2007 ACCESSORIES & EQUIPMENT

Mirrors - H3

SPECIFICATIONS

FASTENER TIGHTENING SPECIFICATIONS

Fastener Tightening Specifications

Application	Specification	
	Metric	English
Front Side Door Mirror Bolts	10 N.m	89 lb in
Rearview Mirror Screw	2 N.m	18 lb in

SCHEMATIC AND ROUTING DIAGRAMS

INSIDE REARVIEW MIRROR SCHEMATICS

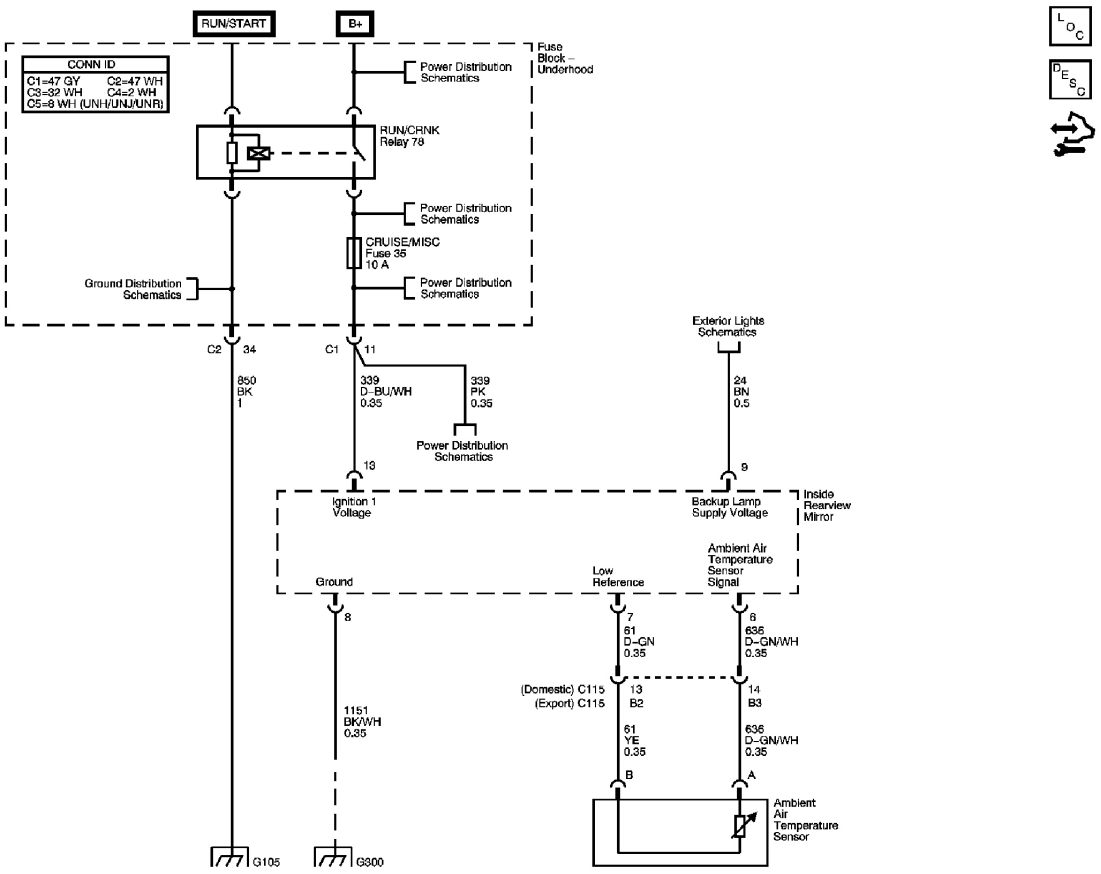


Fig. 1: Inside Rearview Mirror Schematic
Courtesy of GENERAL MOTORS CORP.

OUTSIDE REARVIEW MIRROR SCHEMATICS

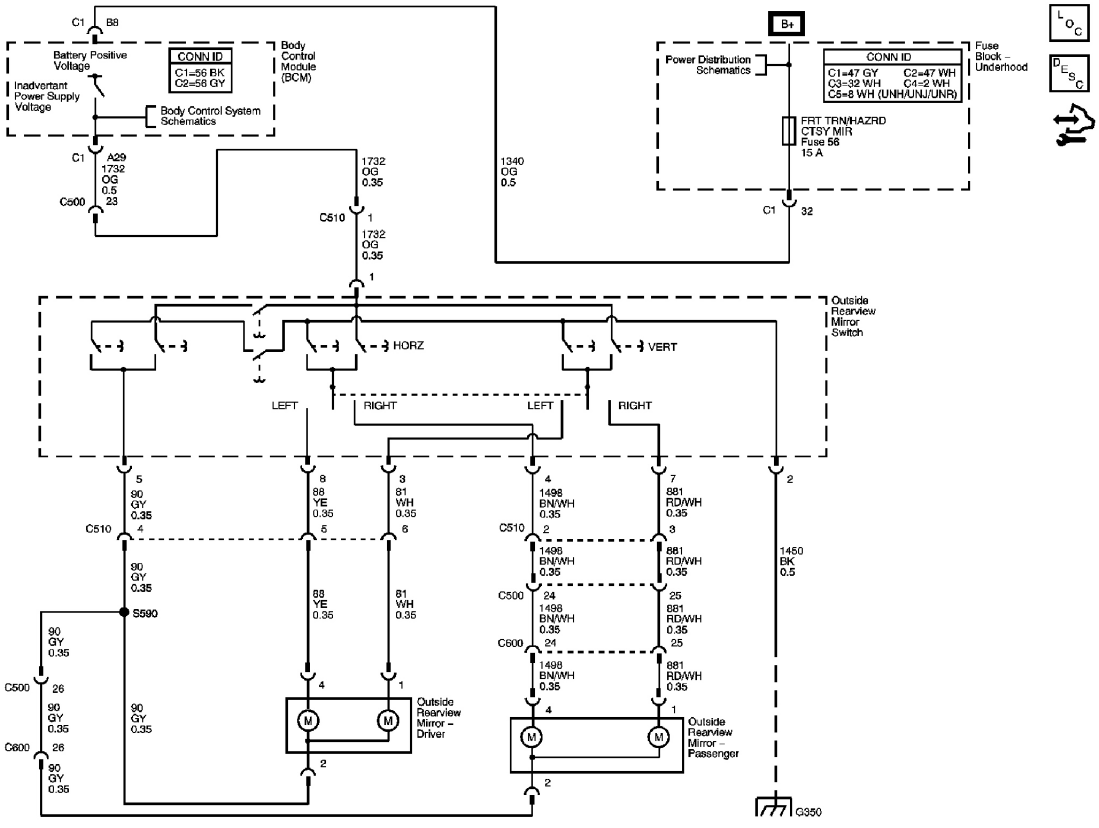


Fig. 2: Outside Rearview Mirror Schematic - LHD
Courtesy of GENERAL MOTORS CORP.

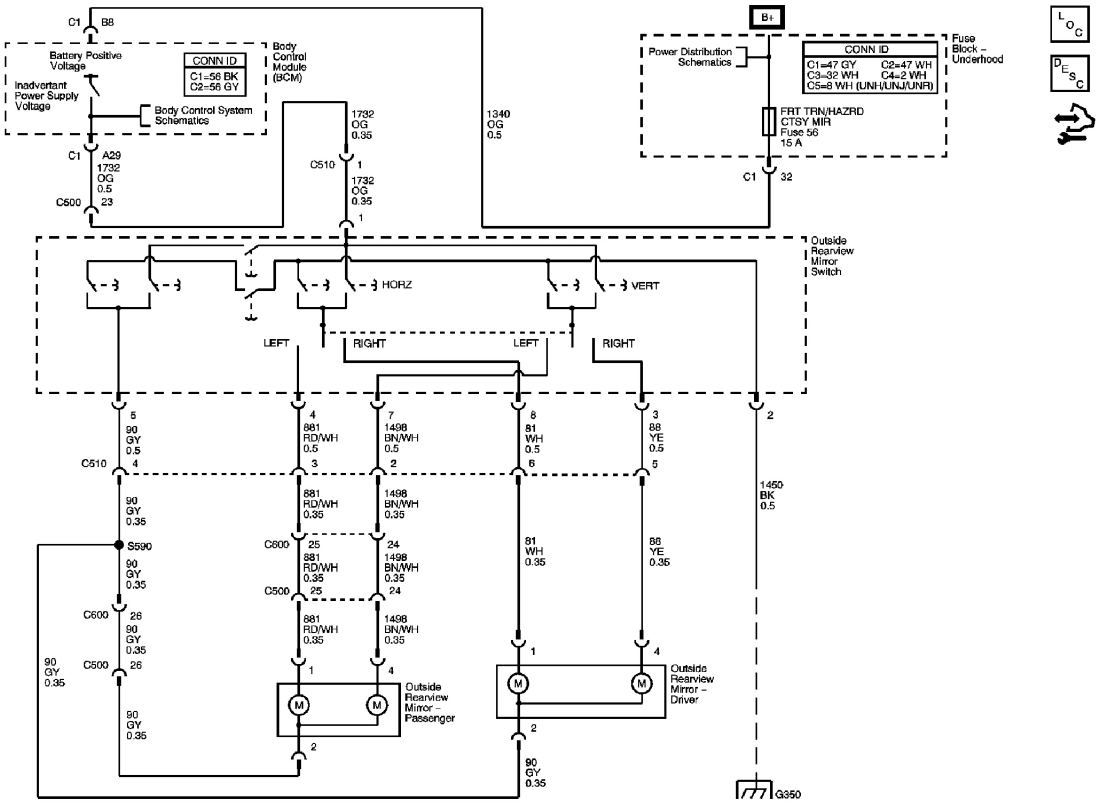


Fig. 3: Outside Rearview Mirror Schematic - RHD
Courtesy of GENERAL MOTORS CORP.

COMPONENT LOCATOR

MIRROR COMPONENT VIEWS

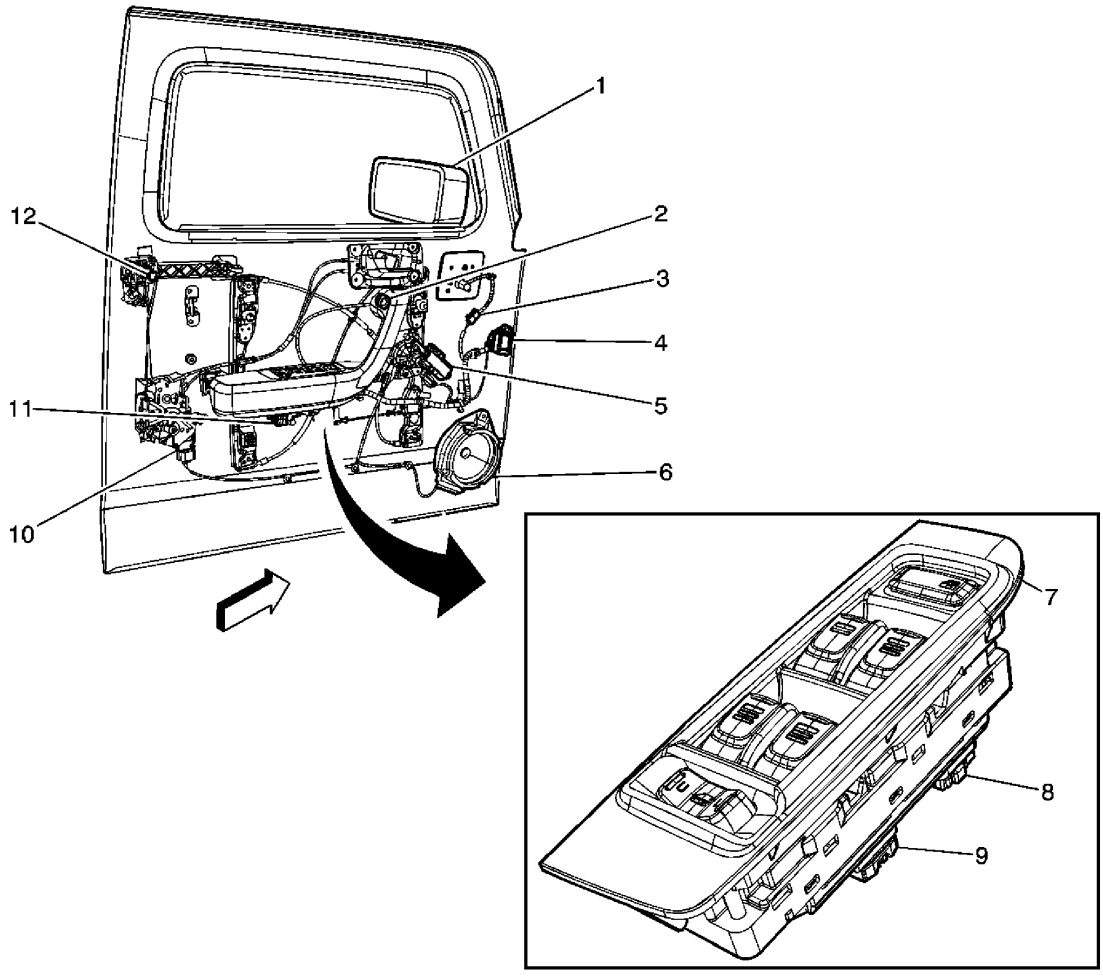
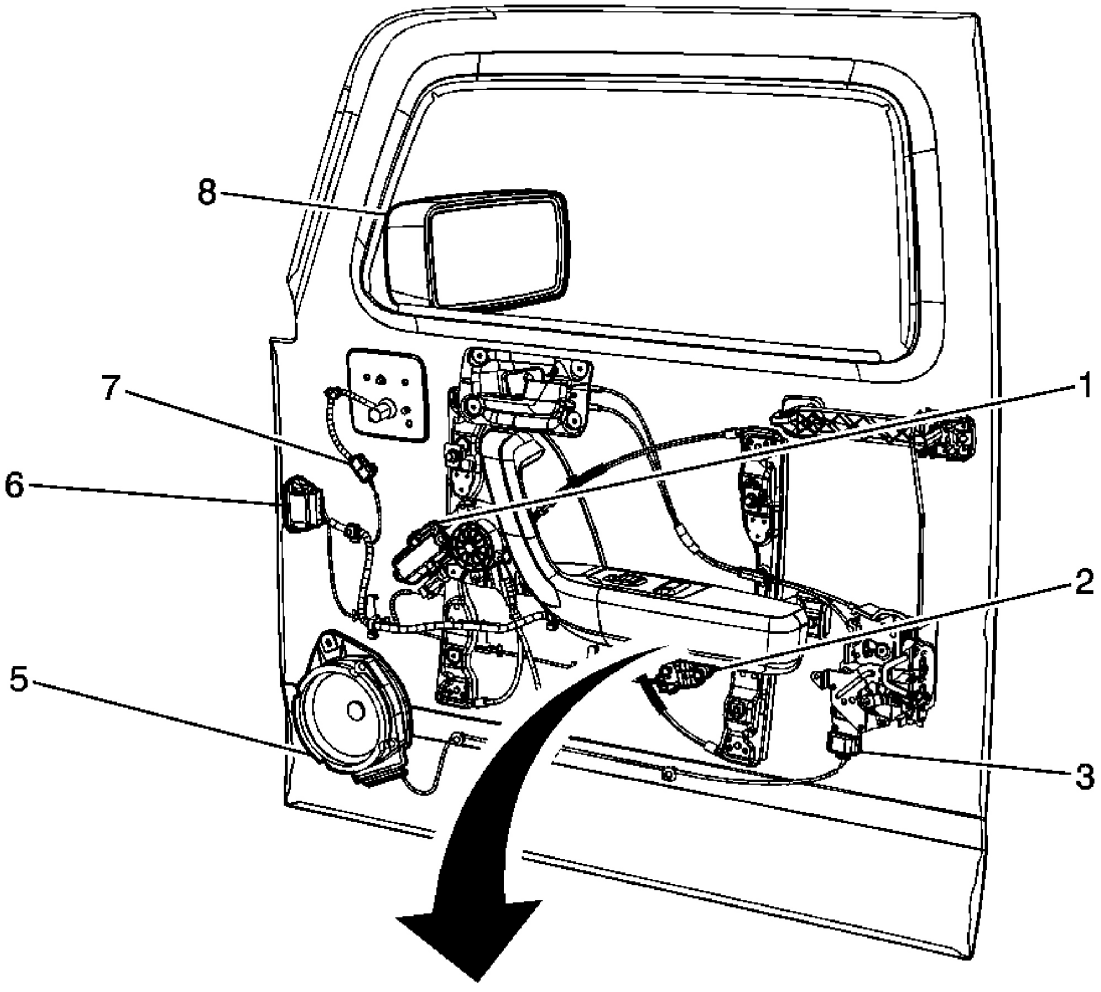


Fig. 4: Identifying Driver Door Components
Courtesy of GENERAL MOTORS CORP.

Callouts For Fig. 4

Callout	Component Name
1	Outside Rearview Mirror - Driver
2	Outside Rearview Mirror Switch
3	C510 Driver Door Harness to Outside Rearview Mirror Harness
4	C500 Door Harness to Body Harness
5	Window Motor - Driver
6	Speaker - LF Door
7	Door Lock and Window Switch - Driver
8	Door Lock and Window Switch - Driver C1
9	Door Lock and Window Switch - Driver C2

10	Door Lock Actuator - Driver
11	Inflatable Restraint Side Impact Sensor (SIS) - Left (ASF)
12	Key Lock Cylinder



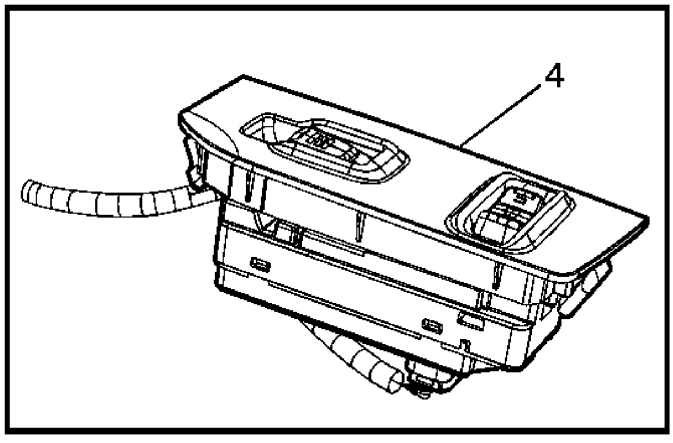


Fig. 5: Identifying Passenger Door Components
Courtesy of GENERAL MOTORS CORP.

Callouts For Fig. 5

Callout	Component Name
1	Window Motor - Passenger
2	Inflatable Restraint Side Impact Sensor (SIS) - Right (ASF)
3	Door Lock Actuator - Passenger
4	Door Lock/Window Switch - Passenger
5	Speaker - RF
6	C600 Passenger Door Harness to Body Harness
7	C610 Passenger Door Harness to Rearview Mirror Harness
8	Outside Rearview Mirror - Passenger

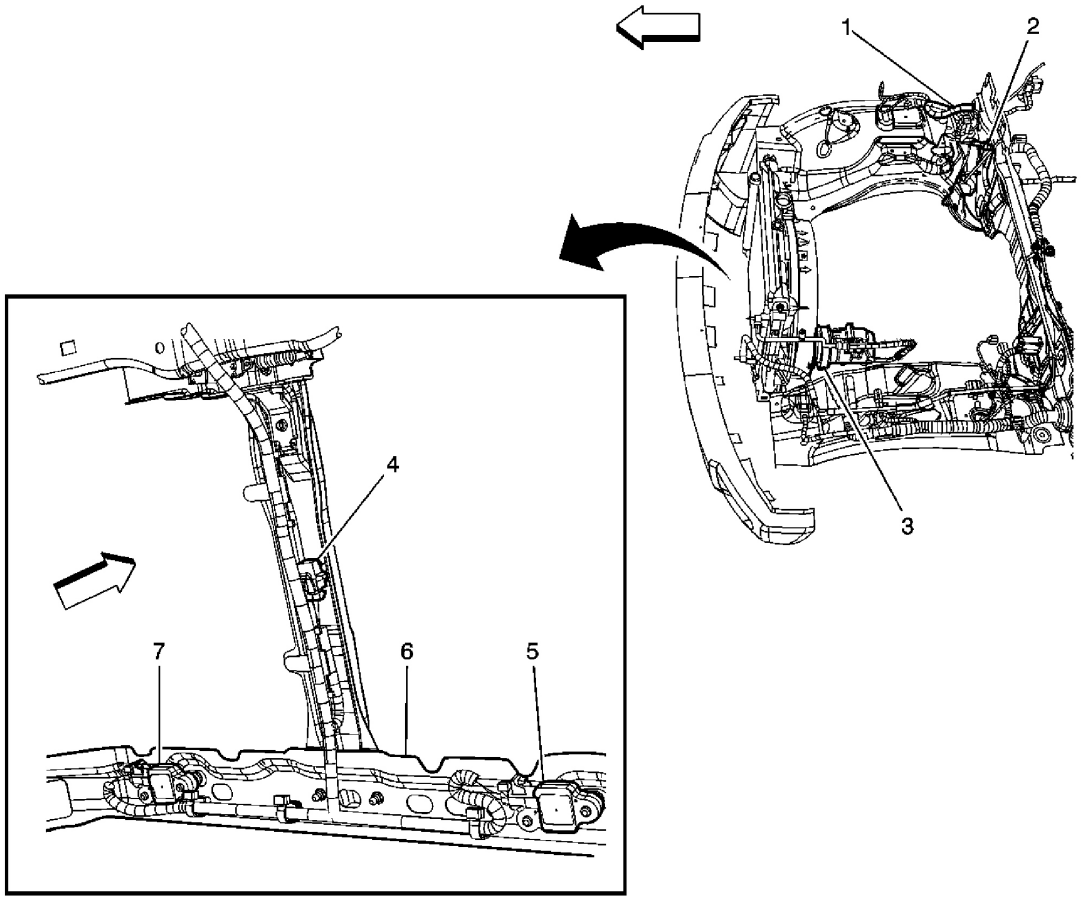


Fig. 6: Identifying Engine Compartment Components
Courtesy of GENERAL MOTORS CORP.

Callouts For Fig. 6

Callout	Component Name
1	Body Harness
2	A/C Refrigerant Pressure Sensor
3	A/C Compressor Clutch
4	Ambient Air Temperature Sensor
5	Inflatable Restraint Front End Sensor - Right
6	Lower Radiator Support
7	Inflatable Restraint Front End Sensor - Left

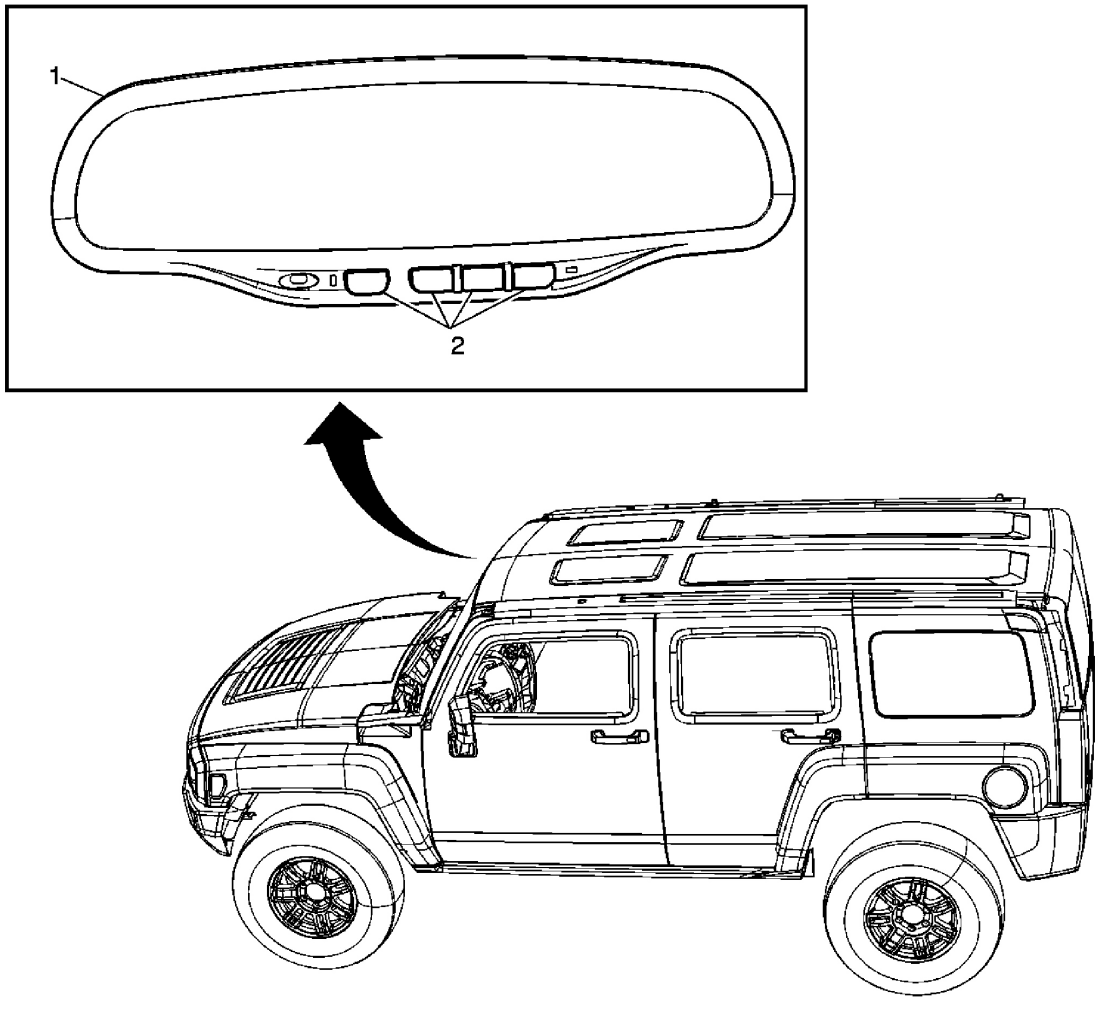


Fig. 7: Identifying Inside Rearview Mirror
Courtesy of GENERAL MOTORS CORP.

Callouts For Fig. 7

Callout	Component Name
1	Inside Rearview Mirror (UE1)
2	OnStar Keypad

MIRROR CONNECTOR END VIEWS

Ambient Air Temperature Sensor

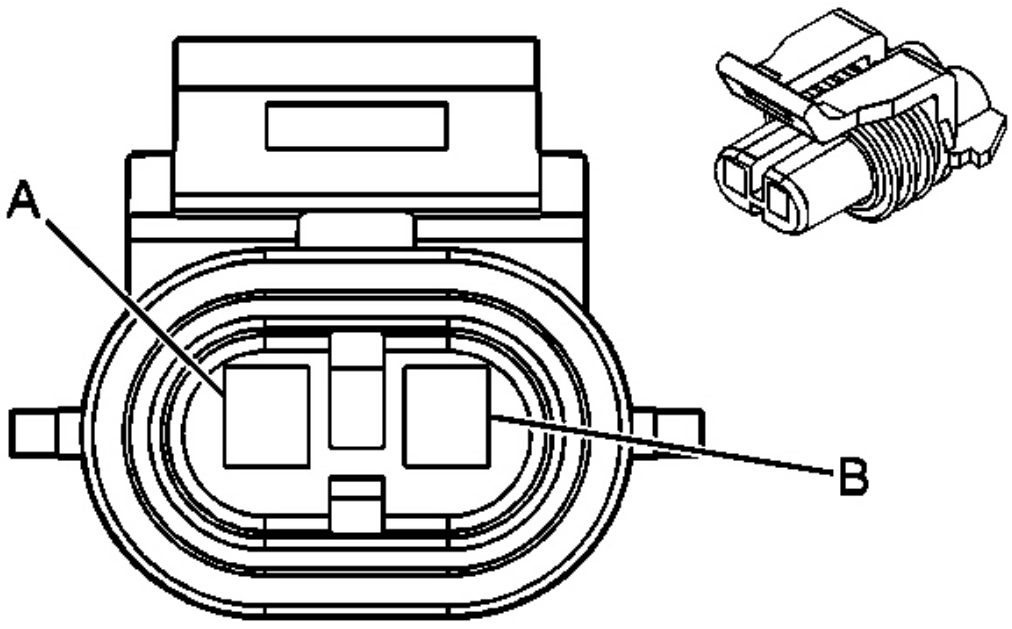


Fig. 8: Ambient Air Temperature Sensor Connector End Views
Courtesy of GENERAL MOTORS CORP.

Ambient Air Temperature Sensor Connector Parts Information

Connector Part Information

- OEM: 12052642

- Service: 12101856
- Description: 2-Way F Metri-Pack 150 Series, Sealed (BK)

Terminal Part Information

- Terminal/Tray: 12048074/2
- Core/Insulation Crimp: E/1
- Release Tool/Test Probe: 12094429/J-35616-2A (GY)

Ambient Air Temperature Sensor Connector Terminal Identification

Pin	Wire Color	Circuit No.	Function
A	D-GN/WH	636	Ambient Air Temperature Sensor Signal
B	YE	61	Low Reference

Inside Rearview Mirror

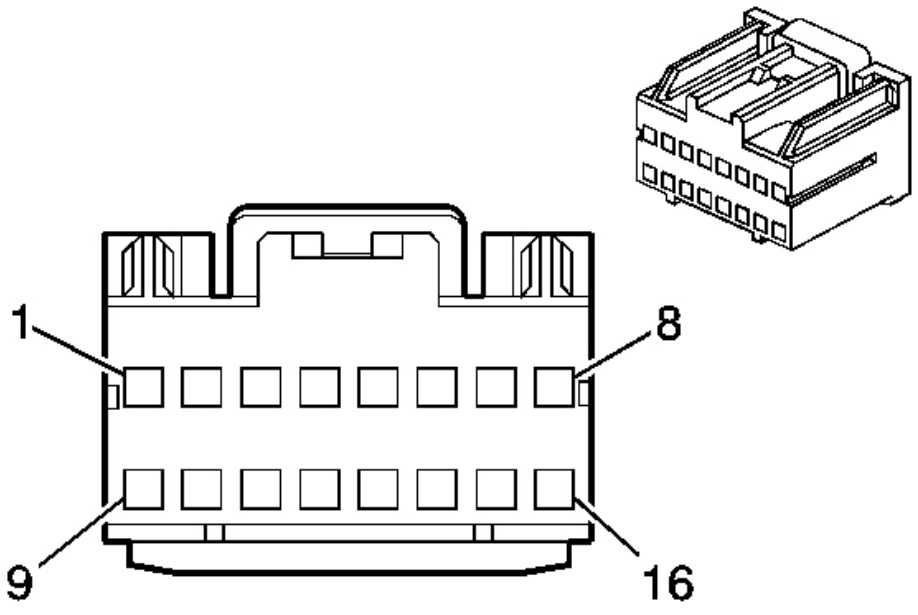


Fig. 9: Inside Rearview Mirror Connector End View
Courtesy of GENERAL MOTORS CORP.

Inside Rearview Mirror Connector Parts Information

Connector Part Information

- OEM: 917981-2
- Service: 15306351
- Description: 16-Way F 040 Hybrid (BK)

Terminal Part Information

- Terminal/Tray: 175266-5/15
- Core/Insulation Crimp: Pins 6-8, 11-15: J/J, Pin 9: K/K
- Release Tool/Test Probe: 15315247/J-35616-16 (L-GN)

Inside Rearview Mirror Connector Terminal Identification

Pin	Wire Color	Circuit No.	Function
1-5	-	-	Not Used
6	D-GN/WH	636	Ambient Air Temperature Sensor Signal
7	D-GN	61	Low Reference
8	BK/WH	1151	Ground
9	BN	24	Backup Lamp Supply Voltage
10	-	-	Not Used
11	D-BU	2514	Keypad Signal (UE1)
12	BK	2515	Keypad Supply Voltage (UE1)
13	D-BU/WH	339	Ignition 1 Voltage
14	GY	2516	Keypad Green LED Signal (UE1)
15	BN/WH	2517	Keypad Red LED Signal (UE1)
16	-	-	Not Used

Outside Rearview Mirror - Driver

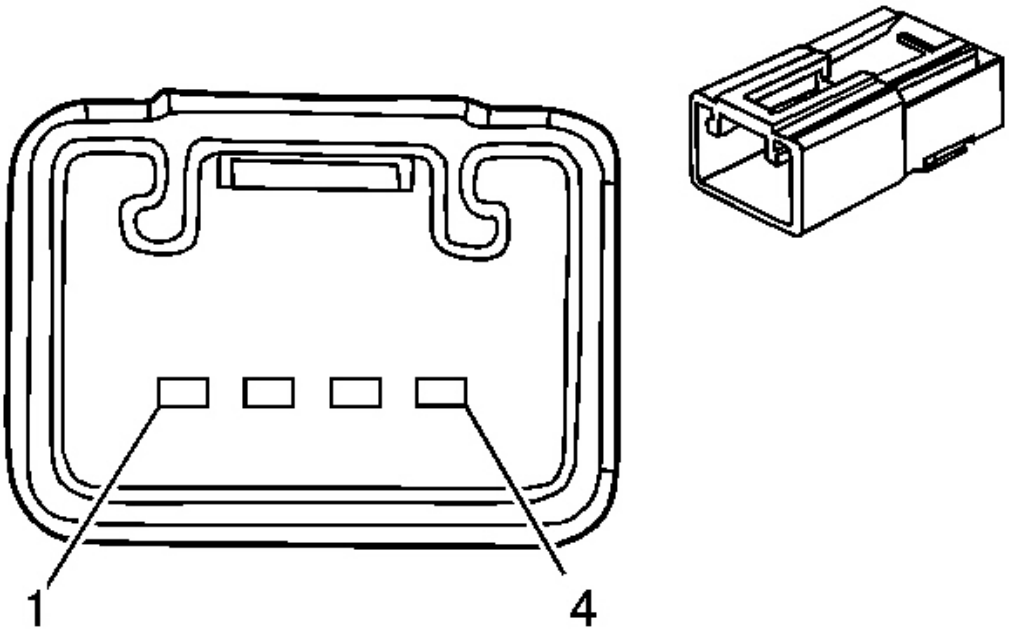


Fig. 10: Driver Side Outside Rearview Mirror Connector End View
Courtesy of GENERAL MOTORS CORP.

Driver Side Outside Rearview Mirror Connector Parts Information

Connector Part Information

- OEM: 6098-2158
- Service: 88988638
- Description: 4-Way M DL Series (WH)

Terminal Part Information

- Terminal/Tray: 8100-2512/6
- Core/Insulation Crimp: E/2
- Release Tool/Test Probe: 15315247/J-35616-17 (L-GN)

Driver Side Outside Rearview Mirror Connector Terminal Identification

Pin	Wire Color	Circuit No.	Function
1	WH	81	Driver Mirror Motor Right Control

2	GY	90	Driver/Passenger Mirror Motor Down/Left Control
3	-	-	Not Used
4	YE	88	Driver Mirror Motor Up Control

Outside Rearview Mirror - Passenger

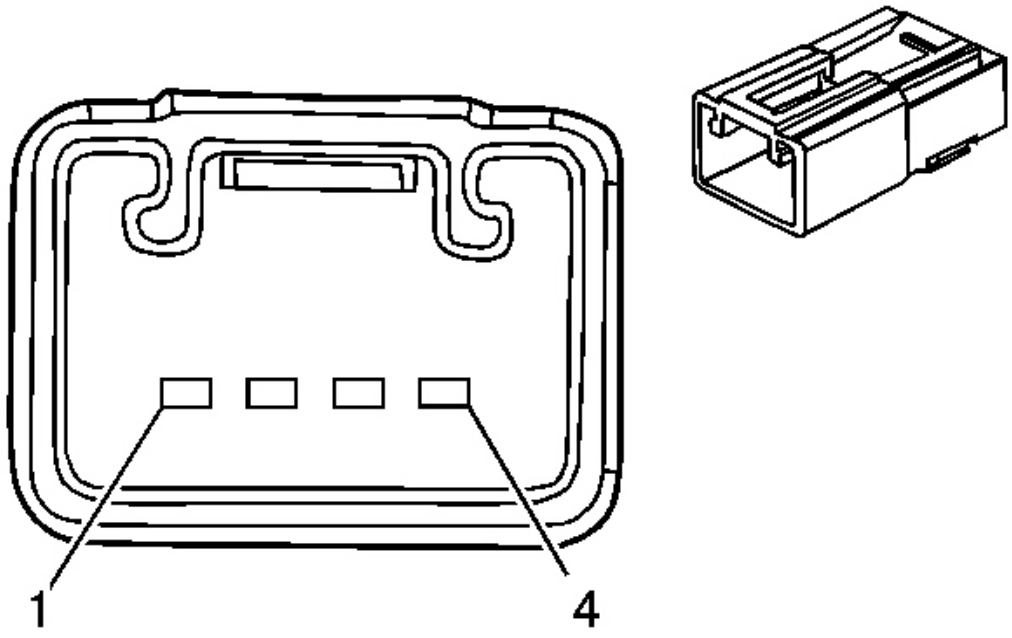


Fig. 11: Passenger Side Outside Rearview Mirror Connector End View
Courtesy of GENERAL MOTORS CORP.

Passenger Side Outside Rearview Mirror Connector Parts Information

Connector Part Information

- OEM: 6098-2158
- Service: 15115231
- Description: 4-Way M DL Series (WH)

Terminal Part Information

- Terminal/Tray: 8100-2506/6
- Core/Insulation Crimp: E/2
- Release Tool/Test Probe: 15315247/J-35616-17 (L-GN)

Passenger Side Outside Rearview Mirror Connector Terminal Identification

Pin	Wire Color	Circuit No.	Function
1	RD/WH	881	Passenger Mirror Motor Right Control
2	GY	90	Driver/Passenger Mirror Motor Down/Left Control
3	-	-	Not Used
4	BN/WH	1498	Passenger Mirror Motor Up Control

Outside Rearview Mirror Switch

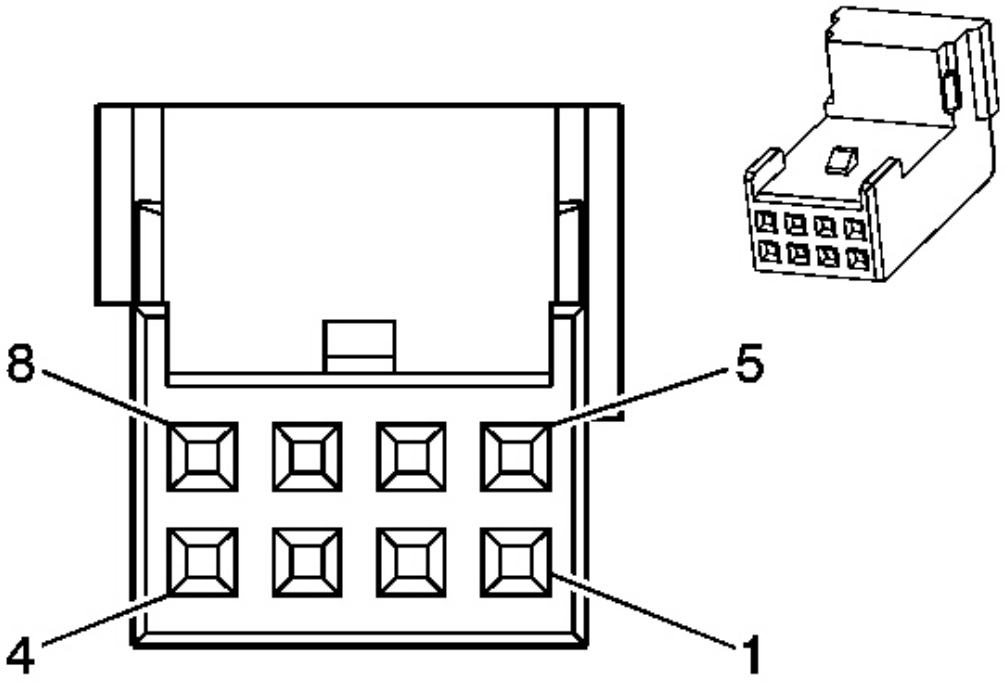


Fig. 12: Outside Rearview Mirror Switch Connector End Views
Courtesy of GENERAL MOTORS CORP.

Outside Rearview Mirror Switch Connector Parts Information

Connector Part Information

- OEM: 15327190
- Service: 88988407
- Description: 8-Way F Ducon 0.8 Series (BK)

Terminal Part Information

- Terminal/Tray: 15326592/19
- Core/Insulation Crimp: E/2
- Release Tool/Test Probe: 12094429/J-35616-64A (L-BU)

Outside Rearview Mirror Switch Connector Terminal Identification

Pin	Wire Color	Circuit No.	Function
1	OG	1732	Inadvertant Power Supply Voltage
2	BK	1450	Ground
3	WH	81	Left Mirror Motor Right Control (LHD)
	YE	88	Left Mirror Motor Up Control (RHD)
4	BN/WH	1498	Right Mirror Motor Up Control (LHD)
	RD/WH	881	Right Mirror Motor Right Control (RHD)
5	GY	90	Right Mirror Motor Left Control
6	-	-	Not Used
7	RD/WH	881	Right Mirror Motor Right Control (LHD)
	BN/WH	1498	Right Mirror Motor Up Control (RHD)
8	YE	88	Left Mirror Motor Up Control (LHD)
	WH	81	Left Mirror Motor Right Control (RHD)

DIAGNOSTIC INFORMATION AND PROCEDURES

DIAGNOSTIC STARTING POINT - MIRRORS

Begin the system diagnosis with the **Diagnostic System Check - Vehicle** . The Diagnostic

System Check will provide the following information:

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

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

SYMPTOMS - MIRRORS

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

1. Perform the **Diagnostic System Check - Vehicle** before using the Symptom Tables in order to verify that all of the following are true:
   - There are no DTCs set.
   - The control modules 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 system descriptions:
   - **Outside Mirror Description and Operation**
   - **Automatic Day-Night Mirror Description and Operation**

Visual/Physical Inspection

- Inspect for aftermarket devices which could affect the operation of the system. Refer to **Checking Aftermarket Accessories** .
- 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** .

Symptom List

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

- **Automatic Day-Night Mirrors Inoperative**
- **Power Mirrors Inoperative**

AUTOMATIC DAY-NIGHT MIRRORS INOPERATIVE

Diagnostic Instructions

- Perform the **Diagnostic System Check - Vehicle** prior to using this diagnostic procedure.
- Review **Strategy Based Diagnosis** for an overview of the diagnostic approach.
- **Diagnostic Procedure Instructions** provides an overview of each diagnostic category.

Diagnostic Fault Information

Automatic Day-Night Mirrors Inoperative

Circuit	Short to Ground	Open/High Resistance	Short to Voltage	Signal Performance
Ignition 1 Voltage	2	2	-	-
Backup Lamp Supply Voltage	1	1	2	-
Ground	-	2	2	-
1. Rearview mirror remains dimmed in reverse 2. Rearview mirror does not dim				

Circuit/System Description

The inside rearview mirror uses 2 photocell sensors. One sensor is the rear light sensor, located on the face side of the mirror, facing the rear of the vehicle. The rear light sensor is used to determine light conditions present at the mirror face. The other sensor is the front light sensor, located on the backside of the mirror, facing the front of the vehicle. The front light sensor is used to determine the exterior light conditions at the front of the vehicle. With a low exterior light condition detected by the front light sensor and a high light condition from the rear light sensor, the inside rearview mirror will automatically darken the face of the inside rearview mirror.

With the gear selector lever in the REVERSE position, backup lamp supply voltage is supplied as an input to the inside rearview mirror. The mirror monitors this input to disable the automatic day-night feature. This allows the driver to see objects in the mirror clearly when backing up, regardless of the rear light sensor status.

Reference Information

Schematic Reference

Inside Rearview Mirror Schematics

Connector End View Reference

Mirror Connector End Views

Description and Operation

Automatic Day-Night Mirror Description and Operation

Electrical Information Reference

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

Circuit/System Verification

1. Ignition ON, headlamps ON, vehicle in PARK, cover the front light sensor with a towel or other suitable item. Shine a flashlight at the rear light sensor while observing the inside rearview mirror face. The inside rearview mirror face should dim.
    - If the mirror face does not dim, refer to Inside Rearview Mirror Circuit Malfunction under **Circuit/System Testing**.
2. Headlamps ON, park brake applied, cover the front light sensor with a towel or other suitable item. Shine a flashlight at the rear light sensor while observing the inside rearview mirror face. Place the transmission in REVERSE. The inside rearview mirror face should transition from dim to bright.
    - If the mirror does not transition from dim to bright, refer to Reverse Input Malfunction in **Circuit/System Testing**.
3. Remove the towel from the inside rearview mirror and remove the flashlight. Verify the inside rearview mirror face returns to its normal bright state.
    - If the mirror face does not return to its normal state, test or replace the inside rearview mirror.

Circuit/System Testing

Inside Rearview Mirror Circuit Malfunction

1. Ignition OFF, disconnect the harness connector at the inside rearview mirror.

2. Ignition OFF, test for less than 1 ohm of resistance between the ground circuit terminal 8 and ground.
    - If greater than the specified range, test the ground circuit for an open/high resistance.
3. Ignition ON, verify a test lamp illuminates between the ignition circuit terminal 13 and ground.
    - If the test lamp does not illuminate, test the ignition circuit for a short to ground or an open/high resistance.
4. If all circuits test normal, test or replace the inside rearview mirror.

Reverse Input Malfunction

1. Ignition OFF, disconnect the harness connector at the inside rearview mirror.
2. Ignition ON, park brake applied, vehicle in REVERSE, test for B+ between the supply voltage circuit terminal 9 and ground.
    - If less than the specified value, test the supply voltage circuit for a short to ground or an open/high resistance. If the circuit tests normal, refer to **Backup Lamps Inoperative** .
3. If all circuits test normal, test or replace the inside rearview mirror.

Repair Procedures

Perform the **Diagnostic Repair Verification** after completing the diagnostic procedure.

Inside Rearview Mirror Replacement

POWER MIRRORS INOPERATIVE

Diagnostic Instructions

- Perform the **Diagnostic System Check - Vehicle** prior to using this diagnostic procedure.
- Review **Strategy Based Diagnosis** for an overview of the diagnostic approach.
- **Diagnostic Procedure Instructions** provides an overview of each diagnostic category.

Diagnostic Fault Information

Power Mirrors Inoperative

Circuit	Short to Ground	Open/High Resistance	Short to Voltage	Signal Performance
Ignition Voltage	1	1	-	-

Mirror Motor Right Control	3	3	3	-
Mirror Motor Left Control	2, 3	2, 3	2, 3	-
Mirror Motor Up Control	2	2	2	-
Ground	1	1	-	-
1. All power mirror functions inoperative 2. Mirror vertical controls inoperative 3. Mirror horizontal controls inoperative				

Circuit/System Description

The outside rearview mirror switch controls the outside rearview mirrors based on the position of the mirror selector switch and which movement position is selected. The outside rearview mirror switch has four positions: up, down, left and right. Ignition voltage is applied to the switch via the body control module (BCM) and when a movement position switch is selected, voltage is sent to the commanded mirror via a mirror control control. The opposite mirror control circuit acts as a ground circuit for the bi-directional mirror motor. Ground is the applied through the switch.

Reference Information

Schematic Reference

Outside Rearview Mirror Schematics

Connector End View Reference

Mirror Connector End Views

Description and Operation

Outside Mirror Description and Operation

Electrical Information Reference

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

Circuit/System Verification

1. Ignition ON, with the mirror selector switch in the DRIVER position, command the mirrors UP, DOWN, LEFT and RIGHT using the mirror directional switch. The driver mirror should move in the commanded direction.
2. With the mirror selector switch in the PASSENGER position, command the mirrors UP, DOWN, LEFT and RIGHT using the mirror directional switch. The passenger mirror should move in the commanded direction.

Circuit/System Testing

1. Ignition OFF, disconnect the harness connector at the outside rearview mirror switch.
2. Ignition OFF, test for less than 2 ohms of resistance between the ground circuit terminal 2 and ground.
    - If greater than the specified range, test the ground circuit for an open/high resistance.
3. Ignition ON, verify a test lamp illuminates between the ignition voltage circuit terminal 1 and ground.
    - If the test lamp does not illuminate, test the B+ circuit for a short to ground or an open/high resistance. If the circuit tests normal, replace the BCM.
4. Ignition OFF, reconnect the harness connector at the outside rearview mirror switch. Disconnect the harness connector at the inoperative mirror.
5. Ignition OFF, with the outside rearview mirror switch in the UP position, test for 5 ohms of resistance between the control circuit terminal 2 and ground.
    - If greater than the specified range, test the control circuit for an open/high resistance. If the circuit tests normal, test or replace the outside rearview mirror switch.
6. With the outside rearview mirror switch in the DOWN position, test for 5 ohms of resistance between the control circuit terminal 4 and ground.
    - If greater than the specified range, test the control circuit for an open/high resistance. If the circuit tests normal, test or replace the outside rearview mirror switch.
7. With the outside rearview mirror switch in the LEFT position, test for 5 ohms of resistance between the control circuit terminal 1 and ground.
    - If greater than the specified range, test the control circuit for an open/high resistance. If the circuit tests normal, test or replace the outside rearview mirror switch.
8. With the outside rearview mirror switch in the RIGHT position, test for 5 ohms of resistance between the control circuit terminal 2 and ground.
    - If greater than the specified range, test the control circuit for an open/high resistance. If the circuit tests normal, test or replace the outside rearview mirror switch.
9. Ignition ON, with the outside rearview mirror switch in the UP position, verify a test lamp illuminates between the control circuit terminal 4 and ground.

- If the test lamp does not illuminate, test the control circuit for a short to ground or an open/high resistance. If the circuit tests normal, test or replace the outside rearview mirror switch.

10. Ignition ON, with the outside rearview mirror switch in the DOWN position, verify a test lamp illuminates between the control circuit terminal 2 and ground.
    - If the test lamp does not illuminate, test the control circuit for a short to ground or an open/high resistance. If the circuit tests normal, test or replace the outside rearview mirror switch.
11. Ignition ON, with the outside rearview mirror switch in the LEFT position, verify a test lamp illuminates between the control circuit terminal 2 and ground.
    - If the test lamp does not illuminate, test the control circuit for a short to ground or an open/high resistance. If the circuit tests normal, test or replace the outside rearview mirror switch.
12. Ignition ON, with the outside rearview mirror switch in the RIGHT position, verify a test lamp illuminates between the control circuit terminal 1 and ground.
    - If the test lamp does not illuminate, test the control circuit for a short to ground or an open/high resistance. If the circuit tests normal, test or replace the outside rearview mirror switch.
13. If all circuits test normal, test or replace the applicable outside rearview mirror motor.

Repair Procedures

Perform the **Diagnostic Repair Verification** after completing the diagnostic procedure.

- **Power Mirror Switch Replacement**
- **Mirror Replacement**
- **Control Module References** for BCM replacement, setup and programming

REPAIR INSTRUCTIONS

POWER MIRROR SWITCH REPLACEMENT

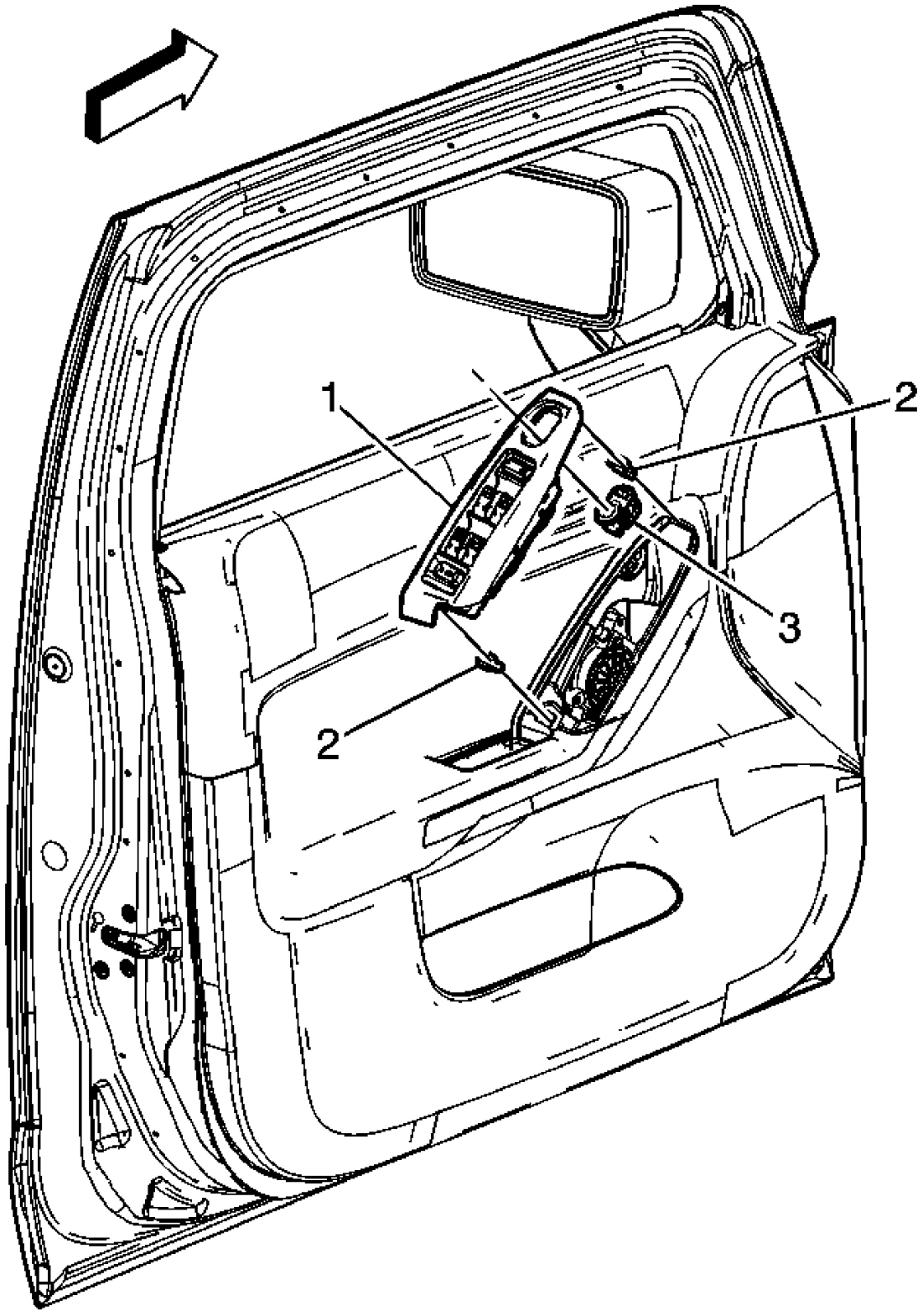


Fig. 13: Replacing Power Mirror Switch

Courtesy of GENERAL MOTORS CORP.

Power Mirror Switch Replacement

Callout	Component Name
1	Front Side Door Accessory Switch Mount Plate Assembly
2	Front Side Door Accessory Switch Mount Plate Clip (Qty: 2)
3	Power Mirror Switch Assembly

OUTSIDE REARVIEW MIRROR REPLACEMENT

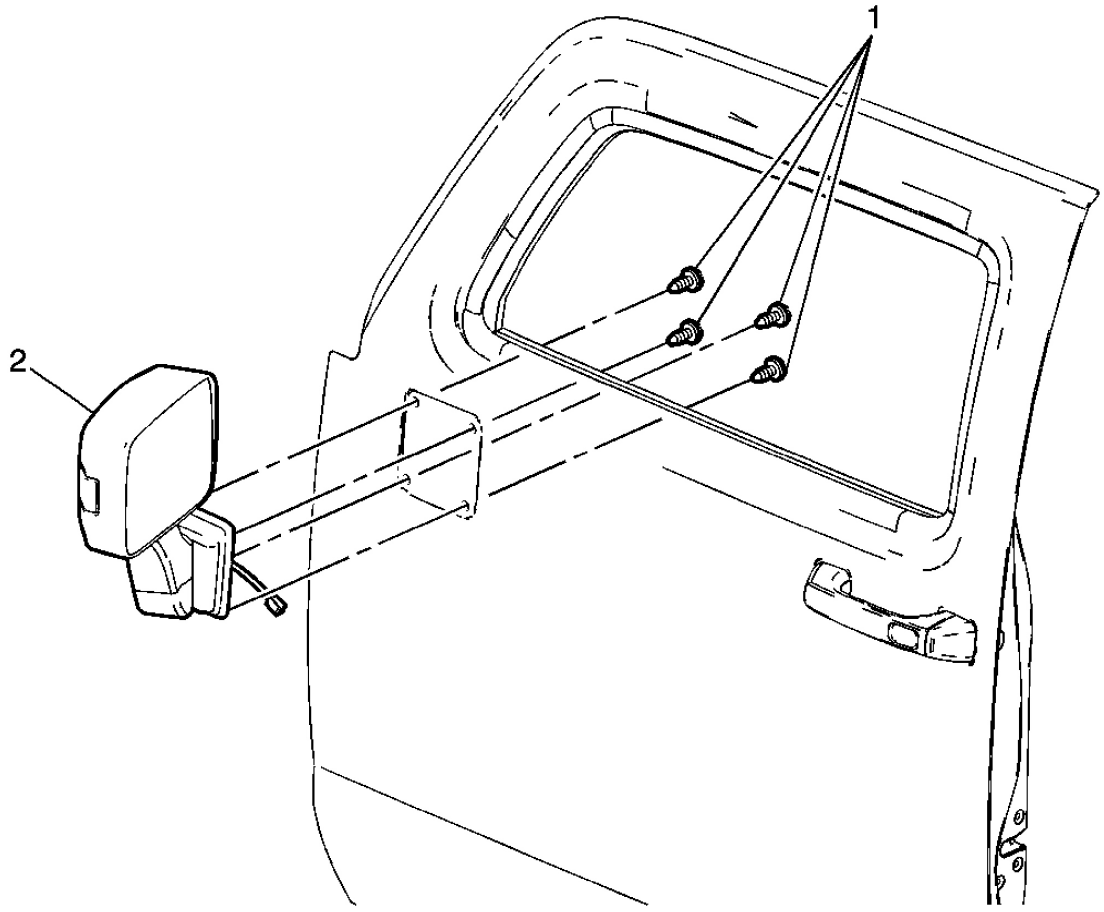


Fig. 14: Replacing Outside Rearview Mirror
Courtesy of GENERAL MOTORS CORP.

Mirror Replacement

Callout	Component Name
NOTE:	

Refer to Fastener Notice .

Fastener Tightening Specifications: Refer to **Fastener Tightening Specifications**.**Preliminary Procedure:** Remove the interior trim panel. Refer to **Front Side Door Trim Panel Replacement** .

1	Bolt, Mirror Outside Rear View (Qty: 4) **Tip:** Disconnect mirror electrical connector. **Tighten:** 10 N.m (89 lb in)
2	Mirror Assembly, Outside Rear View

OUTSIDE REARVIEW MIRROR GLASS REPLACEMENT

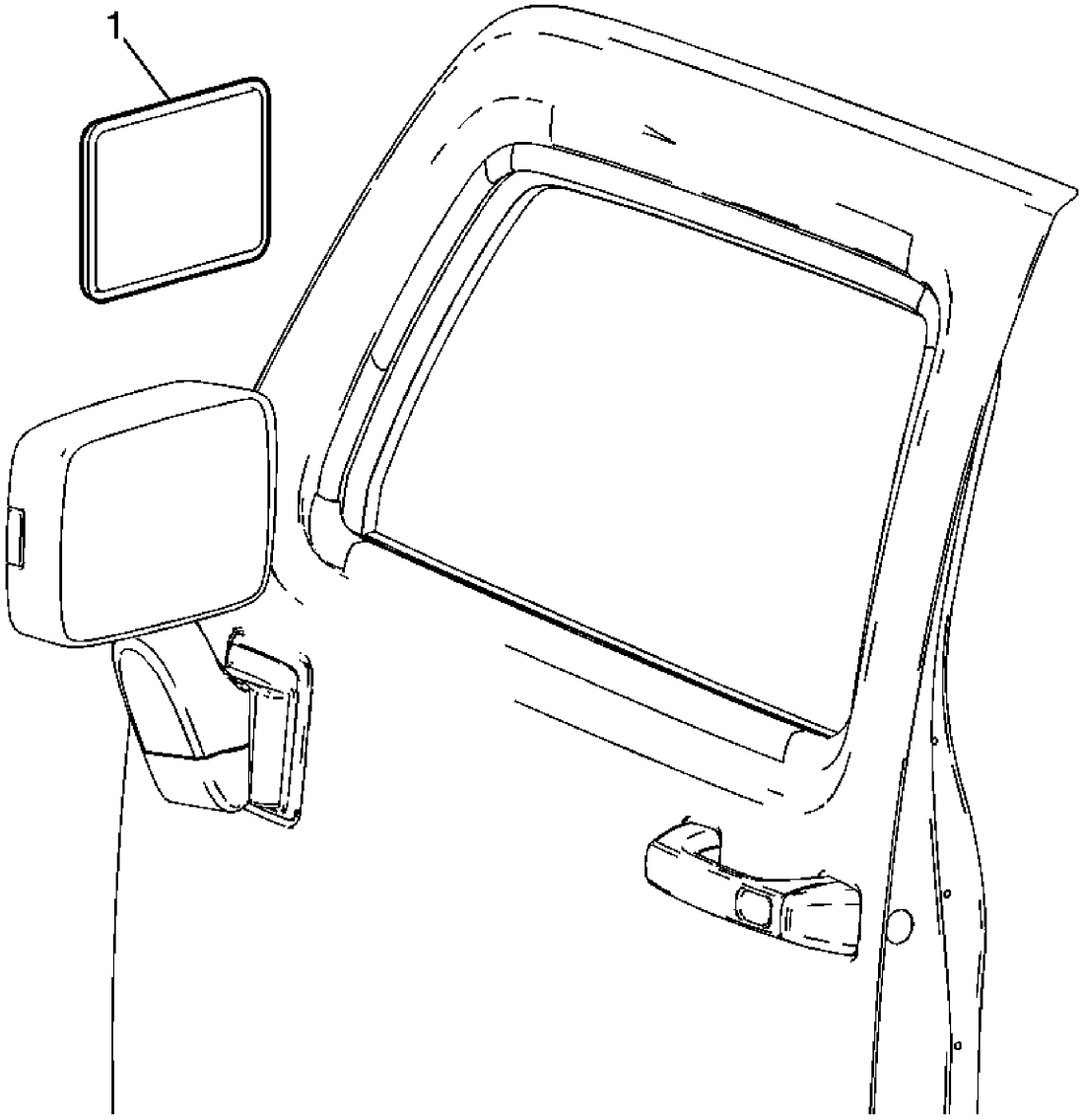


Fig. 15: Replacing Outside Rearview Mirror Glass
Courtesy of GENERAL MOTORS CORP.

Outside Rearview Mirror Glass Replacement

Callout	Component Name
NOTE: **Refer to Glass and Sheet Metal Handling Caution .** **Fastener Tightening Specifications:** Refer to **Fastener Tightening Specifications**.	
1	Mirror Face, Outside Rear View **Tip:** Release the mirror face backing from the mirror housing by pulling

	outward.

INSIDE REARVIEW MIRROR REPLACEMENT

Removal Procedure

1. Use a flat-bladed tool in order to remove the wire cover, if equipped.

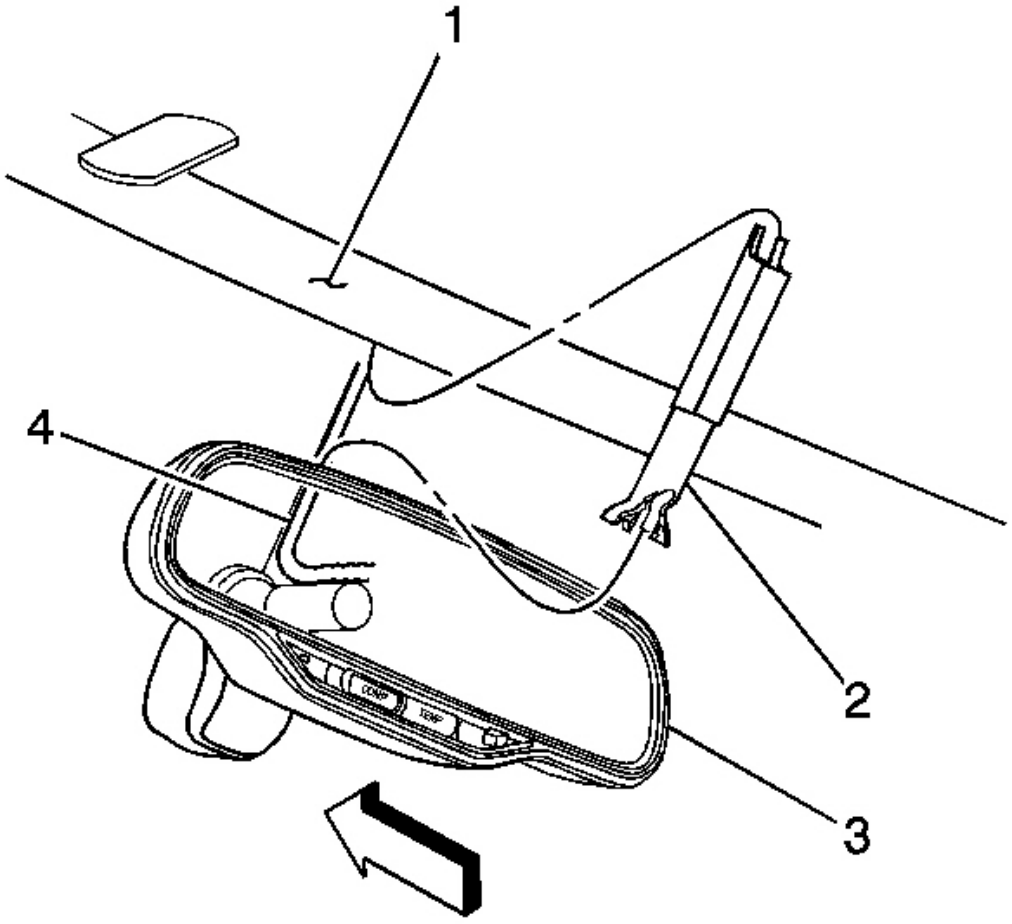


Fig. 16: Identifying Electrical Connector & Rearview Mirror
Courtesy of GENERAL MOTORS CORP.

2. Disconnect the electrical connector (4), if equipped.

3. Using a TORX-head® screwdriver, loosen the set screw that holds the mirror base to the windshield button.
4. Slide the mirror (3) off of the support.

Installation Procedure

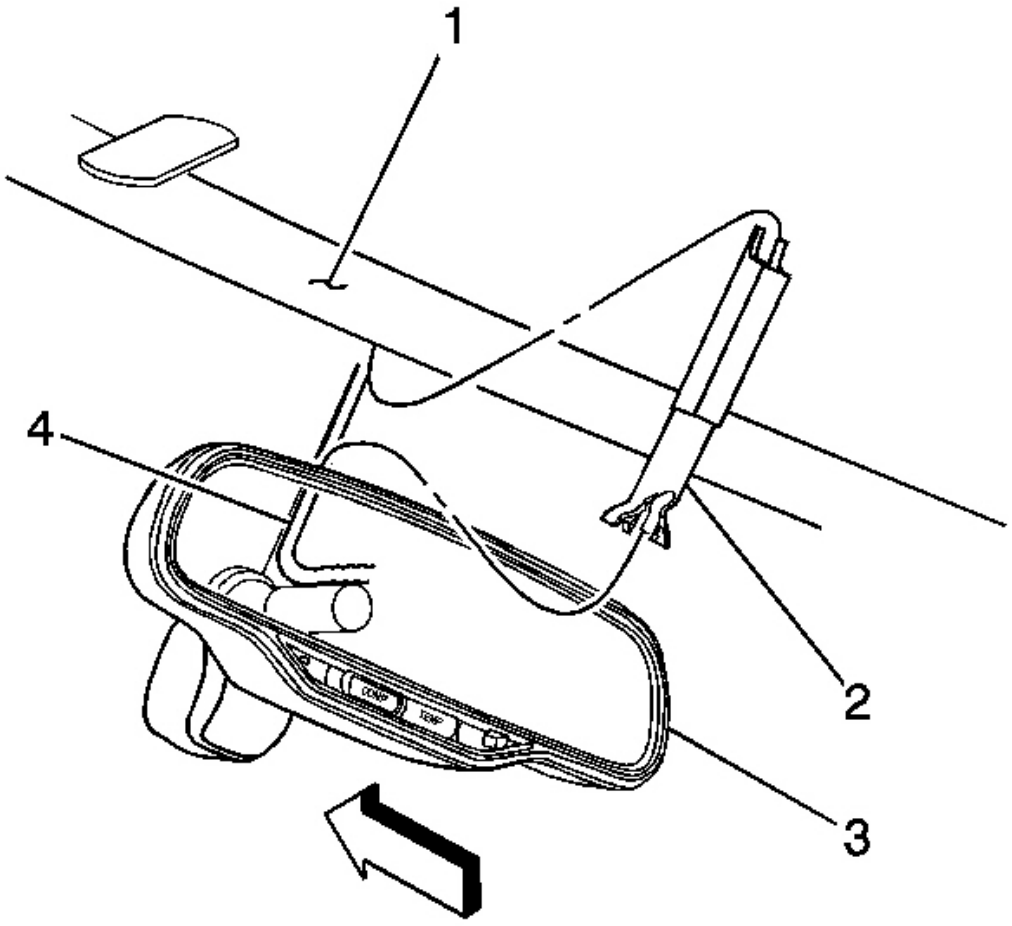


Fig. 17: Identifying Electrical Connector & Rearview Mirror
Courtesy of GENERAL MOTORS CORP.

1. Slide the mirror (3) onto the mirror support.

NOTE: Refer to Fastener Notice .

2. Install the set screw.

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

3. Connect the electrical connector (4), if equipped.
4. Install the wire cover (2), if equipped.
5. Ensure the wire cover is tucked into the forward edge of the headliner (1).
6. Re-calibrate the compass. Refer to **Compass Calibration and Magnetic Variance** .

REARVIEW MIRROR SUPPORT INSTALLATION

Tools Required

- Inside Mirror Adhesive Kit GM P/N 1052369 or Equivalent
- Safety Razor or Utility Knife

Installation Procedure

1. Determine the location of the mirror mounting base by marking the outside of the windshield with a marking pencil where the base was previously located. If it is not clear where the base was mounted, use the following steps to determine where the base should be installed:

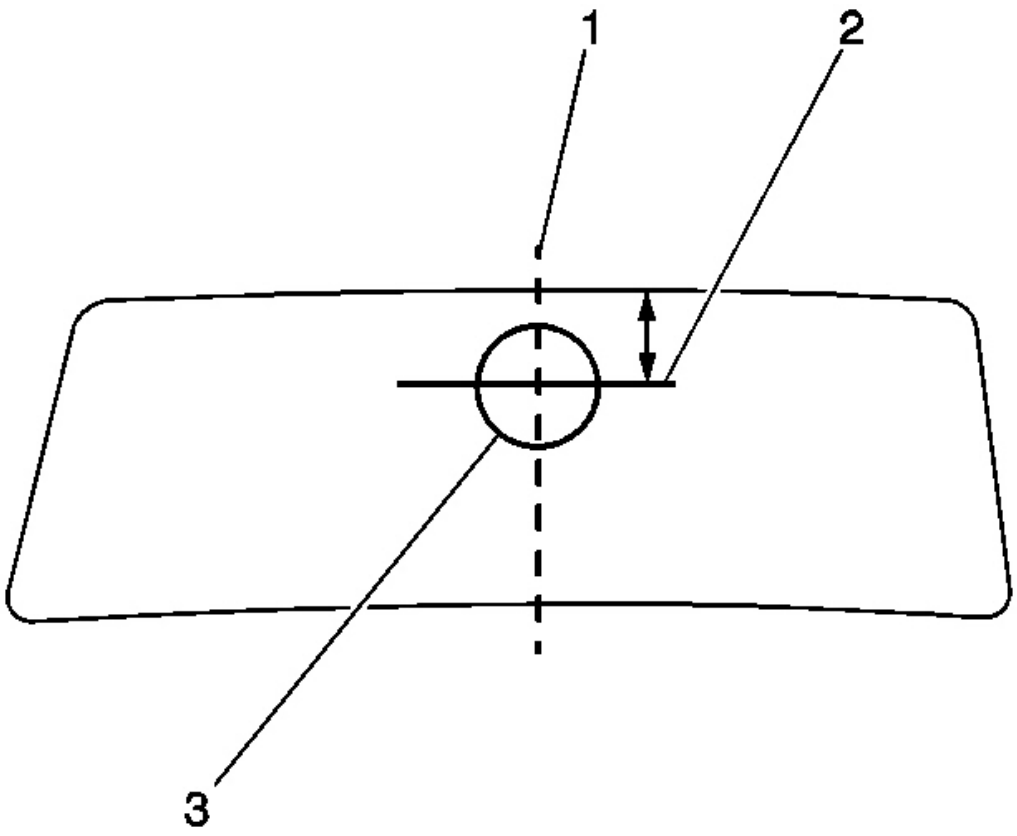


Fig. 18: Identifying Mirror Mounting Base Location
Courtesy of GENERAL MOTORS CORP.

1. Using a measuring tape, measure the distance between the windshield pillars from the base of the shade line .
2. Using a marking pencil, halfway between the windshield pillars, draw a centerline (1) on the windshield from the roof panel to the windshield base.
3. Draw a perpendicular line intersecting the centerline (2) at that location.

   The top center of the mirror mounting base will be at the intersection of these lines.

2. Scrape the inside windshield glass thoroughly with a safety razor or utility knife in order to remove all old adhesive.
3. If reinstalling the original mounting base, place the mirror mounting base in a suitable

holding device, such as a vice.

4. Scrape the mirror mounting base thoroughly with a safety razor or utility knife in order to remove all old adhesive.
5. Clean the inside windshield glass and the mounting surface of the mirror mounting base thoroughly with a clean cloth saturated with naphtha or a 50/50 mixture (by volume) of clean water and isopropyl alcohol.

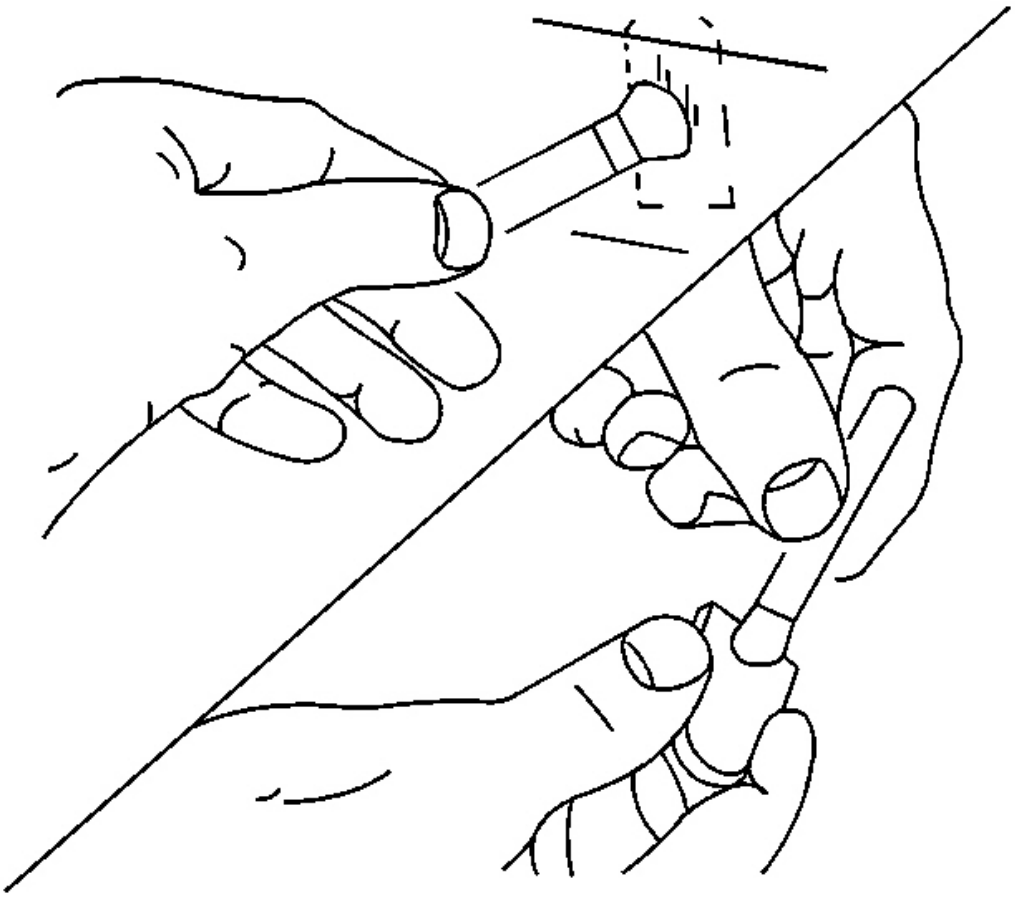


Fig. 19: Applying Adhesive To Mirror Base & Window
Courtesy of GENERAL MOTORS CORP.

6. Use Inside Mirror Adhesive Kit GM P/N 1052369 or equivalent to apply a small amount of activator to the mounting surface of the mirror mounting base.

7. Apply a small amount of activator to the windshield where the mounting base is to be installed.
8. Allow the activator to dry 5 minutes.

IMPORTANT: Do not touch the mounting surface of the mirror mounting base or the glass.

9. Apply 1 drop of adhesive to the center of the mirror mounting base.

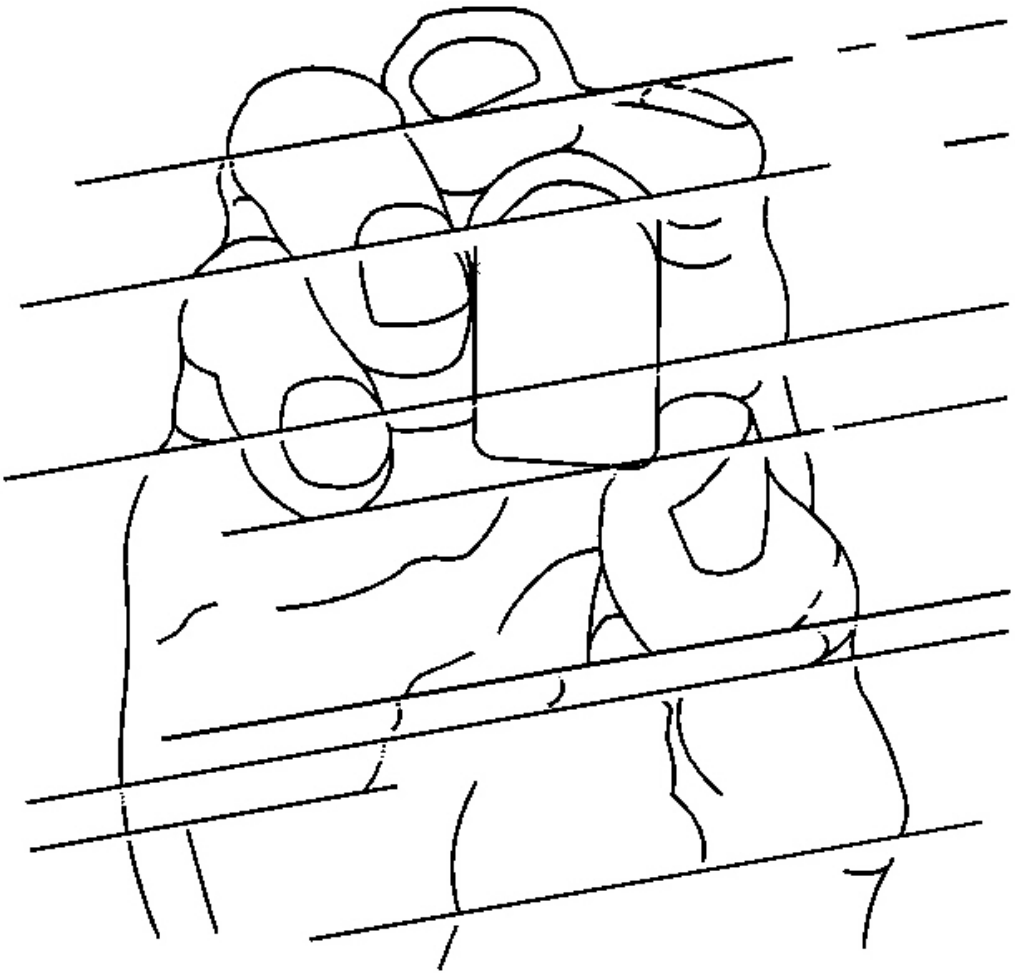


Fig. 20: Installing Mirror Mounting Base
Courtesy of GENERAL MOTORS CORP.

10. Immediately apply the mounting base to the windshield, ensuring that the mounting base aligns correctly to the marks made on the outside of the windshield.
11. Hold the mounting base firmly in place for 1 minute.
12. Allow the adhesive to set for 15 minutes.
13. Install the mirror to the mirror mounting base and fasten, if necessary.
14. Connect the electrical connector and install the wire cover, if equipped.

DESCRIPTION AND OPERATION

OUTSIDE MIRROR DESCRIPTION AND OPERATION

Power Mirror System Components

The power mirror system consists of the following components:

- Outside rearview mirror switch
- Mirror selector switch
- Driver outside rearview mirror
- Passenger outside rearview mirror
- Body Control Module (BCM)

Each of the outside rearview mirror contains two motors. The vertical motor operates the mirror in the up and down directions and the horizontal motor operates the mirror in the left and right directions.

Power Mirror System Controls

The outside rearview mirror switch is a four position directional switch: Up, Down, Left and Right.

The mirror select switch is a three position switch: left, center/neutral and right.

Power Mirror System Operation

The outside rearview mirror switch receives power through the inadvertent power supply voltage circuit from the BCM. The power mirror switch also receives a constant ground.

The four positions of the direction switch have dual switch contacts. Each of the contacts are connected to opposing sides of the appropriate power mirror motors through the selector switch. The selector switch completes these circuits depending on the position of the selector switch, L or

R.

If the selector switch is placed in the L position and the up switch is depressed, battery positive voltage will be supplied to the left outside rearview mirror vertical motor through the left mirror motor down control circuit and ground through the left mirror motor left control circuit. If the down switch is depressed, battery positive voltage will be supplied to the left outside rearview mirror vertical motor through the left mirror motor left control circuit and ground through the left mirror motor down control circuit.

The remainder of the mirror functions operate in the same manner as described above. Placing the power mirror switch in opposing positions, left/right or up/down, will reverse the polarity to the mirror motor, reversing the direction of movement.

AUTOMATIC DAY-NIGHT MIRROR DESCRIPTION AND OPERATION

Inside Rearview Mirror with the Automatic Day-Night Feature System Components

The inside rearview mirror with the automatic day-night feature system consists of the following components:

- Inside rearview mirror
- Ambient air temperature sensor

Inside Rearview Mirror with the Automatic Day-Night Feature System Operation

The mirror has two buttons at the bottom for the reading lamps on the mirror. These buttons are also utilized for controlling the automatic day-night ON/OFF functions, compass calibration, temperature and compass ON/OFF function and temperature units displayed.

To turn the automatic day-night mirror OFF, press and hold the left button for approximately 5 seconds and release when the green light goes off. Repeat to turn back ON. The auto dimming feature defaults to ON with every key cycle.

The inside rearview mirror uses 2 photocell sensors. One sensor is the rear light sensor, located on the face side of the mirror, facing the rear of the vehicle. The rear light sensor is used to determine light conditions present at the mirror face. The other sensor is the front light sensor, located on the backside of the mirror, facing the front of the vehicle. The front light sensor is used to determine the exterior light conditions at the front of the vehicle. With a low exterior light condition detected by the front light sensor and a high light condition from the rear light sensor, the inside rearview mirror will automatically darken the face of the inside rearview mirror.

With the gear selector lever in the REVERSE position, backup lamp supply voltage is supplied as

an input to the inside rearview mirror. The mirror monitors this input to disable the automatic day-night feature. This allows the driver to see objects in the mirror clearly when backing up, regardless of the rear light sensor status.

Compass

The mirror uses 2 magnetic field sensors for compass direction. One sensor is for north and south, the other is for east and west. The mirror supplies a signal and low reference to each sensor. As the vehicle travels with or against the earth's magnetic pull, there will be a change in voltage on one or both sensors. As a result of the change in voltage, the mirror changes the heading on the compass display.

Temperature Display

The inside rearview mirror monitors the ambient air temperature sensor. As the outside air temperature gets warmer, the ambient air temperature sensor will lower resistance. The inside rearview mirror monitors this change and will show this as a warmer temperature on the display. Temperatures exceeding 62°C (143°F) will be out of the mirror's temperature range and SC will be shown on the temperature display. In colder outside air temperatures, the ambient air temperature sensor will raise in resistance. The inside rearview mirror will show a colder temperature on the display. Temperatures lower than -40°C (-40°F) will be out of the mirror's temperature range which OC will be shown on the temperature display. In cold temperatures such as 3°C (37°F) or below, the temperature display will show ICE when the ignition is first turned ON. The display will toggle between ICE and the actual outside temperature until the temperature update process is complete.