



Signal[®] Mirror Installation Instructions

2002-2004 Dodge Ram Pick-Up



THE safety accessory of the 21st Century.™

P/N 210-0091-0

Rev. A (7-9-04), GG

© 2003 Muth Mirror Systems, LLC

Note: Professional Installation Recommended

Warranty does not cover damage to the vehicle or mirror housing due to improper installation. The following installation instructions are to be considered as a guide only. Door removal procedures, indicator wire color and location may have changed since publication of these instructions. The installer is responsible for any damage that may occur during installation.

INCLUDED ITEMS:

- 1 left and 1 right *Signal*® mirror
- 1 left and 1 right wire harness
- 2 wire taps (butt-splices)
- 1 ring connector
- 1 instruction manual

REQUIRED TOOLS:

- Ratchet with extension or ratcheting screwdriver
- 10mm socket
- Socket wrench
- Large slotted screwdriver
- Small screwdriver
- Awl
- Vehicle sealant (optional)
- Small pry bar
- Gopher wire
- Electrical tape
- Wire crimper and stripper
- Needle nose pliers
- Multimeter or wire tester
- Sturdy gloves
- Safety glasses or goggles
- Heat gun

Please read instructions prior to installation.

PROBLEMS OR QUESTIONS?

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

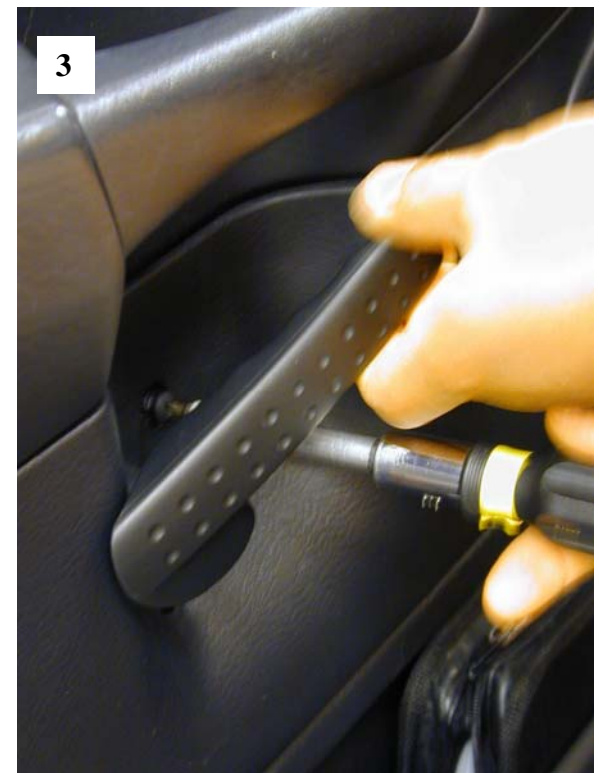
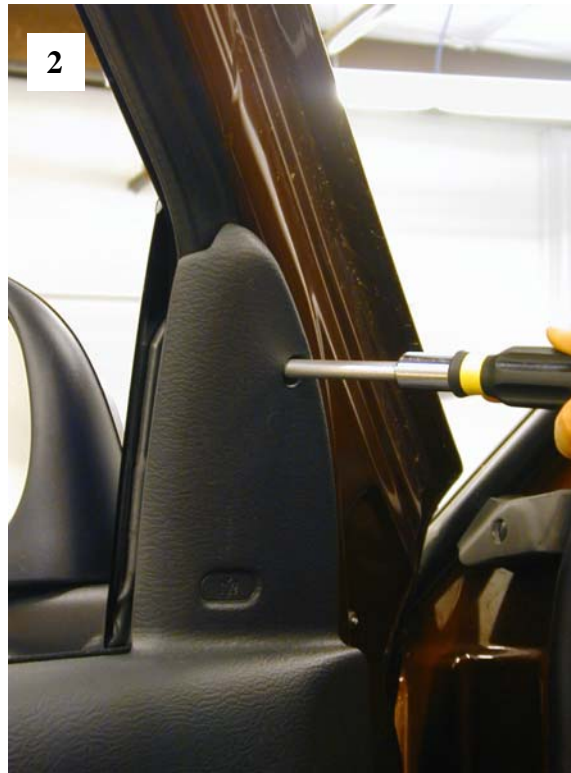
1-800-844-6616

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

Or through the Muth web site:

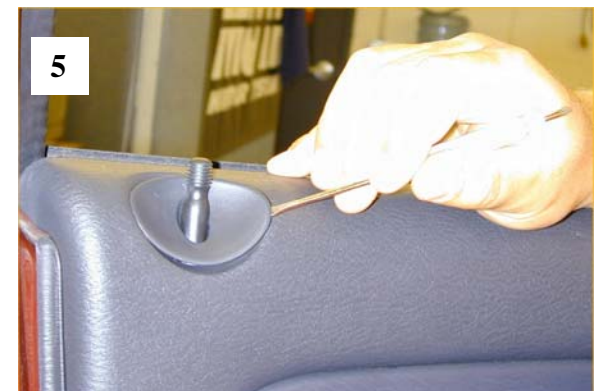
www.muthco.com

Or via E-mail: techsupport@muthco.com



Door Panel Removal

1. Open the driver's side door and lower the window. Use a Philips screwdriver to remove the (2) screws located on the bottom of the door panel (A & B).
2. Remove the screw located on the inside corner of the door.
3. Hold the door handle open and remove the screw from behind the handle.
4. Using a 10 mm socket, remove the bolt behind door handle.
5. Using a small flat screwdriver, push up on locking pin cover and remove it.





Door Panel Removal Continued

6. Lift the door panel off of the door and hold it a few inches away from the door. Disconnect the wires that run from the mirror to the door panel control. Remove door panel. Unscrew the (3) bolts holding the mirror housing to the door frame and remove mirror housing.

Mirror Replacement

WARNING! Safety glasses and sturdy gloves are recommended for mirror glass replacement.

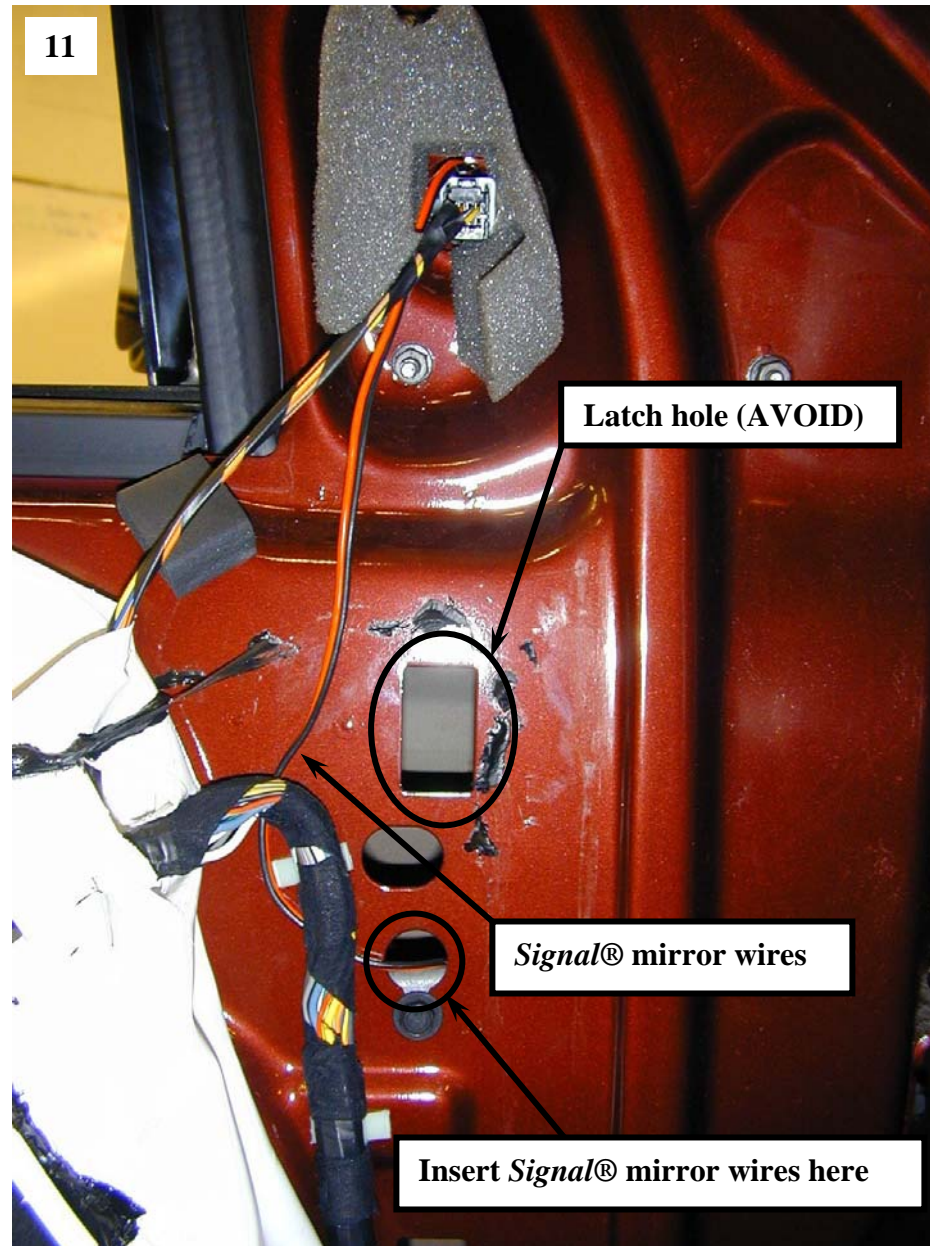
7. Lay the mirror housing on a cloth covered, flat surface. Push on the top edge of the mirror to manually pivot it fully outward. Insert a large flathead screwdriver into groove and push-up on locking tab. While continuing to apply upward pressure to locking tab, push backplate up toward the top of mirror housing to unlock backplate from motor actuator. Lift up backplate and disconnect heater connections if heated. Remove OE mirror from mirror housing.
8. Using the shorter of the two supplied wire harnesses, route open end from inside mirror housing out leaving approx. 6" of slack inside mirror housing. Make the connection between the wire harness and the new *Signal*® mirror. **If heated, connect the heater connectors to the heater terminals on the *Signal*® mirror.** Tuck wire harness(es) neatly behind motor actuator.





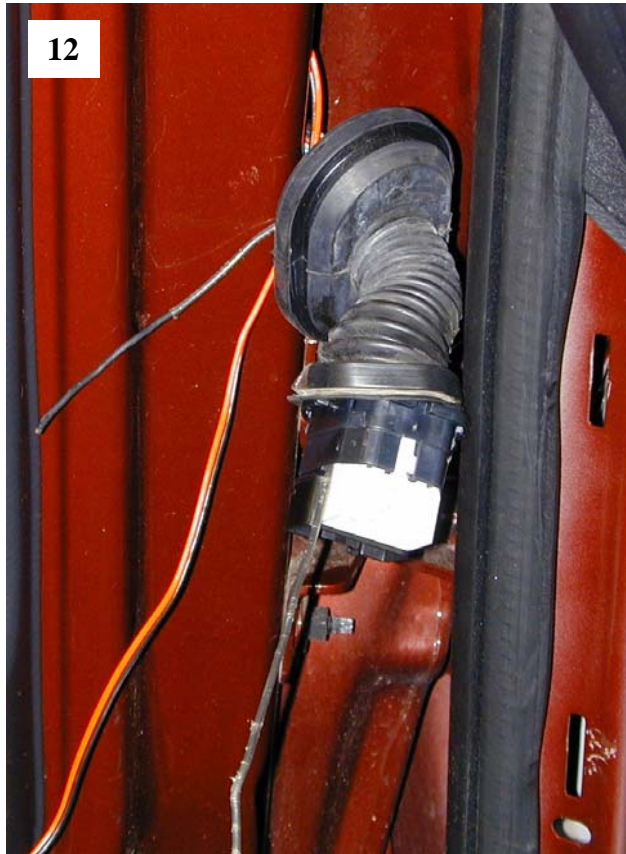
Mirror Replacement Continued

9. Remove the double-sided adhesive disc liner. Align the motor mount posts to their corresponding holes on the motor actuator. Slowly seat the new *Signal*® mirror into place.
10. With the entire palm of your hand, firmly press down on the *Signal*® mirror until it snaps into place. Press down on all sides of the *Signal*® mirror to ensure proper fit, form, and function.

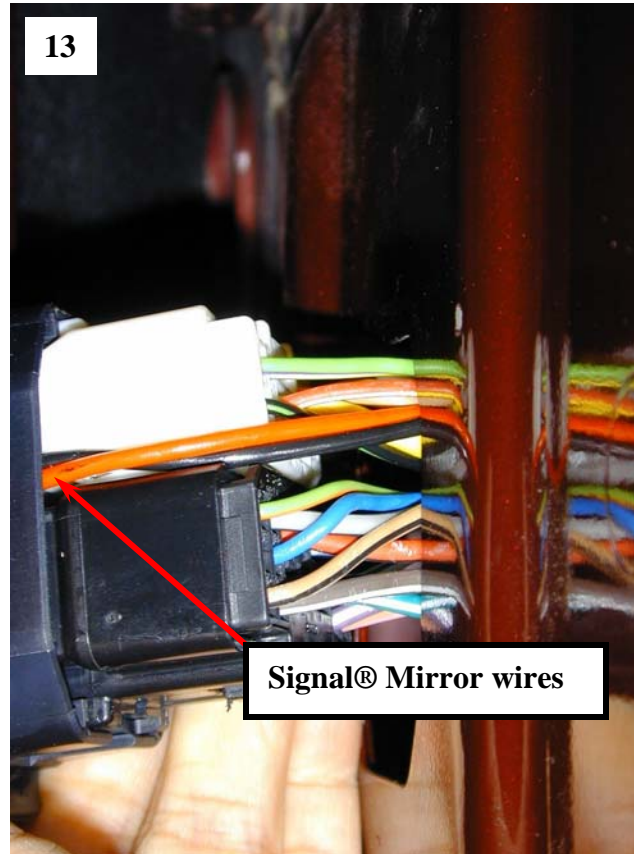


Wire Routing

11. Attach the mirror housing to the door frame. Peel back plastic cover, **route the *Signal*® mirror wire harness around OEM wires as shown to avoid door panel latching hole.** Insert the *Signal*® mirror wires into the third hole down.

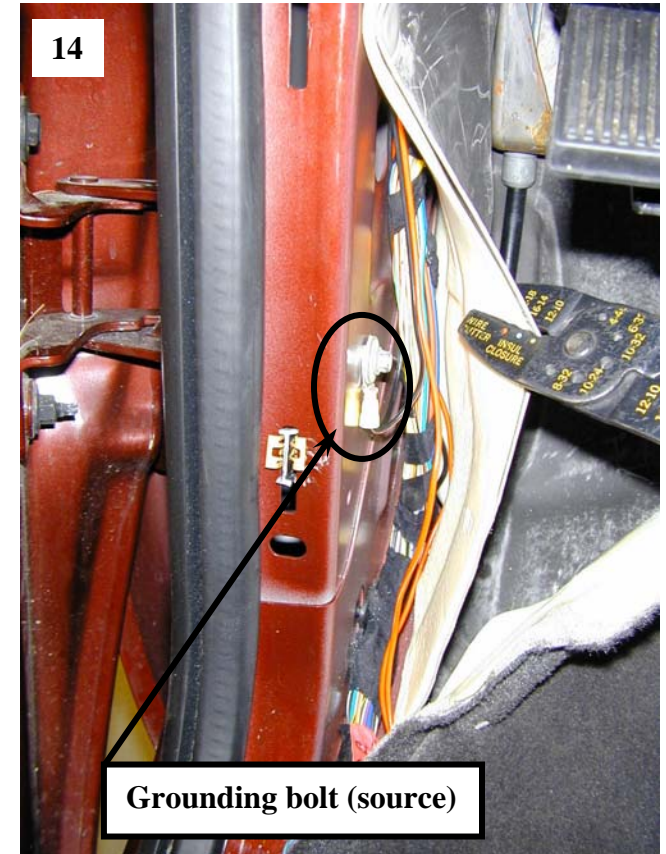


12



13

Signal® Mirror wires



14

Grounding bolt (source)

Wire Routing Continued

12. Disconnect rubber boot from both ends. Reach inside door frame and fish out the *Signal*® mirror wires.
13. Using a fish wire, guide the *Signal*® mirror wires through rubber boot. **Note: Route the *Signal*® mirror wires in-between the two connectors as shown.** Reconnect the OE connectors and route the *Signal*® mirror wires into vehicle. Reseat rubber boot into place.
14. Repeat steps for the passenger side *Signal*® mirror. Route passenger side *Signal*® mirror wires to driver side kick panel area. Using a utility knife, separate the red and black wires from both *Signal*® mirror wire harnesses. Label the red wire of each *Signal*® mirror wire harness accordingly (DRIVER SIDE and PASSENGER SIDE). Trim the black wires from both harnesses to length. Strip and twist the black wires together and crimp them to the supplied grounding ring terminal. Pull on the black wires and the grounding ring terminal to make sure the connection is secure. Attach the grounding ring terminal to the grounding bolt near the kick panel area.

Wire Routing Continued

15. Remove floor board trim. Lift carpet to reveal parking brake line grommet. Using an awl or other suitable tools, puncture two small holes through rubber grommet. Route the two red *Signal®* mirror wires alongside OE wires and down through grommet holes. Seal holes with automotive sealant if desired.
16. Locate wire loom on frame rail (approximately 12" from rubber grommet). Open loom to expose taped harness. Using a utility knife, carefully slice tape to reveal trailer wires inside. Locate desired wires – **turn/hazard** or **turn/hazard/brake**.



TURN/HAZARD: Locate the *green w/ red stripe* wire. 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 indicator power is present. Label that wire as 'driver side turn'. Locate the *brown w/ red stripe* wire. 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 indicator power is present. Label that wire as 'passenger side turn'.

TURN/HAZARD/BRAKE: Locate the *yellow w/ pink stripe* wire. 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 indicator power is present. Label that wire as 'driver side turn'. Locate the *white w/ pink stripe* wire. 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 indicator power is present. Label that wire as 'driver side turn'.

18. Trim the 'driver side' *Signal®* mirror wire to correct length and strip about 1/4" off its insulation. Cut the OEM 'driver side turn' wire and strip about 1/4" off both ends of its insulation. Twist one end of the OEM 'driver side turn' wire to the 'driver side' *Signal®* mirror wire and crimp them into one end of the supplied butt-splice. Crimp the other end of the butt-splice to the other end of the OEM 'driver side turn' wire. Gently pull on both ends to ensure the connection is secure. Your supplied butt-splices are equipped with a special sealing material for external usage. Use a heat gun, on the butt-splice, to heat shrink the sealing material into place. Repeat procedure to the 'PASSENGER SIDE' wires.

Activate each turn indicator to verify that the *Signal®* mirrors are working properly. Re-wrap wire harness with butt-splices. Re-cover wire bundle with wire loom (wrap w/ electrical tape if desired). Replace the plastic moldings and trim, door panels, and all accessories.

