



## *Signal®* Mirror Installation Instructions

### 2006-2010 Chevy Impala



***THE safety accessory of the 21<sup>st</sup> Century.™***

**Professional Installation Recommended:**

Warranty does not cover damage to the vehicle or mirror housing due to improper installation. Muth Mirror Systems, LLC (MMS) assumes no responsibility with regard to the accuracy of this information. MMS assumes no liability or responsibility resulting from improper installation, even in reliance upon this information. Proper installation is the responsibility of the installer. It is your responsibility to verify any circuit before interfacing with it using a digital multimeter.

**INCLUDED ITEMS:**

1-left and 1-right *Signal*® mirror  
1-left and 1-right wire harness  
2-wire taps  
1-ring connectors  
1-instruction manual

**REQUIRED TOOLS:**

Ratchet with extension or ratcheting screwdriver  
7 mm socket  
10 mm socket  
13 mm socket  
Socket wrench  
Dremel  
1-1/2" cut off wheel  
T-10 Torx bit  
T-30 Torx bit  
Large slotted screwdriver  
Small slotted screwdriver  
Large Phillips screwdriver  
Small Phillips screwdriver  
Small pry bar (nylon, non-scratchable)  
Gopher rod (wire)  
Electrical tape  
Wire crimper and stripper  
Needle nose pliers  
Multimeter or wire tester  
Sturdy gloves  
Safety glasses or goggles  
Utility knife  
Scissor

**PLEASE READ INSTRUCTIONS PRIOR TO INSTALLATION.**

**PROBLEMS OR QUESTIONS?**

Technical Assistance is available by calling  
Muth Mirror Systems Technicians at:

1-800-844-6616

Monday through Friday  
Between 8:00 a.m. and 5:00 p.m. CST

Or through the Muth web site: [www.muthco.com](http://www.muthco.com)

Or via E-mail: [techsupport@muthco.com](mailto:techsupport@muthco.com)



# Door Panel Removal



1. Start with opening the driver's side door and lowering the window.
2. Using a nylon, non-scratchable pry bar – carefully pry, unsnap and remove hand grab recessed cover. Remove (2) T-30 Torx screws revealed behind cover **(2A)**.
3. Lift up on door latch. Carefully pry, unsnap and remove door lever cover using a nylon, non-scratchable pry bar. Remove the T-30 Torx screw revealed behind cover **(3A)**.
4. With a small slotted screwdriver, carefully pry panel light cover to reveal screw. Remove screw with a 7mm socket **(4A)**.

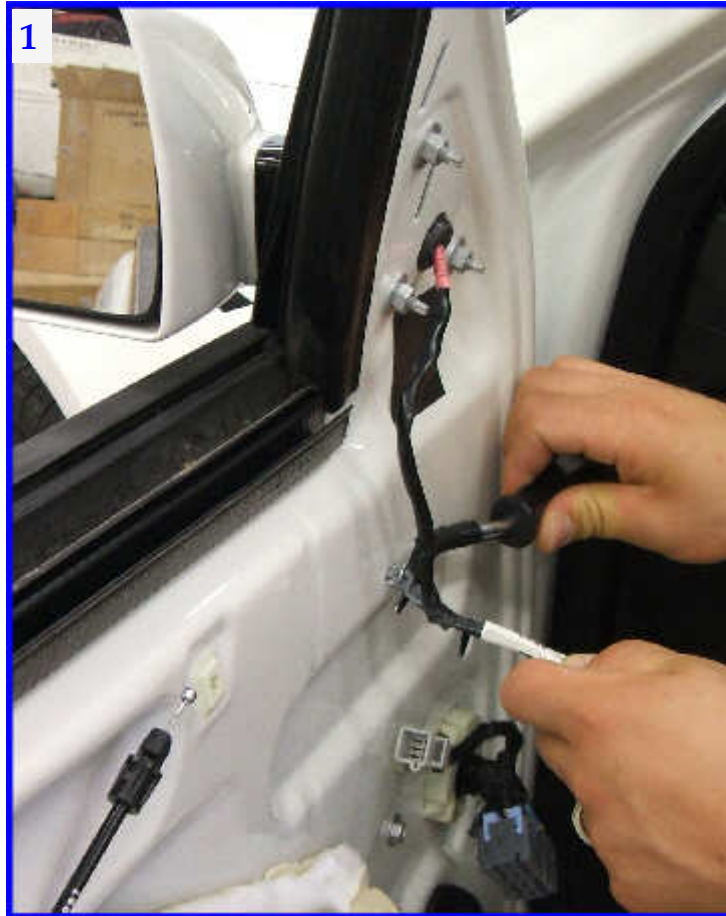
## Door Panel Removal Continued



5. Carefully pry off corner trim.
6. Locate the small indented slot around the bottom of door panel, insert a non-scratchable nylon pry bar into slot and pry door panel away from door frame. Continue prying around door panel, if necessary, to release panel.
7. Pull and lift the door panel off of the door and hold it a few inches away from the door. Disconnect all wiring connections behind door panel.
8. Using a needle nose pliers, unclip latch cable and remove door panel.



# Mirror Housing Removal



1. Disconnect mirror OE harness connector and unsnap wire retaining clip from door frame.
2. Secure the mirror housing with one hand and remove the three mirror mounting nuts from the corner of the door with 10mm socket. Carefully remove the mirror housing from the door. Lay the mirror housing on a cloth covered, flat surfaced work bench.



# Mirror Replacement

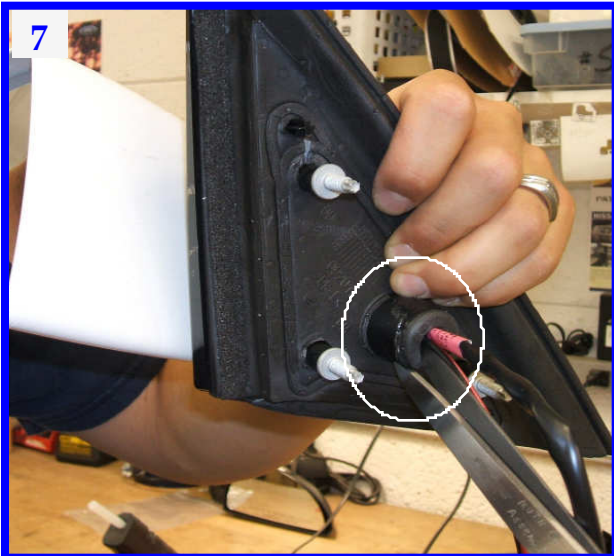
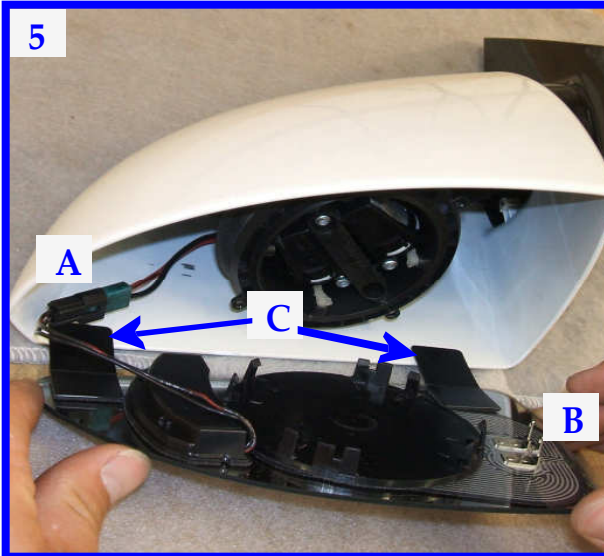
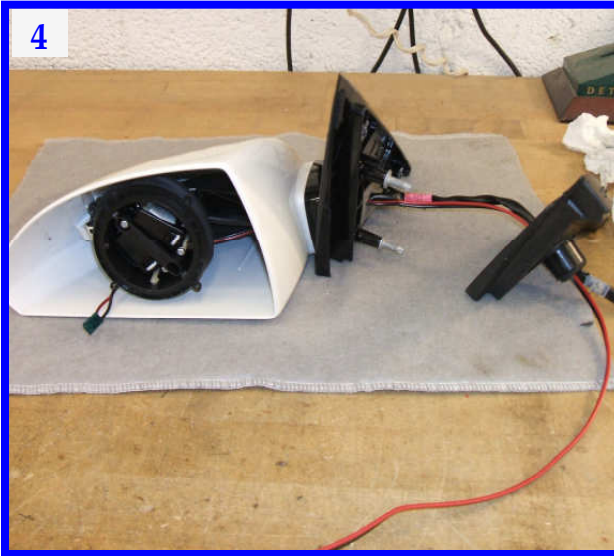
**WARNING: Safety glasses and sturdy gloves are required for mirror replacement.**



1. Push on the lower inboard edge of the mirror to manually pivot it fully outward. Slowly and carefully wedge a large flathead screw driver in between motor actuator and mirror. Slowly twist the flathead screwdriver to unsnap OE mirror. If heated, disconnect heater wires from heater terminals and remove OE mirror.
2. Using a T-10 Torx bit, unscrew the (3) retaining screws on the motor actuator.
3. Move the motor actuator aside to gain access to dremel out the interfering post inside the mirror housing. Using a dremel with a 1-1/2" cut off wheel, carefully cut the interfering post as shown.  
**Caution:** During the cutting process, be careful not to cut or scratch the mirror housing. When done, the feature inside the mirror housing should look similar to the figure shown in (3A). Screw motor actuator back into place.

# Mirror Replacement Continued

**WARNING: Safety glasses and sturdy gloves are required for mirror replacement.**

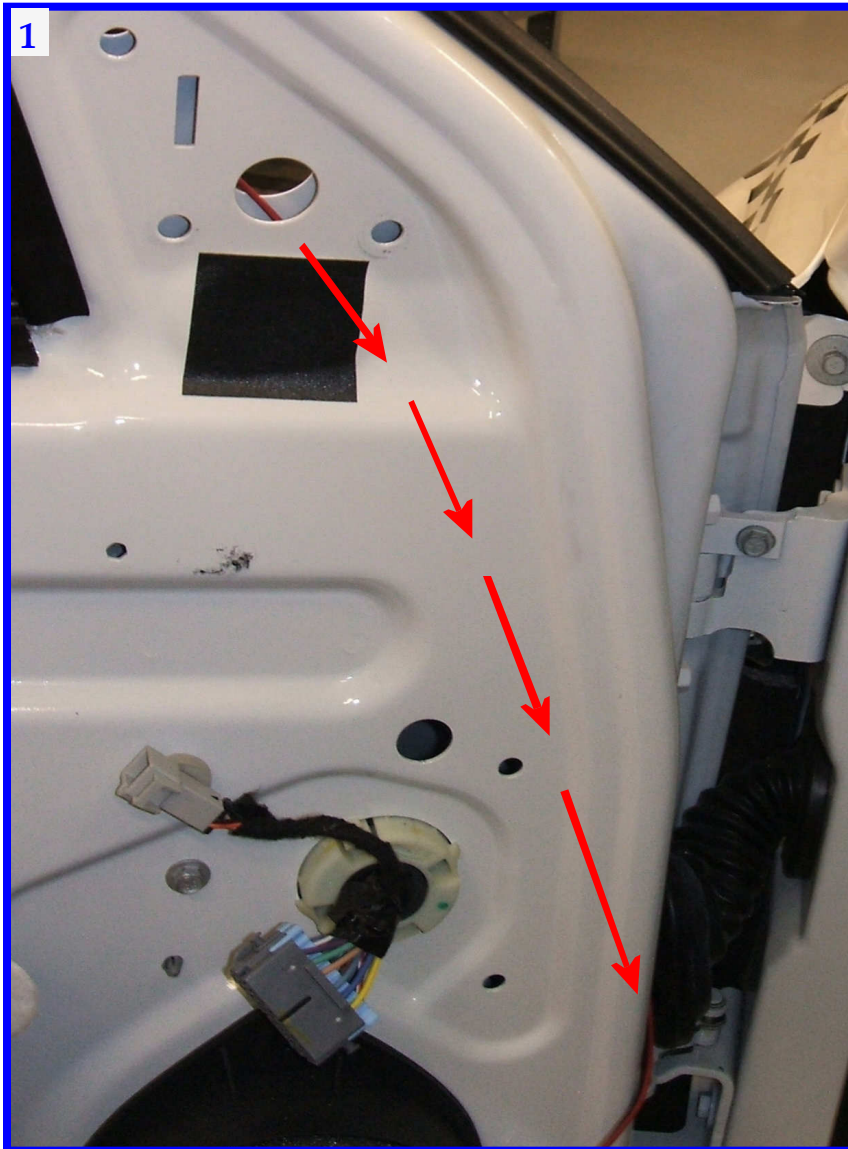


4. Using the shorter of the two *Signal*®mirror harnesses from the wiring kit, guide the end without the mating connector from inside mirror housing, out through the mirror mounting sail and sail foam insulation leaving about 4"-6" of wiring inside housing for connection. Pull *Signal*®mirror harness thru to eliminate any slack inside routing passage. Position sail foam insulation back into place.
5. Connect the *Signal*®mirror mating connector to the *Signal*®mirror wire harness (5A). **If heated**, reconnect the heater wires to the heater terminals on the back of the new *Signal*®mirror (5B). **NOTE: There is no polarity so the wires may be interchanged.** Position and align the mirror mount inserts into the motor actuator inserts' slots. Carefully tuck all wiring behind motor actuator. **Not doing so, could result in wiring interfering with mirror travel.** Push on anti-vibration tabs so that anti-vibration tabs are inside of mirror housing (5C). Align mirror mount to motor actuator and slowly push down on mirror until mirror snaps into place.
6. Firmly press down on all sides of the *Signal*®mirror to ensure mirror is fully seated and functional.
7. Using a scissor, make a small cut on the bottom side of sail foam insulation harness passage as shown.



# Wire Routing

**WARNING:** When routing wires into vehicle, it is extremely important to not let wires get pinched or crushed at any time. Avoid window track and sharp edges at all times. Not doing so may cause circuit shortage problems in the long run.



**TIP:** A gopher rod (wire) maybe use to assist in the *Signal*® mirror wire harness routing processes.

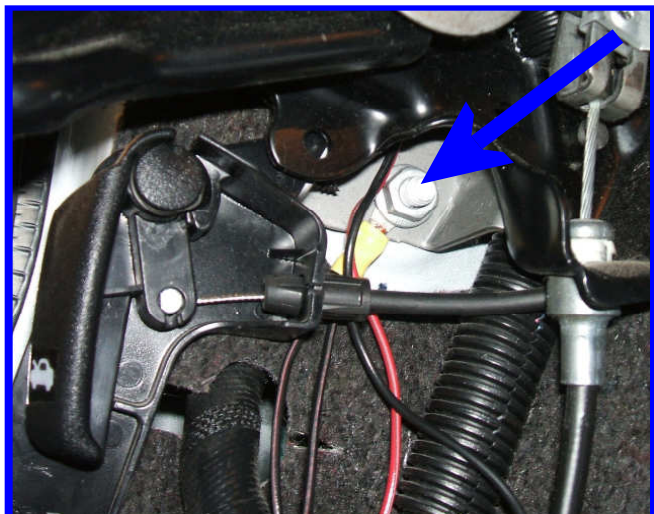
1. Locate rubber grommet in door jam. Using your fingers, push in and pull out both ends of the rubber grommet. Guide the *Signal*® mirror harness through the top access hole, down in between the door frame and out the rubber grommet access hole as shown on the left. Route OE wiring harness through both access holes and position the mirror housing assembly on the mirror mount. Bolt the mirror housing to the mirror mount with three mirror mounting nuts. **WARNING!** Do not over tighten the mirror mounting nuts. Reconnect OE wire harness connectors. Install wire retaining clip into place. Gently pull on the *Signal*® mirror harness to remove any slack within door frame.
2. Remove sill plate cover. With the help of a gopher rod (wire), continue routing the *Signal*® mirror harness thru the rubber grommet and into the vehicle. Gently pull on the *Signal*® mirror harness to remove any slack during the wire routing process.

\* Before proceeding, please read remainder of instructions for information regarding wiring identification and options. \*

\*\* Repeat all of the previous steps to replace the factory mirror on the passenger side door with the new *Signal*® mirror. \*\*



# Wire Identification



## GROUNDING WIRES

The ground wiring location is located in the driver side kick panel area. Locate the grounding bolt within the driver side kick panel. Route both *Signal*® mirror wire harnesses to the driver side kick panel area. Cut and split the BLACK w/ RED TRACE and BLACK wires on both *Signal*® mirror wire harnesses. Route the BLACK wire to the grounding bolt location. Cut both BLACK wires to length, making sure enough slack is left for splicing. Splice the BLACK wires and attach them to the supplied grounding ring. Attach the grounding ring to the grounding bolt on the vehicle frame using a 13mm socket.

**\*\* FOR TURN ONLY, PLEASE SKIP OVER TO PAGE 10 \*\***



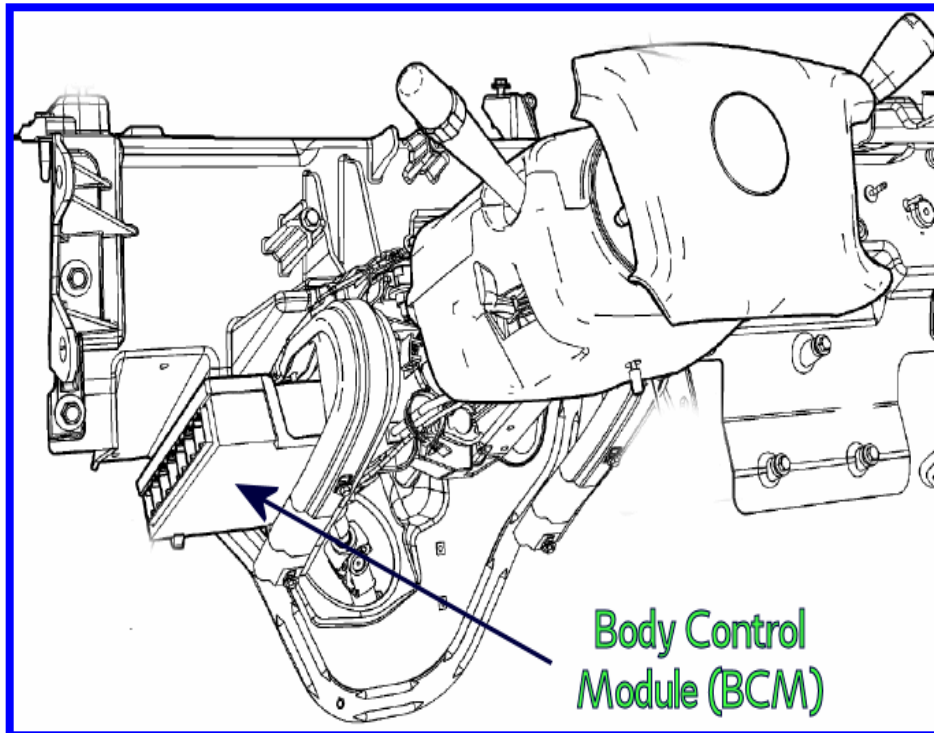
## TURN & BRAKE ONLY

The vehicle's electrical wiring is located within the wire bundle along the floor board on the driver side kick panel. Using a utility knife, carefully cut and remove some of the electrical tape to gain access to the wires behind it. Locate the solid YELLOW wire within the wire bundle. Turn the ignition key so that electrical power is on and activate the driver side turn indicator. Probe the wire with the wire tester to verify that flashing turn directional power is present. Label that wire as 'driver side indicator'. Locate the GREEN wire. Activate the passenger side turn indicator and probe the wire with the wire tester to verify that flashing turn directional power is present. Label that wire as 'passenger side indicator'.

**\* SKIP TO PAGE 11 FOR WIRE SPLICING PROCEDURES \***

# Wire Identification Continued

## TURN ONLY



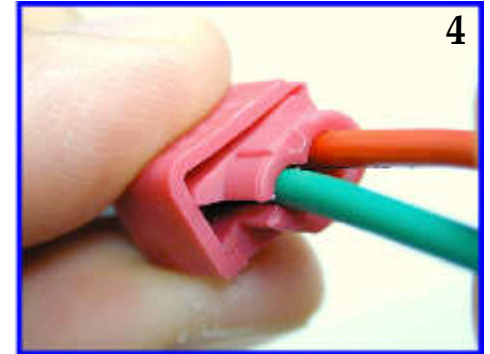
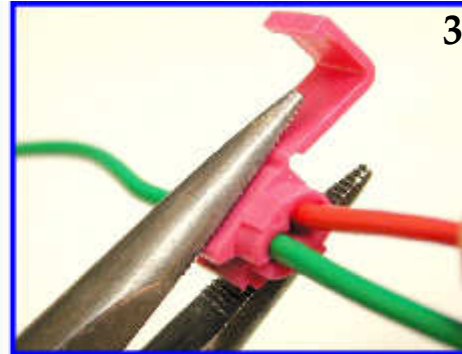
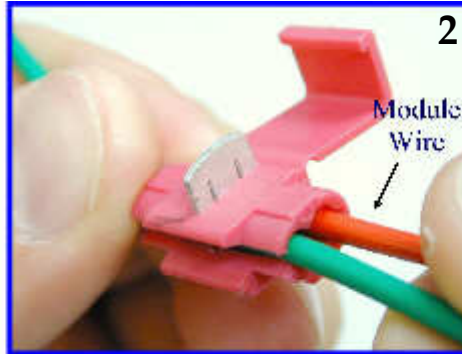
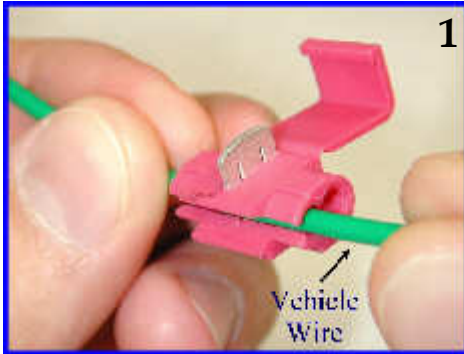
- 1) The wiring location for the driver side and passenger side turn directional is located in the “Body Control Module (BCM)” behind the knee panel, under the steering column. Remove the kick panels and the knee panel to gain access to route wires.
- 2) Continued routing the BLACK w/ RED TRACE wire to the BCM location under the steering column. Make sure there are enough slack in the wire for splicing. Find the connector C5 (25-Way F Receptacle) within the BCM. Locate the LIGHT BLUE w/ WHITE stripe wire (**pin 4**) in the BCM. Turn the ignition key so that electrical power is on and activate the driver side turn indicator. Probe the wire with the wire tester to verify that flashing turn directional power is present. Label that wire as ‘driver side indicator’.

\* Before proceeding, please read remainder of instructions for information regarding wiring identification and options\*

\*\* Repeat all of the previous steps to replace the factory mirror on the passenger side door with the new *Signal*® mirror.

\*\*\* Continued routing the, passenger side, BLACK w/ RED TRACE wire under the dash across to the BCM location under the steering column. Make sure there are enough slack in the wire for splicing. Find the connector C4 (25-Way F Receptacle) within the BCM. Locate the DARK BLUE w/ WHITE stripe wire (**pin 5**) in the BCM. Turn the ignition key so that electrical power is on and activate the driver side turn indicator. Probe the wire with the wire tester to verify that flashing turn directional power is present. Label that wire as ‘passenger side indicator’.





**USE THE INCLUDED WIRE TAPS AND FOLLOW THE FOUR STEPS ABOVE TO SPLICE INTO THE TURN INDICATOR WIRES**

- A. Make sure the harnesses are routed securely and enough slack is left for splicing.
- B. Splice the BLACK w/ RED TRACE wire from the driver side harness into the wire previously labeled 'driver side indicator'.
- C. Splice the BLACK w/ RED TRACE wire from the passenger side harness into the wire previously labeled 'passenger side indicator'.
- D. Activate each turn indicator to verify that the *Signal*® mirrors are working properly.
- E. Reconnect all original wiring. Turn the ignition power to on, check to verify all features are working properly.
- F. Replace the plastic door frame moldings, trim, door panels, and all accessories.

**Muth products are protected by these, and other pending, United States Patents**

3,075,779	5,005,009	5,014,167	5,128,659	5,207,492	5,355,284	5,361,190	5,481,409	5,528,422	5,619,374	5,619,375
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