



Signal® Mirror Installation Instruc- 2007-2013 GMT-800/900 Trailer Tow



THE safety accessory of the 21st 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
2-ring connectors
1-instruction manual

REQUIRED TOOLS:

Ratchet with extension or ratcheting screwdriver
10 mm socket
Socket wrench
Slotted screwdriver
Phillips screwdriver
Clip removal tool
Small pry bar (plastic)
Gopher rod (wire)
Electrical tape
Wire crimper and stripper
Needle nose pliers
Multimeter or wire tester
Sturdy gloves
Safety glasses or goggles
Utility knife
Heat gun

PLEASE READ INSTRUCTIONS PRIOR TO INSTALLATION.

PROBLEMS OR QUESTIONS?

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

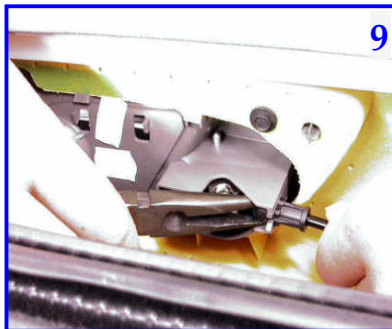
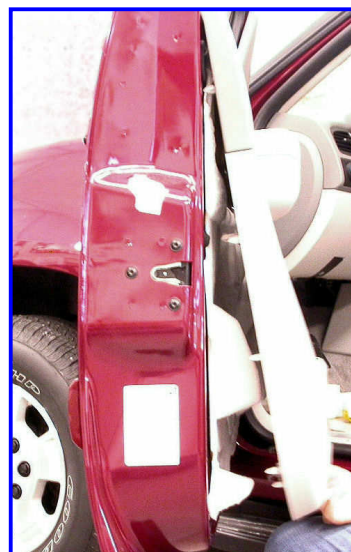
1-800-844-6616

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

Or through the Muth web site: www.muthco.com

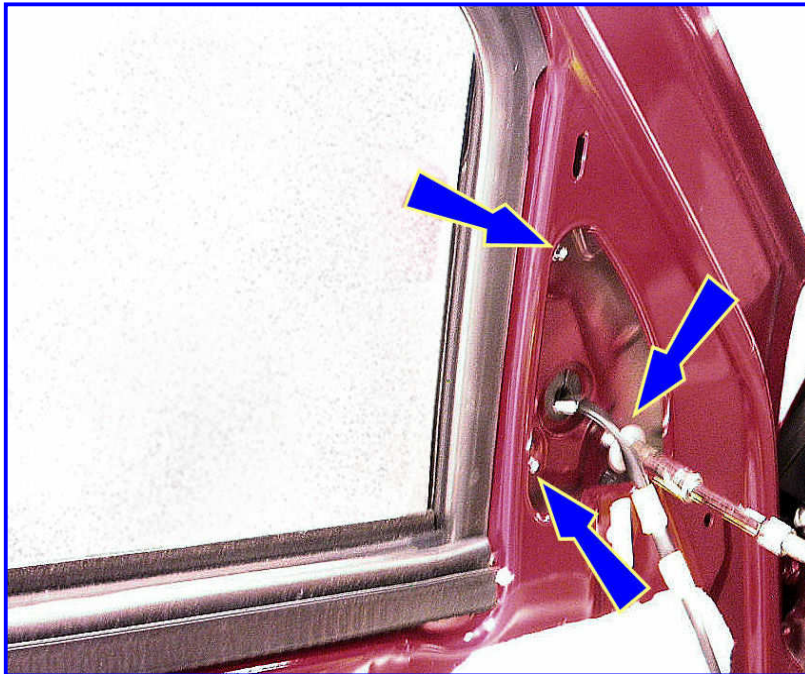
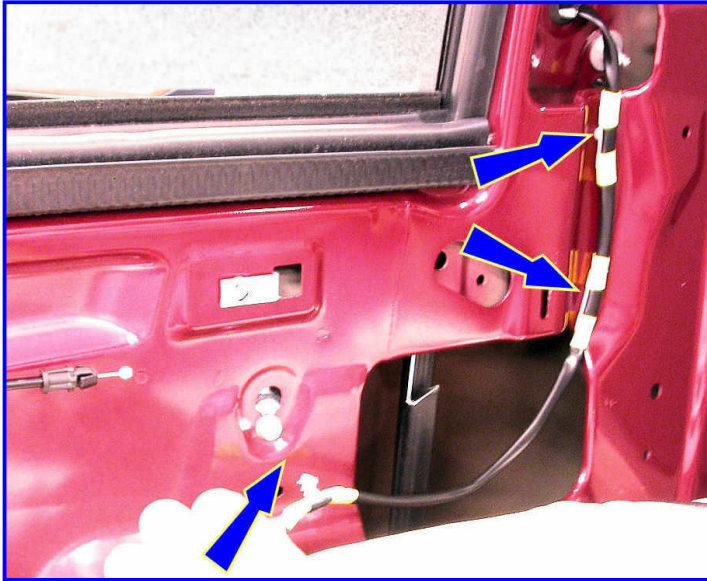
Or via E-mail: techsupport@muthco.com

Door Panel Removal



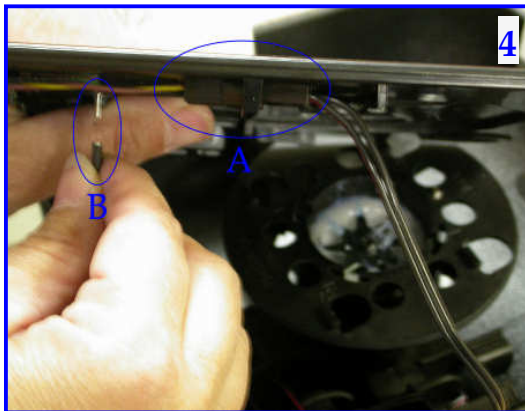
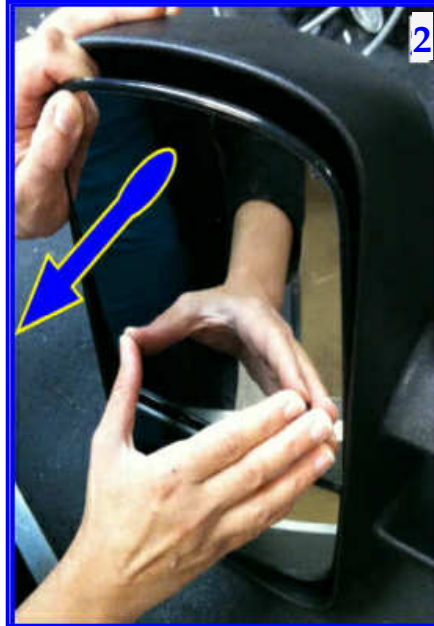
- 1) Start with opening the driver's side door and lowering the window. Remove lock lever (1A).
- 2) Using a plastic pry bar [slotted screwdriver], slowly pry plastic cover to reveal screw. **CAUTION:** These plastic covers are fragile and break easily. Be very gentle in disengaging them.
- 3) Remove screw with a 10mm socket.
- 4) Slowly pry plastic cover using a plastic pry bar [slotted screwdriver].
- 5) Remove the (2) revealed screws with a 10mm socket.
- 6) Pry off the door panel controller using a plastic pry bar. Disconnect wiring and remove the controller.
- 7) With the plastic pry bar, pry around the triangular panel as shown.
- 8) Lift up and slowly pull door panel out partially.
- 9) Release the door lever rod with a needle nose pliers. Remove and set door panel aside.

Mirror Housing Removal



- 1) Carefully remove the (3) wire retention clips on door frame with a clip removal tool.
 - 2) Secure the mirror housing with one hand, remove the (3) nuts holding the mirror housing to the door frame using a 10mm socket.
- WARNING: Not securing mirror housing with one hand before loosening the nuts could cause the mirror housing to fall and become damaged.** Carefully remove mirror housing from door frame and set mirror housing on a cloth covered surface.

Mirror Replacement

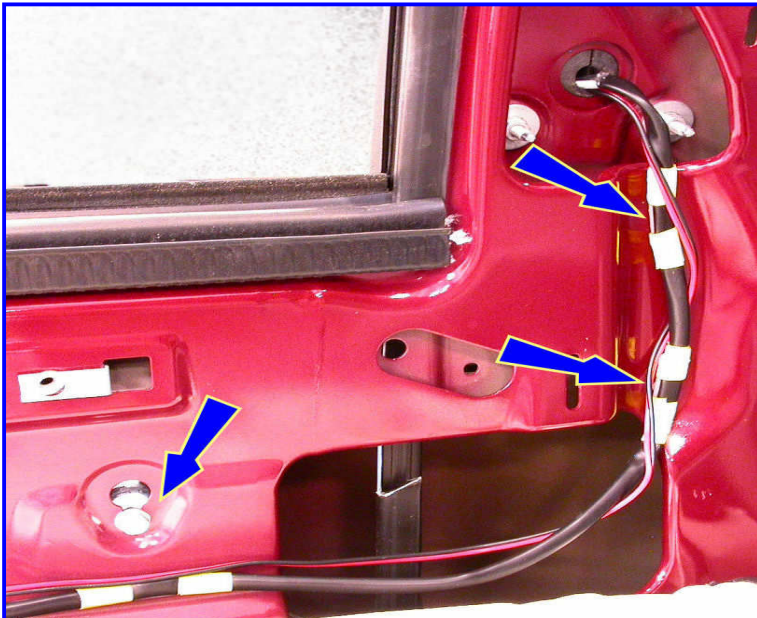
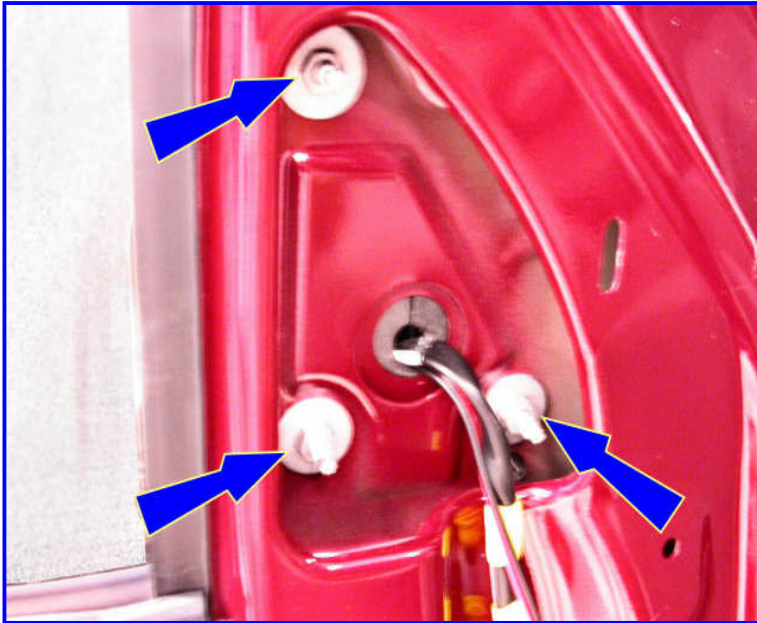


WARNING: Safety glasses and sturdy gloves are required for mirror replacement.

- 1) Using your hands as shown, slide your fingers into the crease between the two mirrors, carefully push-up on the upper mirror [larger mirror] until mirror unsnaps from mirror mount.
- 2) Carefully tilt the mirror out and away from mirror housing. Remove mirror partially. If heated, disconnect heater wires from heater terminals and remove mirror.
- 3) Using the shorter of the two harnesses from the wiring kit, route the end without the connector starting from inside the mirror housing and thru to the housing sail.
- 4) Pull the *Signal*® mirror wire harness thru housing sail leaving about 4" to 6" of the wire harness inside mirror housing. Connect the mating connectors on the new *Signal*® mirror and the *Signal*® mirror wire harness [A]. If heated, reconnect the heater wires to the heater terminals on the back of the new *Signal*® mirror [B]. **NOTE: There is no polarity so the wires may be interchanged.** Carefully tuck all wiring behind motor actuator. **Not doing so, could result in wiring interfering with mirror travel.**
- 5) Align the *Signal*® mirror motor mount with the motor actuator in the mirror housing, carefully push downward until motor mount snaps onto motor actuator. **CAUTION: Gently press down on all sides to ensure the new *Signal*® mirror is fully seated and functional. Not doing so, could result in new *Signal*® mirror falling off.**
- 6) Route all wires thru sail foam insulation. Replace foam insulation onto housing sail.

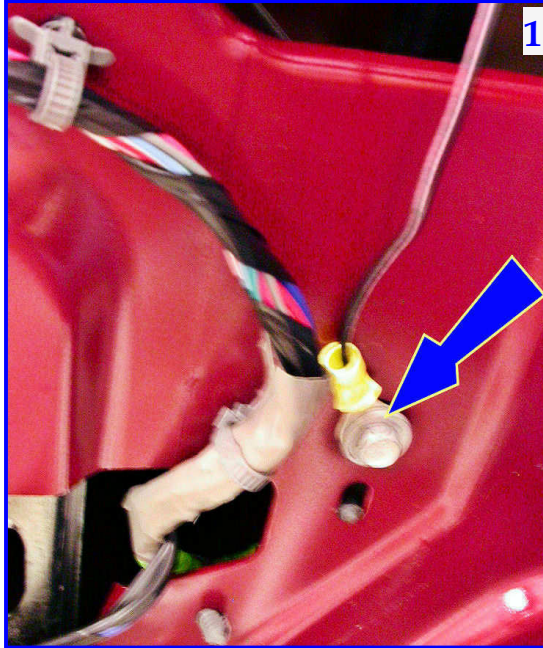
Mirror Replacement Continued

WARNING: Safety glasses and sturdy gloves are required for mirror replace-



- 7) Guide all wire harnesses thru the access hole in the door frame and position the mirror housing assembly on the mirror mount. Attach the mirror housing to the mirror mount with three mirror mounting nuts. **WARNING! Do not over tighten the mirror mounting nuts.**
- 8) Replace the (3) retention clips on the OEM wire to the door frame. Route the *Signal*® mirror wire harness alongside OEM wire as shown.

Wire Routing



- 1) Locate the grounding bolt shown on the door frame. Cut and split the black w/ red trace and black wires on the *Signal*® mirror wire harness. Route the black wire to the grounding bolt location. Cut the black wire to length, making sure enough slack is left for splicing. Splice the black wire and attach it to one of the supplied grounding rings. Attach the grounding ring to the grounding bolt on the doorframe.
- 2) The wiring location for the driver side turn directional is located in the driver side door panel control module. Replace all wiring onto the door panel control module. Locate the LIGHT BLUE w/ WHITE stripe wire within the wire loom shown. 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*

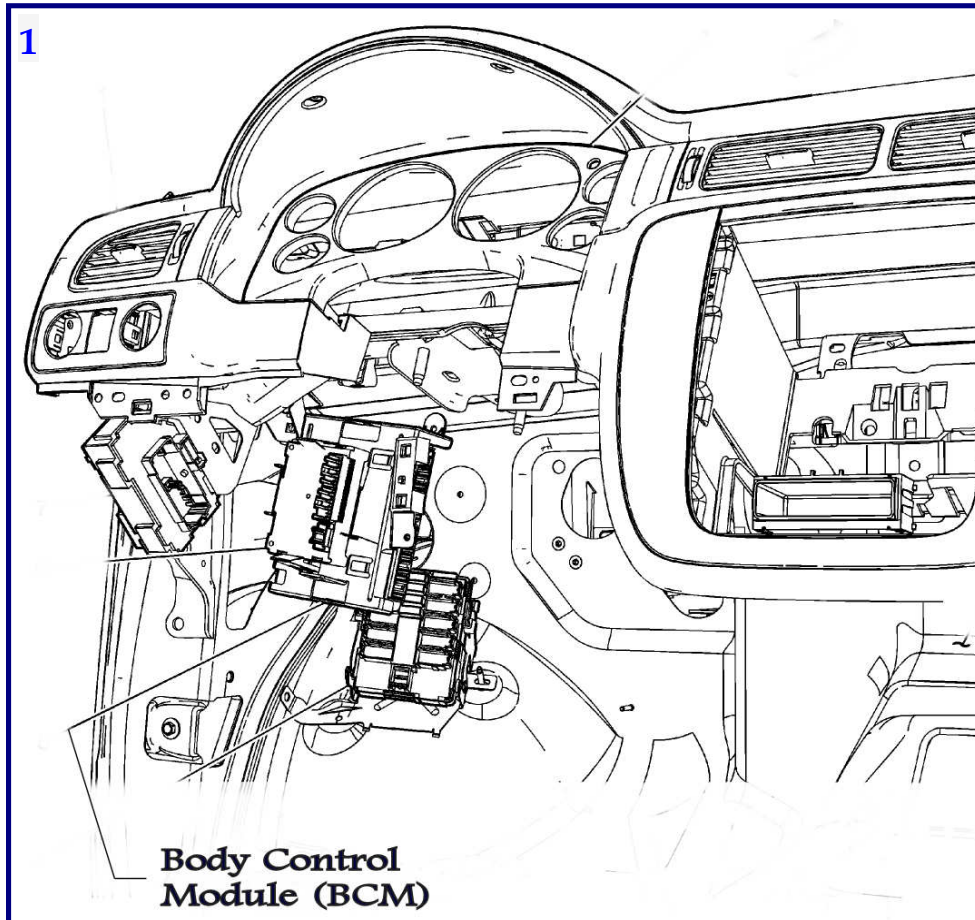
** Repeat all of the previous steps to replace the factory mirror on the passenger side door with the new *Signal*® mirror.

*** The wiring location for the passenger side turn directional is located in the passenger side door panel control module. Replace all wiring onto the door panel control module. Locate the DARK BLUE w/ WHITE stripe wire within the wire loom. Turn the ignition key so that electrical power is on and activate the passenger 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'.

*****Skip to last page for wire splicing information*****

Note: If for some reason, you cannot find the turn indicator wires in the door panel locations, then see next page for additional wire routing and locating information.

Wire Routing Continued



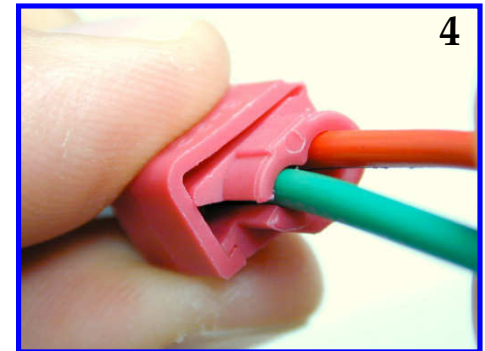
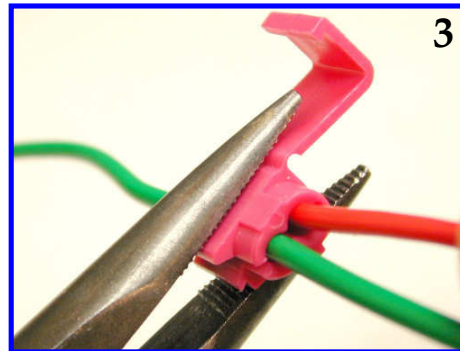
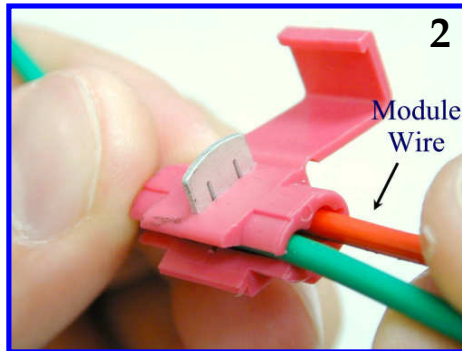
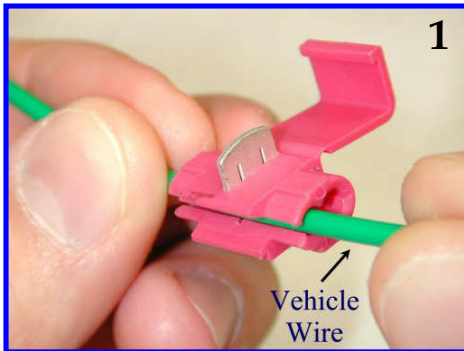
- 1) The wiring location for the driver side and passenger side turn directional is located in the "Body Control Module (BCM)" behind the knee panel, under the steering column. Remove the kick panels and the knee panel to gain access to route wires.
- 2) Continued routing the black w/ red trace wire inside door frame, thru rubber boot, and into vehicle.

Route 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 X5 (25-Way F HIT Series, Color: Brown) 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 inside door frame, thru rubber boot, and into vehicle. Route the 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 X4 (25-Way F HIT Series, Color: Black) 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 in-**



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, kick panels, knee panel, and all accessories.

PROFESSIONAL INSTALLATION RECOMMENDED

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WARRANTY STATEMENT

The Signal® Mirror is warranted to be free from defects in materials and workmanship for a period of three years or 36,000 miles (whichever comes first) from date of sale to original purchaser. This warranty excludes labor, broken glass, or other situations that cause harm to the product after it has been shipped from the factory, such as damage, unreasonable use, modifications, or alterations. In the event of a defect, Muth reserves the right to evaluate the problem through Quality Control and, at Muth's discretion, replace the defective product. Any warranty or replacement part will be charged to the customer when shipped. Credit will be given when the defective part is returned to and received by Muth, and the replacement is warranted.

Muth products are protected by these, and other pending, United States Patents: 6,076,948; 6,257,746; 7,104,676; 7,327,321; 6,749,325; 7,241,037; 7,192,172; 7,273,307; 7,416,318; 6,045,243; D394,833; D409,540; D428,373; D426,506; D430,088; D426,507; D428,372; D429,202; D428,842; D425,466; D427,128