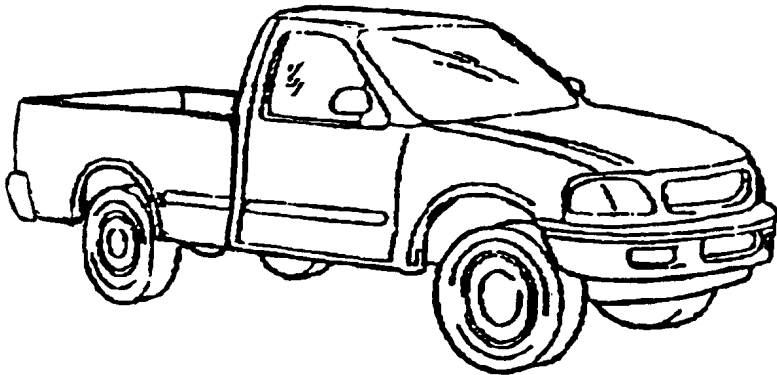


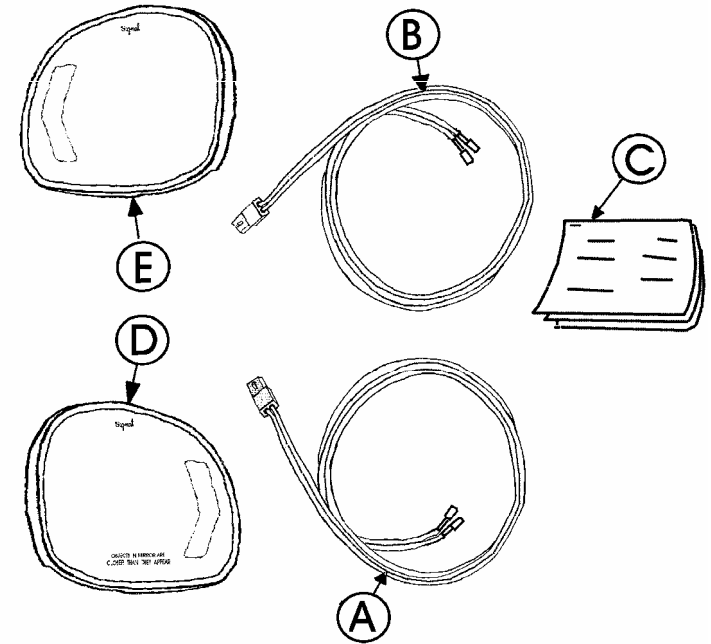
MUTH[®] MIRROR SYSTEMS

4221 High Tech Lane
Sheboygan, WI 53083

Technical Assistance Hotline:
1-800-844-6616 between 8:00 am – 5:00 pm CST



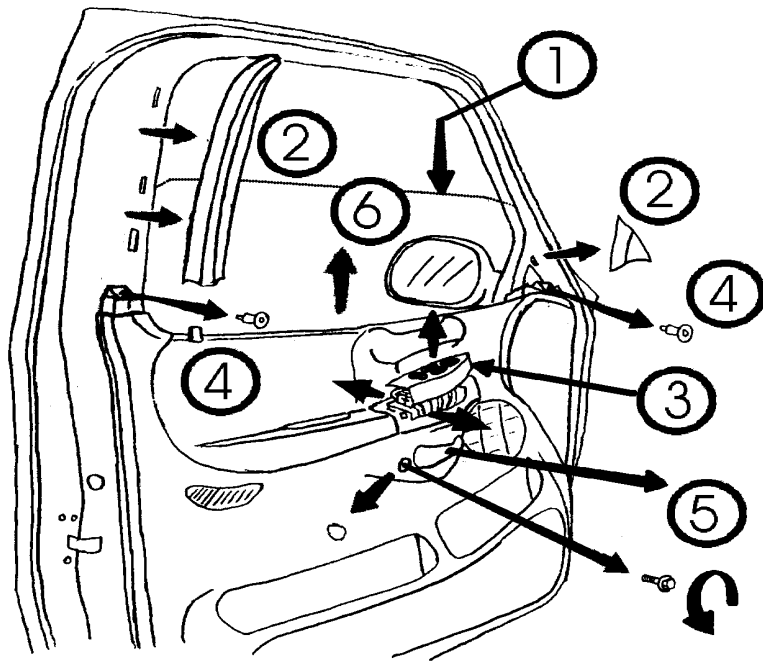
Ford F250 Light Duty 1998-2002
Ford F150 Light Duty 1998-2003
Ford F150 Super Crew 2001-2003
Ford F-150 Heritage 2004



Items Included

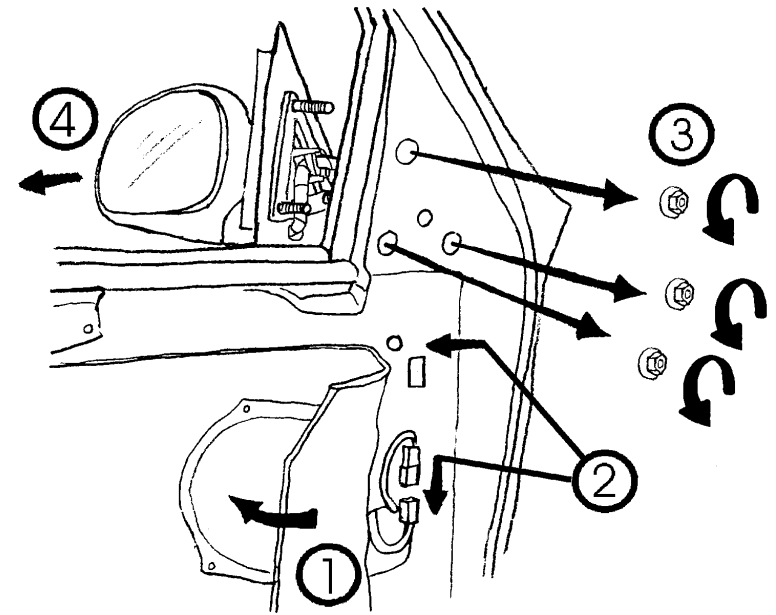
Item	Qty	Description
A	1	left <i>Signal</i> [®] mirror harness
B	1	right <i>Signal</i> [®] mirror harness
C	1	installation instructions
D	1	right <i>Signal</i> [®] mirror
E	1	left <i>Signal</i> [®] mirror

Signal[®] mirrors and installation kits are available separately.
See last page of instructions for ordering options.



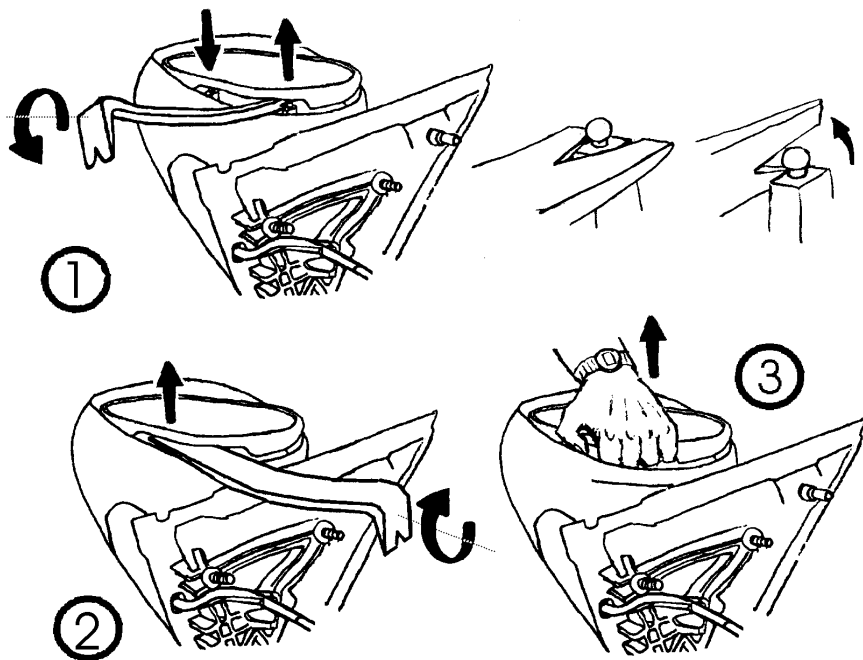
DOOR PANEL REMOVAL
(Door panel may vary from year to year)

- 1 Lower both windows; then remove battery ground strap.
- 2 Snap off upper front and rear trim panels.
- 3 Remove mirror/lock control panel and disconnect attached wire harnesses.
- 4 Remove snap-locks at upper corners of door panel by depressing center 1/8" and pulling body out.
- 5 Remove access plug and remove door handle by removing retaining bolt.
- 6 Remove door panel by lifting up and away from door. Disconnect marker light in door panel.



REMOVE OUTSIDE REAR VIEW MIRRORS

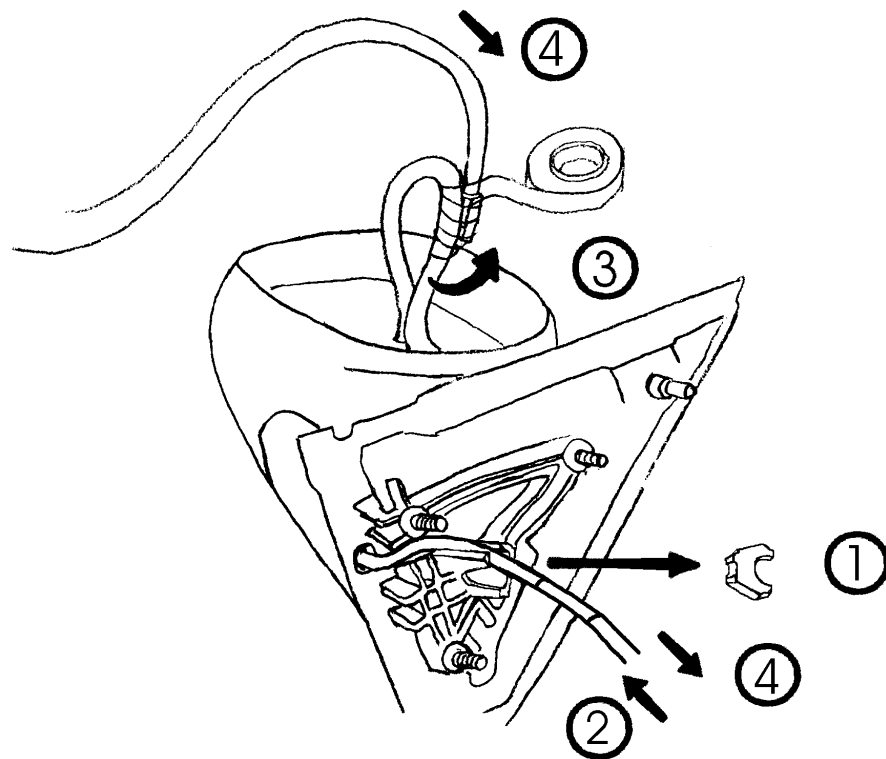
- 1 Pull off dust panel behind mounting sail and pull back large dust panel near front of door.
- 2 Disconnect mirror motor connector and push out guide clip located 8" above connector.
- 3 Remove three nuts holding mirror to door starting with the bottom two, being careful not to drop nuts into door.
- 4 Remove mirror from door.



PREPARE MIRROR TO RECEIVE NEW SIGNAL® MIRROR GLASS AND CARRIER

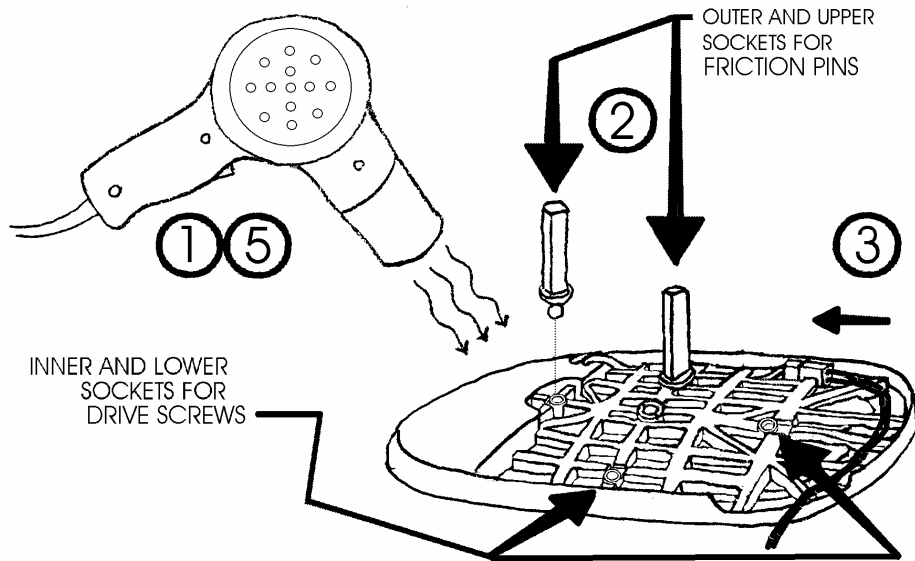
Warning! Be sure to wear safety glasses during this operation as there is the potential for broken glass. Sturdy gloves are recommended.

- 1 Press upper outboard end of mirror to expose gap between mirror carrier and mirror housing.
- 2 Using 7 1/2" pry bar, disengage jackscrews from mirror backing plate using a twisting motion. Apply pressure over the second jackscrew while loosening the first. **BE CAREFUL NOT TO BREAK PEGS OR PULL RUBBER BOOT LOOSE FROM MOTOR HOUSING AS THIS WILL VOID MANUFACTURER'S WARRANTY!!!!!!!!!!**
- 3 Pull glass and carrier out of mirror housing - considerable force may be required. Pull foam gasket away from mirror housing.



INSTALLING WIRE HARNESS

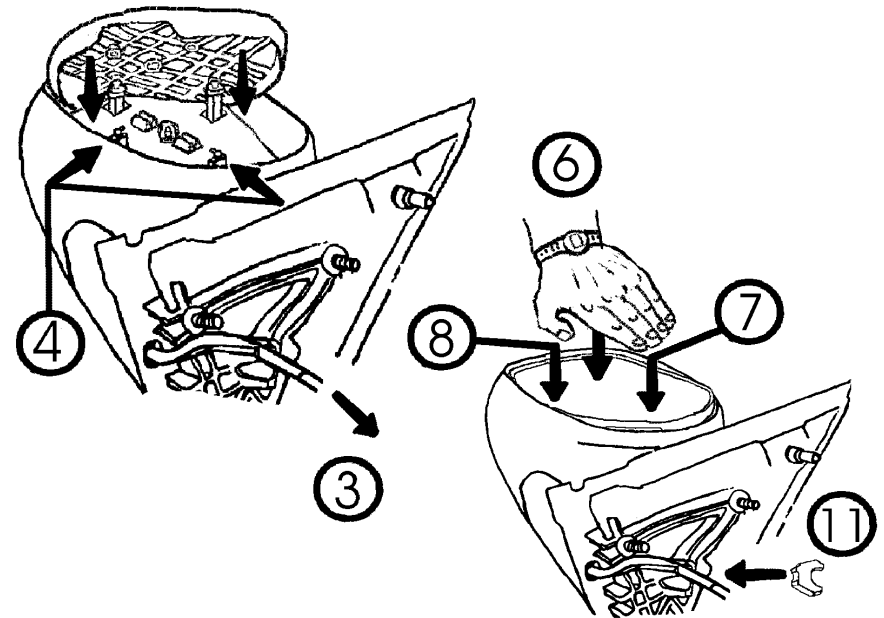
- 1 Remove strain relief holding wire harness to mirror mounting sail. Note harness routing and strain relief position for later reference.
- 2 Feed motor pack harness back into mirror housing up to guide clip.
- 3 Select and attach appropriate harness: Right harness has white connectors and Left harness has Green tinted connectors. Left harness connector pins are polarized: end with female pins goes to *Signal*® mirror.
- 4 Tape connector of *Signal*® mirror harness to motor pack harness close to wire exit hole.
- 5 Feed *Signal*® mirror harness through sail by pulling on outer end of motor pack harness while pushing on both harnesses inside mirror housing.
- 6 Remove tape from harnesses.



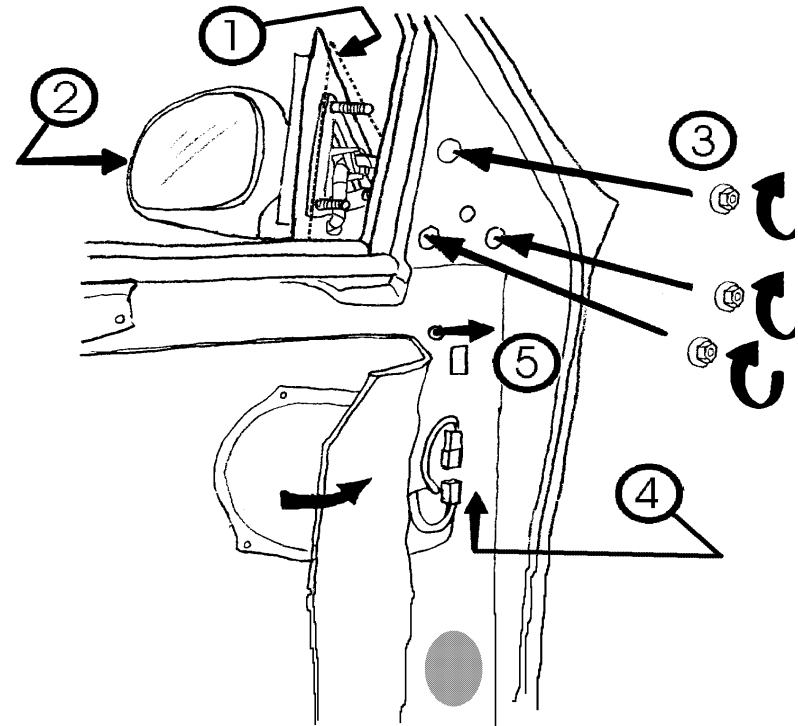
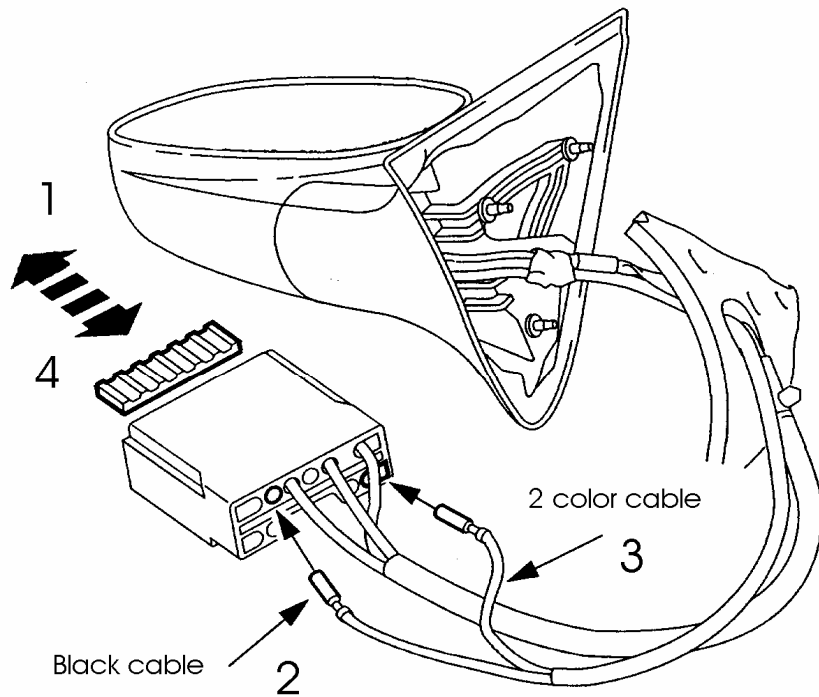
INSTALL SIGNAL® MIRROR GLASS AND CARRIER INTO MIRROR HOUSING

Warning! Be sure to wear safety glasses during this operation as there is the potential for broken glass. Sturdy gloves are recommended

- 1 Heat friction pin socket area of backing plate with hot air gun for 15 to 20 seconds to ease installation into housing. Stop heating if surface starts to become glossy. CAUTION: DO NOT OVERHEAT
- 2 Snap in two friction pins by pushing STRAIGHT in to avoid breaking ball off peg.
- 3 Plug the mirror leads into the harness, and make sure mirror wire harness is pulled through sail with only a small amount of slack inside the mirror housing.
- 4 Align antirotation nubs on the sides of jackscrew balls so that they point toward the center of the mirror housing.
- 5 Heat jackscrew sockets and main pivot sockets as above for friction pin sockets.



- 6 Line up friction pins and insert into motor pack. With the palm of one hand on the center of the glass and the other hand behind the mirror housing press the mirror and carrier into housing while gently rocking the mirror about its center a small amount. Once the center pivot ball starts to engage the carrier, rotation of the mirror will become limited. Considerable pressure may be required to "pop" the pivot ball into place.
- 7 Press the inboard end of the mirror into the housing with sufficient pressure to "pop" the inner jackscrew ball into the socket in the carrier.
- 8 Engage lower jackscrew ball in a similar manner.
- 9 Press upper outboard edge of mirror to expose jackscrews and check for proper seating in the carrier sockets. Should a jackscrew or peg be broken during this process, replacements and instructions are available. See back panel of these instructions.
- 10 Move mirror to full low and outward position to check for sufficient slack in the mirror harness. Pull harness gently through sail to remove any excess slack.
- 11 Route harnesses through strain relief pegs on sail and install strain relief.



ADDING MIRROR WIRES TO CONNECTOR

- 1 Remove red plug from connector body with a small screwdriver
- 2 Press the lead from the black cable into the round hole in the connector body as shown above.
- 3 Press the lead from the 2 color cable into the "D" shaped hole in the connector body as shown above.
- 4 Replace the red plug into the connector body.

- 1 Place foam gasket back against mirror housing.
- 2 Insert harnesses into hole in door panel letting harnesses drop into door.
- 3 Mount mirror to door being careful to tighten the three mounting nuts moderately and equally.
- 4 Re-connect motor pack harness connector.
- 5 Re-attach guide clip half way along motor pack harness to retaining hole in door.

FINAL SIGNAL® MIRROR CONNECTION AND CHECK-OUT

- 1 Reconnect battery ground strap.
- 2 Engage the HAZARD FLASHER and check to see that both *Signal*® mirrors flash with front and rear turn indicators. (Note: the nominal position for viewing light from *Signal*® mirrors is from behind and to the side of the vehicle.) If not, check the Wire connections again.
- 3 Disengage the HAZARD FLASHER, turn on the ignition switch and activate the turn indicators. Check that the LEFT *Signal*® mirror flashes when the LEFT turn indicator is activated and similarly the RIGHT *Signal*® mirror with the RIGHT turn indicator. If this does not occur, contact your local Ford dealer regarding faulty wiring.
- 4 Replace door panels and trim. Remove tape from face of *Signal*® mirrors and clean mirrors.



PROBLEMS? / QUESTIONS?

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

1-800-844-6616

between 8:00 AM and 5:00 PM Central Time.

Or thru the Muth web site: www.muthco.com
Or via E-mail: techsupport@muthco.com