
11. Install the front window run channel. Refer to **Window Channel Replacement - Rear Door Front**.
12. Install the door bottom auxiliary sealing strip. Refer to **Sealing Strip Replacement - Rear Door Bottom Auxiliary**.
13. Install the door frame applique. Refer to **Door Frame Applique Replacement - Rear**.
14. Install the rear door stationary window. Refer to **Window/Division Channel - Rear Door Stationary**.
15. Install the window regulator. Refer to **Window Regulator Replacement - Rear Door**.
16. Install the window outer belt sealing strip. Refer to **Sealing Strip Replacement - Rear Door Window Belt Outer**.
17. Install the door window. Refer to **Window Replacement - Rear Door**.
18. Install the inner window seal. Refer to **Weatherstrip Replacement - Rear Door Window - Inner**.
19. Install the window inner belt sealing strip. Refer to **Sealing Strip Replacement - Rear Door Window Belt Inner**.
20. Install the water deflector. Refer to **Water Deflector Replacement - Rear Door**.
21. Install the inside door handle. Refer to **Door Handle Replacement - Rear Inside**.
22. Install the door module. Refer to **Door Control Module Replacement**.
23. Install the door trim panel. Refer to **Trim Panel Replacement - Side Rear Door**.
24. Inspect for proper door adjustment. Refer to **Door Adjustment**.
25. Touch up any paint damage to the rear door hinge, fasteners, and check link with body color paint.

HINGE REPLACEMENT - FRONT DOOR

Removal Procedure

IMPORTANT: Replace only one hinge at a time then repeat procedure for the second hinge, if needed.

1. Remove the push-in fasteners securing the fender sound insulator to the front fender.
2. Remove the fender sound insulator.

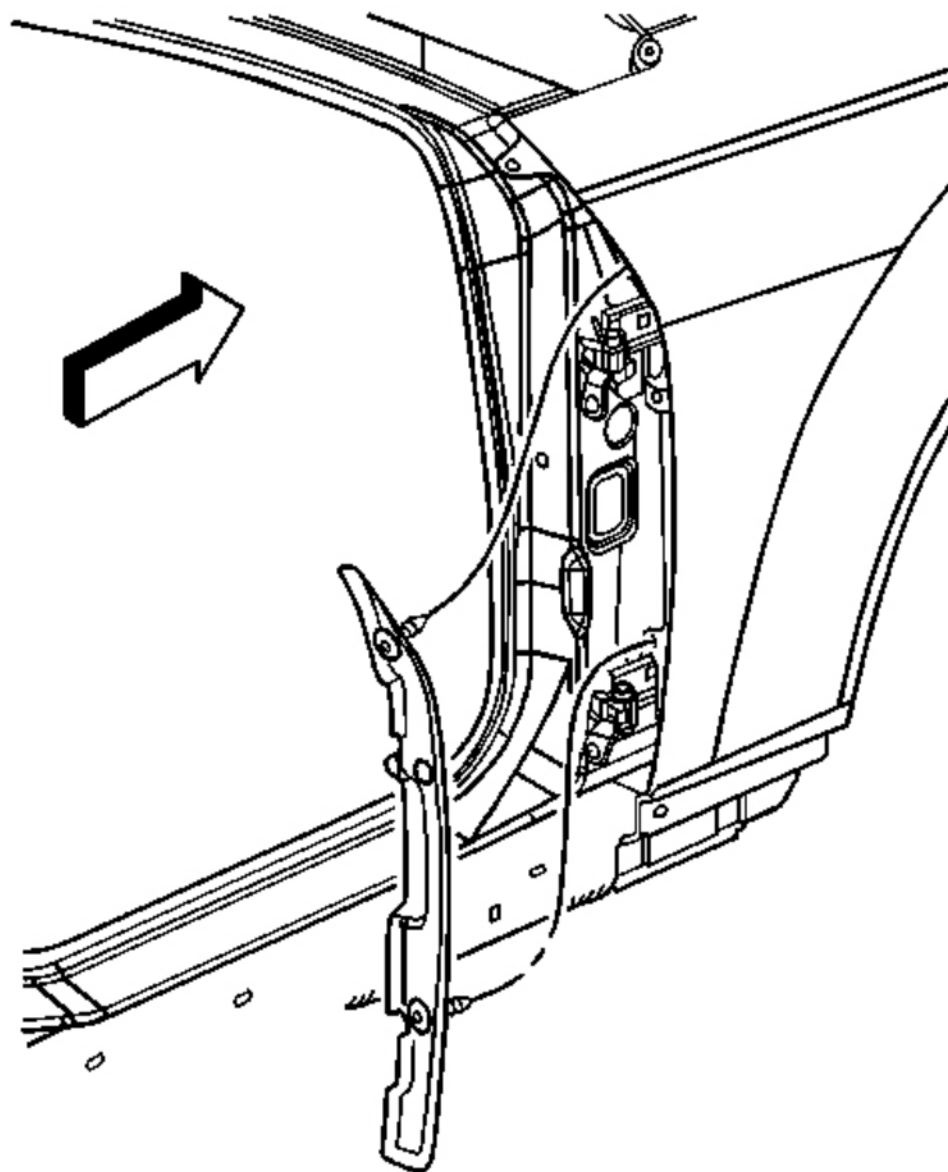


Fig. 81: View Of Fender Sound Insulator
Courtesy of GENERAL MOTORS CORP.

3. Mark the position of the hinge on the body.
4. Support the door.

5. Remove the hinge bolts (1) from the body.
6. Remove the hinge bolts from the door.

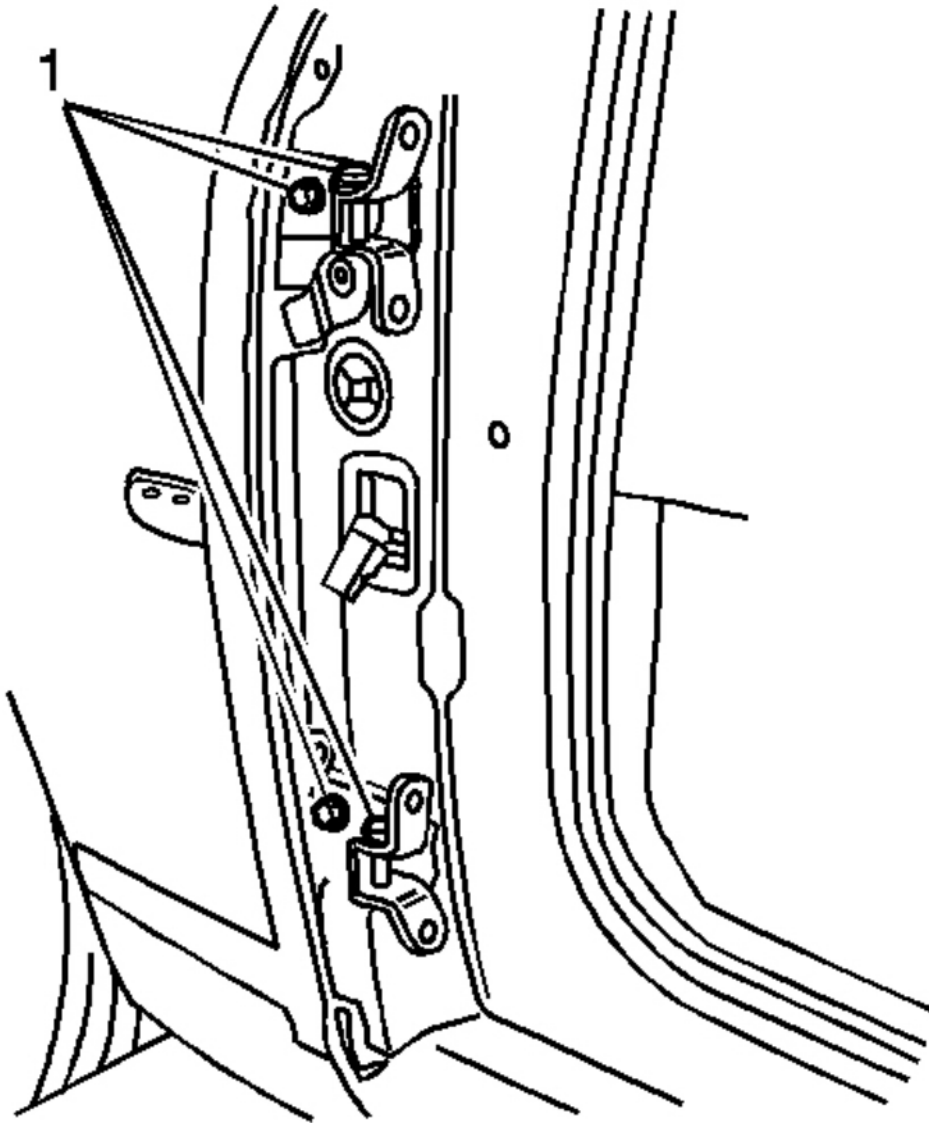


Fig. 82: View Of Front Door Hinges
Courtesy of GENERAL MOTORS CORP.

2004 Cadillac SRX

2004 ACCESSORIES & EQUIPMENT Doors - SRX

Installation Procedure

1. Align the hinge to the marks made on the body during removal.

NOTE: Refer to Fastener Notice in Cautions and Notices.

2. Install the hinge to body bolts (1).

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

3. Install the hinge to door bolts.

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

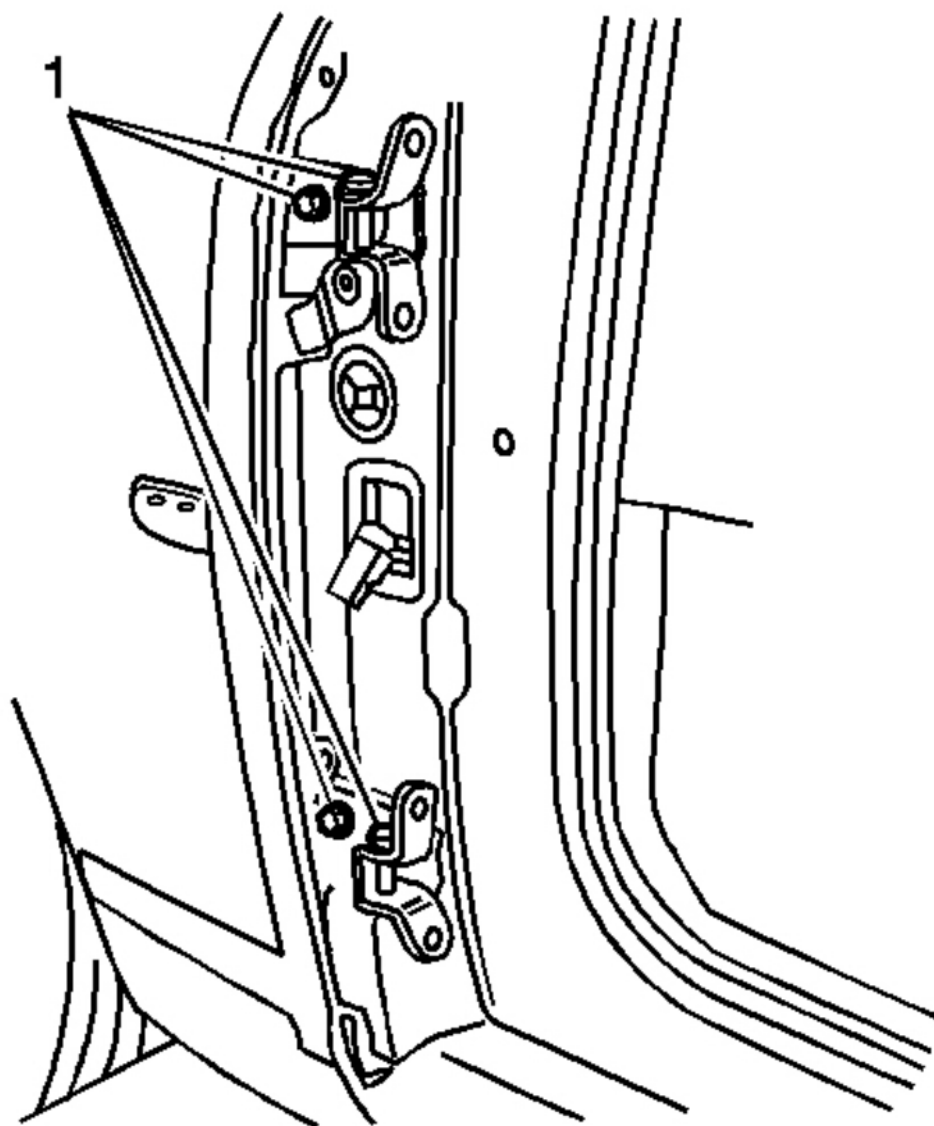


Fig. 83: View Of Front Door Hinges
Courtesy of GENERAL MOTORS CORP.

4. Remove the door support.
5. Install the fender sound insulator.

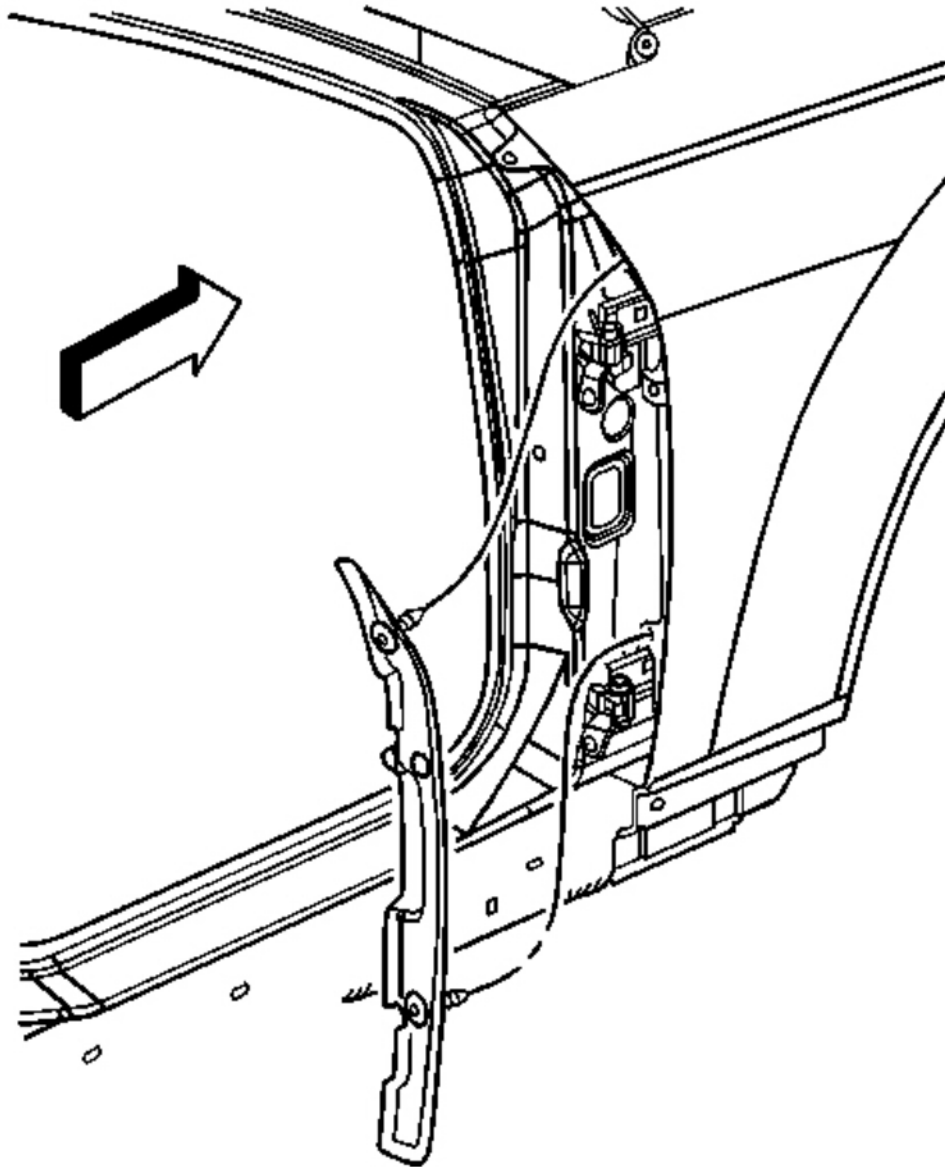


Fig. 84: View Of Fender Sound Insulator
Courtesy of GENERAL MOTORS CORP.

NOTE: Striker alignment is a crucial part of door latch operation. Do not use the door striker to adjust the door to the vehicle.

Failure to properly adjust the striker can result in damage to the door latch and the striker.

6. Adjust the door. Refer to **Door Adjustment**.
7. Touch up any paint damage to the hinge and the bolts with body color paint.

HINGE REPLACEMENT - REAR DOOR

Removal Procedure

IMPORTANT: Replace only one hinge at a time then repeat procedure for the second hinge, if needed.

1. Open the rear and the front doors.
2. Support the door.
3. Mark the position of the hinge on the body.
4. Remove the hinge to body bolts (1).
5. Remove the hinge to door bolts.

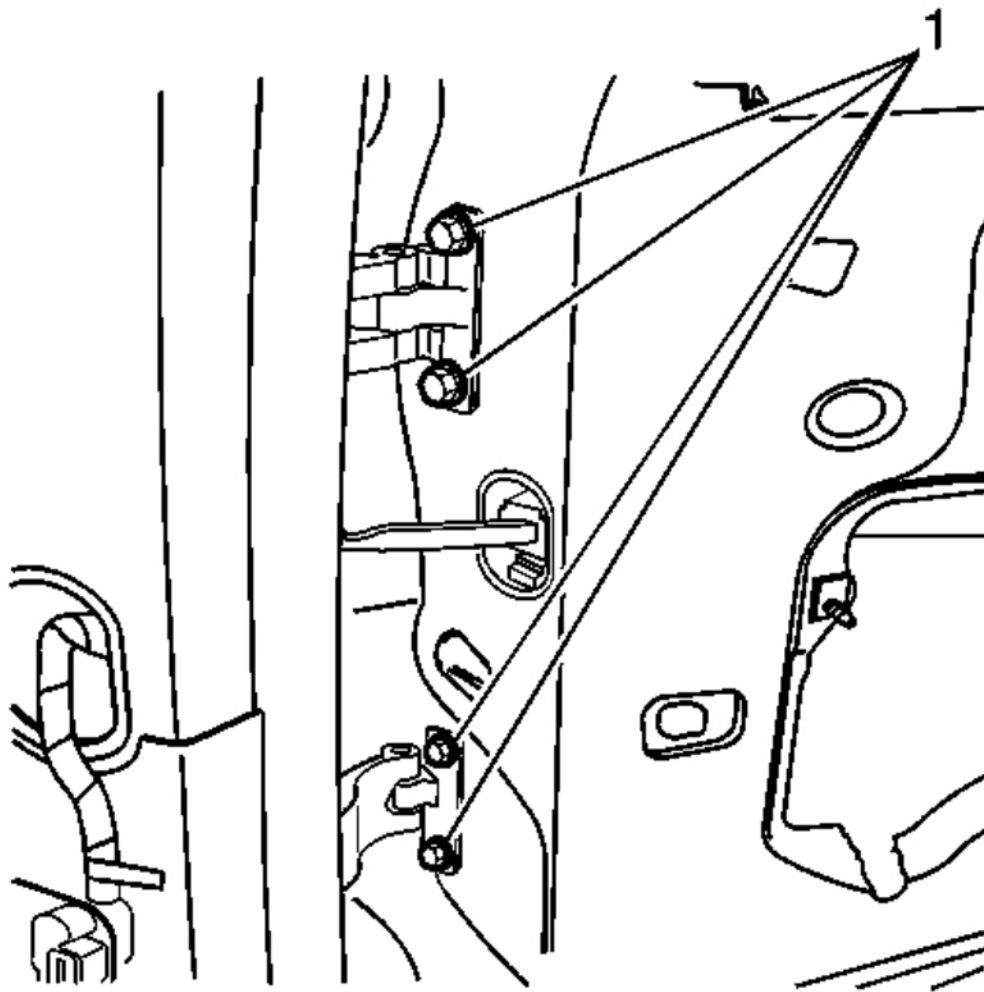


Fig. 85: View Of Door Hinge Fasteners
Courtesy of GENERAL MOTORS CORP.

Installation Procedure

1. Align the pillar side of the hinge to the marks made on the pillar during removal.
2. Install the hinge to the pillar.

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

3. Install the bolts (1).

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

4. Align the hinge to the door.
5. Install the bolts.

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

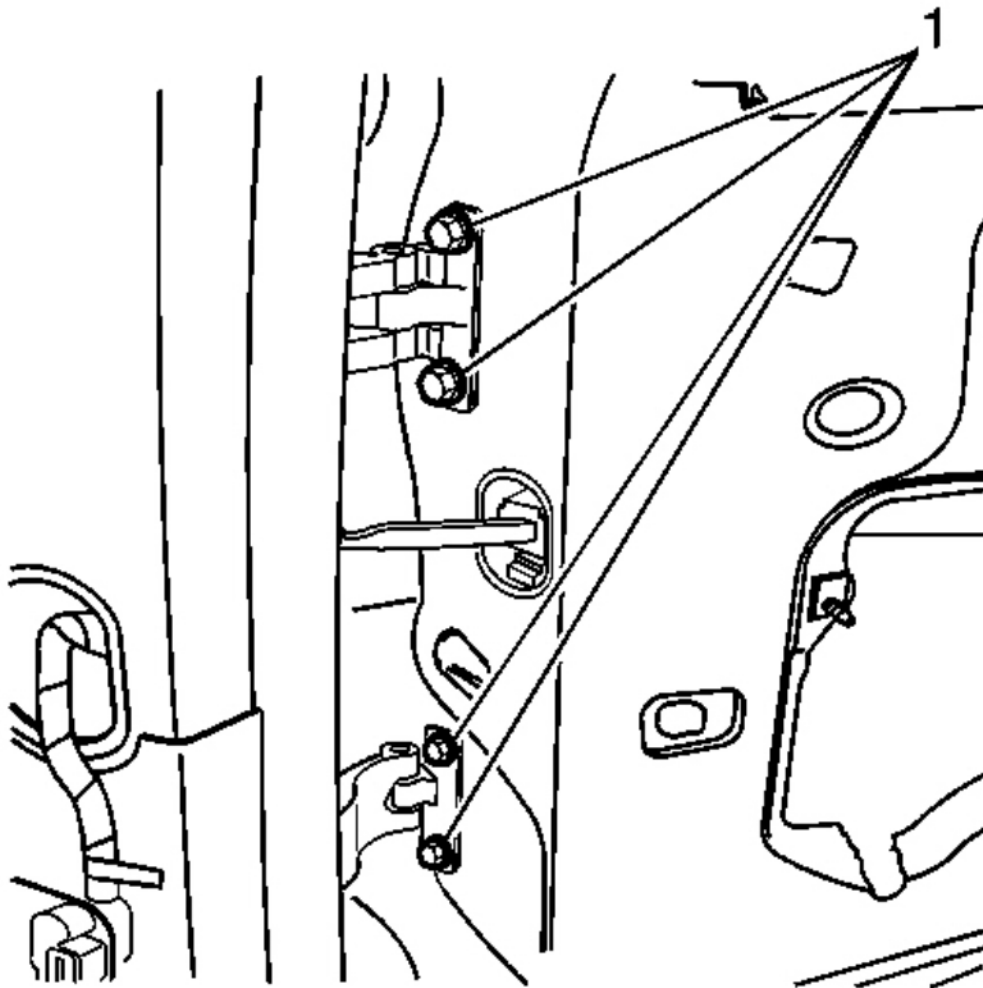


Fig. 86: View Of Door Hinge Fasteners

Courtesy of GENERAL MOTORS CORP.

6. Remove the door support.

NOTE: Striker alignment is a crucial part of door latch operation. Do not use the door striker to adjust the door to the vehicle. Failure to properly adjust the striker can result in damage to the door latch and the striker.

7. Adjust the door. Refer to Door Adjustment.
8. Touch up any paint damage to the hinge and the bolts with body color paint.

DOOR CHECK LINK REPLACEMENT - FRONT

Removal Procedure

1. Remove the door trim panel. Refer to Trim Panel Replacement - Side Front Door.
2. Pull back the forward half of the water deflector from the door panel to access the check link. Refer to Water Deflector Replacement - Front Door.
3. Remove the door check link to body bolt.
4. Remove the check link to door nuts (1).
5. Remove the check link from the door.

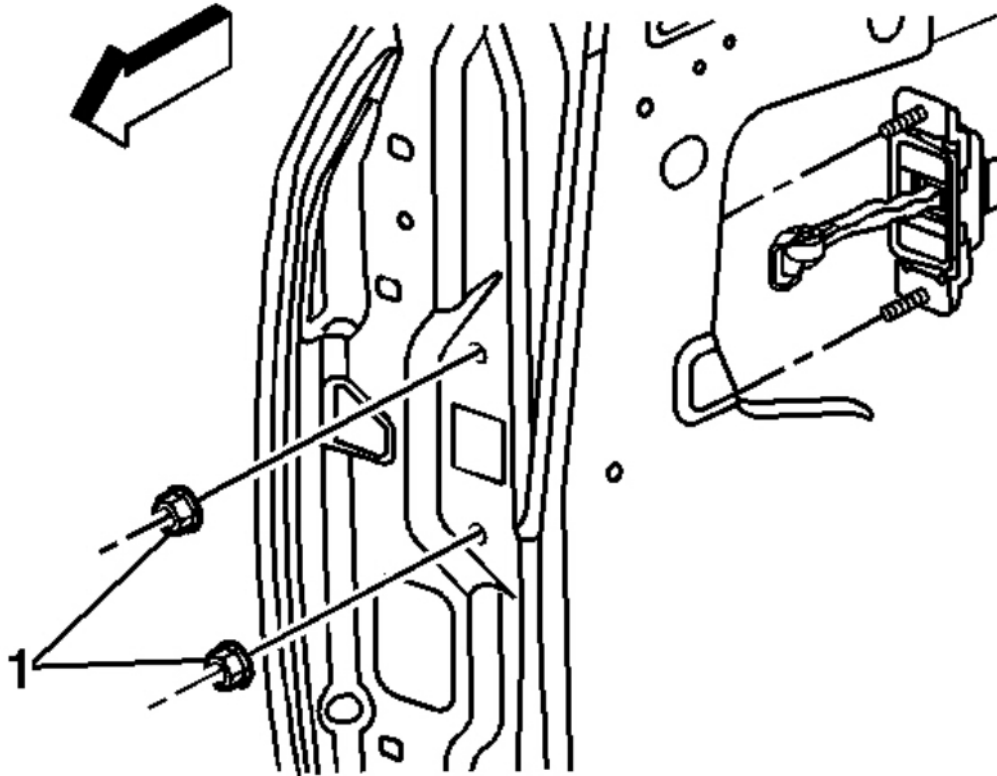


Fig. 87: View Of Front Check Link
Courtesy of GENERAL MOTORS CORP.

Installation Procedure

1. Install the check link into the door.

NOTE: Refer to Fastener Notice in Cautions and Notices.

2. Install the check link nuts (1).

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

3. Install the check link arm to front body hinge pillar bolt.

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

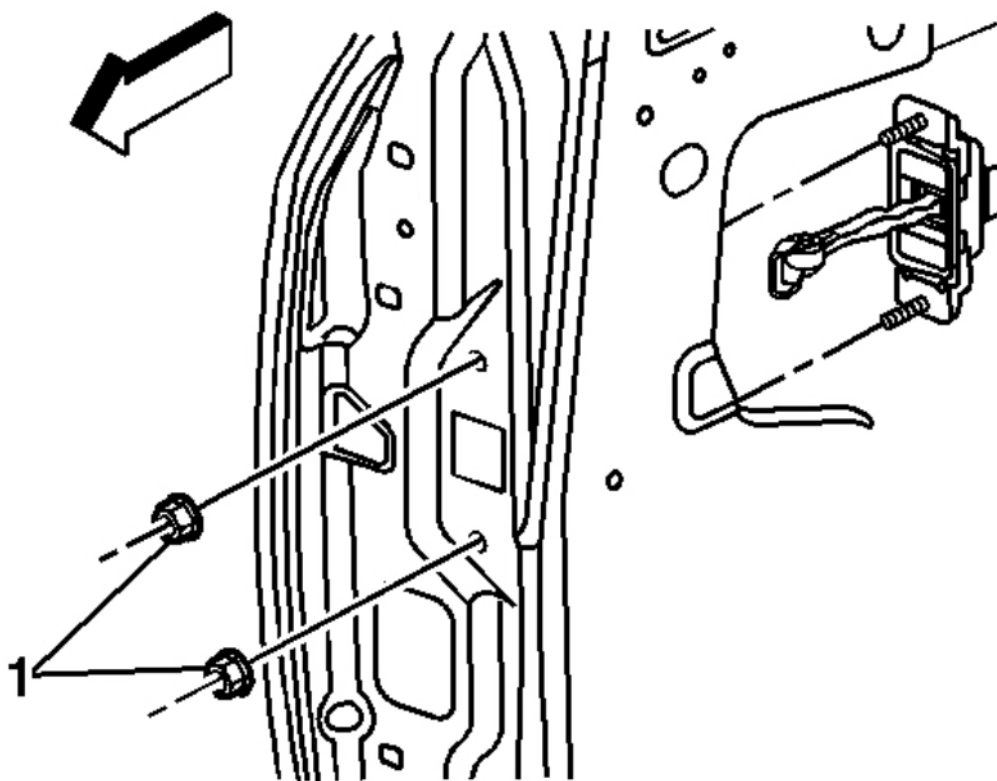


Fig. 88: View Of Front Check Link
Courtesy of GENERAL MOTORS CORP.

4. Install the water deflector. Refer to **Water Deflector Replacement - Front Door.**
5. Install the door trim panel. Refer to **Trim Panel Replacement - Side Front Door.**

DOOR CHECK LINK REPLACEMENT - REAR

Removal Procedure

1. Remove the door trim panel. Refer to **Trim Panel Replacement - Side Rear Door.**
2. Pull the forward half of the water deflector away from the door panel in order to access the check link. Refer to **Water Deflector Replacement - Rear Door.**
3. Remove the check link to hinge pillar bolts.
4. Remove the check link to door nuts (1).

5. Remove the check link from the door.

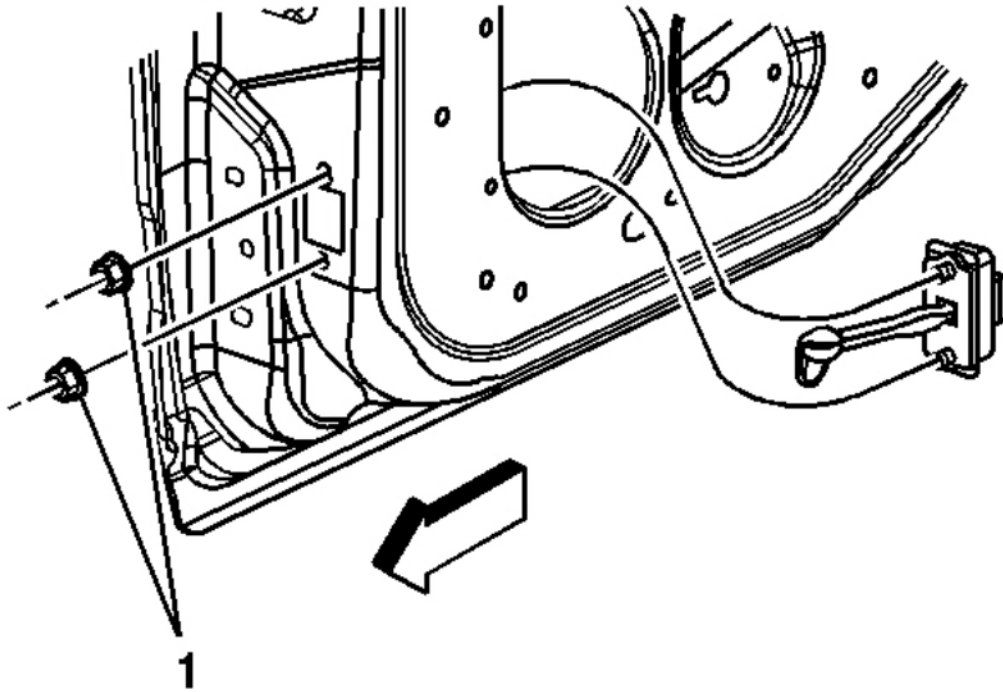


Fig. 89: View Of Rear Check Link
Courtesy of GENERAL MOTORS CORP.

Installation Procedure

1. Install the check link into the door.

NOTE: Refer to Fastener Notice in Cautions and Notices.

2. Install the check link to door nuts (1).

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

3. Install the check link arm to the center pillar bolt.

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

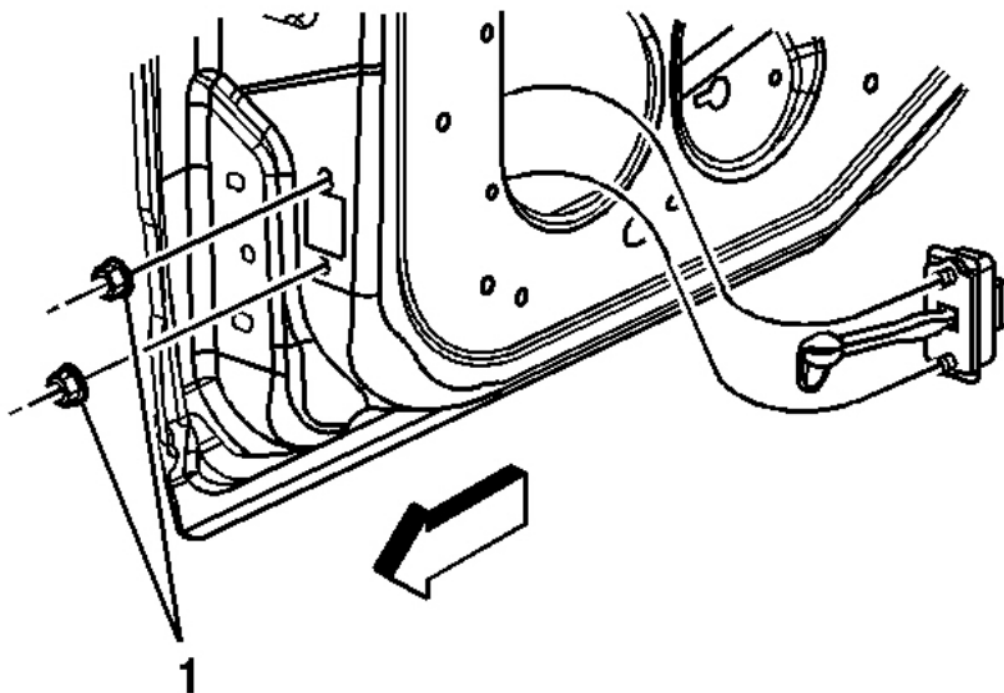


Fig. 90: View Of Rear Check Link
Courtesy of GENERAL MOTORS CORP.

4. Install the water deflector. Refer to **Water Deflector Replacement - Rear Door**.
5. Install the door trim panel. Refer to **Trim Panel Replacement - Side Rear Door**.

DOOR HANDLE REPLACEMENT - FRONT OUTSIDE

Removal Procedure

1. Place window in the full up position.
2. Remove the door trim panel. Refer to **Trim Panel Replacement - Side Front Door**.
3. Remove the rear push in retainer on the water deflector.
4. Peel water deflector away from door panel far enough to access the outside door handle. Refer to **Water Deflector Replacement - Front Door**.
5. Disconnect the outside door handle rod (1) by opening the retainer (2) at the door latch.

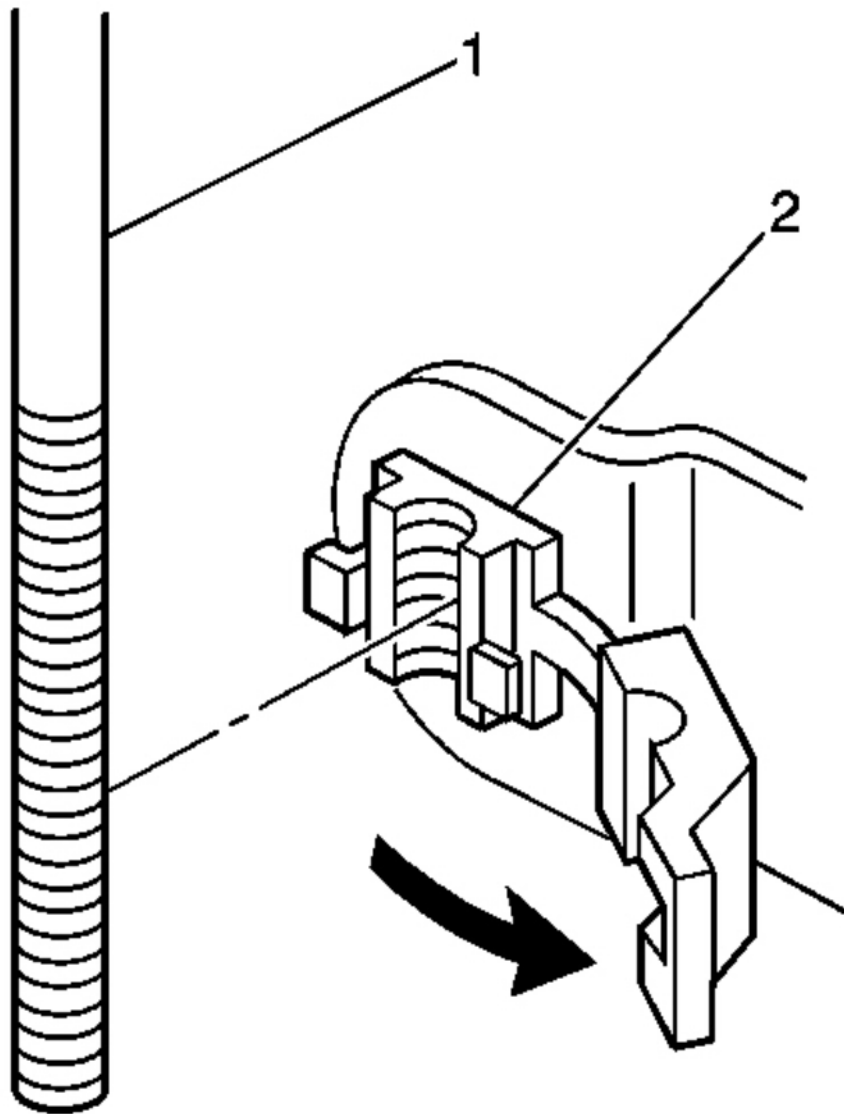


Fig. 91: Removing Rod Retainer Clip
Courtesy of GENERAL MOTORS CORP.

6. Remove the outside door handle cap screw access plug from the door.
7. Remove the screw securing the outside door handle cap.
8. Open the door handle slightly then remove the cap.

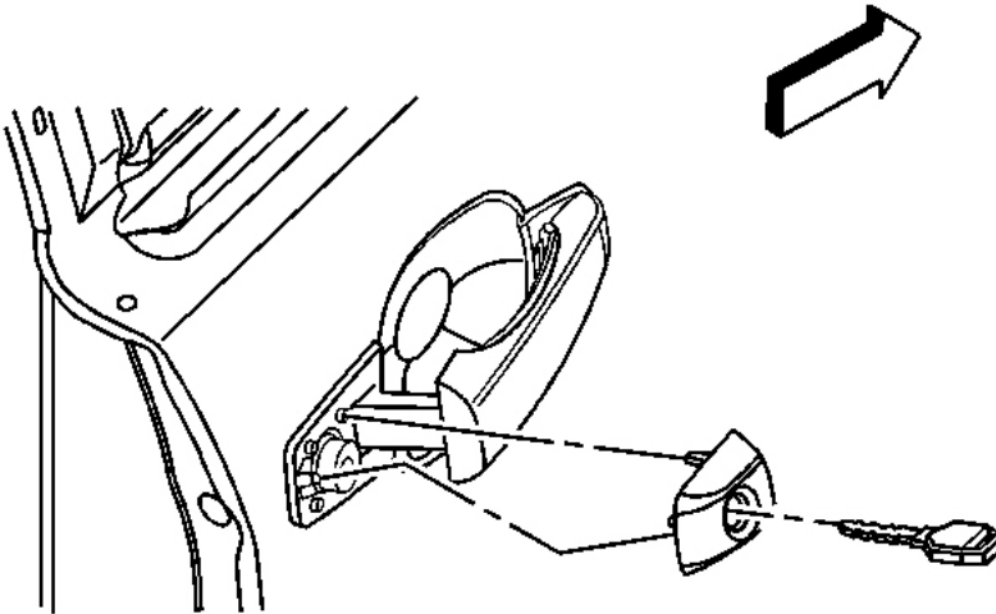


Fig. 92: View Of Outside Door Handle Cap
Courtesy of GENERAL MOTORS CORP.

9. Raise the outside door handle counterbalance weight and remove the outside door handle by rocking outboard and sliding rearward.

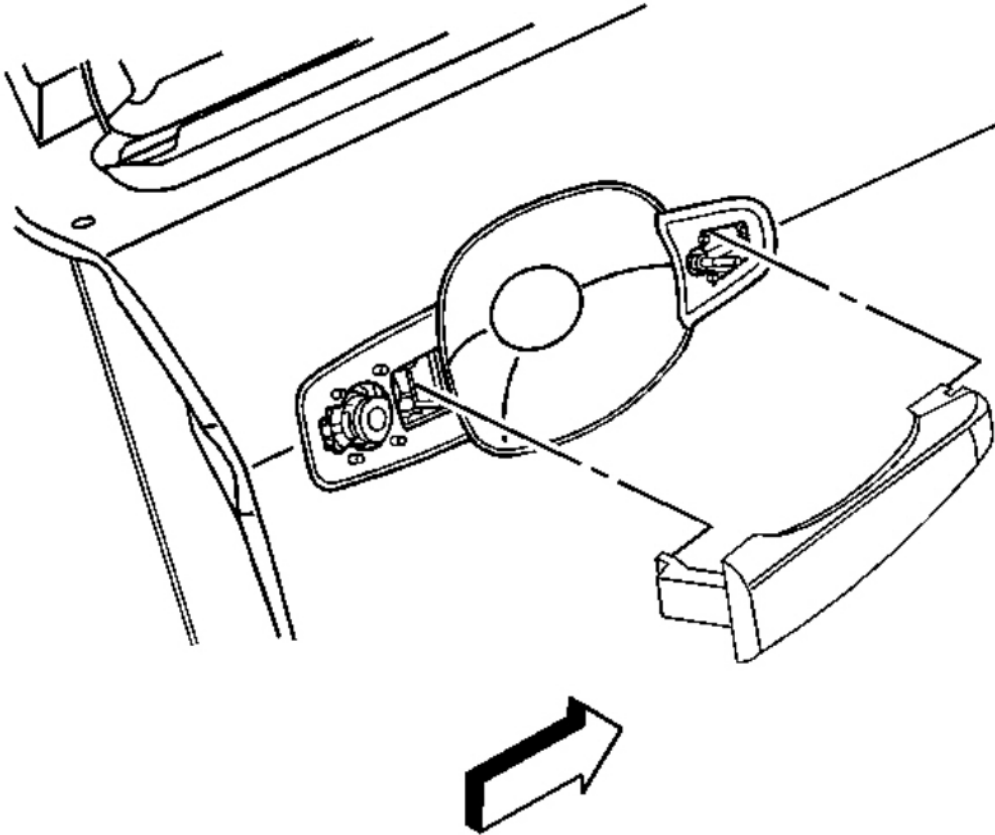


Fig. 93: View Of Outside Door Handle
Courtesy of GENERAL MOTORS CORP.

10. Remove the gaskets.
11. Remove the outside door handle bracket by sliding rearward.
12. Remove the handle rod from the outside door handle bracket.

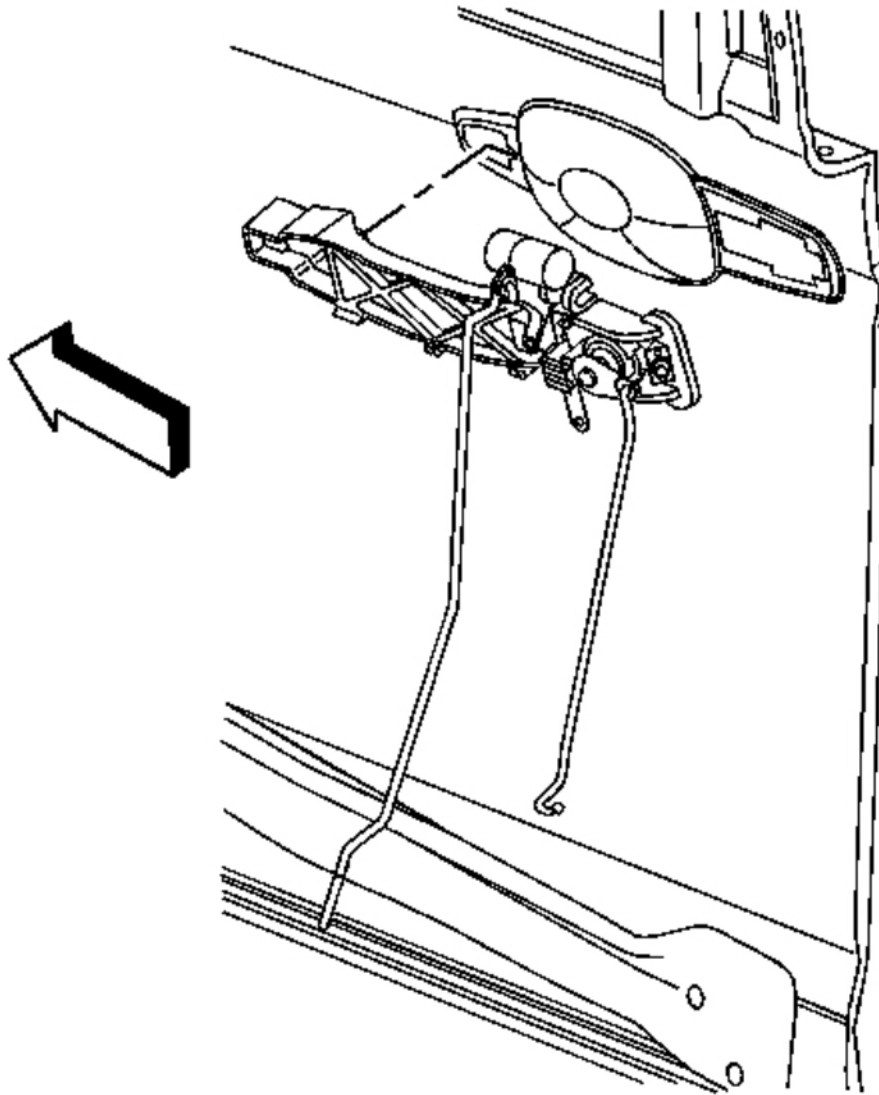


Fig. 94: View Of Outside Door Handle Bracket
Courtesy of GENERAL MOTORS CORP.

Installation Procedure

1. Install the handle rod to the outside door handle bracket.
2. Install the outside door handle bracket by inserting into opening and sliding forward.

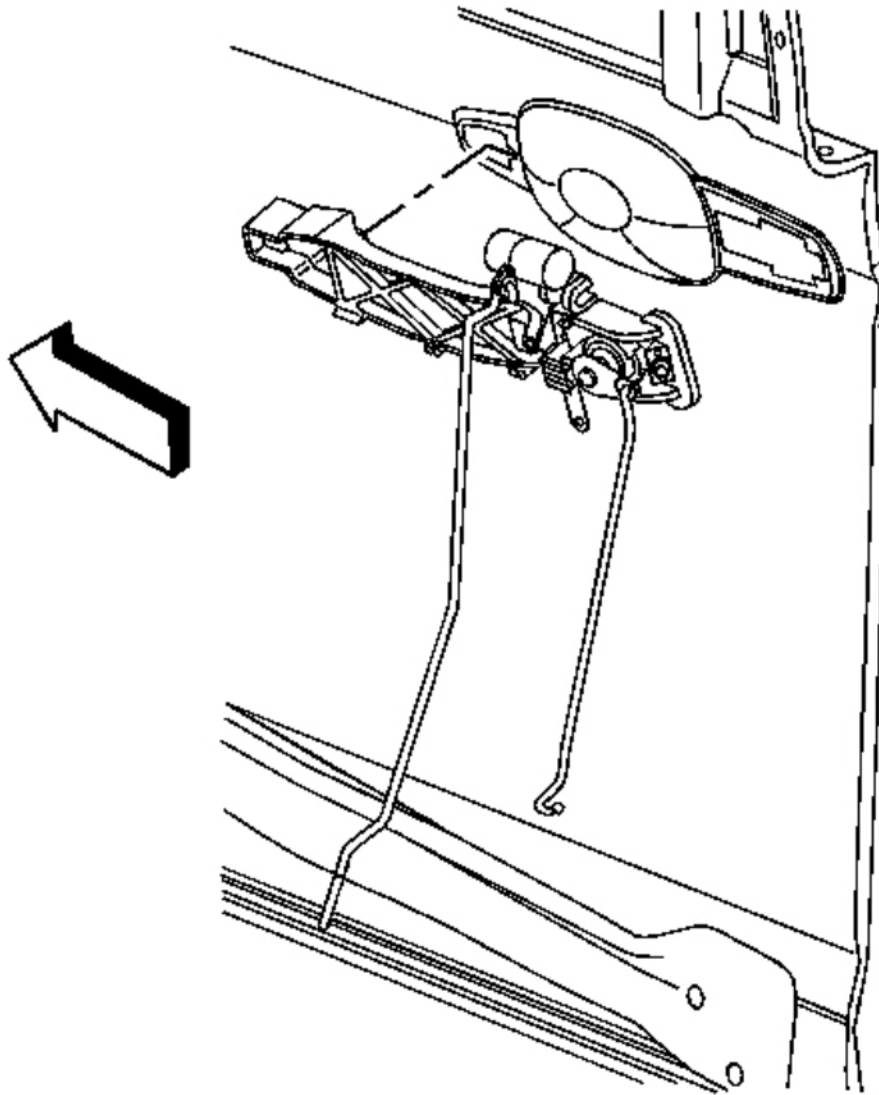


Fig. 95: View Of Outside Door Handle Bracket
Courtesy of GENERAL MOTORS CORP.

3. Install the gaskets.

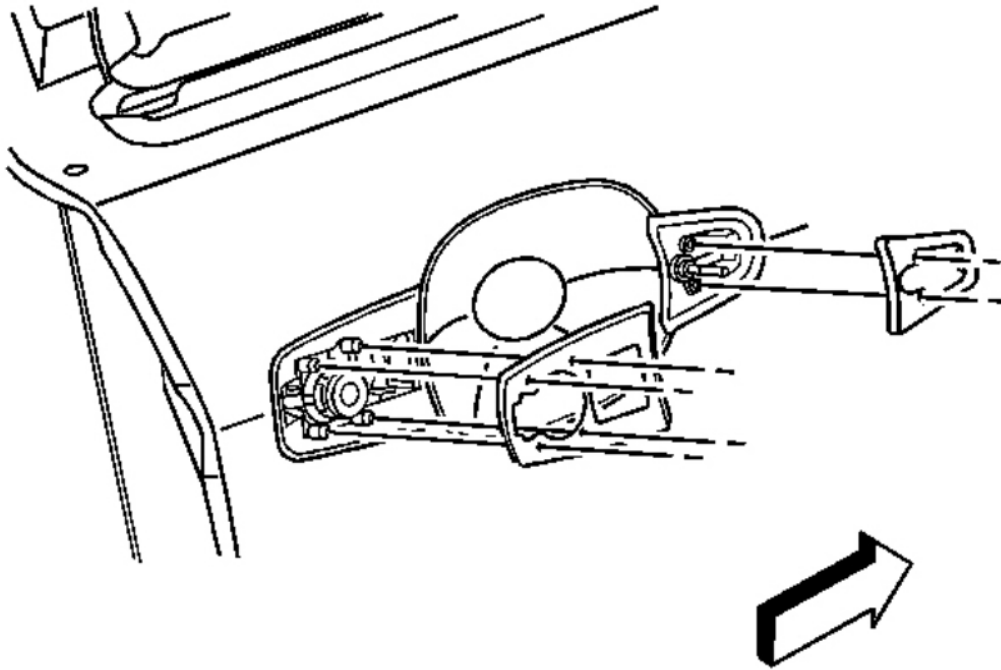


Fig. 96: View Of Outside Door Handle Gaskets
Courtesy of GENERAL MOTORS CORP.

4. Raise the outside door handle counterbalance weight and install the outside door handle by rocking outboard and inserting into bracket then sliding rearward.

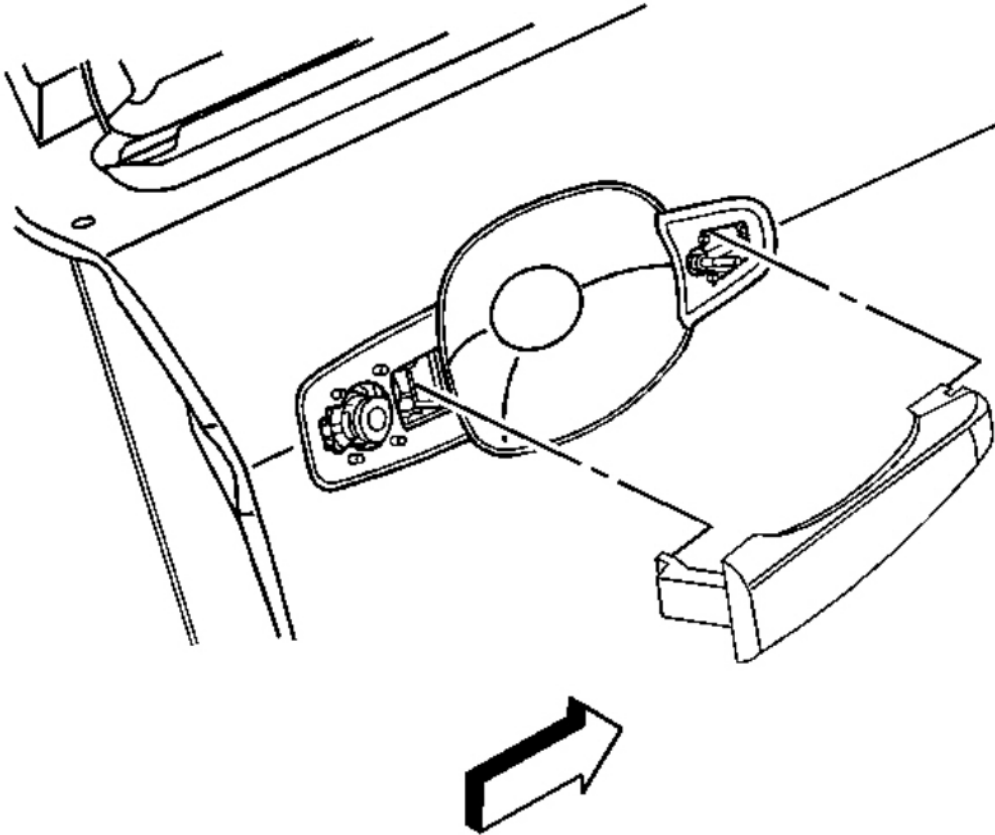


Fig. 97: View Of Outside Door Handle
Courtesy of GENERAL MOTORS CORP.

5. Open the door handle slightly then install the cap.
6. Install the screw securing the outside door handle cap.
7. Install the outside door handle cap screw access plug to the door.

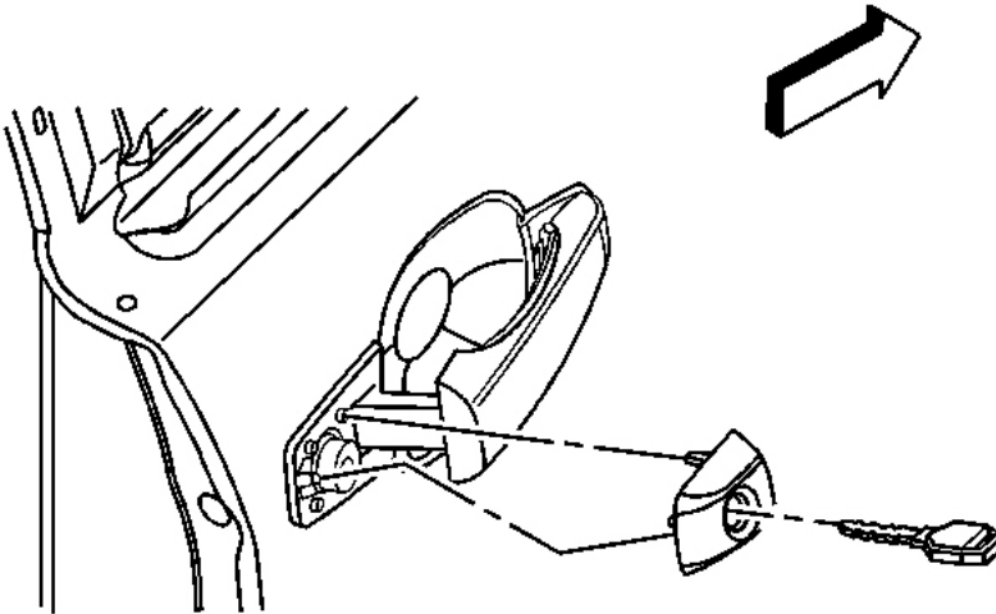


Fig. 98: View Of Outside Door Handle Cap
Courtesy of GENERAL MOTORS CORP.

8. Connect the door handle rod to the latch.
 1. Insert the rod (1) into the clip (2) on the door latch assembly.
 2. Close the clip.

IMPORTANT: Inspect for the proper operation of the door handle and lock cylinder before installing the water deflector and the door trim panel.

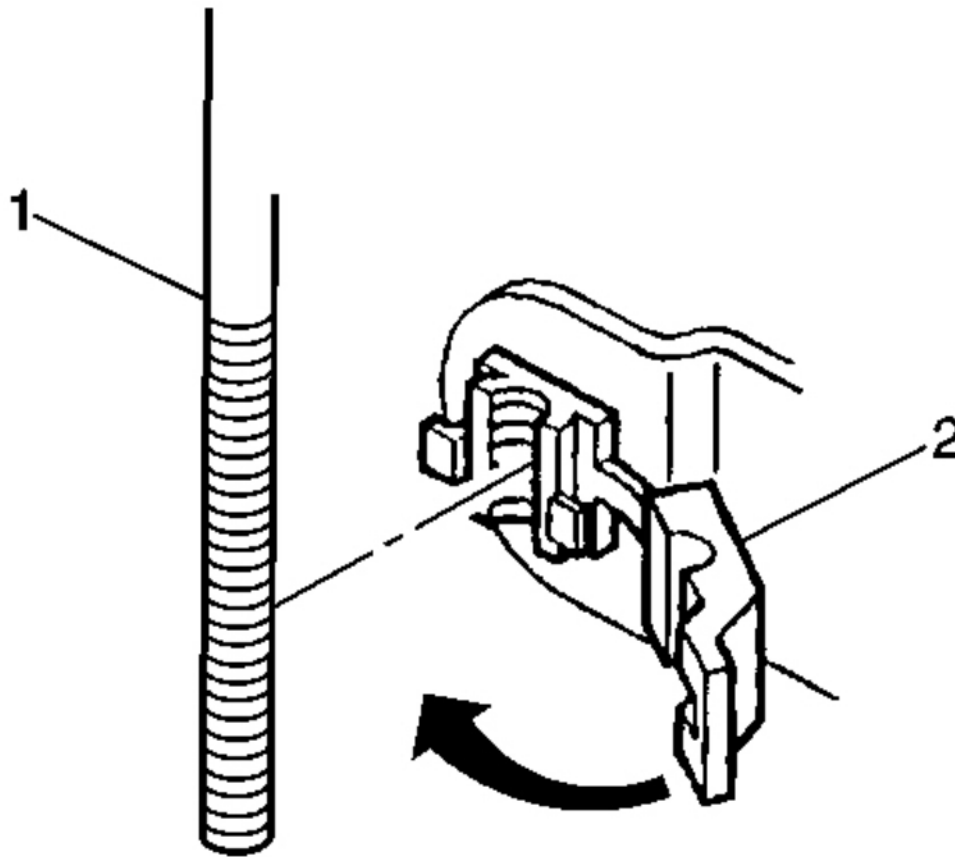


Fig. 99: Installing Rod Retainer Clip
Courtesy of GENERAL MOTORS CORP.

9. Install the water deflector. Refer to **Water Deflector Replacement - Front Door**.
10. Install the door trim panel. Refer to **Trim Panel Replacement - Side Front Door**.

DOOR HANDLE REPLACEMENT - REAR OUTSIDE

Removal Procedure

1. Place window in the full up position.
2. Remove the door trim panel. Refer to **Trim Panel Replacement - Side Front Door**.
3. Remove the rear push in retainer on the water deflector.

4. Pull water deflector away from door panel far enough to access the outside door handle. Refer to **Water Deflector Replacement - Front Door**.
5. Disconnect the outside door handle rod (1) by opening the retainer (2) at the door latch.

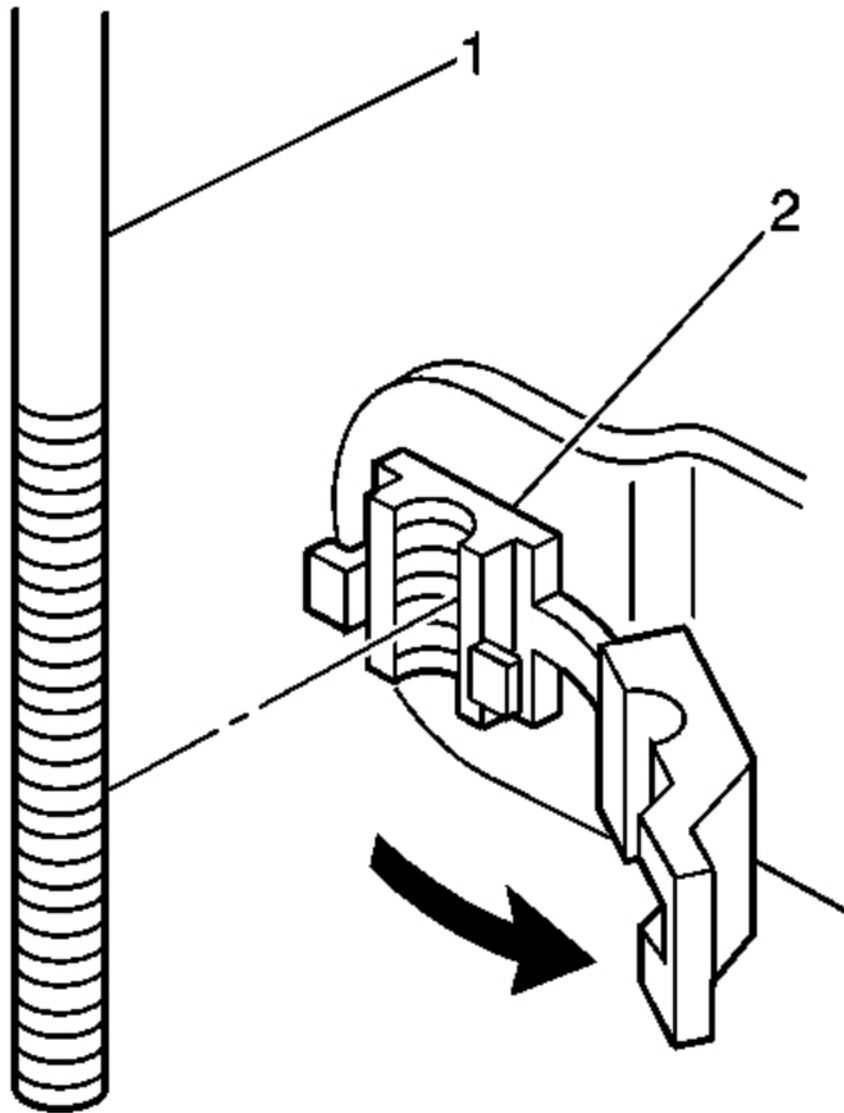


Fig. 100: Removing Rod Retainer Clip
Courtesy of GENERAL MOTORS CORP.

6. Remove the outside door handle cap screw access plug from the door.
7. Remove the screw securing the outside door handle cap.
8. Open the door handle slightly then remove the cap.

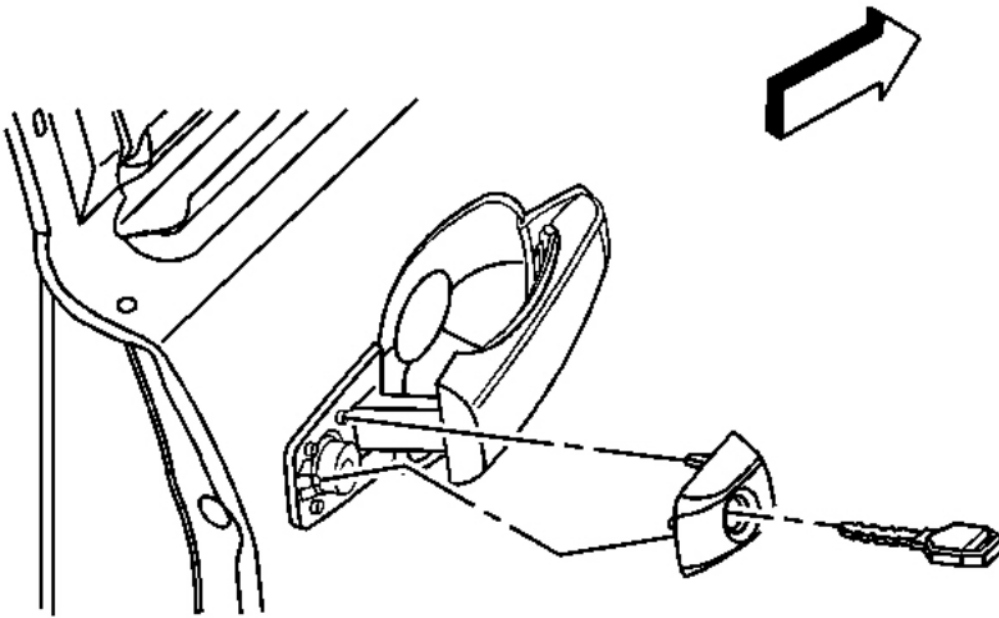


Fig. 101: View Of Outside Door Handle Cap
Courtesy of GENERAL MOTORS CORP.

9. Raise the outside door handle counterbalance weight and remove the outside door handle by rocking outboard and sliding rearward.

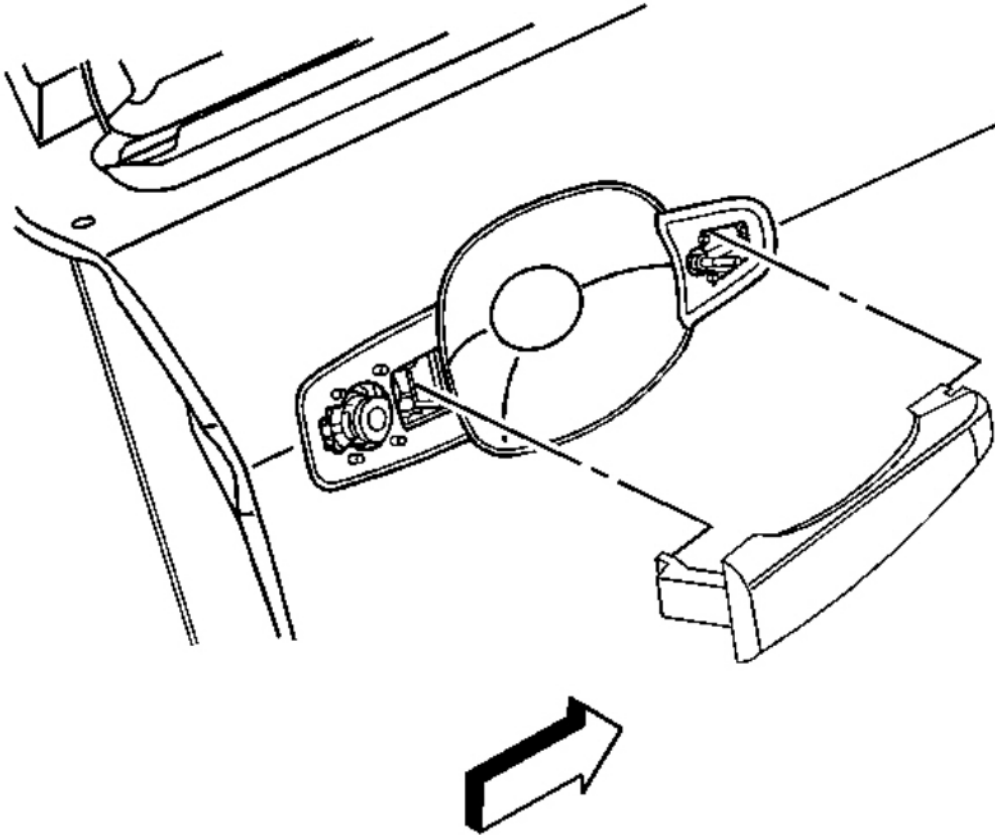


Fig. 102: View Of Outside Door Handle
Courtesy of GENERAL MOTORS CORP.

10. Remove the gaskets.
11. Remove the outside door handle bracket by sliding rearward.
12. Remove the handle rod from the outside door handle bracket.

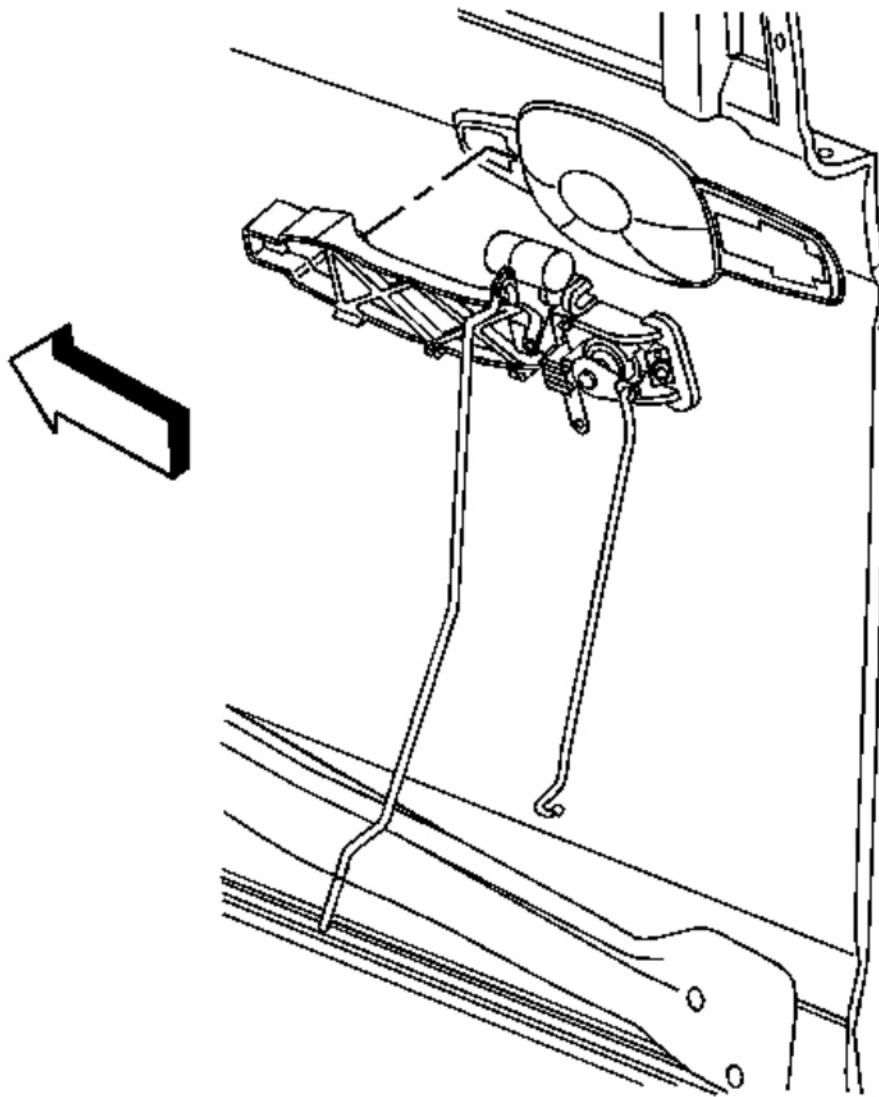


Fig. 103: View Of Outside Door Handle Bracket
Courtesy of GENERAL MOTORS CORP.

Installation Procedure

1. Install the handle rod to the outside door handle bracket.
2. Install the outside door handle bracket by inserting into opening and sliding forward.

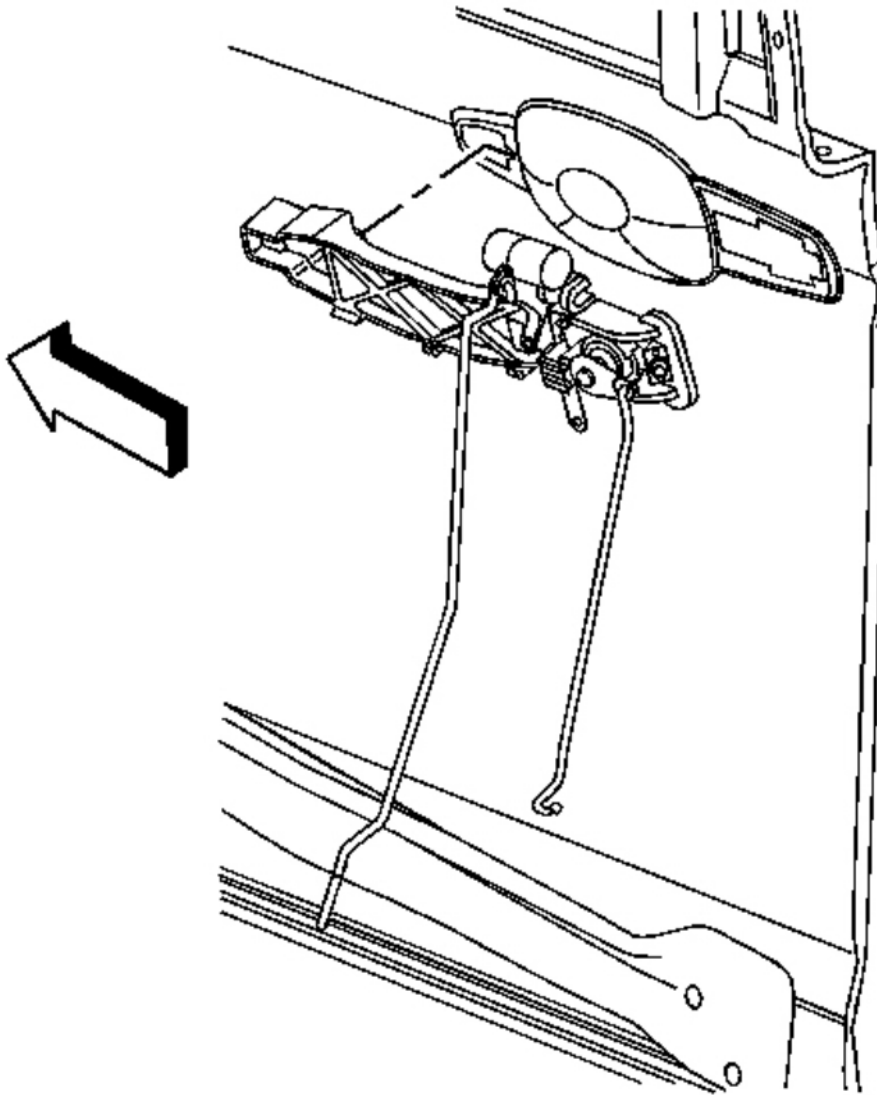


Fig. 104: View Of Outside Door Handle Bracket
Courtesy of GENERAL MOTORS CORP.

3. Install the gaskets.

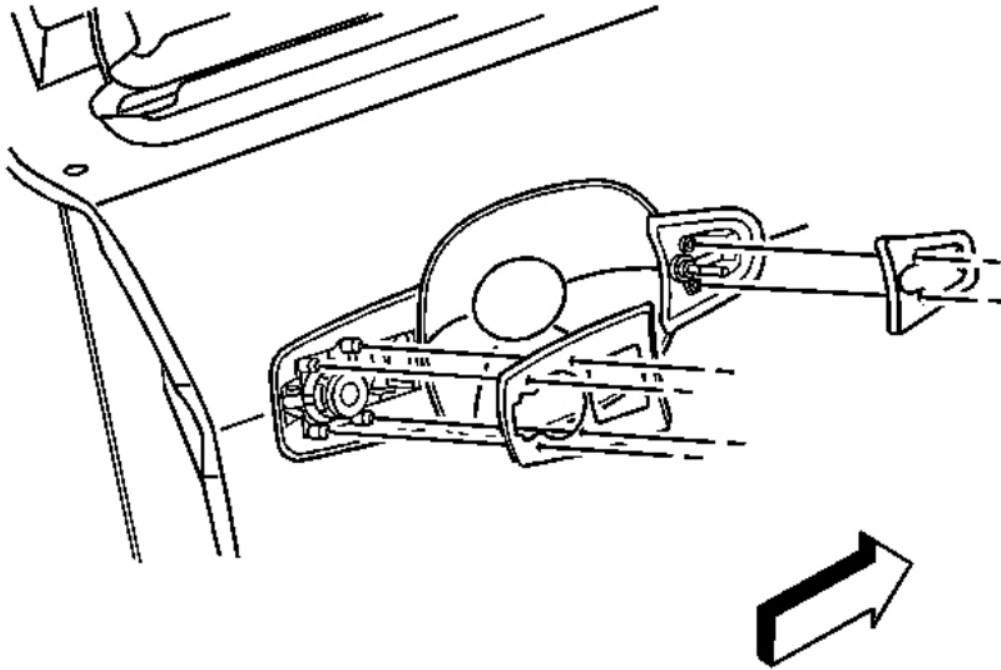


Fig. 105: View Of Outside Door Handle Gaskets
Courtesy of GENERAL MOTORS CORP.

4. Raise the outside door handle counterbalance weight and install the outside door handle by tilting the handle rearward and inserting into bracket then sliding forward until an audible click is heard.

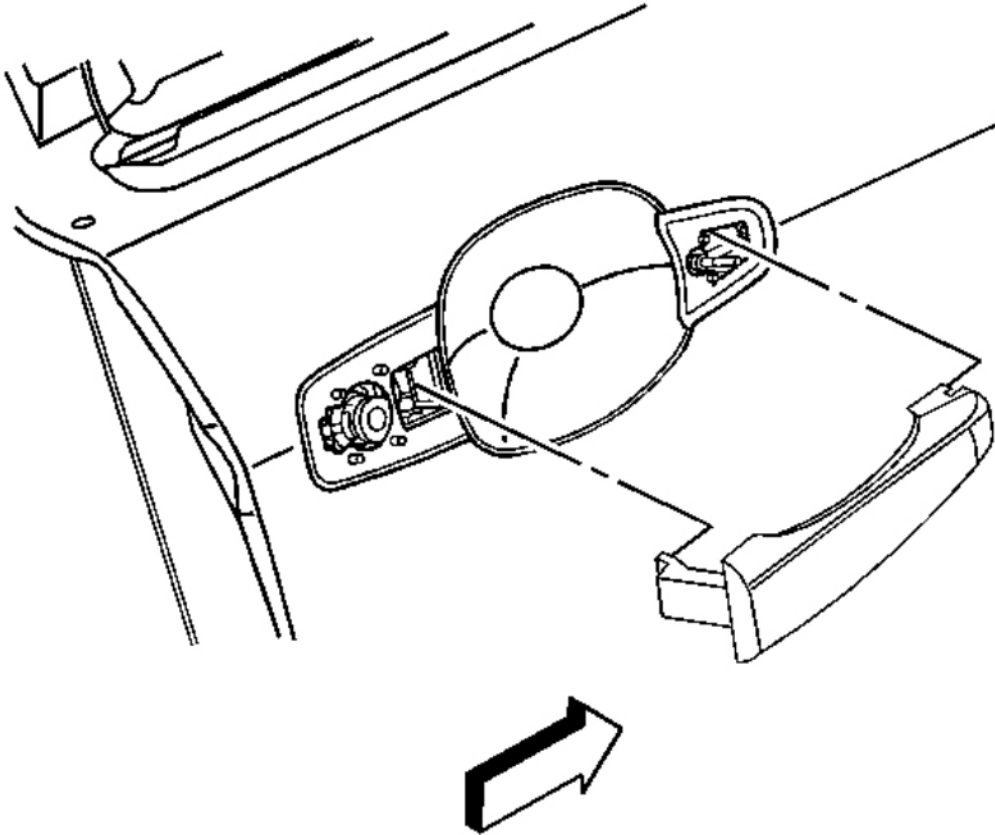


Fig. 106: View Of Outside Door Handle
Courtesy of GENERAL MOTORS CORP.

5. Open the door handle slightly then install the cap.
6. Install the screw securing the outside door handle cap.
7. Install the outside door handle cap screw access plug to the door.

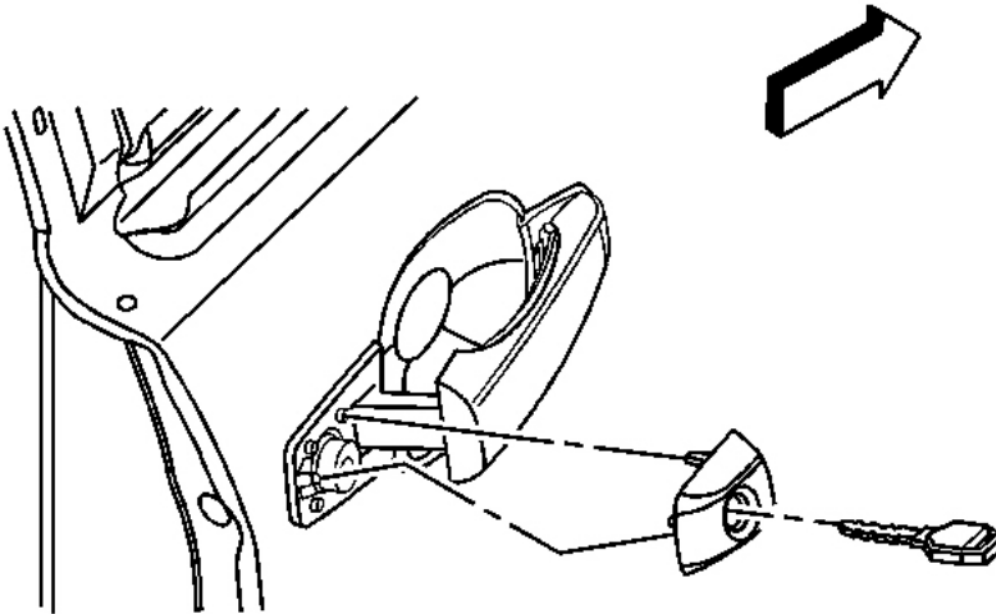


Fig. 107: View Of Outside Door Handle Cap
Courtesy of GENERAL MOTORS CORP.

8. Connect the door handle rod to the latch.
 1. Insert the rod (1) into the clip (2) on the door latch assembly.
 2. Close the clip.

IMPORTANT: Inspect for the proper operation of the door handle before installing the water deflector and the door trim panel.

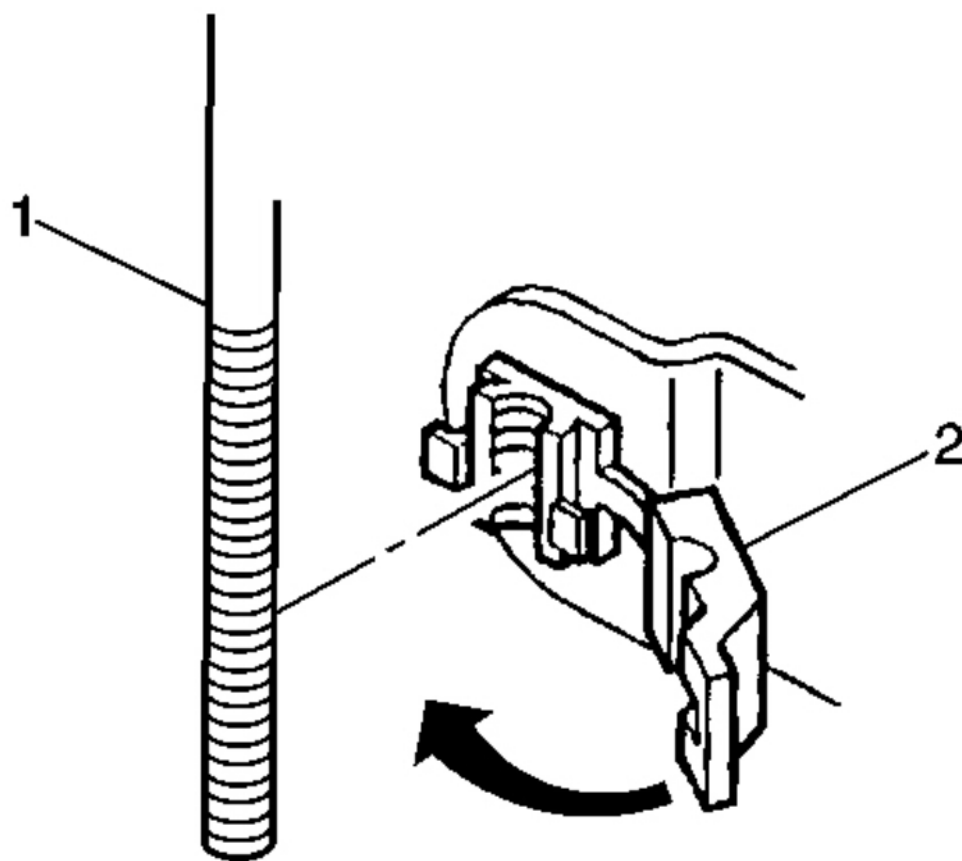


Fig. 108: Installing Rod Retainer Clip
Courtesy of GENERAL MOTORS CORP.

9. Install the water deflector. Refer to **Water Deflector Replacement - Front Door**.
10. Install the door trim panel. Refer to **Trim Panel Replacement - Side Front Door**.

DOOR HANDLE REPLACEMENT - FRONT INSIDE

Removal Procedure

1. Remove the front door trim panel. Refer to **Trim Panel Replacement - Side Front Door**.
2. Remove the fastener (1) attaching the inside door handle (2) to the door trim panel.
3. Remove the door handle from the door trim panel by sliding the handle towards the front of

the vehicle.

4. Remove the door handle from the door handle linkage.

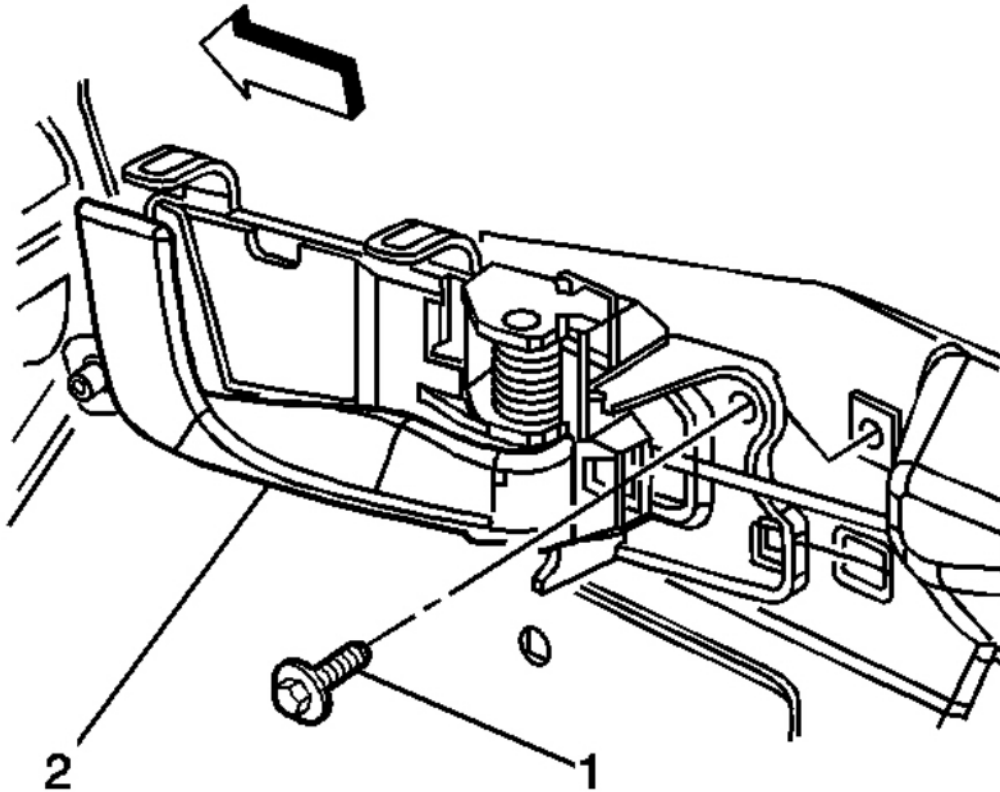


Fig. 109: View Of Front Inside Door Handle
Courtesy of GENERAL MOTORS CORP.

Installation Procedure

1. Insert the inside door handle rod (1) into the hole in the door handle assembly (2).
2. Rotate the assembly up towards the front of the vehicle.
3. Slide the assembly (2) towards the rear of the vehicle to engage the three tabs.

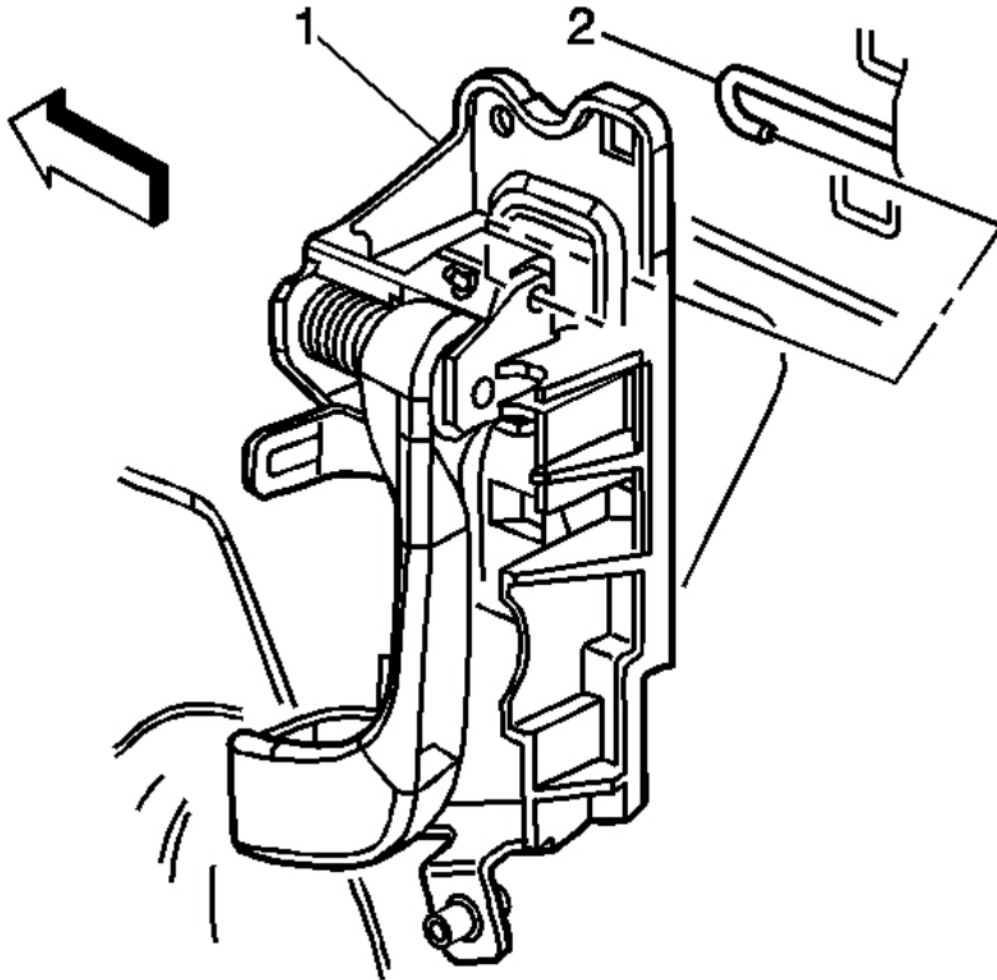


Fig. 110: View Of Inside Door Handle Rod & Door Handle Assembly
Courtesy of GENERAL MOTORS CORP.

NOTE: Refer to Fastener Notice in Cautions and Notices.

4. Install the door handle fastener.

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

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

DOOR HANDLE REPLACEMENT - REAR INSIDE**Removal Procedure**

1. Remove the rear door trim panel. Refer to **Trim Panel Replacement - Side Rear Door.**
2. Remove the fastener (1) attaching the inside door handle (2) to the door trim panel.

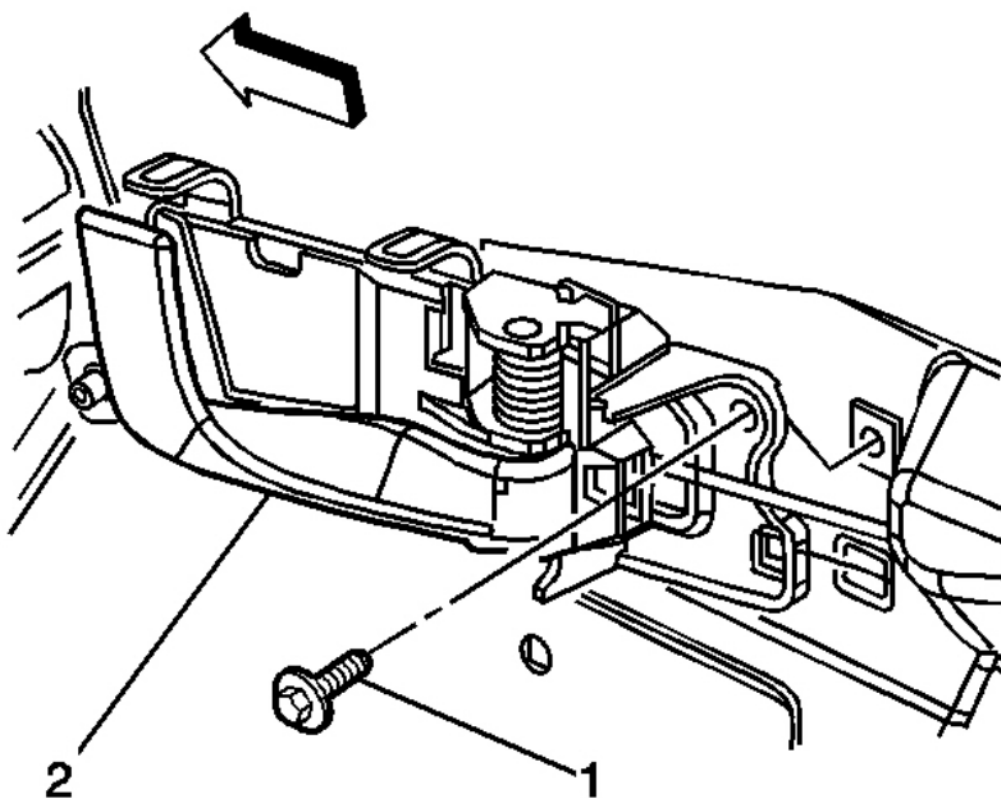


Fig. 111: View Of Front Inside Door Handle
Courtesy of GENERAL MOTORS CORP.

3. Remove the inside door handle from the door trim panel by sliding the handle towards the front of the vehicle.
4. Remove the door handle from the door handle linkage.

Installation Procedure

1. Insert the inside door handle rod (1) into the hole in the door handle assembly (2).
2. Rotate the door handle assembly up towards the front of the vehicle.
3. Slide the assembly (2) towards the rear of the vehicle to engage the three tabs.

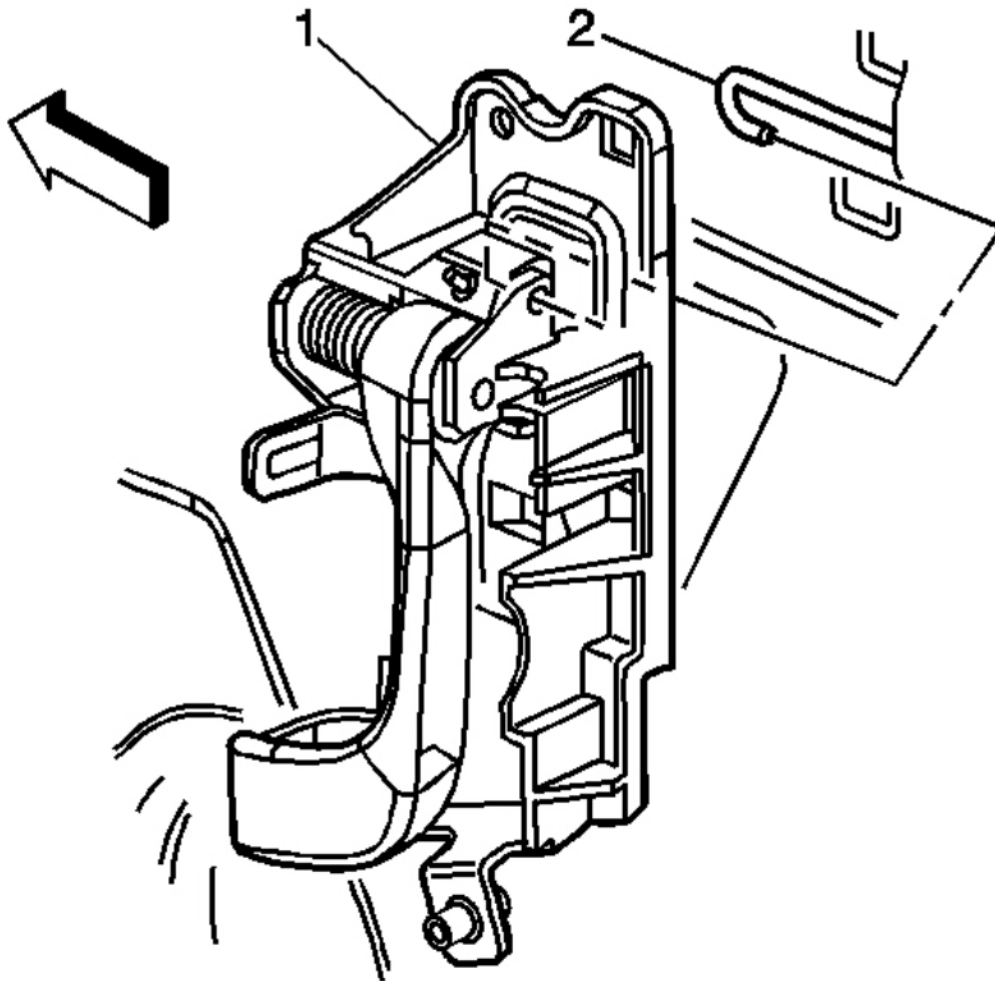


Fig. 112: View Of Inside Door Handle Rod & Door Handle Assembly
Courtesy of GENERAL MOTORS CORP.

NOTE: Refer to Fastener Notice in Cautions and Notices.

4. Install the door handle fastener.

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

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

LOCK CYLINDER REPLACEMENT - DOOR

Removal Procedure

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

1. Remove the front door outside door handle. Refer to **Door Handle Replacement - Front Outside.**
2. Remove the lock cylinder retainer clip (1).
3. Remove the lock cylinder from the outside door handle housing (2).

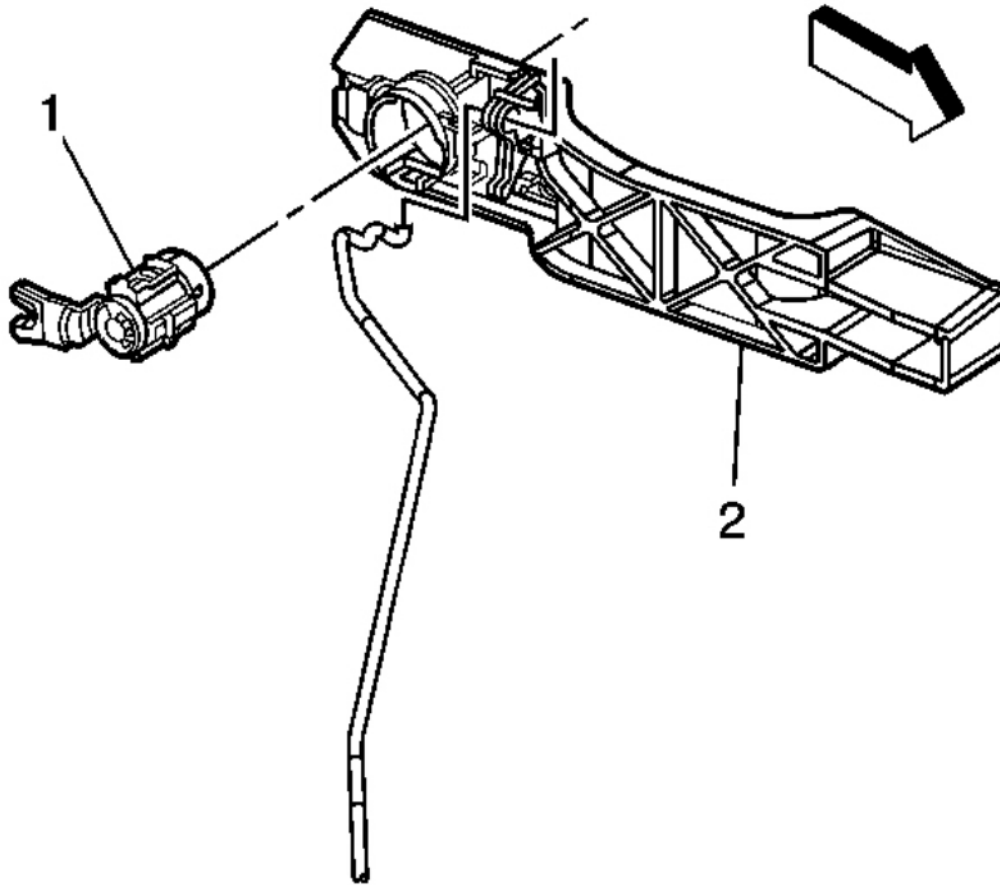


Fig. 113: View Of Lock Cylinder Retainer Clip & Outside Door Handle Housing
Courtesy of GENERAL MOTORS CORP.

Installation Procedure

1. Install the lock cylinder to the outside door handle housing (2).
2. Install the lock cylinder retainer clip (1).

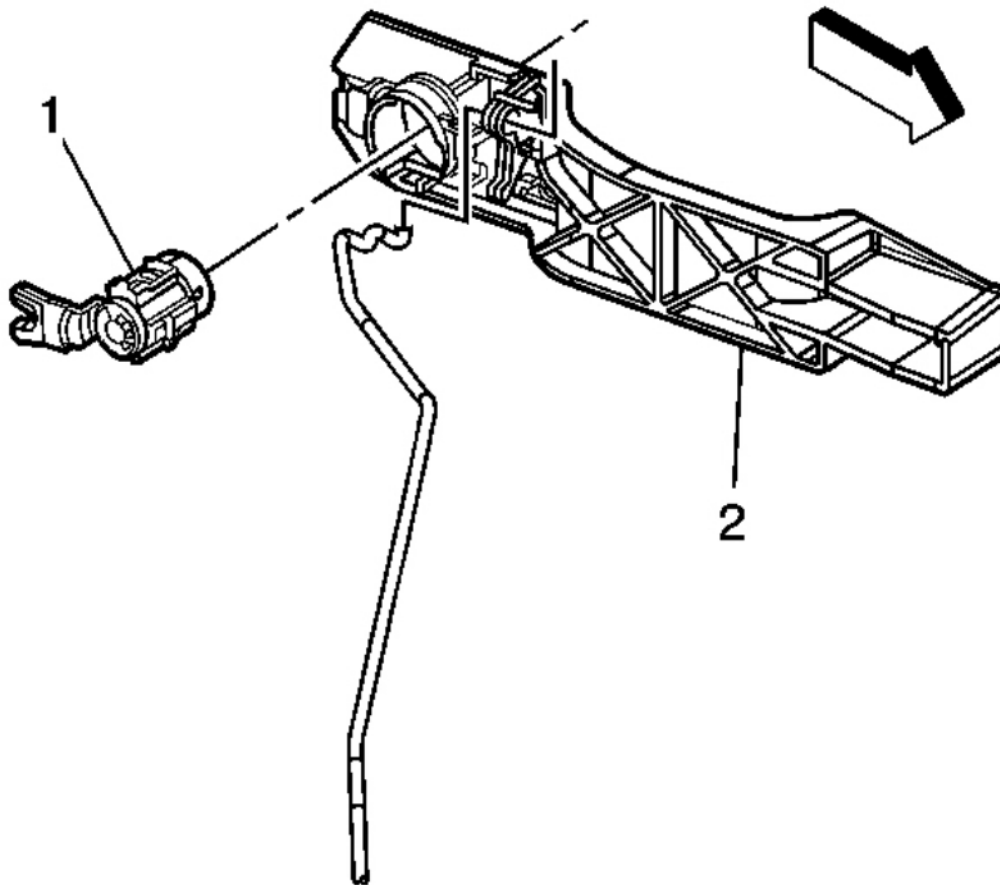


Fig. 114: View Of Lock Cylinder Retainer Clip & Outside Door Handle Housing
Courtesy of GENERAL MOTORS CORP.

3. Install the front door outside door handle. Refer to **Door Handle Replacement - Front Outside**.

LATCH REPLACEMENT - FRONT DOOR

Removal Procedure

1. Raise the window to the full up position.
2. Remove the door trim panel. Refer to **Trim Panel Replacement - Side Front Door**.
3. Remove the water deflector. Refer to **Water Deflector Replacement - Front Door**.

4. Disconnect the lock cylinder rod from the door latch, if equipped.
5. Disconnect the outside door handle rod (1) from the door latch by opening the clip (2).

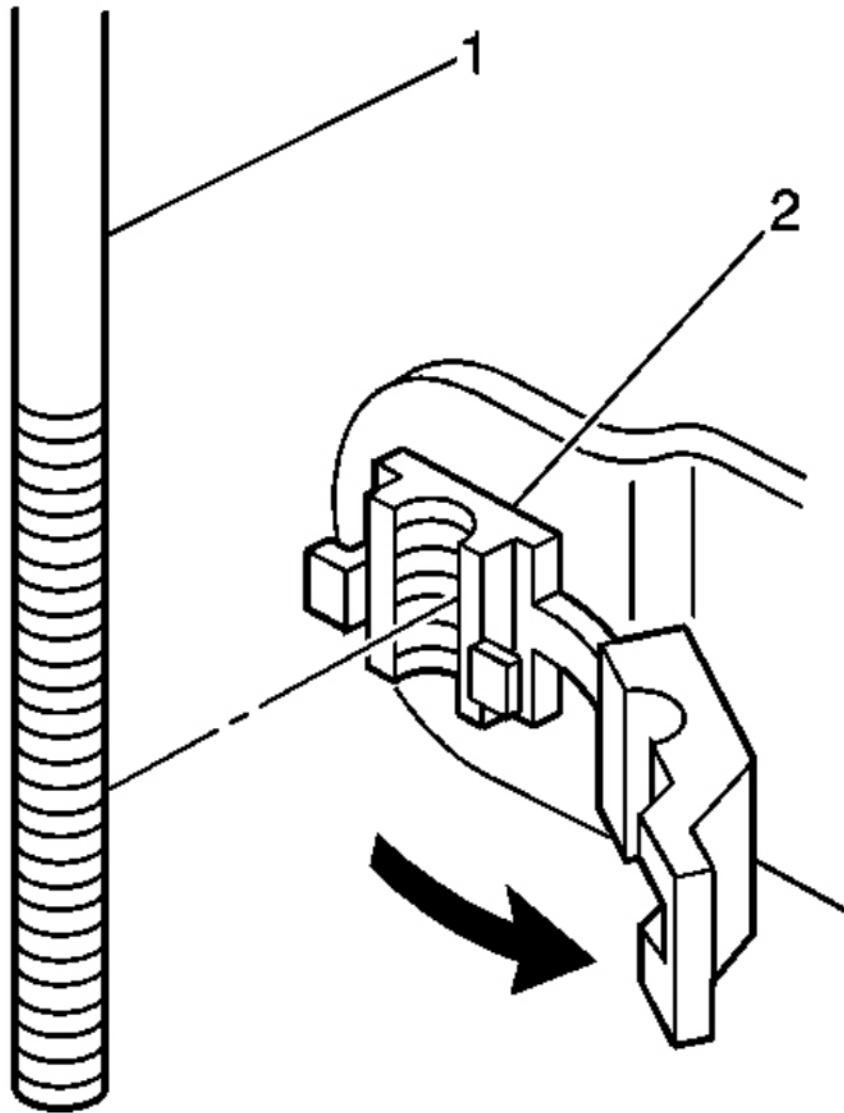


Fig. 115: Removing Rod Retainer Clip
Courtesy of GENERAL MOTORS CORP.

6. Remove the lock knob rod from the rod guide (2).
7. Remove the inside handle rod from the rod guide (1).
8. Remove the door latch screws (3).

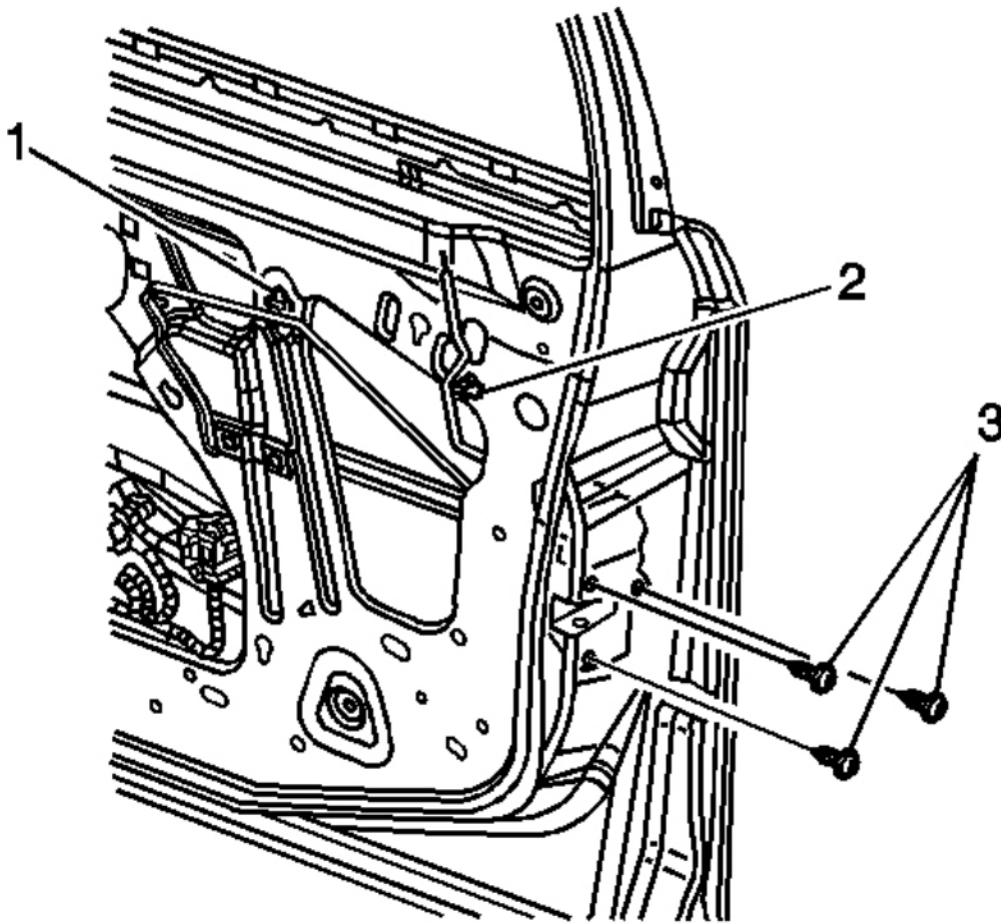


Fig. 116: View Of Rod Guide, Lock Knob Rod, & Door Latch Screws
Courtesy of GENERAL MOTORS CORP.

9. Remove the door latch from the door with the inside door handle rod and lock rod attached.
10. Use a small flat-bladed tool to lift the electrical connector lock (2) and disconnect the electrical connector.

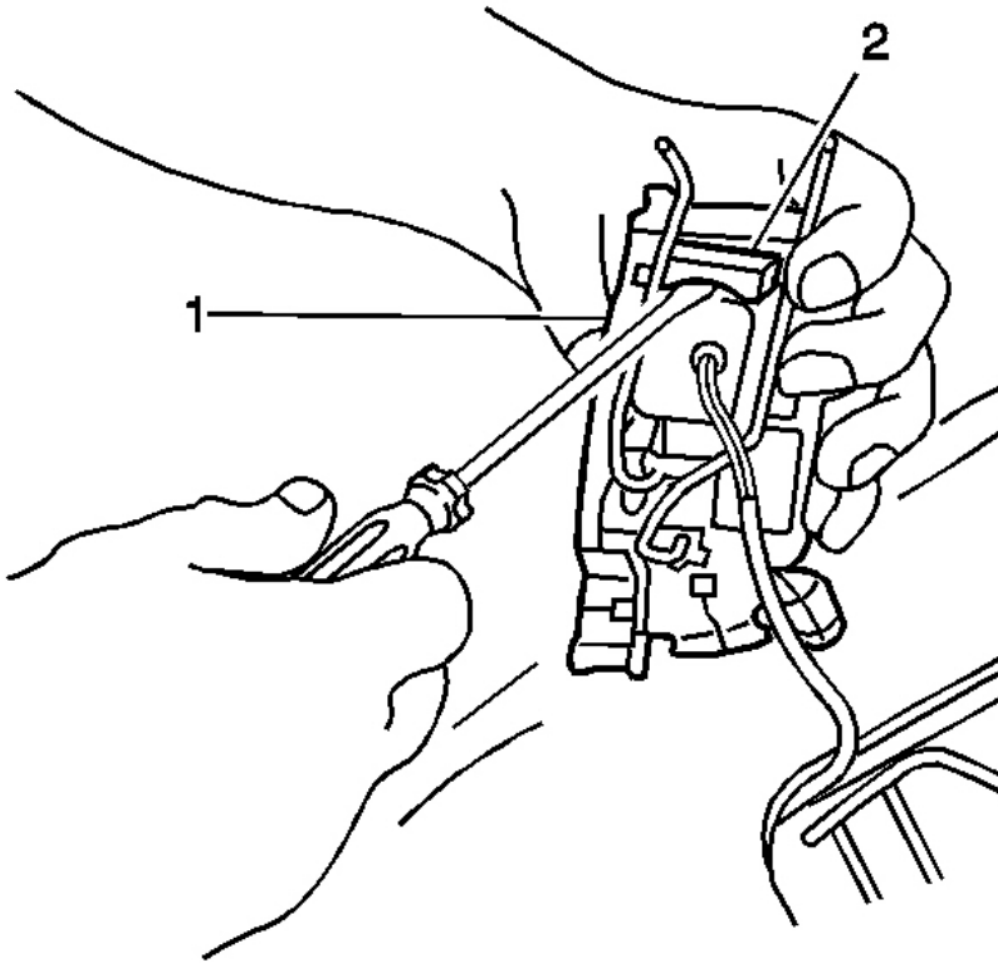


Fig. 117: Disconnecting Front Door Latch Electrical Connector
Courtesy of GENERAL MOTORS CORP.

11. Remove the handle rod and lock rod from the door latch.

Installation Procedure

1. Install the inside door handle rod and lock rod to the door latch.
2. Install the electrical connector.
3. Install the door latch into the door.
4. Install the lock cylinder rod to the door latch.

NOTE: Refer to Fastener Notice in Cautions and Notices.

5. Install the door latch screws (3).

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

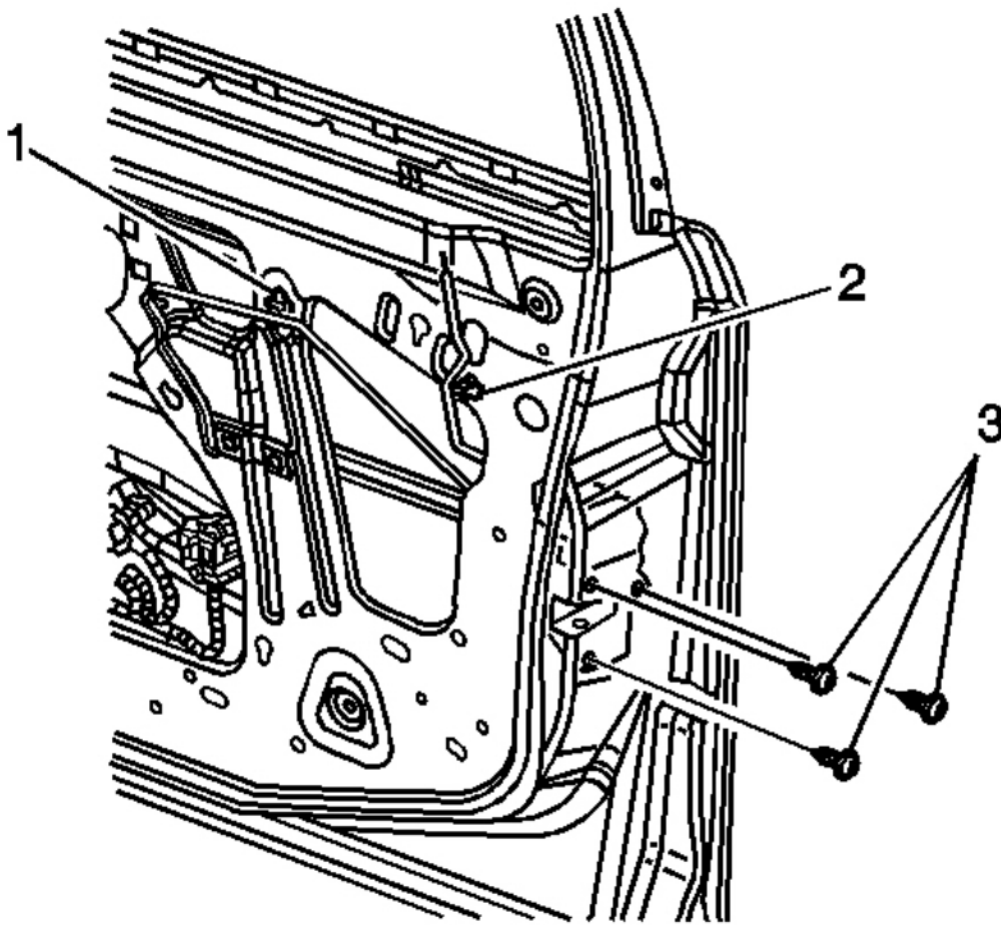


Fig. 118: View Of Rod Guide, Lock Knob Rod, & Door Latch Screws
Courtesy of GENERAL MOTORS CORP.

6. Install the outside door handle rod (1) into the latch clip (2).

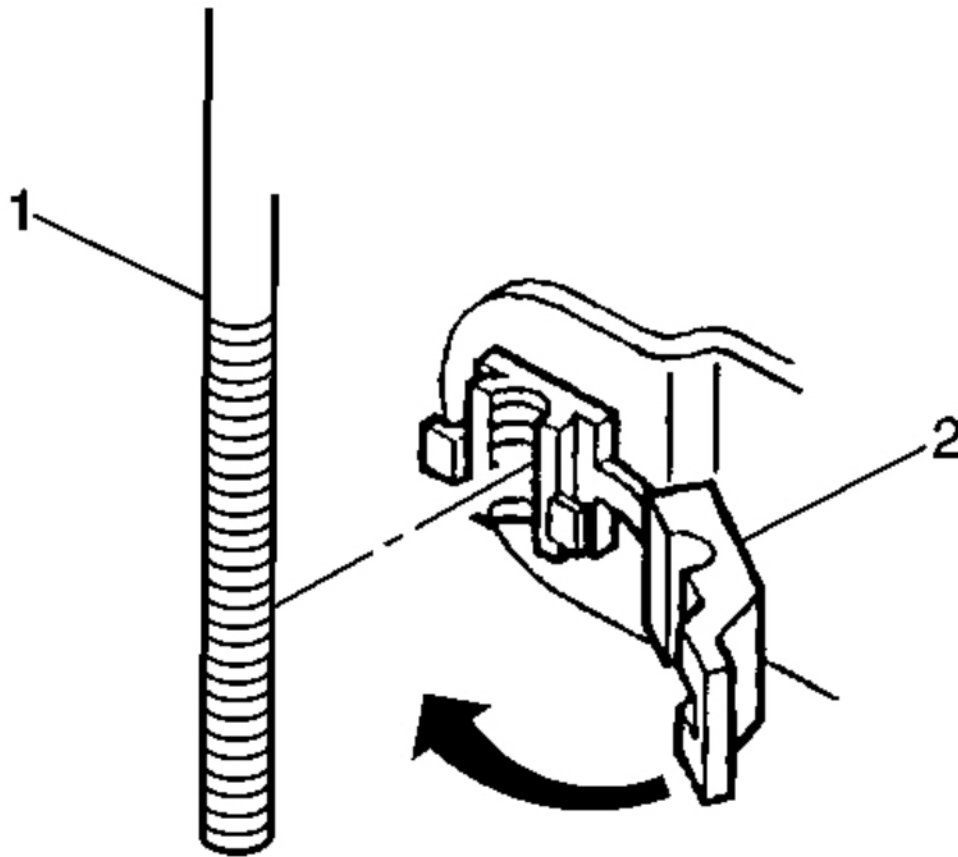


Fig. 119: Installing Rod Retainer Clip
Courtesy of GENERAL MOTORS CORP.

7. Close the clip.
8. Install the lock knob rod into the rod guide (2).
9. Install the inside handle rod into the rod guide (1).

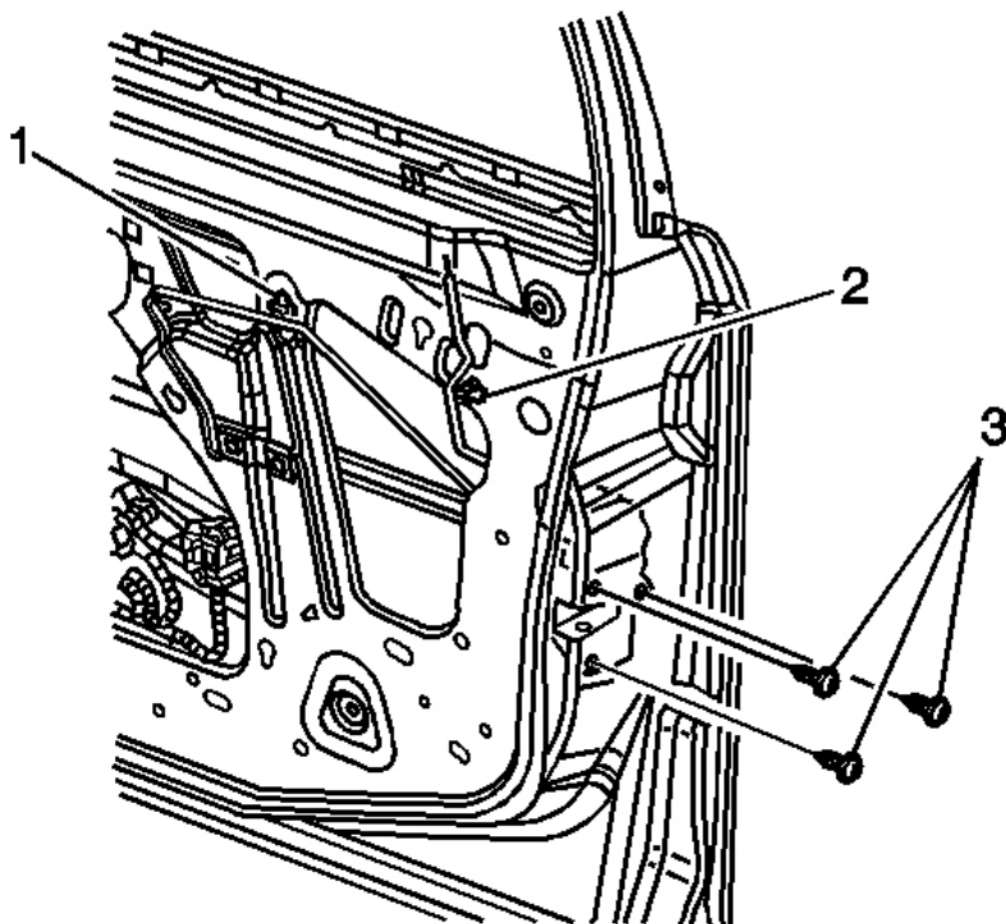


Fig. 120: View Of Rod Guide, Lock Knob Rod, & Door Latch Screws
Courtesy of GENERAL MOTORS CORP.

10. Inspect for the proper operation of the door handles, lock cylinder, and door latch.
11. Install the water deflector. Refer to **Water Deflector Replacement - Front Door**.
12. Install the door trim panel. Refer to **Trim Panel Replacement - Side Front Door**.

LATCH REPLACEMENT - REAR DOOR

Removal Procedure

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

2. Remove the door module. Refer to **Door Control Module Replacement**.
3. Remove the inside door handle. Refer to **Door Handle Replacement - Rear Inside**.
4. Remove the water deflector. Refer to **Water Deflector Replacement - Rear Door**.
5. Disconnect the outside door handle rod (1) from the door latch by opening the clip (2) on the door latch.

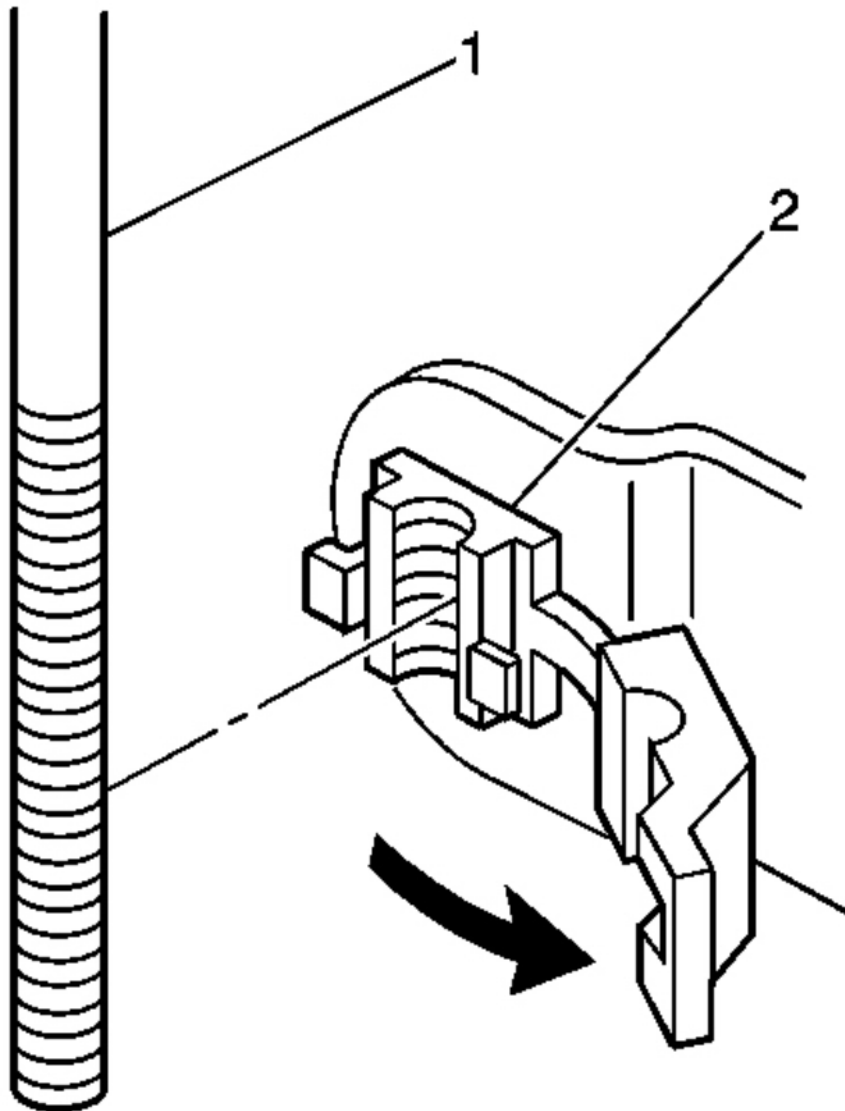


Fig. 121: Removing Rod Retainer Clip
Courtesy of GENERAL MOTORS CORP.

6. Disengage the inside handle rod (2) from the rod guide (3).
7. Push the inside lock rod grommet through the opening.
8. Remove the door latch screws (1).

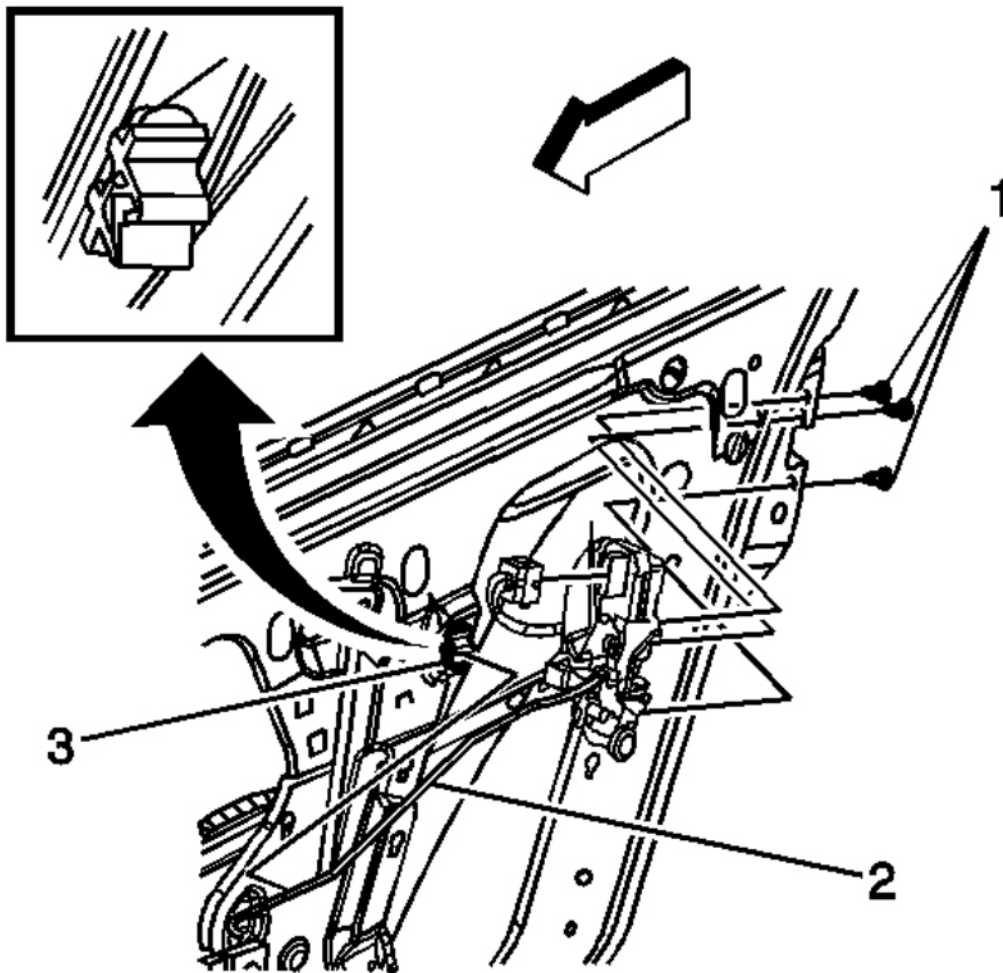


Fig. 122: View Of Door Latch Screws, Inside Handle Rod & Rod Guide
Courtesy of GENERAL MOTORS CORP.

9. Remove the door latch with the inside door handle rod and lock rod attached.

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10. Disconnect the electrical connector.
11. Remove the handle rod and lock rod from the door latch.

Installation Procedure

1. Install the inside door handle rod and lock rod to the door latch.
2. Connect the electrical connector.
3. Install the door latch into the door.

NOTE: Refer to Fastener Notice in Cautions and Notices.

4. Install the door latch screws (1).

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

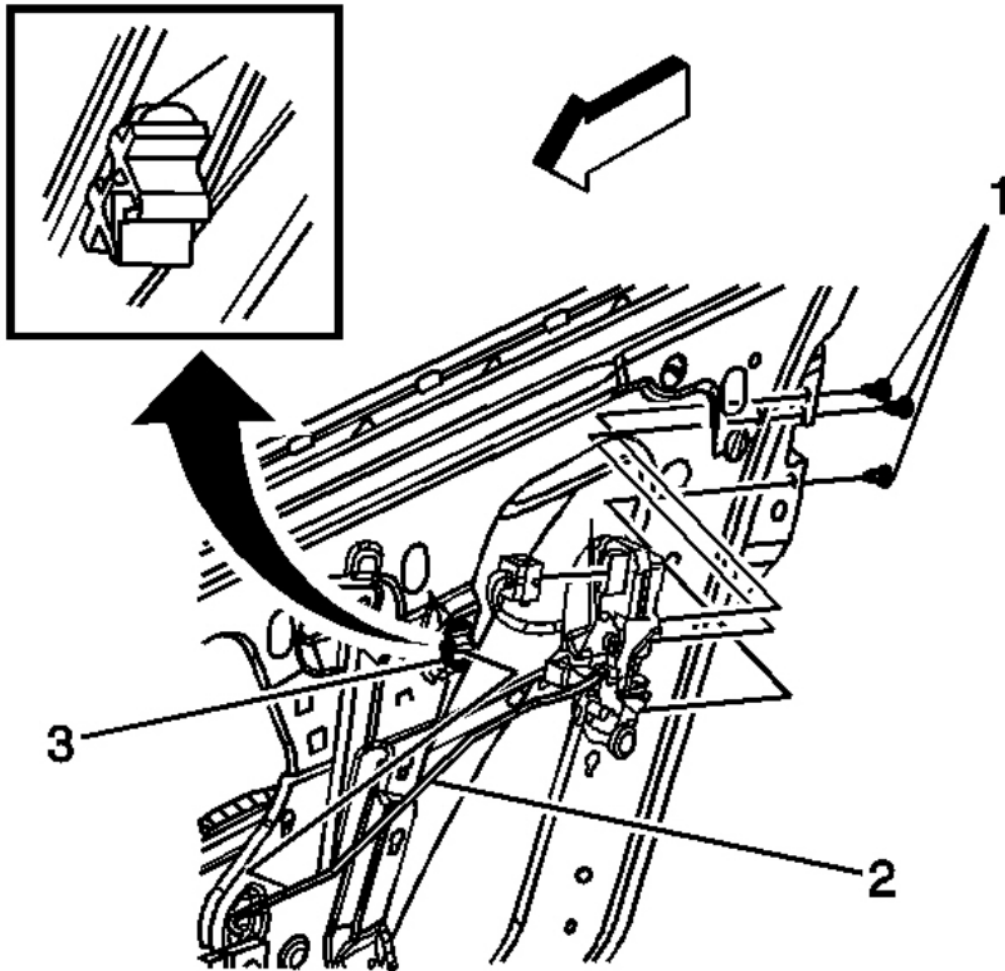


Fig. 123: View Of Door Latch Screws, Inside Handle Rod & Rod Guide
Courtesy of GENERAL MOTORS CORP.

5. Connect the outside door handle rod to the door latch.
 1. Insert the rod (1) into the clip (2) on the door latch assembly.
 2. Close the clip.
6. Inspect for proper operation of the outside door handle.
7. Install the inside handle rod (2) to the rod guide (3).

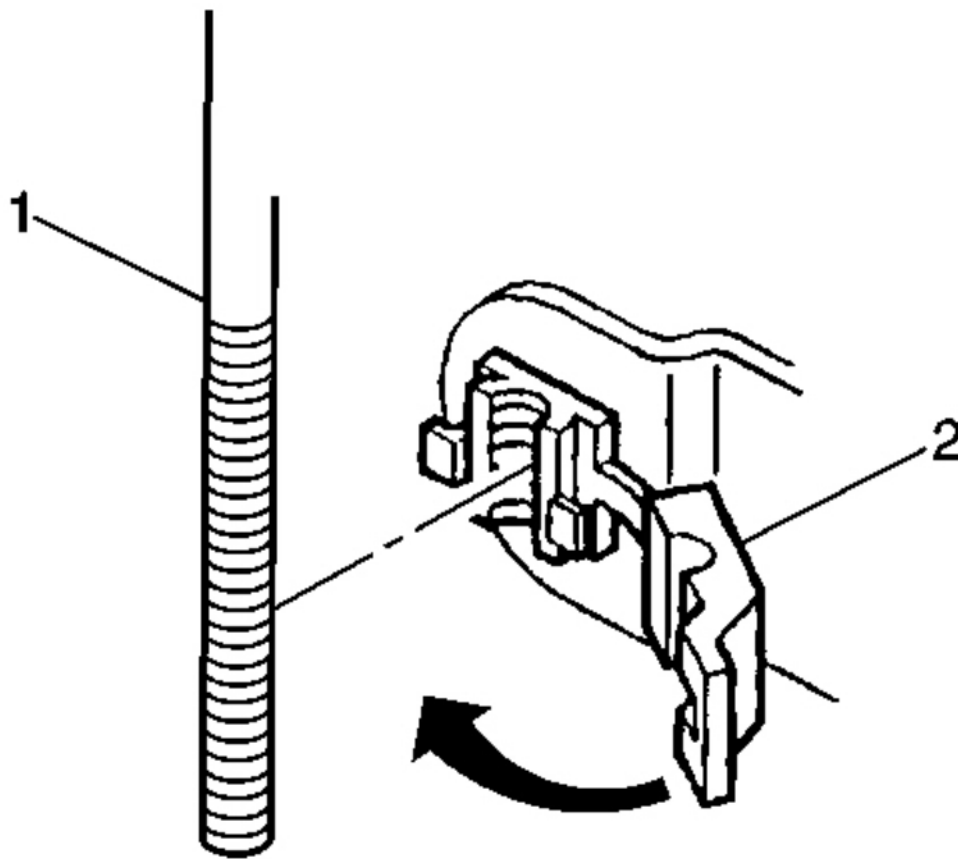


Fig. 124: Installing Rod Retainer Clip
Courtesy of GENERAL MOTORS CORP.

8. Install the water deflector. Refer to Water Deflector Replacement - Rear Door.
9. Install the inside door handle. Refer to Door Handle Replacement - Rear Inside.
10. Install the door module. Refer to Door Control Module Replacement.
11. Install the door trim panel. Refer to Trim Panel Replacement - Side Rear Door.

STRIKER REPLACEMENT - DOOR

Removal Procedure

IMPORTANT: Observe the striker location before removing the striker screws.

1. Remove the door striker screws.
2. Remove the striker.

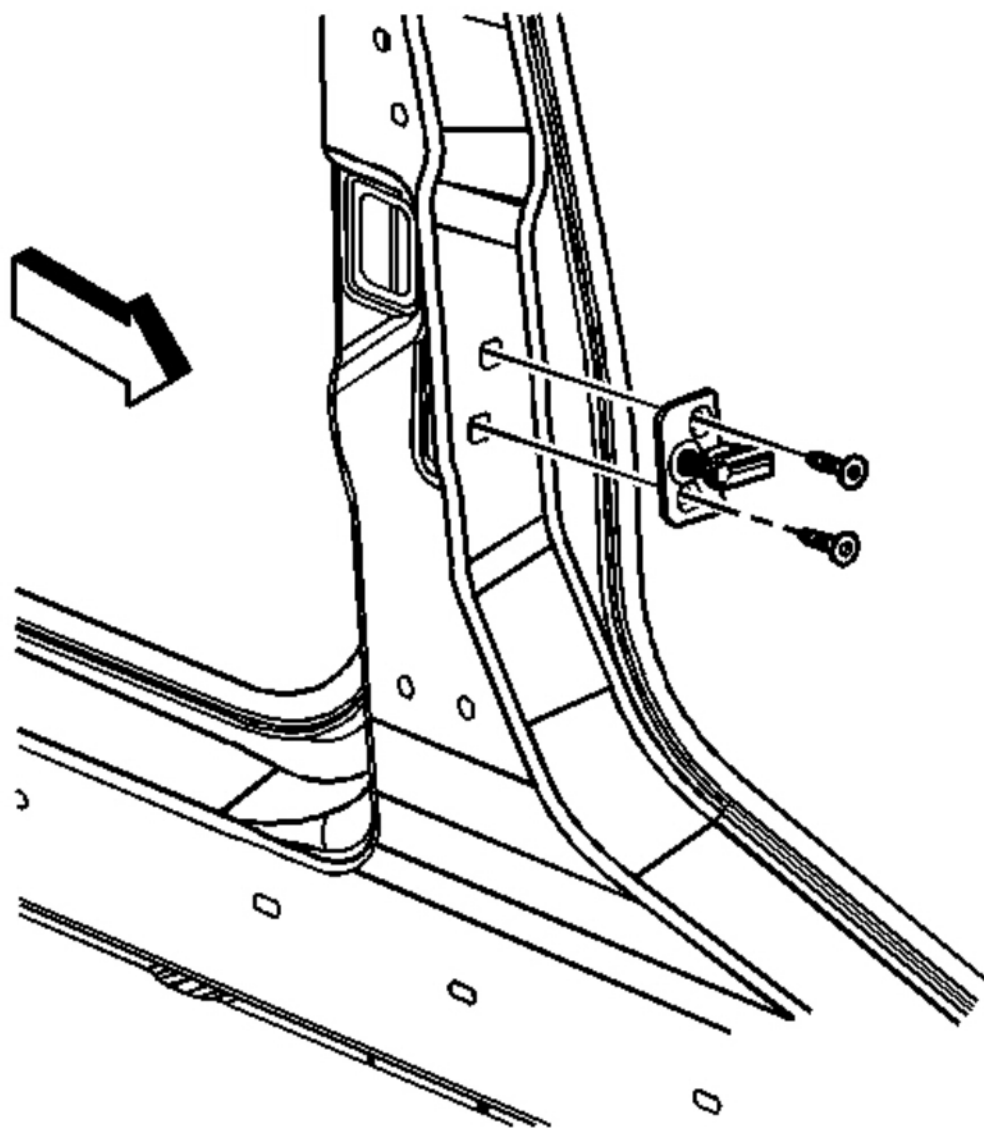


Fig. 125: View Of Door Striker
Courtesy of GENERAL MOTORS CORP.

Installation Procedure

1. Assemble the striker. Position the striker on the lock pillar with the narrow part of the striker facing outwards.
2. Secure the striker screws.
3. Align the door striker. Refer to **Lock Striker Adjustment - Door**.

NOTE: Refer to Fastener Notice in Cautions and Notices.

4. Tighten the striker screws.

Tighten: Tighten the striker screws to 27.5 N.m (20 lb ft).

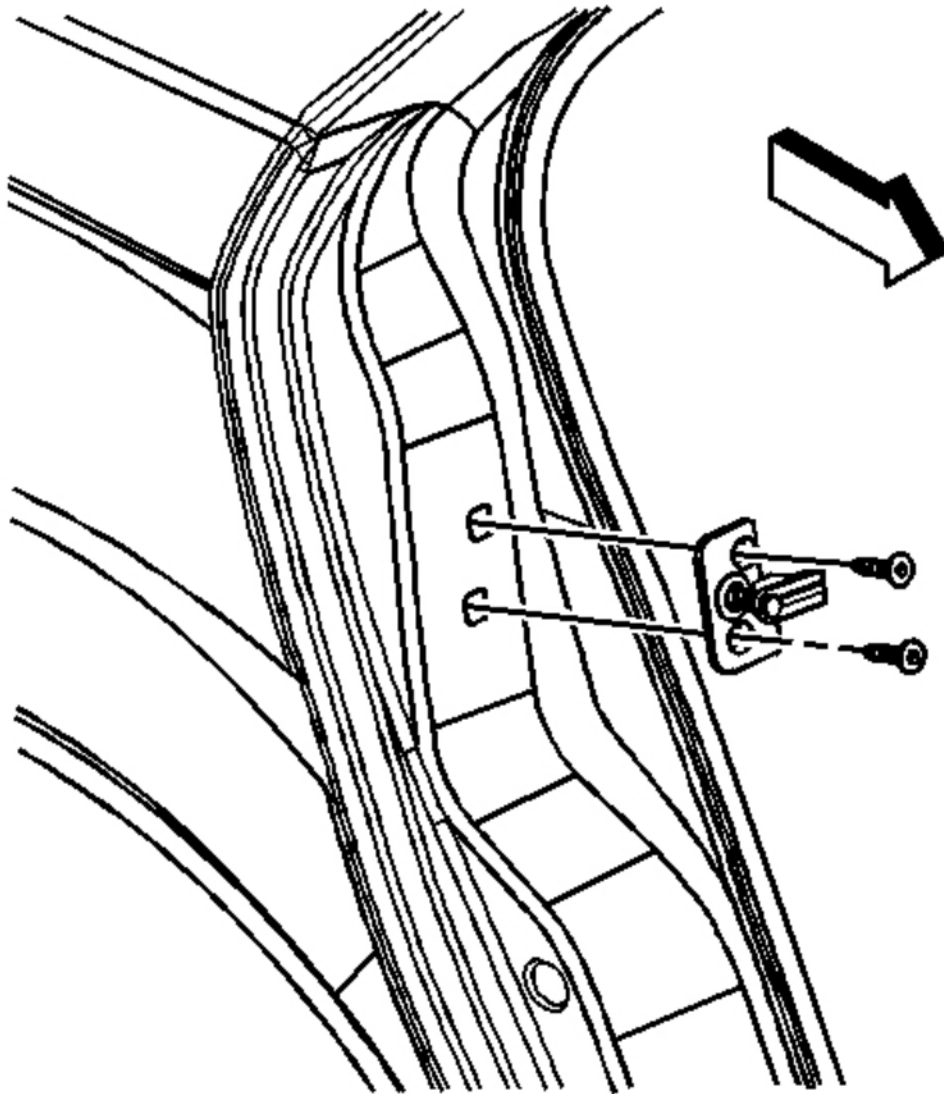


Fig. 126: Identifying Striker

Courtesy of GENERAL MOTORS CORP.

LOCK STRIKER ADJUSTMENT - DOOR

CAUTION: Striker alignment is crucial for proper operation of the door systems. Do not hit the striker with a hammer or force

alignment in any other way. Failure to properly adjust striker will result in excessive door efforts or extensive damage to door system operation which could result in personal injury.

1. Loosen the 2 striker screws.
2. Pull the striker outboard to the end of the adjustment travel.
3. Tighten the 2 striker screws so that the striker can still be moved.
4. Hold the outside door handle out and gently push the door flush against the body in order to locate the striker.
5. Slowly open the door.

NOTE: Refer to Fastener Notice in Cautions and Notices.

6. Secure the striker assembly.

Tighten: Tighten the striker screws to 27.5 N.m (20 lb ft).

7. After adjusting the striker, touch up any exposed or unpainted surfaces with body color paint.

WIRING HARNESS REPLACEMENT - FRONT DOOR

Removal Procedure

1. Remove the door trim panel. Refer to Trim Panel Replacement - Side Front Door.
2. Remove the door control module. Refer to Door Control Module Replacement.
3. Remove the water deflector. Refer to Water Deflector Replacement - Front Door.
4. Remove the door wire harness connector from the pillar by inserting a small flat bladed tool between the connector and the pillar and depress the retaining tabs on the connector.
5. Disconnect the door wire harness from the body wire harness.
6. Disconnect the door latch electrical connector.
7. Disconnect the power window motor electrical connector.
8. Disconnect the wiring harness rosebud retainers (1) from the inner front door panel.
9. Push the wiring harness rubber grommet (2) into the door.
10. Remove the grommet (3) from the door inner panel.
11. Remove the wiring harness from the door.

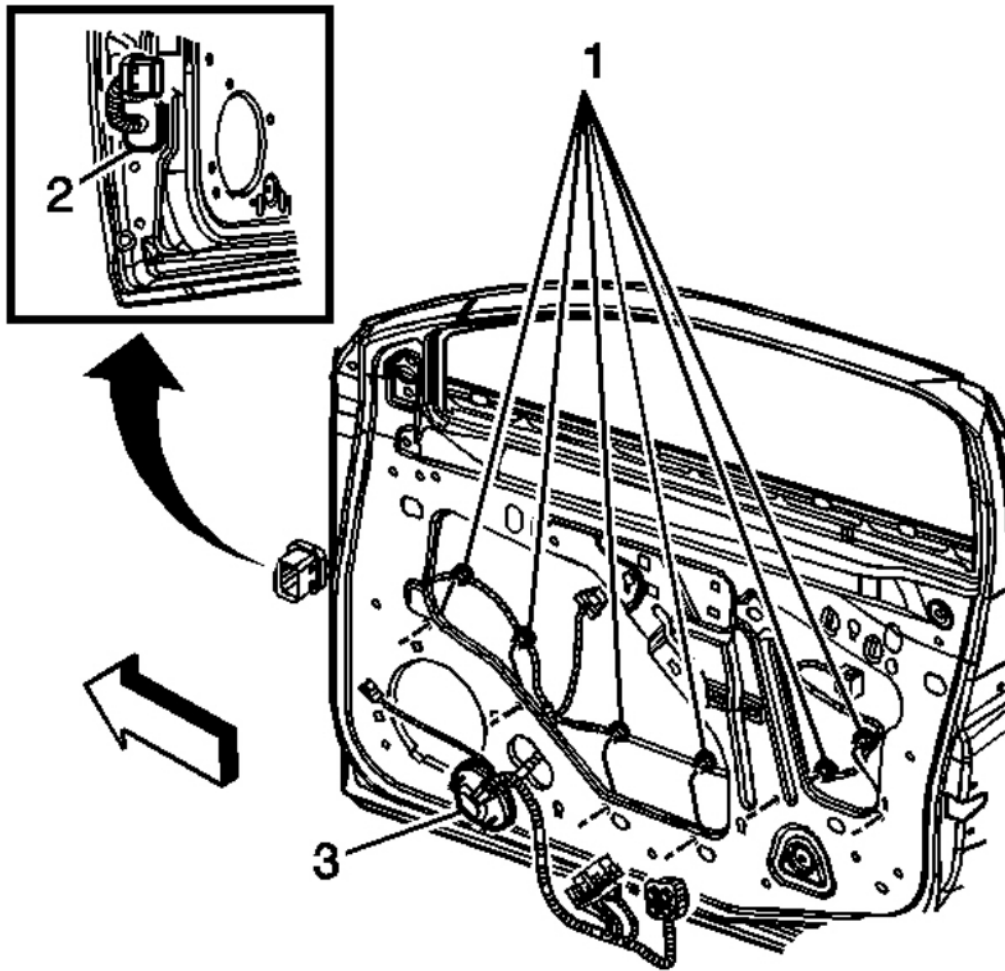


Fig. 127: Locating Front Door Wiring Harness
Courtesy of GENERAL MOTORS CORP.

Installation Procedure

1. Install the front door wiring harness into the door.
2. Connect the wiring harness rosebud retainers to the inner door panel.
3. Install the grommet (2) to the door panel.
4. Feed the trim panel and door control module connectors through the inner door panel.
5. Install the grommet (3) to the inner door panel.

6. Connect the door latch electrical connector.
7. Connect the power window motor electrical connector.
8. Connect the door wire harness connector to the body wire harness connector.
9. Install the door wire harness connector to the hinge pillar.

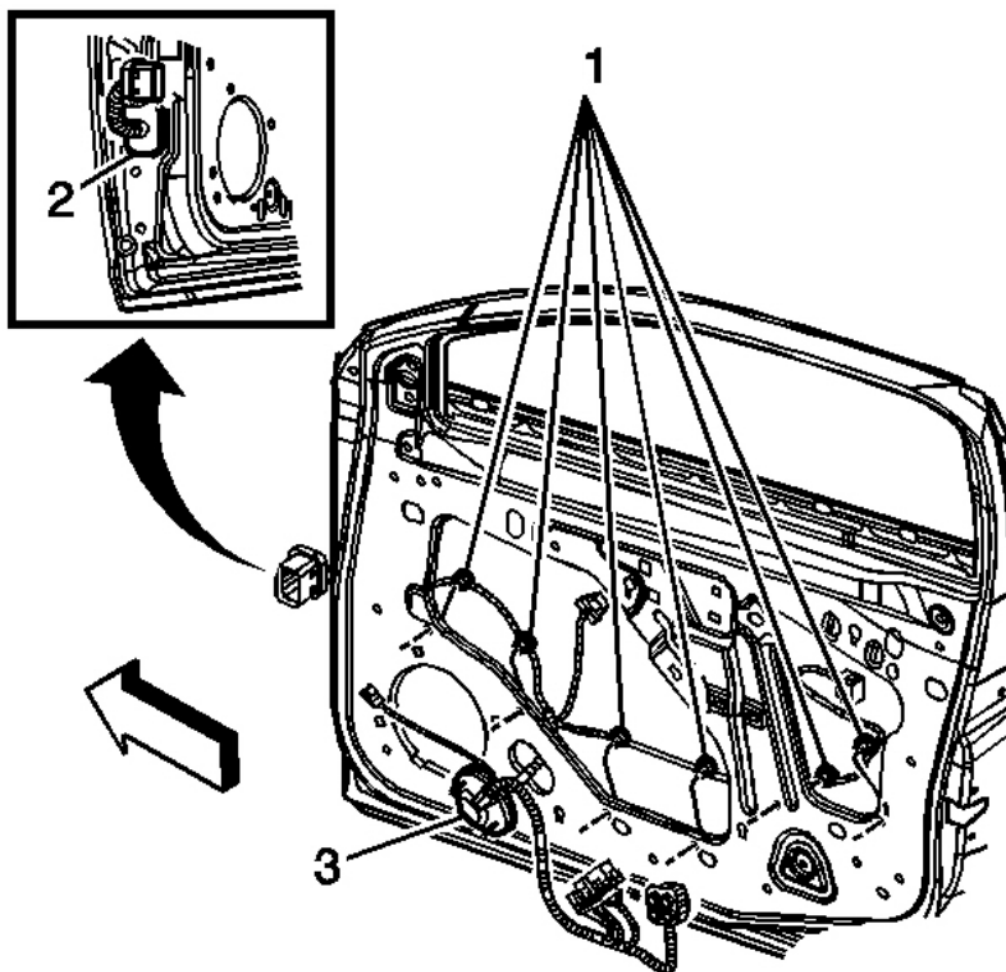


Fig. 128: Locating Front Door Wiring Harness
Courtesy of GENERAL MOTORS CORP.

10. Install the water deflector. Refer to **Water Deflector Replacement - Front Door.**
11. Install the door control module. Refer to **Door Control Module Replacement.**

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

WIRING HARNESS REPLACEMENT - REAR DOOR

Removal Procedure

1. Remove the door trim panel. Refer to **Trim Panel Replacement - Side Rear Door**.
2. Remove the door control module. Refer to **Door Control Module Replacement**.
3. Remove the water deflector. Refer to **Water Deflector Replacement - Rear Door**.
4. Disconnect the power window motor electrical connector.
5. Disconnect the door latch electrical connector.
6. Remove the door wire harness connector from the pillar by inserting a small flat bladed tool between the connector and the pillar and depress the retaining tabs on the connector.
7. Disconnect the door wire harness from the body wire harness.
8. Push the wire harness grommet (2) and connector into the door cavity.
9. Push the grommet (3) into the door cavity.
10. Disconnect the rosebud retainers (1) securing the wire harness to the door.
11. Remove the wire harness from the door.

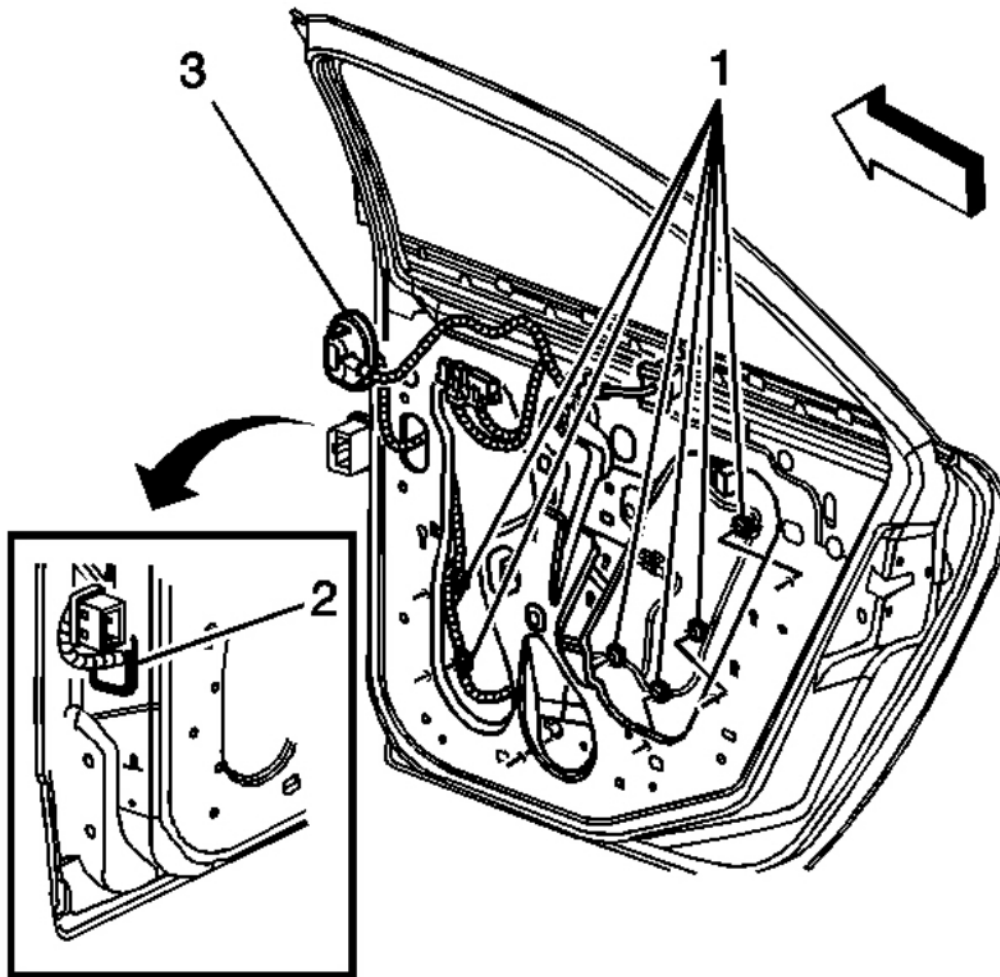


Fig. 129: Locating Rear Door Wiring Harness
Courtesy of GENERAL MOTORS CORP.

Installation Procedure

1. Insert the door wire harness into the door cavity.
2. Feed the wire harness and grommet (3) through the opening in the door.
3. Install the grommet (3) to the door.
4. Connect the rosebud retainers (1) to secure the wire harness to the door.
5. Connect the door latch electrical connector.

6. Connect the power window motor electrical connector.
7. Feed the door wire harness connector through the opening in the front of the door.
8. Install the grommet (2) to the door.
9. Connect the door wire harness connector to the body wire harness connector.
10. Install the door wire harness connector to the hinge pillar.

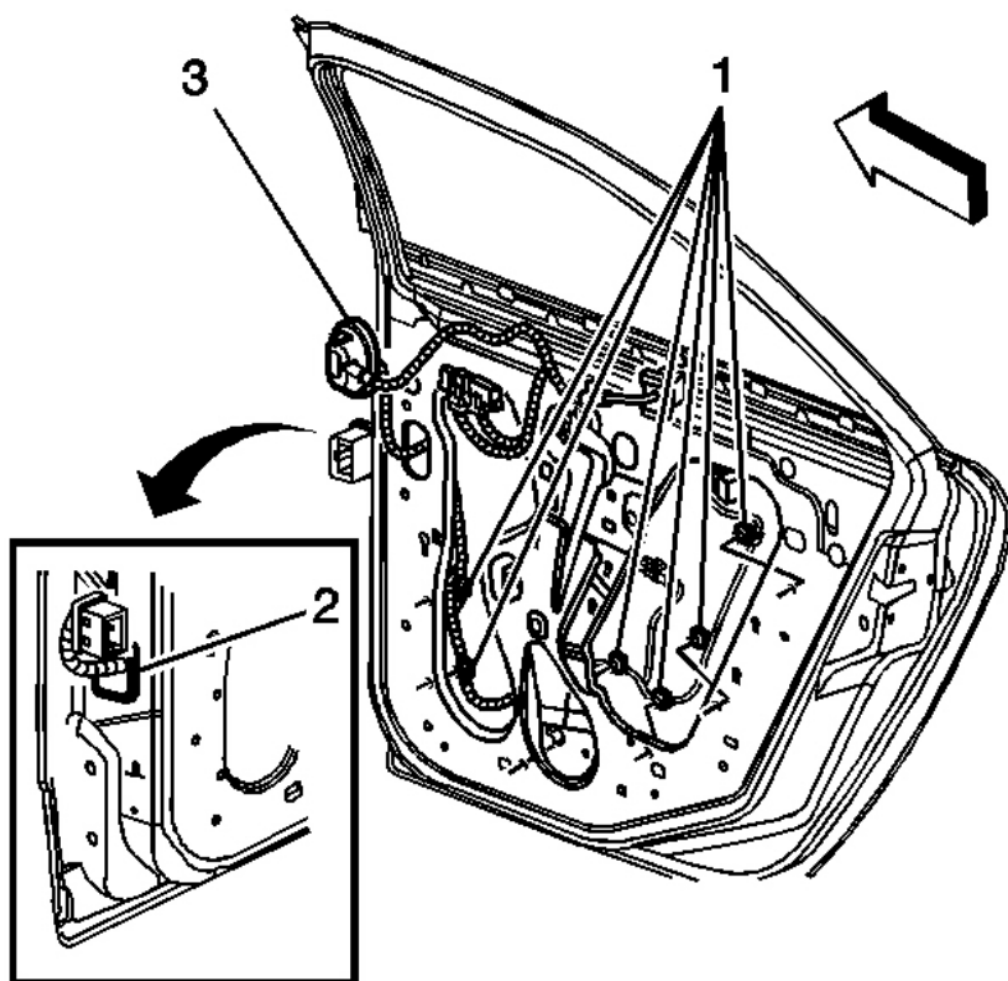


Fig. 130: Locating Rear Door Wiring Harness
Courtesy of GENERAL MOTORS CORP.

11. Install the water deflector. Refer to **Water Deflector Replacement - Rear Door**.

12. Install the door control module. Refer to **Door Control Module Replacement**.
13. Install the door trim panel. Refer to **Trim Panel Replacement - Side Rear Door**.

WINDOW ADJUSTMENT - DOOR

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

CAUTION: Refer to Express Window Down Caution in Cautions and Notices.

1. Remove the door trim panel. Refer to **Trim Panel Replacement - Side Front Door** or **Trim Panel Replacement - Side Rear Door**.
2. Pull down the upper portion of the water deflector far enough to access the window clamp nuts. Refer to **Water Deflector Replacement - Front Door** or **Water Deflector Replacement - Rear Door**.
3. Loosen the window regulator to window clamp nuts 4 revolutions.

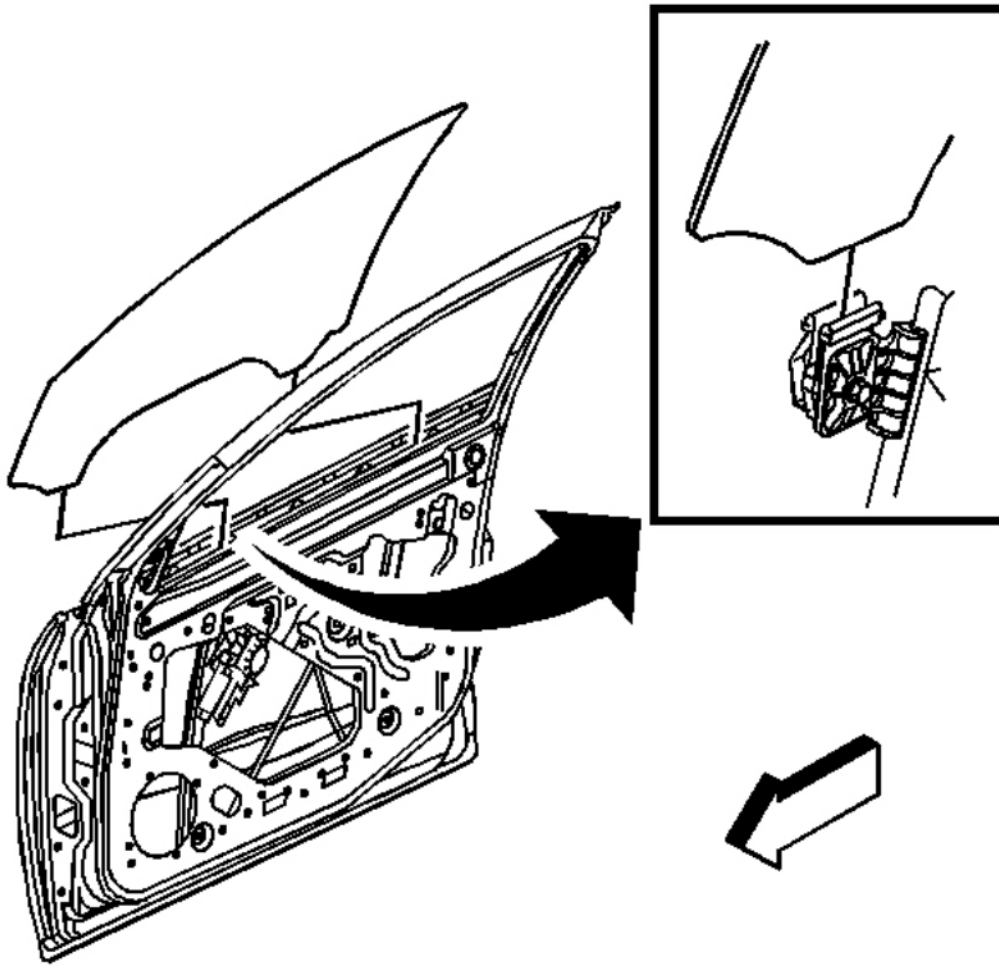


Fig. 131: View Of Front Window Regulator Clamp
Courtesy of GENERAL MOTORS CORP.

4. Connect the door trim panel wire connector.

IMPORTANT: Start the vehicle to ensure maximum power to the window motor. This is required in order to fully seat the window for adjustment.

5. Start the vehicle.

NOTE: Refer to Fastener Notice in Cautions and Notices.

6. Using the power window switch, raise the window to the full up position.

Tighten: Tighten the window clamp nuts to 11 N.m (98 lb in).

7. Inspect for proper window operation and a tight seal.
8. Shut off the vehicle.
9. Install the water deflector. Refer to Water Deflector Replacement - Front Door or Water Deflector Replacement - Rear Door.
10. Install the door trim panel. Refer to Trim Panel Replacement - Side Front Door or Trim Panel Replacement - Side Rear Door.

WINDOW MOTOR PROGRAMMING - EXPRESS FUNCTION

If the battery on your vehicle has been disconnected, you will need to program each side door window regulator motor in order for the express-UP or express-DOWN feature to operate properly. Keep in mind that if something is obstructing the window from closing or opening and you continue programming, the window will only express-UP or express-DOWN to the spot where the obstruction occurred. You will need to reprogram the side door window regulator motor.

The following steps explain how to program the side door window regulator motors:

1. Press and hold the power window switch until the window is fully DOWN.
2. Continue holding the power window switch for approximately 3 seconds.
3. Press and hold the power window switch until the window is fully UP.
4. Continue holding the power window switch for approximately 3 seconds.
5. The power window regulator motor is now programmed for the express function.
6. Repeat this process for all of the power windows.

WINDOW REGULATOR REPLACEMENT - FRONT DOOR

Removal Procedure

1. Raise the window to the full up position.
2. Remove the door trim panel. Refer to Trim Panel Replacement - Side Front Door.
3. Remove the water deflector. Refer to Water Deflector Replacement - Front Door.

4. Raise and support the window in the full up position.
5. Through the access holes in the inner door panel, loosen the window clamp nuts 4 revolutions.
6. Connect the door trim panel wiring harness.
7. Lower the window regulator 3/4 of the way down.
8. Disconnect the electrical connector from the window regulator motor.
9. Remove the window regulator bolts (1, 2, 3, 4, 5).
10. Remove the window regulator from the door.

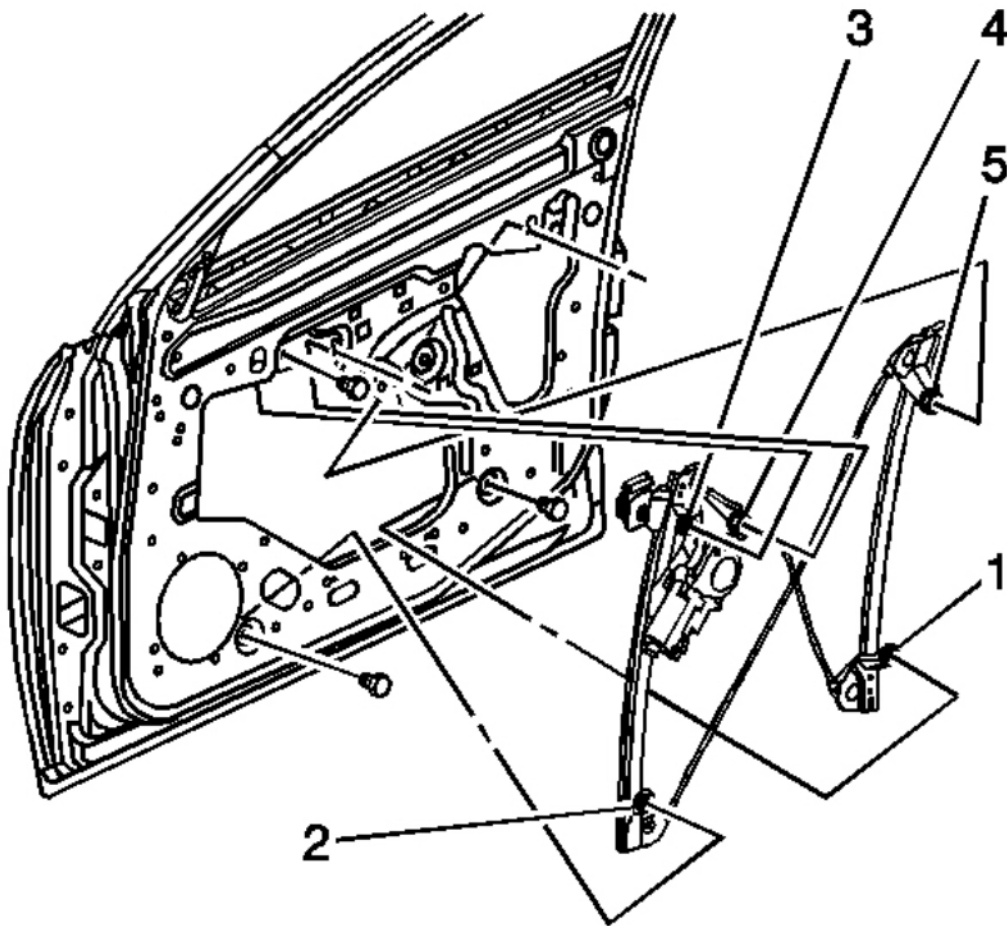


Fig. 132: View Of Front Door Window Regulator

Courtesy of GENERAL MOTORS CORP.

Installation Procedure

1. Install the window regulator into the door.

NOTE: Refer to Fastener Notice in Cautions and Notices.

2. Install the window regulator bolts (1, 2, 3, 4, 5).

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

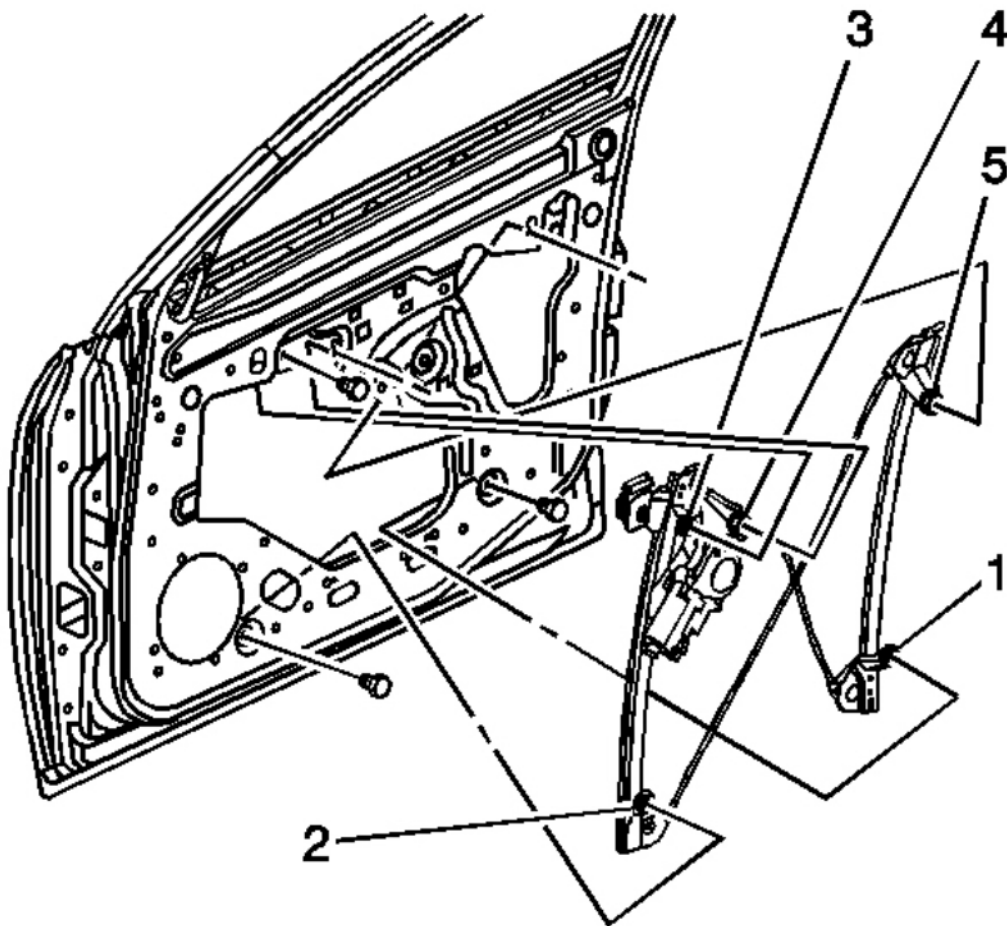


Fig. 133: View Of Front Door Window Regulator

Courtesy of GENERAL MOTORS CORP.

3. Remove the support from the window.
4. Lower the window into the window regulator clamps.

The window must be fully rearward into the window channel when it is seated in the window clamps.

5. Connect the power window motor electrical connector.

IMPORTANT: Start the vehicle to ensure maximum power to the window motor. This is required to fully seat the window for adjustment.

6. Start the vehicle.
7. Raise the window to the full up position.

Tighten: Tighten the window clamp nuts to 11 N.m (95 lb in).

8. Inspect the window for proper operation and fit.
9. Shut off the vehicle.
10. Install the water deflector. Refer to **Water Deflector Replacement - Front Door.**
11. Install the door trim panel. Refer to **Trim Panel Replacement - Side Front Door.**

WINDOW REGULATOR REPLACEMENT - REAR DOOR**Removal Procedure**

1. Raise the window to the full up position.
2. Remove the door trim panel. Refer to **Trim Panel Replacement - Side Rear Door.**
3. Remove the water deflector. Refer to **Water Deflector Replacement - Rear Door.**
4. Tape the window in the full up position.
5. Connect the door trim panel wire harness connector.
6. Loosen the window regulator to window clamp nuts 4 revolutions.
7. Using the power window switch, lower the window regulator about 1/2 way down.
8. Disconnect the electrical connector from the power window motor.
9. Remove the window regulator bolts (1, 2, 3, 4, 5).
10. Remove the window regulator through the rear access hole in the door panel.

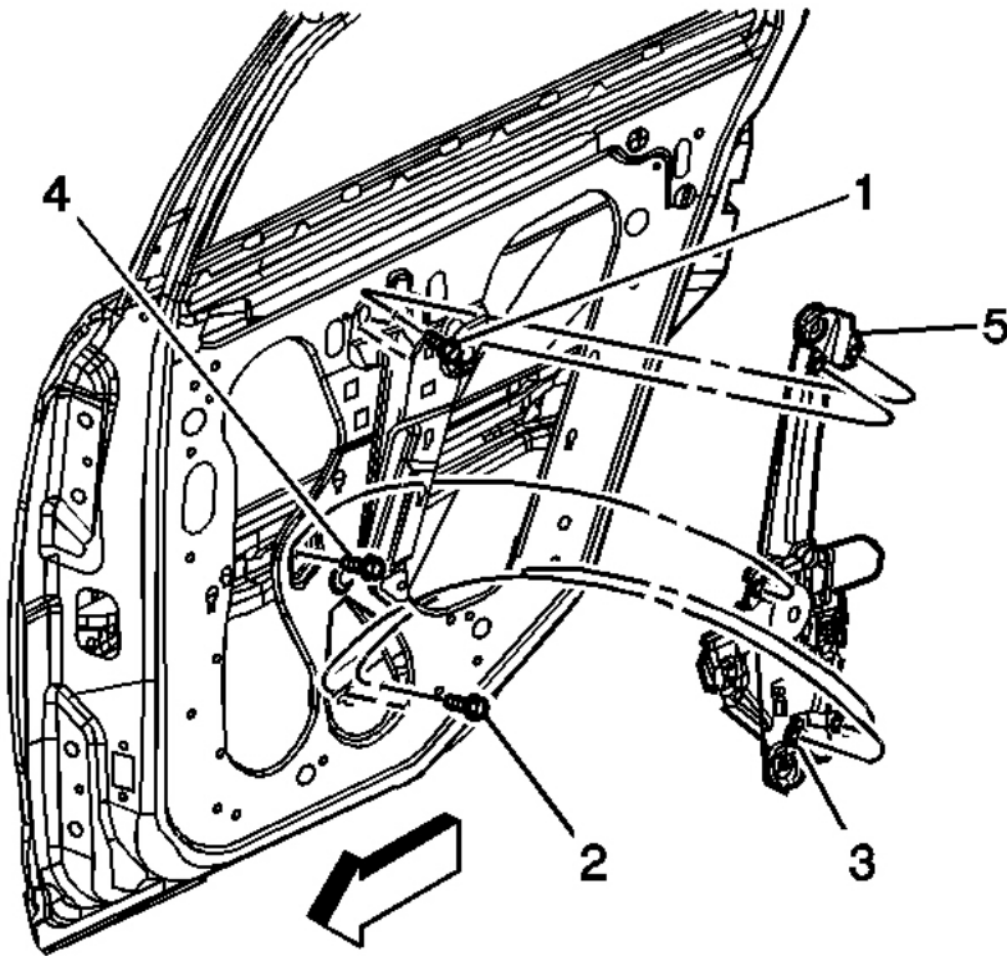


Fig. 134: View Of Rear Door Window Regulator
Courtesy of GENERAL MOTORS CORP.

Installation Procedure

1. Install the window regulator into the door through the rear access hole in the door panel.

NOTE: Refer to Fastener Notice in Cautions and Notices.

2. Install the window regulator bolts.

Tighten:

1. Tighten the bolt (1) to 9 N.m (80 lb in).
2. Tighten the bolt (2) to 9 N.m (80 lb in).
3. Tighten the bolt (3) to 9 N.m (80 lb in).
4. Tighten the bolt (4) to 9 N.m (80 lb in).
5. Tighten the bolt (5) to 9 N.m (80 lb in).

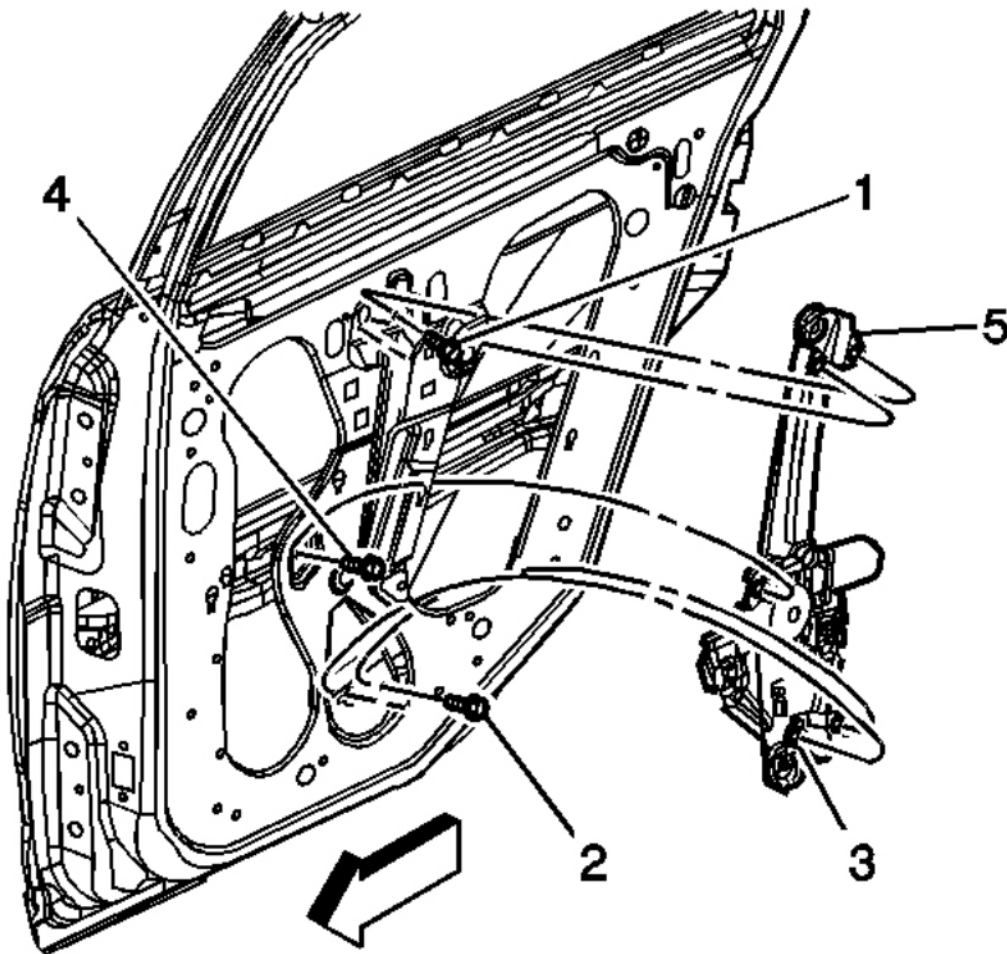


Fig. 135: View Of Rear Door Window Regulator
Courtesy of GENERAL MOTORS CORP.

3. Remove the tape from the window.

4. Lower the window into the window regulator clamps.
5. Connect the power window motor electrical connector.

IMPORTANT: Start the vehicle to ensure maximum power to the window motor. This is required to fully seat the window for adjustment.

6. Start the vehicle.
7. Raise the window to the full up position.

Tighten: Tighten the window clamp nuts to 11 N.m (95 lb in).

8. Inspect the window for proper operation and a tight seal.
9. Shut off the vehicle.
10. Install the water deflector. Refer to Water Deflector Replacement - Rear Door.
11. Install the door trim panel. Refer to Trim Panel Replacement - Side Rear Door.

WINDOW REGULATOR MOTOR REPLACEMENT - FRONT DOOR

1. The power window motor is serviced as an assembly with the window regulator.
2. Refer to Window Regulator Replacement - Front Door.

WINDOW REGULATOR MOTOR REPLACEMENT - REAR DOOR

1. The power window motor is serviced as an assembly with the window regulator.
2. Refer to Window Regulator Replacement - Rear Door.

WINDOW REPLACEMENT - FRONT DOOR

Removal Procedure

1. Run the window to the full closed position.

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

CAUTION: Refer to Express Window Down Caution in Cautions and Notices.

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2. Remove the door trim panel. Refer to **Trim Panel Replacement - Side Front Door**.
3. Remove the water deflector. Refer to **Water Deflector Replacement - Front Door**.
4. Remove the window inner belt sealing strip. Refer to **Sealing Strip Replacement - Front Door Window Belt Inner**.
5. Tape the window in the closed position.
6. Loosen the window clamp nuts 4 revolutions.
7. Connect the door trim panel electrical connector.
8. Using the power window switch, lower the window regulator to separate the window from the clamps.
9. Remove the tape.
10. Remove the window by tilting the window forward then pulling the window up and out of the door.

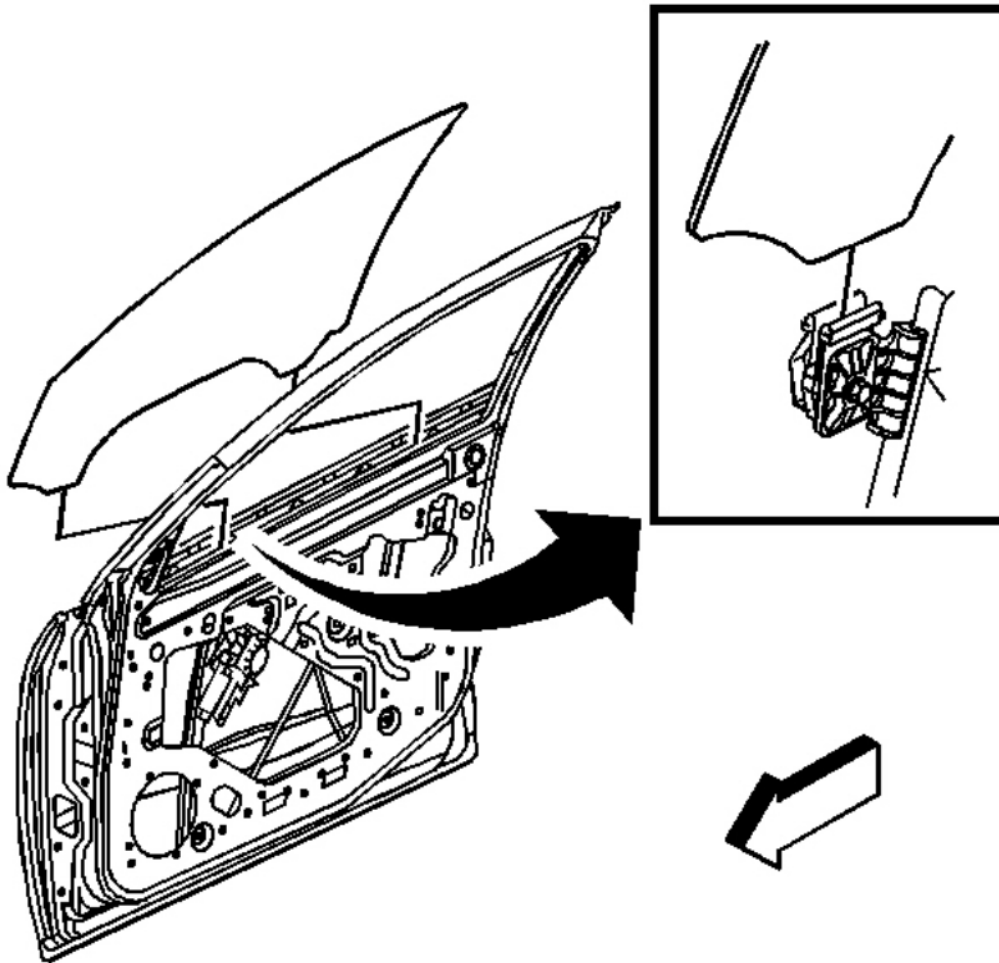


Fig. 136: View Of Front Window Regulator Clamp
Courtesy of GENERAL MOTORS CORP.

Installation Procedure

IMPORTANT: The window regulator should be at least 1/2 way down before installing the window.

1. Install the window down into the door.
2. Locate the window into the 2 window regulator clamps.

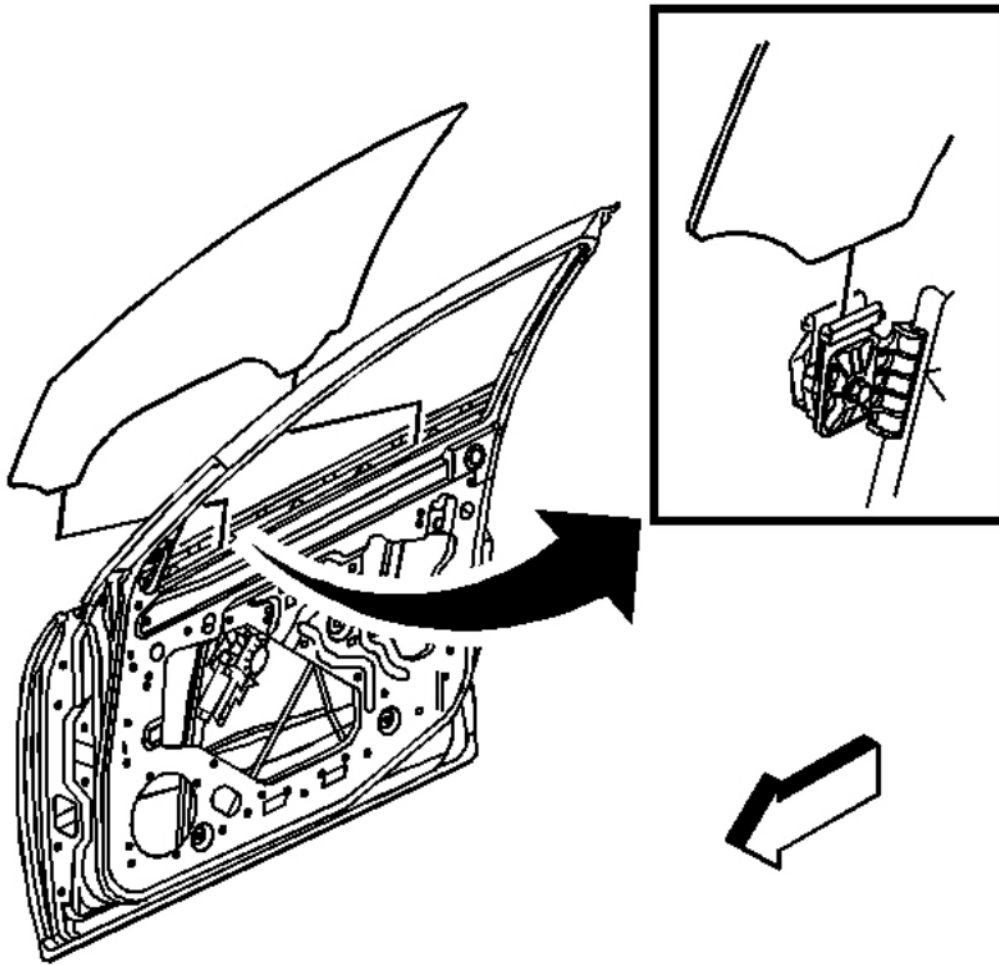


Fig. 137: View Of Front Window Regulator Clamp
Courtesy of GENERAL MOTORS CORP.

IMPORTANT: Start the vehicle to ensure maximum power to the window motor. This is required in order to fully seat the window for adjustment.

3. Start the vehicle.

NOTE: Refer to Fastener Notice in Cautions and Notices.

4. Using the power window switch, raise the window to the fully closed position.

Tighten: Tighten the window clamp nuts to 11 N.m (98 lb in).

5. Install the window inner belt sealing strip. Refer to Sealing Strip Replacement - Front Door Window Belt Inner.
6. Inspect for proper window operation and a tight seal.
7. Shut off the vehicle.
8. Install the water deflector. Refer to Water Deflector Replacement - Front Door.
9. Install the door control module. Refer to Door Control Module Replacement.
10. Install the door trim panel. Refer to Trim Panel Replacement - Side Front Door.

WINDOW REPLACEMENT - REAR DOOR

Removal Procedure

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

1. Lower the window all the way down.
2. Remove the door trim panel. Refer to Trim Panel Replacement - Side Rear Door.
3. Remove the water deflector. Refer to Water Deflector Replacement - Rear Door.
4. Remove the window inner belt sealing strip. Refer to Sealing Strip Replacement - Rear Door Window Belt Inner.
5. Remove the inner window seal. Refer to Weatherstrip Replacement - Rear Door Window - Inner.
6. Remove the window outer belt sealing strip. Refer to Sealing Strip Replacement - Rear Door Window Belt Outer.
7. Remove the door applique. Refer to Door Frame Applique Replacement - Rear.
8. Connect the door trim panel electrical connector.
9. Raise the window to the full up position.
10. Tape the window in the up position.
11. Remove the rear door stationary window post bolt.
12. Loosen the window clamp nuts 4 revolutions.

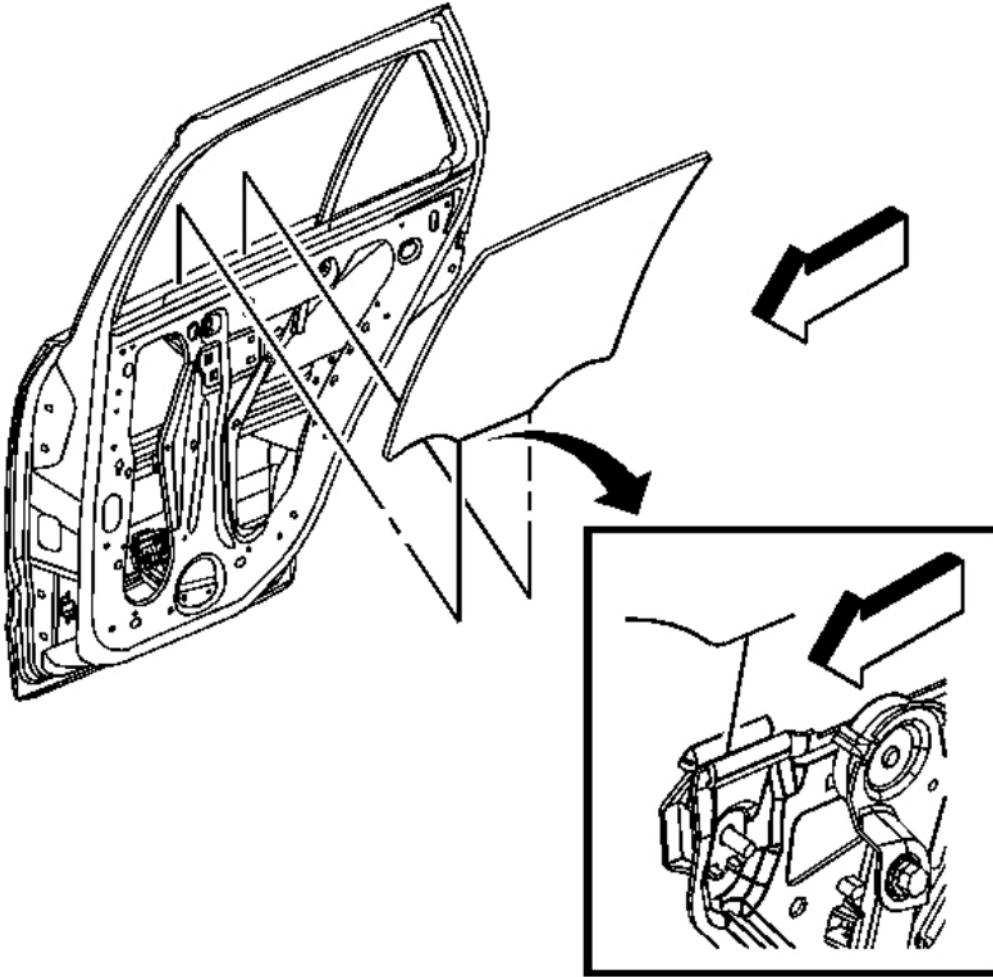


Fig. 138: View Of Rear Window Clamp
Courtesy of GENERAL MOTORS CORP.

13. Using the power window switch, lower the window regulator to the full down position.
14. Remove the tape.
15. Slide the window down past the window regulator clamps and out of the front window run channel.
16. Lift the window out of the door.

1. Install the window down into the door assembly, inboard of the rear door stationary post, past the window clamps.
2. Position the window into the stationary window post channel.
3. Raise the window past the window clamps.
4. Lower the window into the window clamps.

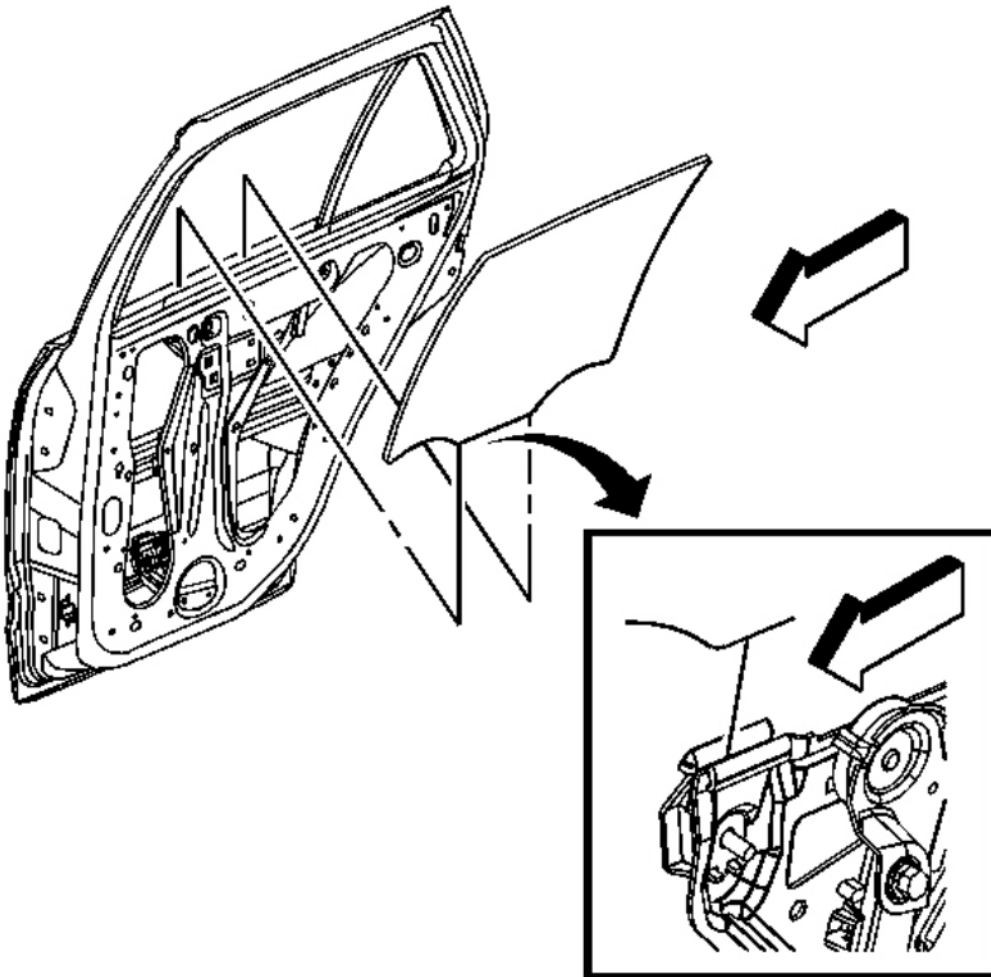


Fig. 139: View Of Rear Window Clamp
Courtesy of GENERAL MOTORS CORP.

NOTE: Refer to Fastener Notice in Cautions and Notices.

5. Install the stationary window post bolt.

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

6. Push the window forward into the front glass run channel.

IMPORTANT: Start the vehicle in order to ensure maximum power to the window motor. This is required to fully seat the window for adjustment.

7. Start the vehicle.
8. Using the power window switch, raise the window to the full up position.

Tighten: Tighten the window clamp nuts to 11 N.m (98 lb in).

9. Inspect the window for proper operation and a tight seal.
10. Shut off the vehicle.
11. Install the inner window seal. Refer to Weatherstrip Replacement - Rear Door Window - Inner.
12. Install the window outer belt sealing strip. Refer to Sealing Strip Replacement - Rear Door Window Belt Outer.
13. Install the window inner belt sealing strip. Refer to Sealing Strip Replacement - Rear Door Window Belt Inner.
14. Install water deflector. Refer to Water Deflector Replacement - Rear Door.
15. Install the door trim panel. Refer to Trim Panel Replacement - Side Rear Door.

WINDOW CHANNEL REPLACEMENT - FRONT DOOR FRONT/REAR

The window channels are not serviced separately from the window regulator. Refer to Window Regulator Replacement - Front Door.

WINDOW/DIVISION CHANNEL - REAR DOOR STATIONARY

Removal Procedure

1. Lower the window to the full down position.
2. Remove the door trim panel. Refer to Trim Panel Replacement - Side Rear Door.
3. Remove the door module. Refer to Door Control Module Replacement.

4. Remove the water deflector. Refer to **Water Deflector Replacement - Rear Door.**
5. Remove the window inner belt sealing strip. Refer to **Sealing Strip Replacement - Rear Door Window Belt Inner.**
6. Remove the window. Refer to **Window Replacement - Rear Door.**
7. Remove the window outer belt sealing strip. Refer to **Sealing Strip Replacement - Rear Door Window Belt Outer.**
8. Pull the window weatherstrip out of the door header.
9. Remove the stationary window post bolt.
10. Remove the window weatherstrip from the door header all the way back to the division post.
11. Grasp the division post and pull forward in order to remove the rear door stationary window from the door.

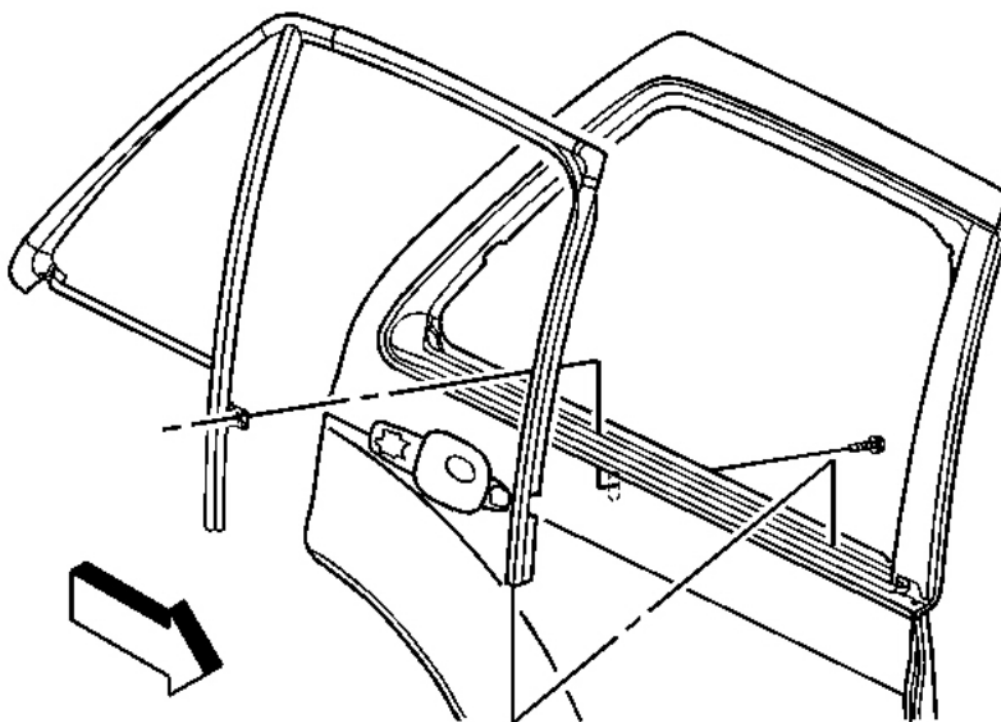


Fig. 140: View Of Rear Door Window/Division Channel
Courtesy of GENERAL MOTORS CORP.

Installation Procedure

1. Lubricate the rearward edge of the stationary window with a soap and water solution to ease the installation into the door frame.
2. Align the locator latch to the rear of the door frame.
3. Seat the stationary window assembly rearward into the door frame.

NOTE: Refer to Fastener Notice in Cautions and Notices.

4. Install the stationary window post bolt.

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

5. Install the window weatherstrip into the door frame.
 1. Insert the upper forward corner into the door frame.
 2. Install the upper portion of the weatherstrip into the door frame.
 3. Working downward from the center-pillar install the remainder of the window weatherstrip.

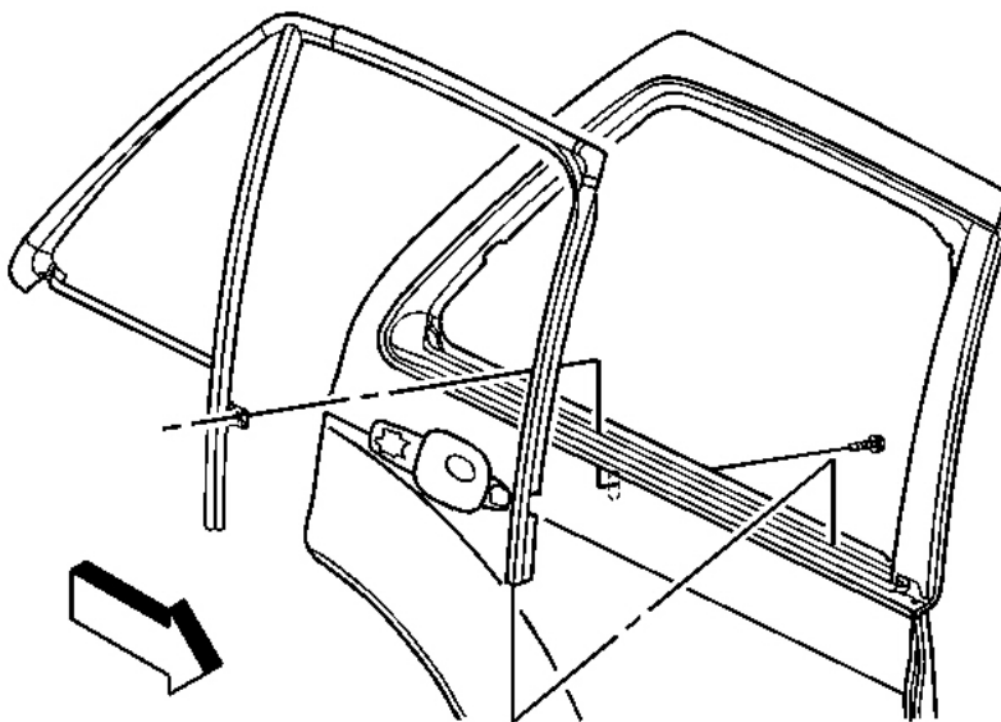


Fig. 141: View Of Rear Door Window/Division Channel
Courtesy of GENERAL MOTORS CORP.

6. Install the window. Refer to Window Replacement - Rear Door.
7. Install the window outer belt sealing strip. Refer to Sealing Strip Replacement - Front Door Window Belt Outer.
8. Install the window inner belt sealing strip. Refer to Sealing Strip Replacement - Rear Door Window Belt Inner.
9. Install the water deflector. Refer to Water Deflector Replacement - Rear Door.
10. Install the door trim panel. Refer to Trim Panel Replacement - Side Rear Door.

WINDOW CHANNEL REPLACEMENT - REAR DOOR FRONT

Removal Procedure

1. Ensure that the window is fully closed.

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2. Remove the door trim panel. Refer to **Trim Panel Replacement - Side Rear Door**.
3. Remove the water deflector. Refer to **Water Deflector Replacement - Rear Door**.
4. Loosen the lower bolt.
5. Remove the upper bolt.
6. Rotate the top of the front window channel forward.
7. Lift upward on the window channel to disengage the lower bolt from the keyhole slot.
8. Remove the front window channel from the door.

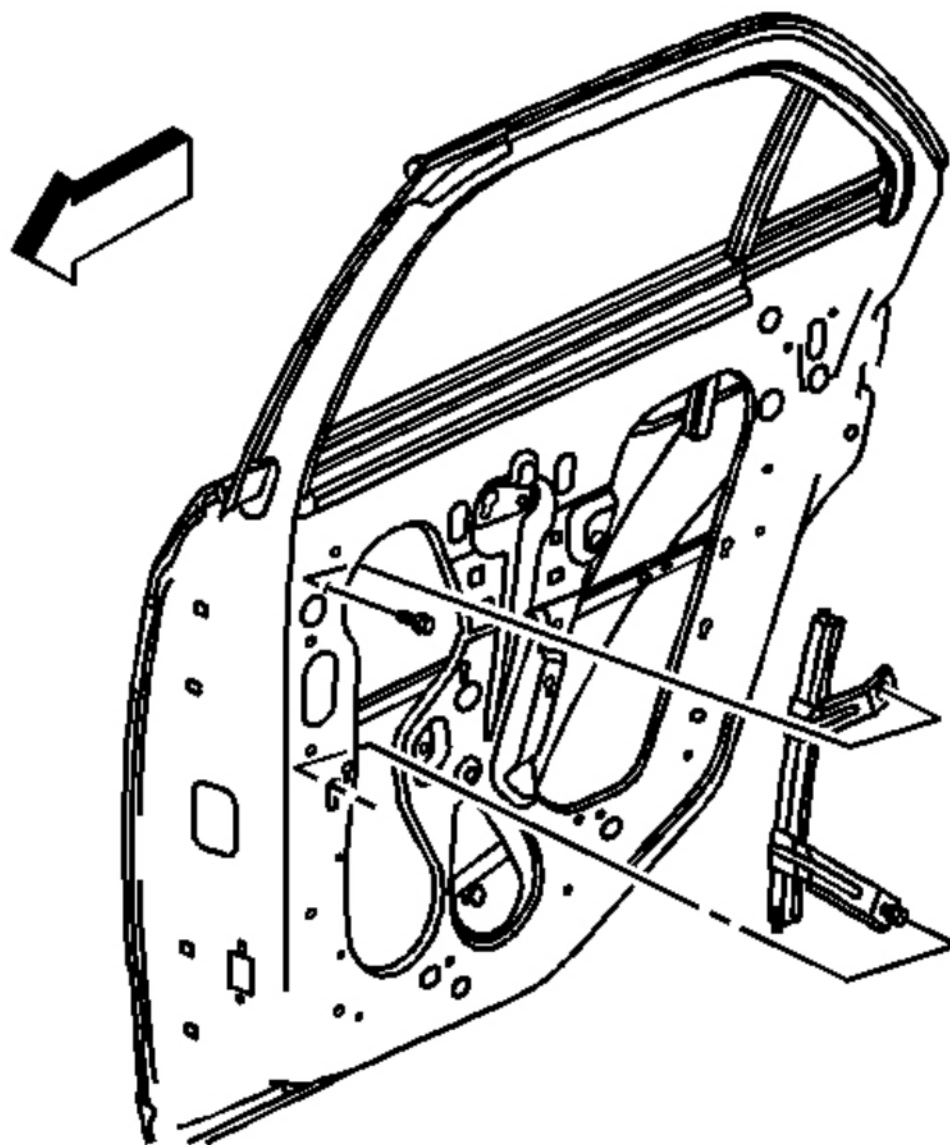


Fig. 142: View Of Rear Door Front Window Channel
Courtesy of GENERAL MOTORS CORP.

Installation Procedure

1. Install the front window channel into the door, top end first.

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2. Insert the lower bolt into the keyhole slot.
3. Rotate the top of the front window channel rearward and align on the lower edge of the window.

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

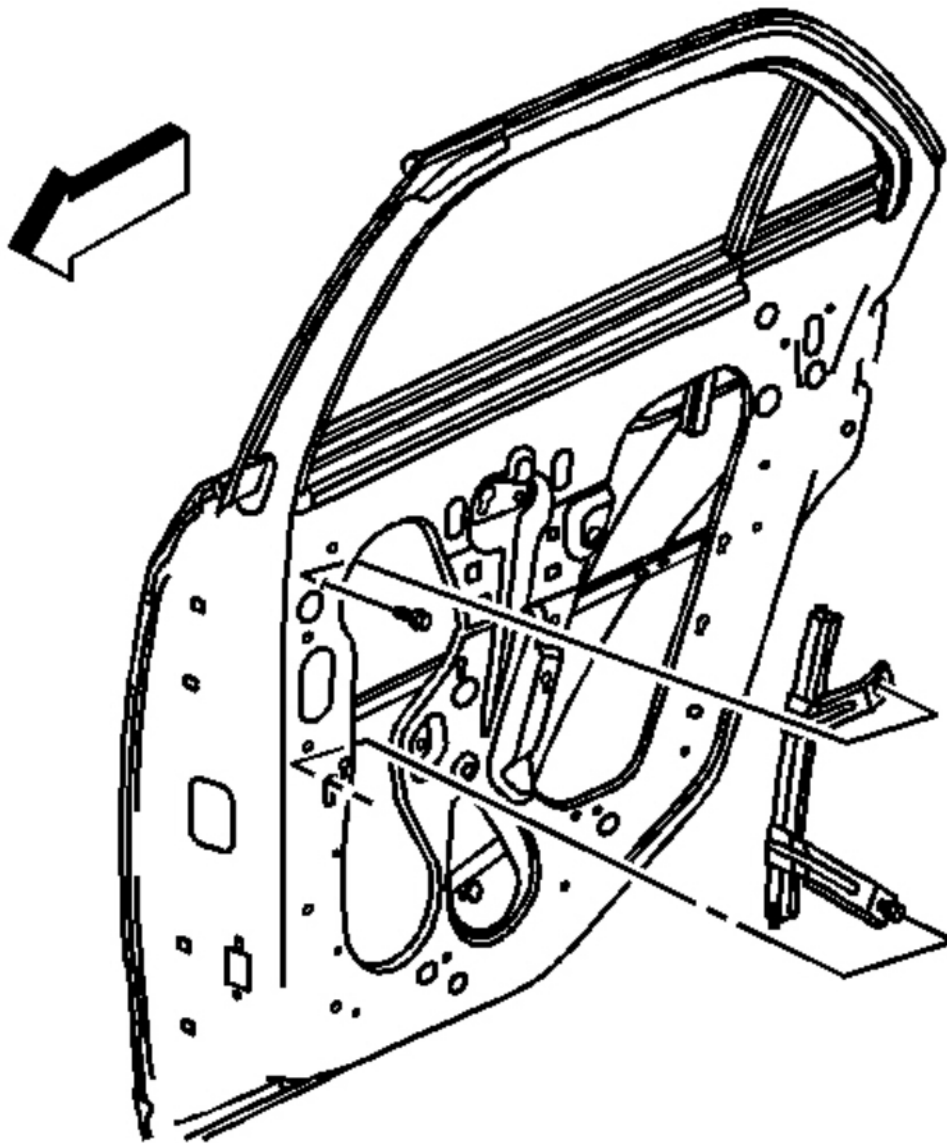


Fig. 143: View Of Rear Door Front Window Channel
Courtesy of GENERAL MOTORS CORP.

4. Install the upper bolt.

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

5. Install the water deflector. Refer to Water Deflector Replacement - Rear Door.
6. Install the door trim panel. Refer to Trim Panel Replacement - Side Rear Door.

DOOR FRAME APPLIQUE REPLACEMENT - FRONT

Removal Procedure

1. Remove the door trim panel. Refer to Trim Panel Replacement - Side Front Door.
2. Remove the inner window seal. Refer to Weatherstrip Replacement - Front Door Window - Inner.

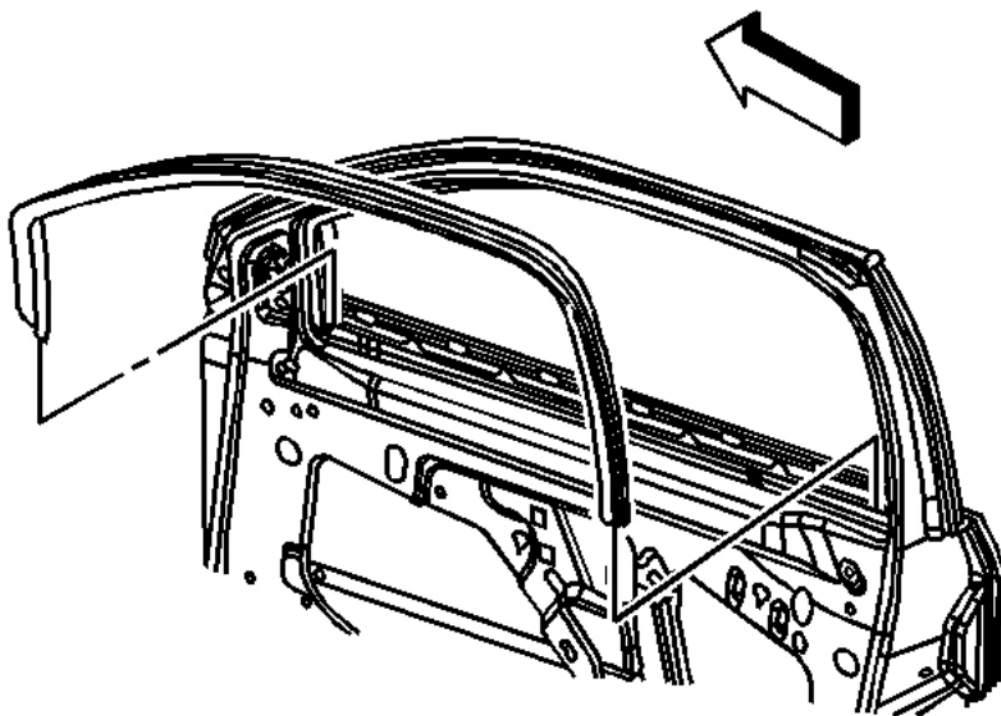


Fig. 144: View Of Front Door Window Inner Weatherstrip
Courtesy of GENERAL MOTORS CORP.

3. Remove the window inner belt sealing strip. Refer to Sealing Strip Replacement - Front Door Window Belt Inner.
4. Grasp the window weatherstrip at the lower rear corner.

Pull up and forward to remove the window weatherstrip from the door frame far enough to expose the door applique screws.

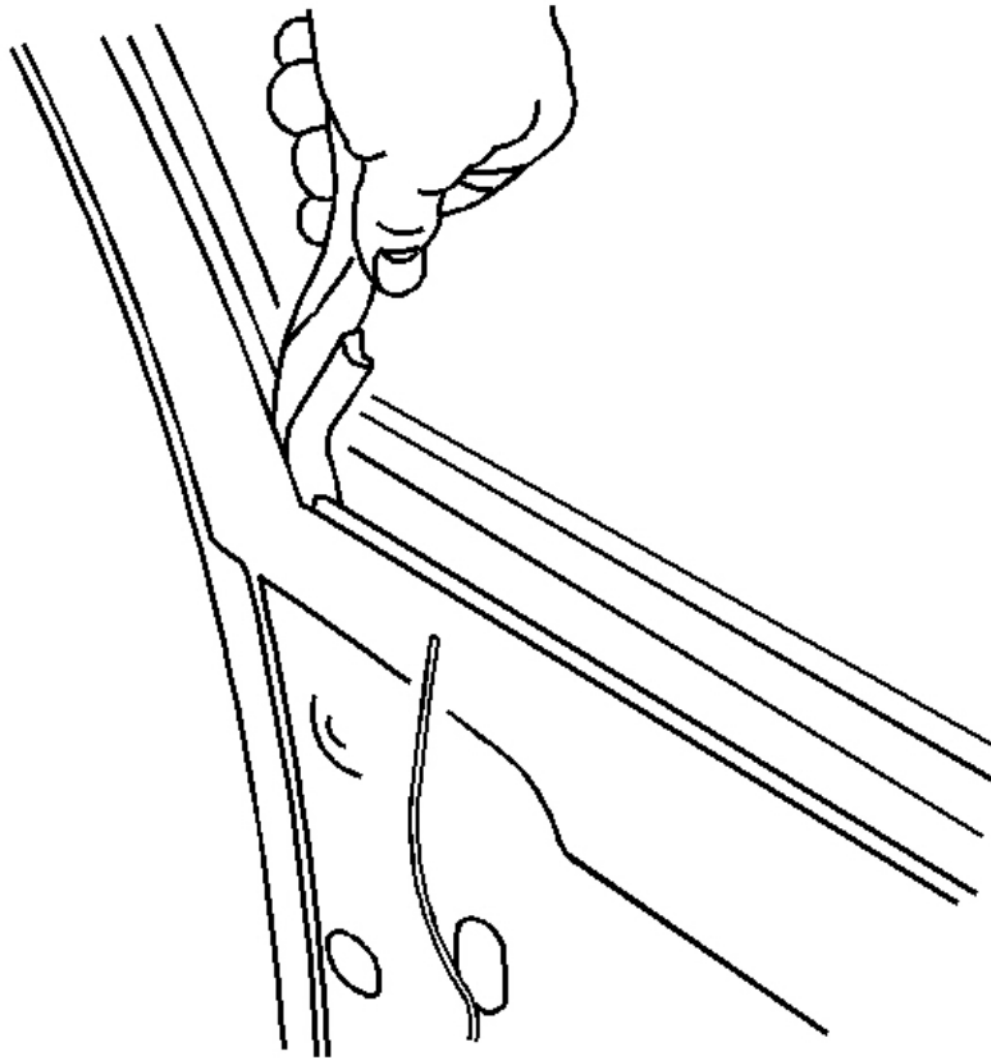


Fig. 145: Removing Window Weatherstrip
Courtesy of GENERAL MOTORS CORP.

5. Remove the door applique screws.
6. Remove the door applique by sliding downward, far enough to clear the upper trim, then

upward to remove.

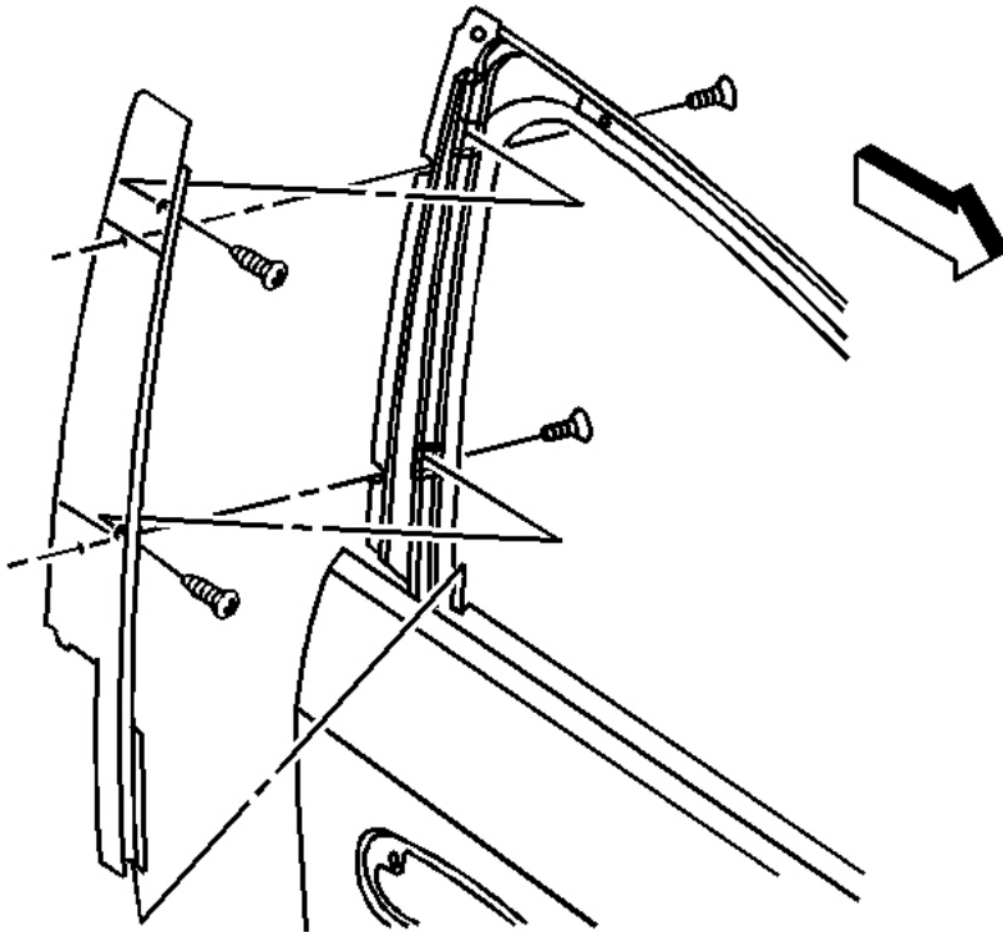


Fig. 146: View Of Front Door Applique
Courtesy of GENERAL MOTORS CORP.

Installation Procedure

IMPORTANT: When reusing the window weatherstrip, the flange mounting area (1) must be pinched together in order to counteract the splaying effect when removed. Use a thumb and an index finger in order to pinch the carrier (2) back together. Work from one end of the weatherstrip to the other.

1. Prep the weatherstrip for installation.

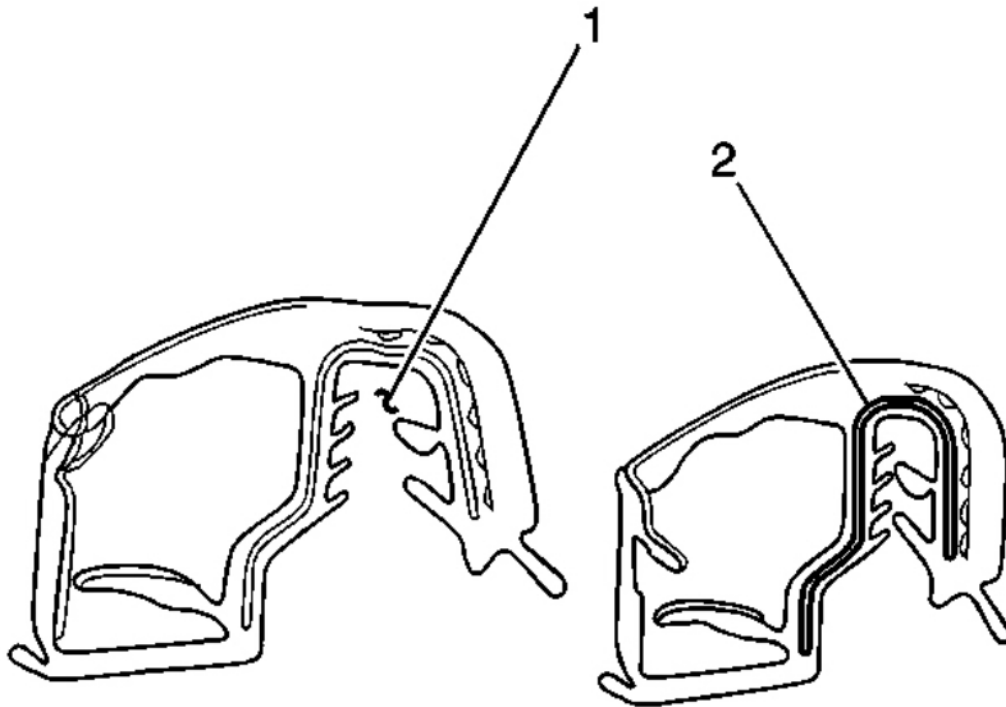


Fig. 147: Cutaway View Of Weather Strip
Courtesy of GENERAL MOTORS CORP.

2. Install the applique.
 1. Insert the lower edge of the applique down into the door frame.
 2. Slide the applique upward under the upper auxiliary molding until fully seated onto the door frame.

Be careful not to damage the upper auxiliary molding.

NOTE: Refer to Fastener Notice in Cautions and Notices.

3. Install the applique screws.

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

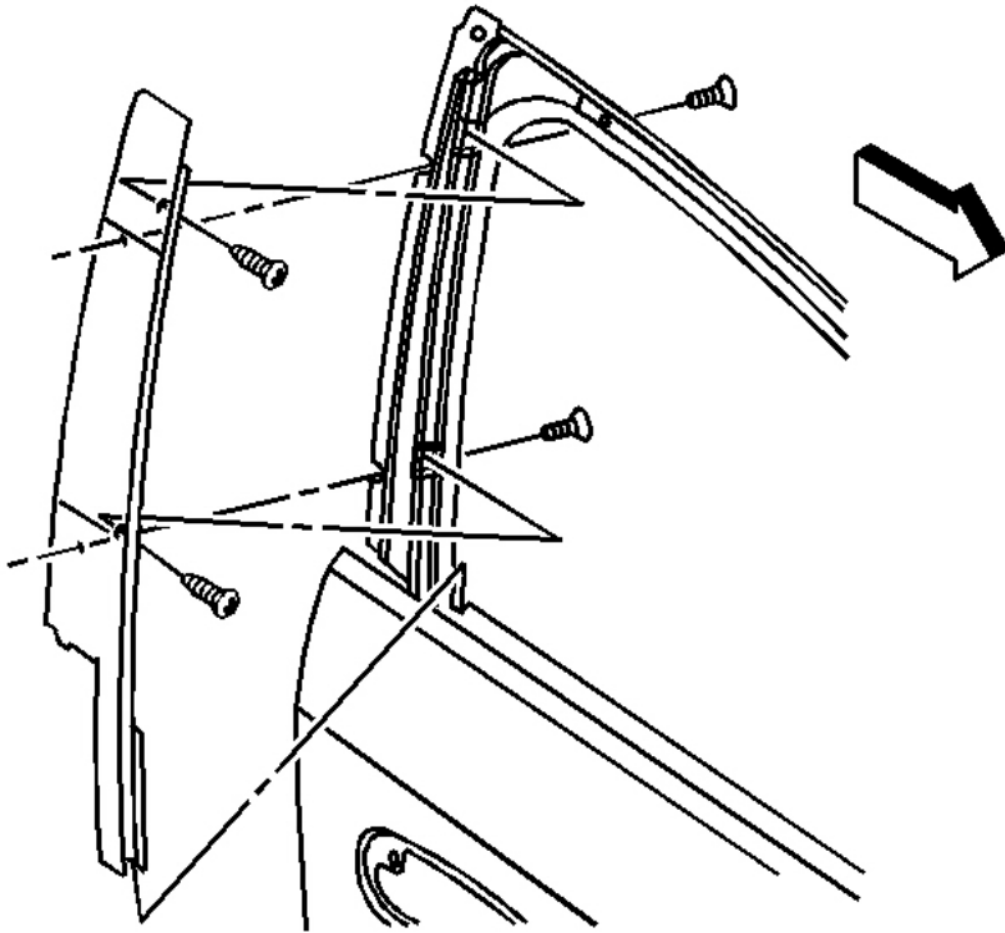


Fig. 148: View Of Front Door Applique
Courtesy of GENERAL MOTORS CORP.

4. Install the rear portion of the window weatherstrip (1).
 1. Slide the end down into the door frame, ensuring that the window (2) is in the run channel.
 2. Squeeze and push the remaining portion of the window weatherstrip into the door frame.

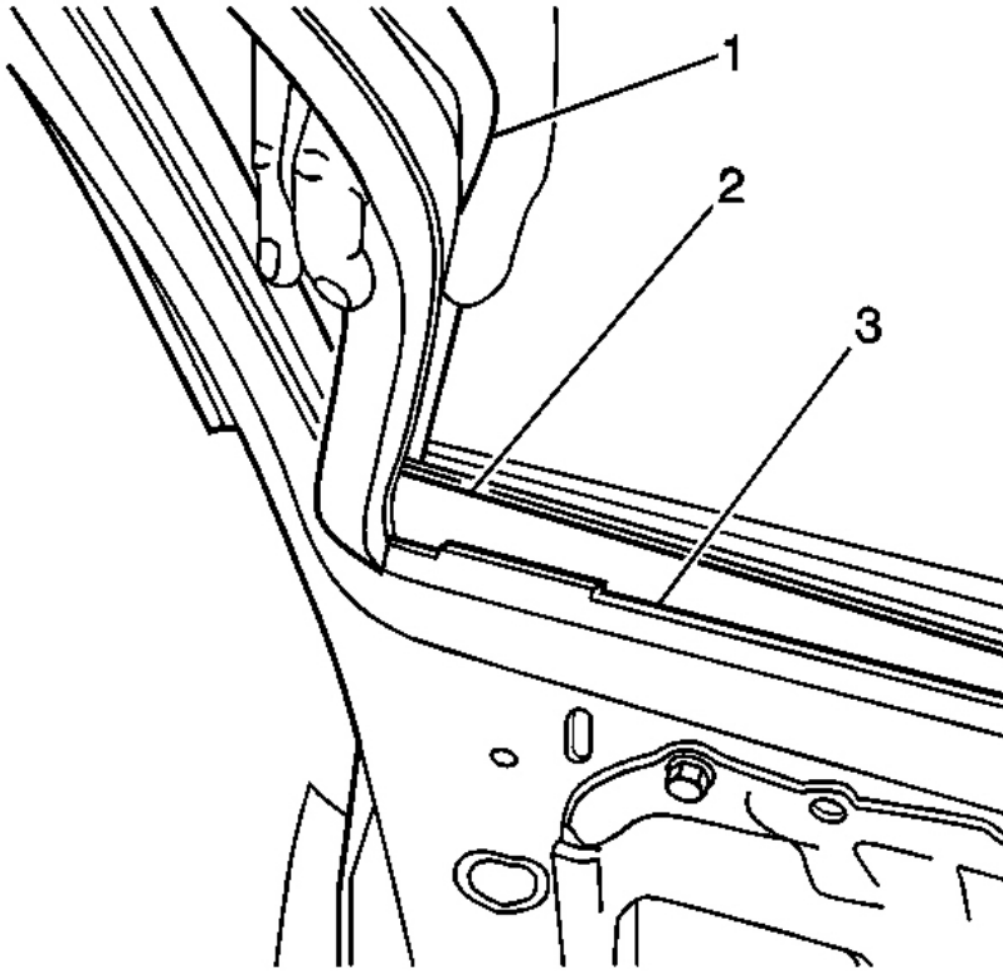


Fig. 149: Installing Front Door Window Weatherstrip
Courtesy of GENERAL MOTORS CORP.

5. Install the window inner belt sealing strip. Refer to **Sealing Strip Replacement - Front Door Window Belt Inner**.
6. Install the door trim panel. Refer to **Trim Panel Replacement - Side Front Door**.

DOOR FRAME APPLIQUE REPLACEMENT - REAR

Removal Procedure

1. Remove the door trim panel. Refer to **Trim Panel Replacement - Side Rear Door.**
2. Remove the window outer belt sealing strip. Refer to **Sealing Strip Replacement - Rear Door Window Belt Outer.**
3. Remove the inner window seal. Refer to **Weatherstrip Replacement - Rear Door Window - Inner.**
4. Grasp the front, lower end of the window weatherstrip and pull the weatherstrip out of the door frame, far enough to reveal the door applique screws.

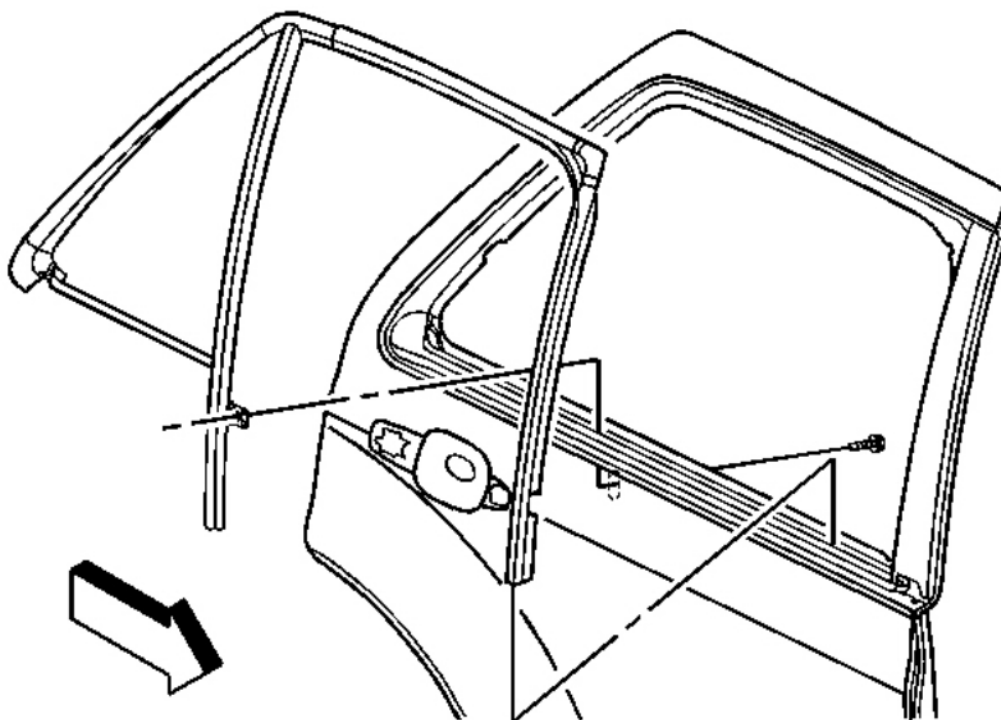


Fig. 150: View Of Rear Door Window/Division Channel
Courtesy of GENERAL MOTORS CORP.

5. Remove the applique screws.
6. Slide the applique downward into the door.
7. Tilt the upper end of the applique outward, then lift to remove.

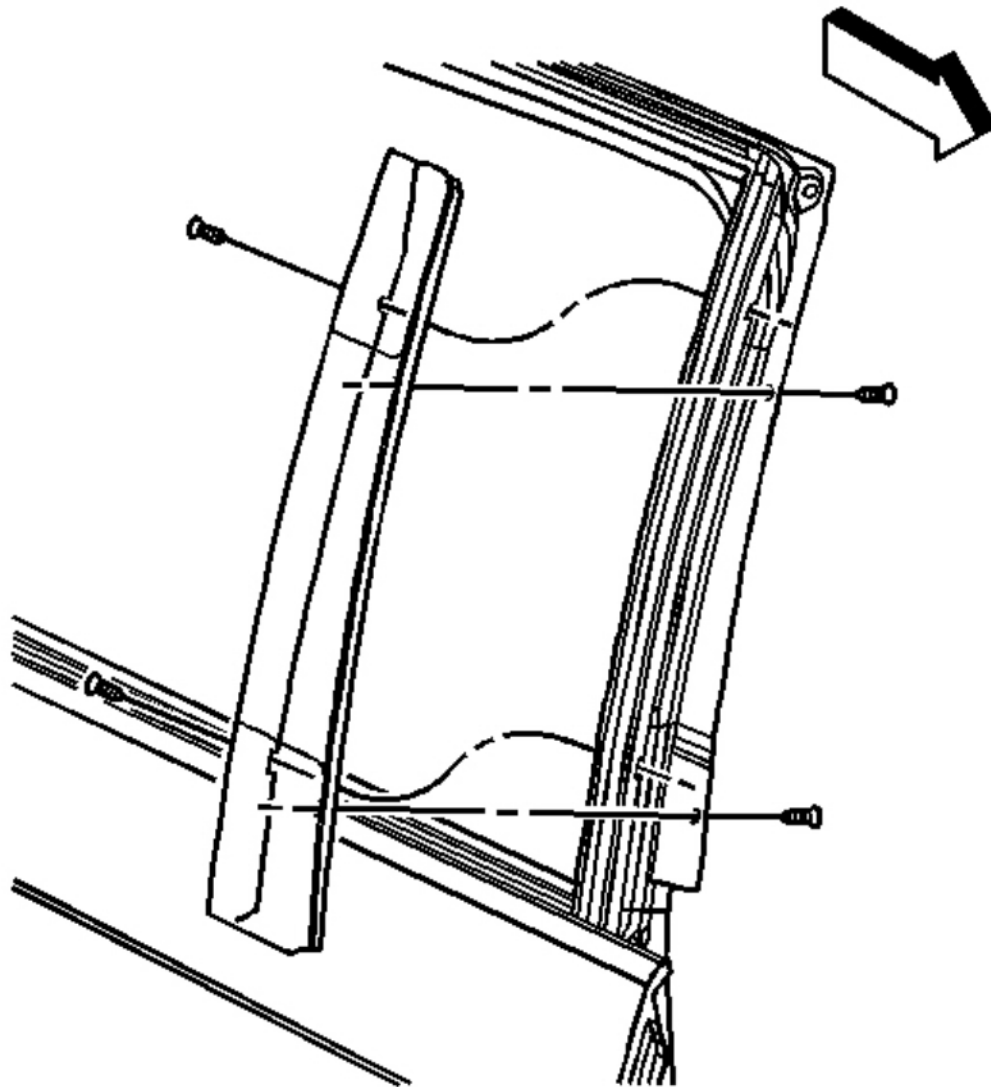


Fig. 151: View Of Rear Door Frame Applique
Courtesy of GENERAL MOTORS CORP.

Installation Procedure

1. Slide the door applique up under the auxiliary weatherstrip and rearward over the door frame.

NOTE: Refer to Fastener Notice in Cautions and Notices.

2. Install the door applique screws.

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

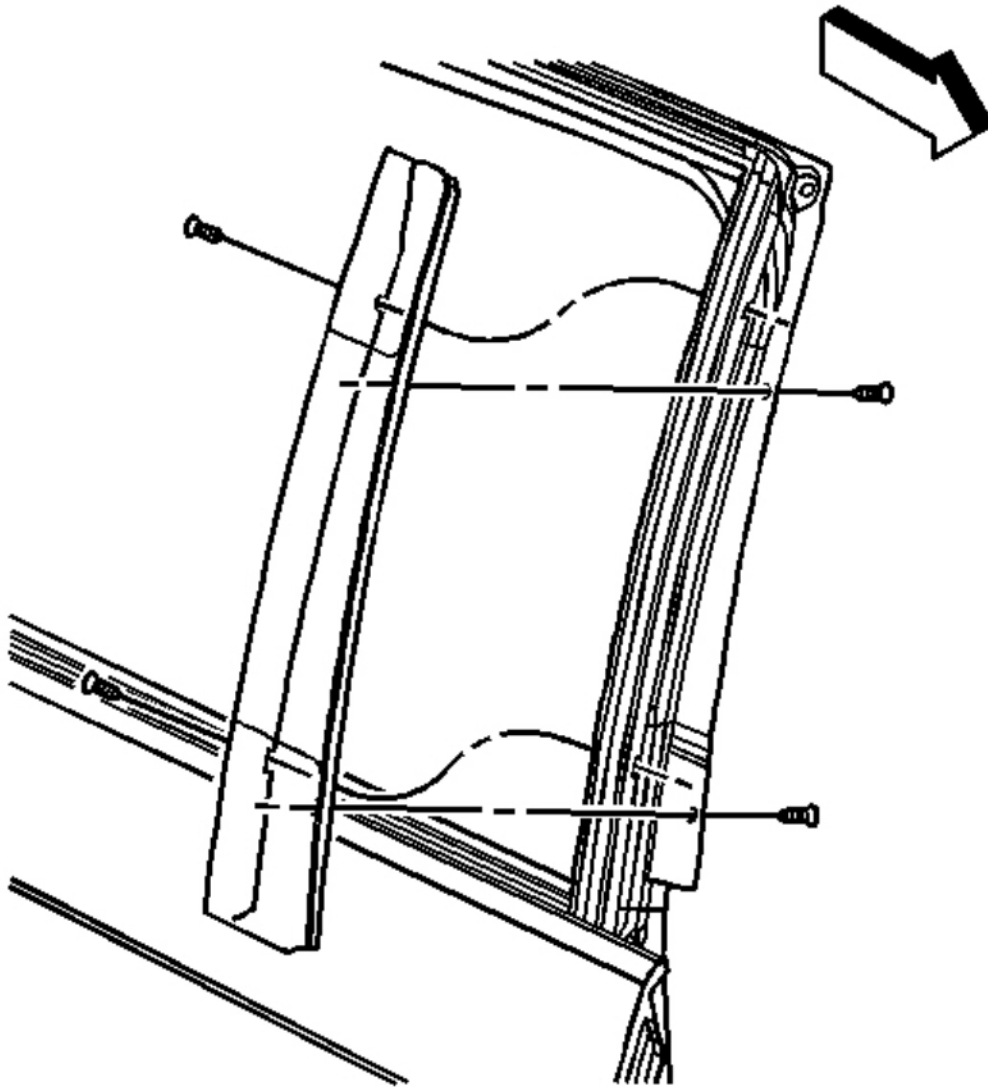


Fig. 152: View Of Rear Door Frame Applique

Courtesy of GENERAL MOTORS CORP.

IMPORTANT: When reusing the window weatherstrip, the flange mounting area (1) must be pinched together in order to counteract the splaying effect when removed. Use a thumb and an index finger in order to pinch the carrier (2) back together. Work from one end of the weatherstrip to the other.

3. Install the front portion of the window weatherstrip.

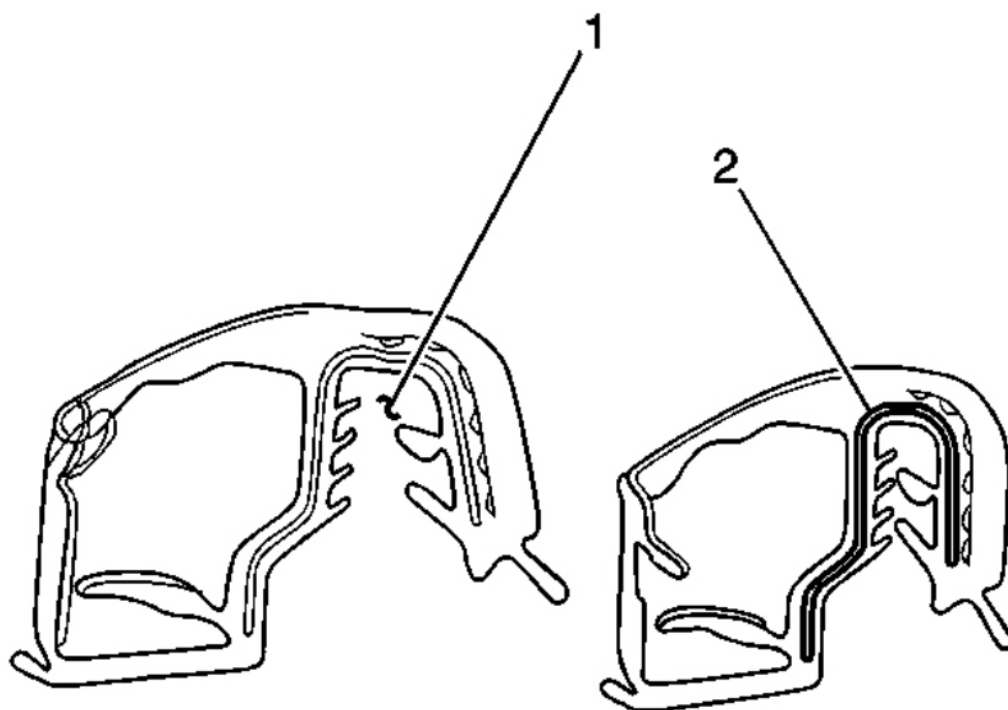


Fig. 153: Cutaway View Of Weather Strip
Courtesy of GENERAL MOTORS CORP.

4. Install the inner window seal. Refer to Weatherstrip Replacement - Rear Door Window - Inner.
5. Install the window outer belt sealing strip. Refer to Sealing Strip Replacement - Rear Door Window Belt Outer.

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

SEALING STRIP REPLACEMENT - FRONT DOOR WINDOW BELT OUTER

Removal Procedure

1. Remove the outside rearview mirror. Refer to **Mirror Replacement - Power.**
2. Lower the window to the full down position.

IMPORTANT: Do not distort the sealing strip.

3. Remove the front door outer belt sealing strip from the door pinch-weld flange.
 1. Lift upwards, starting at the rear, to disengage the sealing strip clips.
 2. Slide the sealing strip rearward in order to clear the upper auxiliary molding.

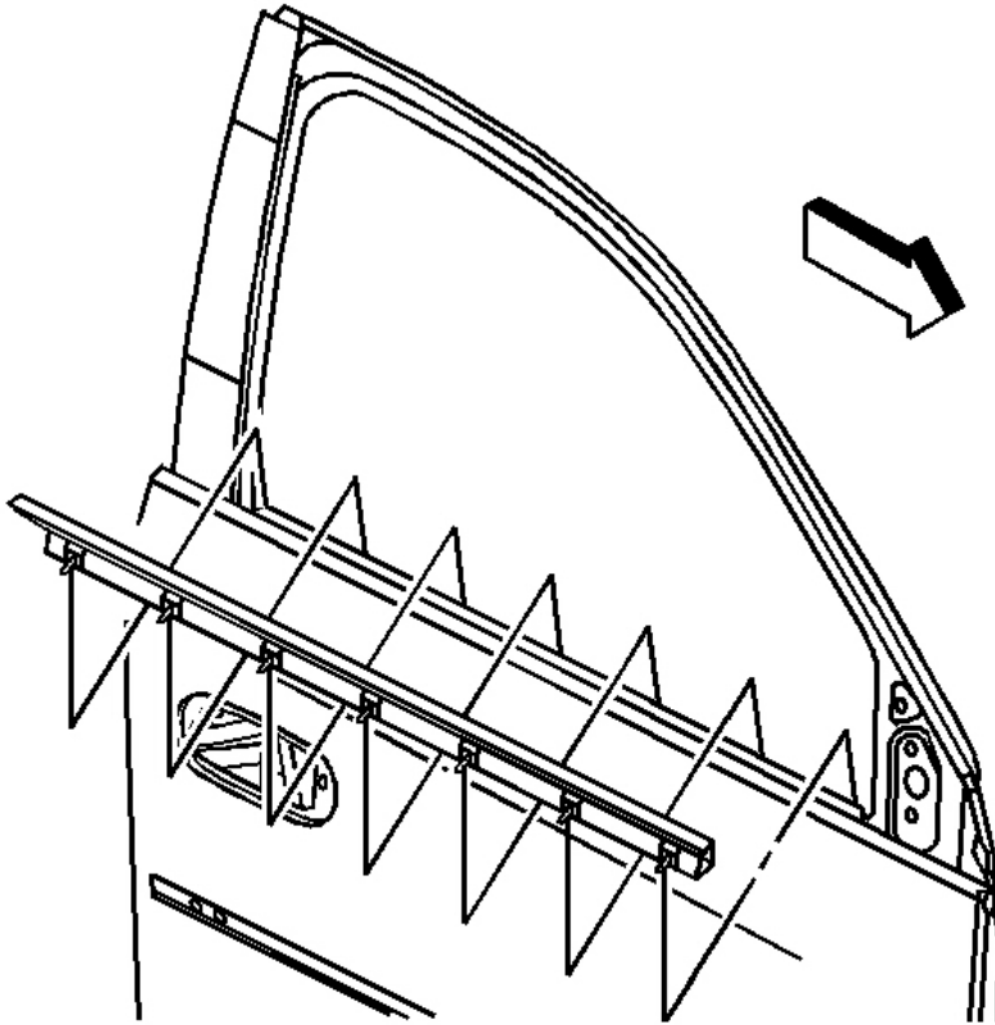


Fig. 154: View Of Front Door Window Outer Sealing Strip
Courtesy of GENERAL MOTORS CORP.

Installation Procedure

1. Install the front door outer belt sealing strip to the door pinch-weld flange.
 1. Align the sealing strip to the door.
 2. Slide the strip forward and under the upper auxiliary molding.
 3. Ensure that the end cap is flush to the door cutline.

4. Rotate the sealing strip downward.
5. Align the sealing strip clips to the slots in the door pinch-weld flange.
6. Push the sealing strip downward to fully seat and secure the strip to the door.

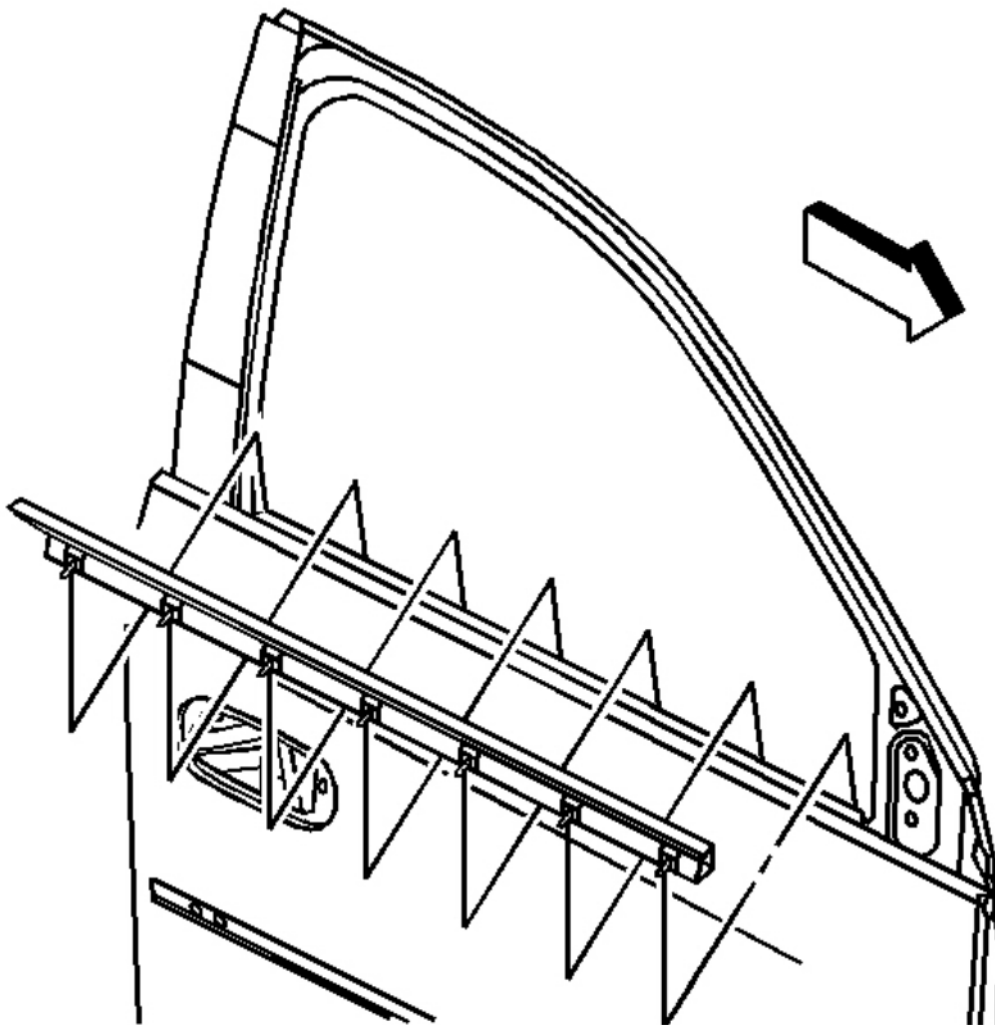


Fig. 155: View Of Front Door Window Outer Sealing Strip
Courtesy of GENERAL MOTORS CORP.

2. Install the outside rearview mirror. Refer to Mirror Replacement - Power.

SEALING STRIP REPLACEMENT - REAR DOOR WINDOW BELT OUTER

Removal Procedure

1. Lower the window to the full down position.

IMPORTANT: Do not distort the sealing strip.

2. Remove the rear door outer belt sealing strip from the rear door pinch-weld flange by gently pulling up.

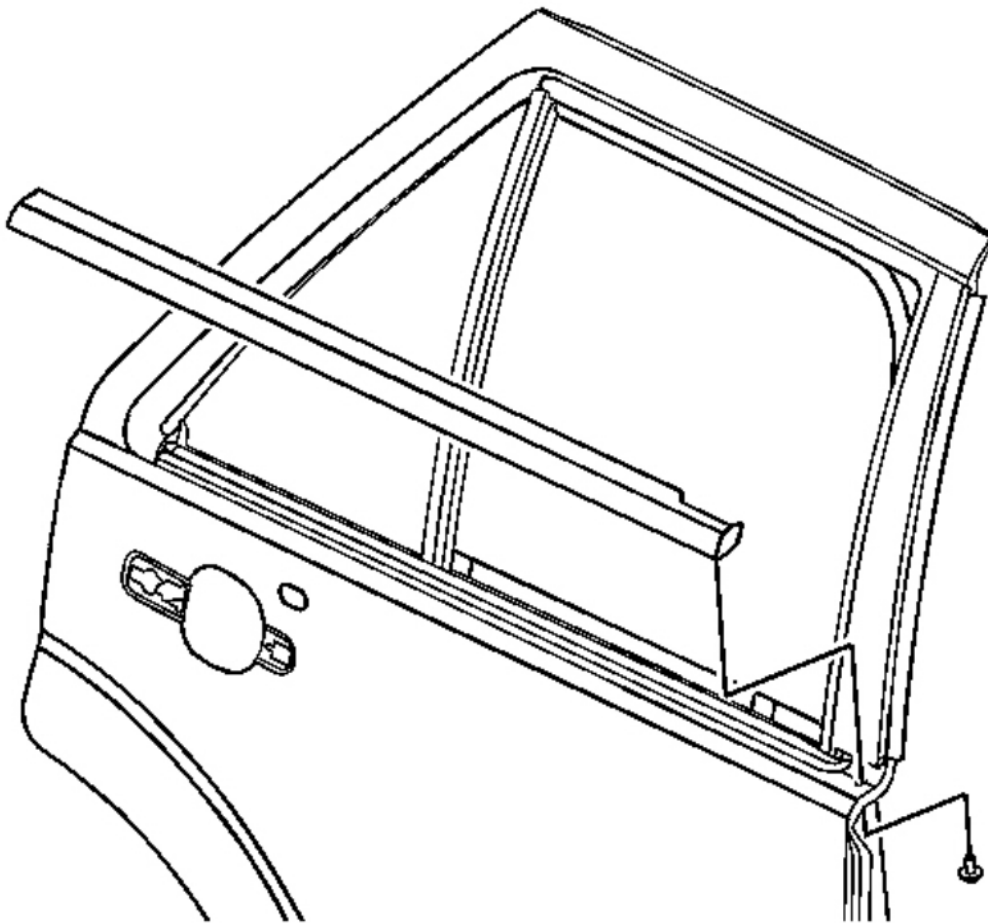


Fig. 156: View Of Rear Door Window Outer Sealing Strip

Courtesy of GENERAL MOTORS CORP.

Installation Procedure

1. Install the rear door outer belt sealing strip to the rear door pinch-weld flange.
 1. Align the sealing strip clips to the slots in the pinch-weld flange of the door.
 2. Push the sealing strip downward to fully seat and secure the strip to the door.

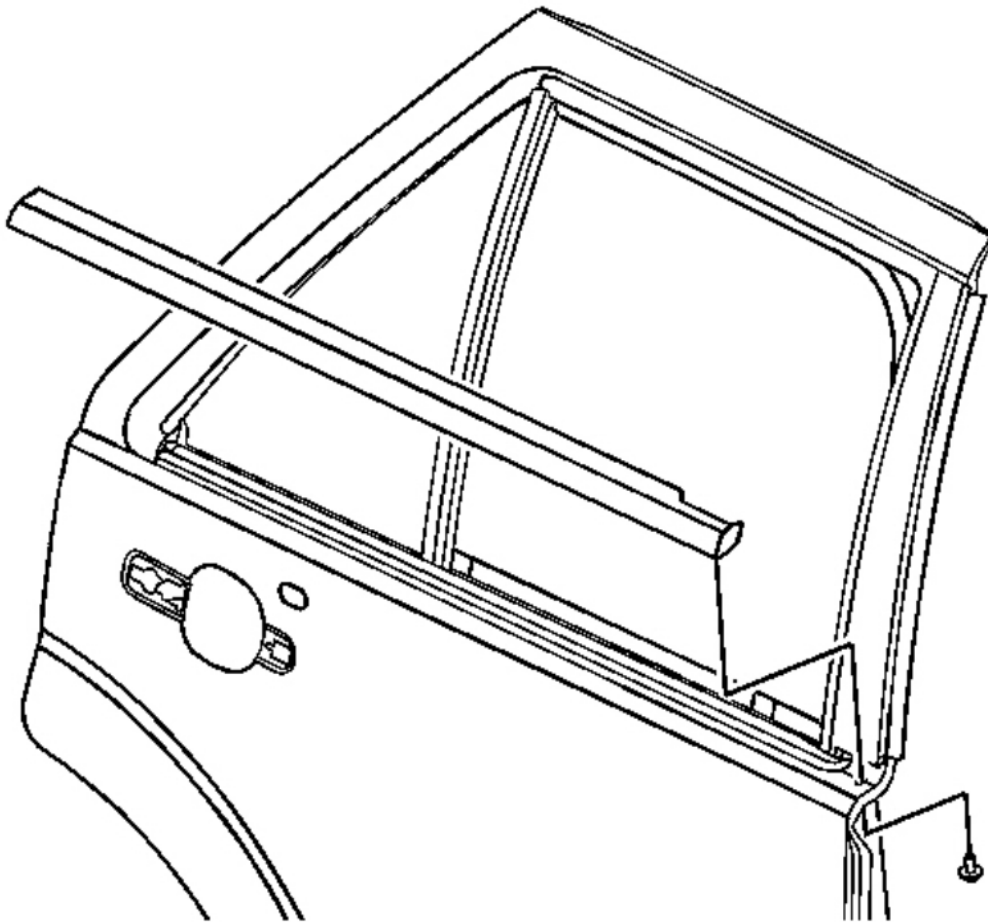


Fig. 157: View Of Rear Door Window Outer Sealing Strip
Courtesy of GENERAL MOTORS CORP.

2. Raise the rear door window.

SEALING STRIP REPLACEMENT - FRONT DOOR WINDOW BELT INNER

Removal Procedure

1. Lower the window to the full down position.
2. Remove the door trim panel. Refer to **Trim Panel Replacement - Side Front Door**.
3. Starting at one end of the window inner belt sealing strip, pull upward to release the strip.

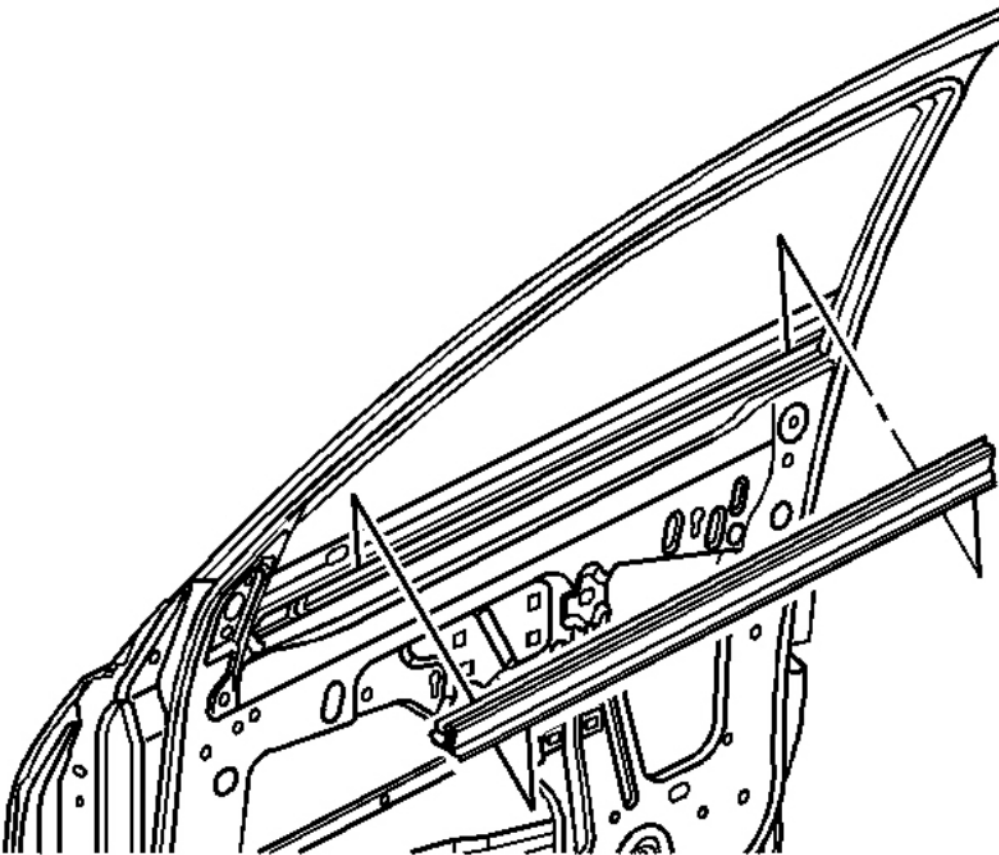


Fig. 158: View Of Front Door Window Inner Sealing Strip
Courtesy of GENERAL MOTORS CORP.

Installation Procedure

IMPORTANT: When reusing the inner belt sealing strip, the flange

mounting area must be pinched together in order to counteract the splaying effect when removed. Use a thumb and an index finger to pinch the carrier (3) back together.

1. Work from one end of the sealing strip to the other.

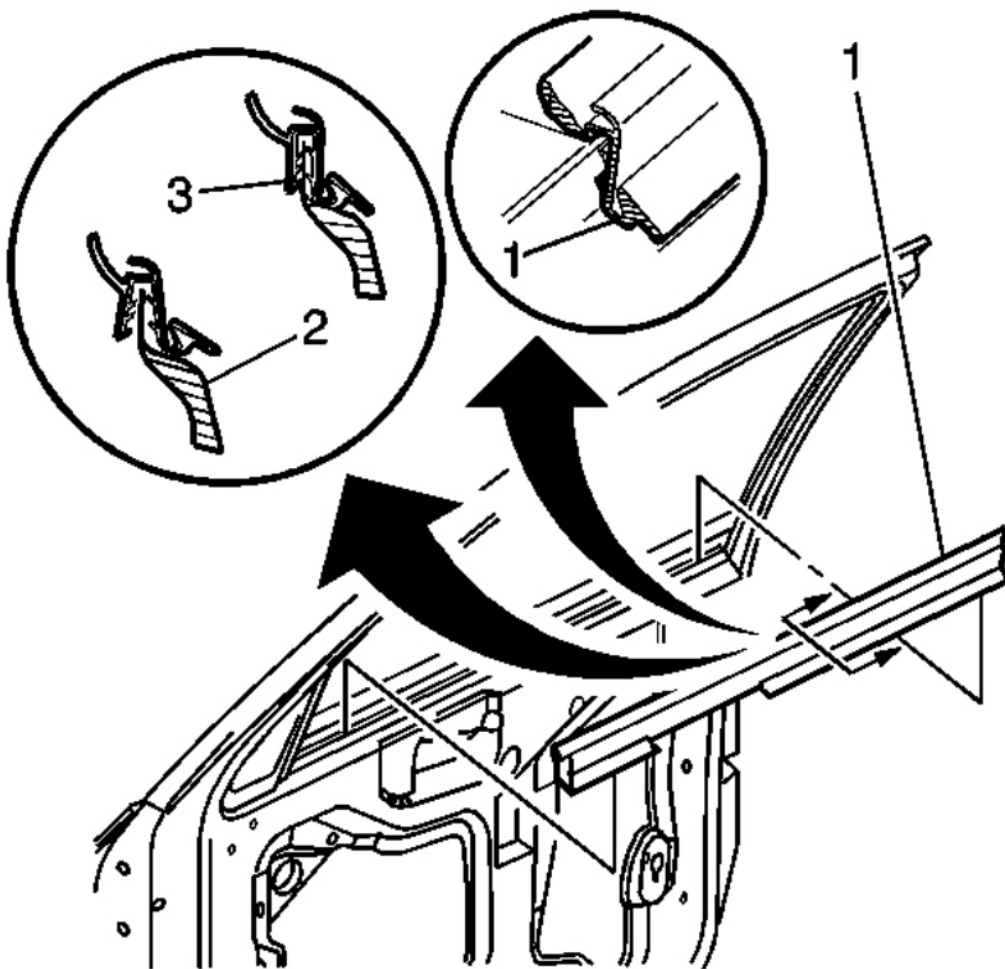


Fig. 159: Installing Front Door Window Inner Sealing Strip
Courtesy of GENERAL MOTORS CORP.

2. Position the inner belt sealing strip over the flange on the door inner panel.

IMPORTANT: Do not distort the sealing strip.

3. Press downward to engage the sealing strip the entire length of the door.

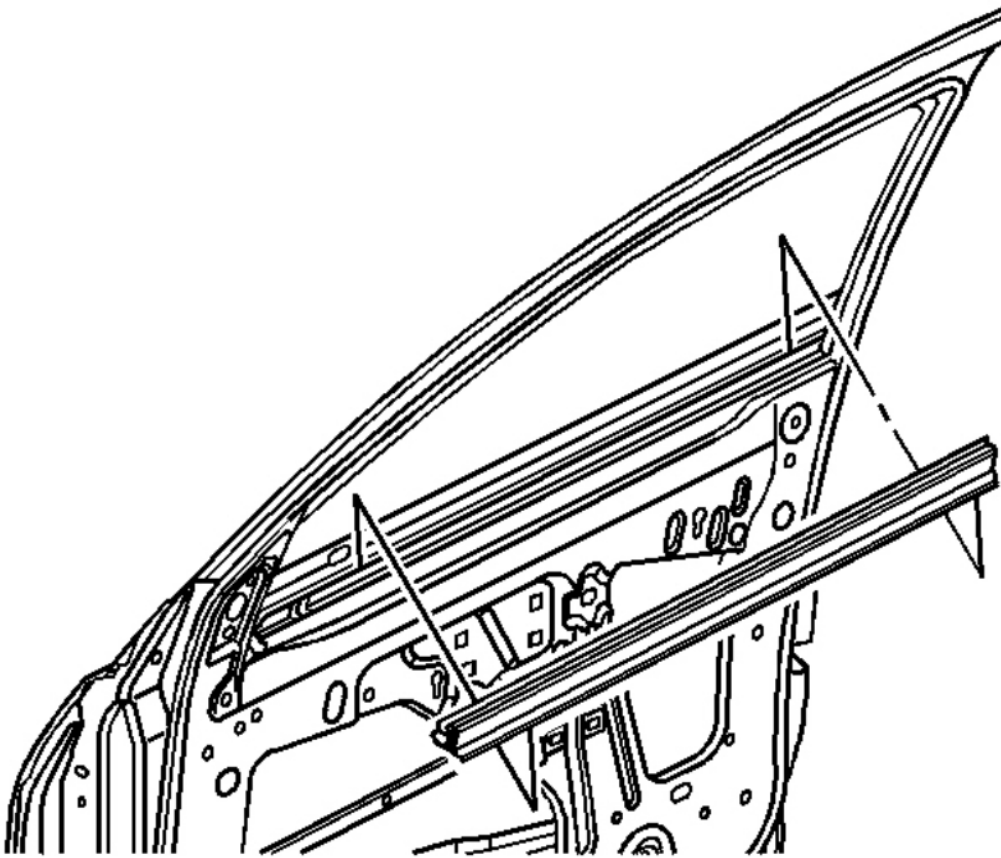


Fig. 160: View Of Front Door Window Inner Sealing Strip
Courtesy of GENERAL MOTORS CORP.

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

SEALING STRIP REPLACEMENT - REAR DOOR WINDOW BELT INNER

Removal Procedure

1. Lower the window to the full down position.

2. Remove the door trim panel. Refer to Trim Panel Replacement - Side Rear Door.
3. Starting at the forward end of the inner belt sealing strip, pull upward to release the strip.

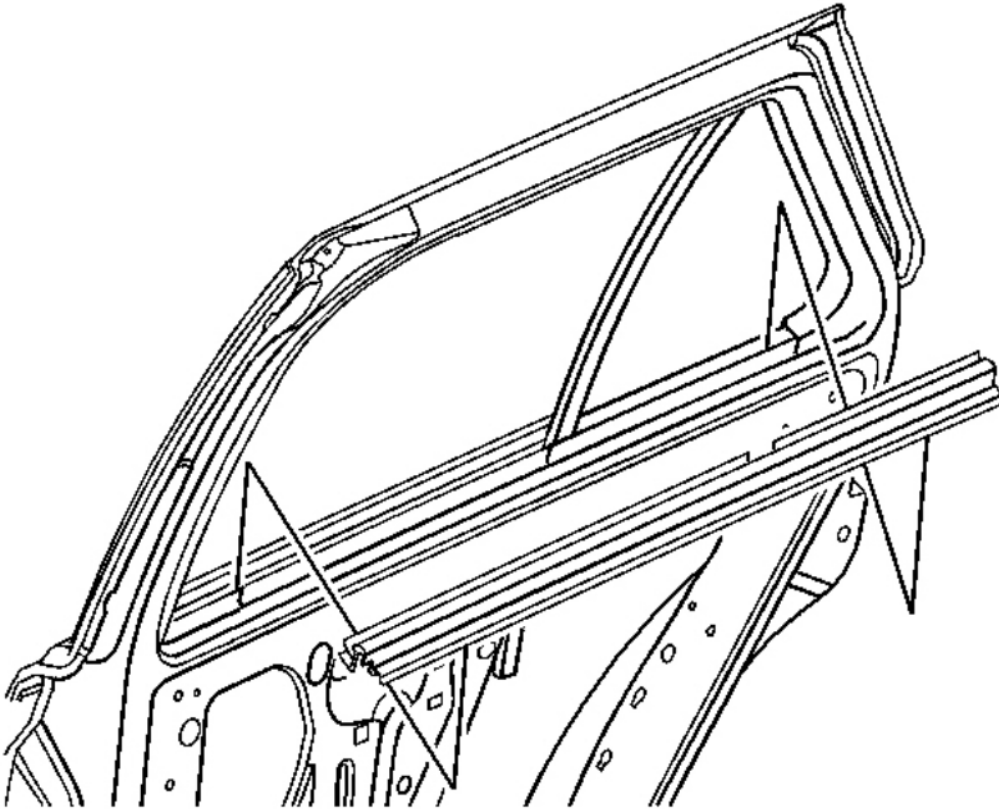


Fig. 161: View Of Rear Door Window Inner Sealing Strip
Courtesy of GENERAL MOTORS CORP.

Installation Procedure

IMPORTANT: When reusing the inner belt sealing strip, the flange mounting area must be pinched together in order to counteract the splaying effect when removed. Use a thumb and an index finger to pinch the carrier (3) back together.

1. Work from one end of the sealing strip to the other.

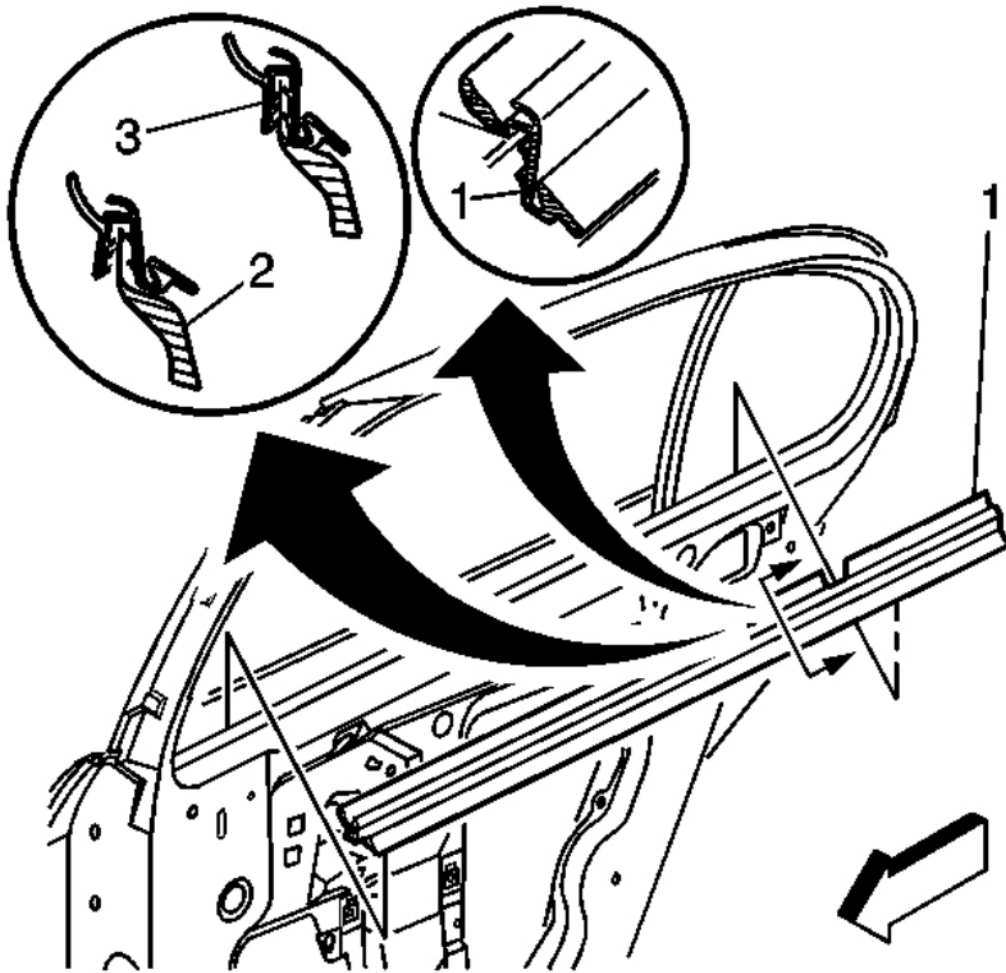


Fig. 162: Installing Rear Door Window Inner Sealing Strip
Courtesy of GENERAL MOTORS CORP.

2. Position the inner belt sealing strip over the flange of the door inner panel.

IMPORTANT: Do not distort the seal strip.

3. Press downward to engage the sealing strip the entire length of the door.

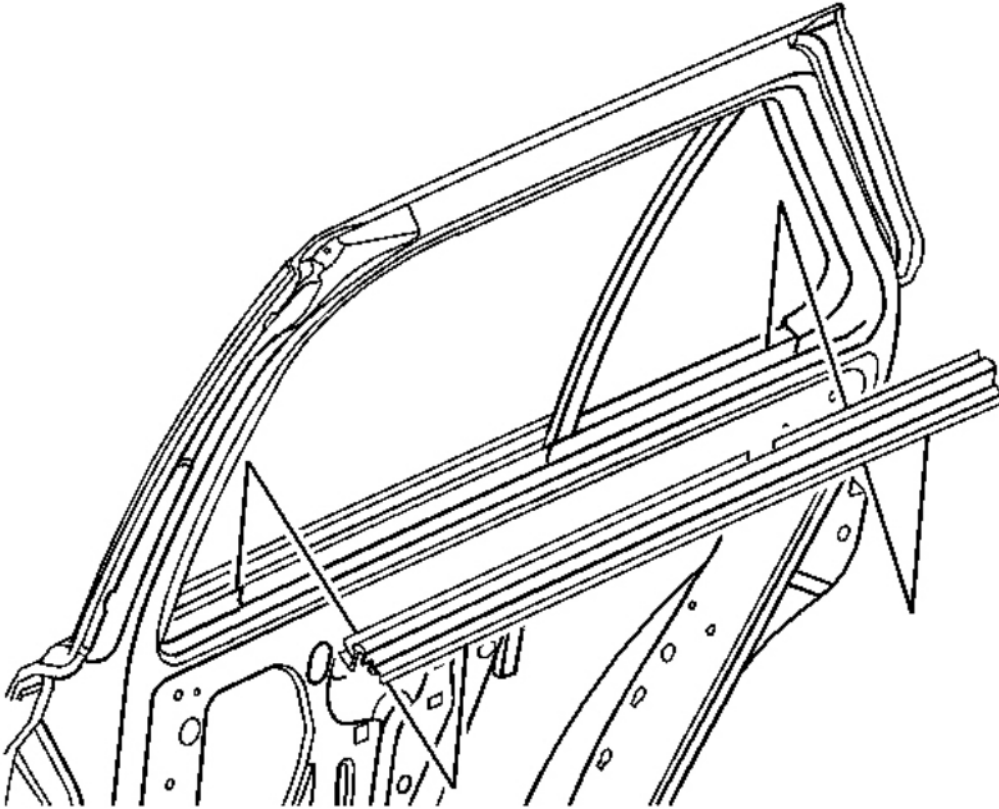


Fig. 163: View Of Rear Door Window Inner Sealing Strip
Courtesy of GENERAL MOTORS CORP.

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

SEALING STRIP REPLACEMENT - FRONT DOOR BOTTOM AUXILIARY

Removal Procedure

1. With the door open, remove the front door bottom sealing strip retainers.
2. Remove the sealing strip.

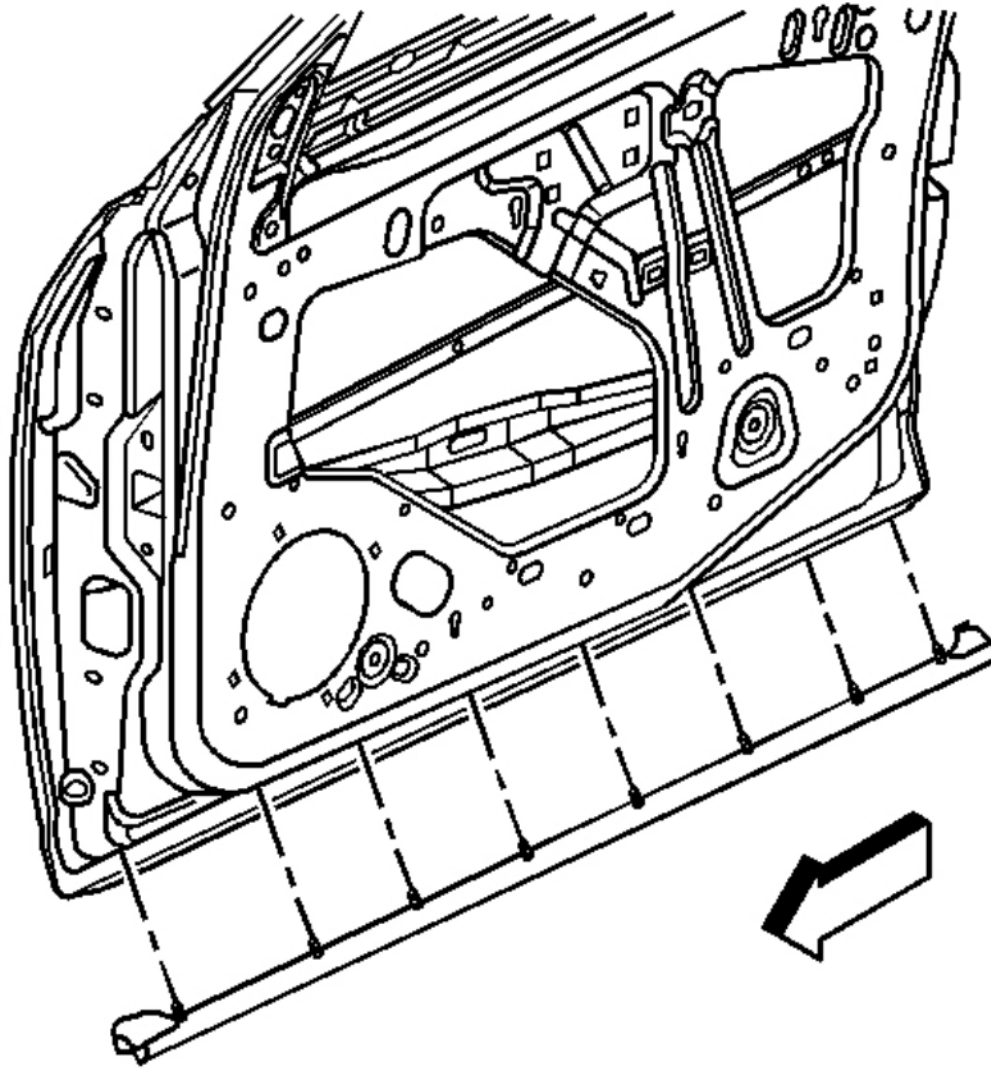


Fig. 164: View Of Front Door Bottom Sealing Strip
Courtesy of GENERAL MOTORS CORP.

Installation Procedure

1. Install the front door bottom sealing strip to the inside lower door edge.
2. Secure the sealing strip by inserting the retainers into the holes in the lower door panel.

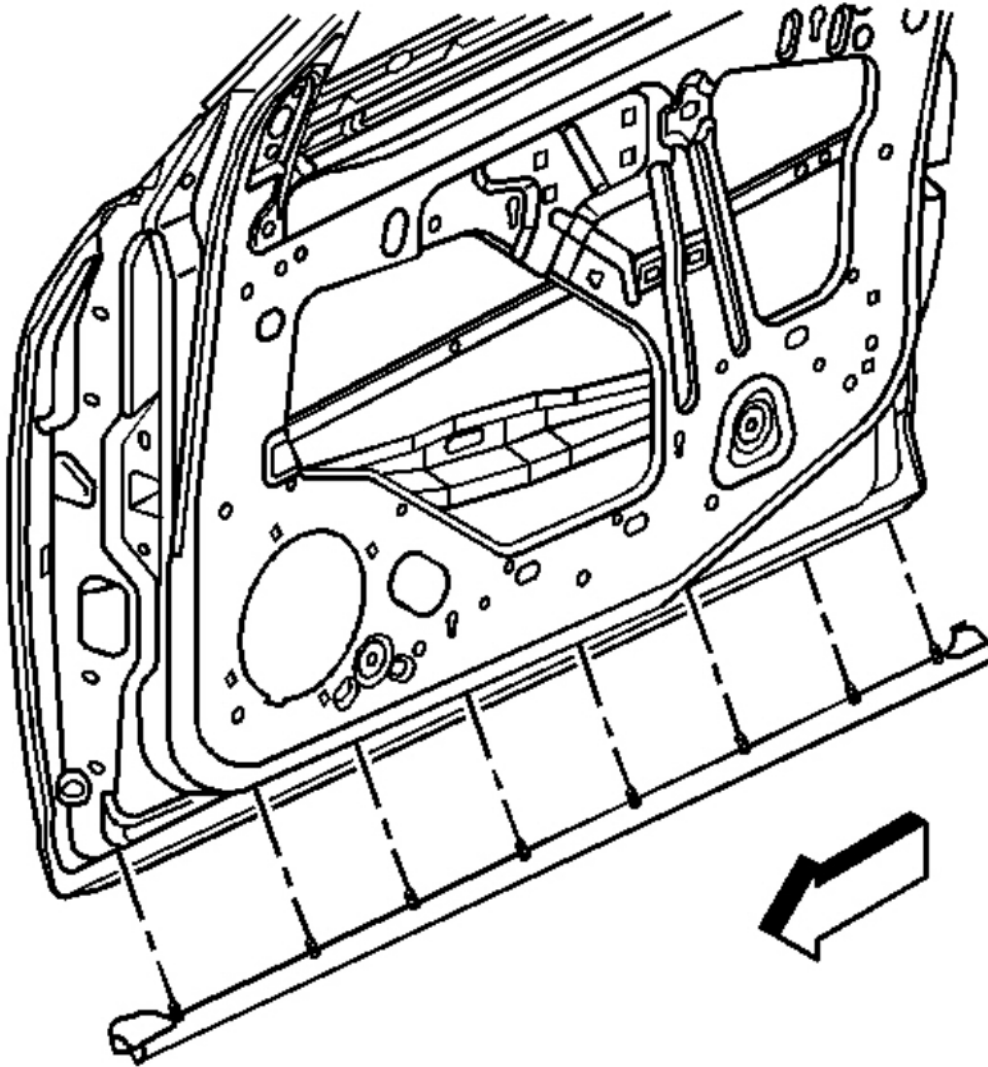


Fig. 165: View Of Front Door Bottom Sealing Strip
Courtesy of GENERAL MOTORS CORP.

SEALING STRIP REPLACEMENT - REAR DOOR BOTTOM AUXILIARY

Removal Procedure

1. With the door open, remove the rear door bottom sealing strip retainers.

2. Remove the sealing strip.

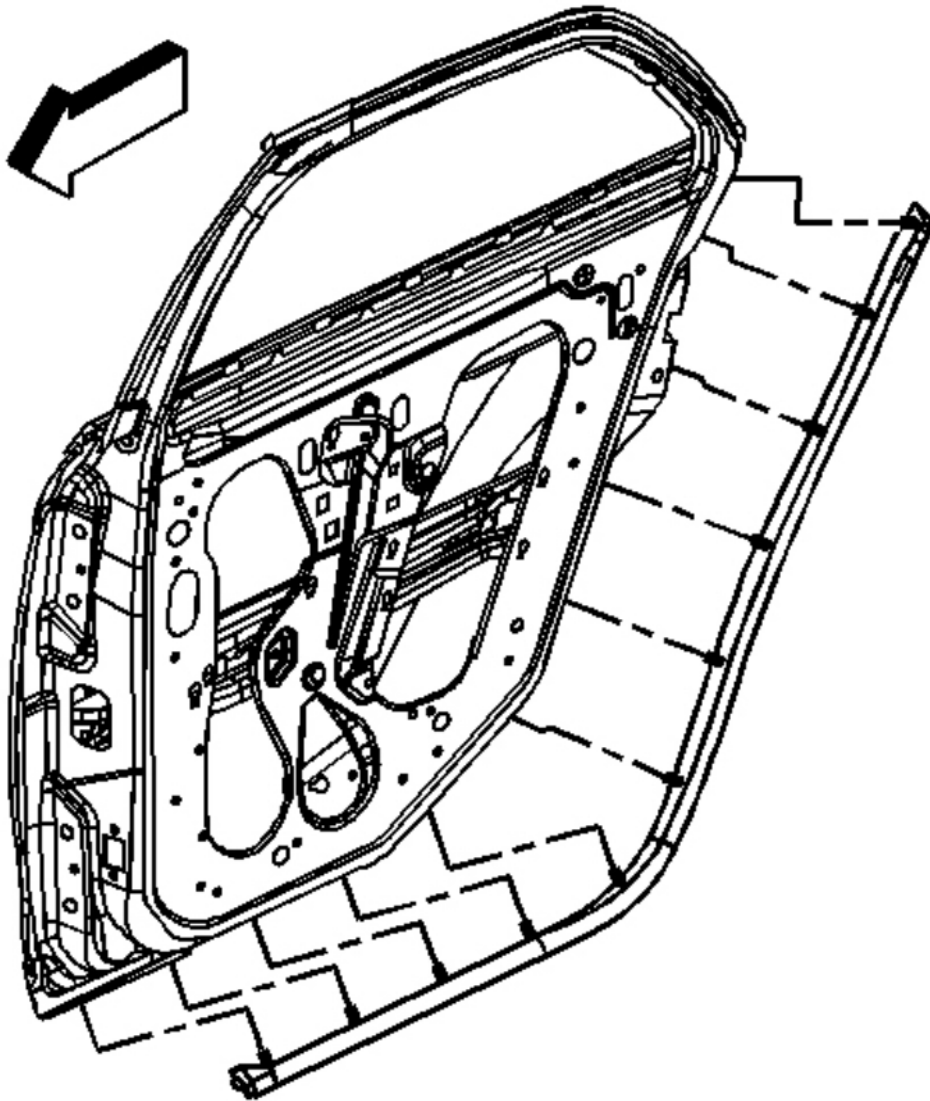


Fig. 166: View Of Rear Door Bottom Sealing Strip
Courtesy of GENERAL MOTORS CORP.

1. Install the rear door bottom sealing strip on to the inside lower door edge.
2. Secure the sealing strip by inserting the retainers into the holes in the lower door panel.

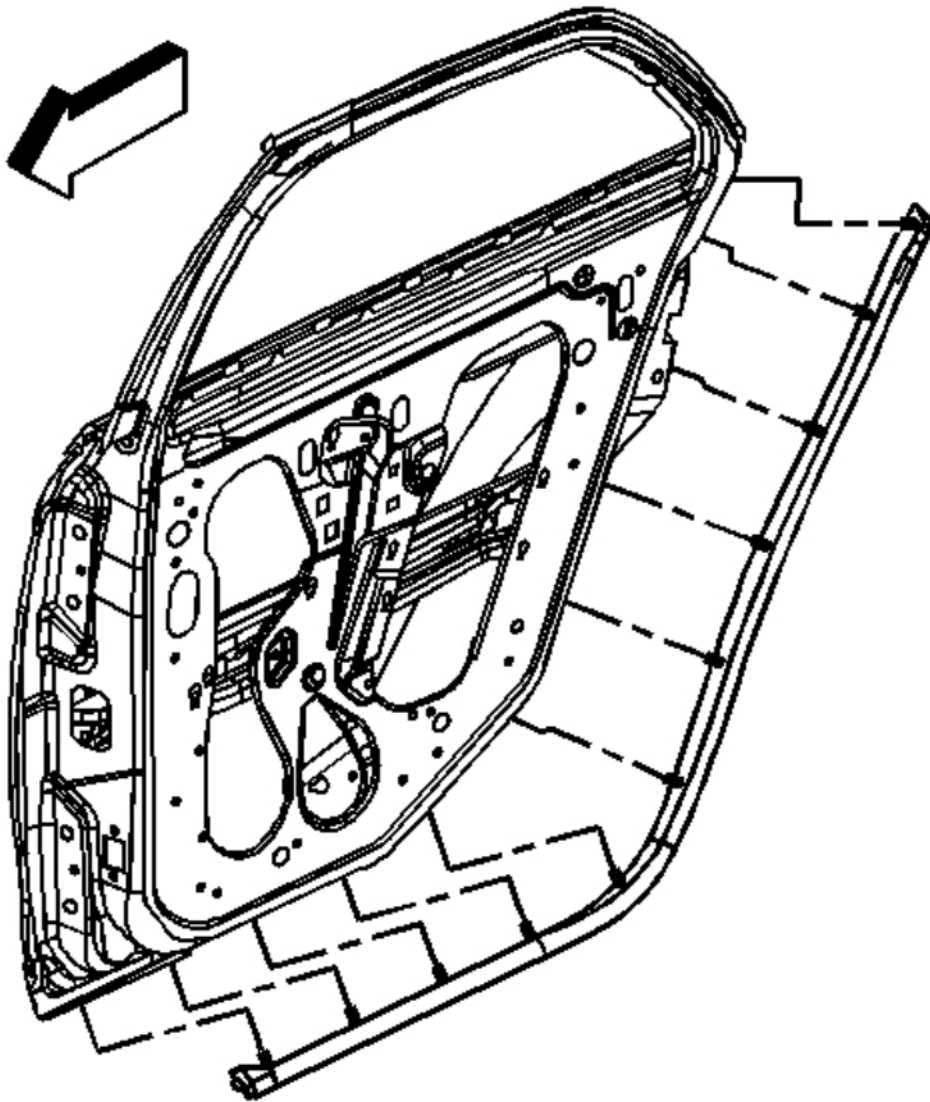


Fig. 167: View Of Rear Door Bottom Sealing Strip
Courtesy of GENERAL MOTORS CORP.

Removal Procedure

1. Remove the door trim panel. Refer to **Trim Panel Replacement - Side Front Door**.
2. Remove the window inner belt sealing strip. Refer to **Sealing Strip Replacement - Front Door Window Belt Inner**.
3. Starting at the rear lower end, pull the inner window weatherstrip away from the door header.

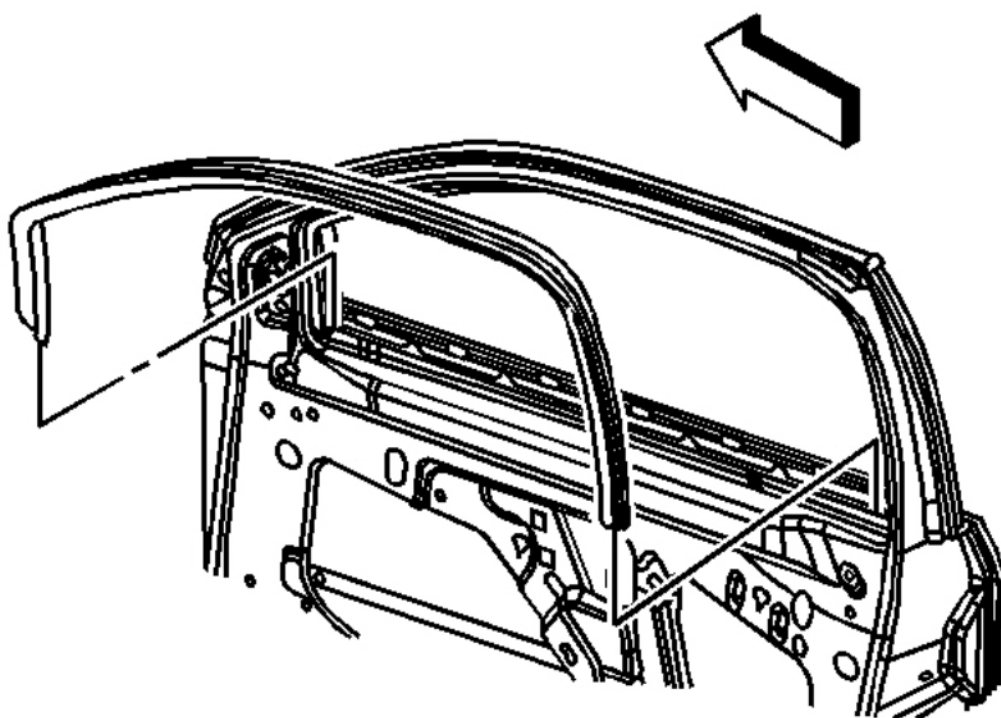


Fig. 168: View Of Front Door Window Inner Weatherstrip
Courtesy of GENERAL MOTORS CORP.

Installation Procedure

1. Starting at the upper, rear corner, install the inner window weatherstrip to the door pinchweld flange.
2. Install the window inner belt sealing strip. Refer to **Sealing Strip Replacement - Front Door Window Belt Inner**.

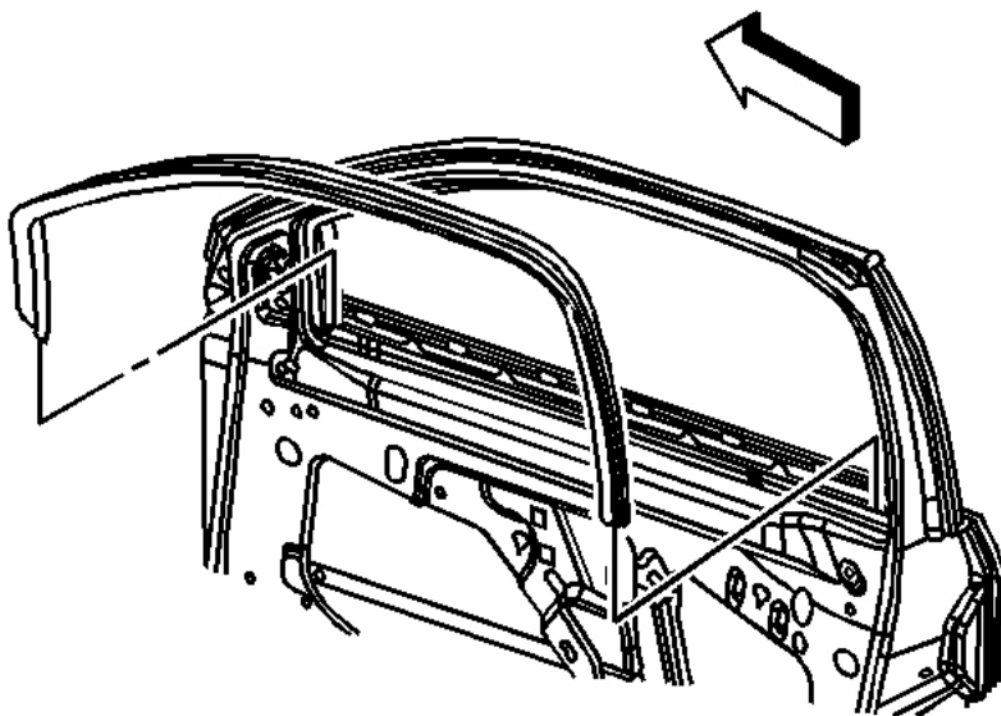


Fig. 169: View Of Front Door Window Inner Weatherstrip
Courtesy of GENERAL MOTORS CORP.

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

WEATHERSTRIP REPLACEMENT - REAR DOOR WINDOW - INNER

Removal Procedure

1. Remove the door trim panel. Refer to **Trim Panel Replacement - Side Rear Door**.
2. Remove the window inner belt sealing strip. Refer to **Sealing Strip Replacement - Rear Door Window Belt Inner**.
3. Starting at the front lower end, pull the inner window seal away from the door header pinch-weld flange.

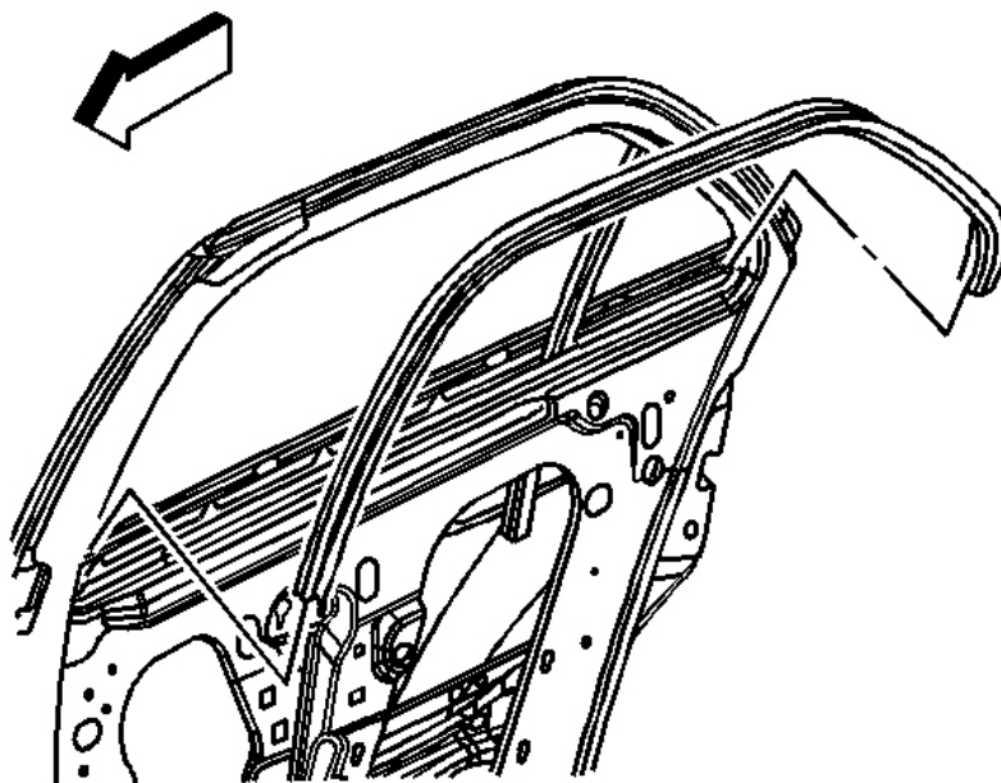


Fig. 170: View Of Rear Door Window Inner Weatherstrip
Courtesy of GENERAL MOTORS CORP.

Installation Procedure

1. Position the notch (1) in the weatherstrip to the top of the division post.
2. Install the weatherstrip onto the pinch-weld flange with notch (2) aligned to the vent window clip.
3. Engage the rear portion of the weatherstrip to the door pinch-weld flange working from the division post rearward.
4. Engage the center portion of the weatherstrip to the pinch-weld flange, bending the weatherstrip at the pillar.
5. Engage the remaining portion to the door pinch-weld flange down to the door depression.
6. Inspect the weatherstrip, from outside the door, along the applique channel and tuck the seal lip into the channel if required.

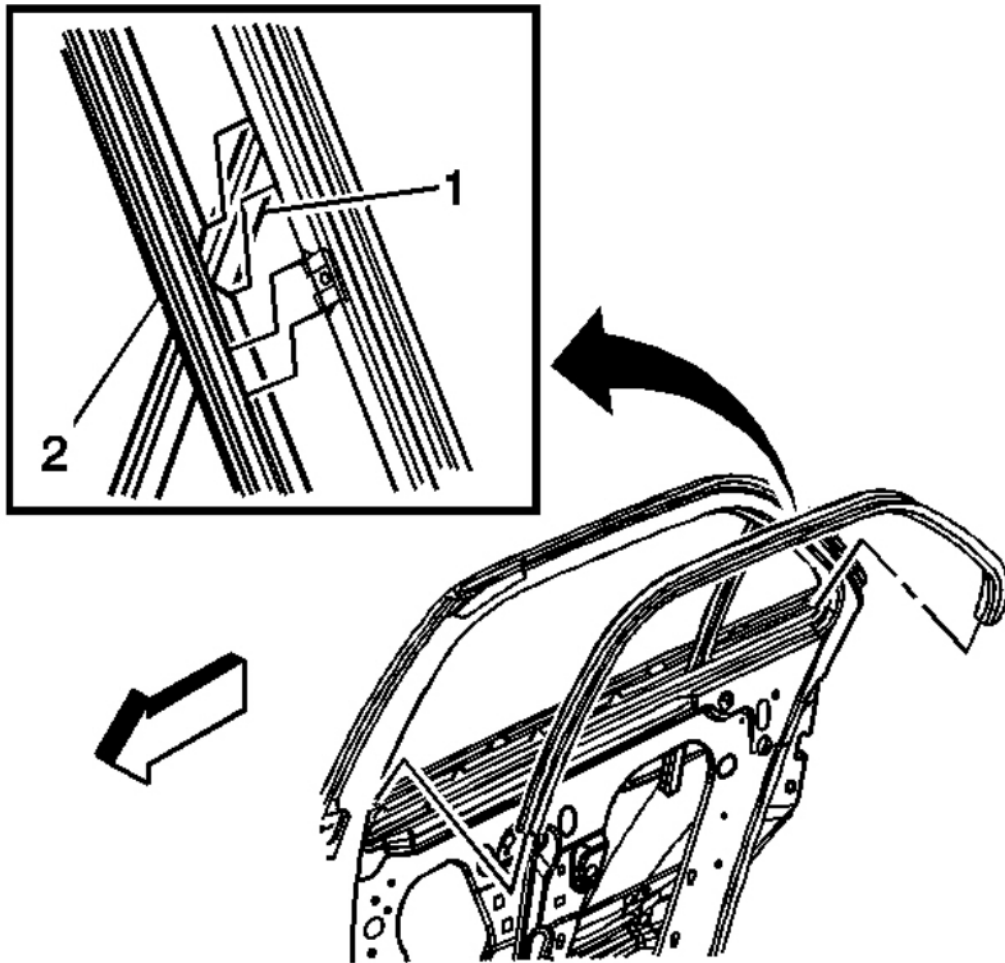


Fig. 171: Installing Rear Door Window Inner Weatherstrip
Courtesy of GENERAL MOTORS CORP.

7. Install the window inner belt sealing strip. Refer to **Sealing Strip Replacement - Rear Door Window Belt Inner**.
8. Install the door trim panel. Refer to **Trim Panel Replacement - Side Rear Door**.

WEATHERSTRIP REPLACEMENT - FRONT DOOR UPPER AUXILIARY

Removal Procedure

1. Lower the window to the full down position.

2. Remove the power mirror. Refer to Mirror Replacement - Power.
3. Remove the window outer belt sealing strip. Refer to Sealing Strip Replacement - Front Door Window Belt Outer.
4. Remove the screws (1, 3) from the front door upper auxiliary molding.
5. Remove the push-in fastener (2).
6. Remove the upper auxiliary molding.

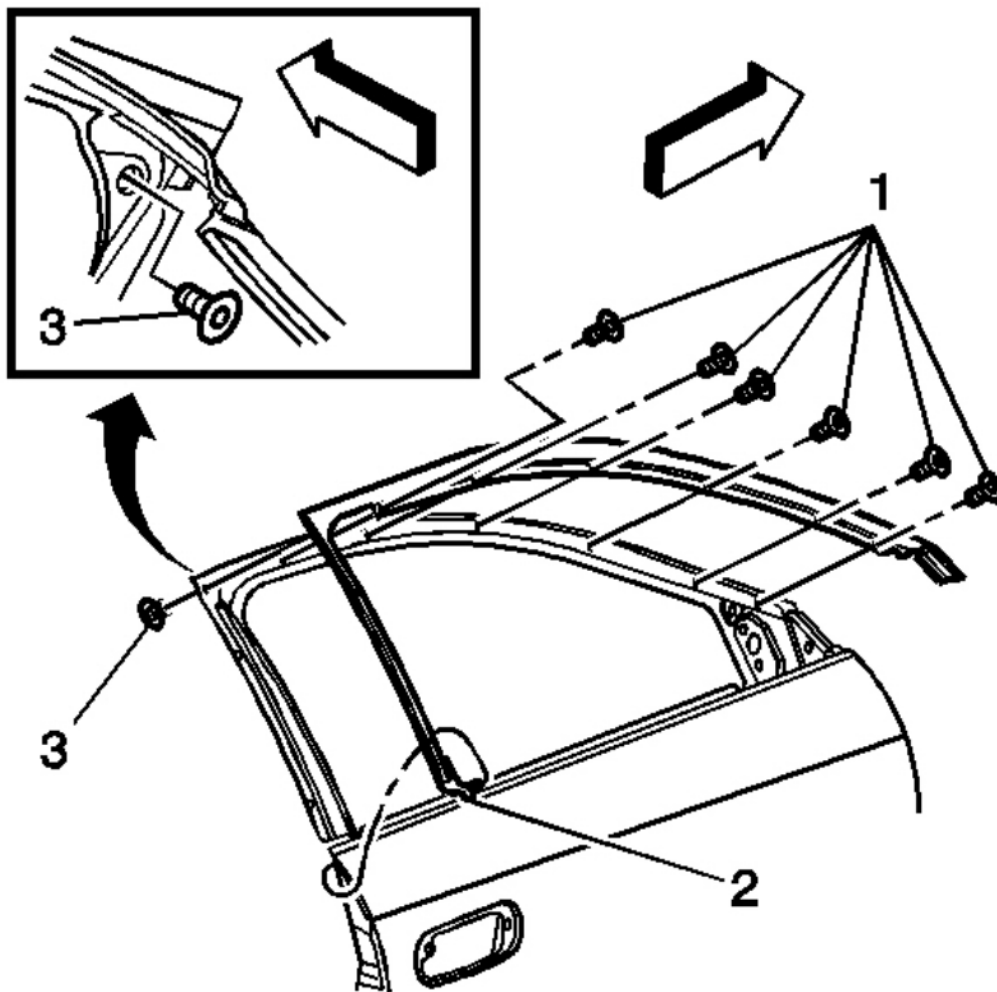


Fig. 172: View Of Front Door Window Upper Weatherstrip
Courtesy of GENERAL MOTORS CORP.

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Installation Procedure

1. Install the front door upper auxiliary molding onto the door frame.
2. Install the upper, rear, corner screw (3).
3. Install the push-in fastener (2) to the door.

NOTE: Refer to Fastener Notice in Cautions and Notices.

4. Install the screws (1).

Tighten: Tighten the screws (1, 3) starting at the rear and working forward to 2 N.m (18 lb in).

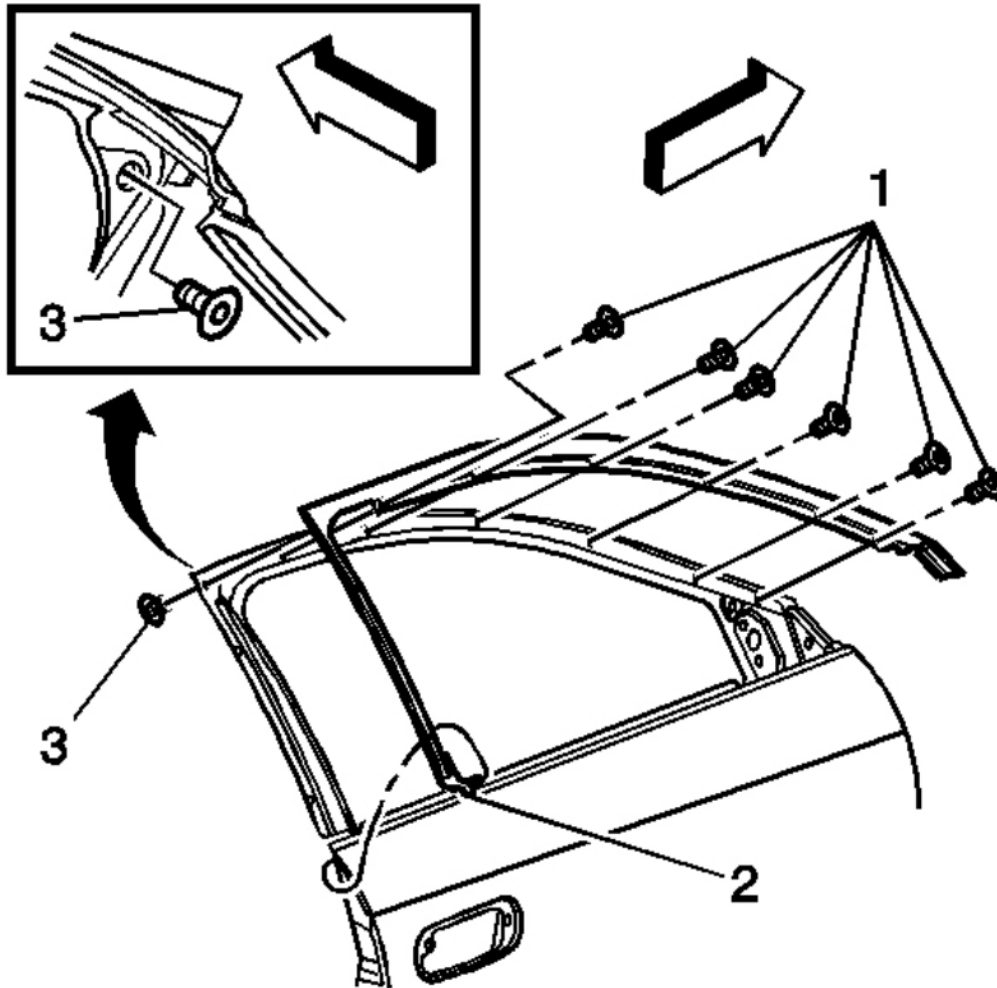


Fig. 173: View Of Front Door Window Upper Weatherstrip
Courtesy of GENERAL MOTORS CORP.

5. Install the outer belt sealing strip. Refer to **Sealing Strip Replacement - Front Door Window Belt Outer**.
6. Install the power mirror. Refer to **Mirror Replacement - Power**.

WEATHERSTRIP REPLACEMENT - REAR DOOR UPPER AUXILIARY

Removal Procedure

1. Lower the window to the full down position.
2. Remove the rear door stationary window/division channel. Refer to **Window/Division Channel - Rear Door Stationary**.
3. Remove the screws from the rear door upper auxiliary weatherstrip.
4. Remove the upper auxiliary weatherstrip.

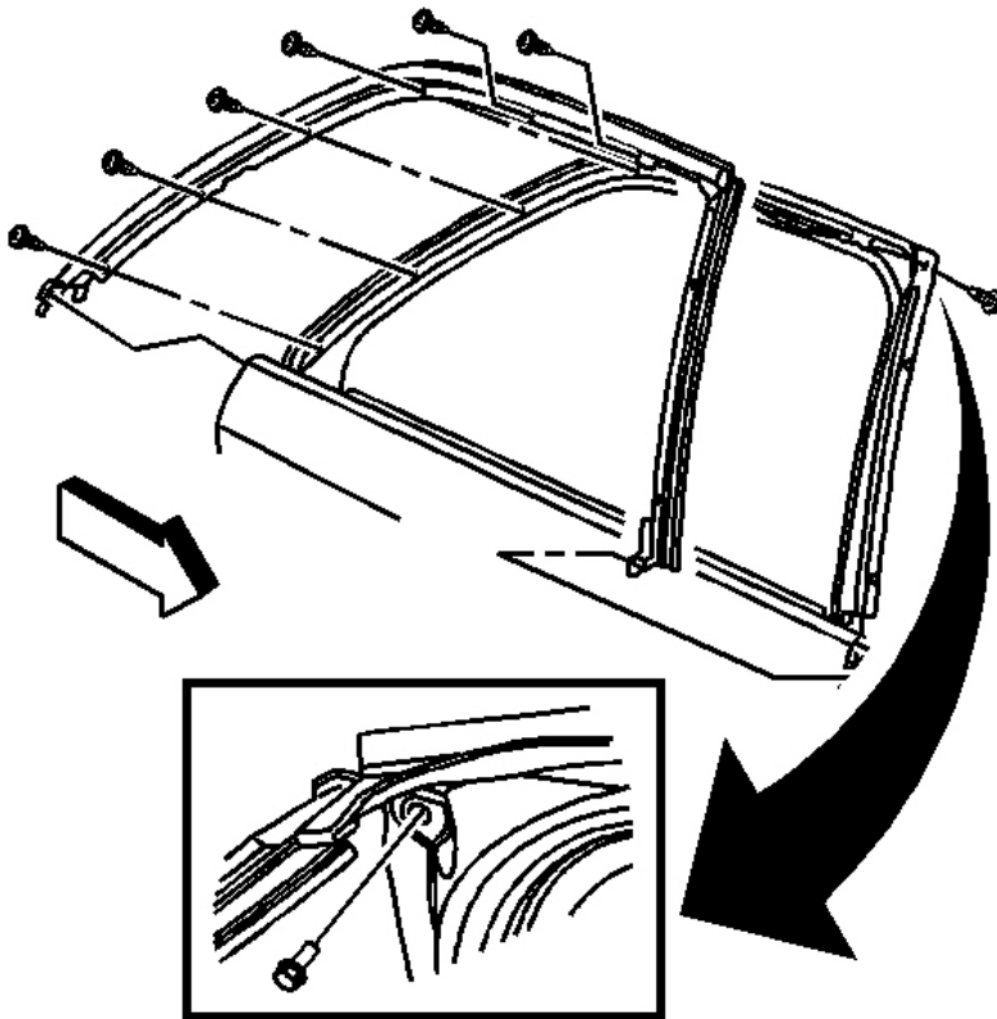


Fig. 174: View Of Rear Door Window Upper Weatherstrip
Courtesy of GENERAL MOTORS CORP.

Installation Procedure

1. Install the rear door upper auxiliary weatherstrip onto the door frame.

NOTE: Refer to Fastener Notice in Cautions and Notices.

2. Install the screws working from the front to the rear.

Tighten: Tighten the screws working from the front to the rear to 2 N.m (18 lb in).

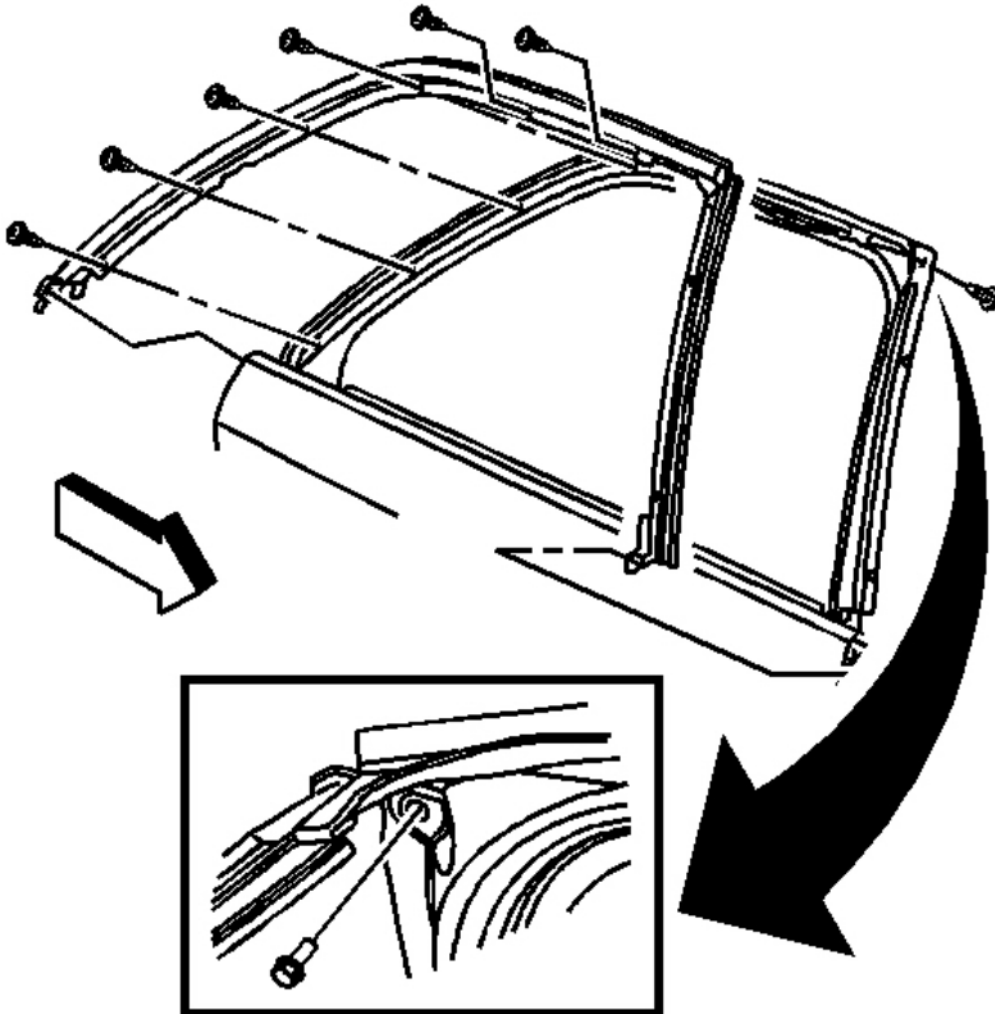


Fig. 175: View Of Rear Door Window Upper Weatherstrip
Courtesy of GENERAL MOTORS CORP.

3. Install the rear door stationary window/division channel. Refer to **Window/Division Channel - Rear Door Stationary**.

WEATHERSTRIP REPLACEMENT - FRONT DOOR OPENING

Removal Procedure

1. Remove the carpet retainer. Refer to **Carpet Retainer Replacement - Front** in Interior Trim.
2. Start at the rear upper corner of the door opening and pull the weatherstrip away from the door opening flange.
3. Work around the door opening and remove the weatherstrip (1).

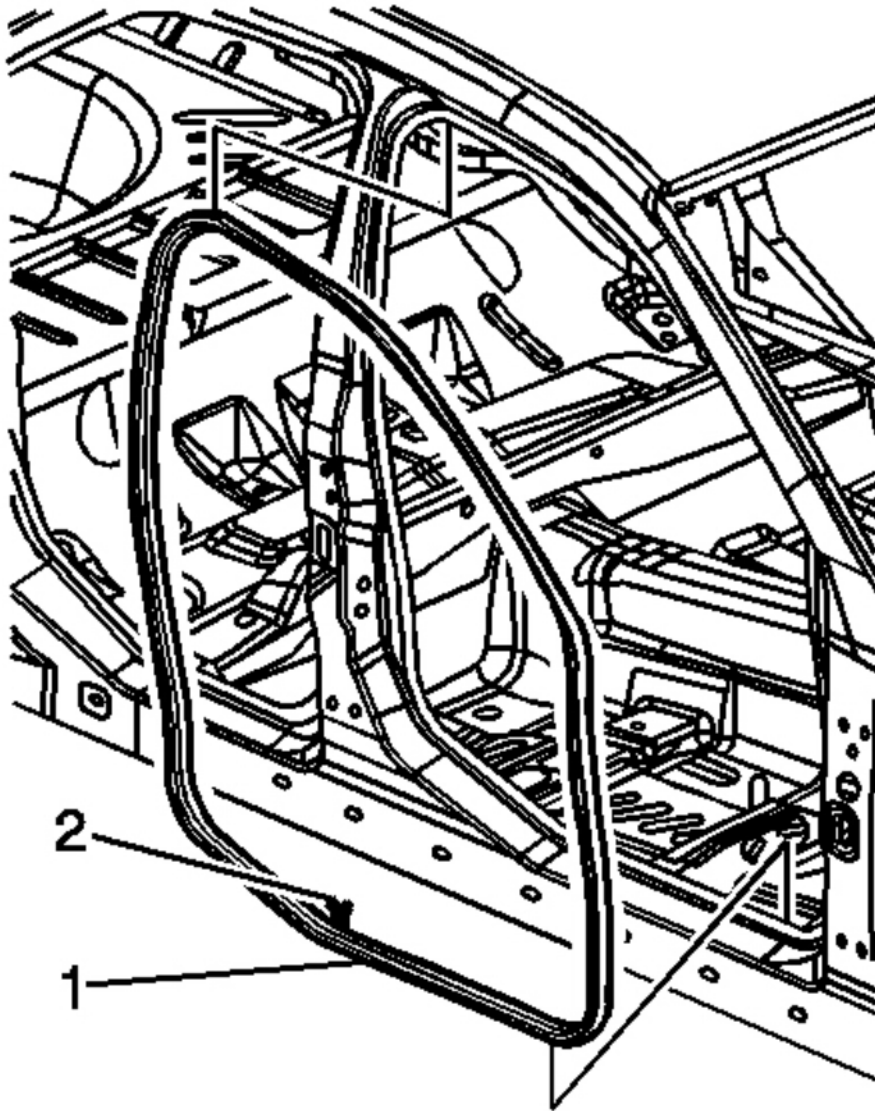


Fig. 176: View Of Front Door Opening Weatherstrip
Courtesy of GENERAL MOTORS CORP.

Installation Procedure

IMPORTANT: The rubber side of the weatherstrip should be outboard of the car.

2004 Cadillac SRX

2004 ACCESSORIES & EQUIPMENT Doors - SRX

1. Working downward along the rear edge, install the weatherstrip (1) on the door opening flange ensuring that the carrier is fully seated in the corners.
2. From the center pillar working forward, install the weatherstrip along the roof rail and the window-pillar flange ensuring that the carrier is fully seated in the corners.
3. Using a rubber mallet, ensure that the weatherstrip is seated on the entire door opening flange.
4. Using a plastic trim stick or an equivalent, position the close-out lip over the interior trim around the door opening, or use the ripcord (2), on new weatherstrip, under the close-out lip, in order to reposition the lip over the interior trim.

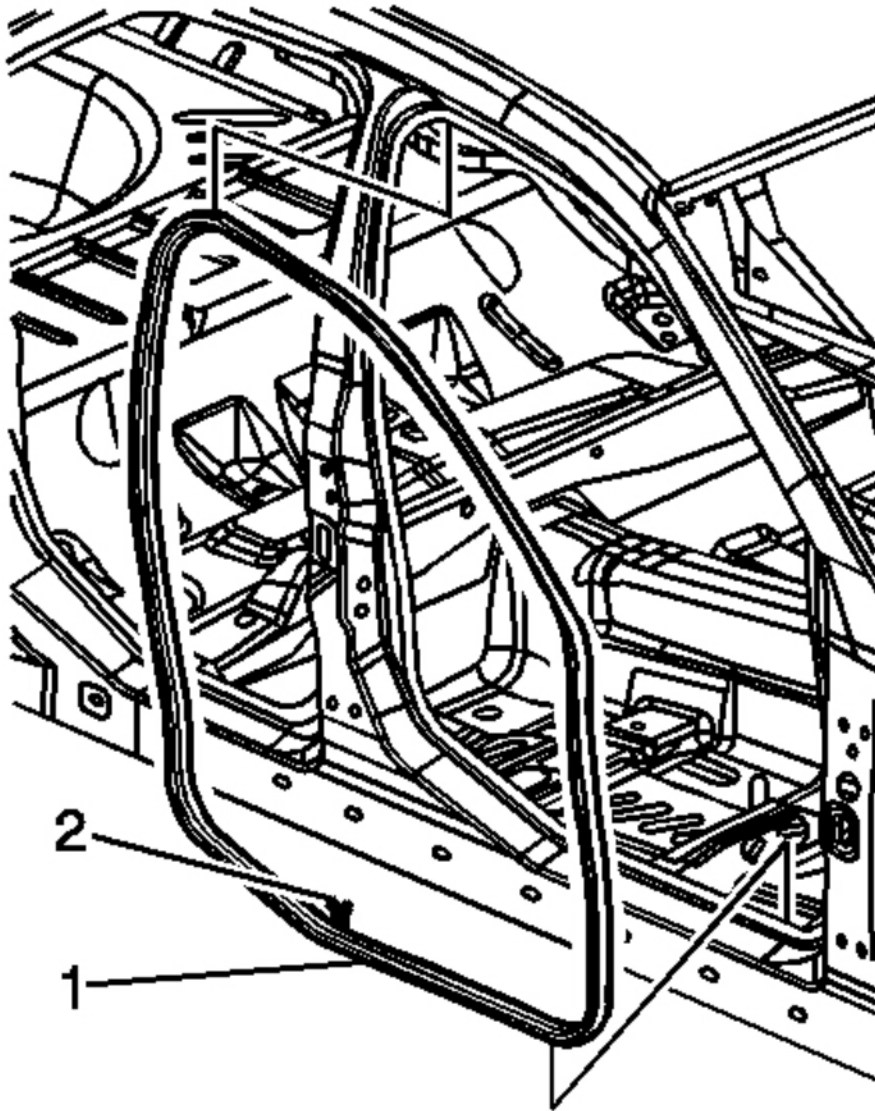


Fig. 177: View Of Front Door Opening Weatherstrip
Courtesy of GENERAL MOTORS CORP.

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

Removal Procedure

1. Remove the carpet retainer. Refer to **Carpet Retainer Replacement - Rear** in Interior Trim.
2. Start at the rear upper corner of the door opening and pull the weatherstrip away from the door opening flange.
3. Work around the door opening to remove the weatherstrip.

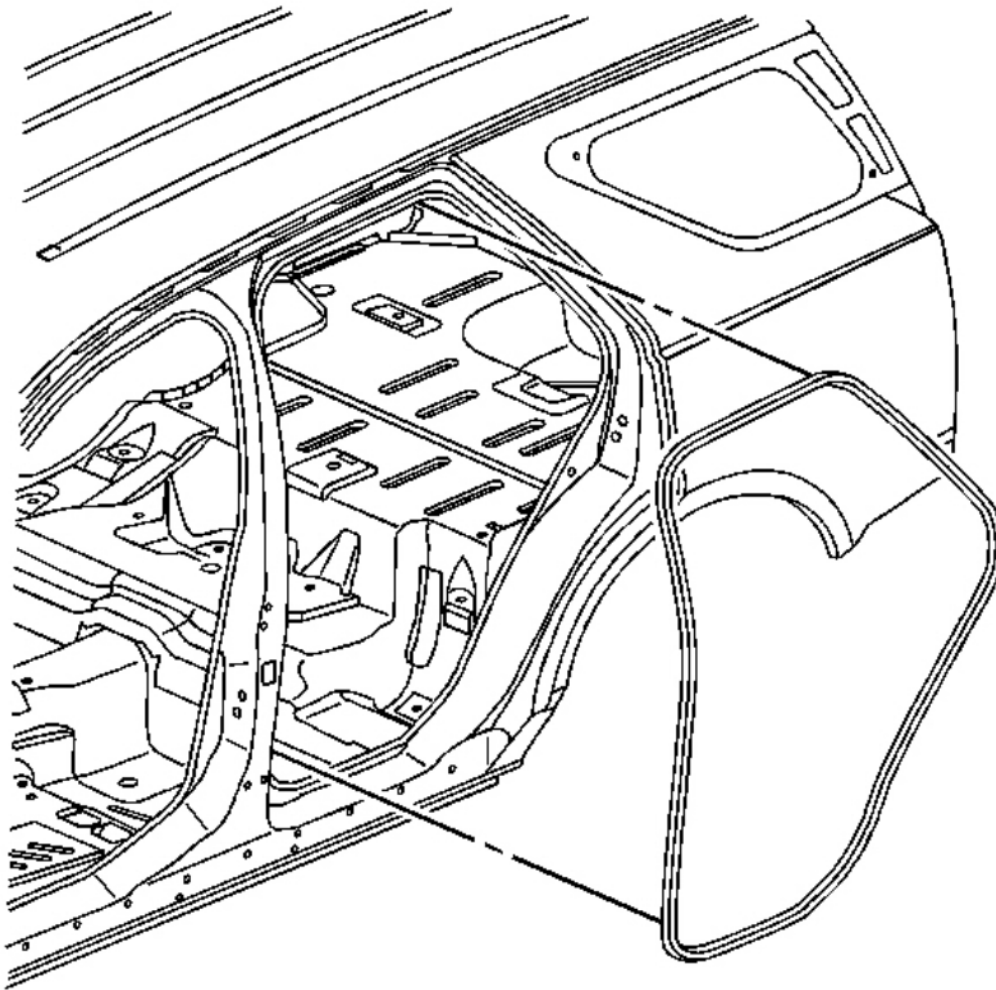


Fig. 178: View Of Rear Door Opening Weatherstrip
Courtesy of GENERAL MOTORS CORP.

Installation Procedure

1. Position the weatherstrip in the upper corner of the center pillar.

IMPORTANT: The rubber side of the weatherstrip should be outboard of the car.

2. Working downward along the front edge, install the weatherstrip on the door opening flange ensuring that the carrier is fully seated in the corners.
3. From the center pillar corner working rearward, install the weatherstrip along the roof rail and the rear of the door opening.
4. Using a rubber mallet, ensure that the weatherstrip is seated on the entire door opening flange.
5. Using a plastic trim stick or an equivalent, position the close-out lip over the interior trim around the door opening, or use the pull-string, on new weatherstrip, under the close-out lip, in order to reposition the lip over the interior trim.

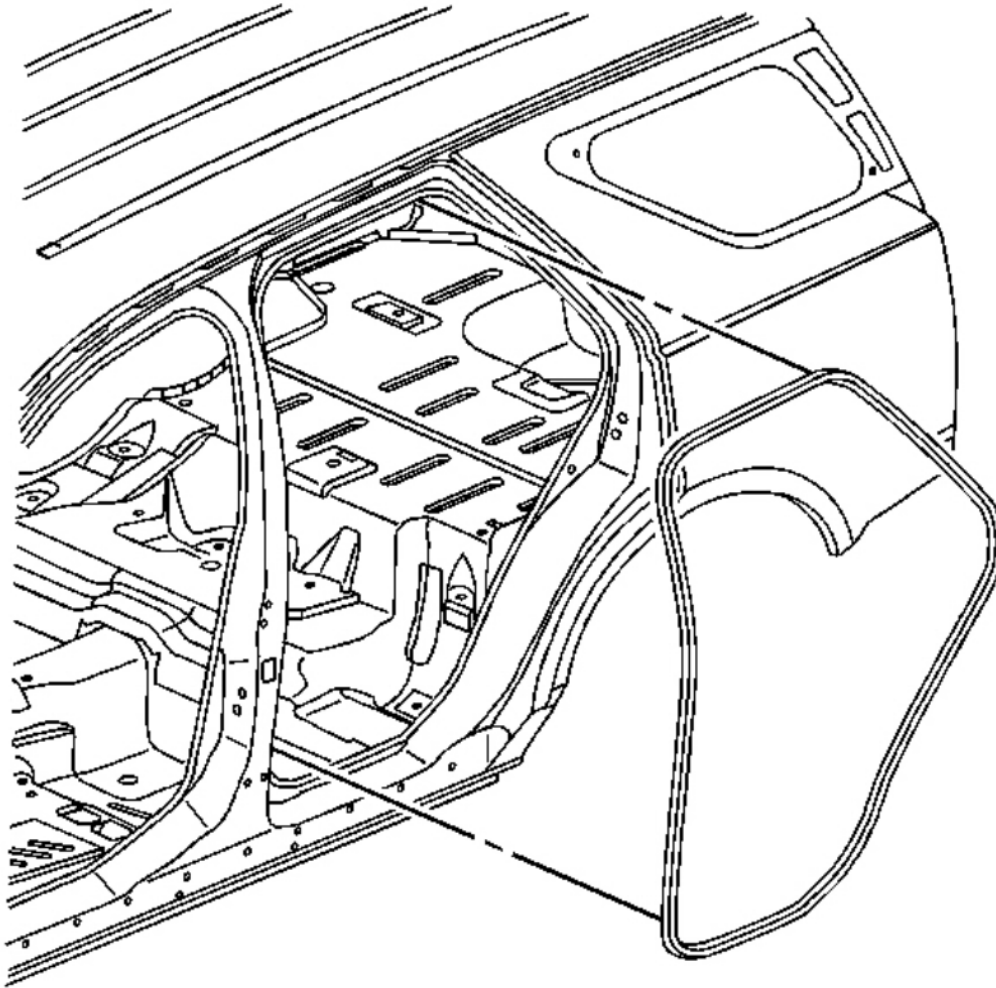


Fig. 179: View Of Rear Door Opening Weatherstrip
Courtesy of GENERAL MOTORS CORP.

6. Install the carpet retainer. Refer to **Carpet Retainer Replacement - Rear** in Interior Trim.

MIRROR REPLACEMENT - POWER

Removal Procedure

1. Remove the door trim panel. Refer to **Trim Panel Replacement - Side Front Door**.
2. Disconnect the power mirror wire harness electrical connector (3).

3. Remove the mirror fasteners (4, 5, 6).
4. Remove the mirror (1) from the door.
5. Pull the wiring harness through the hole in the mirror patch.

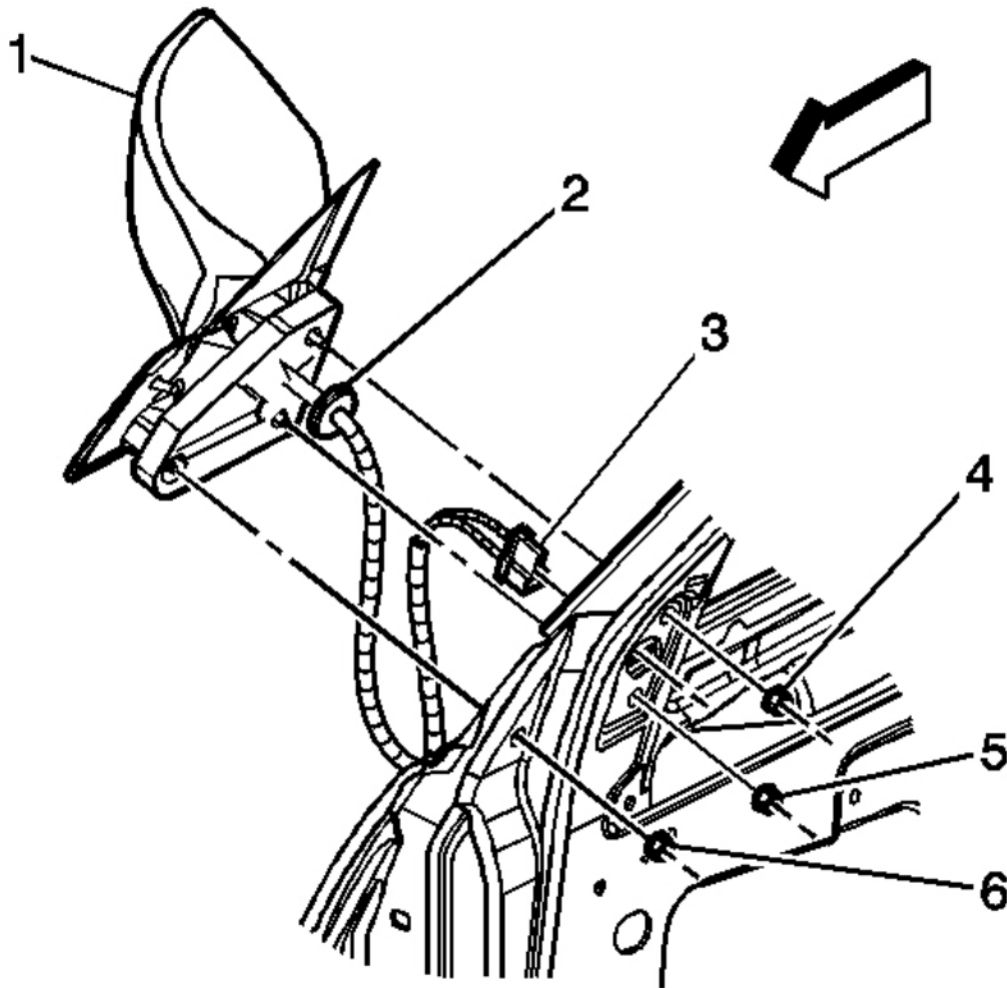


Fig. 180: View Of Power Mirror
Courtesy of GENERAL MOTORS CORP.

Installation Procedure

1. Route the mirror wiring harness through the hole in the mirror patch.

2. Seat the grommet (2) into the hole in the door frame.
3. Install the mirror (1) into the door frame.

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

4. Install the mirror fasteners in the following sequence:

Tighten:

1. Tighten the top mirror fastener (4) to 9 N.m (80 lb in).
 2. Tighten the forward mirror fastener (5) to 9 N.m (80 lb in).
 3. Tighten the rear, lower mirror fastener (6) to 9 N.m (80 lb in).
5. Connect the power mirror electrical connector (3).

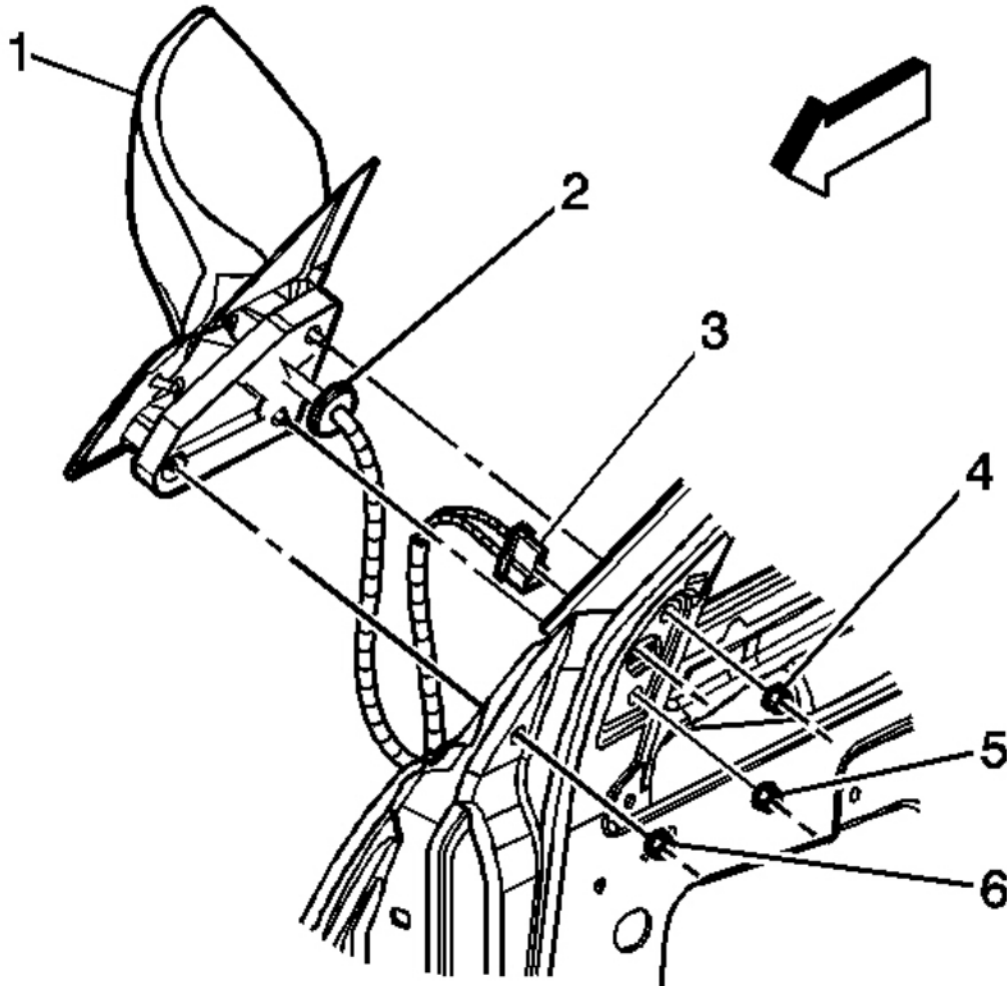


Fig. 181: View Of Power Mirror
Courtesy of GENERAL MOTORS CORP.

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

MIRROR FACE REPLACEMENT

Tools Required

J 38778 Door Trim Pad Clip Remover. See Special Tools and Equipment.

Removal Procedure

CAUTION: When working with any type of glass or sheet metal with exposed or rough edges, wear approved safety glasses and gloves in order to reduce the chance of personal injury.

1. Apply several layers of masking tape (1) to the top of the outside rearview mirror housing in order to protect the painted finish.
2. Push the mirror face (2) inward at the bottom of the face until full travel is reached.

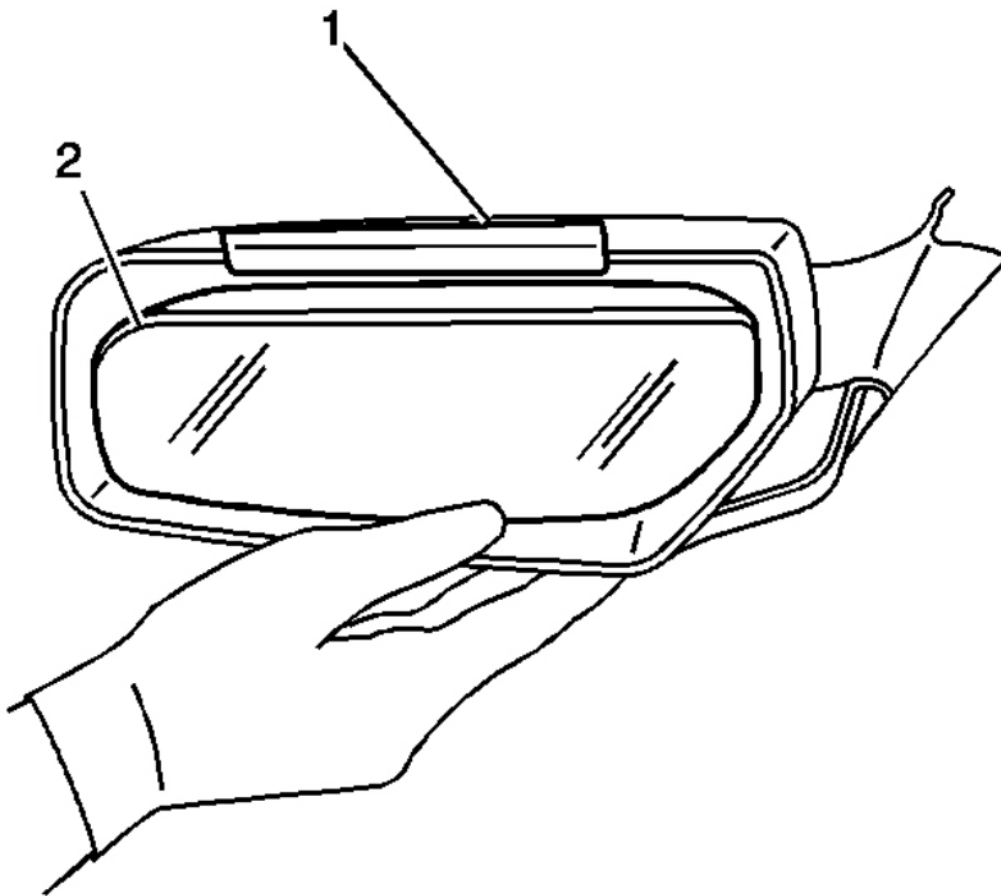


Fig. 182: Applying Masking Tape To Mirror
Courtesy of GENERAL MOTORS CORP.

3. Remove the mirror face.
 1. Retain pressure on the bottom of the mirror face.
 2. Insert a **J 38778** or the equivalent behind the glass and the first support rib. See **Special Tools and Equipment**.
 3. Pry outward until the mirror face is released.

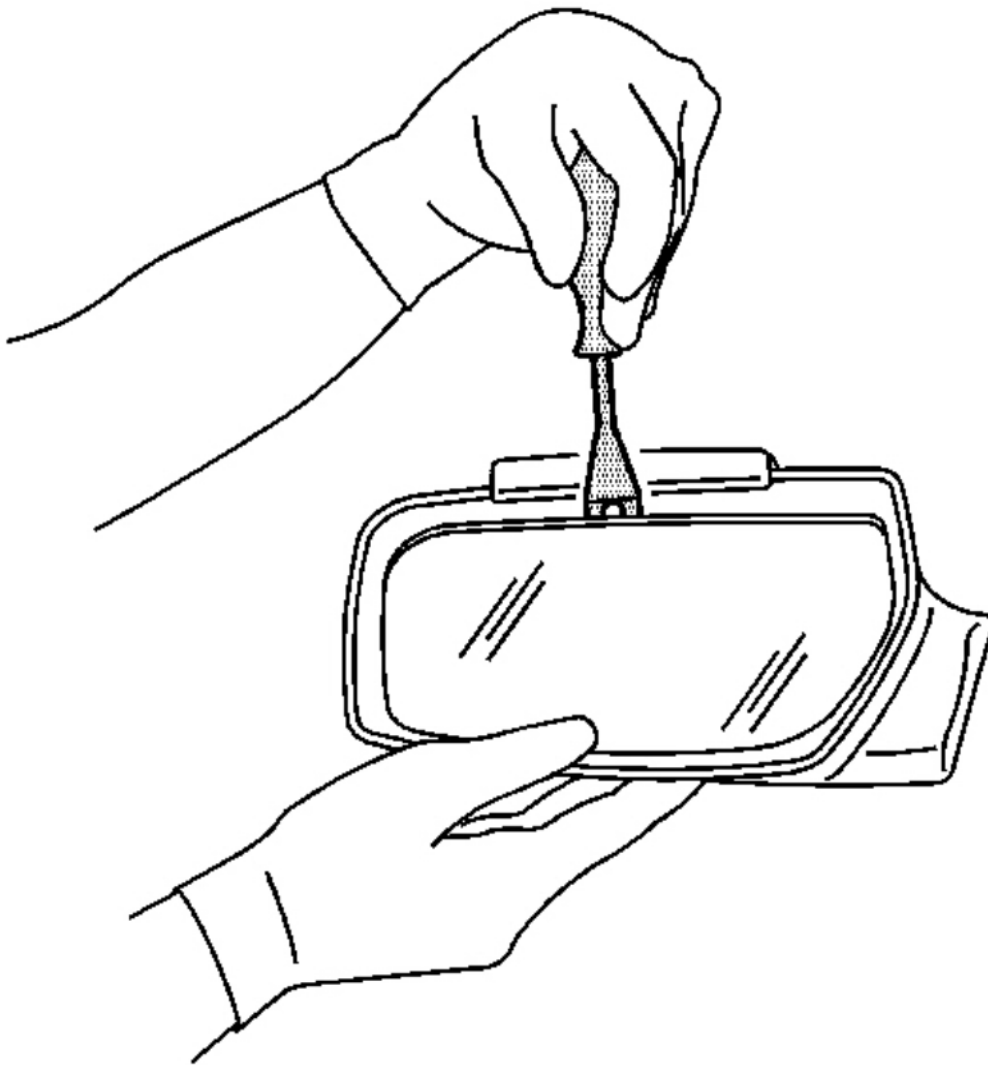


Fig. 183: Removing Mirror Face

Courtesy of GENERAL MOTORS CORP.

4. Disconnect the electrical connectors (1).

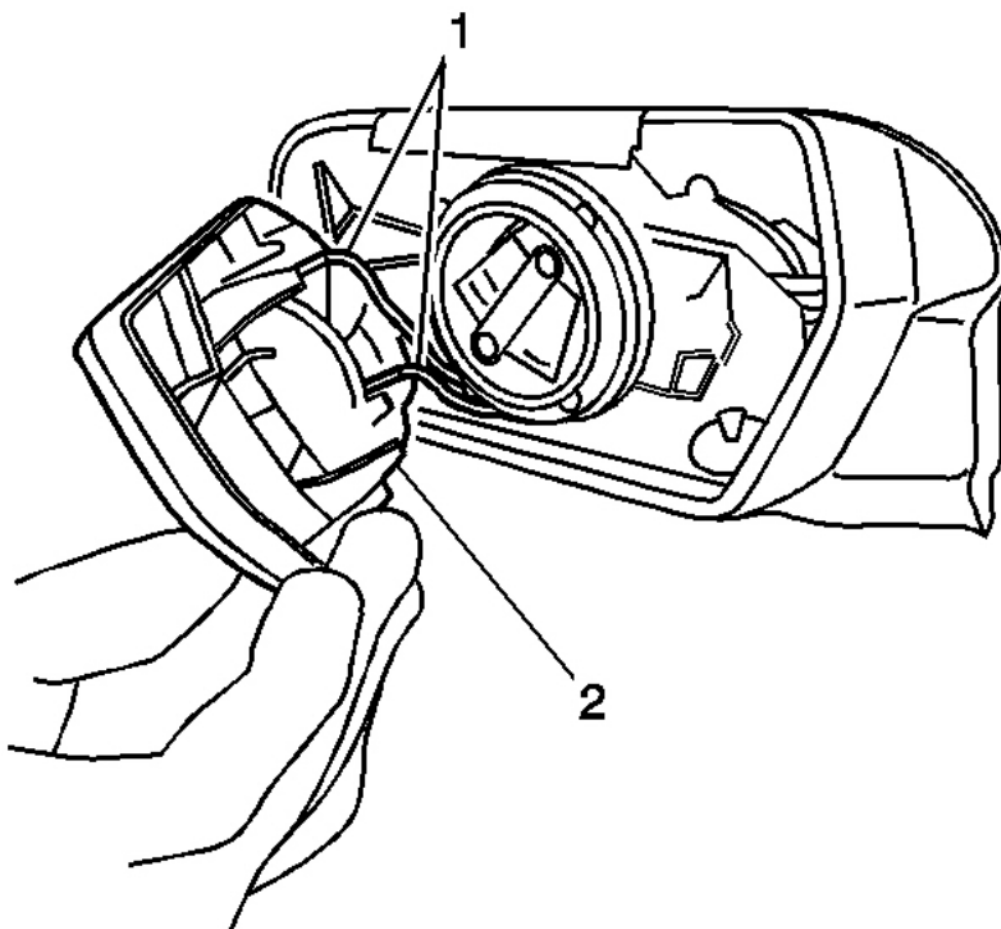


Fig. 184: View Of Mirror Electrical Connectors
Courtesy of GENERAL MOTORS CORP.

Installation Procedure

1. Connect the electrical connectors (1).

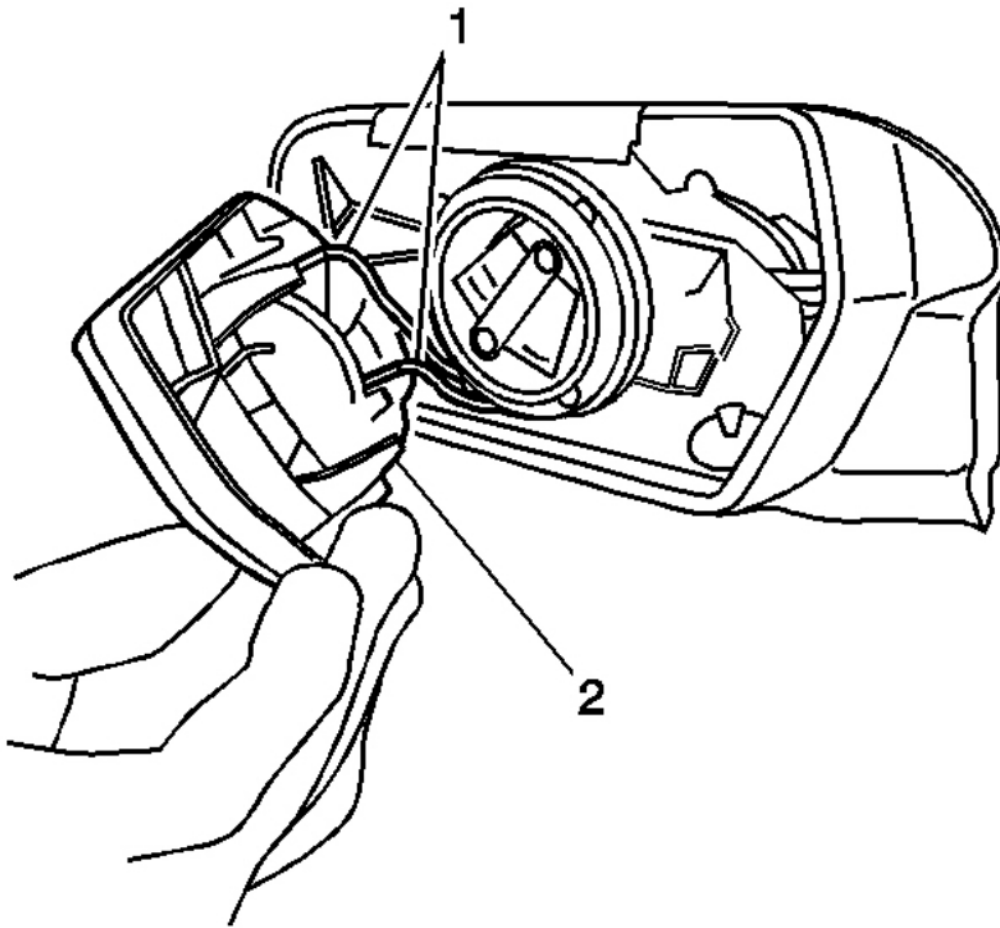


Fig. 185: View Of Mirror Electrical Connectors
Courtesy of GENERAL MOTORS CORP.

2. Align the mirror face and backing plate assembly to the retaining tabs (1) on the motor pack.

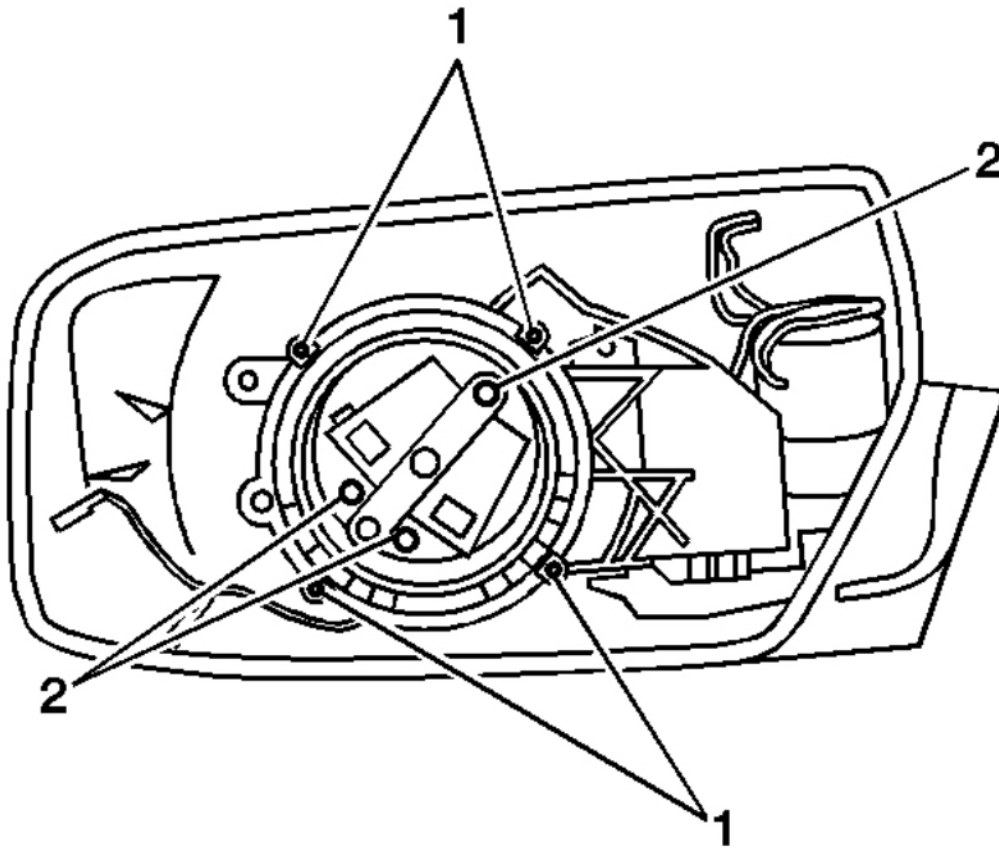


Fig. 186: View Of Power Mirror Motor Pack
Courtesy of GENERAL MOTORS CORP.

3. Using a 9 cm (3 in) rubber sanding block placed on the center of the mirror face, apply pressure until an audible click is heard.

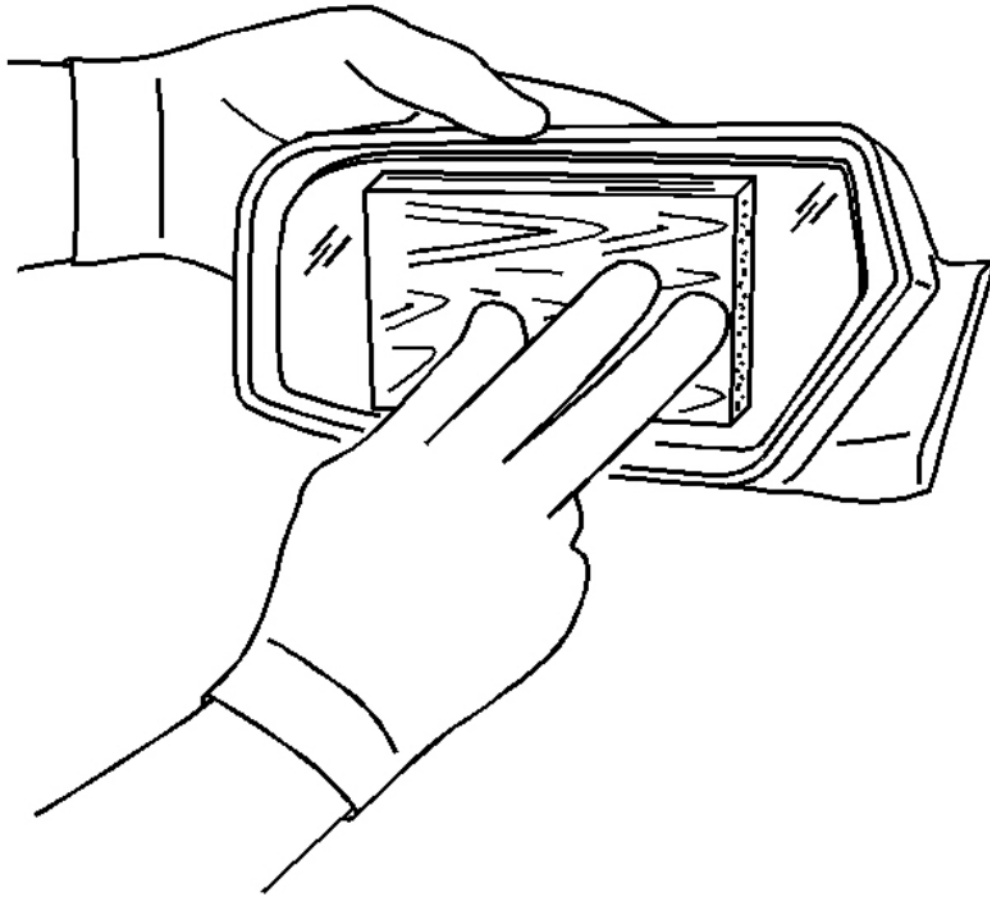


Fig. 187: Installing Mirror Face
Courtesy of GENERAL MOTORS CORP.

4. Inspect the power mirror for proper operation.
5. Remove the masking tape.

DESCRIPTION AND OPERATION

POWER WINDOWS DESCRIPTION AND OPERATION

Power Windows System Components

The following components are used to control the power windows:

- Driver door module (DDM)
- Passenger front door module (PDM)
- LH rear door module (LRDM)
- RH rear door module (RRDM)
- Driver door switch assembly (DDSA)
- RH front power window switch
- LH rear power window switch
- RH rear power window switch
- LH front power window motor
- RH front power window motor
- LH rear power window motor
- RH rear power window motor
- Class 2 serial data link
- DR MOD PWR C/B 30 Amp circuit breaker
- DRIVER DR MOD 10 Amp fuse - DDSA and DDM logic, DDM internal driver operation.
- PSGR DR MOD 10 Amp fuse - PDM logic and internal driver operation.
- REAR DR MOD 15 Amp fuse - LRDM and RRDM logic and internal driver operation.

Power Windows Operation

The vehicle is equipped with power windows controlled by the door modules. Each passenger door window can be operated, either from a power window switch built into the driver door switch assembly (DDSA), or, from a power window switch mounted locally on its associated door. The driver door window can be operated only from the driver door power window switch built into the DDSA.

When the driver door module (DDM) receives a driver door window switch request from the DDSA, the DDM examines the request and inspects to see if it has received any messages from any of the other vehicle modules prohibiting the movement. If no prohibitive messages have been received, the DDM then applies power and ground to the driver door window motor to move the window as requested.

When a passenger door module, passenger front door module (PDM), LH rear door module (LRDM), or RH rear door module (RRDM), receives a window switch request from, either the DDSA or the window switch mounted locally to its door, the passenger door module examines

the request and inspects to see if it has received any messages from any of the other vehicle modules prohibiting the movement. If no prohibitive messages have been received, the passenger door module then applies power and ground to its associated window motor to move the window as requested.

Door Modules Power and Ground

For power up, each door module has a separate battery voltage circuit fed by the rear fuse block, and, one or more separate ground circuits connected to a ground stake. These voltage and ground circuits are in the C3 harness connector of each door module and are also used for power window switch and express up sensors, and for power outside rearview mirror and door lock operations. Door modules power and ground, as it applies to mirrors and locks, is discussed in the applicable mirrors and locks description and operations sections.

Door modules battery voltage is supplied as follows:

- The DDM battery positive voltage circuit is fed by the DRIVER DR MOD 10 amp fuse in the rear fuse block.
- The PDM battery positive voltage circuit is fed by the PSGR DR MOD 10 amp fuse in the rear fuse block.
- The LRDM and RRDM also have separate battery voltage circuits, but they are both fed by the REAR DR MOD 15 amp fuse.

These voltage and ground circuits must not be confused with the power and ground circuits used exclusively to drive the power window motors, which are discussed in the following paragraph.

Window Motors Power and Ground

Each door module has a separate battery voltage supply circuit used exclusively for power window motor operation. However, these individual circuits are spliced into one circuit, which is fed by the DR MOD PWR C/B circuit breaker located in the rear fuse block. Each door module also has a separate ground circuit, connected to a ground stake, and used exclusively for power window motor operation. When a door module drives a power window motor, the door module internally connects these voltage and ground circuits to the appropriate window motor control circuits. These power and ground supply circuits are in the C1 harness connector of each door module.

Passenger Door Window Switches

Each passenger door has a power window switch mounted to it. The passenger door modules, PDM, LRDM, and RRDM, each supply battery voltage and ground to their associated power

window switch. There are 3 circuits for voltage between each passenger door power window switch and its associated door module, one for an Up signal, one for a Down signal, and one for an Express signal. The door modules each supply ground to their switch via a fourth circuit. When the switch is activated for an Up, Down, or Express function, the normally open switch contacts for that function are closed to ground, and voltage flows through the switch, providing the associated door module with the necessary signal.

Driver Door Switch Assembly (DDSA)

The driver door switch assembly (DDSA) receives power and ground, through separate circuits, from the driver door module (DDM). The DDSA contains the only power window switch for the driver door window, however, it also contains a window switch for each of the vehicles passenger doors. These switches differ from the individual power window switches mounted locally to each passenger door in that, the DDSA powers them internally. When a power window switch on the DDSA is operated, the normally open switch contacts for that function are closed, and battery voltage flows through the switch. The DDSA interprets the switch signal, and then sends the appropriate request message, via the class 2 serial data link, to the appropriate door module to operate the window.

Window Motors

Each door module applies battery voltage and ground, through the window motor control circuits, to its associated window motor. The window motors are reversible. The direction the window moves depends on which motor control circuit the voltage is applied to, and which motor control circuit the ground is applied to. To move the window in the Up direction, the module applies voltage to the window motor Up control circuit, and ground to the window motor Down control circuit. When a window movement in the opposite direction is needed, the module reverses the polarity and applies voltage and ground to the opposite circuits to move the window in the reverse direction. During a window Express operation, the door module applies the voltage and ground to the window motor until the window is either fully open or fully closed.

Windows Express Down Feature

All of the windows have the Express Down feature. This allows the window to be fully opened by momentarily pressing the window switch to the second detente of the Down position. Any passenger door window can be expressed down from, either the appropriate window switch built into the DDSA, or from the window switch mounted to the associated passenger door. When either switch is operated to Express Down, both the Down contacts and the Express contacts of the switch being used are closed to ground and the 2 contact signal is interpreted as an Express Down request. If the window is operated from a passenger door window switch, the door module associated with the switch interprets the 2 contact signal. If the window is operated from the

driver door, it is the DDSA that interprets the 2 contact switch signal.

Windows Express Up Feature

The driver door and the front passenger door have the Express Up feature. This allows the front door windows to be fully closed by momentarily pressing the window switch to the second detente of the Up position. However, because of safety concerns, the windows Express Up system is more complicated than the Express Down system. The Express Up system has been designed to detect when an object has become trapped between the window glass and the window frame, and to take the appropriate action when such an event occurs. The Express Up feature is controlled by the front door modules and the window motor sensors.

Each of the front door window motors has a window sensor mounted to it. The window sensors determine if there is an obstruction to the travel of its window glass by detecting differences in their respective window motors electrical pulses. If one of the sensors detects that a passenger, or other obstacle, has become trapped between the window glass and the window frame, it sends this information, via 2 communication circuits, to its associated door module. The door module then reverses the direction of window travel and disables the Express Up function.

Each front door module and corresponding sensor are wired to each other by 4 separate circuits. These are, the window sensor battery voltage circuit, the window sensor low reference circuit, the power window high speed serial data circuit, and the power window low speed serial data circuit. Each front door module supplies battery voltage, via the window sensor battery voltage circuit, and ground, via the window sensor low reference circuit, to the sensor. Each door module communicates with its sensor via the other 2 separate and unique communication circuits. The power window high speed serial data circuit is a one-way communications line from the sensor to the module. The power window low speed serial data circuit is a 2-way communications line that carries information both ways, from the sensor to the module, and, from the module to the sensor. State-of-health messages, the position of the window glass in relationship to the distance traveled by the window, and the direction in which the window is moving are communicated via these circuits.

Either front door window can be expressed up from the appropriate window switch built into the DDSA. The front passenger door window can also be expressed up from the window switch mounted to the front passenger door. When either switch is operated to Express Up for either front door window, both the Up contacts and the Express contacts of the switch being used are closed to ground. When the front passenger door window switch is used, the front passenger door module interprets the 2 contact signal. When the window switch built into the DDSA is used, it is the DDSA that interprets the 2 contact switch signal.

If a front door module loses power for any reason, such as a vehicle battery disconnect, the

window sensor/motor assembly must be reprogrammed once power has been restored to the door module. This can be done by operating the switch of the affected window in the Express Up mode until it is in the full Up position. The switch must be held in the Express Up position for 3-5 seconds after the window has stopped moving. For more information about programming the Express Up function, refer to **Window Motor Programming - Express Function**.

Rear Window Lockout Feature

The rear window lockout switch is built into, and receives power and ground from, the driver door switch assembly (DDSA). There are no external circuits. The lockout function is used to prevent the passenger door windows from being operated from their locally mounted switches. When the lockout switch is pressed momentarily, the switch contacts are briefly closed, the LED indicator on the switch button is illuminated, and the DDSA processes this switch signal. The DDSA sends the switch status, via class 2 serial data message, to the passenger door modules. The passenger door modules then prohibit the windows from being operated from the locally mounted passenger door window switches. When the lockout function has been activated, the passenger door windows can still be operated from the driver door by using the window switches built into the DDSA.

POWER DOOR LOCKS DESCRIPTION AND OPERATION

Power Door Lock Components

The power door lock system consists of the following components:

- Driver door lock switch
- Front passenger door lock switch
- Driver door switch assembly (DDSA)
- Driver door module (DDM)
- Front passenger door module (PDM)
- LH rear door module (LRDM)
- RH rear door module (RRDM)
- Rear integration module (RIM)
- Driver door lock actuator
- Front passenger door lock actuator
- LH rear door lock actuator
- RH rear door lock actuator
- Endgate/Liftgate lock actuator

- Door lock relay
- DRVMDL fuse (10-amp)
- PASS MDL fuse (10-amp)
- REAR DR MDL fuse (15-amp)
- REAR HATCH fuse (10-amp)
- Class 2 serial data link

Door Lock System Controls

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

- A power door lock switch activation
- A remote keyless entry transmission
- A driver door key cylinder unlock switch activation
- A driver door key cylinder lock switch activation (Export)
- An automatic door lock function

Power Door Lock Operation

Each door module controls the locking and unlocking of its respective door, but the rear integration module (RIM), which is the master control for the door lock system, determines when the lock functions are permitted. The RIM receives and examines lock function requests from the individual door modules, or from the remote function actuator (RFA) via the class 2 serial data circuit. The RIM also examines the transmission shift selector position and the ignition switch position information available over the class 2 serial data circuits. If the RIM determines that all conditions are correct for a lock or unlock function to be permitted, it sends a class 2 message back to the individual door modules commanding them to perform the requested lock or unlock function of their respective doors.

Additionally, the left rear door module uses the door lock relay to control the locking and unlocking of the endgate/liftgate door.

Door Modules Power and Ground

Each door module has a separate battery voltage circuit fed by the rear fuse block. Each door module is separately grounded through one or more circuits connected to a ground stake. These voltage and ground circuits are in the C3 harness connector of each door module and are used for power door lock operations, as well as to power up the door modules. These circuits are also used for outside rearview mirror operations and for some power window functions, which are

covered in the applicable power mirror and window description and operations sections.

The DDM battery voltage circuit is fed by the DRIVER DR MOD 10 amp fuse.

The PDM battery voltage circuit is fed by the PSGR DR MOD 10 amp fuse.

The LRDM and RRDM also have separate battery voltage circuits, but they are both fed by the REAR DR MDL 15 amp fuse.

These circuits must not be confused with the voltage and ground circuits of door modules harness connector C1, which are used exclusively to drive the power window motors.

Power Door Lock Switches

The front passenger door lock switch is wired to the front passenger door module. The lock switch is supplied battery voltage and ground by the front passenger door module. There are 2 circuits for voltage, one for a lock signal, and one for an unlock signal. The module supplies ground to the switch via a 3rd circuit. When the switch is activated for a lock or unlock function, the normally open switch contacts for that function are closed and voltage flows through the switch, providing the module with the appropriate signal input.

The driver door lock switch is similar to the front passenger door lock switch, but it is wired to the driver door switch assembly (DDSA), and, for a ground circuit, to the driver door module. It also works the same way as the front passenger door lock switch works, but the switch activations are detected and processed by the DDSA and less voltage is required for lock switch operation. The DDSA has two circuits that each supply 5 volts to the driver door lock switch, one for a lock signal, and one for an unlock signal. The driver door lock switch ground circuit is provided by the driver door module. When the door lock switch is activated, the normally open switch contacts for that function are closed, the voltage flows through the switch and is detected by the DDSA. The DDSA then relays the switch information to the driver door module via the class 2 serial data circuit.

The endgate/liftgate door and rear passenger doors are not provided with power door lock switches.

Power Door Lock Actuators and Motors

A power door lock motor is contained within each door lock actuator. Each door module supplies battery voltage and ground, through the door lock actuator motor control circuits to its associated door lock actuator motor. The left rear door module, in addition, controls the lock actuator motor of the endgate/liftgate door by simultaneously applying voltage to the door lock relay. The power door lock motors are reversible. The function performed by the lock motor,

lock or unlock, depends on which motor control circuit the voltage is applied to, and which motor control circuit the ground is applied to. To perform a lock function, the module momentarily applies voltage to the door lock motor lock control circuit, and ground to the door lock motor unlock control circuit. To perform an unlock function, the door module reverses the polarity and momentarily applies voltage to the door lock motor unlock control circuit, and ground to the door lock motor lock control circuit.

Power Door Lock Deadbolt Motors (Export)

Export vehicles may have the deadbolt feature, which includes a reversible deadbolt motor contained within each door lock actuator. Each deadbolt motor is wired to the associated door module through a deadbolt motor control circuit. The deadbolt motor functions much the same as the lock motor. To deadbolt a door, the door module first locks the door by momentarily applying battery voltage to the door lock motor lock control circuit, and ground to the door lock motor unlock control circuit. To complete the deadbolting, the door module then momentarily applies battery voltage to the deadbolt motor control circuit, and, again, ground to the door lock motor unlock control circuit. Once the door is deadbolted, the mechanical lock/unlock linkage within the door lock actuator is physically disconnected so that the door can not be manually unlocked. If the content theft feature is armed at the same time, it also will not be possible to use the interior door lock switches to operate the locks.

To undeadbolt the door, the door module reverses the polarity, applying battery voltage to the door lock motor unlock control circuit, and ground to the deadbolt motor control circuit.

Liftgate Door Lock

The liftgate door is not equipped with a separate lock switch or mechanical lock lever. It can only be locked or unlocked electronically and in conjunction with the left rear door lock.

The left rear door module (LRDM) controls the liftgate lock by activating the door lock relay. The control circuits of the door lock relay are spliced into the motor control circuits of the left rear door lock actuator, between the actuator and the LRDM. To operate both locks, the LRDM momentarily applies battery voltage to the appropriate lock or unlock motor control circuit of the left rear door lock actuator. As a result, voltage is also applied to the corresponding control circuit of the door lock relay, which activates the relay. Once activated, the relay momentarily closes the appropriate control circuit of the liftgate lock actuator motor to battery voltage. The lock actuator motor pulses to lock or unlock the liftgate door.

The door lock relay is supplied battery voltage at all times through the door lock relay battery positive voltage circuit and the REAR HATCH 10 amp fuse, which is located in the rear fuse block. The relay is grounded at all times, through the ground circuit, to a ground stake.

Like the other door lock actuator motors, the liftgate lock actuator motor is reversible. The function performed, lock or unlock, depends on which motor control circuit the voltage is applied to, and which motor control circuit the ground is applied to. When no locking or unlocking activity is taking place, the motor control circuits are normally grounded by the door lock relay. To perform a lock function, the door lock relay momentarily closes the lock control circuit to battery voltage, while the unlock control circuit remains grounded. To perform an unlock function, the door lock relay momentarily closes the unlock control circuit to battery voltage, while the lock control circuit remains grounded.

The door lock relay is used only for the liftgate functions and, except for when a failure may occur to the relay control circuits, is not directly involved with other vehicle door locking and unlocking functions.

Automatic Door Locks

The automatic door lock system provides for the locking or unlocking of one, or all of the doors when shifting the transmission. When the vehicle doors are closed, the ignition is turned to ON, and the transmission is shifted out of Park, all the doors will lock. When the vehicle is stopped and the transmission is shifted into Park, one or all of the doors will unlock. This system is commanded according to the information stored in the rear integration module (RIM) which is the door lock master. Automatic door locking is programmed during the manufacturing process but it can be custom programmed by the operator. For information concerning custom programming available and programming instructions, refer to **Driver Personalization** in Personalization.

Operation of the automatic door lock system also depends upon door status information gathered by the door modules and the RIM. The system will not operate if the RIM detects that a vehicle side door or liftgate door is open. For side door status relevant to automatic door locking, each door lock actuator contains a door open switch. Each door open switch receives battery voltage and ground from the associated door module. When a door is open, the switch closes, battery voltage flows through the switch, and the door module interprets the flow of voltage as a door open input. The door module then sends this information out over the class 2 serial data circuit, where it is detected by the RIM, as well as other concerned modules. The liftgate door does not contain a door open switch. Instead, the liftgate ajar indicator switch is used to directly signal liftgate door status to the RIM. The RIM supplies battery voltage to one side of the normally open contacts of the liftgate ajar indicator switch. The other side of the contacts is grounded to a ground stake. When the liftgate door is ajar, the switch closes, battery voltage flows through the switch, and the RIM interprets the flow of voltage as a liftgate door ajar input. If the RIM determines that one of the vehicle side doors is open, or that the liftgate is ajar, automatic door locking will not be permitted.

The signals supplied by the door open switches of the side doors, and by the ajar indicator switch of the liftgate door, are also used by the lighting system in order to determine when to turn the vehicle courtesy lamps ON or OFF. For more information concerning courtesy lamps and the side door open switches, refer to **Interior Lighting Systems Description and Operation** in Lighting systems.

It should further be noted that, while each side door open switch shares its ground circuit with another switch in the side door lock actuator, the side door ajar indicator switch, the 2 switches must not be confused when service is required. Unlike the side door open switches and the liftgate door ajar indicator switch, the side door ajar indicator switches have no effect on door locking. For more information concerning side door ajar indicators and the side door ajar indicator switches, refer to **Door Ajar Indicator Description and Operation**.

Anti-Lockout Feature

Leaving the key in the ignition with any door open will disable the use of the power door locks and the remote keyless entry (RKE) lock function.

The anti-lockout feature can be overridden by holding the lock switch in the LOCK position for more than 3 seconds.

Central Door Unlock

The vehicle may have the central door unlock feature. With this feature, all doors can be unlocked from the driver door using the door key. To operate the feature, the door key is inserted into the driver door lock cylinder, turned to the unlock position and held for 3 seconds or longer, or, turned to the unlock position twice within 3 seconds. A mechanical linkage rod connects the driver door lock cylinder to the key cylinder unlock switch, which is built into the driver door lock actuator. The key cylinder unlock switch contacts, which are normally open, receive battery voltage, via the key cylinder unlock signal circuit, and ground via the ground circuit, from the driver door module (DDM). When the door key is turned to unlock, the switch contacts close and the DDM detects the flow of voltage as an input. The DDM then sends a class 2 message to the rear integration module (RIM), indicating the key cylinder unlock switch request. The RIM is the master of all lock and unlock operations. If the RIM determines that the key cylinder unlock switch request is a valid request and conditions are correct for the door modules to perform the unlock function, it sends a class 2 message back to all of the door modules to unlock all doors.

Central Door Lock and Deadbolt (Export)

Some export vehicles may have the central door lock feature. Some export vehicles may have both the central door lock and deadbolt features. With the central door lock feature, all doors can be locked from the driver door using the door key. With the central door lock and deadbolt

features, all doors can be locked and deadbolted from the driver door using the door key. When the doors have been deadbolted, they cannot be unlocked using the manual lock buttons. If the content theft deterrent has been armed at the same time, it also will not be possible to unlock the doors using the interior door lock switches. All doors can be un-deadbolted using the driver door key, however, only the driver door will also be unlocked. After undeadbolting with the door key, the passenger doors can be unlocked manually, or by using either the interior lock switches or the remote transmitter.

To operate the central door lock feature, the door key is inserted into the driver door lock cylinder and turned to the lock position, which causes all doors to lock immediately. A mechanical linkage rod connects the driver door lock cylinder to the key cylinder lock switch, which is built into the driver door lock actuator. The key cylinder lock switch contacts, which are normally open, receive battery voltage, via the key cylinder lock signal circuit, and ground via the ground circuit, from the driver door module (DDM). When the door key is turned to lock, the switch contacts close and the DDM detects the flow of voltage as an input. The DDM then sends a class 2 message to the rear integration module (RIM), indicating the key cylinder lock switch request. If the RIM determines that the key cylinder lock switch request is a valid request and conditions are correct for the door modules to perform the lock function, it sends a class 2 message back to all of the door modules to lock all doors.

To operate the deadbolt feature, the door key is turned to the lock position, which causes all doors to lock immediately. If the door key is then held to the Lock position for 3 seconds or longer, or, turned to the Lock position twice within 3 seconds, the DDM interprets the key cylinder lock switch input as a deadbolt request. The DDM then sends a class 2 message to the RIM indicating the request. If the RIM determines that the deadbolt request is a valid request and conditions are correct for the door modules to perform the deadbolt function, it sends a class 2 message to all of the door modules to deadbolt all doors. When the doors are deadbolted, all doors are locked and the mechanical lock/unlock linkage within each door lock actuator is physically disconnected so that no door can be manually unlocked. If the content theft deterrent has also been armed, it also will not be possible to unlock the doors using the interior door lock switches.

To undeadbolt the doors with the driver door key, the key cylinder unlock switch is used. The key cylinder unlock switch input is interpreted as an undeadbolt request because the vehicles content options are configured for export. The normally open key cylinder unlock switch contacts receive battery voltage, via the key cylinder unlock signal circuit, and ground via the ground circuit, from the DDM, just as they do on a vehicle with the central door unlock feature. When the driver door lock cylinder is turned to unlock, the switch contacts close and the DDM detects the flow of voltage as an input. The DDM then sends a class 2 message to the RIM, indicating the switch request. The RIM interprets this key cylinder unlock switch request as an undeadbolt

request. If all conditions are correct, the RIM sends a message back to all door modules to undeadbolt. The driver door will be both unlocked and undeadbolted, while the passenger doors will be only undeadbolted. The passenger doors can then be unlocked manually, or, by using either the interior lock switch or the remote transmitter.

By performing the following actions, the doors can also be locked and deadbolted, or unlocked and undeadbolted using the remote transmitter:

- Press the remote transmitter lock button once to lock all doors, then press a 2nd time within 3 seconds to deadbolt all doors.
- Press the remote transmitter unlock button once to undeadbolt and unlock the driver door and undeadbolt all passenger doors, then press a second time within 3 seconds to unlock all passenger doors

DOOR AJAR INDICATOR DESCRIPTION AND OPERATION

Door Ajar Indicator System Components

The door ajar indicator system consists of the following components.

- Driver door module (DDM)
- Driver Information center (DIC)
- Passenger front door module (PDM)
- Left rear door module (LRDM)
- Right rear door module (RRDM)
- Integrated radio controller (IRC)
- LH front door ajar switch
- RH front door ajar switch
- LH rear door ajar switch
- RH rear door ajar switch

Driver Door Ajar

The driver door module (DDM) receives a discrete input from the driver door ajar switch. The integrated radio controller (IRC) receives the status of the driver door from the driver door module (DDM) via class 2 serial data message. When the driver door is open and the vehicle is out of the PARK gear, the driver information center (DIC) displays the message. Also, if the vehicle speed is greater than 4.8 km/h (3 mph), the DIC displays the message and sends a class 2 serial data message requesting 5 chimes to sound.

Passenger Door Ajar

The passenger front door module (PDM) receives a discrete input from the passenger front door ajar switch. The integrated radio controller (IRC) receives the status of the passenger front door from the passenger front door module (PDM) via class 2 serial data message. When the passenger front door is open and the vehicle is out of the PARK gear, the driver information center (DIC) displays the message. Also, if the vehicle speed is greater than 4.8 km/h (3 mph), the DIC displays the message and sends a class 2 serial data message requesting 5 chimes to sound.

Left Rear Door Ajar

The LH rear door module (LRDM) receives a discrete input from the left rear door ajar switch. The integrated radio controller (IRC) receives the status of the LH rear door from the LH rear door module (LRDM) via class 2 serial data message. When the LH rear door is open and the vehicle is out of the PARK gear, the driver information center (DIC) displays the message. Also, if the vehicle speed is greater than 4.8 km/h (3 mph), the DIC displays the message and sends a class 2 serial data message requesting 5 chimes to sound.

Right Rear Door Ajar

The RH rear door module (RRDM) receives a discrete input from the RH rear door ajar switch. The integrated radio controller (IRC) receives the status of the RH rear door from the RH rear door module (RRDM) via class 2 serial data message. When the RH rear door is open and the vehicle is out of the PARK gear, the driver information center (DIC) displays the message. Also, if the vehicle speed is greater than 4.8 km/h (3 mph), the DIC displays the message and sends a class 2 serial data message requesting 5 chimes to sound.

OUTSIDE MIRROR DESCRIPTION AND OPERATION**Outside Mirror System Components**

The power outside rearview mirror system consists of the following components:

- Driver door switch assembly (DDSA)
- Driver door module (DDM)
- Passenger front door module (PDM)
- Driver outside mirror
- Passenger outside mirror
- Class 2 serial data link
- DRV MDL 10A fuse - DDSA and DDM logic, DDM internal driver operation

- PASS MDL 10A fuse - PDM logic and internal driver operation

Outside Rearview Mirror Operation

The outside rearview mirrors are controlled by the driver door switch assembly (DDSA) which contains the mirror control switches, the driver door module (DDM), and the front passenger door module (PDM). The DDSA decodes mirror control switch activations while the door modules apply battery voltage and ground to their respective mirror motors to move the mirrors to the desired positions.

Door Modules Power and Ground

Each front door module has a separate battery voltage circuit fed by the rear fuse block. Each front door module is separately grounded through one or more circuits connected to a ground stake. These circuits are in the C3 harness connector of each front door module and are used for power outside rearview mirror operations, as well as to power up the modules. The driver door module (DDM) also uses these power and ground circuits to supply the driver door switch assembly (DDSA) with power and ground. In addition, the circuits are used for power door lock operations and for some power window functions, which are covered in the applicable power door locks or power windows description and operations sections.

The DDSA battery voltage circuit is fed, through the DDM, by the DRIVER DR MOD 10 amp fuse located in the left rear fuse block.

The DDM battery voltage circuit is fed by the DRIVER DR MOD 10 amp fuse located in the left rear fuse block.

The PDM battery voltage circuit is fed by the PSGR DR MOD 10 amp fuse located in the right rear fuse block.

These circuits must not be confused with the voltage and ground circuits of the door modules C1 harness connectors, which are used exclusively to drive the power window motors.

Outside Rearview Mirror Switches

For outside rearview mirror adjustments, the driver door switch assembly (DDSA) contains two built-in switches, the Mirror Select Switch and the Mirror Position Switch. The Mirror Select Switch is used to select which mirror, left or right, is to be adjusted. The Mirror Position Switch is used to move the mirror that has been selected for adjustment to the desired position. The DDSA reports the activity of these switches to the driver door module (DDM) and the front passenger door module (PDM) via the class 2 serial data circuit.

The Mirror Select Switch contacts, which are normally open, receive voltage and ground from the DDSA. When, either the left or right mirror has been selected for adjustment, the contacts indicating that selection are closed to ground and the voltage is pulled low. The DDSA processes this voltage information to determine which mirror will be adjusted.

The Mirror Position Switch has four sets of contacts, one set in each corner of the switch. The DDSA supplies voltage to one side of each set of contacts, and ground to the other side of each set of contacts. When the contacts close, voltage flows through them to ground and the DDSA interprets this as a specific mirror direction request signal. The DDSA then sends the request to the appropriate door module via the class 2 serial data circuit.

The Mirror Position Switch contacts are designated as Left-Up, Left-Down, Right-Up, and Right-Down. When the switch is activated in a Left-Up, Left-Down, Right-Up, or Right-Down direction, the switch closes the corresponding set of contacts, the DDSA interprets the signal and sends the information, via the class 2 serial data circuit, to the appropriate front door module, DDM or PDM. However, when the switch is activated in a direct Up, Down, Left, or Right direction, two sets of the contacts are closed. The DDSA recognizes the two contact signal as a one direction signal in the direction common to the two signals. For example, when the switch is activated to the Up direction, both the Left-Up and the Right-Up contacts are closed. The direction common to the two sets of contacts is Up. The DDSA interprets this signal as an Up command and sends the information, via the class 2 serial data circuit, to the appropriate front door module. Once the appropriate front door module receives the request, it moves the associated mirror to the requested position.

On vehicles that have the memory mirrors feature, the DDSA is also wired to, and receives direct signal inputs from, the memory function switch. For more information concerning the memory function switch refer to **Memory Seats Description and Operation** in Seats.

Mirror Motors

Each mirror has two reversible motors for position adjustment; the vertical motor and the horizontal motor. Each reversible mirror motor is wired to its associated door module through two motor control circuits. The door modules control the reversible motors by applying battery voltage and ground to these two motor control circuits. The door module reverses the polarity of the voltage and ground it applies to these two circuits in order to run the mirror motor in opposite directions. For example, to run the mirror in the Up direction, the door module applies voltage to the mirror motor up control circuit, and ground to the mirror motor down control circuit. To run the mirror in the opposite Down direction, the module reverses the polarity, supplying voltage to the down control circuit, and ground to the up control circuit.

When the mirror is operated in a Left-Up, Left-Down, Right-Up, or Right-Down direction, the

associated door module applies voltage and ground to the appropriate control circuits of both the vertical motor, and the horizontal motor to move the mirror in both corresponding directions.

When the mirror is operated in a direct Up, Down, Left, or Right direction, the associated door module applies voltage and ground to only that motor which controls movements in the one corresponding direction. For example, if the switch is operated to a direct Up position, the associated door module applies voltage and ground only to the appropriate control circuits of its vertical motor.

Personalization - Driver Information Center (DIC)

The vehicle may be equipped with the memory mirrors feature. However, Personalization in the Setup menu of the driver information center (DIC) must be in the active state for memory mirrors to operate. A check mark appearing after the word Personalization on the display screen indicates that the feature is active. For more detailed information concerning programming of personalization and other memory recall features controlled through the DIC, refer to **Driver Personalization** in Personalization.

Personalization Option - Dash Integration Module (DIM)

Front door modules also cannot perform memory mirror functions unless the Personalization Option in the dash integration module (DIM) is activated. The DIM stores the Personalization Option setting provided at the assembly plant and reports the setting to both front door modules, as well as other receiving modules, each time the ignition switch is cycled to RUN. The front door modules store the Personalization Option setting provided by the DIM and examine it before making a memory mirrors adjustment.

The Personalization Option setting stored within the front door modules will not change until the Personalization Option setting within the DIM is changed and the ignition switch then cycled to RUN.

If the Personalization Option is activated on a vehicle that is not equipped with memory, the door modules will erroneously set DTCs B1586 and B1591.

Memory Mirrors Operation

The memory mirrors are controlled by the mirror position sensors, the driver door switch assembly (DDSA), and the front door modules. The DDSA decodes memory switch activations while the mirror position sensors provide mirror position information to the front door modules. The front door modules supply voltage and ground to the mirror position sensors, store mirror position information, and apply voltage and ground to run the mirror motors.

For memory operations, each outside rearview mirror has four additional circuits and contains a vertical position sensor and a horizontal position sensor. The position sensors, which are potentiometer type sensors, are attached to the corresponding position motor of each mirror, and provide constant information, in the form of feedback voltage to the associated door module to indicate the vertical and horizontal position of the mirror. Each position sensor of each mirror is wired to the corresponding front door module through four circuits to provide mirror location information in the following manner. Each front door module supplies 5 volts reference voltage through a 5 volt reference circuit, and ground through a mirror sensor low reference circuit, to both of its position sensors. Each front door module also supplies 5 volts through the vertical position sensor signal circuit, and, 5 volts through the horizontal position sensor signal circuit, to the corresponding position sensor. When the mirror motors run, the resistance of the attached sensors vary, which in turn, varies the feedback voltage to the door module. Feedback voltage for each sensor varies between 0.25 volts and 4.75 volts.

When mirror positions are programmed into the personalization package, the front door modules store the positions indicated by the feedback voltages of the position sensors. When a memory recall is requested, the door modules compare the feedback voltages indicated by the current mirror positions to the stored feedback voltages. The door modules then move the mirrors until the current feedback voltages match the stored feedback voltage levels.

Memory Mirrors - Parallel Parking Mode

The vehicle is equipped with the parallel parking mode feature. For this feature, the front passenger door module (PDM) communicates with the powertrain control module (PCM) over the class 2 serial data circuit. When the gear selector is shifted to reverse, the PCM transmits this status via a class 2 message to the PDM. The PDM then applies voltage and ground to the vertical motor of the RH outside rearview mirror to tilt the mirror down 7 degrees. This allows the driver to see the curb while parallel parking. When the gear selector is shifted out of reverse, the PDM powers the vertical mirror motor to return the mirror to its previous position.

Heated Mirrors

The mirrors heat during the defrost/defog cycles for the rear window. The heated mirrors are connected to the driver door module (DDM) and the front passenger door module (PDM). The DDM and the PDM receive a class 2 message from the instrument panel cluster (IPC) via the rear integration module (RIM) commanding the heated mirrors ON. The DDM and PDM first examine information from the dash integration module (DIM) to determine if vehicle conditions are correct for the heated mirrors function to be permitted. If conditions are correct, the DDM then commands the driver side mirror heater ON, and the PDM commands the passenger side mirror heater ON.

The DDM applies battery voltage to the LH outside rearview mirror heating element via the feed circuit, and ground via the return circuit.

The PDM applies battery voltage to the RH outside rearview mirror heating element via the feed circuit, and ground via the return circuit.

Power Folding Mirrors

Export vehicles may also have the power folding mirrors feature. The operator may simultaneously retract both mirrors to a fully folded position, in which they are closely tucked in and parallel to, the front door windows, or simultaneously extend both mirrors to the fully unfolded position for normal everyday use.

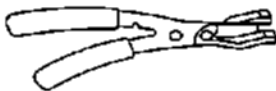
For this feature, the driver door switch assembly (DDSA) has an additional power folding mirrors switch built into it and, each mirror contains an additional power folding mirror motor. When the switch is activated to fold the mirrors, the switch contacts close, the DDSA interprets the signal input, and sends the command on to the driver door module (DDM) and the front passenger door module (PDM). The DDM and the PDM then each apply battery voltage and ground to the appropriate circuits of their respective power folding motors in order to retract both mirrors. When the switch is activated to unfold the mirrors, the door modules reverse the polarity of the voltage and ground applied to the reversible folding motors in order to move both mirrors to the fully extended position.

The power folding mirrors switch is activated by momentarily pressing the switch button. Each subsequent press will activate the mirrors to the opposite function of the preceding press, i.e. if the mirrors are currently folded, the next press of the switch button will cause them to unfold and vice-versa.

SPECIAL TOOLS AND EQUIPMENT

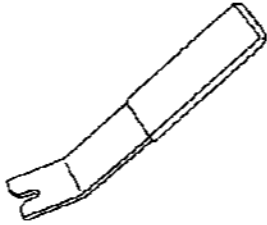
SPECIAL TOOLS

Special Tools

Illustration	Tool Number/ Description
	J 36796 Clip Zip Removal Tool

2004 Cadillac SRX

2004 ACCESSORIES & EQUIPMENT Doors - SRX



J 38778
Door Trim Pad Clip Remover