



# *Signal*<sup>®</sup> Mirror Installation Instructions

Toyota Avalon XL/XLS 2000-2002



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

P/N 210-0063-0

Rev D2 (7-1-04), GG

© 2002 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*<sup>®</sup> mirror
- 1 left and 1 right wire harness
- 2 blue T-taps
- 2 blue spade terminals
- 2 ring connectors
- 2 foam adhesive pads
- 1 instruction manual
- 1 information card
- 1 warranty card
- 1 sticker
- 8 cable ties (Not Required)
- 1 dielectric grease (Not Required)

### **REQUIRED TOOLS:**

- Ratchet with extension or ratcheting screwdriver
- 10mm socket
- Small slotted screwdriver
- Medium Philips screwdriver
- Small pry bar, Gopher wire
- Drill,  $\frac{7}{32}$ " drill bit
- Wire crimper and stripper
- Masking tape, Electrical tape
- Multimeter
- Sturdy gloves, Safety glasses or goggles

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)

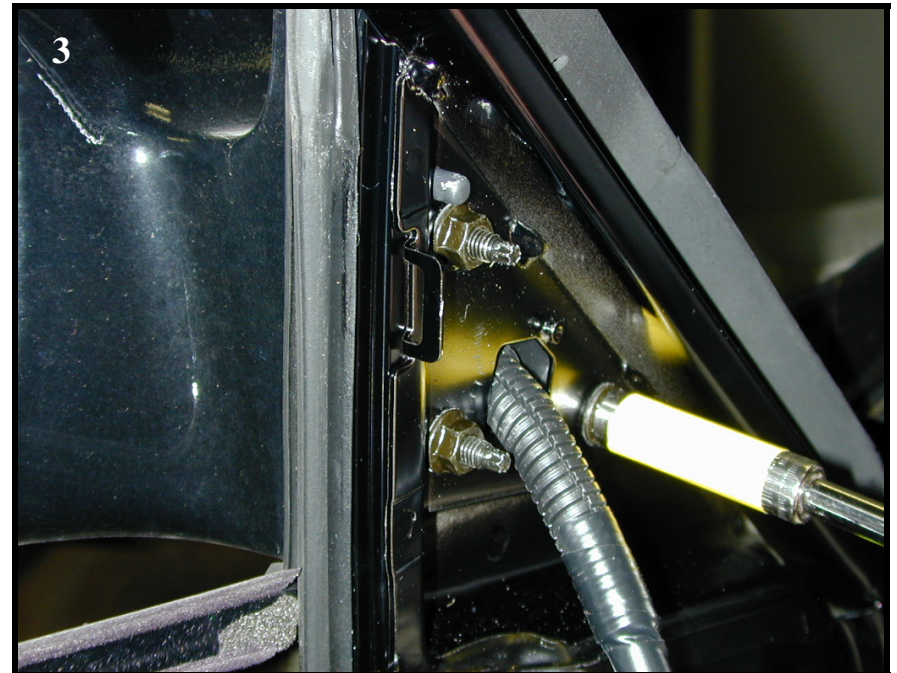
Or via E-mail: [techsupport@muthco.com](mailto:techsupport@muthco.com)



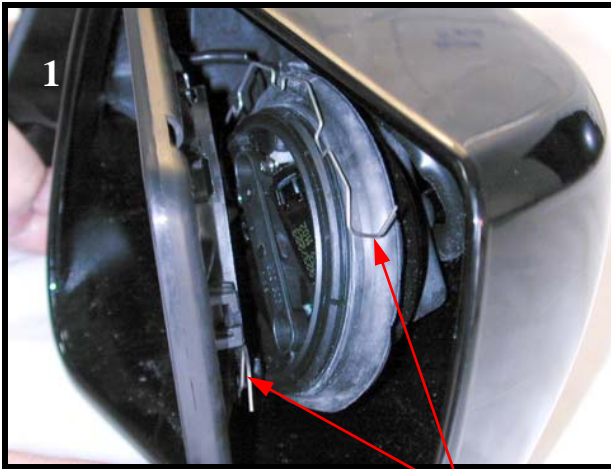
# Mirror Housing Removal



1. Open the driver side door and lower the window.
2. Pry open the control panel starting from back as shown. Remove the door panel and disconnect the mirror wire harness.
3. Remove screws: 3 @ bottom (A, B, and C), 2 hidden under caps (D and E), and 1 under control panel (F), and 1 hidden behind door handle (G). A total of 7 screws. Remove ring around door handle. Remove the three mirror mounting nuts and remove the mirror housing from the vehicle.



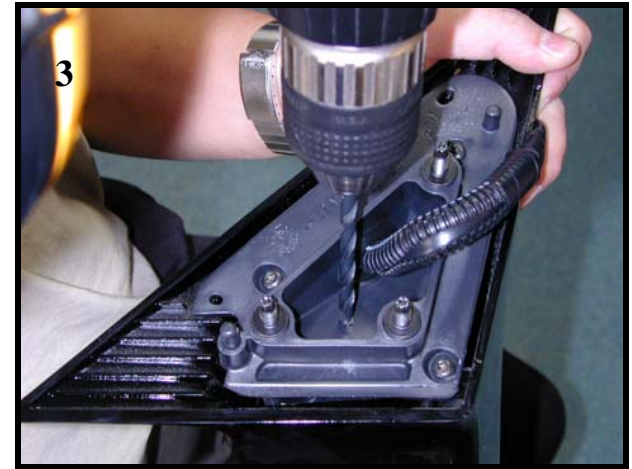
# Mirror Replacement



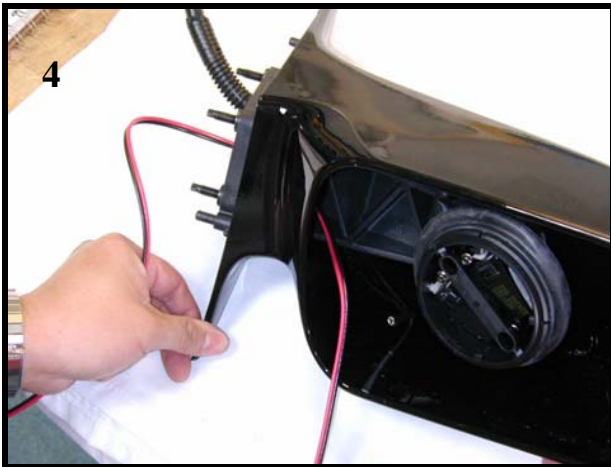
1  
On a cloth covered bench top, lay the housing on its side. Rotate the mirror inboard all the way and look for a silver tension clip. With a pliers, pinch the tension clip together and move the tension clip away from motor. Doing so will relieve tension and the backing plate should come out.



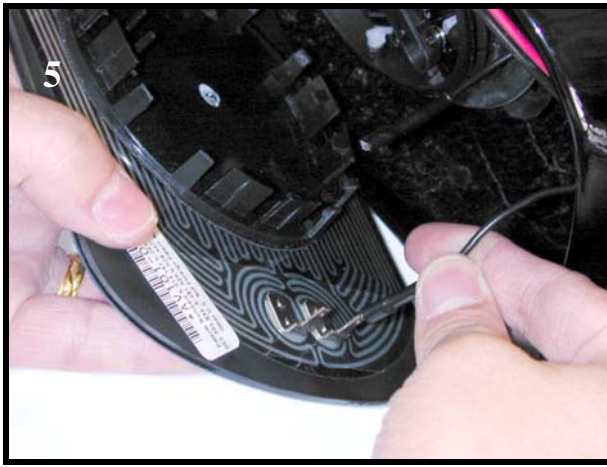
2  
Remove the mirror from the mirror housing. Disconnect the heater wires from the heater terminals.



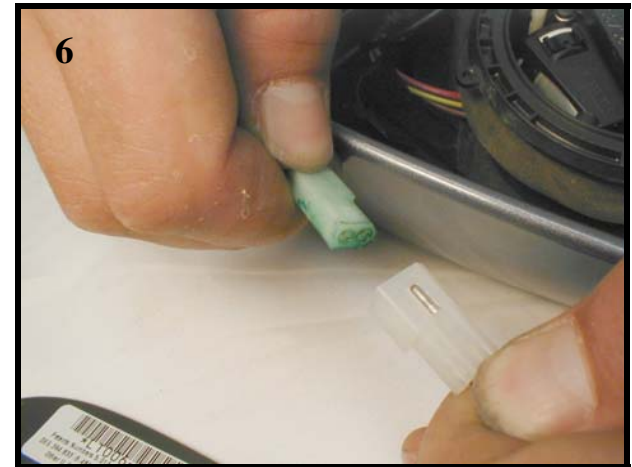
3  
With a 7/32" drill bit, drill a hole through the center of the mirror sail. WARNING: Do not drill into wire harness.



4  
Using the shorter of the two harnesses from the kit, start on the inside of the mirror housing and pass the end without the mating connector through the hole drilled in the mirror sail.



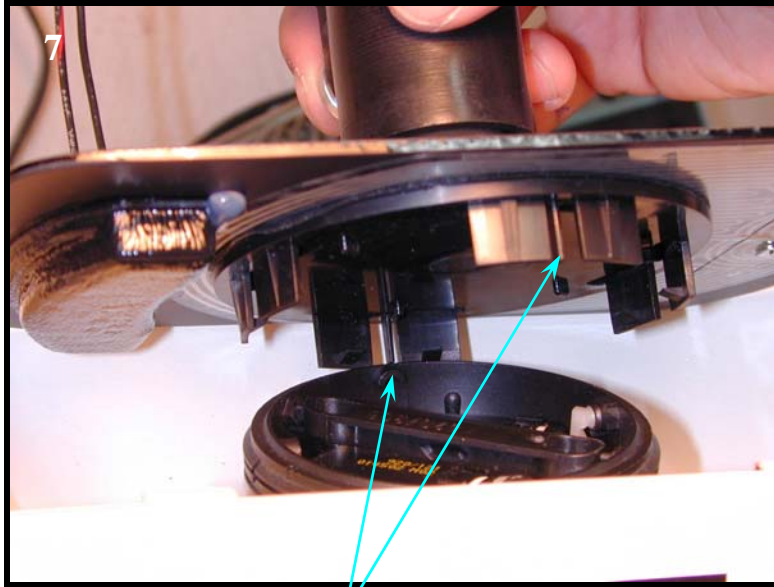
5  
Reconnect the heater wires to the heater terminals on the back of the new *Signal*® mirror. NOTE: There is no polarity so the wires may be interchanged.



6  
Connect the *Signal*® mirror mating connector to the *Signal*® mirror wire harness.



## Mirror Replacement Continued



Tuck the wire harness toward the back of the mirror housing. Align the anti-rotation prongs to top & bottom notches in the motor actuator. Center the *Signal*<sup>®</sup> mirror over the motor mount.

Use the palm of your hand and firmly press down on the *Signal*<sup>®</sup> mirror until it snaps into position. Press down on all sides of the *Signal*<sup>®</sup> mirror to ensure proper operation.



Lay the bottom of the *Signal*<sup>®</sup> mirror into the mirror housing.



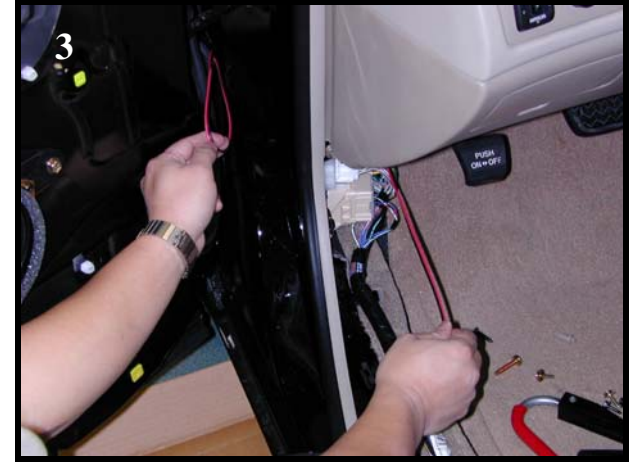
# Wiring



Reattach housing to door, reconnect factory mirror harness. At the door jam, locate harness boot. Push boot into door then pull out. Carefully guide *Signal*® mirror harness through door.  
**IMPORTANT:** Be sure to run harness around window track. Not doing so could result in a cut or damaged wire. Also watch for any rough edges, moving parts (i.e. Parking brake). If insulation is damaged during installation, it could result in a short, which could cause a number of problems.



Pass the wire harness through the rubber boot.

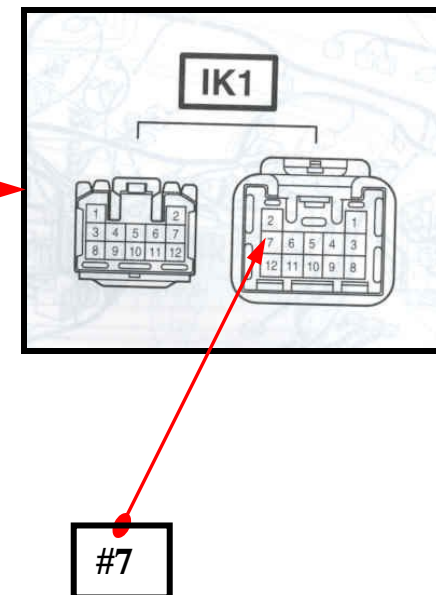
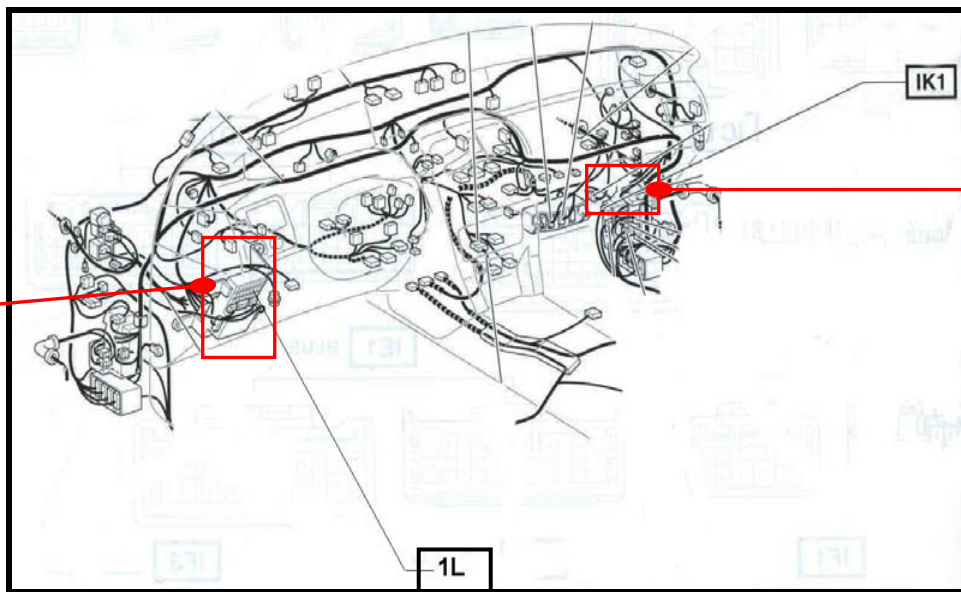
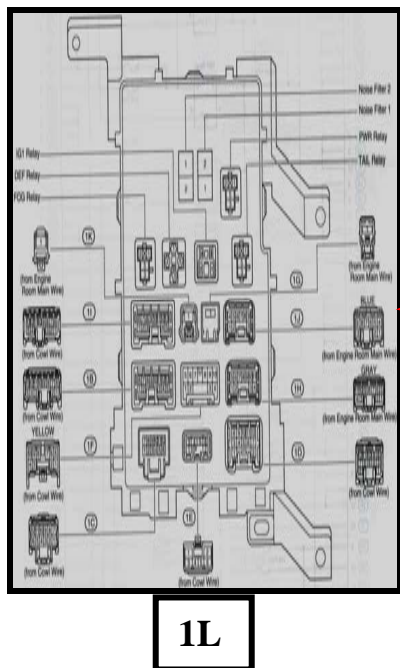


Pass the wire harness into the vehicle. Remove any slack in the wire and replace the rubber boot on the door frame. Remove kick panel for easier access.



Using a 10mm socket, remove the (4) bolts that hold the lower dash panel in place under the steering wheel. Remove the lower dash panel.

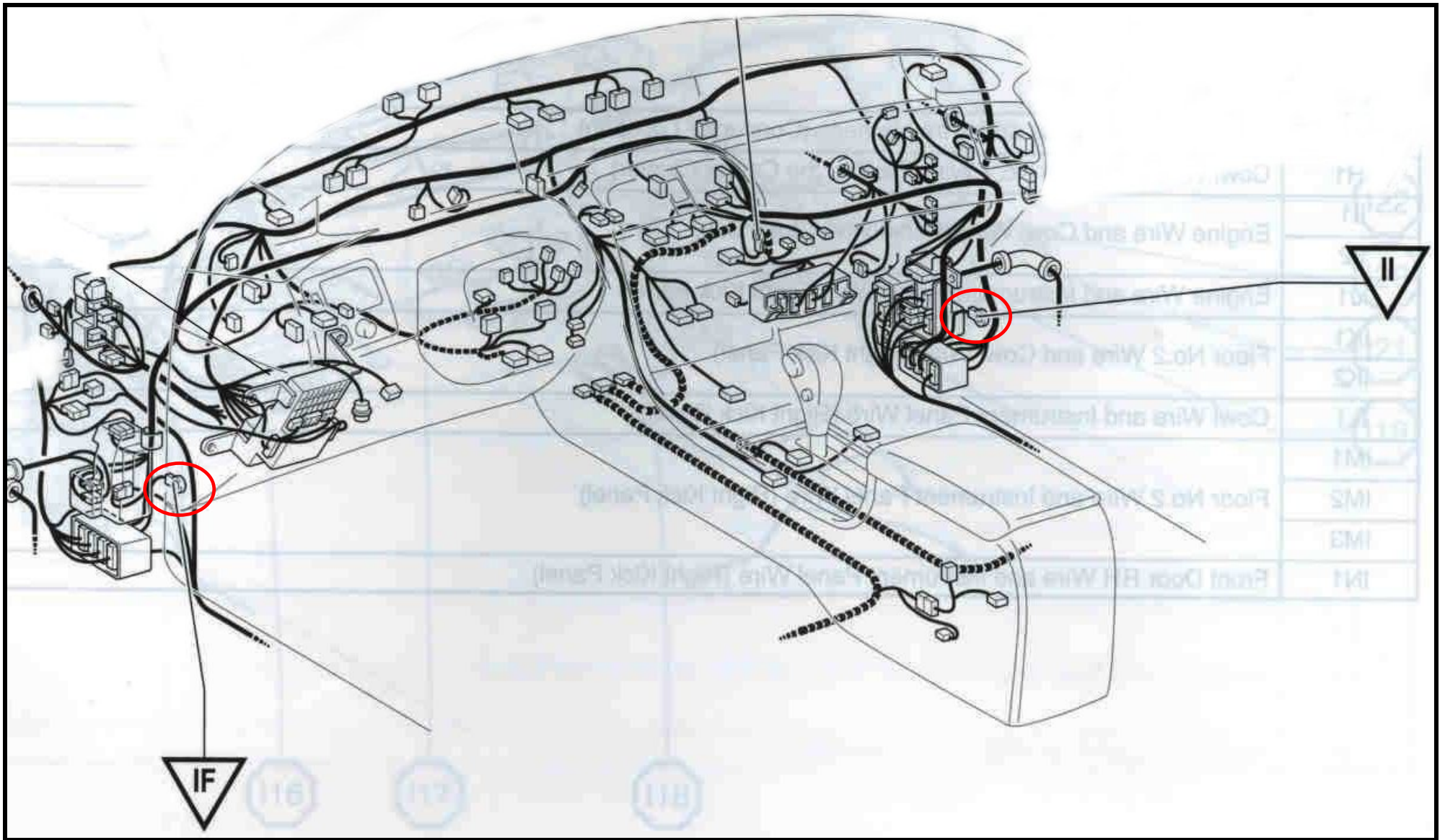
# Wire Identification



1. Repeat all of the previous steps to replace the factory mirror on the passenger side door with the new *Signal*<sup>®</sup> mirror. The vehicle's electrical wiring for the driver side turn indicator is located in the driver side lower dash on the front of the fuse block (connection 1L pin 2). The vehicle's electrical wiring for the passenger side turn indicator is located behind the kick panel on the passenger side door frame (connection IK1 pin 7). Guide the new wire harnesses from both sides of the vehicle to the electrical wiring. On the driver side, locate the GREEN WITH BLACK STRIPE wire from 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 indicator power is present. Label that wire as 'driver side turn'.
2. On the passenger side, locate the GREEN WITH YELLOW STRIPE wire from within the wire bundle. Activate the passenger side turn indicator and probe the wire with the wire tester to verify that flashing turn indicator power is present. Label that wire as 'passenger side turn'.

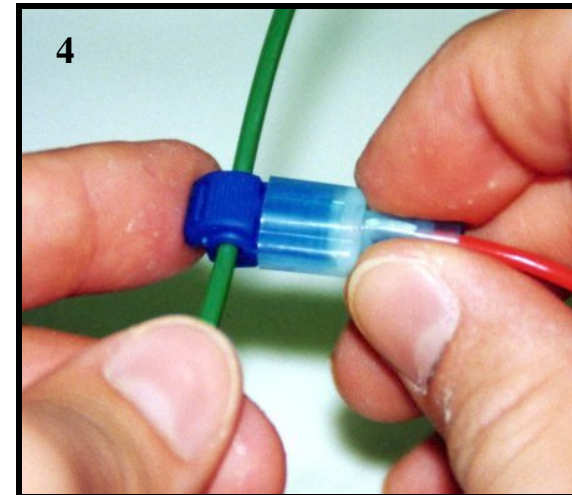
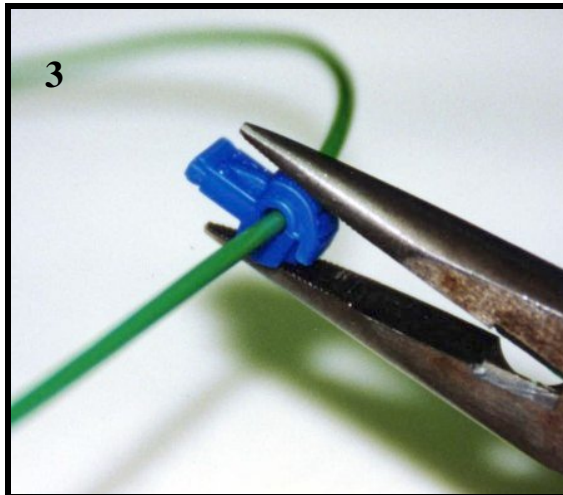
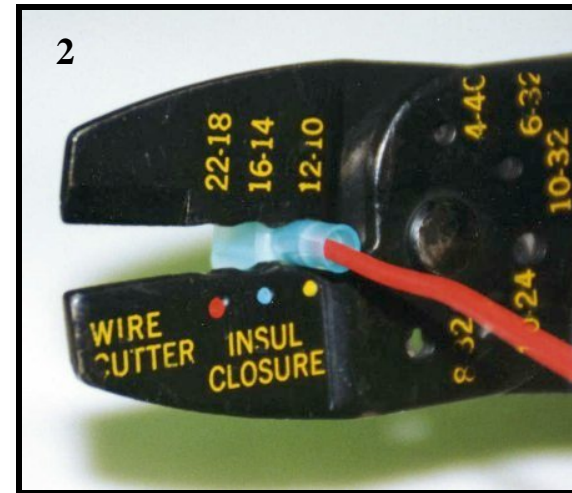
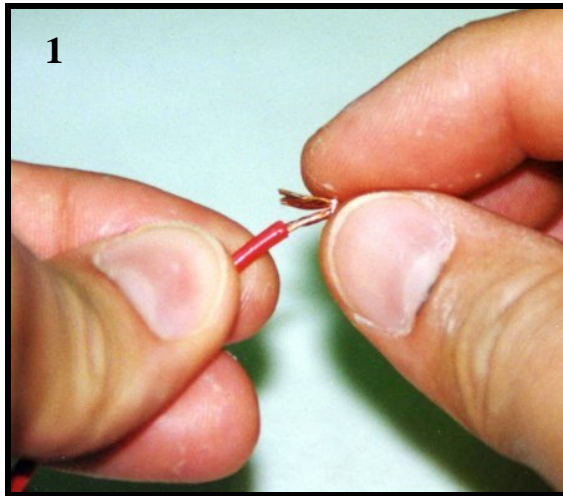


## Grounding Wires



Use a ring connector to make the ground connection on the passenger side mirror to connection II located in the kick panel. On the driver side mirror, use a ring connector to make the ground connection to connection IF located in the kick panel.





**USE THE INCLUDED BLUE T-TAPS AND FOLLOW THE 4 STEPS ABOVE TO SPLICE INTO THE TURN INDICATOR AND GROUND WIRES**

1. Make sure the harnesses are routed securely to the wire bundle(s) and enough slack is left for splicing.
2. Tap the RED wire from the driver side harness into the vehicle wire previously labeled 'driver side turn'.
3. Tap the RED wire from the passenger side harness into the vehicle wire previously labeled 'passenger side turn'.
4. Activate each turn indicator to verify that the *Signal*<sup>®</sup> mirrors are working.
5. Wrap an adhesive foam pad around each t-tap connection.
6. Replace both door panels, door accessories, insulation, plastic moldings, and trim pieces.

