

## 2005 Ford Focus ZX5 S

2005 ACCESSORIES & BODY, CAB Glass, Frames And Mechanisms - Focus

### 2005 ACCESSORIES & BODY, CAB

#### Glass, Frames And Mechanisms - Focus

## SPECIFICATIONS

### GENERAL SPECIFICATIONS

### GENERAL SPECIFICATIONS

Item	Specification
Urethane Glass Primer Essex U-402	WSB-M2G314-B
Urethane Metal Primer Essex U-413	WSB-M2G234-C
Urethane Adhesive Essex 400-HV	WSB-M2G316-B
Rear Window Defroster Repair PM-11 (CPM-11 in Canada) or equivalent	WSB-M4J58-B
Urethane Glass Prep Essex U-401	WSB-M5B280-C
Acrylic Lacquer Touch Up Paint (Match color to exterior grid wire)	ESR-M2P100-C

### TORQUE SPECIFICATIONS

### TORQUE SPECIFICATIONS CHART

Description	Nm	lb-ft	lb-in
Door window glass clamp bolts	8	-	71
Door window regulator bolts	7	-	62

## DESCRIPTION AND OPERATION

### GLASS, FRAMES AND MECHANISMS

The glass, frames and mechanisms consist of the following:

- Door window regulator motors
- Front door glass top run
- Front door window glass
- Liftgate window glass
- Rear door glass top run
- Rear door window glass
- Rear quarter glass
- Rear window glass

- Rear window regulator and motor-run and brackets
- Window control switches
- Windshield glass
- Window regulators

## DIAGNOSIS AND TESTING

### GLASS, FRAMES AND MECHANISMS

Refer to **SYSTEM WIRING DIAGRAMS** article for schematic and connector information.

Refer to for schematic and connector information.

#### Inspection and Verification

1. Verify the customer concern.
2. Visually inspect for obvious signs of mechanical or electrical damage.

#### VISUAL INSPECTION CHART

Mechanical	Electrical
<ul style="list-style-type: none"> <li>• Window seal</li> <li>• Door window frame</li> </ul>	<ul style="list-style-type: none"> <li>• Central junction box (CJB) fuse(s):                             <ul style="list-style-type: none"> <li>○ 49 (25A)</li> <li>○ 54 (25A)</li> <li>○ 55 (25A)</li> </ul> </li> <li>• Battery junction box (BJB) fuse 7 (40A)</li> <li>• Switch(es)</li> <li>• Grid wire(s)</li> <li>• Circuitry</li> <li>• Initialization process</li> <li>• Heated rear window relay</li> </ul>

3. If an obvious cause for an observed or reported concern is found, correct the cause (if possible) before proceeding to the next step.
4. If the cause is not visually evident, connect the diagnostic tool to the data link connector (DLC) and select the vehicle to be tested from the diagnostic tool menu. If the diagnostic tool does not communicate with the vehicle:
  - Check that the program card is correctly installed.

- Check the connections to the vehicle.
  - Check the ignition switch position.
5. If the diagnostic tool still does not communicate with the vehicle, Refer to the diagnostic tool operating manual.
  6. Carry out the diagnostic tool data link test. If the diagnostic tool responds with:
    - SCP or ISO circuit fault; all electronic control units no response/not equipped, refer to **MULTIFUNCTION ELECTRONIC MODULES** .
    - No response/not equipped for generic electronic module (GEM), refer to **MULTIFUNCTION ELECTRONIC MODULES** .
    - System passed, retrieve and record the continuous diagnostic trouble codes (DTCs), erase the continuous DTCs and carry out the self-test diagnostics for the GEM.
  7. If the DTCs retrieved are related to the concern, Go to the **GENERIC ELECTRONIC MODULE (GEM) DIAGNOSTIC TROUBLE CODE (DTC) INDEX**.
  8. If no DTCs related to the concern are retrieved, Go to **SYMPTOM CHART** to continue diagnostics.

### GENERIC ELECTRONIC MODULE (GEM) DIAGNOSTIC TROUBLE CODE (DTC) INDEX

DTC	Description	Action
B1343	Heated Backlight Input Circuit Failure	Go to <b><u>PINPOINT TEST H</u></b> .
B1349	Heated Backlight Relay Short to Battery	Go to <b><u>PINPOINT TEST I</u></b> .
B1350	Heated Backlight Relay Short to Ground	Go to <b><u>PINPOINT TEST I</u></b> .

### Symptom Chart

### SYMPTOM CHART

Condition	Possible Sources	Action
<ul style="list-style-type: none"> <li>• All power windows are inoperative - front and rear power windows</li> </ul>	<ul style="list-style-type: none"> <li>• Driver window control switch.</li> <li>• Circuitry.</li> </ul>	<ul style="list-style-type: none"> <li>• CARRY OUT the Driver Window Control Switch Component Test. Refer to <b><u>COMPONENT TESTING</u></b> article .</li> <li>• Go to <b><u>PINPOINT TEST A</u></b>.</li> </ul>
<ul style="list-style-type: none"> <li>• A single power window is inoperative</li> </ul>	<ul style="list-style-type: none"> <li>• Driver window control switch.</li> </ul>	<ul style="list-style-type: none"> <li>• CARRY OUT the Driver Window Control Switch</li> </ul>

## 2005 Ford Focus ZX5 S

### 2005 ACCESSORIES & BODY, CAB Glass, Frames And Mechanisms - Focus

- front and rear power windows - driver power window	<ul style="list-style-type: none"> <li>• Circuitry.</li> <li>• One-touch down relay.</li> </ul>	<p>Component Test. Refer to <b><u>COMPONENT TESTING</u></b> article .</p> <ul style="list-style-type: none"> <li>• Go to <b><u>PINPOINT TEST B.</u></b></li> </ul>
<ul style="list-style-type: none"> <li>• A single power window is inoperative - front and rear power windows - passenger power window</li> </ul>	<ul style="list-style-type: none"> <li>• Driver window control switch.</li> <li>• Passenger window control switch.</li> <li>• Circuitry.</li> </ul>	<ul style="list-style-type: none"> <li>• CARRY OUT the Driver Window Control Switch Component Test. Refer to <b><u>COMPONENT TESTING</u></b> article .</li> <li>• CARRY OUT the Passenger Window Control Switch Component Test. Refer to <b><u>COMPONENT TESTING</u></b> article .</li> <li>• Go to <b><u>PINPOINT TEST C.</u></b></li> </ul>
<ul style="list-style-type: none"> <li>• The one-touch down feature is inoperative</li> </ul>	<ul style="list-style-type: none"> <li>• Driver window control switch.</li> <li>• Circuitry.</li> <li>• One-touch down relay.</li> </ul>	<ul style="list-style-type: none"> <li>• CARRY OUT the Driver Window Control Switch Component Test. Refer to <b><u>COMPONENT TESTING</u></b> article .</li> <li>• Go to <b><u>PINPOINT TEST D.</u></b></li> </ul>
<ul style="list-style-type: none"> <li>• All power windows are inoperative - front power windows</li> </ul>	<ul style="list-style-type: none"> <li>• Driver window control switch.</li> <li>• Circuitry.</li> </ul>	<ul style="list-style-type: none"> <li>• CARRY OUT the Driver Window Control Switch Component Test. Refer to <b><u>COMPONENT TESTING</u></b> article .</li> <li>• Go to <b><u>PINPOINT TEST E.</u></b></li> </ul>
<ul style="list-style-type: none"> <li>• A single power window is inoperative - driver side</li> </ul>	<ul style="list-style-type: none"> <li>• Driver window control switch.</li> <li>• Driver window</li> </ul>	<ul style="list-style-type: none"> <li>• CARRY OUT the Driver Window Control Switch Component Test. Refer to <b><u>COMPONENT TESTING</u></b> article .</li> <li>• Go to <b><u>PINPOINT TEST</u></b></li> </ul>

## 2005 Ford Focus ZX5 S

### 2005 ACCESSORIES & BODY, CAB Glass, Frames And Mechanisms - Focus

	regulator motor.	<b><u>F.</u></b>
<ul style="list-style-type: none"> <li>• A single power window is inoperative - passenger side</li> </ul>	<ul style="list-style-type: none"> <li>• Passenger window control switch.</li> <li>• Driver window control switch.</li> <li>• Passenger door window regulator motor.</li> <li>• Circuitry.</li> </ul>	<ul style="list-style-type: none"> <li>• CARRY OUT the Passenger Window Control Switch Component Test. Refer to <b><u>COMPONENT TESTING</u></b> article .</li> <li>• CARRY OUT the Driver Window Control Switch Component Test. Refer to <b><u>COMPONENT TESTING</u></b> article .</li> <li>• Go to <b><u>PINPOINT TEST G.</u></b></li> </ul>
<ul style="list-style-type: none"> <li>• The defrost system is inoperative</li> </ul>	<ul style="list-style-type: none"> <li>• Heated rear window relay.</li> <li>• Heated rear window control switch.</li> <li>• Heated rear window grid wire.</li> <li>• Circuitry.</li> <li>• Heater control module.</li> </ul>	<ul style="list-style-type: none"> <li>• CARRY OUT the Heated Rear Window Relay Component Test. Refer to <b><u>COMPONENT TESTING</u></b> .</li> <li>• CARRY OUT the Heated Rear Window Control Switch Component Test. Refer to <b><u>COMPONENT TESTING</u></b> .</li> <li>• Go to <b><u>PINPOINT TEST H.</u></b></li> </ul>
<ul style="list-style-type: none"> <li>• The defrost system will not shut off automatically</li> </ul>	<ul style="list-style-type: none"> <li>• Heated rear window relay.</li> <li>• Circuitry.</li> <li>• Heater control module.</li> <li>• Central junction box</li> </ul>	<ul style="list-style-type: none"> <li>• CARRY OUT the Heated Rear Window Relay Component Test. Refer to <b><u>COMPONENT TESTING</u></b> .</li> <li>• Go to <b><u>PINPOINT TEST I.</u></b></li> </ul>

(CJB).

- Generic electronic module (GEM).

### Pinpoint Tests

**NOTE:** Use a digital multimeter for all electrical measurements.

**PINPOINT TEST A: ALL POWER WINDOWS ARE INOPERATIVE - FRONT AND REAR POWER WINDOWS**

#### **A1 CHECK THE DRIVER WINDOW CONTROL SWITCH LED**

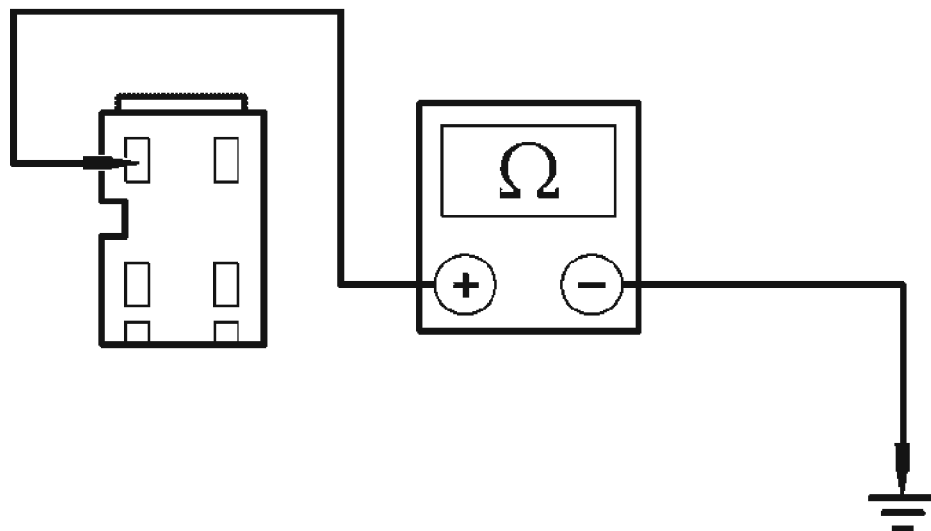
- Key in ON position.
- **Do the driver window control switch LEDs illuminate?**

**Yes :** VERIFY the customer concern.

**No :** Go to A2.

#### **A2 CHECK THE DRIVER WINDOW CONTROL SWITCH GROUND CIRCUIT**

- Key in OFF position.
- Disconnect: Driver Window Control Switch C504a.
- Measure the resistance between the driver window control switch C504a pin 3, circuit 31-AJ7 (BK), harness side and ground.



**Fig. 1: Measuring Resistance Between Driver Window Control Switch C504a Pin 3, Circuit 31-AJ7 (0), Harness Side And Ground**  
Courtesy of FORD MOTOR CO.

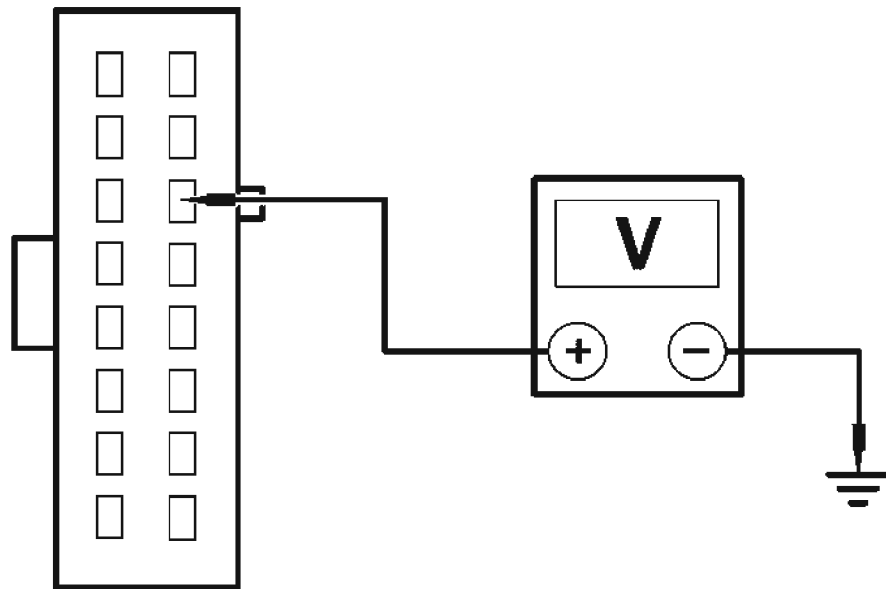
- Is the resistance less than 5 ohms?

Yes : Go to A3.

No : REPAIR the circuit. TEST the system for normal operation.

**A3 CHECK FOR SUPPLY VOLTAGE TO THE DRIVER WINDOW CONTROL SWITCH**

- Disconnect: Driver Window Control Switch C504b.
- Key in ON position.
- Measure the voltage between the driver window control switch C504b pin 14, circuit 15-LH14 (GN/YE), harness side and ground.



TIE0014343

**Fig. 2: Measuring Voltage Between Driver Window Control Switch C504b Pin 14, Circuit 15-LH14 (GN/YE) And Ground**  
Courtesy of FORD MOTOR CO.

- Is the voltage greater than 10 volts?

Yes : VERIFY the customer concern.

**No** : REPAIR the circuit. TEST the system for normal operation.

**PINPOINT TEST B: A SINGLE POWER WINDOW IS INOPERATIVE - FRONT AND REAR POWER WINDOWS - DRIVER POWER WINDOW**

**B1 CHECK FOR IGNITION VOLTAGE TO THE DRIVER WINDOW CONTROL SWITCH**

- Key in ON position.
- **Do the driver window control switch LEDs illuminate?**

**Yes** : Go to B2.

**No** : Go to B7.

**B2 CHECK FOR SWITCH VOLTAGE TO THE DRIVER WINDOW CONTROL SWITCH**

- Operate the driver window control switch.
- **Does the passenger window operate from the driver window control switch?**

**Yes** : Go to B3.

**No** : REPAIR the circuit. TEST the system for normal operation.

**B3 CHECK THE ONE-TOUCH DOWN RELAY**

- Operate the driver window control switch to the first detent in the DOWN position.
- **Does the one-touch down relay click?**

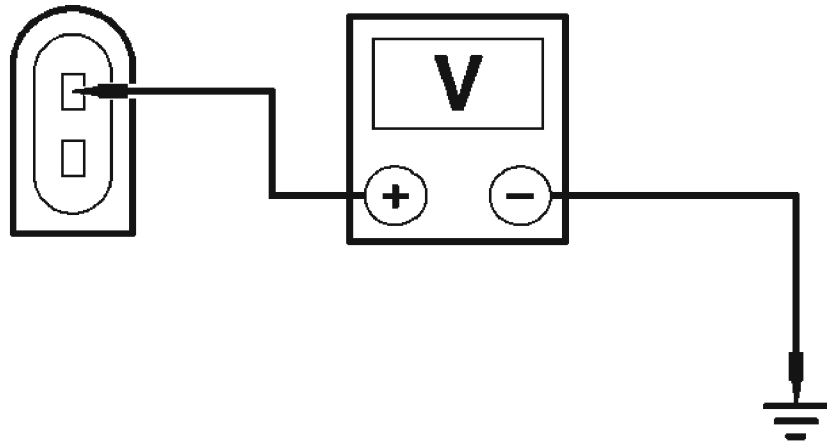
**Yes** : Go to B4.

**No** : Go to B9.

**B4 CHECK FOR VOLTAGE TO THE DRIVER WINDOW REGULATOR MOTOR DOWN CIRCUIT**

- Key in OFF position.
- Disconnect: Driver Window Regulator Motor C518.
- Key in ON position.
- Operate the driver window control switch to the first detent in the DOWN position.
- Measure the voltage between the driver window regulator motor C518 pin 2, circuit 32-AJ26 (WH), harness side and ground.





E0024116

**Fig. 3: Measuring Voltage Between Driver Window Regulator Motor C518 Pin 2, Circuit 32-AJ26 (WH), Harness Side And Ground**  
Courtesy of FORD MOTOR CO.

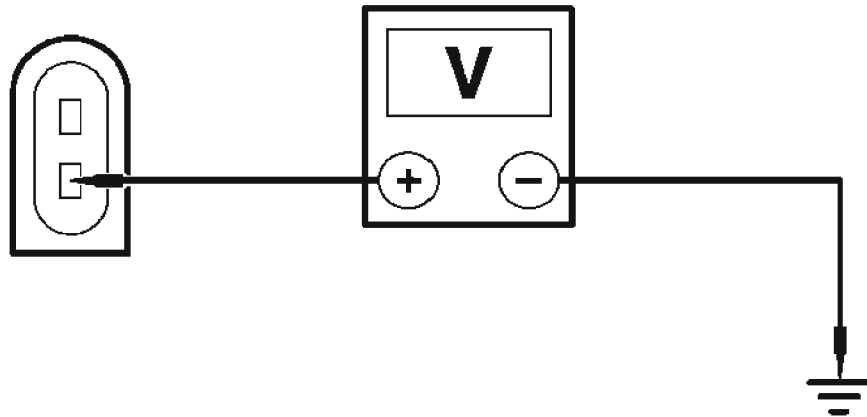
- Is the voltage greater than 10 volts?

Yes : Go to B5.

No : Go to B12.

**B5 CHECK FOR VOLTAGE TO THE DRIVER WINDOW REGULATOR MOTOR UP CIRCUIT**

- Operate the driver window control switch to the UP position.
- Measure the voltage between the driver window regulator motor C518 pin 1, circuit 33-AJ26 (YE), harness side and ground.



E0024115

**Fig. 4: Measuring Voltage Between Driver Window Regulator Motor C518 Pin 1, Circuit 33-AJ26 (YE), Harness Side And Ground**  
Courtesy of FORD MOTOR CO.

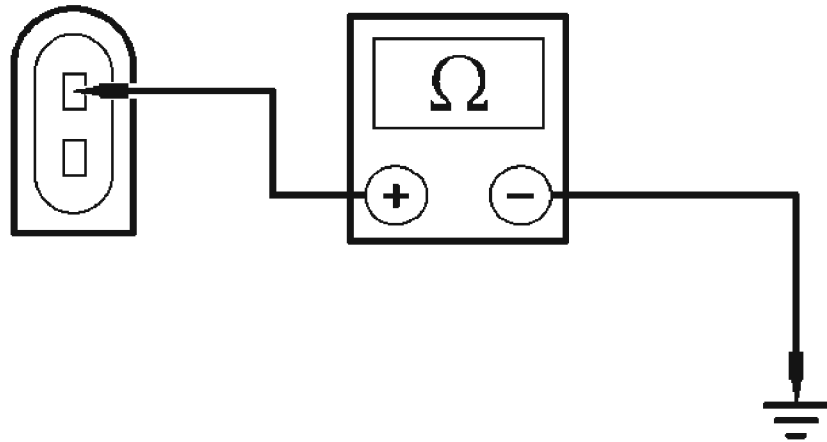
- Is the voltage greater than 10 volts?

Yes : Go to B6.

No : REPAIR the circuit. TEST the system for normal operation.

**B6 CHECK FOR CONTINUITY BETWEEN THE DRIVER WINDOW REGULATOR MOTOR AND GROUND**

- Key in OFF position.
- Measure the resistance between the driver window regulator motor C518 pin 2, circuit 32-AJ26 (WH) and ground.



TIE0014344

**Fig. 5: Measuring Resistance Between Driver Window Regulator Motor C518 Pin 2, Circuit 32-AJ26 (WH) And Ground**  
Courtesy of FORD MOTOR CO.

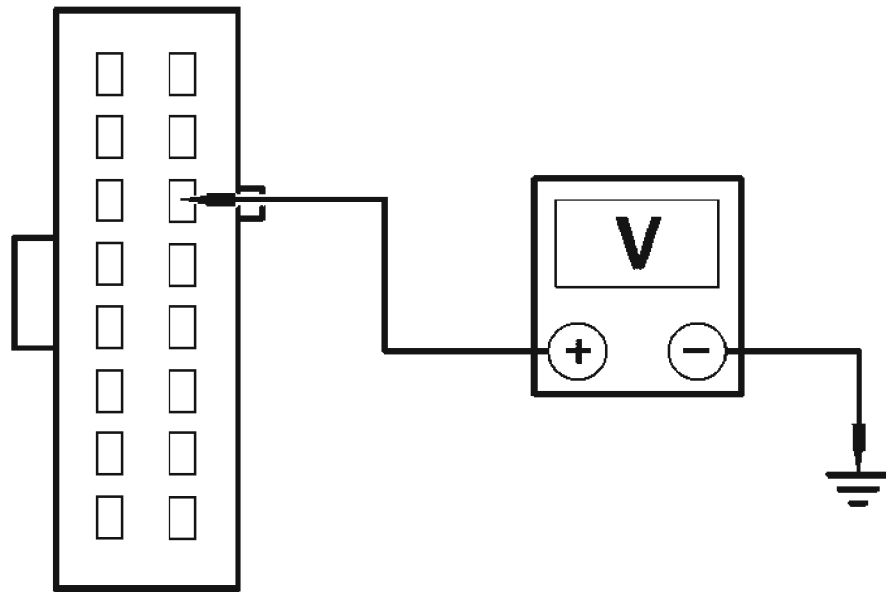
- Is the resistance less than 5 ohms?

**Yes** : INSTALL a new window regulator motor. REFER to **DOOR WINDOW REGULATOR MOTOR**. TEST the system for normal operation.

**No** : INSTALL a new one-touch down relay. TEST the system for normal operation.

#### **B7 CHECK FOR VOLTAGE TO THE DRIVER WINDOW CONTROL SWITCH**

- Key in OFF position.
- Disconnect: Driver Window Control Switch C504b.
- Key in ON position.
- Measure the voltage between the driver window control switch C504b pin 14, circuit 15-LH14 (GN/YE), harness side and ground.



TIE0014343

**Fig. 6: Measuring Voltage Between Driver Window Control Switch C504b Pin 14, Circuit 15-LH14 (GN/YE), Harness Side And Ground**  
**Courtesy of FORD MOTOR CO.**

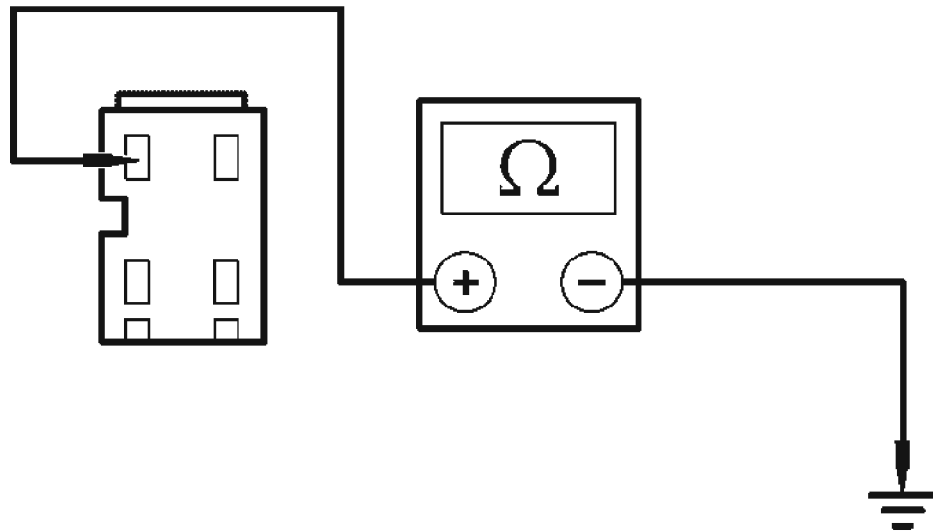
- Is the voltage greater than 10 volts?

**Yes :** Go to B8.

**No :** REPAIR the circuit. TEST the system for normal operation.

**B8 CHECK THE DRIVER WINDOW CONTROL SWITCH GROUND CIRCUIT**

- Key in OFF position.
- Disconnect: Driver Window Control Switch C504a.
- Measure the resistance between the driver window control switch C504a pin 3, circuit 31-AJ7 (BK), harness side and ground.



TIE0006258

**Fig. 7: Measuring Resistance Between Driver Window Control Switch C504a Pin 3, Circuit 31-AJ7 (BK), Harness Side And Ground**  
Courtesy of FORD MOTOR CO.

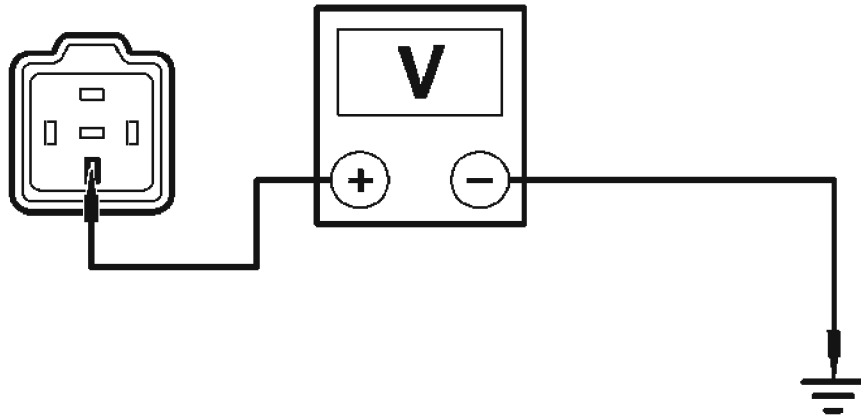
- **Is the resistance less than 5 ohms?**

Yes : VERIFY the customer concern.

No : REPAIR the circuit. TEST the system for normal operation.

**B9 CHECK FOR SWITCHED VOLTAGE TO THE ONE-TOUCH DOWN RELAY**

- Key in OFF position.
- Disconnect: One-Touch Down Relay C546.
- Key in ON position.
- Operate the driver window control switch to the first detent in the DOWN position.
- Measure the voltage between the one-touch down relay C546 pin 3, circuit 15S-AJ40 (GN/BK), harness side and ground.



TIE0003060

**Fig. 8: Measuring Voltage Between One-Touch Down Relay C546 Pin 3, Circuit 15S-AJ40 (GN/BK), Harness Side And Ground**  
Courtesy of FORD MOTOR CO.

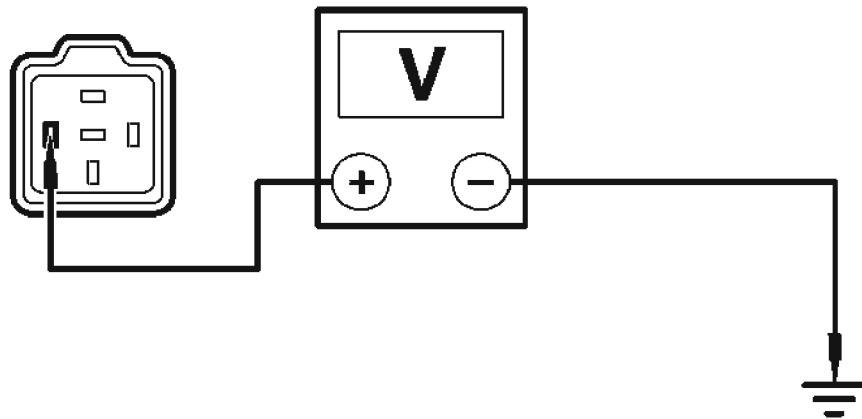
- Is the voltage greater than 10 volts?

Yes : Go to B10.

No : REPAIR the circuit. TEST the system for normal operation.

**B10 CHECK FOR IGNITION VOLTAGE TO THE ONE-TOUCH DOWN RELAY**

- Measure the voltage between the one-touch down relay C546 pin 2, circuit 15-AJ15 (GN/BK), harness side and ground.



TIE0003061

**Fig. 9: Measuring Voltage Between One-Touch Down Relay C546 Pin 2, Circuit 15-AJ15 (GN/BK), Harness Side And Ground**  
Courtesy of FORD MOTOR CO.

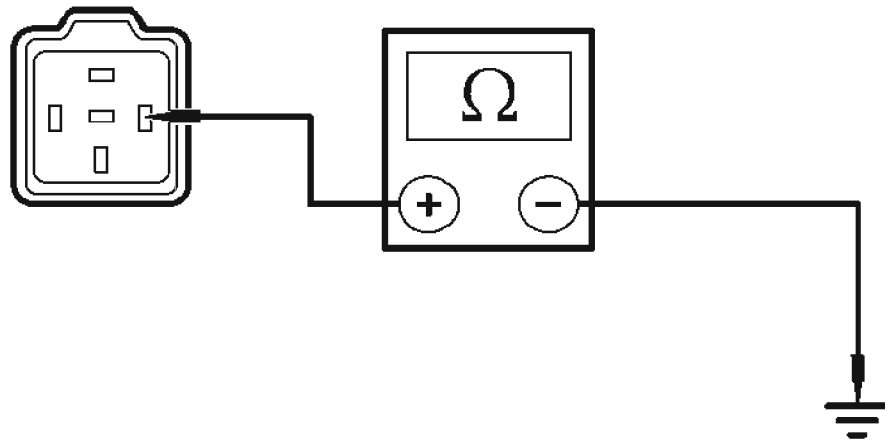
- Is the voltage greater than 10 volts?

Yes : Go to B11.

No : REPAIR the circuit. TEST the system for normal operation.

**B11 CHECK FOR CONTINUITY BETWEEN THE ONE-TOUCH DOWN RELAY AND GROUND**

- Key in OFF position.
- Measure the resistance between the one-touch down relay C546 pin 1, circuit 31-AJ15 (BK), harness side and ground.



TIE0015144

**Fig. 10: Measuring Resistance Between One-Touch Down Relay C546 Pin 1, Circuit 31-AJ15 (BK), Harness Side And Ground**  
Courtesy of FORD MOTOR CO.

- **Is the resistance less than 5 ohms?**

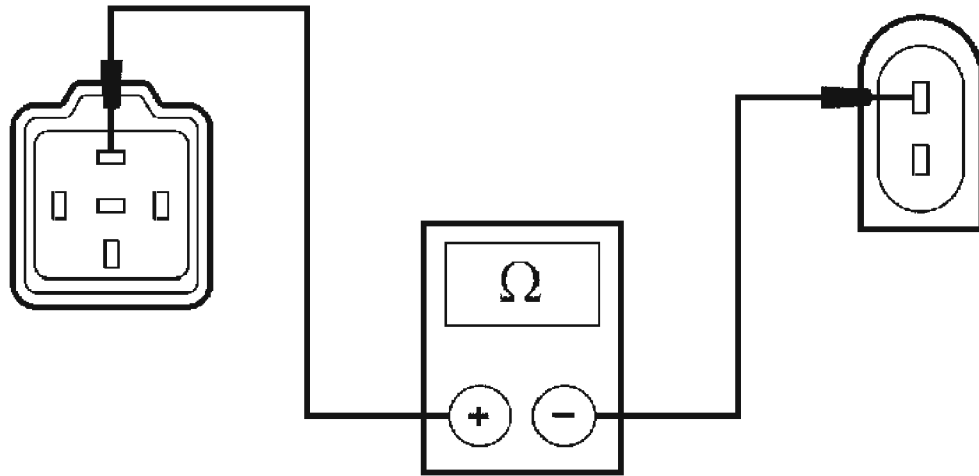
**Yes :** INSTALL a new one-touch down relay. TEST the system for normal operation.

**No :** REPAIR the circuit. TEST the system for normal operation.

**B12 CHECK FOR CONTINUITY BETWEEN THE DRIVER WINDOW REGULATOR MOTOR AND THE ONE-TOUCH DOWN RELAY**

- Key in OFF position.
- Disconnect: One-Touch Down Relay C546.
- Measure the resistance between the driver window regulator motor C518 pin 2, circuit 32-AJ26 (WH), harness side and the one-touch down relay C546 pin 5, circuit 32-AJ26 (WH), harness side.





A0092674

**Fig. 11: Checking For Continuity Between Driver Window Regulator Motor And One-Touch Down Relay**  
 Courtesy of FORD MOTOR CO.

- **Is the resistance less than 5 ohms?**

**Yes :** INSTALL a new one-touch down relay. TEST the system for normal operation.

**No :** REPAIR the circuit. TEST the system for normal operation.

**PINPOINT TEST C: A SINGLE POWER WINDOW IS INOPERATIVE - FRONT AND REAR POWER WINDOWS - PASSENGER POWER WINDOW**

**NOTE:      Make sure the rear window switch cut-off is not in operation.**

**C1 CHECK FOR IGNITION VOLTAGE TO THE INOPERATIVE WINDOW CONTROL SWITCH**

- Key in ON position.
- **Does the inoperative window control switch LED illuminate?**

**Yes :** Go to C2.

**No :** Go to C3.

**C2 CHECK THE INOPERATIVE WINDOW FOR OPERATION FROM THE DRIVER WINDOW CONTROL SWITCH**

- Operate the driver window control switch.

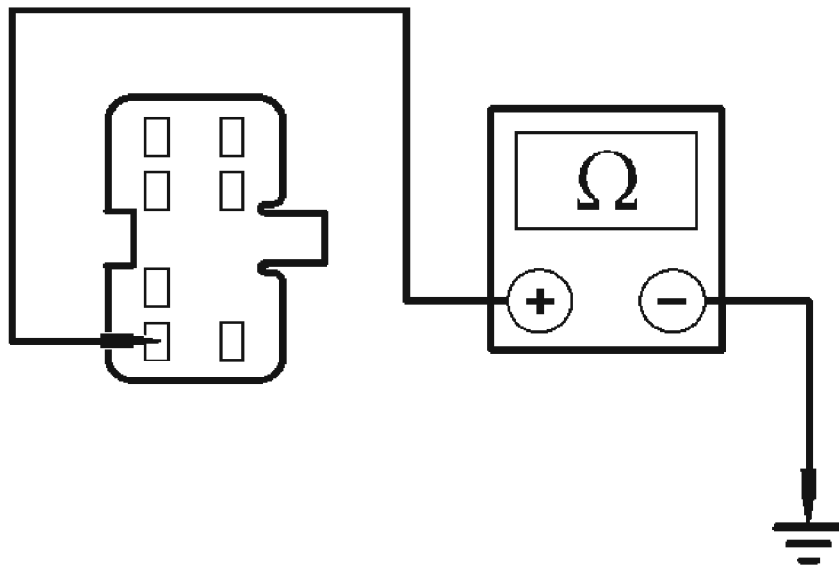
- **Does the inoperative window operate correctly?**

**Yes** : VERIFY the customer concern.

**No** : Go to C5.

### **C3 CHECK THE INOPERATIVE WINDOW CONTROL SWITCH GROUND CIRCUIT**

- Key in OFF position.
- Disconnect: Inoperative Window Control Switch.
- Measure the resistance between:
  - The inoperative front passenger window control switch C604 pin 4, circuit 31-LH31 (BK), harness side and ground.
  - The inoperative left-hand rear passenger window control switch, C701 pin 4, circuit 31-LH36 (BK), harness side and ground.
  - The inoperative right-hand rear passenger window control switch, C801 pin 4, circuit 31-LH36 (BK), harness side and ground.



**TIE0014349**

**Fig. 12: Checking Inoperative Window Control Switch Ground Circuit**  
Courtesy of FORD MOTOR CO.

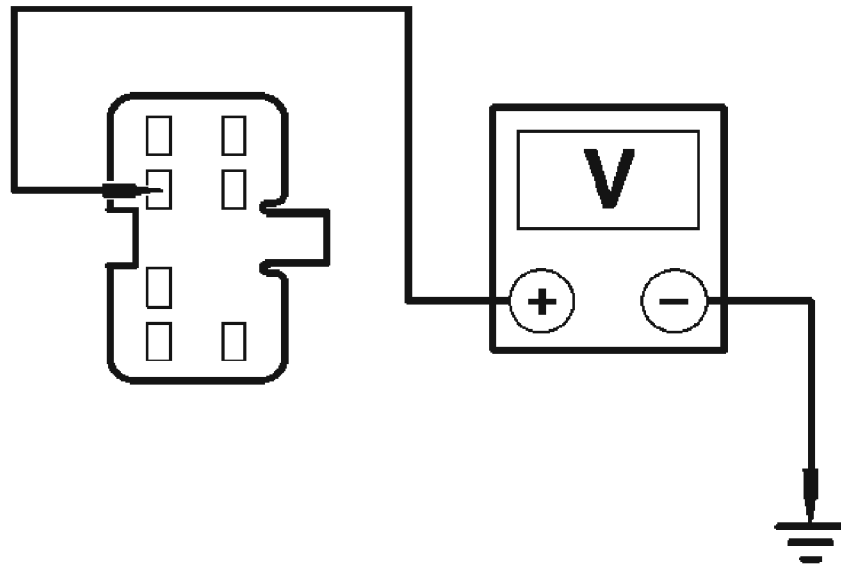
- **Is the resistance less than 5 ohms?**

**Yes** : Go to C4.

**No** : REPAIR the circuit. TEST the system for normal operation.

#### **C4 CHECK THE VOLTAGE AT THE INOPERATIVE WINDOW CONTROL SWITCH**

- Key in ON position.
- Measure the voltage between:
  - The inoperative front passenger window control switch C604 pin 2, circuit 15-AJ18 (GN/WH), harness side and ground.
  - The inoperative left-hand rear passenger window control switch C701 pin 2, circuit 15S-AJ32 (GN/RD), harness side and ground.
  - The inoperative right-hand rear passenger window control switch C801 pin 2, circuit 15S-AJ32 (GN/RD), harness side and ground.



**TIE0014348**

**Fig. 13: Checking Voltage At Inoperative Window Control Switch**  
Courtesy of FORD MOTOR CO.

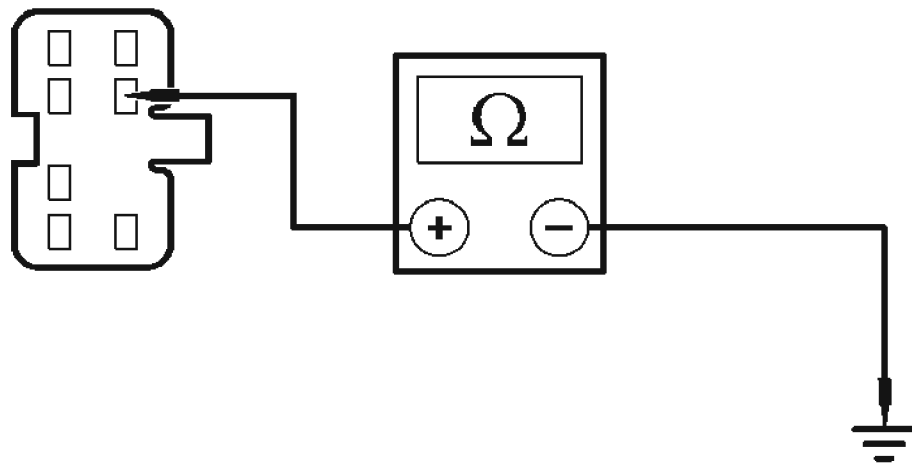
- Is the voltage greater than 10 volts?

**Yes** : VERIFY the customer concern.

**No** : REPAIR the circuit. TEST the system for normal operation.

#### **C5 CHECK FOR CONTINUITY BETWEEN THE INOPERATIVE WINDOW CONTROL SWITCH MOTOR UP CIRCUIT AND GROUND**

- Key in OFF position.
- Disconnect: Inoperative Window Control Switch.
- Measure the resistance between:
  - The inoperative front passenger window control switch C604 pin 6, circuit 33-AJ18 (YE/VT), harness side and ground.
  - The inoperative left-hand rear passenger window control switch C701 pin 6, circuit 33-AJ32 (YE/BU), harness side and ground.
  - The inoperative right-hand rear passenger window control switch C801 pin 6, circuit 33-AJ32 (YE/BU), harness side and ground.



TIE0013885

**Fig. 14: Checking For Continuity Between Inoperative Window Control Switch Motor Up Circuit And Ground**  
Courtesy of FORD MOTOR CO.

- Is the resistance less than 5 ohms?

Yes : Go to C6.

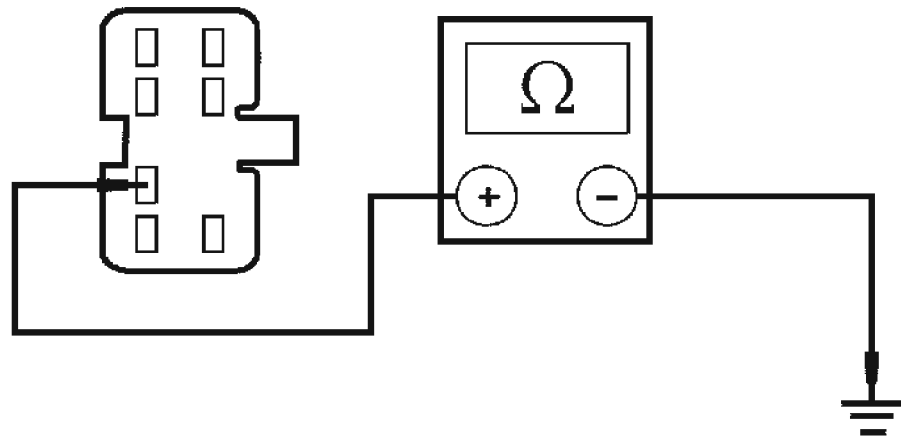
No : REPAIR the circuit. TEST the system for normal operation.

**C6 CHECK FOR CONTINUITY BETWEEN THE INOPERATIVE WINDOW CONTROL SWITCH MOTOR DOWN CIRCUIT AND GROUND**

- Measure the resistance between:
  - The inoperative front passenger window control switch C604 pin 3, circuit 32-AJ18 (WH/VT), harness side and ground.
  - The inoperative left-hand rear passenger window control switch C701 pin 3,

circuit 32-AJ32 (WH/BU), harness side and ground.

- The inoperative right-hand rear passenger window control switch C801 pin 3, circuit 32-AJ32 (WH/BU), harness side and ground.



A0065350

**Fig. 15: Checking For Continuity Between Inoperative Window Control Switch Motor Down Circuit And Ground**  
 Courtesy of FORD MOTOR CO.

- Is the resistance less than 5 ohms?

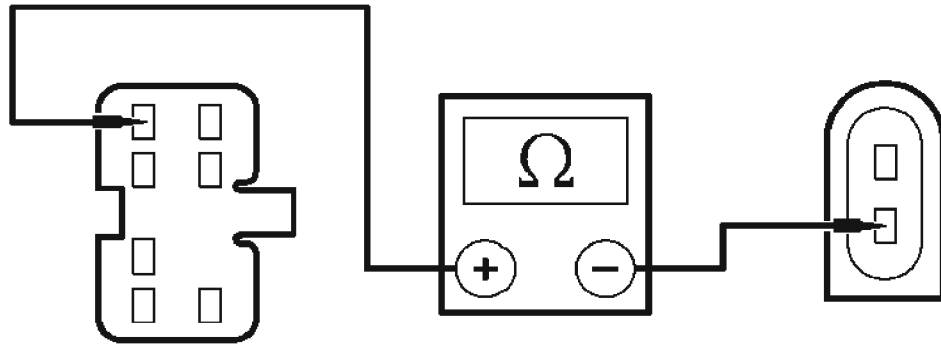
Yes : Go to C7.

No : REPAIR the circuit. TEST the system for normal operation.

**C7 CHECK FOR CONTINUITY BETWEEN THE PASSENGER WINDOW CONTROL SWITCH AND THE PASSENGER WINDOW REGULATOR MOTOR**

- Disconnect: Inoperative Passenger Window Regulator Motor.
- Measure the resistance between:
  - The inoperative front passenger window control switch C604 pin 1, circuit 33-AJ17 (YE/VT), harness side and the passenger window regulator motor C623 pin 1, circuit 33-AJ17 (YE/VT), harness side.
  - The inoperative left-hand rear passenger window control switch C701 pin 1, circuit 33-AJ31 (YE/RD), harness side and the passenger window regulator motor C703 pin 1, circuit 33-AJ31 (YE/RD), harness side.
  - The inoperative right-hand rear passenger window control switch C801 pin

1, circuit 33-AJ31 (YE/RD), harness side and the passenger window regulator motor C803 pin 1, circuit 33-AJ31 (YE/RD), harness side.



TIE0014347

**Fig. 16: Checking For Continuity Between Passenger Window Control Switch And Passenger Window Regulator Motor**  
Courtesy of FORD MOTOR CO.

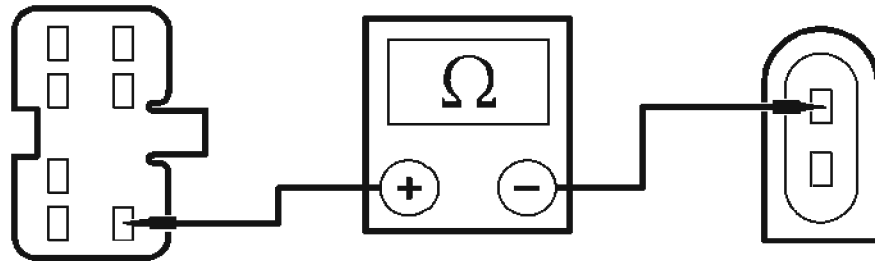
- Is the resistance less than 5 ohms?

Yes : Go to C8.

No : REPAIR the circuit. TEST the system for normal operation.

**C8 CHECK FOR CONTINUITY BETWEEN THE PASSENGER WINDOW CONTROL SWITCH AND THE PASSENGER WINDOW REGULATOR MOTOR**

- Measure the resistance between:
  - the inoperative front passenger window control switch C604 pin 7, circuit 32-AJ17 (WH/VT), harness side and the passenger window regulator motor C623 pin 2, circuit 32-AJ17 (WH/VT), harness side.
  - the inoperative left-hand rear passenger window control switch C701 pin 7, circuit 32-AJ31 (WH/RD), harness side and the passenger window regulator motor C703 pin 2, circuit 32-AJ31 (WH/RD), harness side.
  - the inoperative right-hand rear passenger window control switch C801 pin 7, circuit 32-AJ31 (WH/RD), harness side and the passenger window regulator motor C803 pin 2, circuit 32-AJ31 (WH/RD), harness side.



TIE0014345

**Fig. 17: Checking For Continuity Between Passenger Window Control Switch And Passenger Window Regulator Motor**  
Courtesy of FORD MOTOR CO.

- **Is the resistance less than 5 ohms?**

**Yes :** INSTALL a new door window regulator motor. REFER to **DOOR WINDOW REGULATOR MOTOR**. TEST the system for normal operation.

**No :** REPAIR the circuit. TEST the system for normal operation.

**PINPOINT TEST D: THE ONE-TOUCH DOWN FEATURE IS INOPERATIVE**

**D1 CHECK THE OPERATION OF THE DRIVER WINDOW**

- Key in ON position.
- Operate the driver window control switch to the DOWN position.
- **Does the window operate in the DOWN position?**

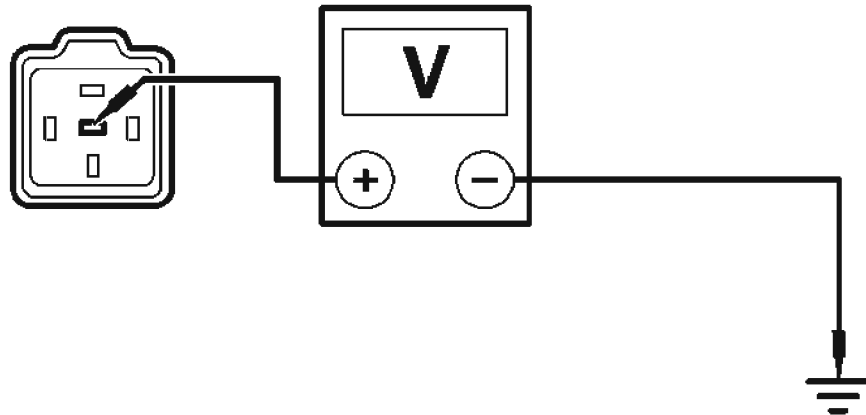
**Yes :** Go to D2.

**No :** Go to D3.

**D2 CHECK FOR IGNITION VOLTAGE TO THE ONE-TOUCH DOWN RELAY**

- Key in OFF position.
- Disconnect: One-Touch Down Relay C546.
- Key in ON position.
- Operate the driver window control switch to the second detent in the DOWN position.

- Measure the voltage between the one-touch down relay C546 pin 4, circuit 15S-AJ42 (GN/BK), harness side and ground.



TIE0003059

**Fig. 18: Measuring Voltage Between One-Touch Down Relay C546 Pin 4, Circuit 15S-AJ42 (GN/BK), Harness Side And Ground**  
Courtesy of FORD MOTOR CO.

- **Is the voltage greater than 10 volts?**

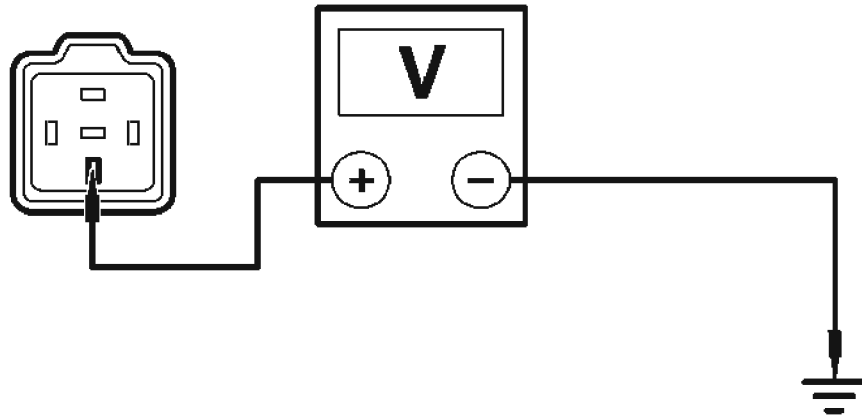
**Yes :** INSTALL a new one-touch down relay. TEST the system for normal operation.

**No :** REPAIR the circuit. TEST the system for normal operation.

### **D3 CHECK FOR VOLTAGE TO THE ONE-TOUCH DOWN RELAY**

- Key in OFF position.
- Disconnect: One-Touch Down Relay C546.
- Key in ON position.
- Operate the driver window control switch to the second detent in the DOWN position.
- Measure the voltage between the one-touch down relay C546 pin 3, circuit 15S-AJ40 (GN/BK), harness side and ground.





TIE0003060

**Fig. 19: Measuring Voltage Between One-Touch Down Relay C546 Pin 3, Circuit 15S-AJ40 (GN/BK), Harness Side And Ground**  
 Courtesy of FORD MOTOR CO.

- **Is the voltage greater than 10 volts?**

**Yes :** INSTALL a new one-touch down relay. TEST the system for normal operation.

**No :** REPAIR the circuit. TEST the system for normal operation.

**PINPOINT TEST E: ALL POWER WINDOWS ARE INOPERATIVE - FRONT POWER WINDOWS**

**E1 CHECK FOR VOLTAGE TO THE WINDOW CONTROL SWITCHES**

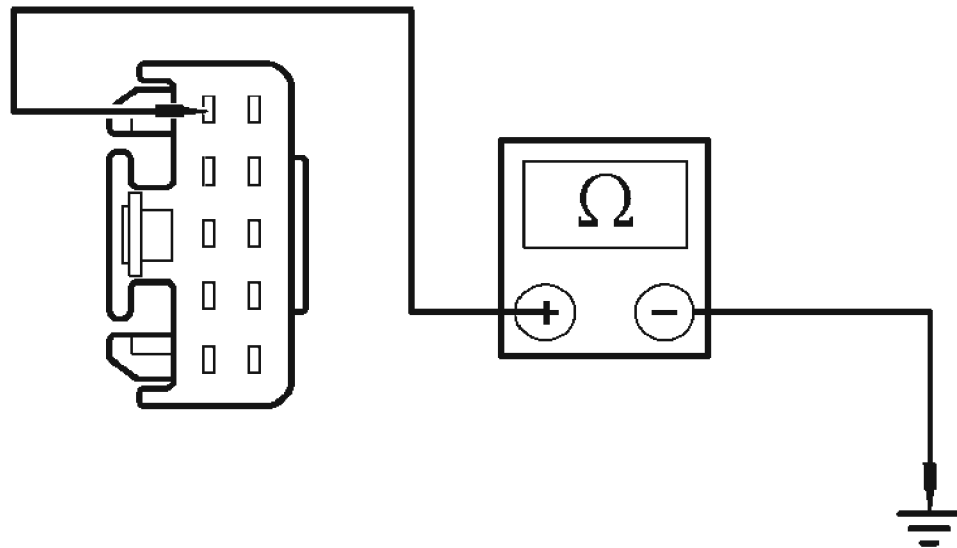
- Key in ON position.
- **Do the window control switch LEDs illuminate?**

**Yes :** VERIFY the customer concern.

**No :** Go to E2.

**E2 CHECK FOR CONTINUITY BETWEEN THE DRIVER WINDOW CONTROL SWITCH AND GROUND**

- Key in OFF position.
- Disconnect: Driver Window Control Switch C535.
- Measure the resistance between the driver window control switch C535 pin 1 circuit 31-AJ7 (BK), harness side and ground.



TIE0023402

**Fig. 20: Measuring Resistance Between Driver Window Control Switch C535 Pin 1 Circuit 31-AJ7 (BK), Harness Side And Ground**  
Courtesy of FORD MOTOR CO.

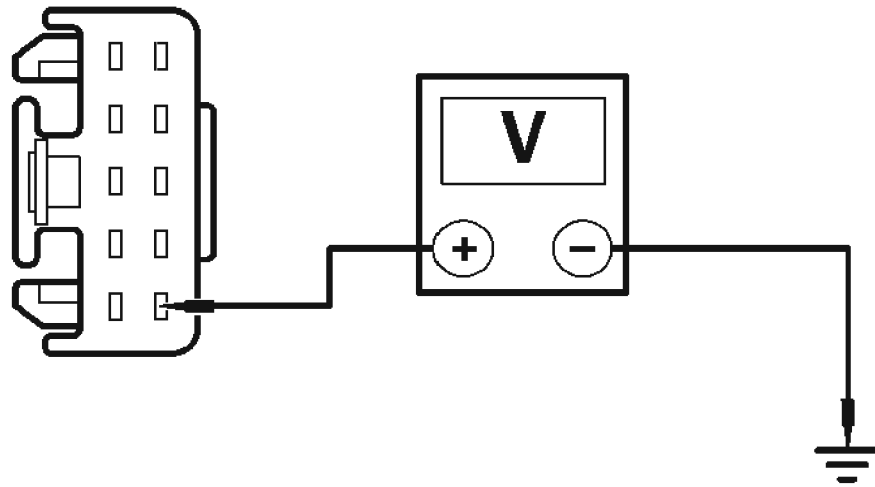
- Is the resistance less than 5 ohms?

Yes : Go to E3.

No : REPAIR the circuit. TEST the system for normal operation.

**E3 CHECK THE VOLTAGE AT THE DRIVER WINDOW CONTROL SWITCH**

- Key in ON position.
- Measure the voltage between the driver window control switch C535 pin 10, circuit 15-AJ7 (GN/BU), harness side and ground.



TIE0023403

**Fig. 21: Measuring Voltage Between Driver Window Control Switch C535 Pin 10, Circuit 15-AJ7 (GN/BU), Harness Side And Ground**  
 Courtesy of FORD MOTOR CO.

- Is the voltage greater than 10 volts?
  - Yes : VERIFY the customer concern.
  - No : REPAIR the circuit. TEST the system for normal operation.

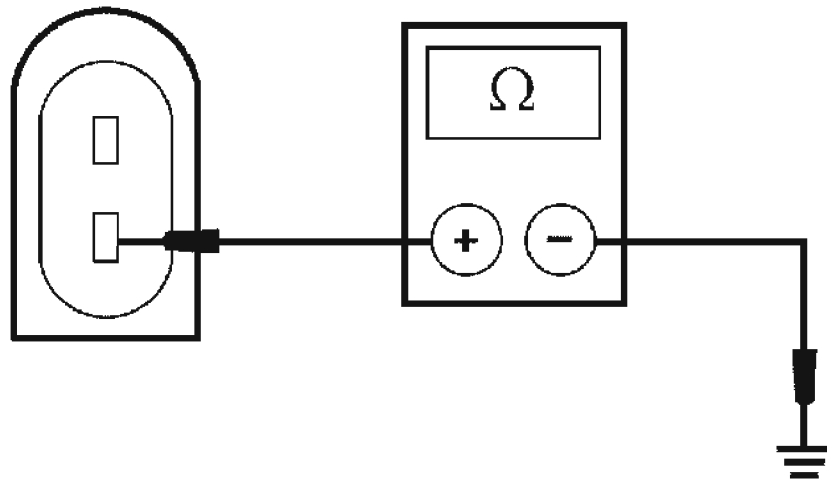
**PINPOINT TEST F: SINGLE POWER WINDOW IS INOPERATIVE - DRIVER SIDE**

**F1 CHECK FOR VOLTAGE TO THE DRIVER WINDOW CONTROL SWITCH**

- Key in ON position.
- Does the driver window control switch LED illuminate?
  - Yes : Go to F2.
  - No : Go to F4.

**F2 CHECK FOR CONTINUITY BETWEEN THE DRIVER WINDOW REGULATOR MOTOR AND GROUND**

- Key in OFF position.
- Disconnect: Driver Window Regulator Motor C518.
- Measure the resistance between the driver window regulator motor C518 pin 1, circuit 33-AJ26 (YE), harness side and ground.



A0090982

**Fig. 22: Checking For Continuity Between Driver Window Regulator Motor And Ground**

Courtesy of FORD MOTOR CO.

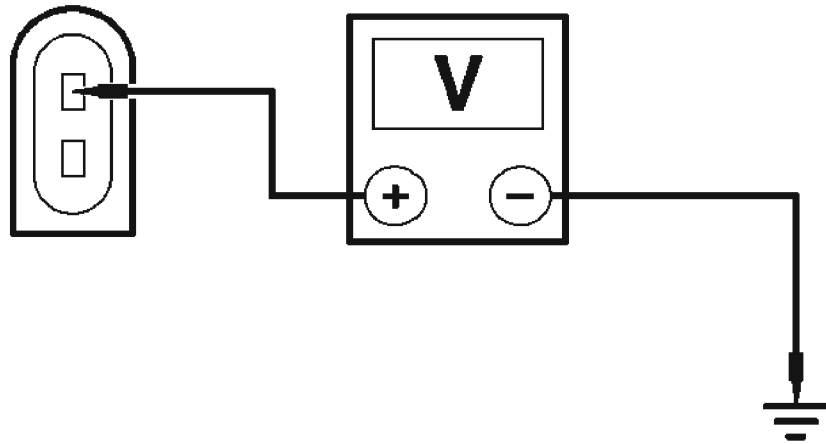
- Is the resistance less than 5 ohms?

Yes : Go to F3.

No : REPAIR the circuit. TEST the system for normal operation.

**F3 CHECK FOR SWITCH VOLTAGE TO THE DRIVER WINDOW REGULATOR MOTOR**

- Key in ON position.
- Operate the driver window control switch to the DOWN position.
- Measure the voltage between the driver window regulator motor C518 pin 2, circuit 32-AJ26 (WH), harness side and ground.



E0024116

**Fig. 23: Measuring Voltage Between Driver Window Regulator Motor C518 Pin 2, Circuit 32-AJ26 (WH), Harness Side And Ground**  
Courtesy of FORD MOTOR CO.

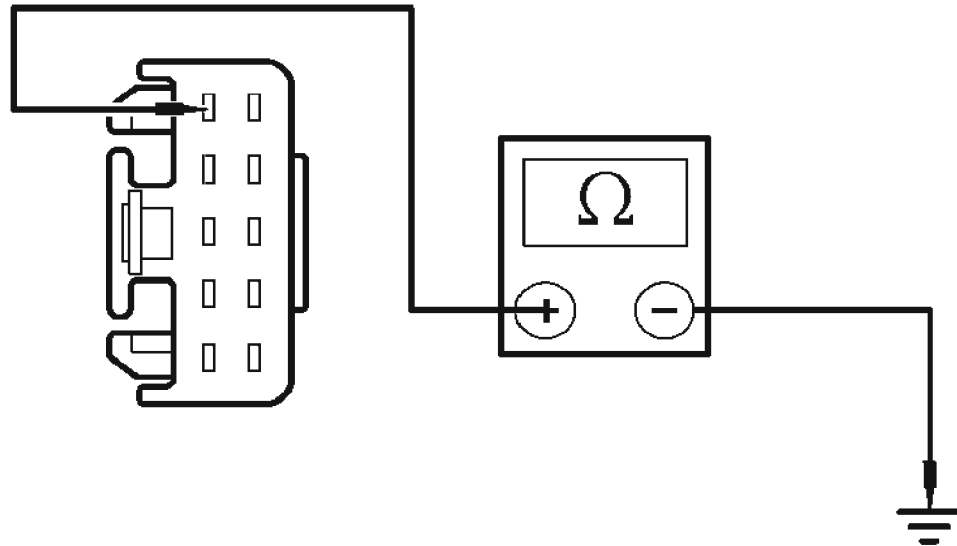
- Is the voltage greater than 10 volts?

**Yes :** Install a new driver window regulator motor. REFER to **DOOR WINDOW REGULATOR MOTOR**. TEST the system for normal operation.

**No :** REPAIR the circuit. TEST the system for normal operation.

#### **F4 CHECK FOR CONTINUITY BETWEEN THE DRIVER WINDOW CONTROL SWITCH AND GROUND**

- Key in OFF position.
- Disconnect: Driver Window Control Switch C535.
- Measure the resistance between the driver window control switch C535 pin 1, circuit 31-AJ7 (BK), harness side and ground.



TIE0023402

**Fig. 24: Measuring Resistance Between Driver Window Control Switch C535 Pin 1, Circuit 31-AJ7 (BK), Harness Side And Ground**  
 Courtesy of FORD MOTOR CO.

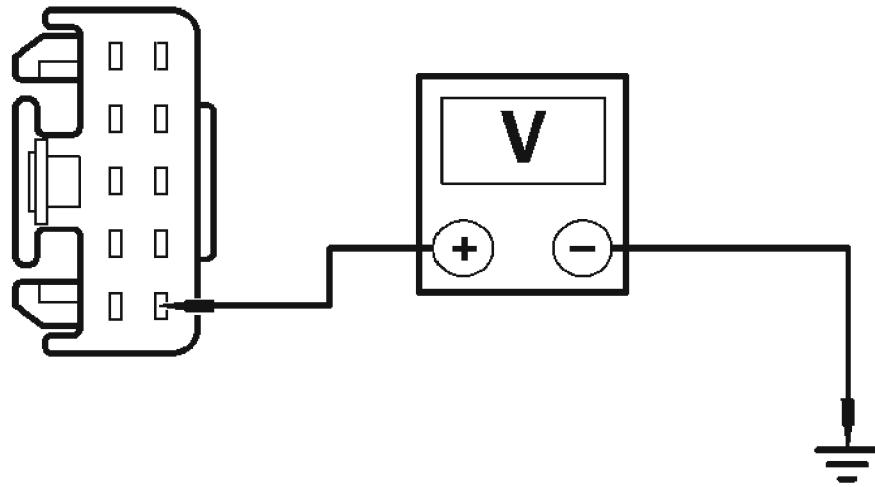
- Is the resistance less than 5 ohms?

Yes : Go to F5.

No : REPAIR the circuit. TEST the system for normal operation.

#### **F5 CHECK FOR VOLTAGE TO THE DRIVER CONTROL SWITCH**

- Measure the voltage between the driver window control switch C535 pin 10, circuit 15-AJ7 (GN/BU), harness side and ground.



TIE0023403

**Fig. 25: Measuring Voltage Between Driver Window Control Switch C535 Pin 10, Circuit 15-AJ7 (GN/BU), Harness Side And Ground**  
 Courtesy of FORD MOTOR CO.

- Is the voltage greater than 10 volts?
  - Yes : VERIFY the customer concern.
  - No : REPAIR the circuit. TEST the system for normal operation.

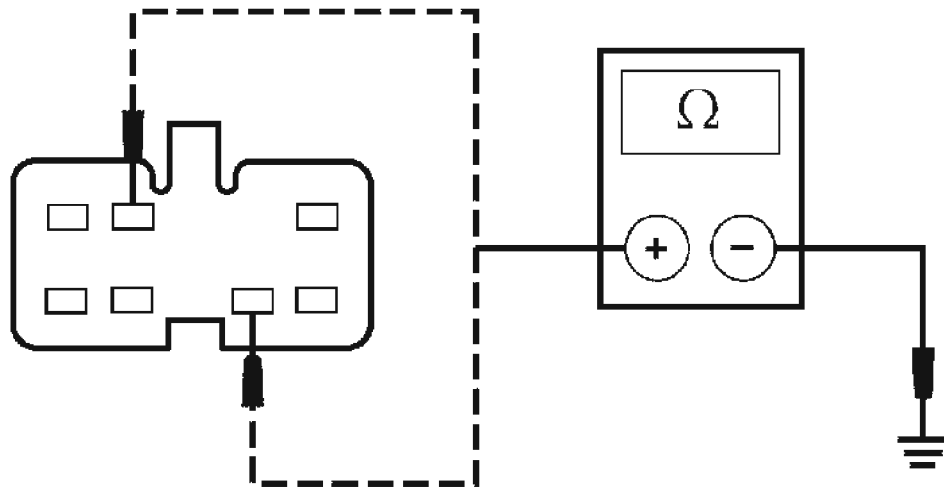
**PINPOINT TEST G: SINGLE POWER WINDOW IS INOPERATIVE - PASSENGER SIDE**

### **G1 CHECK FOR VOLTAGE TO THE PASSENGER WINDOW CONTROL SWITCH**

- Key in ON position.
- Does the passenger window control switch LED illuminate?
  - Yes : Go to G2.
  - No : Go to G5.

### **G2 CHECK THE PASSENGER WINDOW CONTROL SWITCH GROUND CIRCUITS**

- Key in OFF position.
- Disconnect: Passenger Window Control Switch C604.
- Measure the resistance between the passenger window control switch C604 pin 3, circuit 32-AJ18 (WH/VT) harness side and ground; and between the passenger window control switch C604 pin 6, circuit 33-AJ18 (YE/VT), harness side and ground.



A0071012

**Fig. 26: Checking Passenger Window Control Switch Ground Circuits**  
Courtesy of FORD MOTOR CO.

- Are the resistances less than 5 ohms?

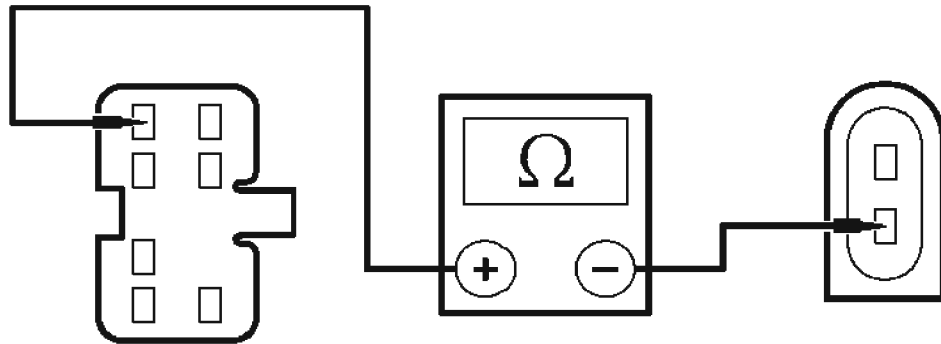
Yes : Go to G3.

No : REPAIR the circuit. TEST the system for normal operation.

**G3 CHECK FOR CONTINUITY BETWEEN THE PASSENGER WINDOW CONTROL SWITCH AND THE PASSENGER WINDOW REGULATOR MOTOR**

- Disconnect: Passenger Window Regulator Motor C623.
- Measure the resistance between the passenger window control switch C604 pin 1, circuit 33-AJ17 (YE/VT), harness side and the passenger window regulator motor C623 pin 1, circuit 33-AJ17 (YE/VT), harness side.





TIE0014347

**Fig. 27: Checking For Continuity Between Passenger Window Control Switch And Passenger Window Regulator Motor**  
Courtesy of FORD MOTOR CO.

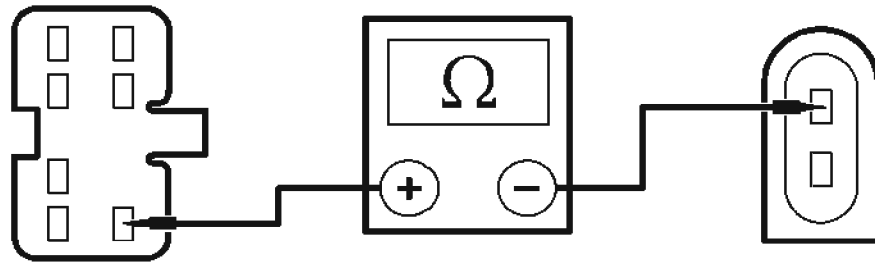
- Is the resistance less than 5 ohms?

Yes : Go to G4.

No : REPAIR the circuit. TEST the system for normal operation.

**G4 CHECK FOR CONTINUITY BETWEEN THE PASSENGER WINDOW CONTROL SWITCH AND THE PASSENGER WINDOW REGULATOR MOTOR**

- Measure the resistance between the passenger window control switch C604 pin 7, circuit 32-AJ17 (WH/VT), harness side and the passenger window regulator motor C623 pin 2, circuit 32-AJ17 (WH/VT), harness side.



TIE0014345

**Fig. 28: Checking For Continuity Between Passenger Window Control Switch And Passenger Window Regulator Motor**  
Courtesy of FORD MOTOR CO.

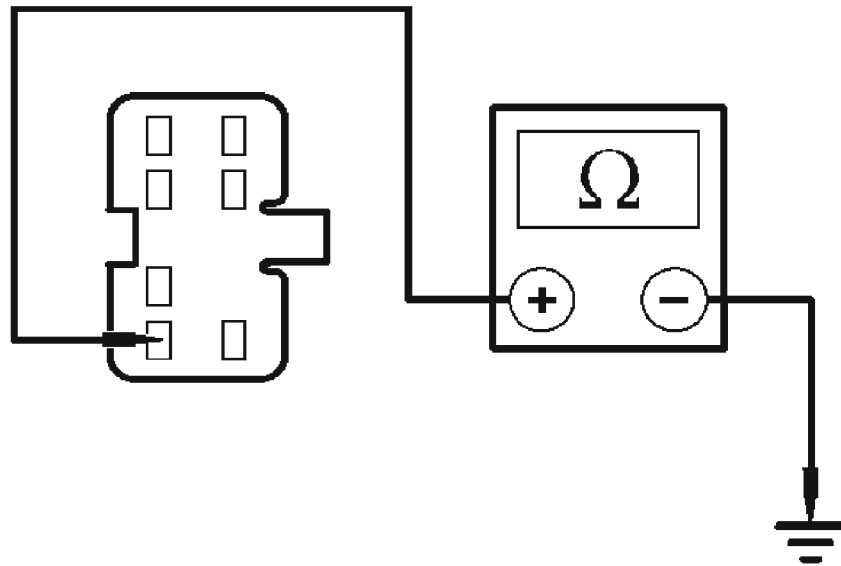
- Is the resistance less than 5 ohms?

**Yes :** INSTALL a new door window regulator motor. REFER to **DOOR WINDOW REGULATOR MOTOR**. TEST the system for normal operation.

**No :** REPAIR the circuit. TEST the system for normal operation.

#### **G5 CHECK THE PASSENGER WINDOW CONTROL SWITCH GROUND CIRCUIT**

- Key in OFF position.
- Disconnect: Passenger Window Control Switch C604.
- Measure the resistance between the passenger window control switch C604 pin 4, circuit 31-LH31 (BK), harness side and ground.



TIE0014349

**Fig. 29: Measuring Resistance Between Passenger Window Control Switch C604 Pin 4, Circuit 31-LH31 (BK), Harness Side And Ground**  
 Courtesy of FORD MOTOR CO.

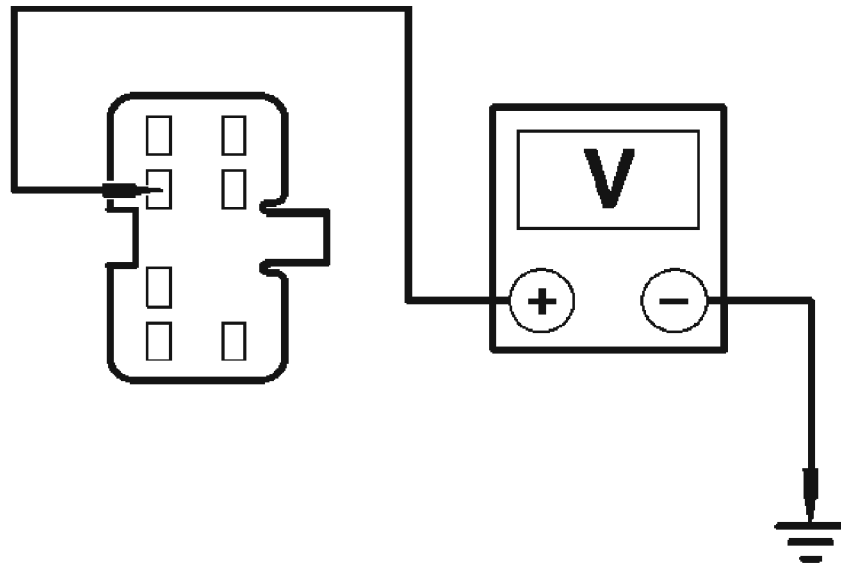
- Is the resistance less than 5 ohms?

Yes : Go to G6.

No : REPAIR the circuit. TEST the system for normal operation.

**G6 CHECK FOR VOLTAGE TO THE PASSENGER WINDOW CONTROL SWITCH**

- Key in ON position.
- Measure the voltage between the passenger window control switch C604 pin 2, circuit 15-AJ18 (GN/WH), harness side and ground.



TIE0014348

**Fig. 30: Measuring Voltage Between Passenger Window Control Switch C604 Pin 2, Circuit 15-AJ18 (GN/WH), Harness Side And Ground**  
 Courtesy of FORD MOTOR CO.

- **Is the voltage greater than 10 volts?**
  - Yes :** VERIFY the customer concern.
  - No :** REPAIR the circuit. TEST the system for normal operation.

**PINPOINT TEST H: THE DEFROST SYSTEM IS INOPERATIVE**

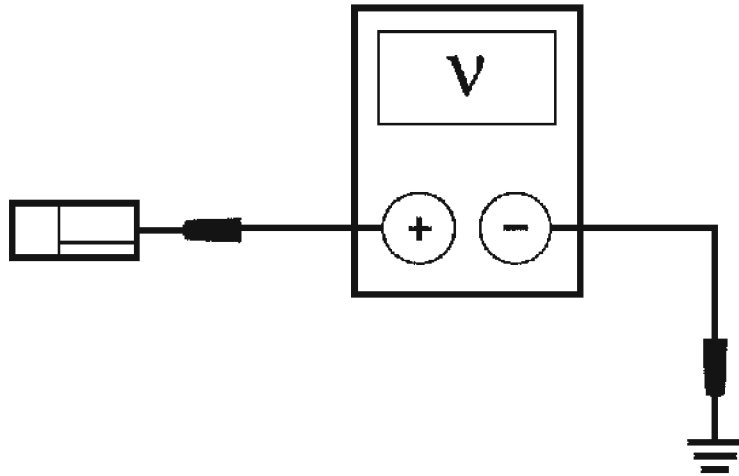
## **H1 CHECK THE OPERATION OF THE HEATED EXTERIOR MIRRORS**

- Key in START position.
- With the engine running, press the heated rear window control switch to the ON position.
- **Do the heated exterior mirrors operate correctly?**
  - Yes :** Go to H2.
  - No :** Go to H5.

## **H2 CHECK FOR VOLTAGE AT THE HEATED REAR WINDOW**

- Disconnect: Heated Rear Window C402a.
- With the engine running, press the heated rear window switch to the ON position.
- Measure the voltage between the heated rear window C402a. circuit 15S-HB19

(GN/BU), harness side and ground.



A0070274

**Fig. 31: Measuring Voltage Between Heated Rear Window C402a, Circuit 15S-HB19 (GN/BU), Harness Side And Ground**  
Courtesy of FORD MOTOR CO.

- **Is the voltage greater than 10 volts?**

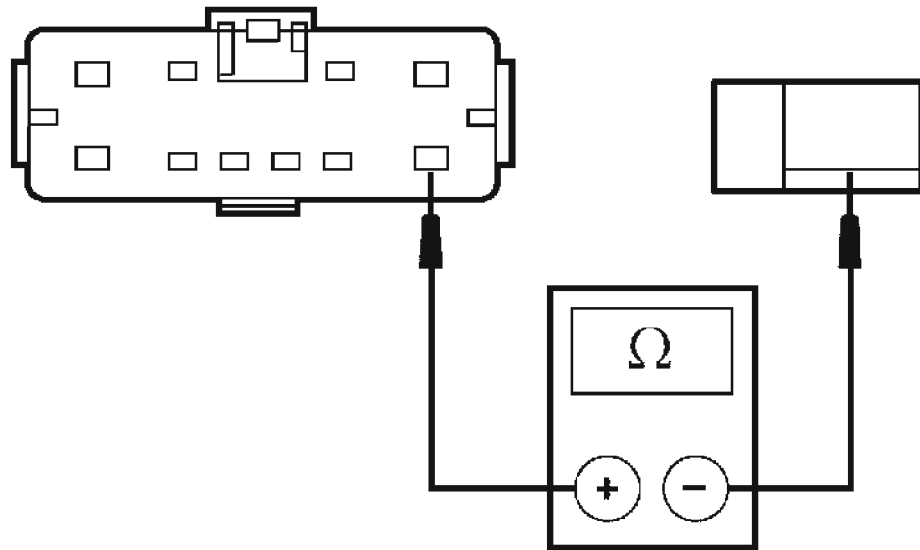
**Yes :** For 4-door or wagon, Go to H4.

For 3-door, INSTALL a new heated rear window. REFER to **LIFTGATE WINDOW GLASS**. TEST the system for normal operation.

**No :** Go to H3.

### **H3 CHECK CIRCUIT 15S-HB19 (GN/BU) FOR AN OPEN**

- Key in OFF position.
- Disconnect: CJB C270a.
- Measure the resistance between the CJB C270a pin 5, circuit 15S-HB19 (GN/BU), harness side and the heated rear window C402a, circuit 15S-HB19 (GN/BU), harness side.



A0091044

**Fig. 32: Checking Circuit 15S-HB19 (GN/BU) For An Open**  
**Courtesy of FORD MOTOR CO.**

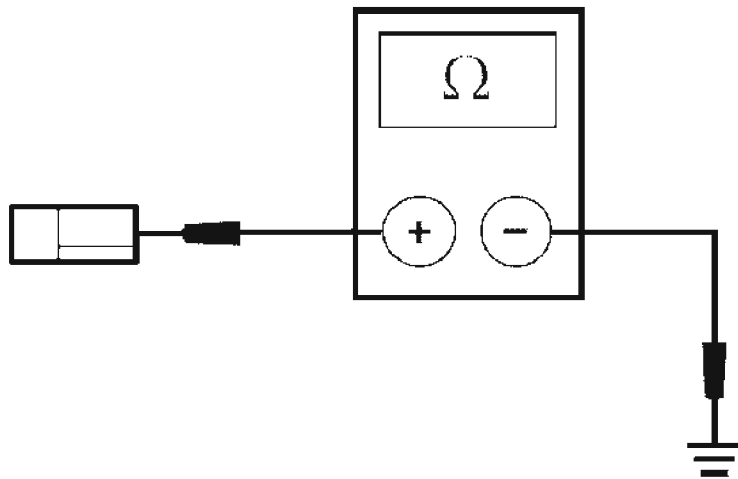
- **Is the resistance less than 5 ohms?**

**Yes :** INSTALL a new CJB. TEST the system for normal operation.

**No :** REPAIR the circuit. TEST the system for normal operation.

#### **H4 CHECK THE HEATED REAR WINDOW GROUND CIRCUIT**

- Key in OFF position.
- Disconnect: Heated Rear Window C402b.
- Measure the resistance between the heated rear window C402b, circuit 31-HB19 (BK), harness side and ground.



A0070275

**Fig. 33: Measuring Resistance Between Heated Rear Window C402b, Circuit 31-HB19 (BK), Harness Side And Ground**  
 Courtesy of FORD MOTOR CO.

- Is the resistance less than 5 ohms?

**Yes :** INSTALL a new heated rear window. REFER to **LIFTGATE WINDOW GLASS** or **REAR DOOR WINDOW GLASS**. TEST the system for normal operation.

**No :** REPAIR the circuit. TEST the system for normal operation.

#### **H5 CHECK THE HEATED REAR WINDOW RELAY**

- Key in OFF position.
- Disconnect: Heated Rear Window Relay C2021.
- Carry out the heated rear window relay component test. Refer to **COMPONENT TESTING** .
- Does the heated rear window relay pass the component test?

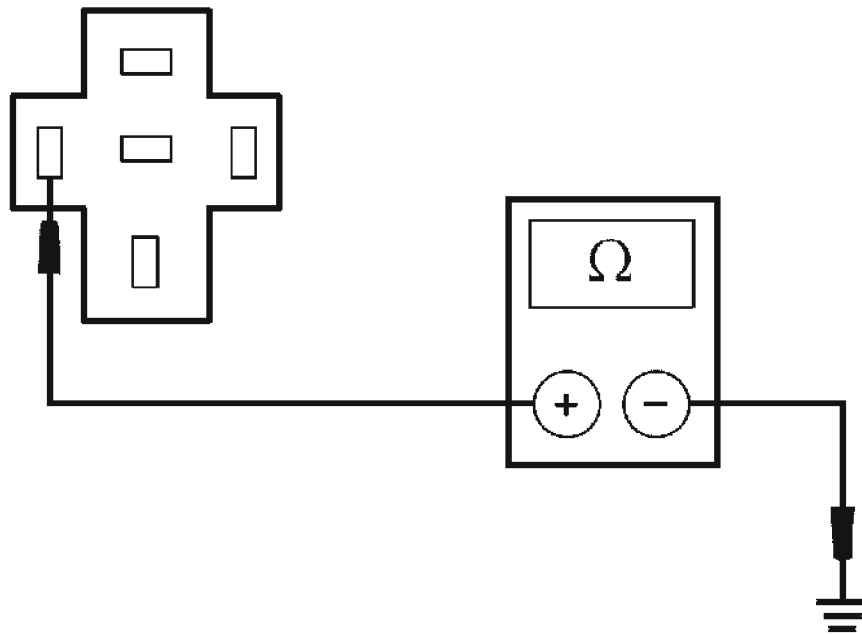
**Yes :** Go to H6.

**No :** INSTALL a new heated rear window relay. TEST the system for normal operation.

#### **H6 CHECK THE HEATED REAR WINDOW RELAY CONTROL**

- Key in START position.
- With the engine running, press the heated rear window switch to the ON position.
- Measure the resistance between the heated rear window relay C2021 pin 85,

circuit 31S-HB31 (BK/OG), harness side and ground.



A0091045

**Fig. 34: Measuring Resistance Between Heated Rear Window Relay C2021 Pin 85, Circuit 31S-HB31 (BK/OG), Harness Side And Ground**  
Courtesy of FORD MOTOR CO.

- Is the resistance less than 5 ohms?

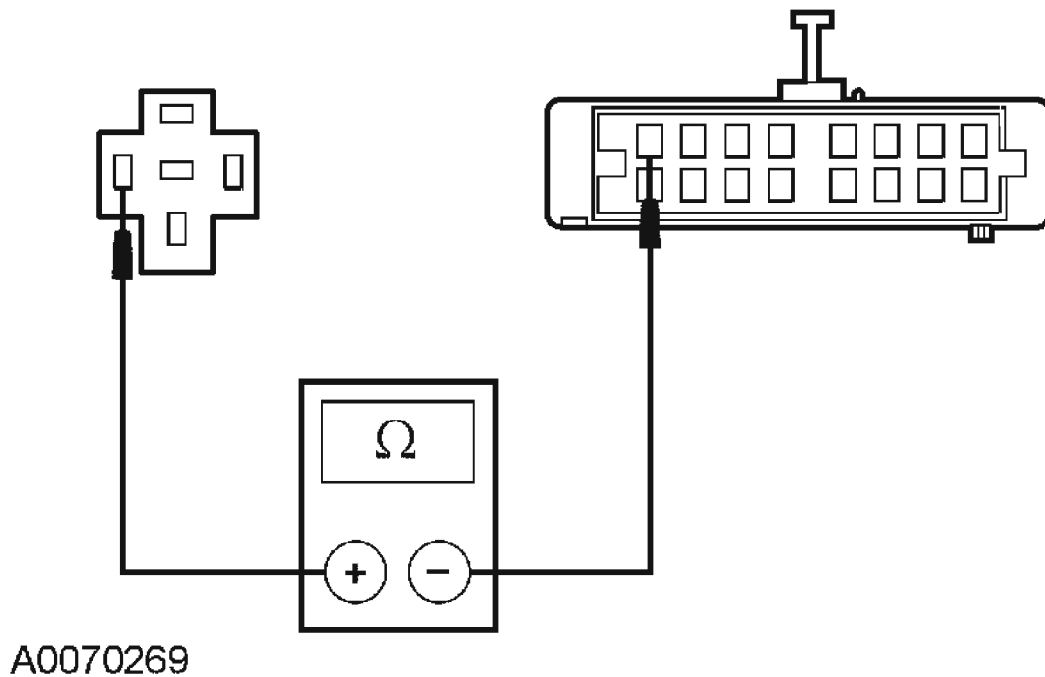
Yes : Go to H9.

No : Go to H7.

#### **H7 CHECK THE HEATED REAR WINDOW RELAY CONTROL CIRCUIT 31S-HB31 (BK/OG)**

- Key in OFF position.
- Disconnect: Heater Control Module C2263.
- Measure the resistance between the heated rear window relay C2021 pin 85, circuit 31S-HB31 (BK/OG), harness side and the heater control module C2263 pin 1, circuit 31S-HB31 (BK/OG), harness side.





**Fig. 35: Checking Heated Rear Window Relay Control Circuit 31S-HB31 (BK/OG)**

Courtesy of FORD MOTOR CO.

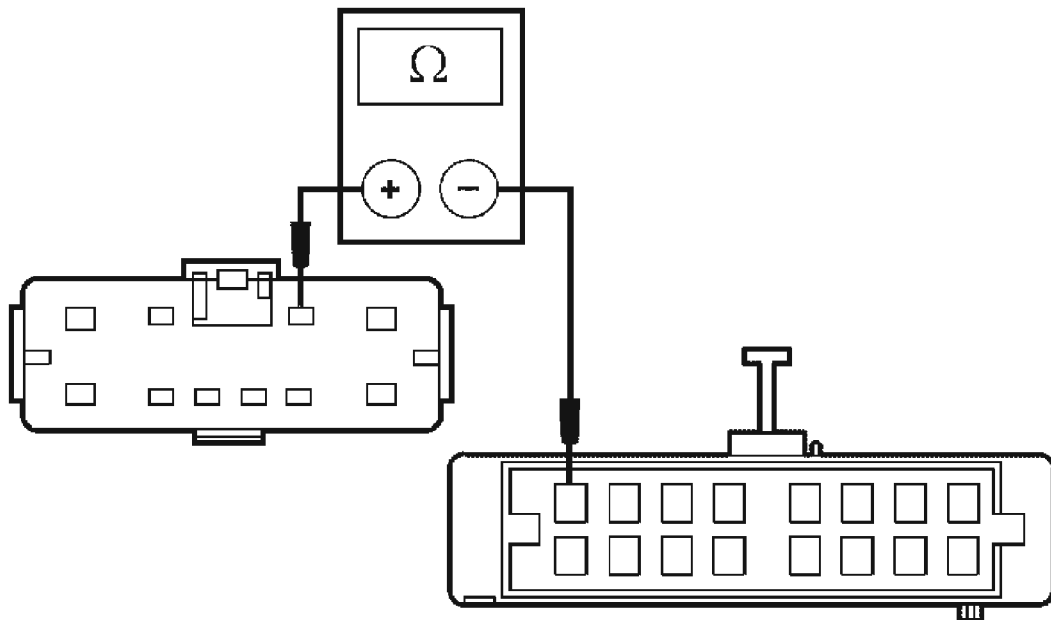
- Is the resistance less than 5 ohms?

Yes : Go to H13.

No : Go to H8.

#### **H8 CHECK CIRCUIT 31S-HB31 (BK/OG) FOR AN OPEN**

- Disconnect: CJB C270a.
- Measure the resistance between the CJB C270a pin 2, circuit 31S-HB31 (BK/OG), harness side and the heater control module C2263 pin 1, circuit 31S-HB31 (BK/OG), harness side.



A0091046

**Fig. 36: Checking Circuit 31S-HB31 (BK/OG) For An Open**  
Courtesy of FORD MOTOR CO.

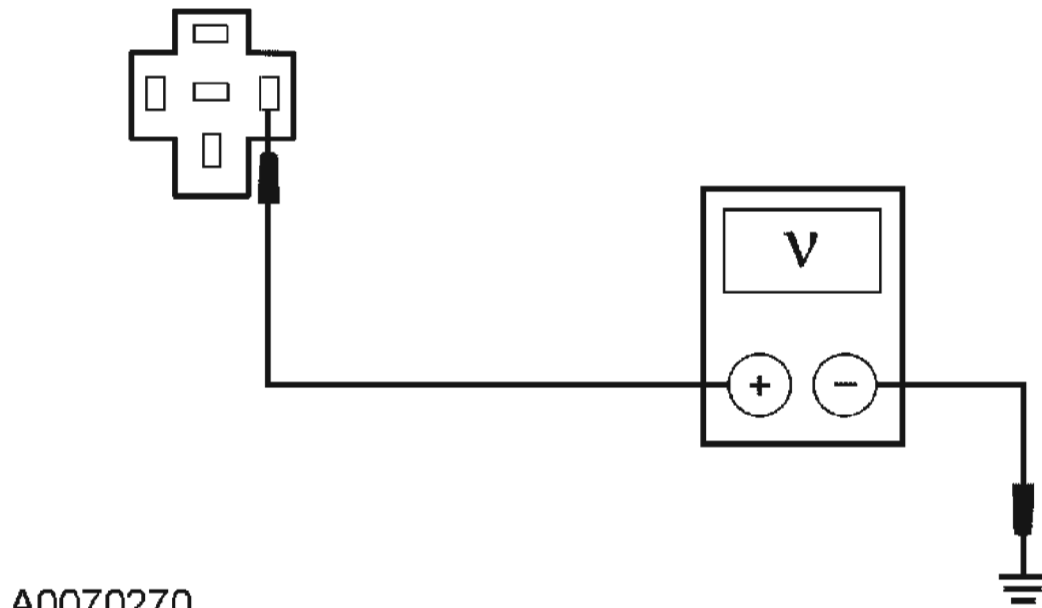
- **Is the resistance less than 5 ohms?**

**Yes :** INSTALL a new CJB. TEST the system for normal operation.

**No :** REPAIR the circuit. TEST the system for normal operation.

**H9 CHECK THE POWER TO THE HEATED REAR WINDOW RELAY ON  
CIRCUIT 15-DA1 (GN/YE)**

- Measure the voltage between the heated rear window relay C2021 pin 86, circuit 15-DA1 (GN/YE), harness side and ground.



**Fig. 37: Checking Power To Heated Rear Window Relay On Circuit 15-DA1 (GN/YE)**

**Courtesy of FORD MOTOR CO.**

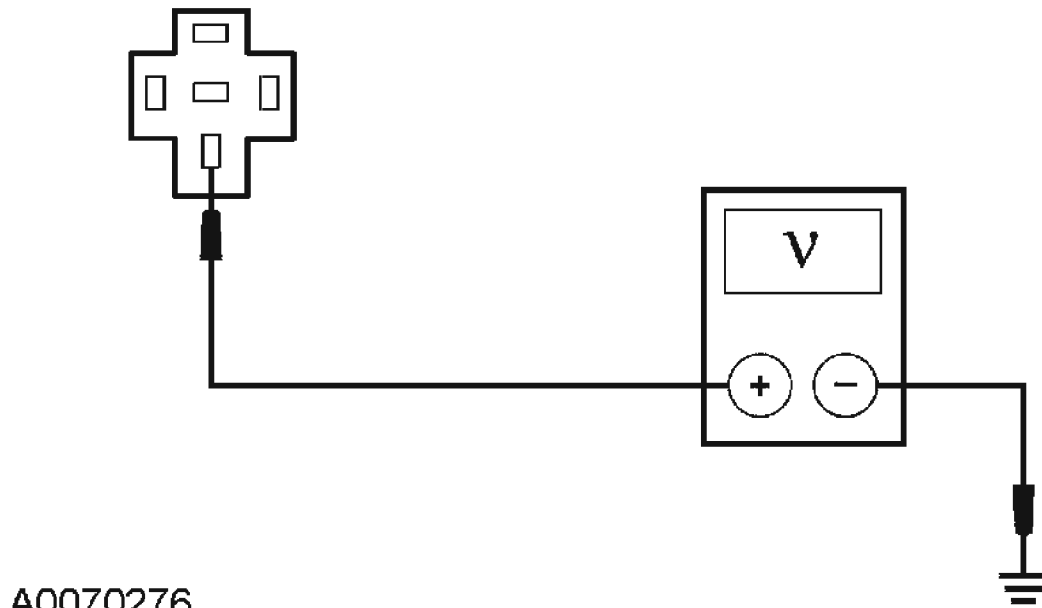
- **Is the voltage greater than 10 volts?**

**Yes :** Go to H10.

**No :** Go to H11.

**H10 CHECK THE POWER TO THE HEATED REAR WINDOW RELAY ON CIRCUIT 30-DA1 (RD)**

- Measure the voltage between the heated rear window relay C2021 pin 30, circuit 30-DA1 (RD), harness side and ground.



**Fig. 38: Measuring Voltage Between Heated Rear Window Relay C2021 Pin 30, Circuit 30-DA1 (RD), Harness Side And Ground**  
 Courtesy of FORD MOTOR CO.

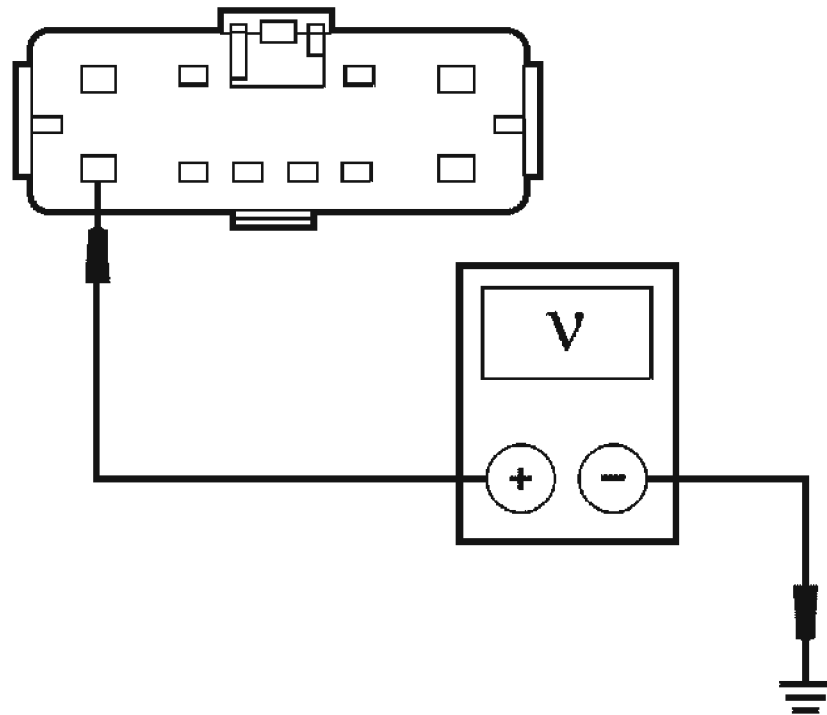
- Is the voltage greater than 10 volts?

Yes : INSTALL a new CJB. TEST the system for normal operation.

No : Go to H12.

#### **H11 CHECK CIRCUIT 15-DA1 (GN/YE) FOR AN OPEN**

- Key in OFF position.
- Disconnect: CJB C270e.
- Key in ON position.
- Measure the voltage between the CJB C270e pin 10, circuit 15-DA1 (GN/YE), harness side and ground.



A0091047

**Fig. 39: Measuring Voltage Between CJB C270e Pin 10, Circuit 15-DA1 (GN/YE), Harness Side And Ground**  
 Courtesy of FORD MOTOR CO.

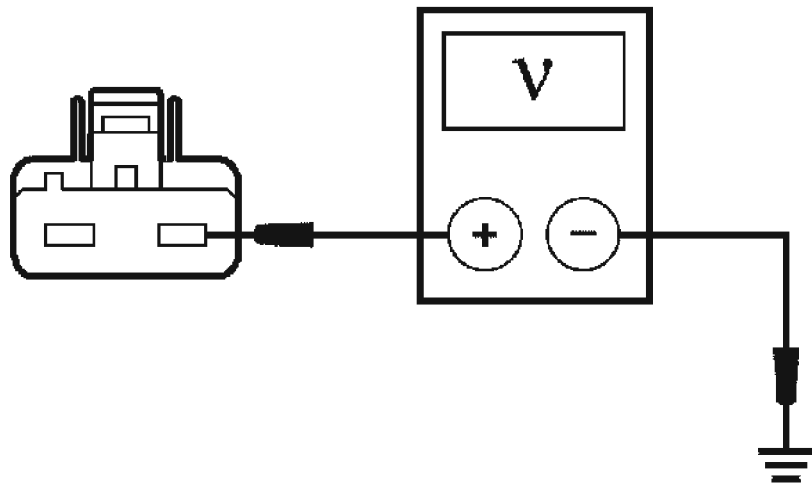
- **Is the voltage greater than 10 volts?**

**Yes :** INSTALL a new CJB. TEST the system for normal operation.

**No :** REPAIR the circuit. TEST the system for normal operation.

**H12 CHECK CIRCUIT 30-DA1 (RD) FOR AN OPEN**

- Key in OFF position.
- Disconnect: CJB C270g.
- Measure the voltage between the CJB C270g pin 1, circuit 30-DA1 (RD), harness side and ground.



A0091048

**Fig. 40: Measuring Voltage Between CJB C270g Pin 1, Circuit 30-DA1 (RD), Harness Side And Ground**  
Courtesy of FORD MOTOR CO.

- **Is the voltage greater than 10 volts?**

**Yes :** INSTALL a new CJB. TEST the system for normal operation.

**No :** REPAIR the circuit. TEST the system for normal operation.

### **H13 CHECK FOR CORRECT HEATER CONTROL MODULE OPERATION**

- Disconnect all the heater control module connections.
- Check for:
  - Corrosion
  - Pushed-out pins
- Connect all the heater control module connections and make sure they seat correctly.
- Operate the system and verify the concern is still present.
- **Is the concern still present?**

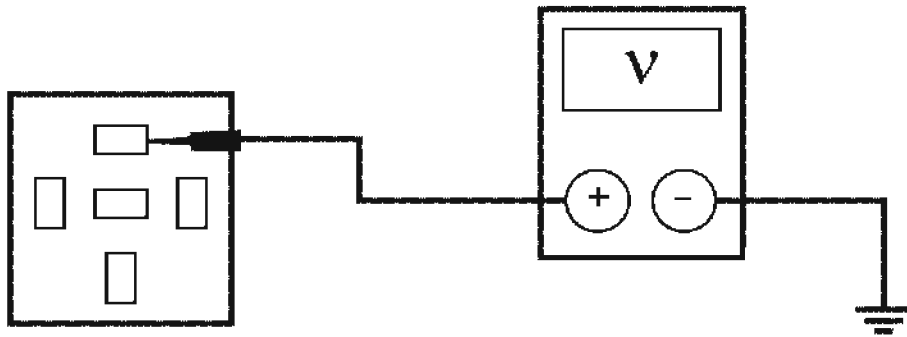
**Yes :** INSTALL a new heater control module. Refer to **CONTROL COMPONENTS** . TEST the system for normal operation.

**No :** The system is operating correctly at this time. The concern may have been caused by a loose or corroded connector. TEST the system for normal operation.

**PINPOINT TEST I: THE DEFROST SYSTEM WILL NOT SHUT OFF AUTOMATICALLY**

**I1 CHECK FOR A SHORT TO POWER**

- Key in OFF position.
- Disconnect: Heated Rear Window Relay.
- Key in START position.
- With the engine running, measure the voltage between the heated rear window relay C2021 pin 87, CJB side and ground.



GN1439-A

**Fig. 41: Measuring Voltage Between Heated Rear Window Relay C2021 Pin 87, CJB Side And Ground**

**Courtesy of FORD MOTOR CO.**

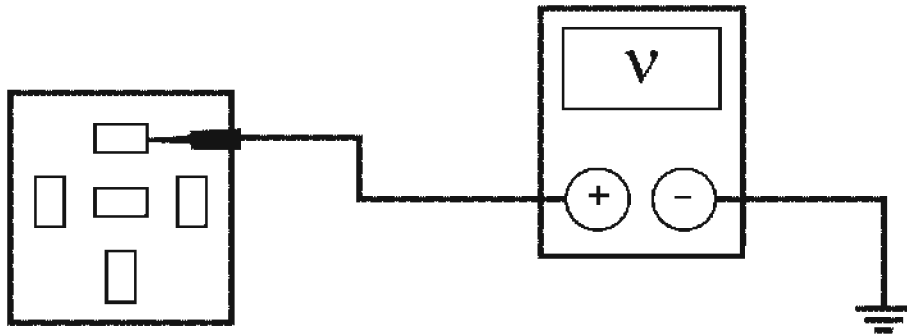
- **Is any voltage present?**

**Yes :** Go to I2.

**No :** Go to I4.

**I2 CHECK CIRCUIT 15S-HB19 (GN/BU)**

- Key in OFF position.
- Disconnect: CJB C270a.
- Key in START position.
- With the engine running, measure the voltage between the heated rear window relay C2021 pin 87, CJB side and ground.



GN1439-A

**Fig. 42: Measuring Voltage Between Heated Rear Window Relay C2021 Pin 87, CJB Side And Ground**  
Courtesy of FORD MOTOR CO.

- **Is the voltage greater than 10 volts?**

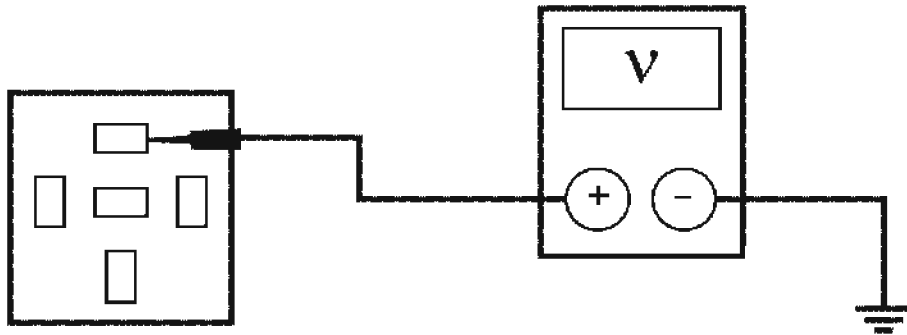
**Yes :** Go to I3.

**No :** REPAIR the circuit. TEST the system for normal operation.

### **I3 CHECK CIRCUIT 15S-HB2 (GN/BU)**

- Key in OFF position.
- Disconnect: CJB C270d.
- Key in START position.
- With the CJB C270a still disconnected and the engine running, measure the voltage between the heated rear window relay C2021 pin 87, CJB side and ground.





GN1439-A

**Fig. 43: Measuring Voltage Between Heated Rear Window Relay C2021 Pin 87, CJB Side And Ground**

**Courtesy of FORD MOTOR CO.**

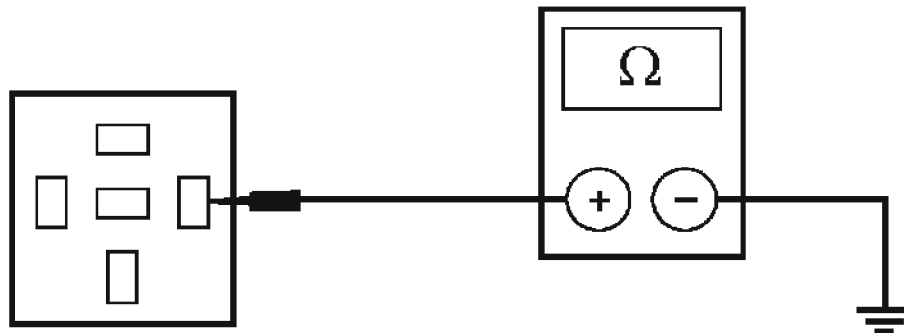
- **Is the voltage greater than 10 volts?**

**Yes :** INSTALL a new CJB. TEST the system for normal operation.

**No :** REPAIR the circuit. TEST the system for normal operation.

#### **I4 CHECK THE HEATED REAR WINDOW RELAY COIL GROUND CIRCUIT**

- Key in OFF position.
- Disconnect: Heater Control Module C2263.
- Key in START position.
- With the engine running, measure the resistance between the heated rear window relay C2021 pin 85, CJB side and ground.



GN1433-A

**Fig. 44: Measuring Resistance Between Relay Connector And Ground**  
 Courtesy of FORD MOTOR CO.

- Is the resistance greater than 10,000 ohms?

Yes : Go to I5.

No : Go to I6.

## **I5 CHECK THE HEATER CONTROL MODULE OPERATION**

- Disconnect all heater control module connectors.
- Check for:
  - Corrosion
  - Pushed-out pins
- Connect all heater control module connectors and make sure they seat correctly.
- Operate the system and verify the concern is still present.
- Is the concern still present?

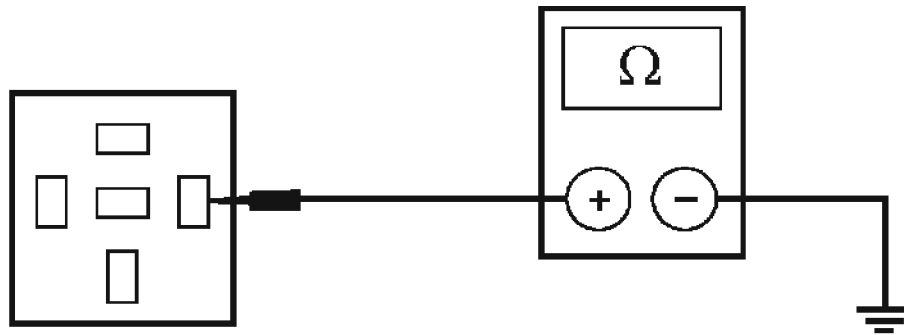
Yes : INSTALL a new heater control module. Refer to **CONTROL COMPONENTS** . TEST the system for normal operation.

No : The system is working correctly at this time. The concern may have been caused by a loose or corroded connector. CLEAR the DTCs. REPEAT the self-test.

## **I6 CHECK THE GENERIC ELECTRONIC MODULE (GEM) INTEGRITY**

- Key in OFF position.
- Disconnect: GEM C201e.
- Measure the resistance between the heated rear window relay C2021 pin 85, CJB

side and ground.



**GN1433-A**

**Fig. 45: Measuring Resistance Between Relay Connector And Ground**  
**Courtesy of FORD MOTOR CO.**

- **Is the resistance greater than 10,000 ohms?**

**Yes :** Go to I7.

**No :** REPAIR the circuit. CLEAR the DTCs. REPEAT the self-test.

#### **I7 CHECK FOR CORRECT GEM OPERATION**

- Disconnect all GEM connectors.
- Check for:
  - Corrosion
  - Pushed-out pins
- Connect all GEM connectors and make sure they seat correctly.
- Operate the system and verify the concern is still present.
- **Is the concern still present?**

**Yes :** INSTALL a new GEM. Refer to **MULTIFUNCTION ELECTRONIC MODULES** . TEST the system for normal operation.

**No :** The system is operating correctly at this time. The concern may have caused by a loose or corroded connector. CLEAR the DTCs. REPEAT the self-test.

## 2005 Ford Focus ZX5 S

### 2005 ACCESSORIES & BODY, CAB Glass, Frames And Mechanisms - Focus

#### Grid Wire Test

- Using a bright lamp inside the vehicle, inspect the grid wire from the outside. A broken grid wire will appear as a brown spot.
- Run the engine at idle. Set the rear window defrost switch to ON. The indicator light should come on.
- Working inside the vehicle with a voltmeter contact the broad red-brown stripes of the back glass window positive lead to battery side and negative lead to ground side. The meter should read 10-13 volts. A lower voltage reading indicates a loose ground connection.
- Contact a good ground point with the negative lead of the meter. The voltage reading should not change.
- With the negative lead of the meter grounded, touch each grid line of the rear window defrost glass at its midpoint with the positive lead. A reading of approximately 6 volts indicates that the line is good. A reading of 0 volts indicates that the line is broken between the midpoint and the B+ side of the grid line. A reading of 12 volts indicates that the circuit is broken between the midpoint of the grid line and ground.

## GENERAL PROCEDURES

### WINDOW GRID WIRE REPAIR

#### Material

#### MATERIAL SPECIFICATION CHART

Item	Specification
Ultra-Clear Spray Glass Cleaner ZC-23	ESR-M14P5-A
Lacquer Touch-up Paint (match color to exterior grid wire) PM-19500-XXXXXX or PMP-19500-XXXXXX	ESR-M2P100-C
Rear Window Defroster Repair PM-11 (US); CPM-11 (Canada)	WSB-M4J58-B
Polypropylene Film Fine Line Tape (commercially available)	-

**NOTE:** If the first layer of the heated rear window grid (brown) is damaged or missing, it is necessary to apply touch up paint on the glass prior to applying the silver rear window defroster repair.

**NOTE:** The grid line material is not embedded into the glass but is baked to the glass surface and consequently can be scraped off. Inoperative lines may appear to the eye to be undamaged due to residue remaining on the glass and will require diagnosis with a

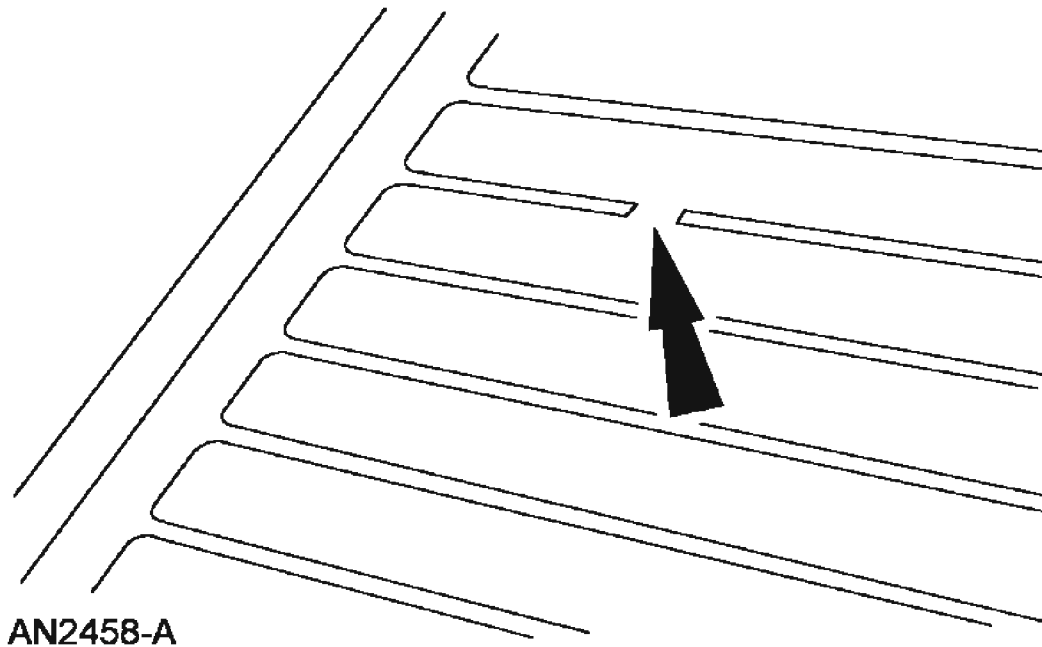
**voltmeter or 12v test lamp. For additional information, refer to DIAGNOSIS AND TESTING.**

- NOTE:** An undamaged grid line will have small ridges that project above the surface of the glass and can easily be felt when running a fingernail across them. Grid lines that have been "razor bladed" will feel smooth when a fingernail is dragged across the affected area. There may be some residue left on the glass that appears to be grid material but a check with a voltmeter or 12v test lamp will confirm an open circuit.
- NOTE:** If the brown color under the grid line is damaged or missing (this is very rare), it will be necessary to apply acrylic lacquer touch up paint for color match. This paint must meet specification ESR-M2P100-C and should be applied to the glass prior to applying the rear window defroster repair compound.
- NOTE:** The interior side of the grid lines are not painted, but due to the silver tarnishing will tend to change the grid to a gold or brown color. The repair area will be bright silver and will also tarnish over time to match the rest of the grid.

1. Bring the vehicle up to room temperature of at least 16°C (61°F) or above.

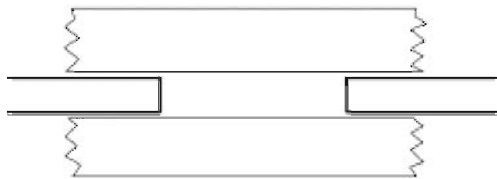
**NOTE:** Do not use scrapers, sharp instruments, or abrasive window cleaners on the interior surface of the rear window glass as this may cause damage to the grid lines.

2. Clean the entire grid line repair area with window cleaner and 0000 steel wool to remove all dirt, wax, grease, oil or other foreign matter.
3. Mark the location of the grid break on the exterior of the rear window glass.



**Fig. 46: Locating Grid Break On Rear Window Glass**  
Courtesy of FORD MOTOR CO.

4. Using a polypropylene film fine line tape, mask the area directly above and below the grid break extending the tape 26 mm (1.02 in) beyond the concern area in both directions. The break area should be at the center of the mask.



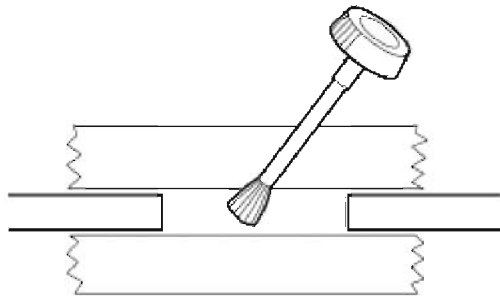
**Fig. 47: Masking Grid Break Area**  
Courtesy of FORD MOTOR CO.

- NOTE:** If the brown layer is not broken or missing, apply only the silver grid repair compound to the break.
- NOTE:** If both the brown and silver layers of the grid are broken or missing, apply a coating of the acrylic touch up paint across

the break in the grid line first. Do not overlap the silver grid line with the paint. Several applications may be necessary to achieve a color match.

**NOTE:** Extend the silver repair coating at least 6.35 mm (0.25 inch) on both sides of the break area.

**NOTE:** Allow at least 5 minutes of drying time between applications for the touch up paint or the silver repair coating. Applying fewer coats or not allowing adequate drying time between coats will produce repaired resistance that is greater than OEM resistance, resulting in poor defrost performance and excessive localized heating.



A0047582

**Fig. 48: Applying Repair Coating To Grid Break Area**  
Courtesy of FORD MOTOR CO.

5. Apply the repair coating to the grid break area in several smooth, continuous strokes.  
Apply a minimum of 6 applications of the grid repair compound.
6. After 5 minutes, or after the repair area has dried completely, remove the mask.

**CAUTION:** Be careful not to damage the grid line with the razor blade. If this occurs, additional repair may be necessary.

7. Remove any excess repair compound above or below the grid line with a razor blade.

**NOTE:** The repair coating air-dries in approximately 1 minute and can be energized after 5 minutes.

**NOTE:** Optimum adhesion occurs after approximately 24 hours.

8. Test the system for normal operation.

## LEAD TERMINAL REPAIR

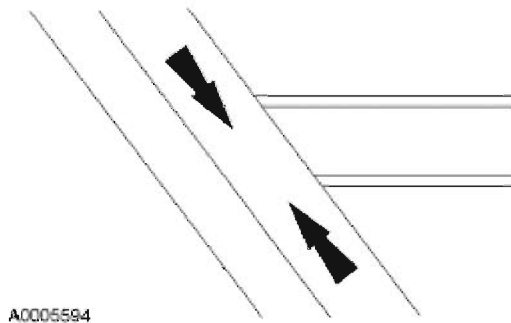
### Material

### MATERIAL SPECIFICATION CHART

Item	Specification
Terminal Kit - Back Glass 4F1Z-14421-AA	-
Ultra Clear Spray Glass Cleaner ZC-23	ESR-M14P5-A

**NOTE:** The rear window glass must be at least 16°C (60°F) (room temperature) at the time of the repair.

**NOTE:** The new terminal will cover the original terminal location, but it must be placed so that the terminal conductive areas will be placed on a good conductive base.



A0005594

**Fig. 49: Identifying Bus Bar Area To Be Repaired With Steel Wool**  
Courtesy of FORD MOTOR CO.

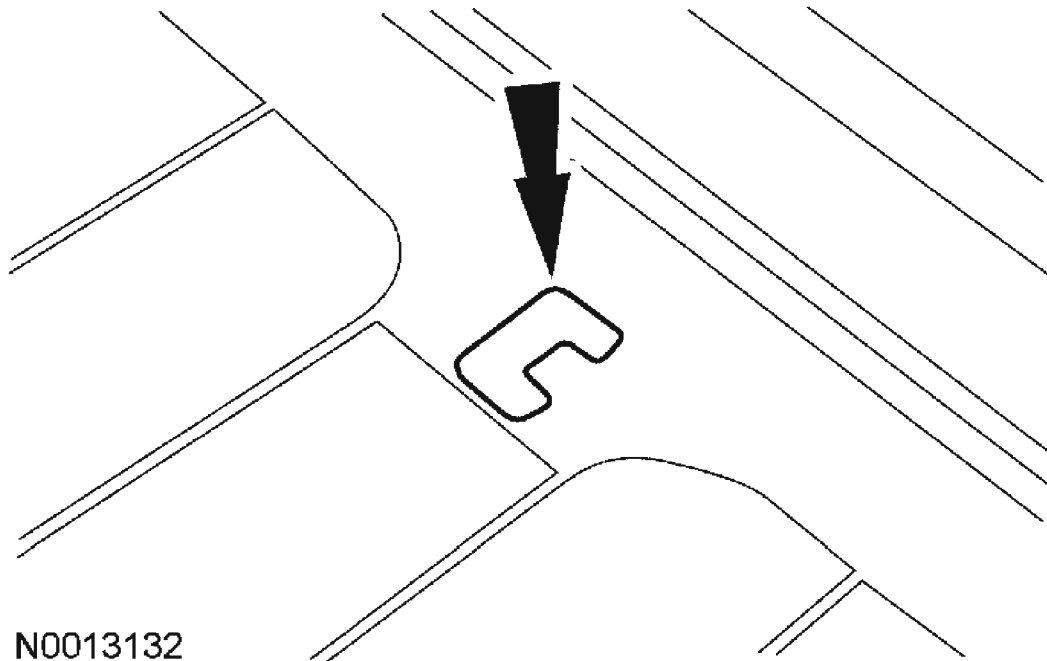
1. Clean the bus bar in the area to be repaired with steel wool (3/0 to 4/0 grade) and then with window cleaner to remove all dirt, wax, grease, oil or other foreign matter.

**CAUTION:** Do not use any type of flame torch or flame heated soldering gun for this procedure. Testing indicated inadequate heat generation at the tip and the exhaust heat can cause damage to plastic trim parts in the area. Use only an electric soldering gun with 100 watts or more of power. Before using the soldering gun, be sure to melt a small amount of rosin core solder to the tip. The solder will assist in achieving better heat transfer from the soldering gun tip to the new terminal.



**NOTE:** The new terminal has pre-applied solder, flux and temperature-sensitive paint. The paint provides a visual indication when the terminal has reached the correct temperature to melt solder on the terminal. When the correct temperature is achieved the temperature paint will liquefy and change color.

**NOTE:** Depending on the original terminal location, and whether the terminal is covered by pillar trim, will determine where to locate the new terminal. Some grid line buss-bars may only allow the placement of the terminal above or below the original tab location due to space limitations. For most vehicle applications the replacement tab location will cover the original tab location but still allow the replacement tab to attach to the buss-bar on good conductive material.



**Fig. 50: Placing Replacement Terminal Type B Over Original Tab Location**  
Courtesy of FORD MOTOR CO.

2. Place the replacement terminal type B over the original tab location, making sure the conductive areas of the terminal will be on a good conductive area. Do not place the terminal tab foot on the original location which does not have conductive material.
3. Hold the terminal in place with an item such as a regular lead pencil at a 90 degree

angle from the terminal. The terminal can be held in place with tape. (Holding at other than a 90 degree angle may allow the terminal to slip when the solder liquefies.)

4. Place the soldering gun tip on the top of the terminal but not on the painted areas of the tab. Energize the soldering gun and watch for the painted area of the terminal to liquefy and change color. The paint should liquefy in approximately 25-45 seconds after heating. As soon as the paint color completely changes on either side of the terminal, de-energize the soldering gun and continue to hold the terminal in place with the soldering gun and pencil for an additional 30 seconds.
5. Remove the soldering gun and pencil from the terminal. The terminal should be allowed to cool for another 2 minutes before the wiring lead is attached to the terminal.
6. Attach the electrical lead connection to this terminal, turn on the heated rear window, and verify the operation.

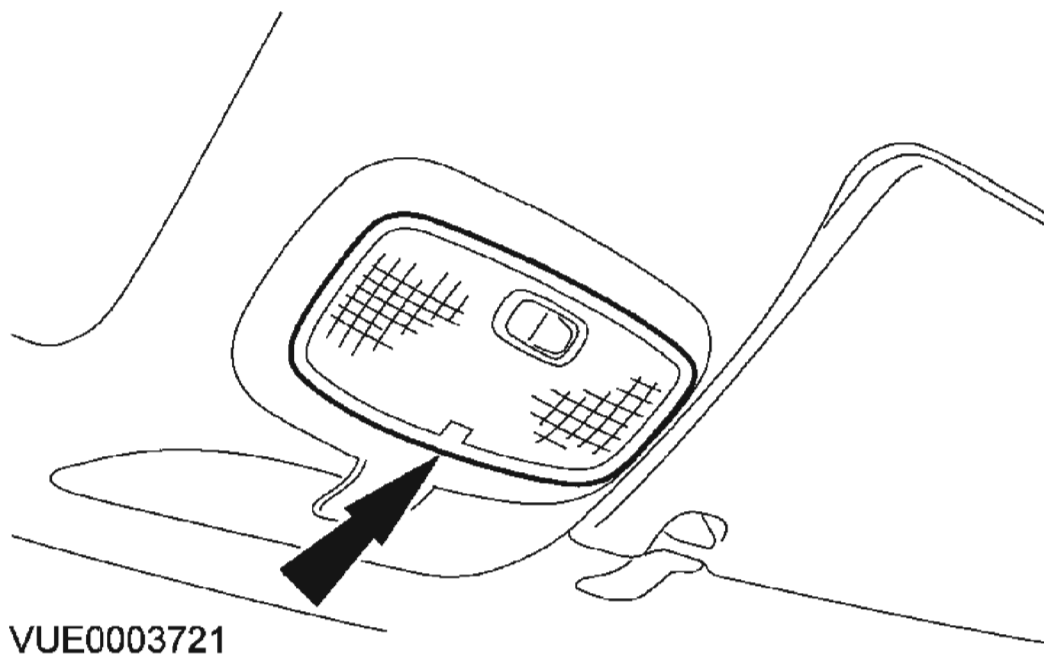
## **WINDSHIELD RESEAL**

### **Material**

#### **MATERIAL SPECIFICATION CHART**

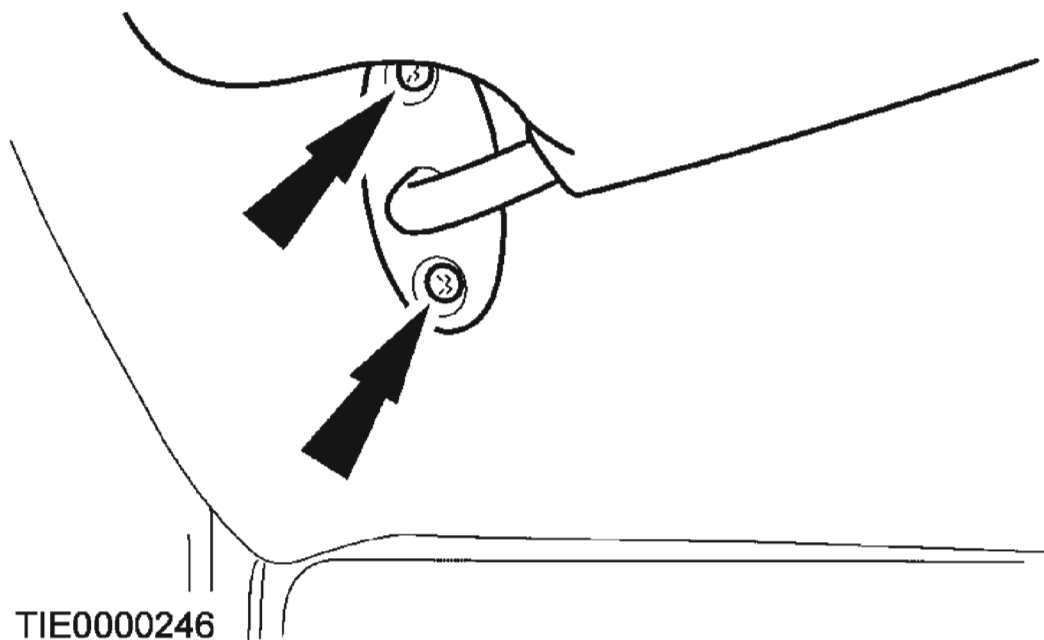
<b>Item</b>	<b>Specification</b>
Urethane Adhesive Betaseal® Express	-
Urethane One Step Glass Primer Betaprime® 5500/5500A/5500SA	-

1. Remove the cowl panel grille. For additional information, refer to **FRONT END BODY PANELS** .
2. Remove the LH and RH A-pillar trim panels. For additional information, refer to **INTERIOR TRIM AND ORNAMENTATION** .
3. If equipped, remove the overhead console. For additional information, refer to **INSTRUMENT PANEL AND CONSOLE** .
4. If equipped, remove the interior lamp.
  - Disconnect the electrical connectors.



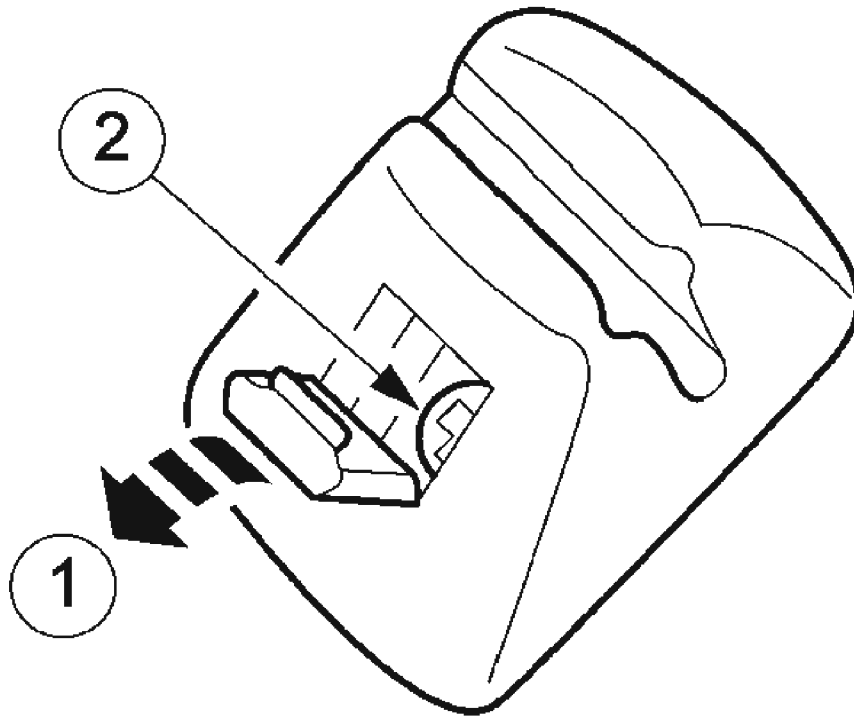
**Fig. 51: Identifying Interior Lamp**  
**Courtesy of FORD MOTOR CO.**

5. Remove the screws and the LH and RH sun visors.



**Fig. 52: Removing Screws Of LH And RH Sun Visors**  
Courtesy of FORD MOTOR CO.

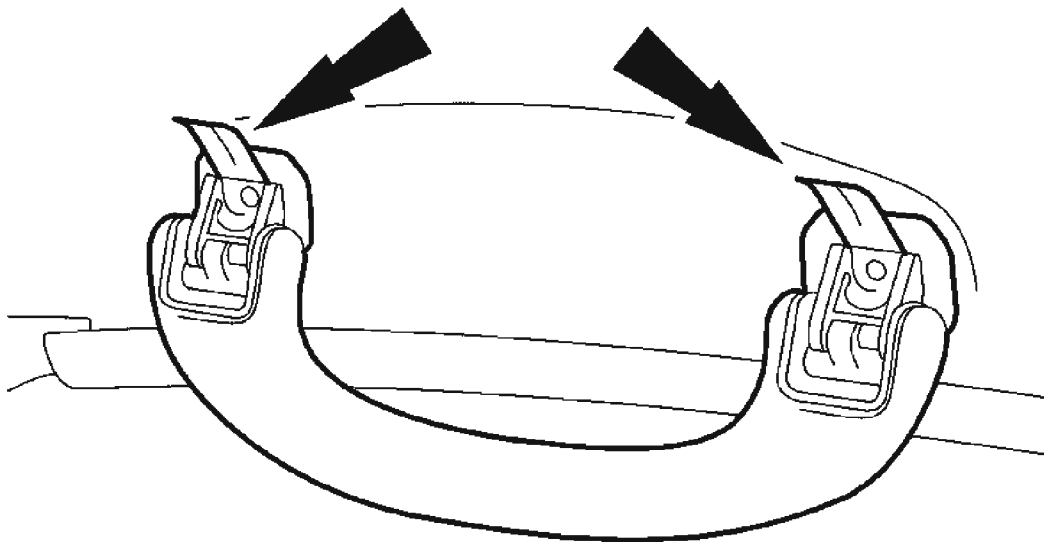
6. Remove the LH and RH sun visor retaining clips.
  1. Open the covers.
  2. Remove the screws.



TIE0000247

**Fig. 53: Removing LH And RH Sun Visor Retaining Clips**  
Courtesy of FORD MOTOR CO.

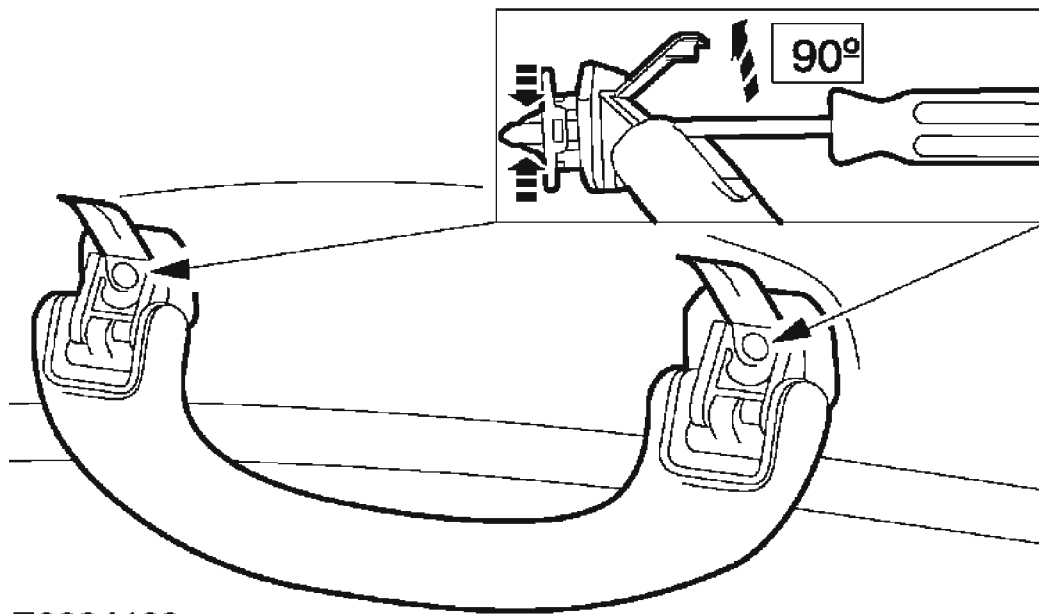
7. Open the LH and RH assist handle covers.



VUE0024468

**Fig. 54: Opening LH And RH Assist Handle Covers**  
Courtesy of FORD MOTOR CO.

8. Remove the LH and RH assist handles.
  - Rotate the retaining clips 90 degrees.

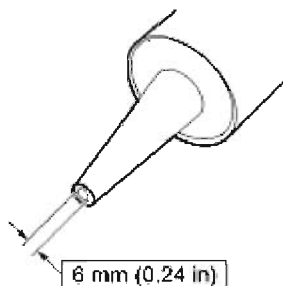


E0024469

**Fig. 55: Removing LH And RH Assist Handles By Rotating Retaining Clips 90 Degrees**

Courtesy of FORD MOTOR CO.

9. Partially lower the front portion of the headliner and block with a suitable material.
10. Clean the interior and exterior of the windshield glass surface with a non-alcohol based glass cleaner.
11. Cut the urethane adhesive applicator tip to specification.



A0091931

**Fig. 56: Identifying Urethane Applicator Tip Specification**

Courtesy of FORD MOTOR CO.

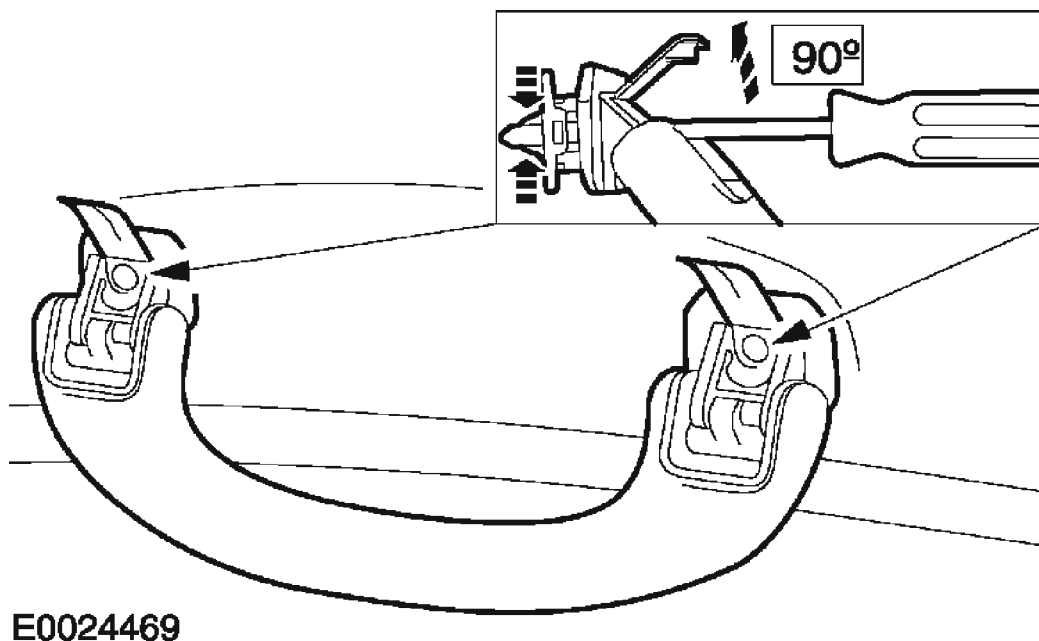
**NOTE:** Use either a high-ratio, electric or battery-operated caulk gun that will apply the urethane with less effort and continuous bead.

**NOTE:** Make sure that all gaps in the urethane adhesive are smoothed into one continuous bead.

12. Apply urethane adhesive over top of the existing urethane adhesive.
  - Apply the urethane to the top and sides of the windshield from the interior of the vehicle.
  - Apply the urethane to the bottom of the windshield from the exterior of the vehicle.

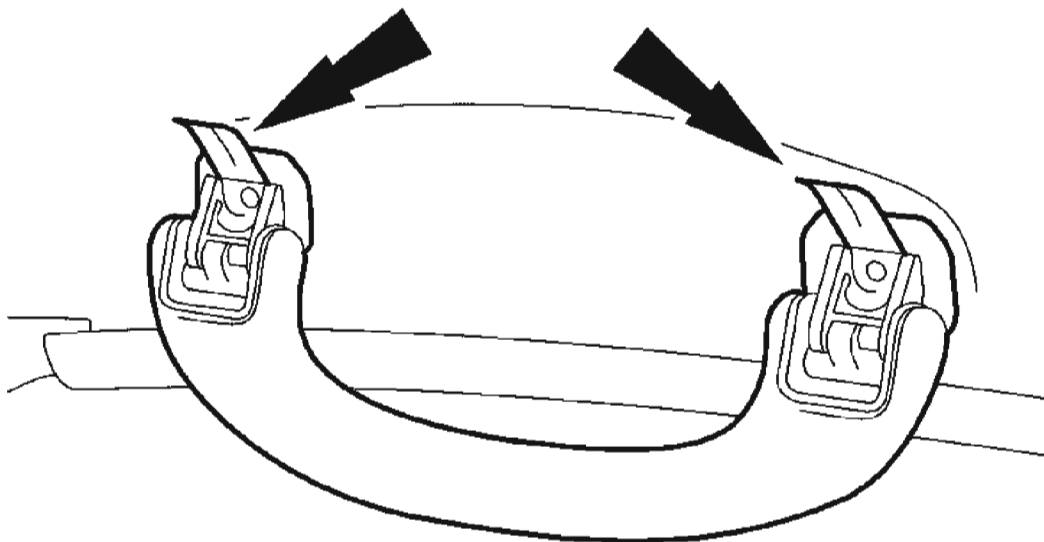
**NOTE:** The urethane adhesive must cure for a minimum of 1 hour before testing for air or water leaks.

13. After the urethane has cured, check the windshield seal for air or water leaks through the urethane adhesive bead and add urethane adhesive as necessary.
14. Position the front portion of the headliner.
15. Install the LH and RH assist handles.
  - Rotate the retaining clip 90 degrees.



**Fig. 57: Installing LH And RH Assist Handles By Rotating Retaining Clip 90 Degrees**  
Courtesy of FORD MOTOR CO.

16. Close the LH and RH assist handle covers.

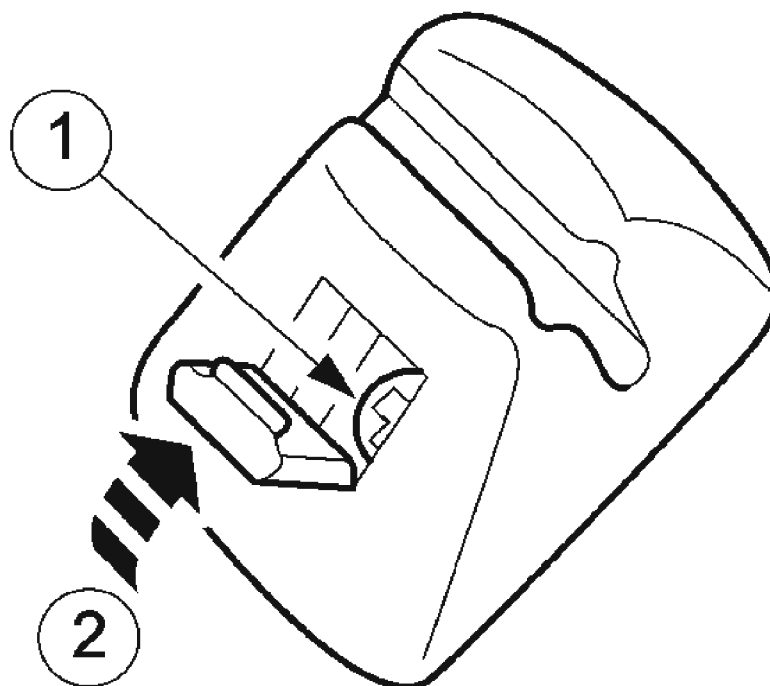


VUE0024468

**Fig. 58: Closing LH And RH Assist Handle Covers**  
**Courtesy of FORD MOTOR CO.**

17. Install the LH and RH sun visor retaining clips.
  1. Install the screws.
  2. Close the covers.

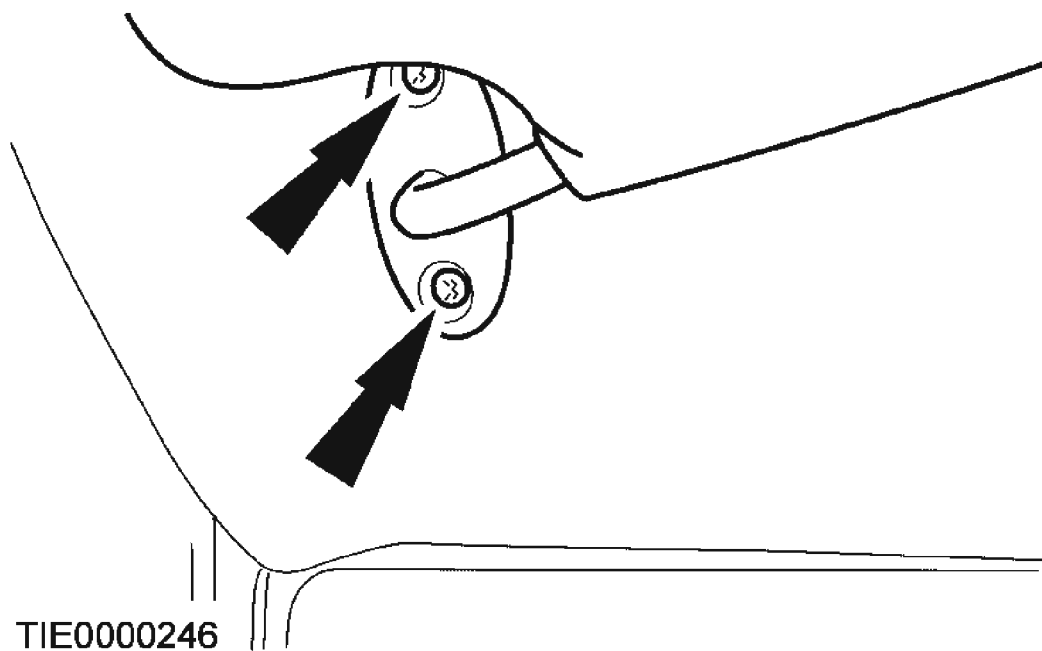




TIE0000248

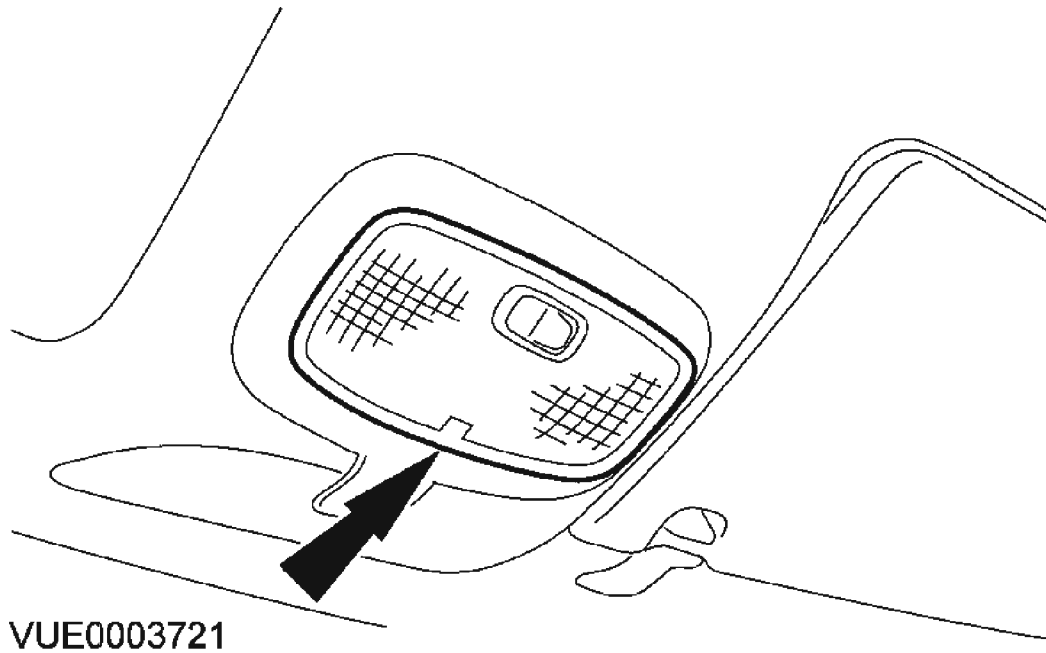
**Fig. 59: Installing LH And RH Sun Visor Retaining Clips**  
**Courtesy of FORD MOTOR CO.**

18. Position the LH and RH sun visors and install the screws.



**Fig. 60: Installing Sun Visors Screws**  
**Courtesy of FORD MOTOR CO.**

19. If equipped, install the interior lamp.
  - Connect the electrical connectors.



**Fig. 61: Installing Interior Lamp**  
Courtesy of FORD MOTOR CO.

20. If equipped, install the overhead console. For additional information, refer to **INSTRUMENT PANEL AND CONSOLE** .
21. Install the LH and RH A-pillar trim panels. For additional information refer to **INTERIOR TRIM AND ORNAMENTATION** .
22. Install the cowl panel grille. For additional information, refer to **FRONT END BODY PANELS** .

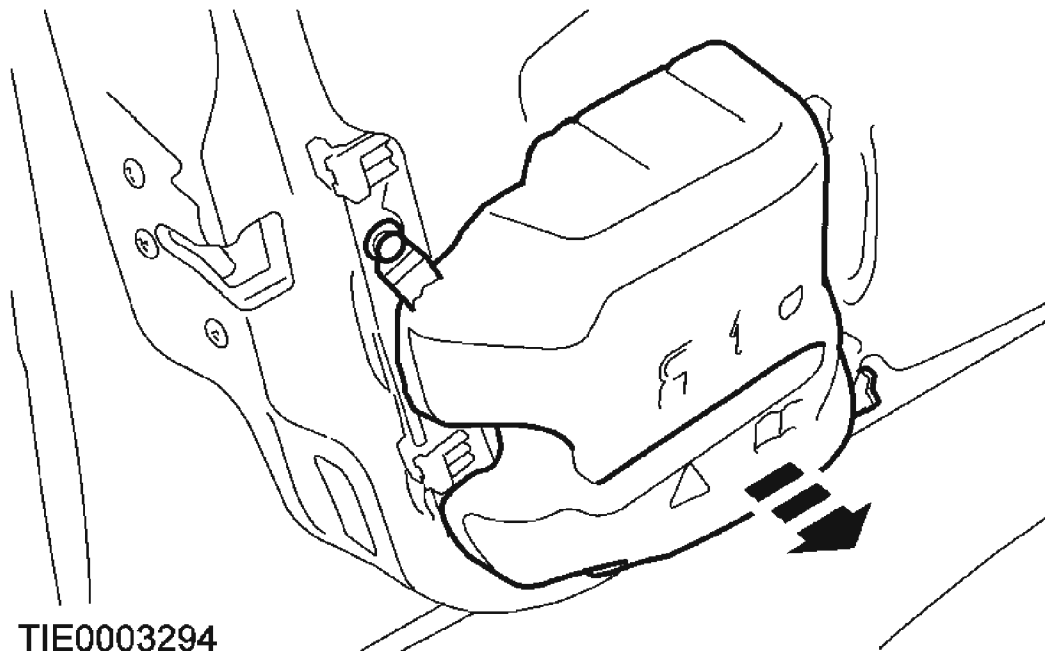
## REMOVAL AND INSTALLATION

### FRONT DOOR WINDOW GLASS

#### Removal and Installation

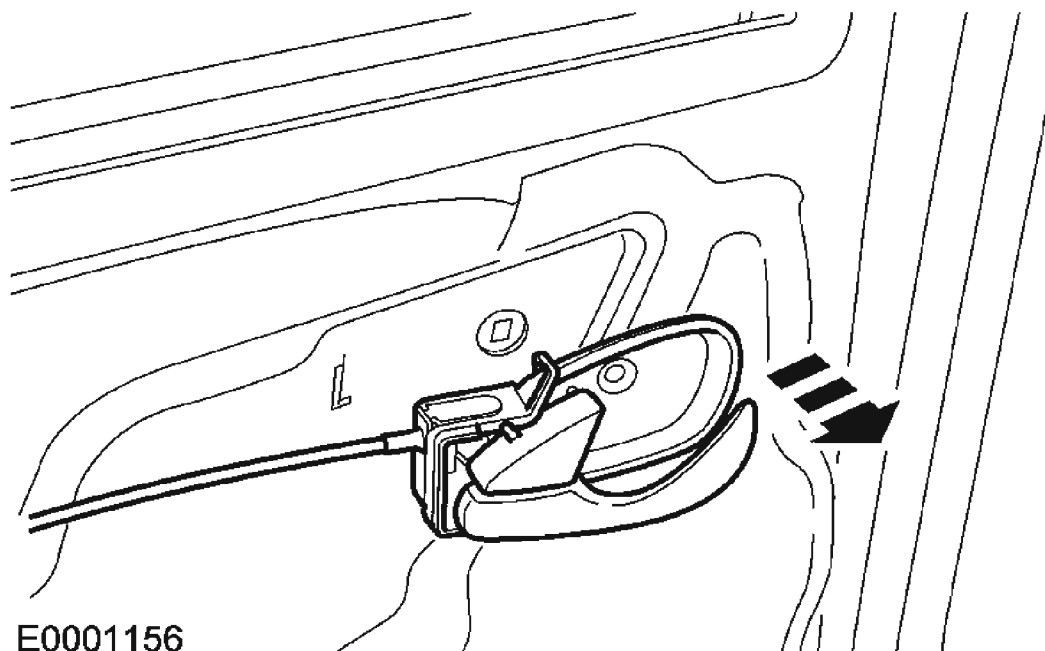
##### All vehicles

1. Remove the front door speaker. For additional information, refer to **SPEAKERS** .
2. Remove the side impact bolster.



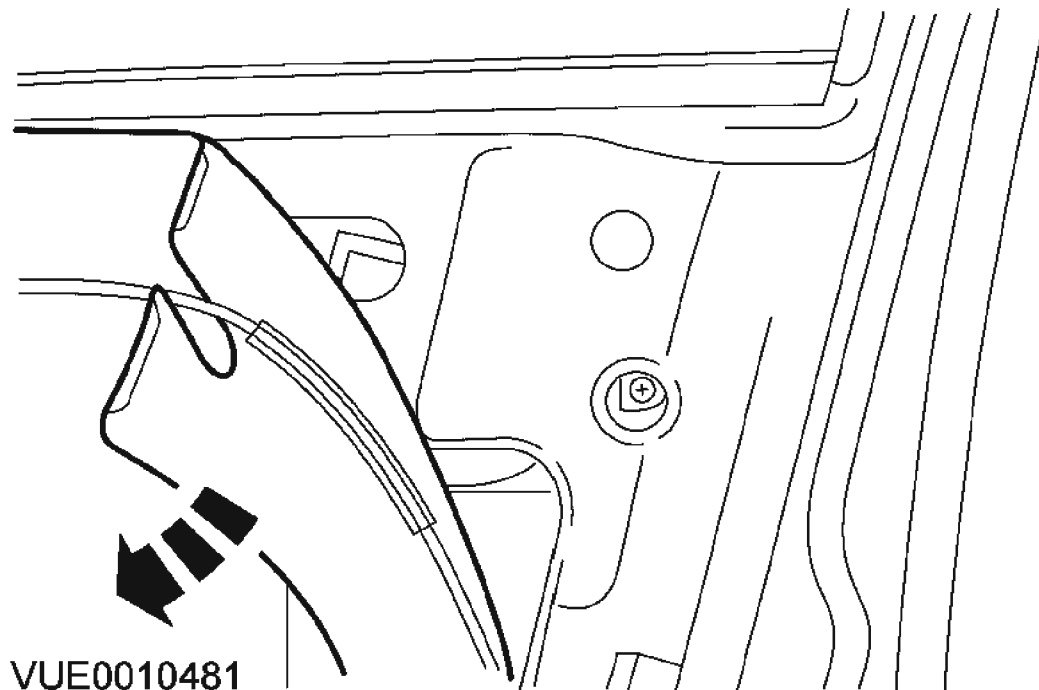
**Fig. 62: Removing Side Impact Bolster**  
Courtesy of FORD MOTOR CO.

3. Position the door latch release handle aside.



**Fig. 63: Positioning Door Latch Release Handle Aside**  
Courtesy of FORD MOTOR CO.

**CAUTION:** Do not touch the adhesive surface, as re-bonding will be impaired.

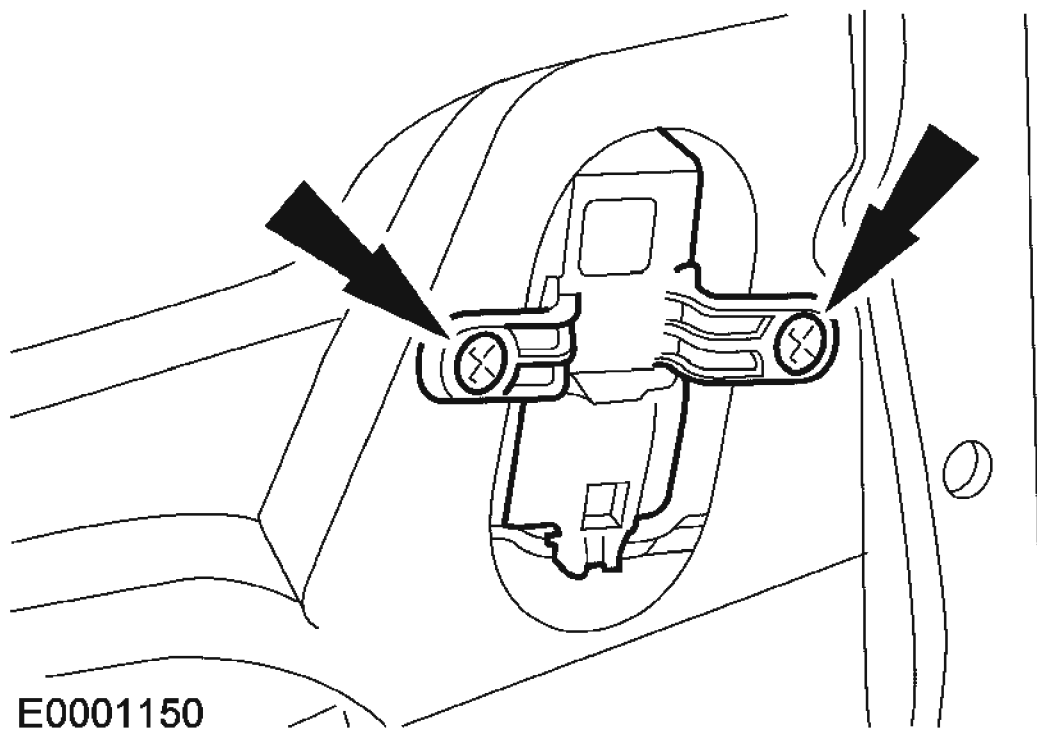


**Fig. 64: Removing watershield**  
Courtesy of FORD MOTOR CO.

4. Remove the watershield.

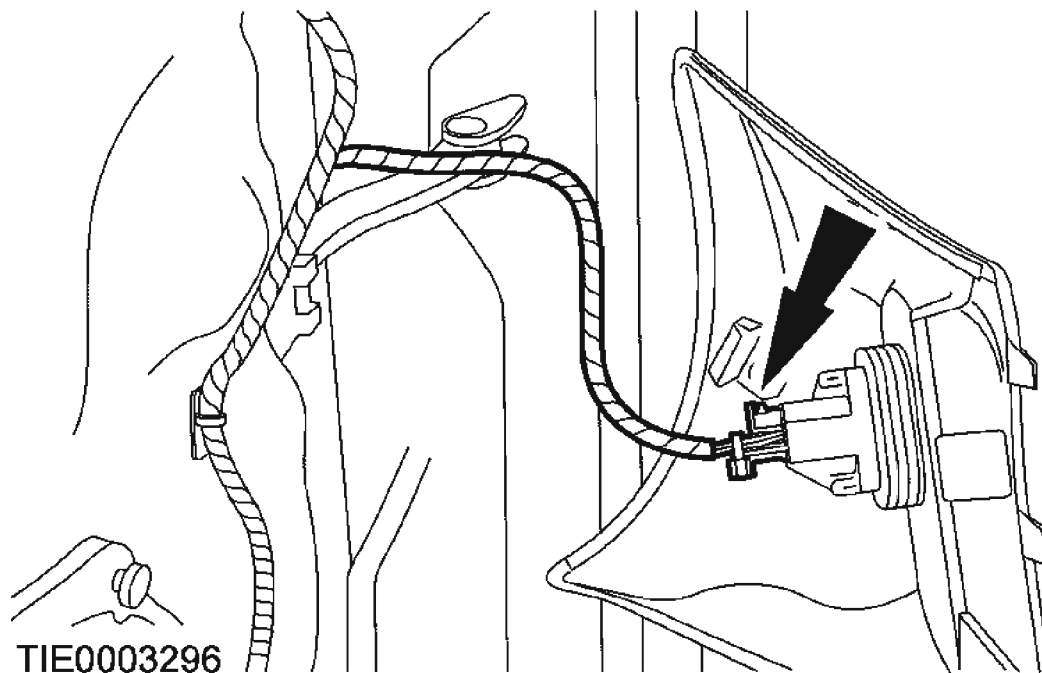
**Vehicles with power windows**

5. Position the one-touch down relay aside.



**Fig. 65: Identifying One-Touch Down Relay Screws**  
**Courtesy of FORD MOTOR CO.**

6. Connect the window control switch electrical connector.



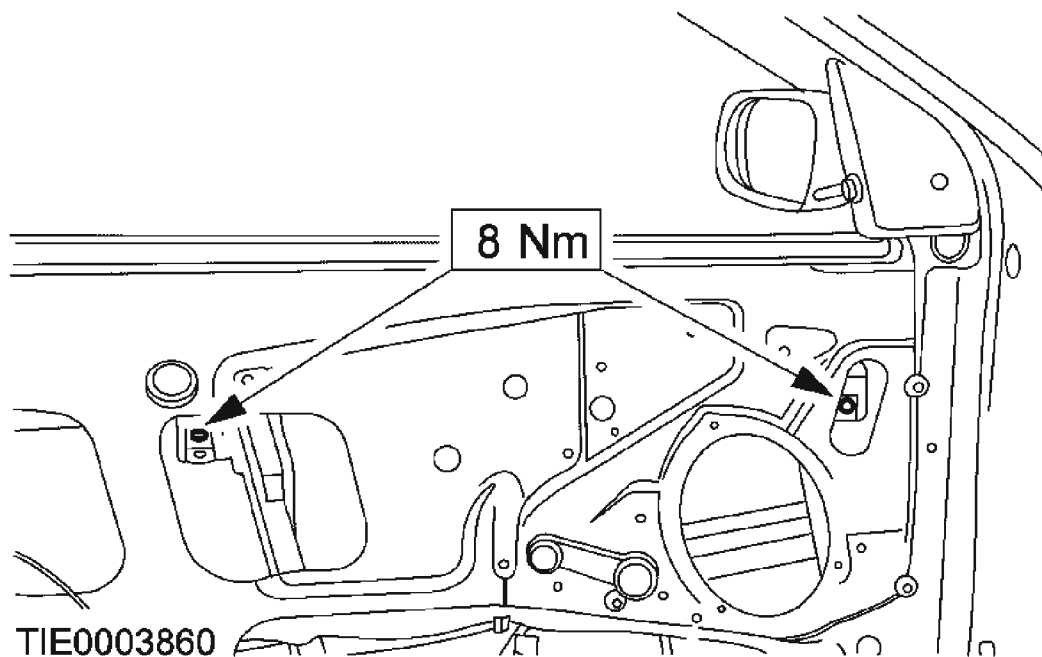
**Fig. 66: Connecting Window Control Switch Electrical Connector**  
Courtesy of FORD MOTOR CO.

**Vehicles with manual windows**

7. Install the window regulator handle.

**All vehicles**

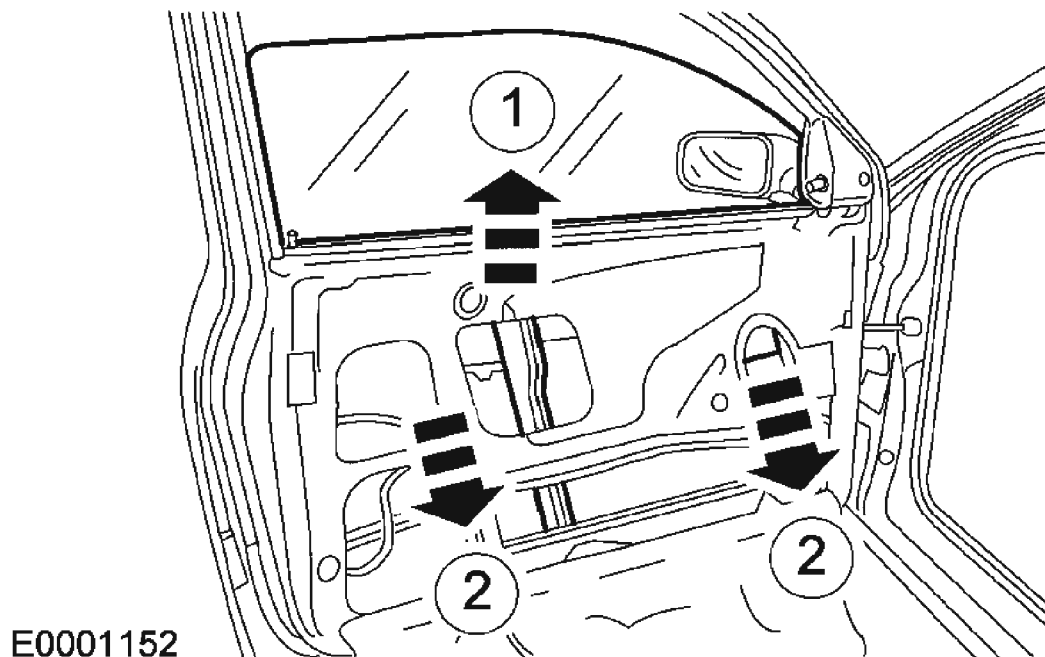
8. Remove the door window glass clamp bolts (manual window shown).
  - Align the bolts with the access holes.



**Fig. 67: Removing Door Window Glass Clamp Bolts**  
**Courtesy of FORD MOTOR CO.**

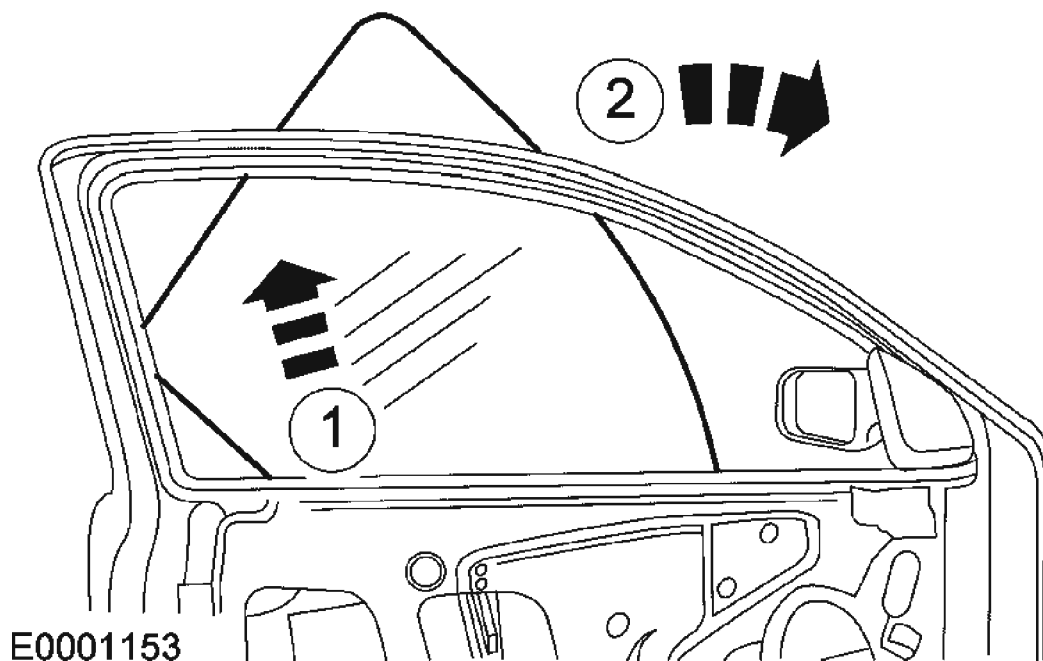
9. Remove the window glass from the regulator.
  1. Hold the window glass at the top of the opening.
  2. Lower the regulator.





**Fig. 68: Removing Window Glass From Regulator**  
Courtesy of FORD MOTOR CO.

10. Remove the window glass.
  1. Lift the glass.
  2. Tip the glass forward and remove the glass from the front of the door.



**Fig. 69: Removing Window Glass**  
Courtesy of FORD MOTOR CO.

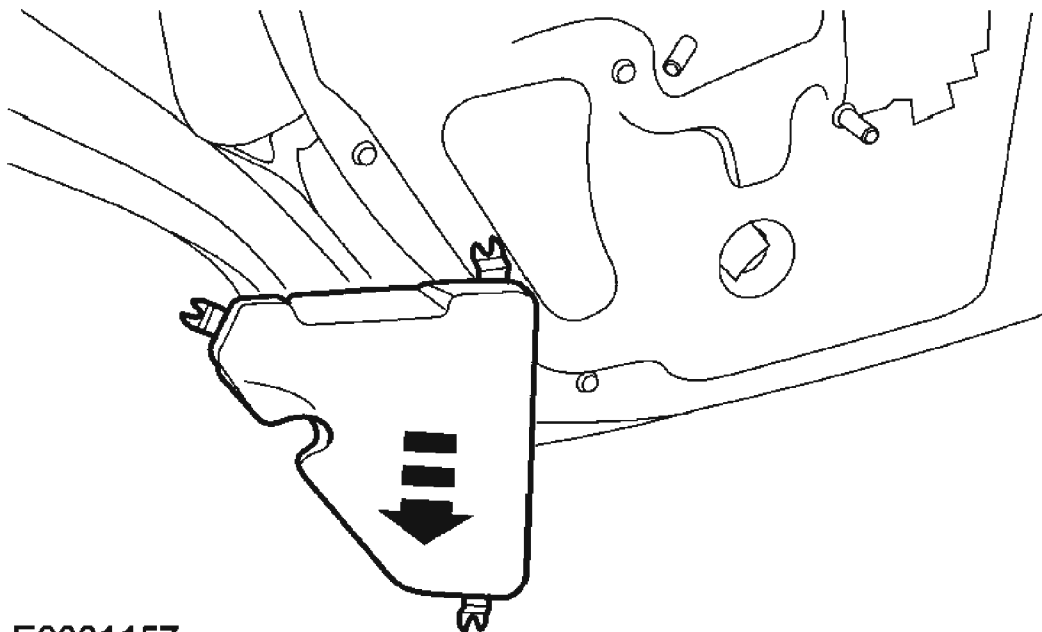
11. To install, reverse the removal procedure.

## REAR DOOR WINDOW GLASS

### Removal and Installation

#### All vehicles

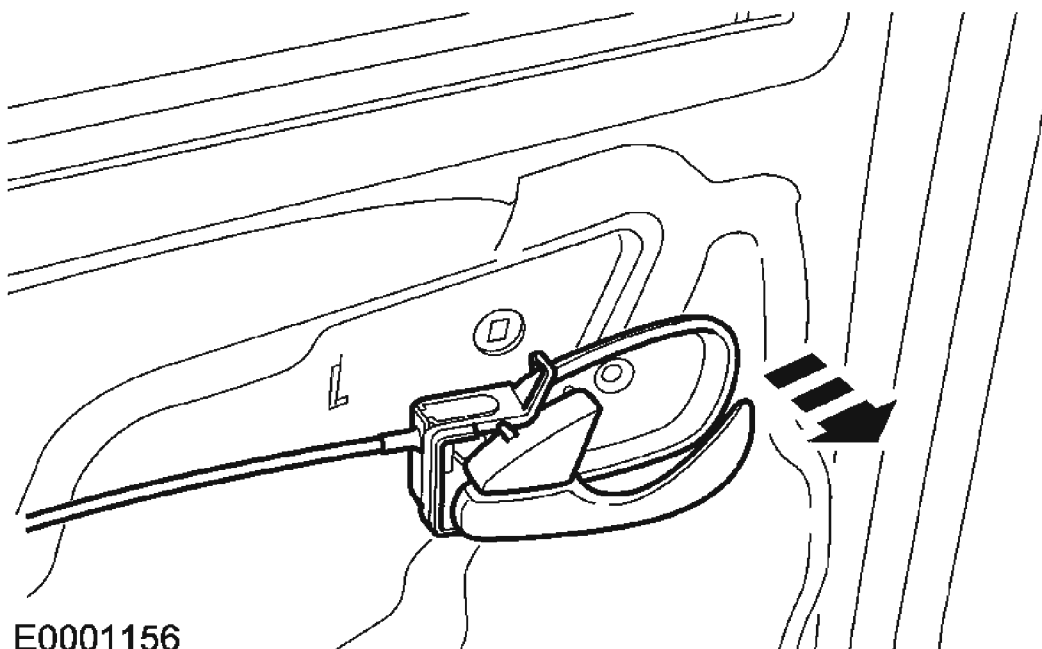
1. Remove the rear door speaker. For additional information, refer to **SPEAKERS**.
2. Remove the side impact bolster.



E0001157

**Fig. 70: Removing Side Impact Bolster**  
Courtesy of FORD MOTOR CO.

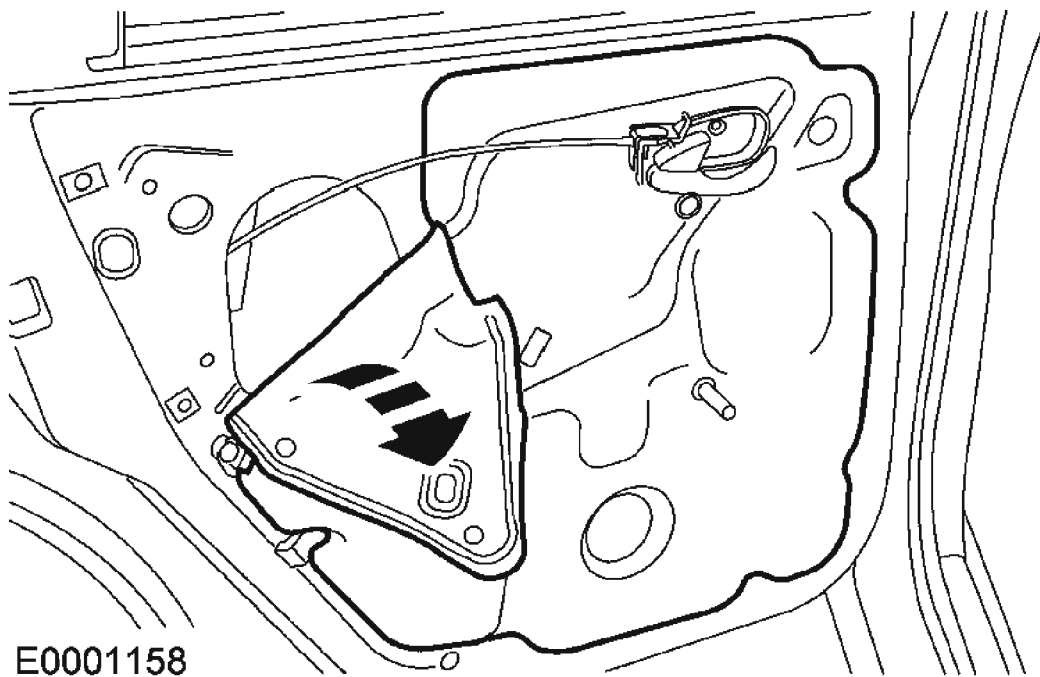
3. Position the door latch release handle aside.



E0001156

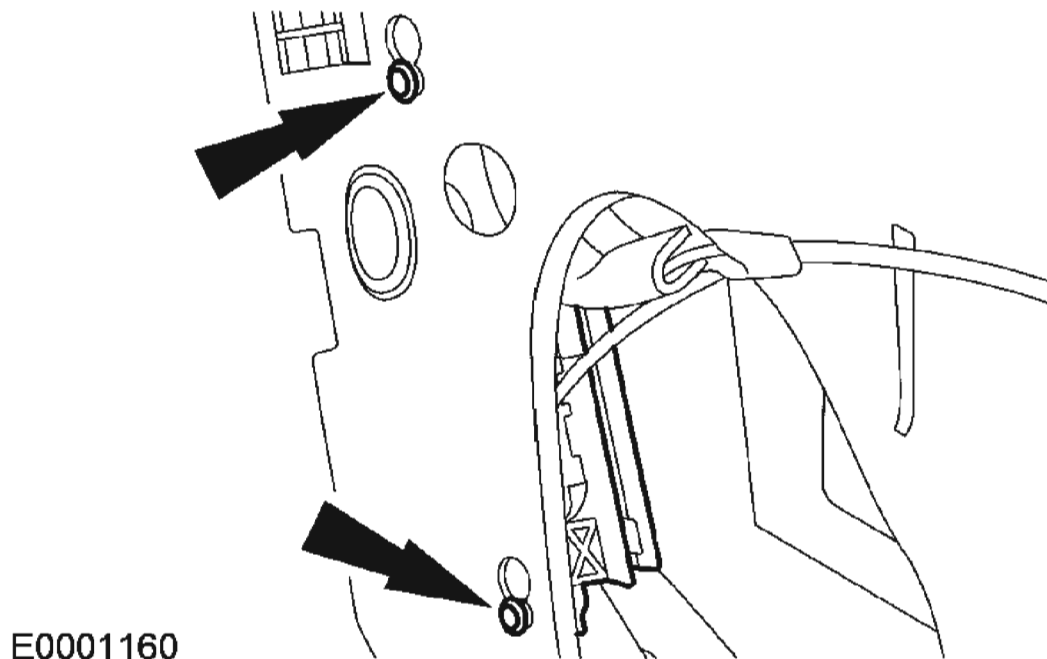
**Fig. 71: Positioning Door Latch Release Handle Aside**  
Courtesy of FORD MOTOR CO.

**CAUTION:** Do not touch the adhesive surface, as re-bonding will be impaired.



**Fig. 72: Removing Watershield**  
Courtesy of FORD MOTOR CO.

4. Remove the watershield.
5. Remove the door glass top run retainer.



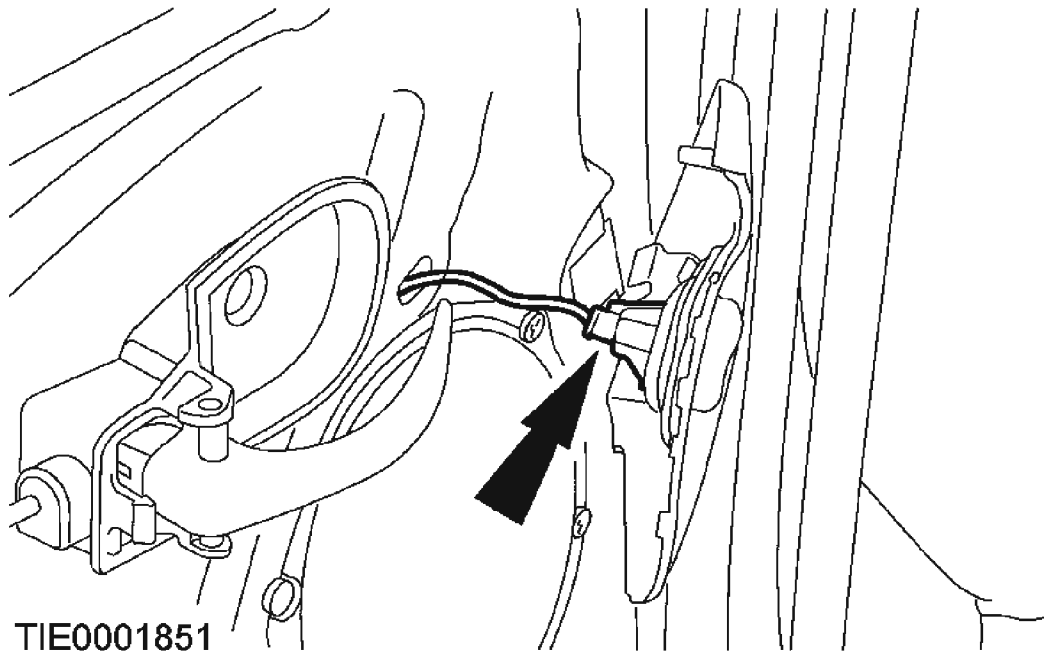
**Fig. 73: Removing Door Glass Top Run Retainer**  
Courtesy of FORD MOTOR CO.

**Vehicles with manual windows**

6. Install the window regulator handle.

**Vehicles with power windows**

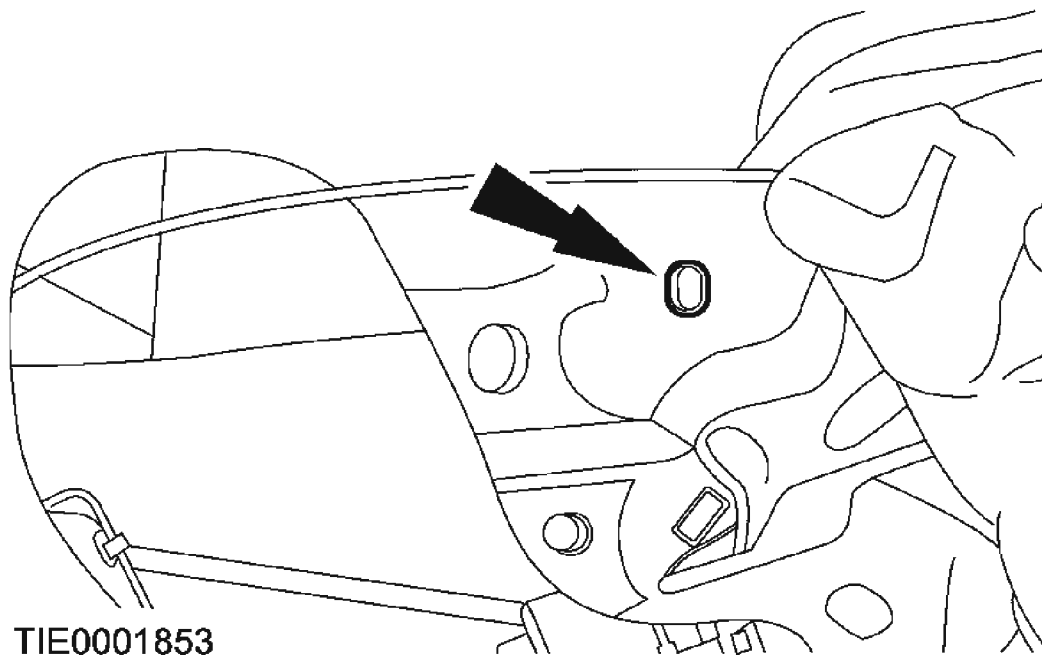
7. Connect the door glass operating switch electrical connector.



**Fig. 74: Connecting Door Glass Operating Switch Electrical Connector**  
Courtesy of FORD MOTOR CO.

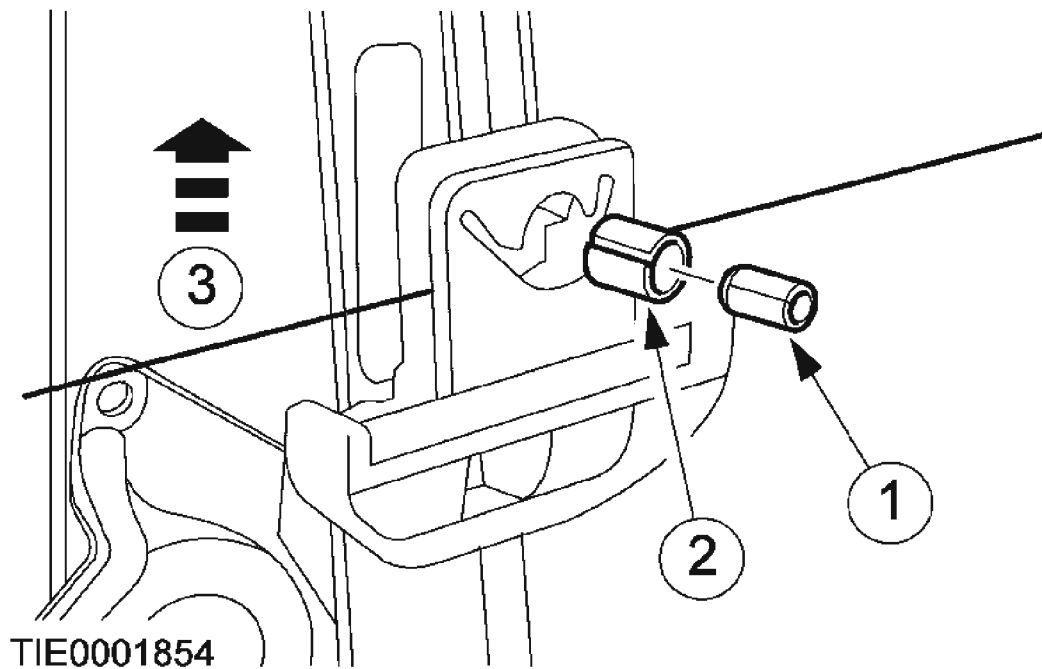
**All vehicles**

8. Align the regulator clamp with the access hole (power window shown).



**Fig. 75: Aligning Regulator Clamp With Access Hole**  
**Courtesy of FORD MOTOR CO.**

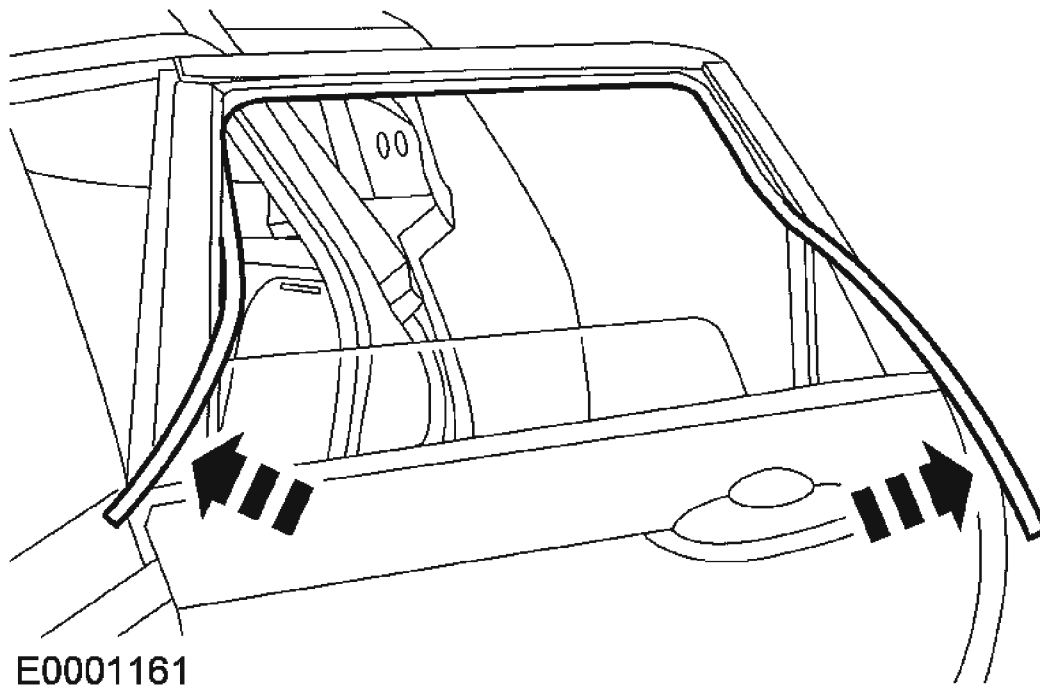
9. Remove the window glass from the regulator.
  1. Push out the pin.
  2. Push out the sleeve.
  3. Remove the glass from the regulator clamp.



**Fig. 76: Removing Window Glass From Regulator**  
Courtesy of FORD MOTOR CO.

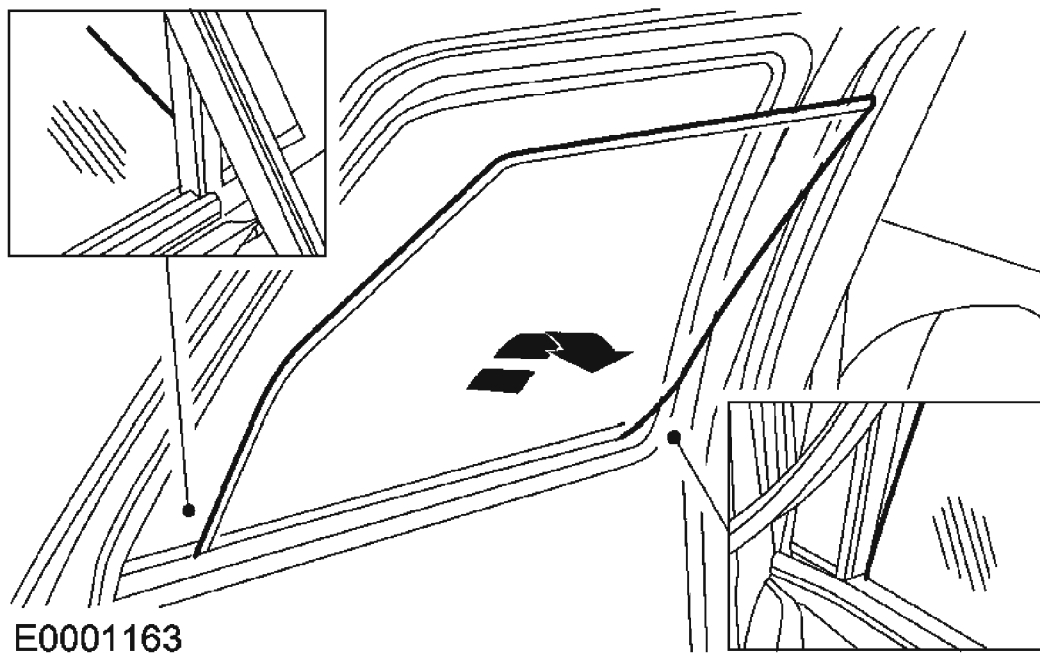
10. Support the glass, and lower the glass and regulator to the lowest position.
11. Position the lower part of the door glass top run outside the door.





**Fig. 77: Positioning Lower Part Of Door Glass Top Run Outside Door**  
Courtesy of FORD MOTOR CO.

**NOTE:** To aid removal of the door glass, stand on the inner side of the door. Make sure the glass is removed from the inside of the door.



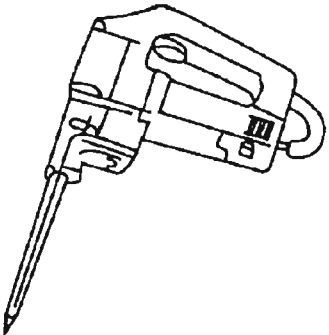
**Fig. 78: Removing Window Glass**  
Courtesy of FORD MOTOR CO.

12. Remove the window glass.
13. To install, reverse the removal procedure.

#### REAR QUARTER WINDOW GLASS

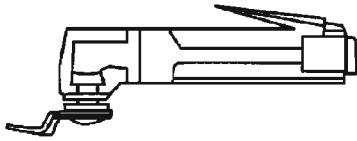
Special Tool(s)

#### SPECIAL TOOL CHART

 <p>ST1320-A</p>	Interior Auto Glass Cut-Out Knife Kit 164-R2459 or equivalent
	Pneumatic Knife with Offset Blade 107-

## 2005 Ford Focus ZX5 S

2005 ACCESSORIES & BODY, CAB Glass, Frames And Mechanisms - Focus



ST1109-A

R1511 or equivalent

### Material

### MATERIAL SPECIFICATION CHART

Item	Specification
Urethane Metal Primer Essex U-413	WSB-M2G234-C
Urethane Glass Prep Essex U-401	WSB-M5B280-C
Urethane Glass Primer Essex U-402	WSB-M2G314-B
Urethane Adhesive Essex 400-HV	WSB-M2G316

### Removal

**WARNING:** To prevent glass splinters from entering the eyes or cutting the hands, wear safety glasses and heavy gloves when cutting the glass from the vehicle.

### All vehicles

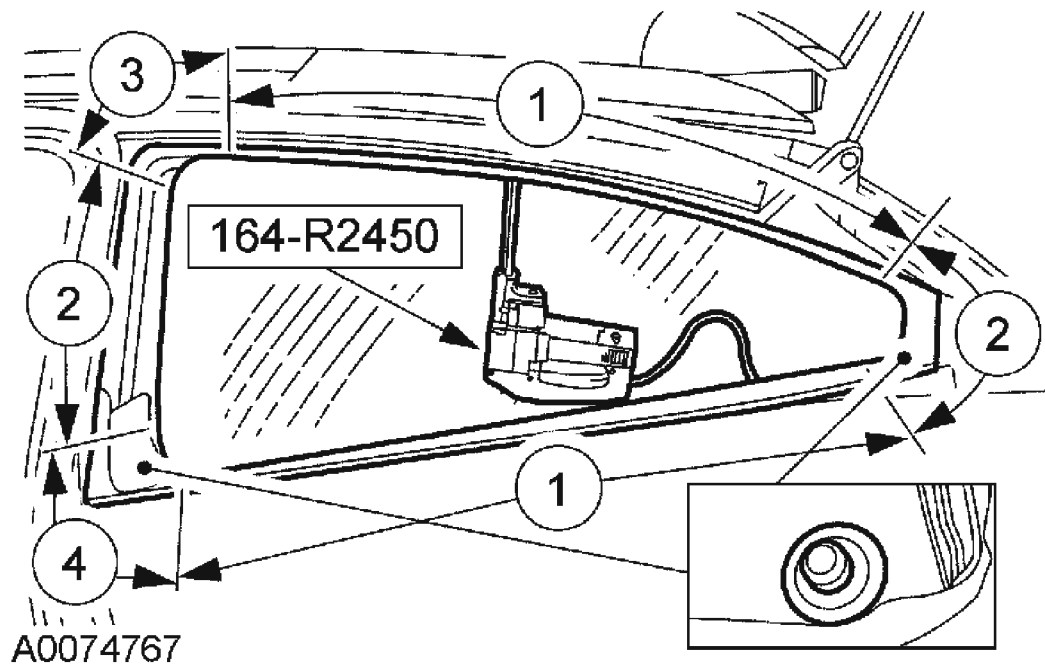
1. Remove the C-pillar trim panels. For additional information, refer to **INTERIOR TRIM AND ORNAMENTATION**.

### 3-Door, 5-Door

**CAUTION:** Make sure the cutting blades are changed where the cutting depth changes to avoid damage to the body and trim panels.

**NOTE:** Some resistance may be encountered when cutting through the glass locating pegs in the lower corners of the glass.

**NOTE:** Lubricate the existing urethane adhesive with water to aid the special tool while cutting.



**Fig. 79: Placing Flat Side Of Knife Against Quarter Glass Window (3-Door, 5-Door)**

Courtesy of FORD MOTOR CO.

2. Using the special tool, place the flat side of the knife against the quarter glass window. Start at the top and work towards the corners cutting to the given maximum depths:
  1. 20 mm
  2. 60 mm
  3. 75 mm
  4. 90 mm

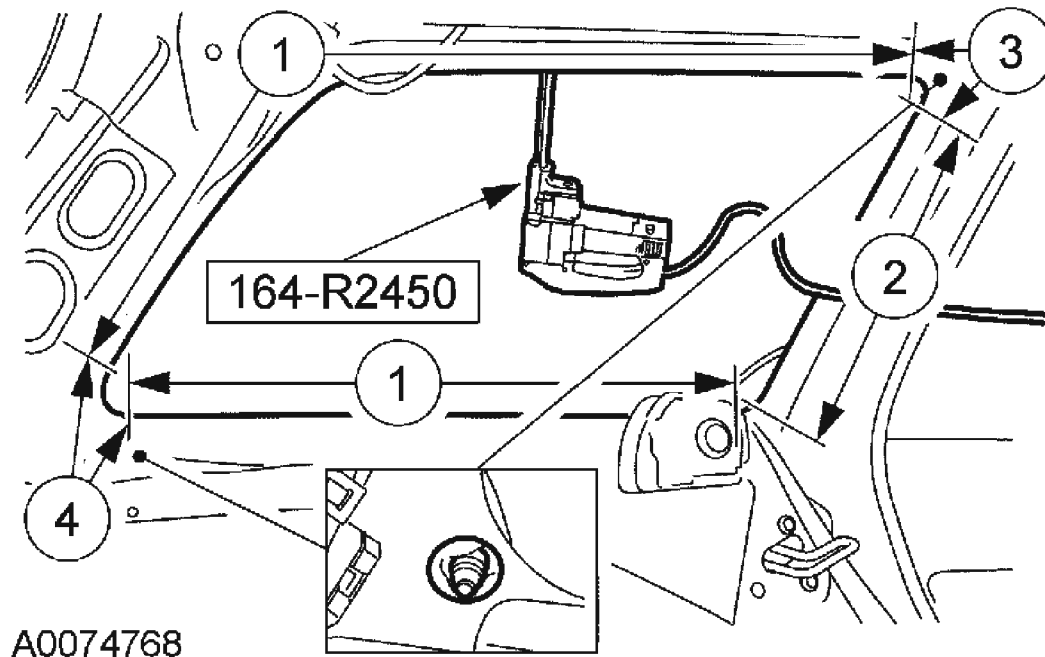
### Wagon

**CAUTION:** Make sure the cutting blades are changed where the cutting depth changes to avoid damage to the body and trim panels.

**NOTE:** Some resistance may be encountered when cutting through the glass locating pegs in the upper right and lower left corners of the glass.

**NOTE:** Lubricate the existing urethane adhesive with water to aid the

special tool while cutting.



**Fig. 80: Placing Flat Side Of Knife Against Quarter Glass Window Using Special Tool (Wagon)**

Courtesy of FORD MOTOR CO.

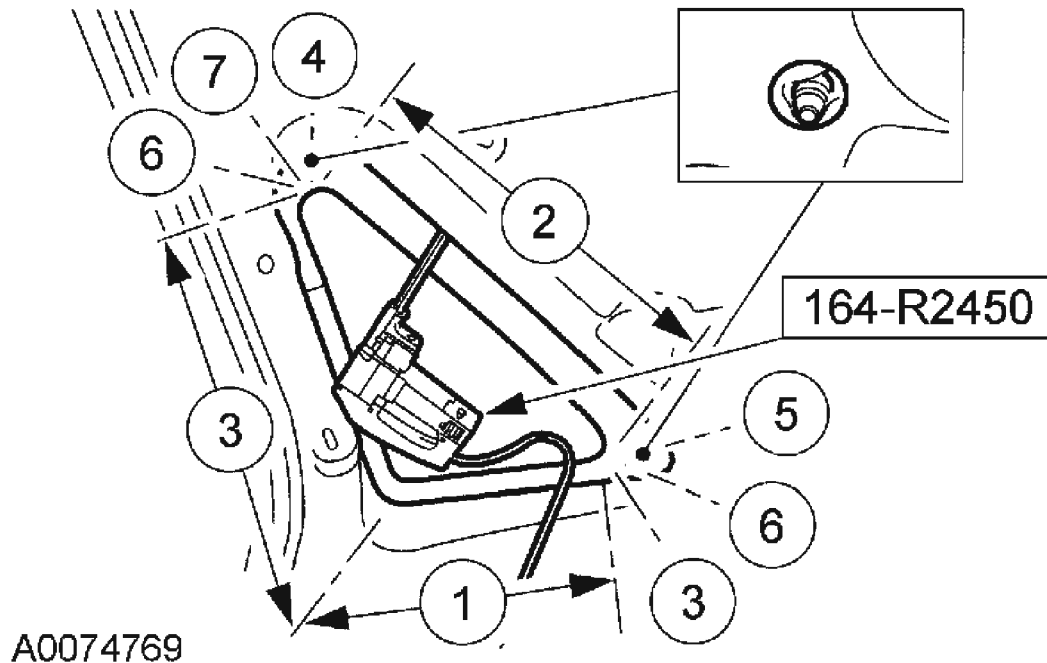
3. Using the special tool, place the flat side of the knife against the quarter glass window. Start at the top and work towards the corners cutting to the given maximum depths:
  1. 20 mm
  2. 30 mm
  3. 50 mm
  4. 40 mm

#### 4-Door

**CAUTION:** Make sure the cutting blades are changed where the cutting depth changes to avoid damage to the body and trim panels.

**NOTE:** Some resistance may be encountered when cutting through the glass locating pegs in the upper right and lower left corners of the glass.

**NOTE:** Lubricate the existing urethane adhesive with water to aid the special tool while cutting.



**Fig. 81: Placing Flat Side Of Knife Against Quarter Glass Window Using Special Tool (4-Door)**

Courtesy of FORD MOTOR CO.

4. Using the special tool, place the flat side of the knife against the quarter glass window. Start at the top and work towards the corners cutting to the given maximum depths:
  1. 20 mm
  2. 25 mm
  3. 45 mm
  4. 50 mm
  5. 55 mm
  6. 70 mm
  7. 150 mm

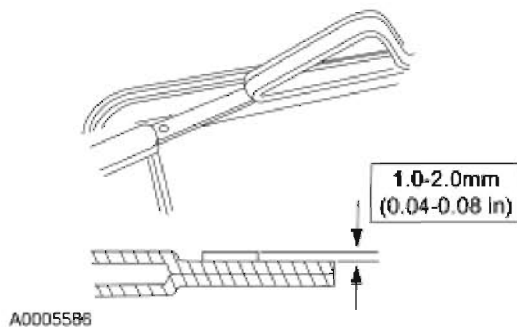
#### **All vehicles**

5. Remove the rear quarter window glass.
6. Using a soft brush or vacuum, remove any dirt or foreign material from the pinch weld.

**Installation**

**CAUTION:** When installing urethane installed glass parts, the vehicle must not be driven until the urethane adhesive has cured. At temperatures above 21°C (70°F) and relative humidities above 50%, adequate cure time is typically 24 hours. (Refer to Essex drive away chart for the cure times as temperatures and humidity vary.) Inadequate or incorrect curing can adversely affect the retention of the quarter window glass.

**NOTE:** Avoid scratching the pinch weld.

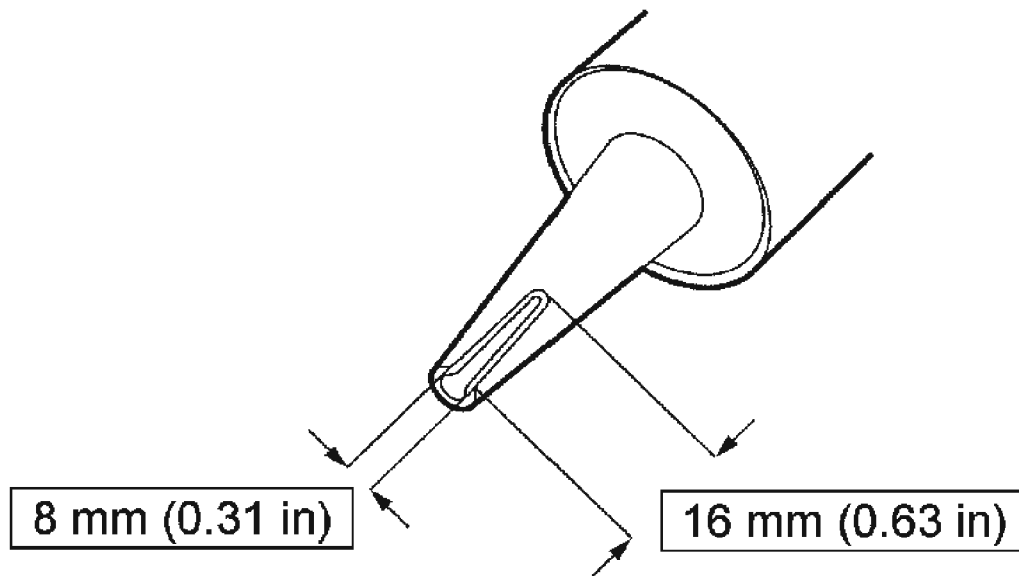


**Fig. 82: Trimming Pinch Weld Urethane Adhesive**  
Courtesy of FORD MOTOR CO.

1. Trim the remaining urethane adhesive. The urethane adhesive must be smooth and free of cuts and contamination after trimming. Avoid touching the urethane adhesive after preparation.
2. Apply the urethane metal primer to any exposed or damaged metal on the pinch weld.
3. If reinstalling the original rear quarter window glass, remove the excess urethane adhesive.
4. Clean the rear quarter window glass with a non-alcohol based window cleaner.

**CAUTION:** Wipe off the urethane glass prep immediately after each application because it flash dries.

5. If installing a new rear quarter window glass, apply urethane glass prep twice around the glass surface to be urethaned.
6. If installing a new rear quarter window glass, apply urethane glass primer to the same area that was prepped in the previous step. Allow 5 minutes to dry.
7. Cut the urethane adhesive applicator tip to specification.

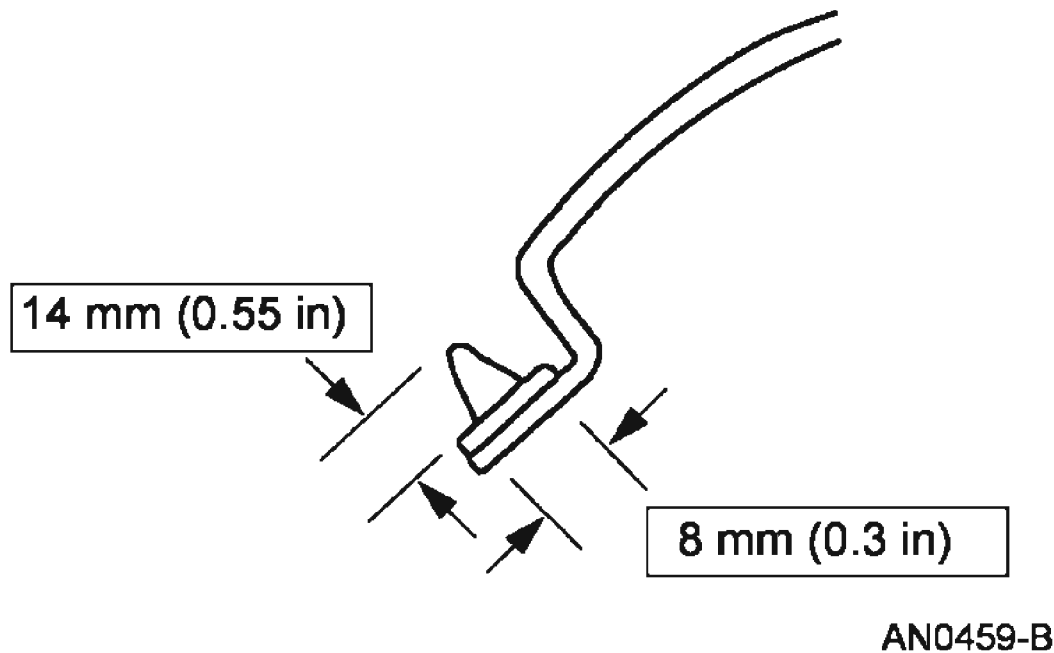


A0016835

**Fig. 83: Cutting Urethane Adhesive Applicator Tip To Specification**  
**Courtesy of FORD MOTOR CO.**

8. Apply a bead of urethane adhesive on top of the existing urethane bead on the pinch weld. Make sure that all gaps in the urethane adhesive are smoothed into one continuous bead.
9. Position the rear quarter window glass to the flange, and press the retaining tabs into the flange to engage.





**Fig. 84: Pressing Retaining Tabs Into Flange To Engage**  
Courtesy of FORD MOTOR CO.

10. Install the rear quarter window glass.
11. Check the rear quarter window glass installation for air or water leaks through the urethane seal.
12. Install the C-pillar trim panels. For additional information, refer to **INTERIOR TRIM AND ORNAMENTATION**.

## REAR WINDOW GLASS

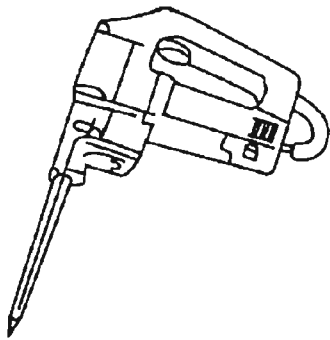
### Special Tool(s)

### SPECIAL TOOL CHART

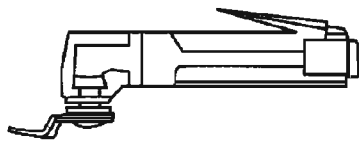
	Interior Auto Glass Cut-out Knife Kit 164-R2450 or equivalent
--	---

## 2005 Ford Focus ZX5 S

2005 ACCESSORIES & BODY, CAB Glass, Frames And Mechanisms - Focus



ST1320-A



ST1109-A

Pneumatic Knife with Offset Blade 107-R1511 or equivalent

### Material

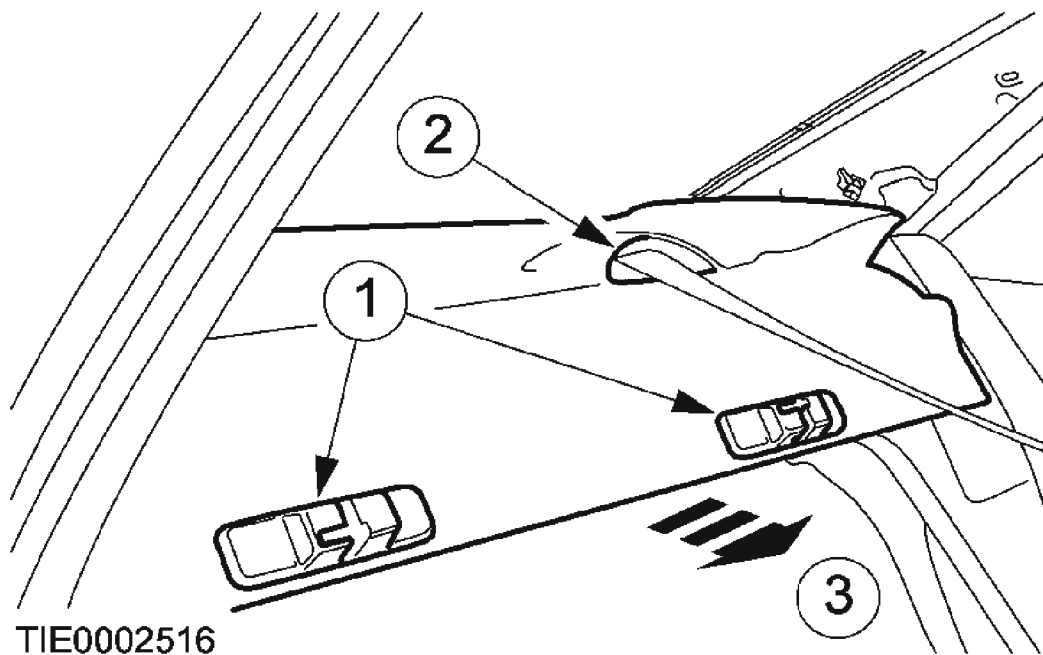
#### MATERIAL SPECIFICATION CHART

Item	Specification
Urethane Metal Primer Essex U-413	WSB-M2G234-C
Urethane Glass Prep Essex U-401	WSB-M5B280-C
Urethane Glass Primer Essex U-402	WSB-M2G314-B
Urethane Adhesive Essex 400-HV	WSB-M2G316

### Removal

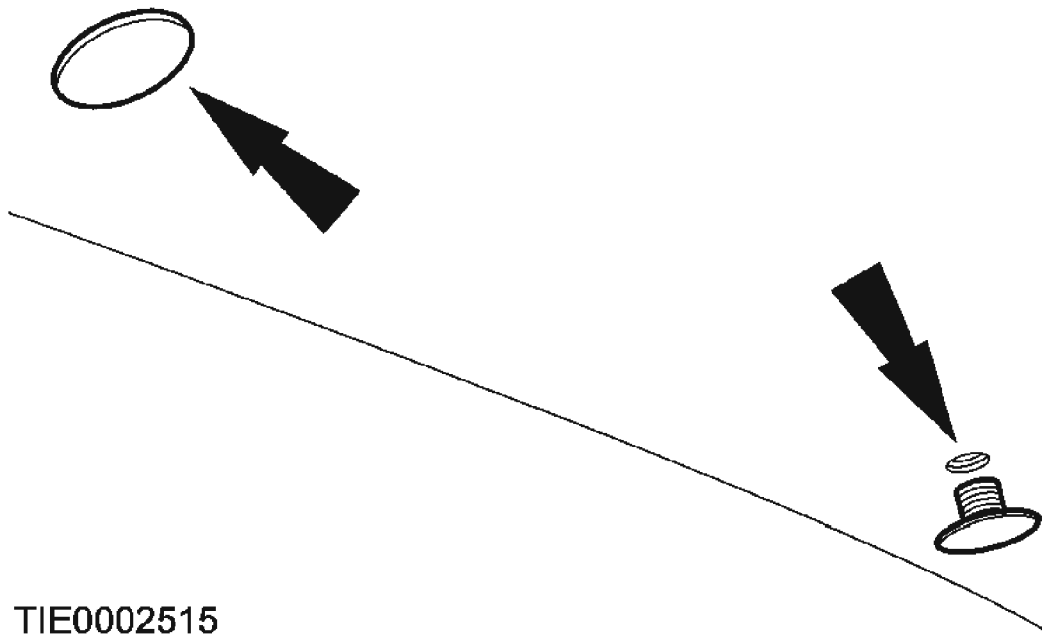
**WARNING:** To prevent glass splinters from entering the eyes or cutting the hands, wear safety glasses and heavy gloves when cutting the glass from the vehicle.

1. Position the parcel shelf aside.
  1. Release the backrest latch trim panels.
  2. Remove the left-hand safety belt trim panel.
  3. Move the parcel shelf forward.



**Fig. 85: Moving Parcel Shelf Forward**  
**Courtesy of FORD MOTOR CO.**

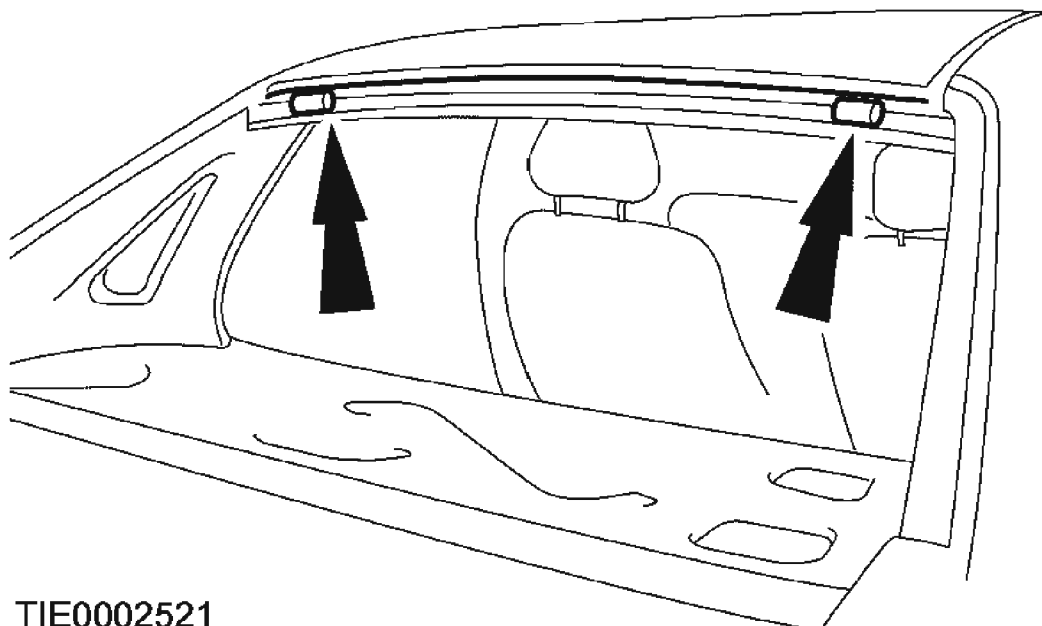
2. Remove the C-pillar trim panel. For additional information, refer to **INTERIOR TRIM AND ORNAMENTATION**.
3. Release the rear of the headliner from the roof panel.
  - Remove the pin-type retainers.



TIE0002515

**Fig. 86: Releasing Rear Of Headliner From Roof Panel**  
Courtesy of FORD MOTOR CO.

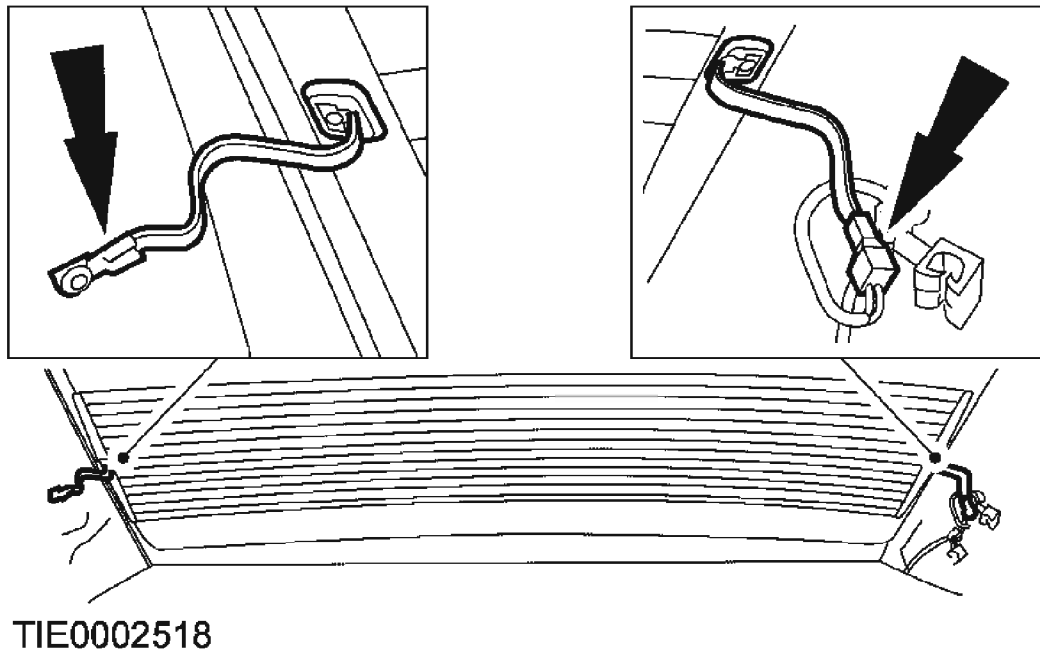
4. Place 2 blocks of suitable material between the headliner and the roof panel to act as spacers.



TIE0002521

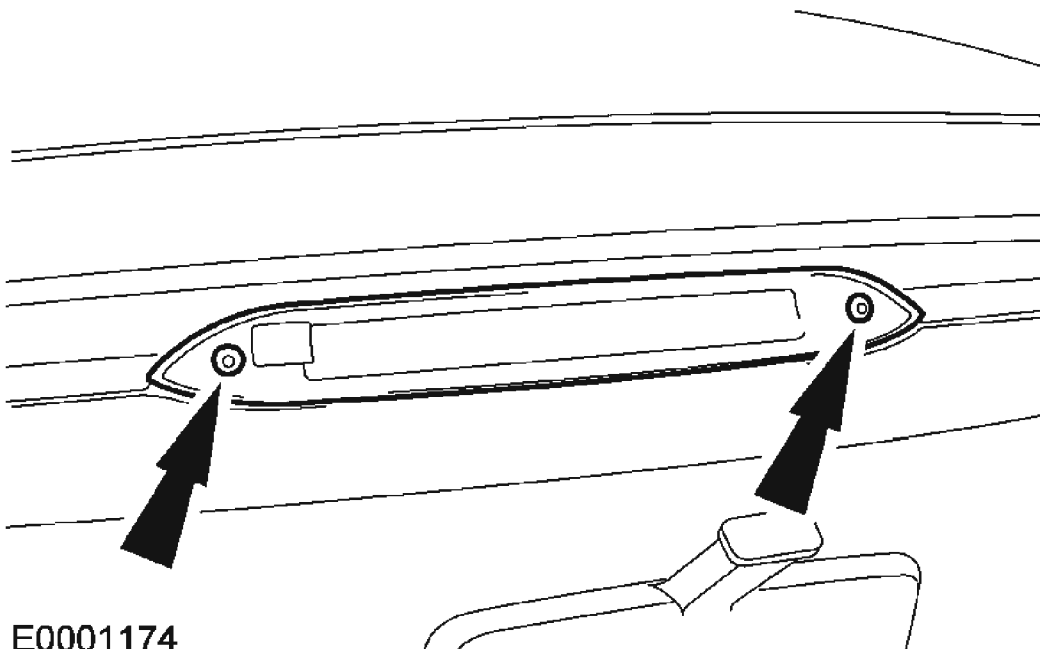
**Fig. 87: Placing Blocks Of Suitable Material Between Headliner And Roof Panel To Act As Spacers**  
**Courtesy of FORD MOTOR CO.**

5. Disconnect the heated rear window electrical connectors.



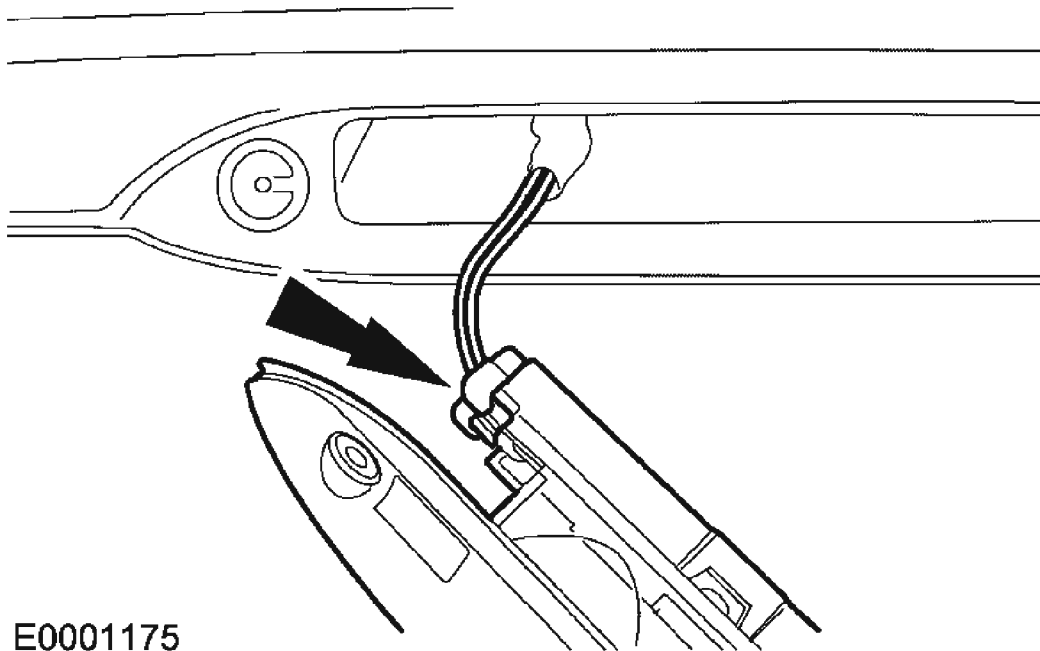
**Fig. 88: Disconnecting Heated Rear Window Electrical Connectors**  
Courtesy of FORD MOTOR CO.

6. Remove the screws and position the high mounted stoplamp aside.



**Fig. 89: Positioning Screws And Positioning High Mounted Stoplamp Aside**  
Courtesy of FORD MOTOR CO.

7. Disconnect the electrical connector and remove the high mounted stoplamp.



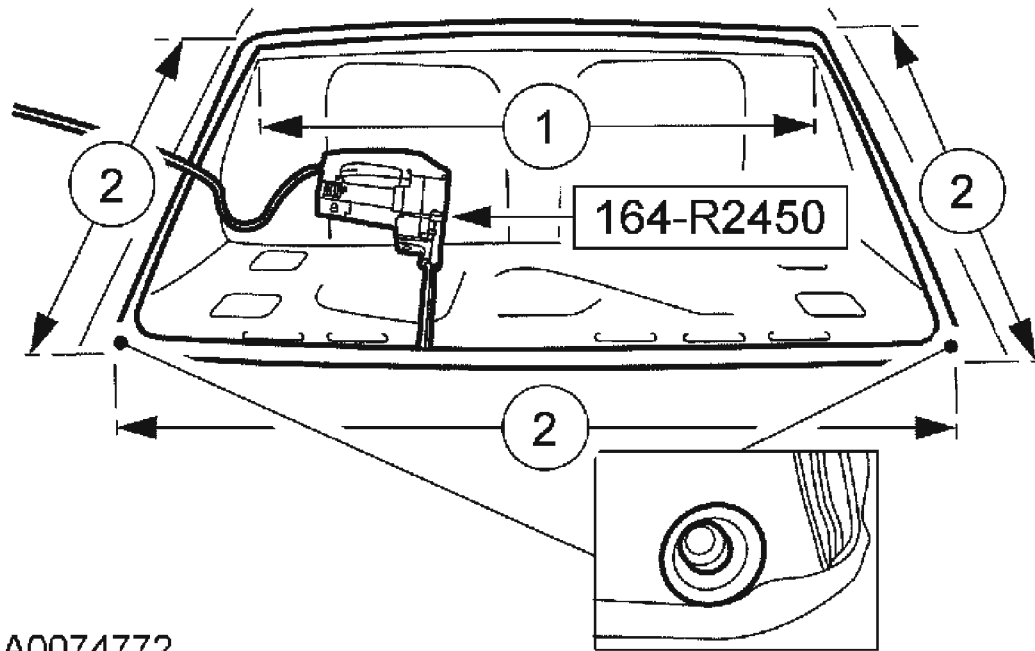
E0001175

**Fig. 90: Disconnecting Electrical Connector And Removing High Mounted**  
**Stoplamp**  
Courtesy of FORD MOTOR CO.

**CAUTION:** Make sure the cutting blades are changed where the cutting depth changes to avoid damage to the body and trim panels.

**NOTE:** Some resistance may be encountered when cutting through the glass locating pegs in the bottom corners of the glass.

**NOTE:** Lubricate the urethane adhesive with water to aid the special tool when cutting the urethane adhesive.



A0074772

**Fig. 91: Using Special Tool To Place Flat Side Of Knife Against Rear Glass**  
Courtesy of FORD MOTOR CO.

8. Using the special tool, place the flat side of the knife against the rear glass. Start at the top center and work out and down the pillars to the lower corners cutting to the given maximum depths:
  1. 30 mm
  2. 25 mm

#### Installation

**CAUTION:** When installing urethane installed glass parts, the vehicle must not be driven until the urethane adhesive has cured. At temperatures above 21°C (70°F) and relative humidities above 50%, adequate cure time is typically 24 hours. (REFER to Essex drive away chart for the cure times as temperatures and humidity vary.) Inadequate or incorrect curing can adversely affect the retention of the rear window glass.

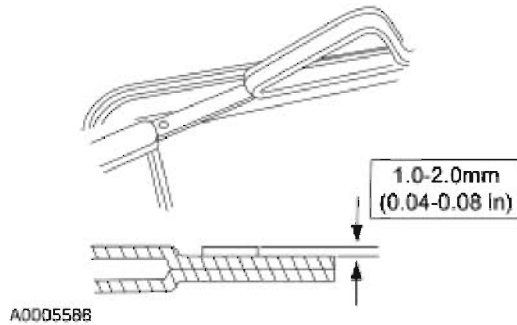
1. Dry fit the rear window glass to the existing urethane adhesive on the body pinch weld. Align the glass in the opening for a uniform fit.
2. Use a non-permanent pencil to make alignment marks to aid in the installation



alignment of the rear window glass.

3. Remove the rear window glass.

**NOTE:**      **Avoid scratching the pinch weld area.**

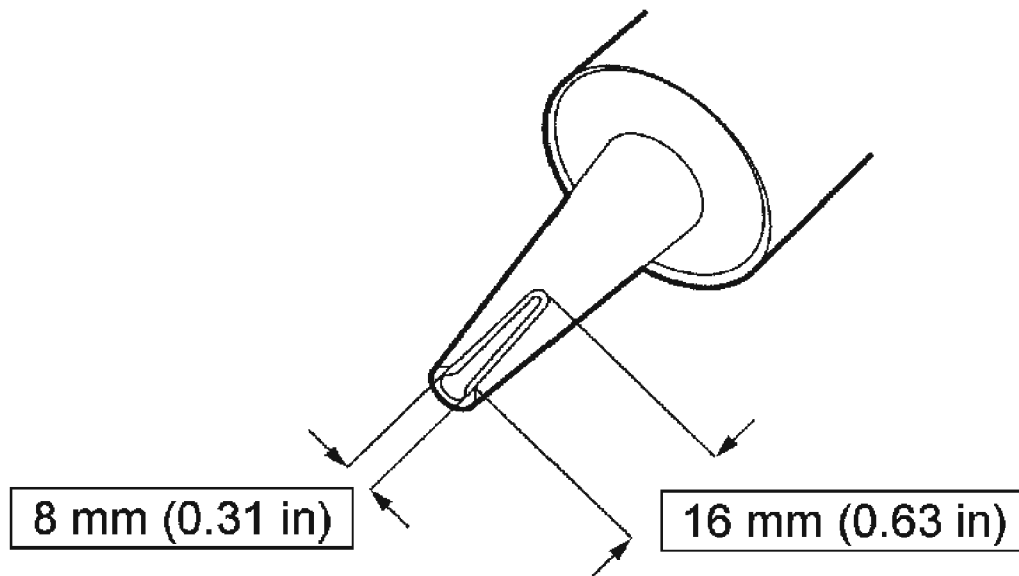


**Fig. 92: Trimming Pinch Weld Urethane Adhesive**  
**Courtesy of FORD MOTOR CO.**

4. Trim the remaining urethane adhesive on the pinch weld. The urethane adhesive must be smooth and free of cuts and contamination after trimming. Avoid touching the urethane adhesive after preparation.
5. Apply urethane metal primer to any exposed or damaged metal on the pinch weld.
6. If installing the original rear window glass, remove the excess urethane adhesive.
7. Clean the rear window glass with a non-alcohol based window cleaner.

**CAUTION: Wipe off the urethane glass prep immediately after each application because it flash dries.**

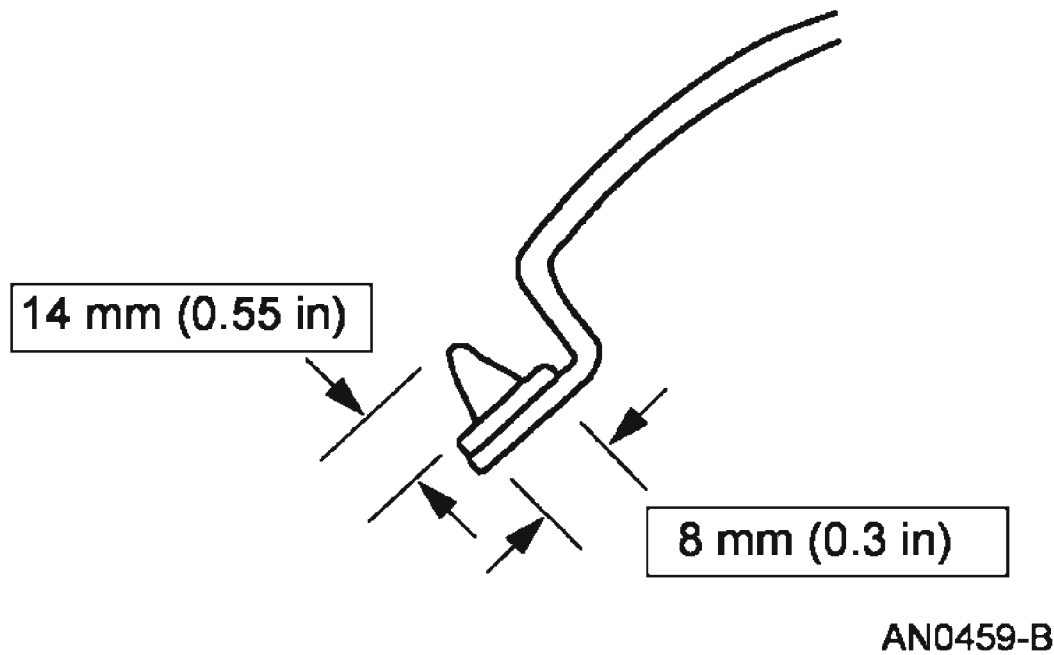
8. If installing a new rear window glass, apply urethane glass prep twice to the area to be urethaned.
9. If installing a new rear window glass, apply urethane glass primer to the same area that was prepped in the previous step. Allow 5 minutes to dry.
10. Cut the urethane adhesive applicator tip to specification.



A0016835

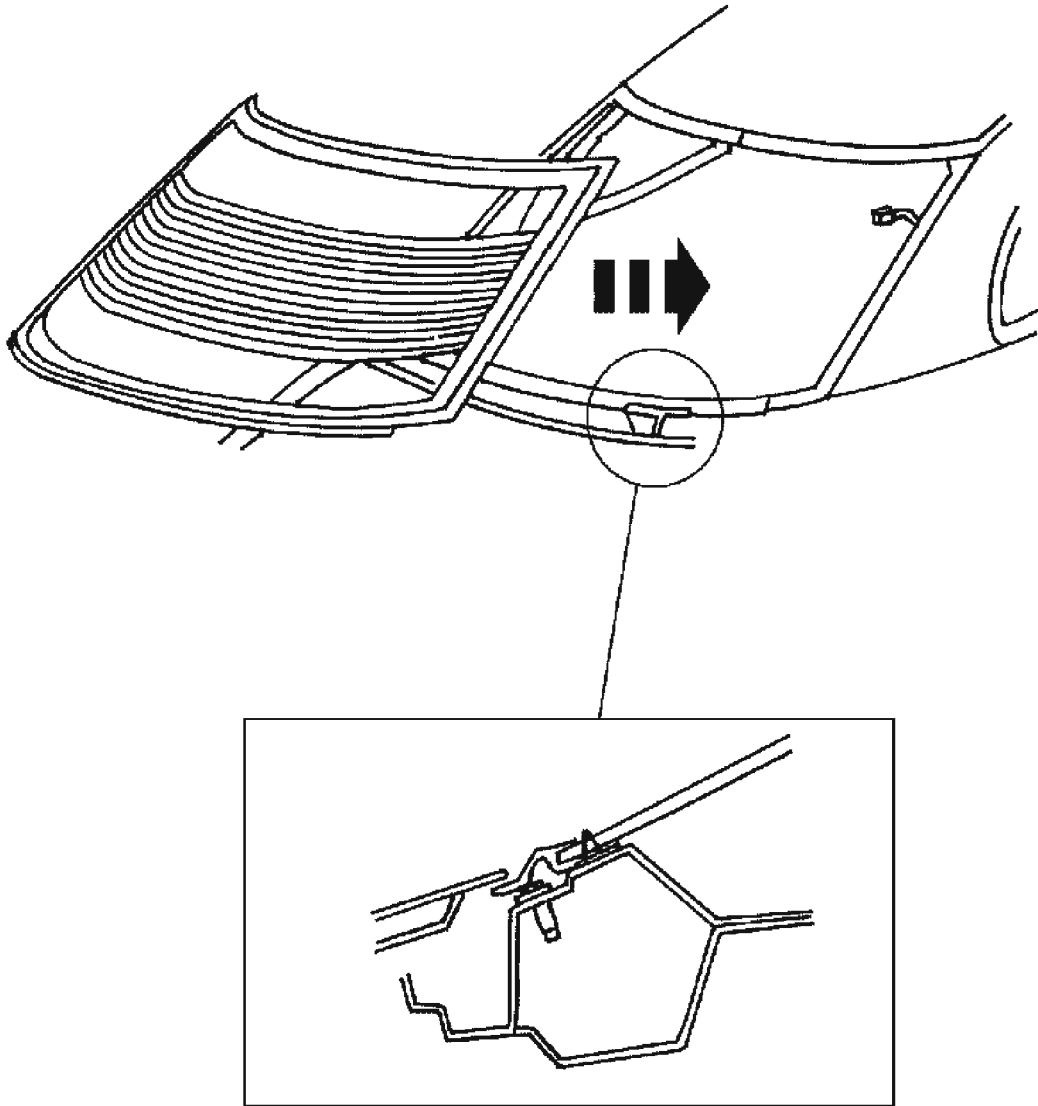
**Fig. 93: Cutting Urethane Adhesive Applicator Tip**  
**Courtesy of FORD MOTOR CO.**

11. Apply a bead of urethane adhesive on top of the existing urethane bead on the pinch weld. Make sure that all gaps in the urethane adhesive are smoothed into one continuous bead.
12. Install the rear window glass on the pinch weld. Align the rear window glass to the body using the alignment marks.



**Fig. 94: Installing Rear Window Glass On Pinch Weld**  
**Courtesy of FORD MOTOR CO.**

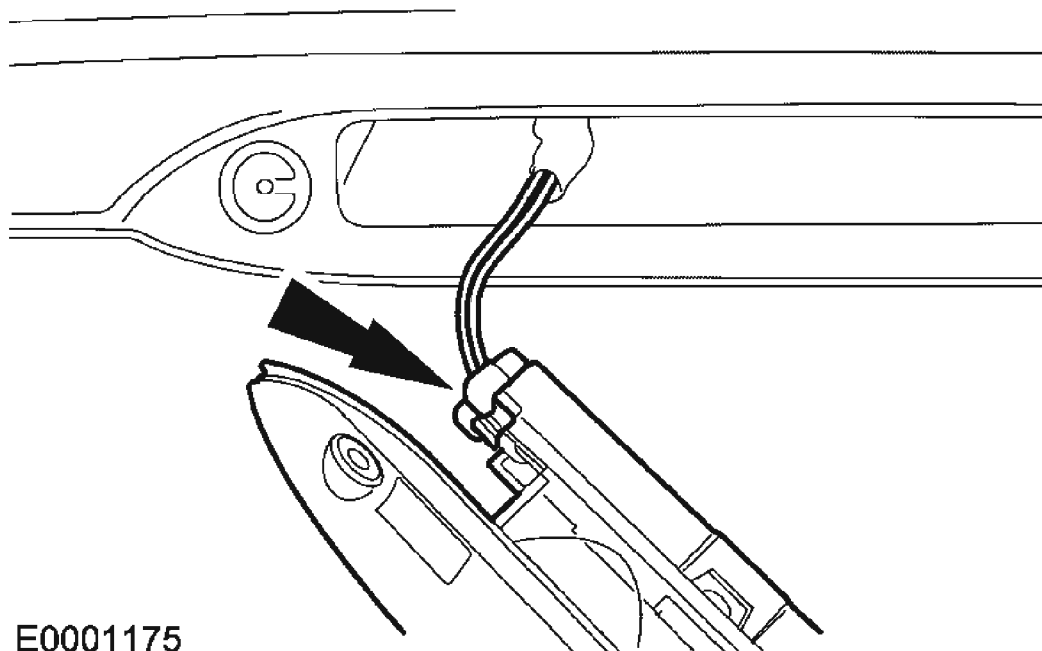
13. Inspect the rear window glass for air or water leaks through the urethane adhesive seal.



AN0460-A

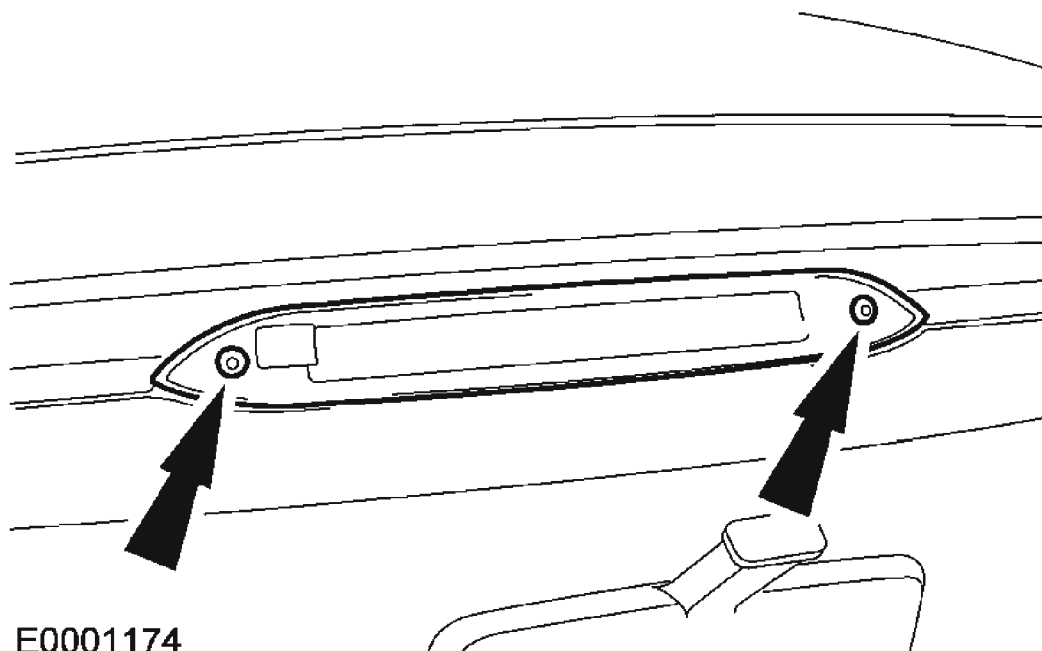
**Fig. 95: Inspecting Rear Window Glass For Air Or Water Leaks Through Urethane Adhesive Seal**  
**Courtesy of FORD MOTOR CO.**

14. Connect the high mounted stoplamp electrical connector.



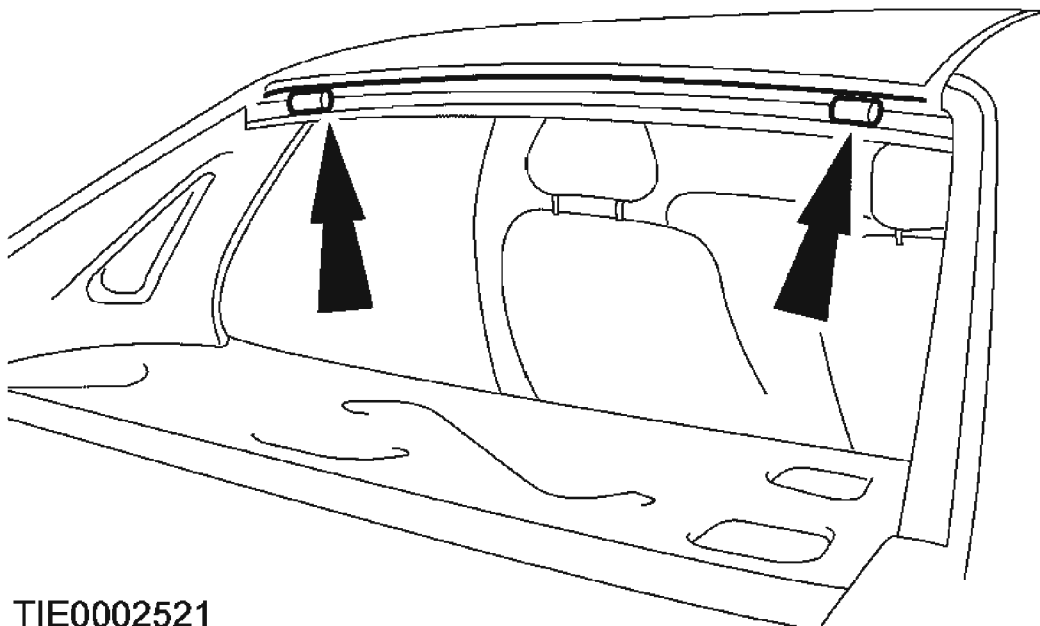
**Fig. 96: Connecting High Mounted Stoplamp Electrical Connector**  
Courtesy of FORD MOTOR CO.

15. Install the high mounted stoplamp.



**Fig. 97: Installing High Mounted Stoplamp**  
**Courtesy of FORD MOTOR CO.**

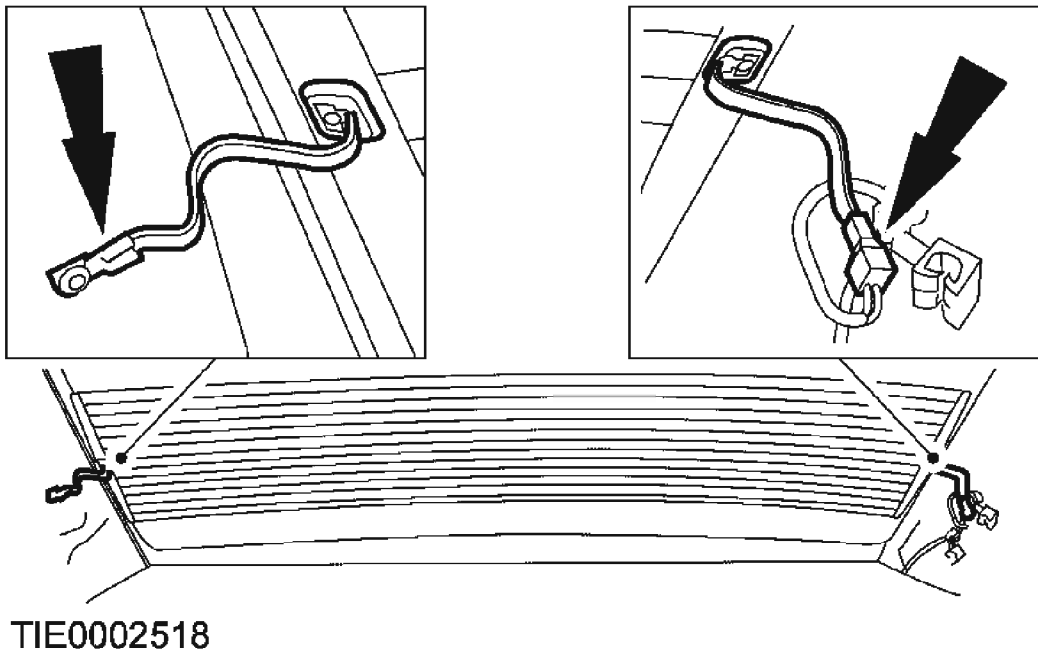
16. Position the headliner and install the pin-type retainers.
  - Remove the spacers.



TIE0002521

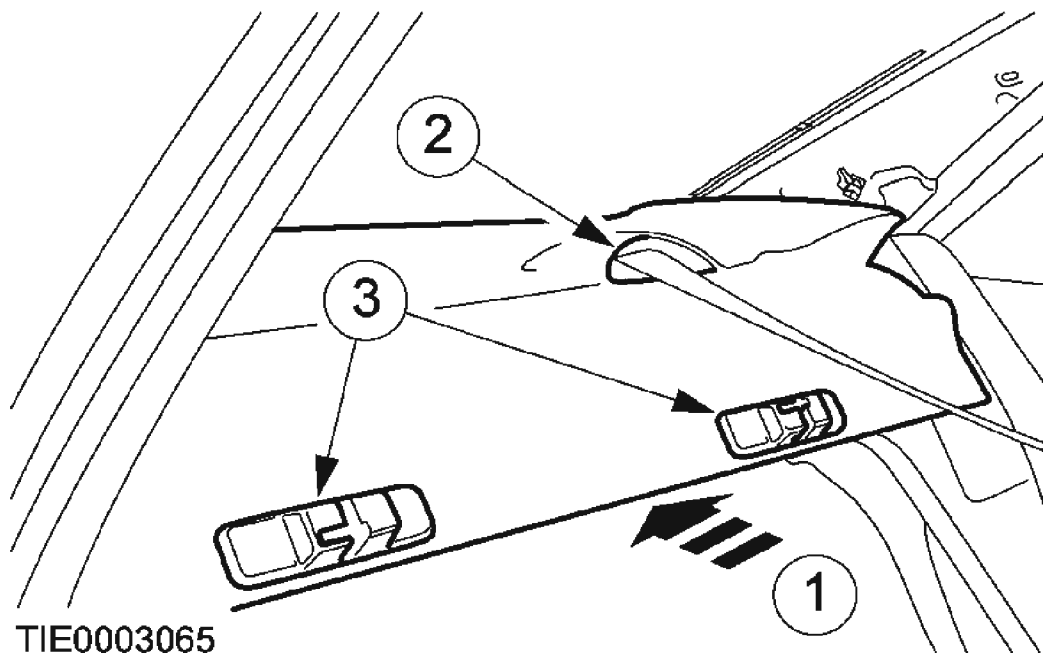
**Fig. 98: Removing Spacers**  
**Courtesy of FORD MOTOR CO.**

17. Connect the heated rear window electrical connectors.



**Fig. 99: Connecting Heated Rear Window Electrical Connectors**  
**Courtesy of FORD MOTOR CO.**

18. Install the C-pillar trim panel. For additional information, refer to **INTERIOR TRIM AND ORNAMENTATION**.
19. Install the rear parcel shelf.
  1. Position the parcel shelf.
  2. Install the left-hand safety belt trim panel.
  3. Attach the backrest latch trim panels.

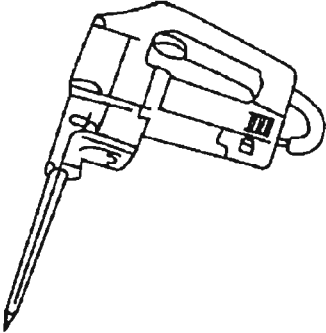


**Fig. 100: Installing Rear Parcel Shelf**  
Courtesy of FORD MOTOR CO.

## LIFTGATE WINDOW GLASS

Special Tool(s)

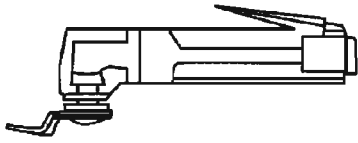
## SPECIAL TOOL CHART

 <b>ST1320-A</b>	Interior Auto Glass Cut-out Knife Kit 164-R2450 or equivalent
	Pneumatic Knife with Offset Blade 107-R1511 or equivalent



## 2005 Ford Focus ZX5 S

2005 ACCESSORIES & BODY, CAB Glass, Frames And Mechanisms - Focus



ST1109-A

### Material

### MATERIAL SPECIFICATION CHART

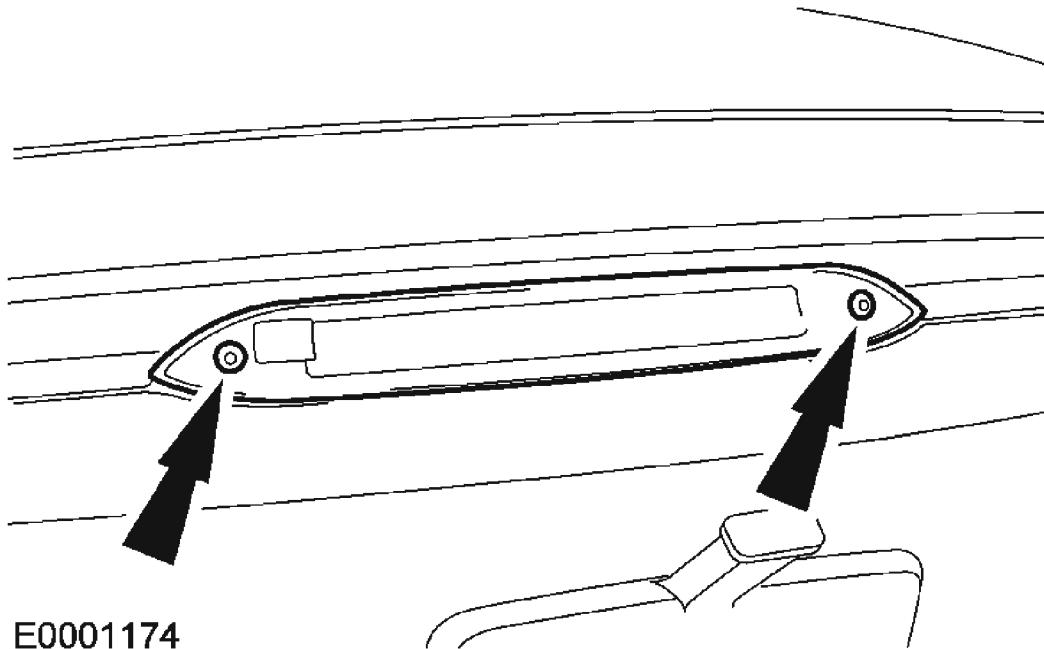
Item	Specification
Urethane Metal Primer Essex U-413	WSB-M2G234-C
Urethane Glass Prep Essex U-401	WSB-M5B280-C
Urethane Glass Primer Essex U-402	WSB-M2G314-B
Urethane Adhesive Essex 400-HV	WSB-M2G316-B

### Removal

**WARNING:** To prevent glass splinters from entering the eyes or cutting the hands, wear safety glasses and heavy gloves when cutting the glass from the vehicle.

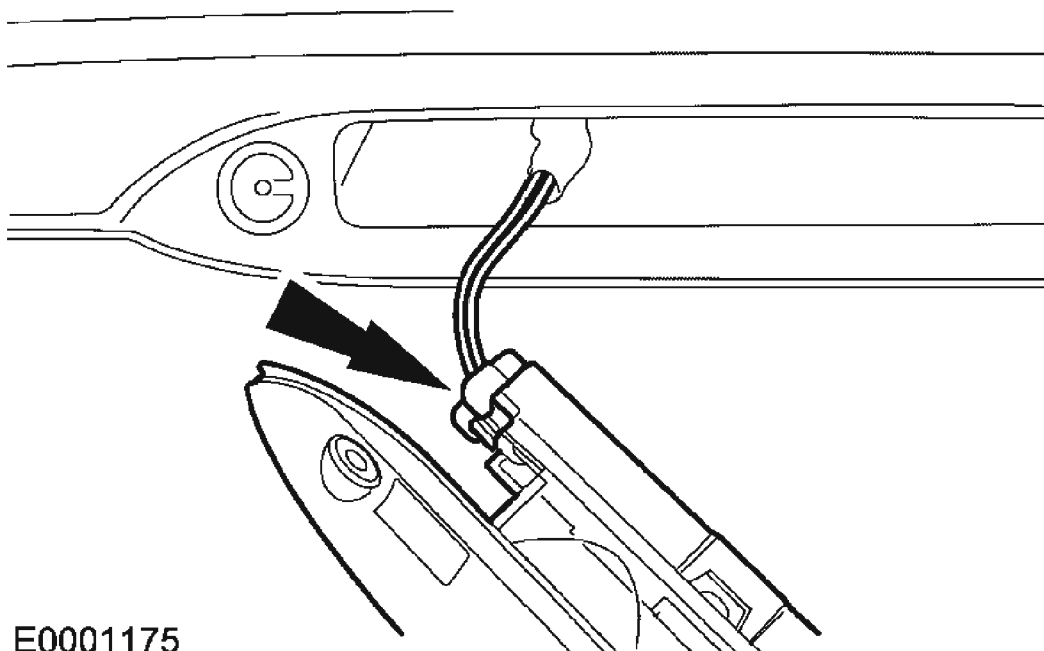
### All vehicles

1. Remove the 2 screws and position the high mounted stoplamp aside.



**Fig. 101: Removing 2 Screws And Positioning High Mounted Stoplamp Aside**  
Courtesy of FORD MOTOR CO.

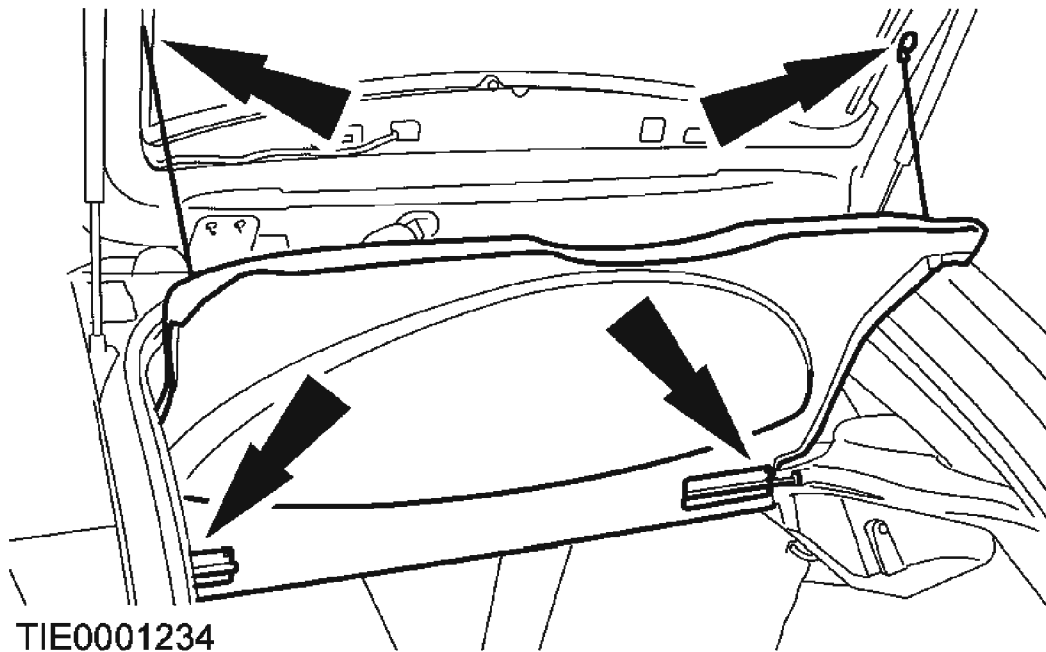
2. Disconnect the electrical connector and remove the high mounted stoplamp.



**Fig. 102: Disconnecting Electrical Connector And Removing High Mounted Stoplamp**

Courtesy of FORD MOTOR CO.

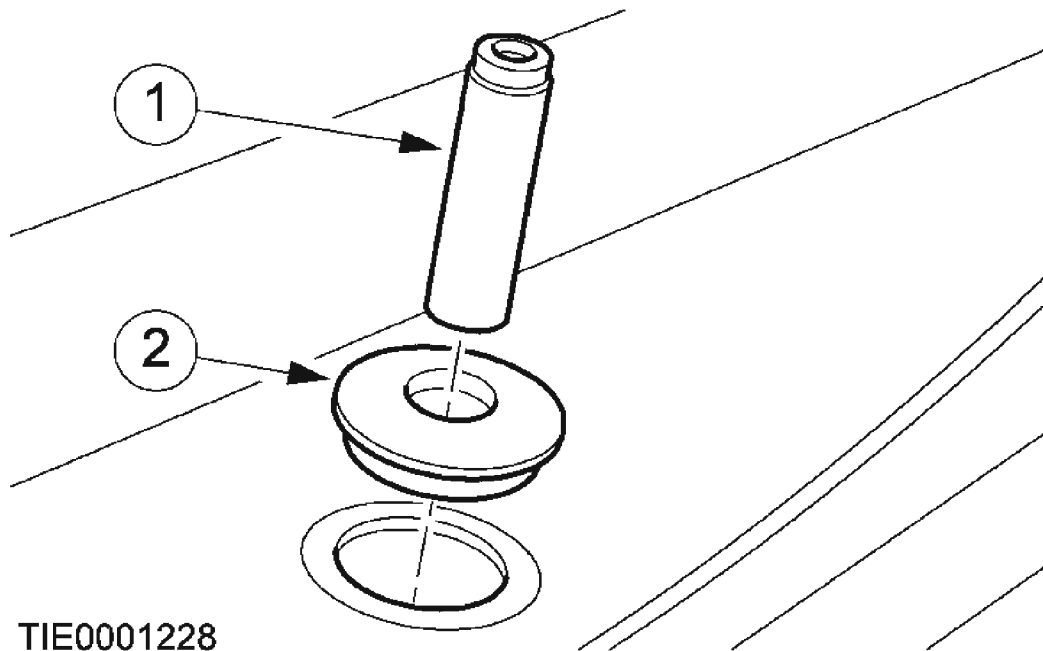
3. If equipped, remove the parcel shelf.



**Fig. 103: Removing Parcel Shelf**  
Courtesy of FORD MOTOR CO.

4. Remove the rear window wiper motor. For additional information, refer to **WIPERS AND WASHERS** .

**NOTE:** 3-door shown, all others similar.

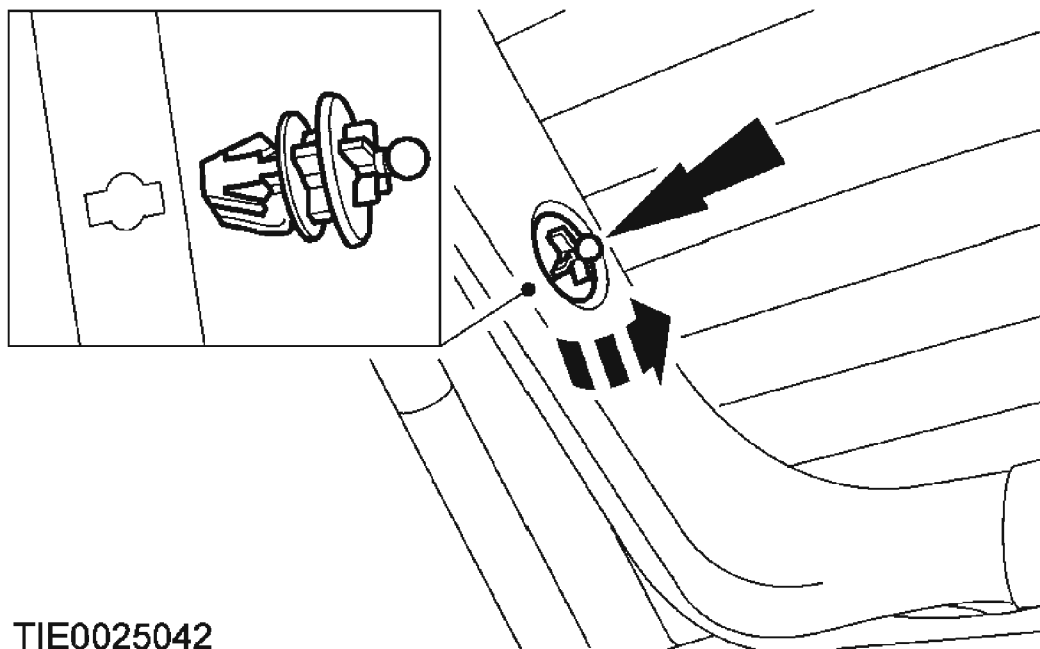


**Fig. 104: Removing Rear Window Wiper Motor Spindle Grommet**  
**Courtesy of FORD MOTOR CO.**

5. Remove the rear window wiper motor spindle grommet.
  1. Remove the sleeve.
  2. Remove the grommet.

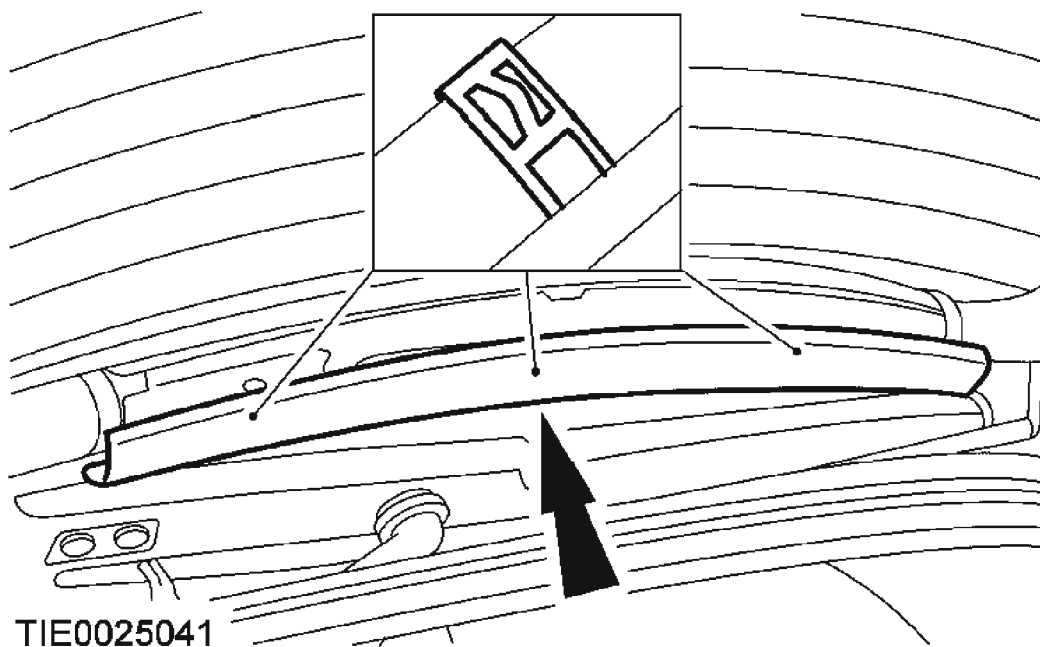
**3-Door, 5-Door**

6. Remove the parcel shelf strap clips on both sides.



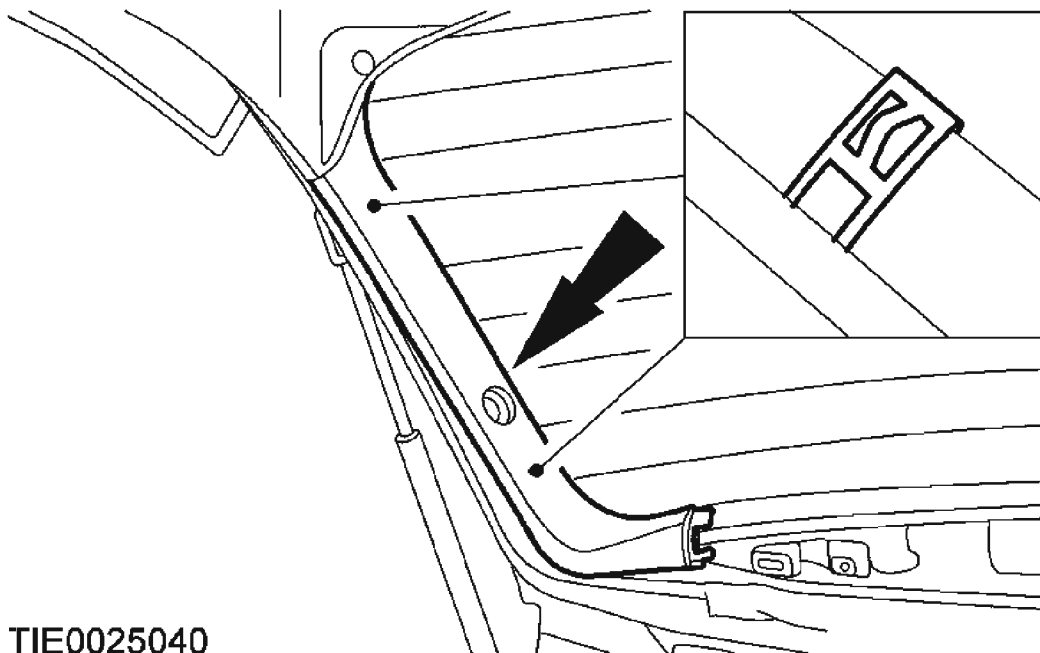
**Fig. 105: Removing Parcel Shelf Strap Clips On Both Sides**  
Courtesy of FORD MOTOR CO.

7. Remove the liftgate center trim panel.



**Fig. 106: Removing Liftgate Center Trim Panel**  
Courtesy of FORD MOTOR CO.

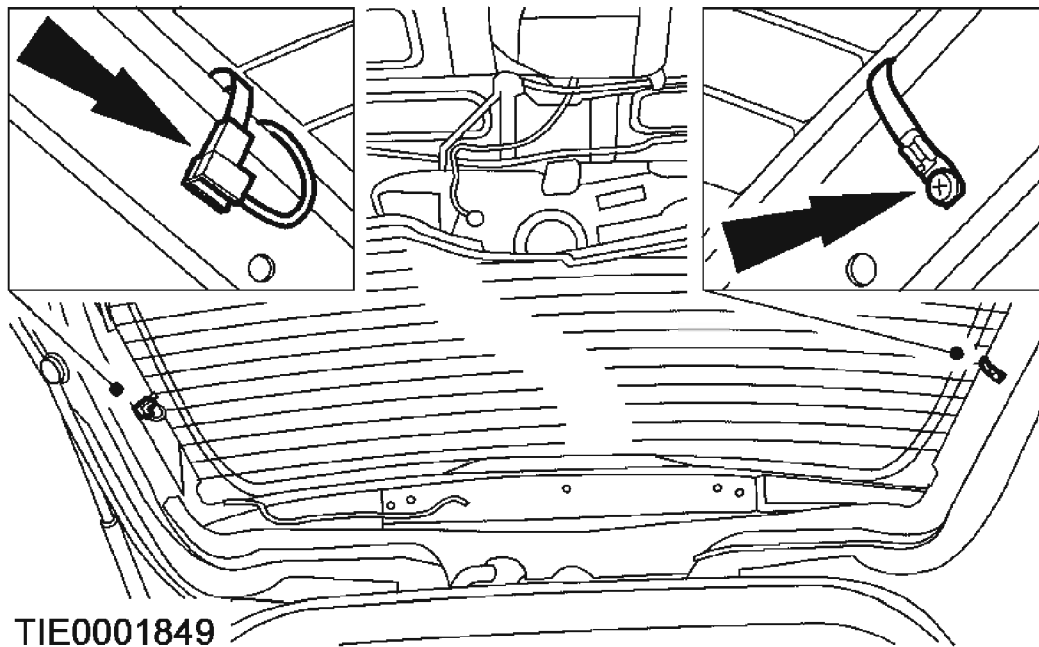
8. Remove the liftgate side trim panels on both sides.



**Fig. 107: Removing Liftgate Side Trim Panels On Both Sides**  
Courtesy of FORD MOTOR CO.

**All vehicles**

9. Disconnect the heated rear window glass electrical connectors.



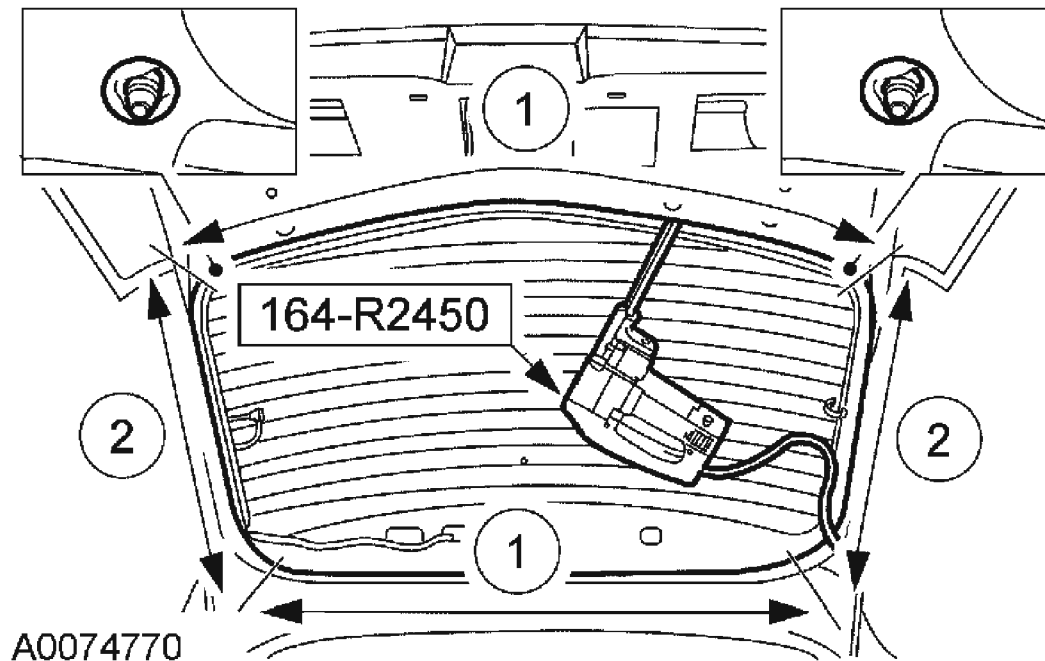
**Fig. 108: Disconnecting Heated Rear Window Glass Electrical Connectors**  
Courtesy of FORD MOTOR CO.

**3-Door, 5-Door**

**CAUTION:** Make sure the cutting blades are changed where the cutting depth changes to avoid damage to the body and trim panels.

**NOTE:** Some resistance may be encountered when cutting through the glass locating pegs in the lower corners of the glass.

**NOTE:** Lubricate the urethane adhesive with water to aid the special tool when cutting the urethane adhesive.



**Fig. 109: Placing Flat Side Of Knife Against Rear Glass Using Special Tool**  
Courtesy of FORD MOTOR CO.

10. Using the special tool, place the flat side of the knife against the rear glass. Start at the top center and work out and down the pillars to the lower corners cutting to the given maximum depths:
  1. 20 mm
  2. 50 mm

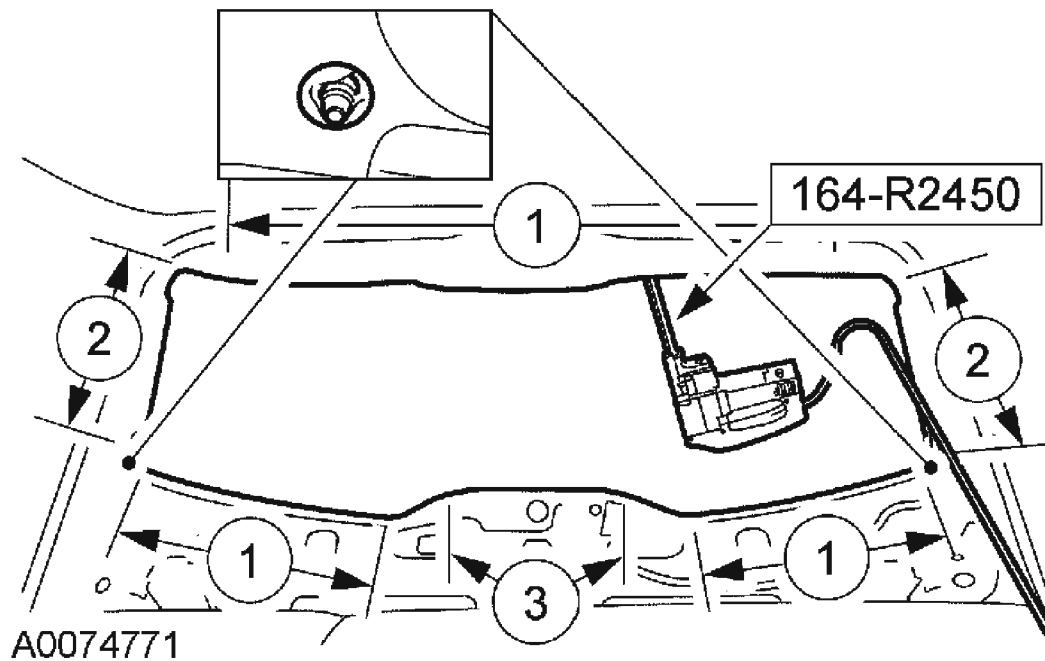
### Wagon

**CAUTION:** Make sure the cutting blades are changed where the cutting depth changes to avoid damage to the body and trim panels.

**NOTE:** Some resistance may be encountered when cutting through the glass locating pegs in the lower corners of the glass.

**NOTE:** Lubricate the urethane adhesive with water to aid the special tool when cutting the urethane adhesive.





**Fig. 110: Placing Flat Side Of Knife Against Rear Glass Using Special Tool**  
Courtesy of FORD MOTOR CO.

11. Using the special tool, place the flat side of the knife against the rear glass. Start at the top center and work out and down the pillars to the lower corners cutting to the given maximum depths:
  1. 25 mm
  2. 65 mm
  3. 80 mm

#### **All vehicles**

12. Remove the rear window glass.
13. Using a soft brush or vacuum, remove any dirt or foreign material from the pinch weld.

#### **Installation**

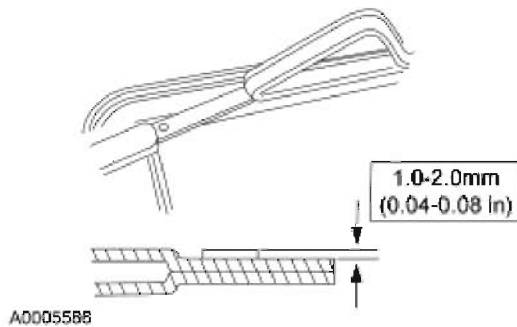
**CAUTION:** When installing urethane installed glass parts, the vehicle must not be driven until the urethane adhesive has cured. At temperatures above 21°C (70°F) and relative humidities above 50%, adequate cure time is typically 24 hours. (REFER to Essex drive away chart for the cure times as temperatures and humidity vary.) Inadequate or incorrect

**curing can adversely affect the retention of the rear window glass.**

**All vehicles**

1. Remove the remaining part of the locating pegs from the rear window glass flange.

**NOTE:      Avoid scratching the pinch weld.**

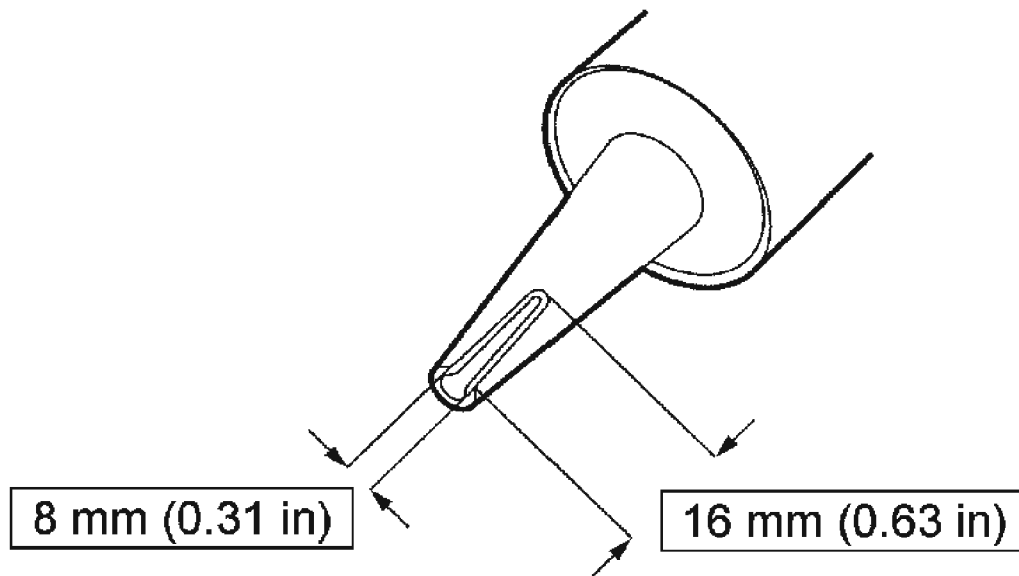


**Fig. 111: Trimming Pinch Weld Urethane Adhesive**  
**Courtesy of FORD MOTOR CO.**

2. Trim the remaining urethane adhesive. The urethane adhesive must be smooth and free of cuts and contamination after trimming. Avoid touching the urethane adhesive after preparation.
3. Apply the urethane metal primer to any exposed or damaged metal on the pinch weld.
4. If installing the original rear window glass, remove the excess urethane adhesive.
5. Clean the rear window glass with a non-alcohol based window cleaner.

**CAUTION: Wipe off the urethane glass prep immediately after each application because it flash dries.**

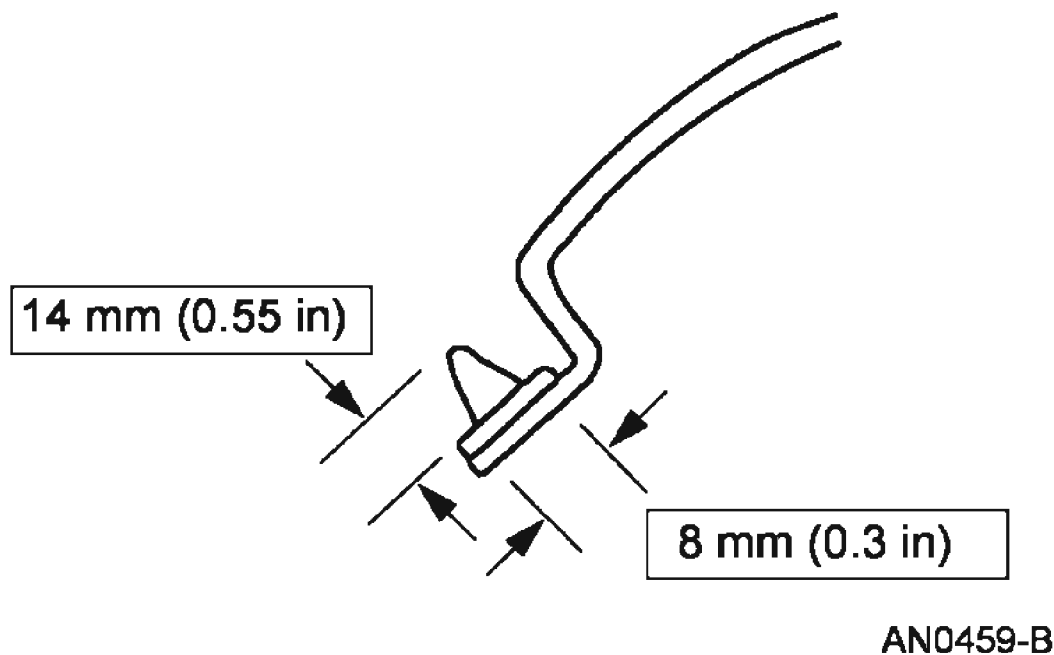
6. If installing a new rear window glass, apply urethane glass prep twice to the area to be urethaned.
7. If installing a new rear window glass, apply urethane glass primer to the same area that was prepped in the previous step. Allow 5 minutes to dry.
8. Cut the urethane adhesive applicator tip to specification.



A0016835

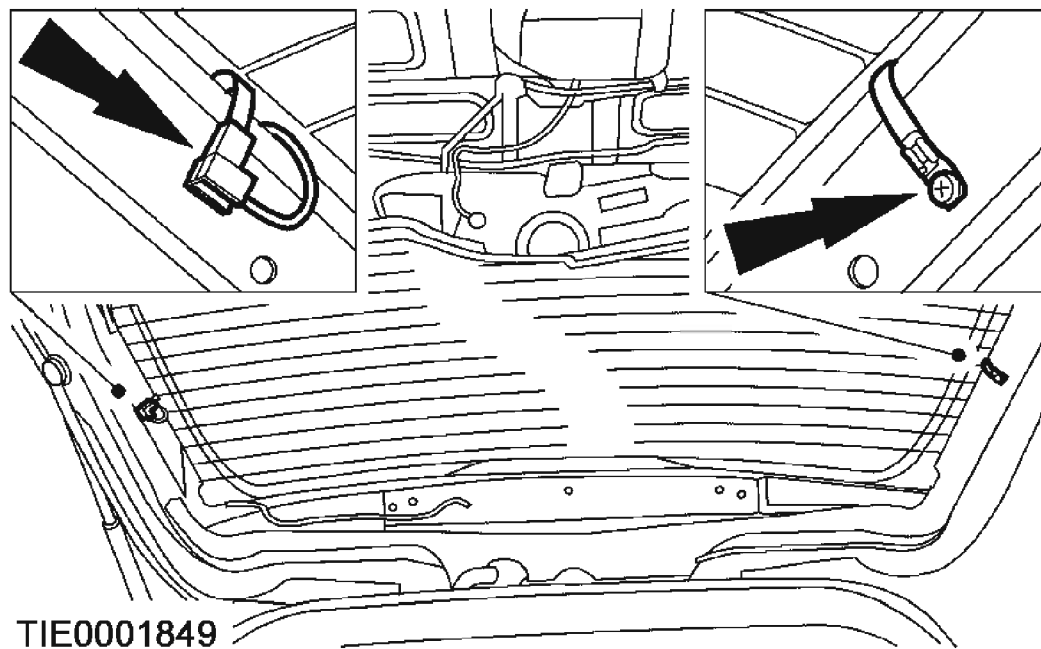
**Fig. 112: Cutting Urethane Adhesive Applicator Tip**  
**Courtesy of FORD MOTOR CO.**

9. Apply a bead of urethane adhesive on top of the existing urethane bead on the pinch weld. Make sure that all gaps in the urethane adhesive are smoothed into one continuous bead.
10. Install the rear window glass on the pinch weld.



**Fig. 113: Applying Bead Of Urethane Adhesive To Pinch Weld**  
Courtesy of FORD MOTOR CO.

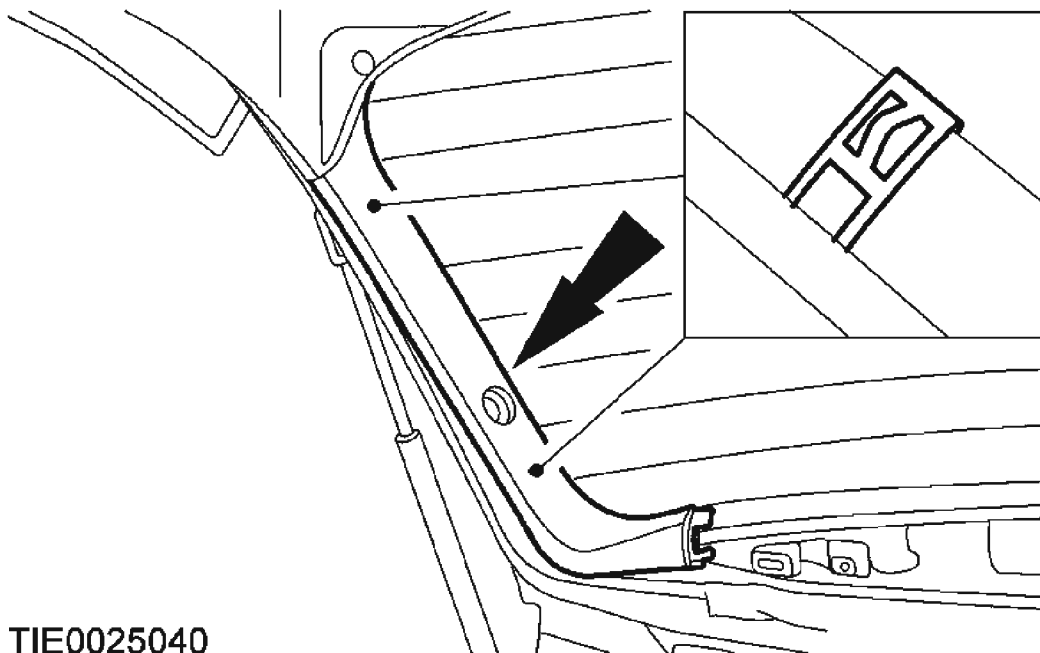
11. Inspect the rear window glass seal for air or water leaks through the urethane adhesive seal.
12. Connect the heated rear window glass electrical connectors.



**Fig. 114: Connecting Heated Rear Window Glass Electrical Connectors**  
Courtesy of FORD MOTOR CO.

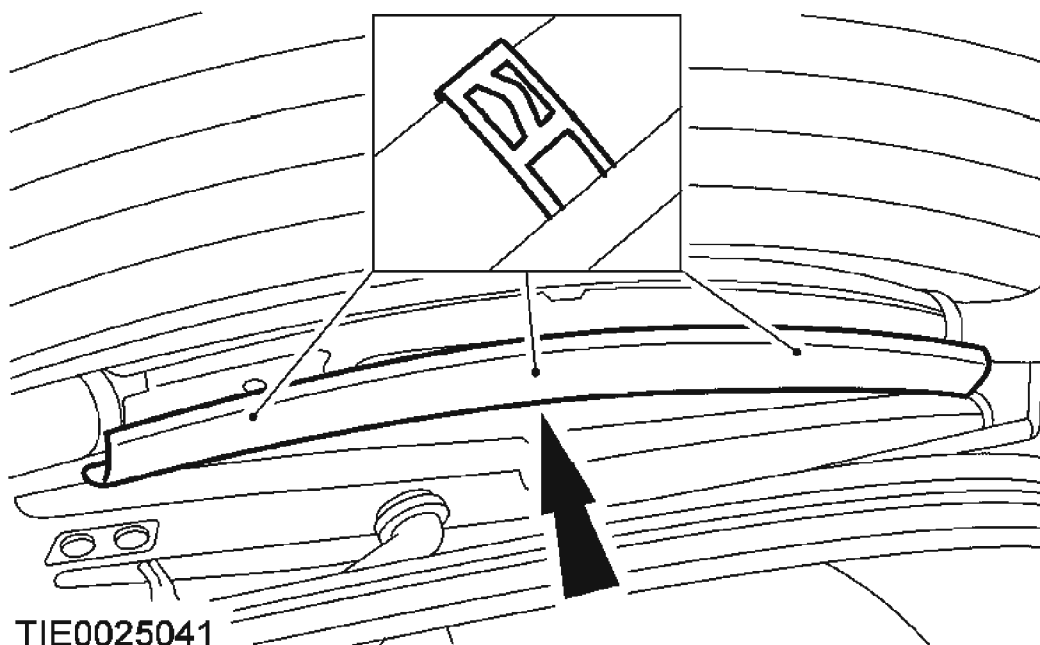
**3-Door, 5-Door**

13. Install the liftgate side trim panels on both sides.



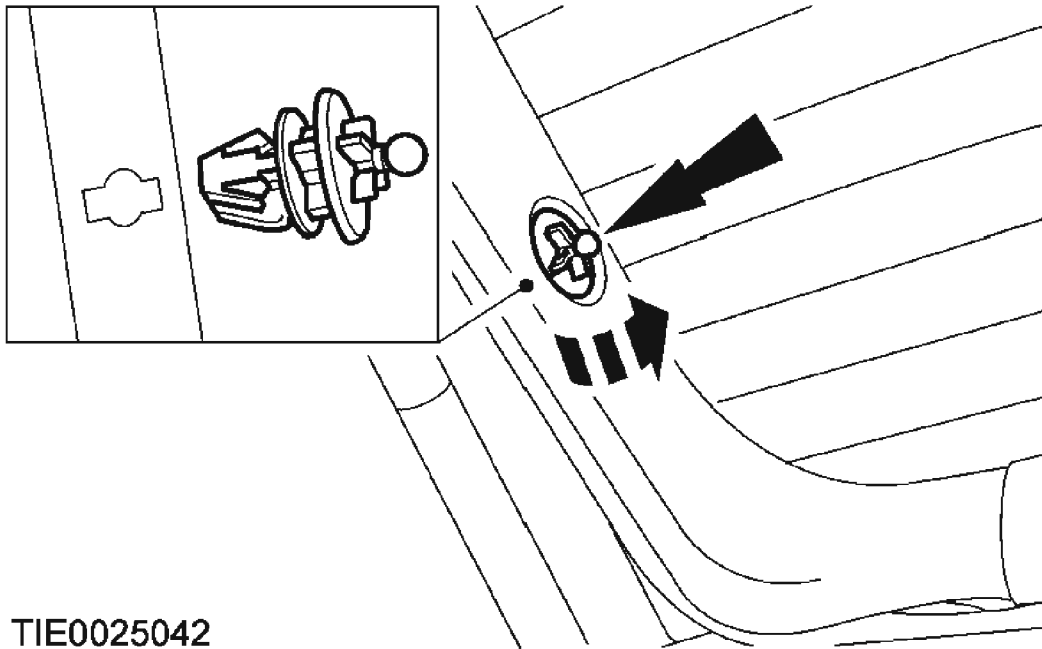
**Fig. 115: Installing Liftgate Side Trim Panels On Both Sides**  
Courtesy of FORD MOTOR CO.

14. Install the liftgate center trim panel.



**Fig. 116: Installing Liftgate Center Trim Panel**  
Courtesy of FORD MOTOR CO.

15. If equipped, install the parcel shelf strap clips on both sides.

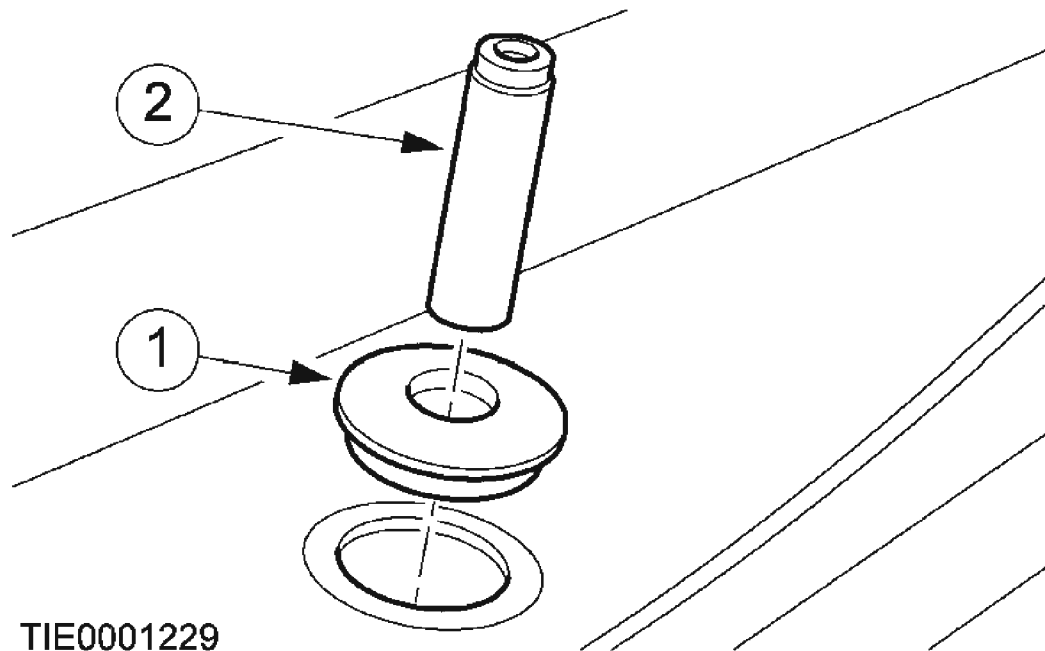


TIE0025042

**Fig. 117: Installing Parcel Shelf Strap Clips On Both Sides**  
Courtesy of FORD MOTOR CO.

**All vehicles**

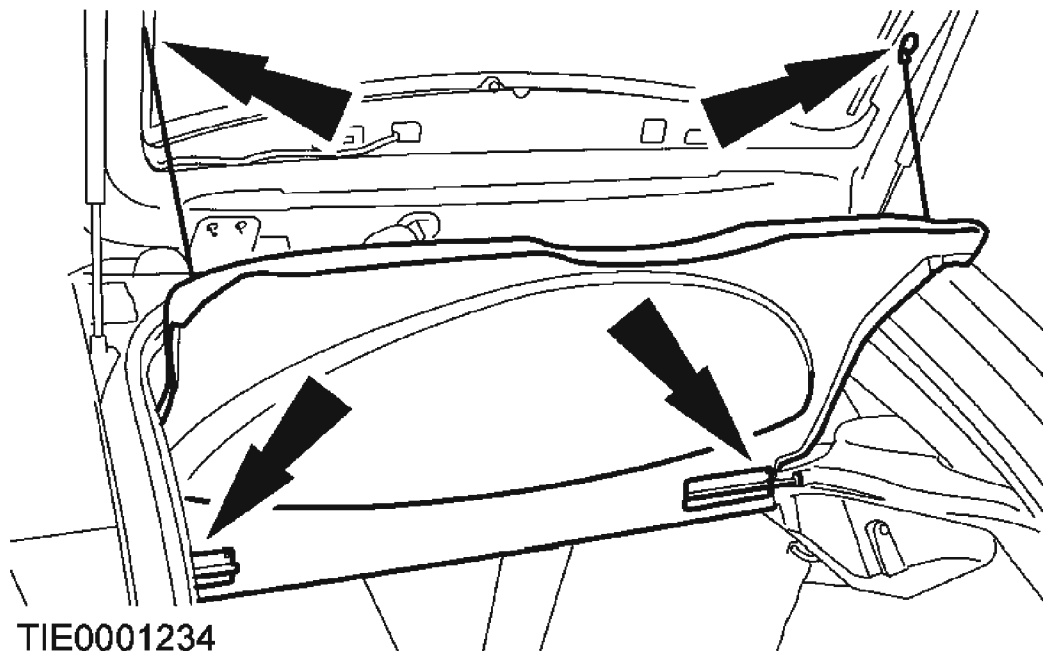
16. Install the rear window wiper motor spindle grommet.
  1. Install the grommet.
  2. Install the sleeve.



**Fig. 118: Installing Rear Window Wiper Motor Spindle Grommet**  
**Courtesy of FORD MOTOR CO.**

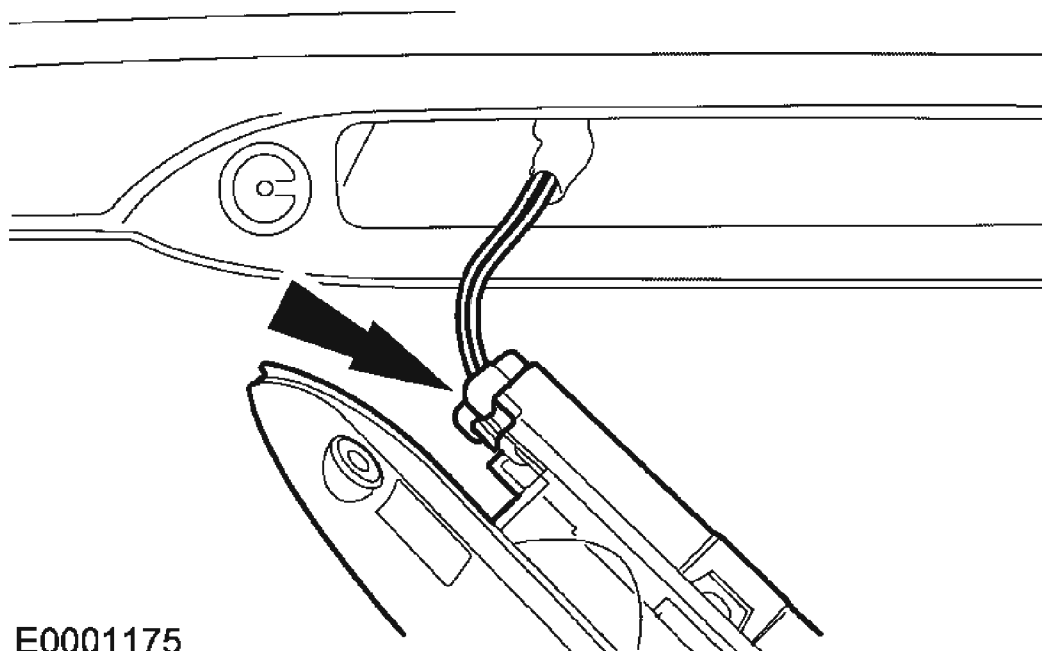
17. Install the rear window wiper motor. For additional information, refer to **WIPERS AND WASHERS** .
18. If equipped, install the parcel shelf.





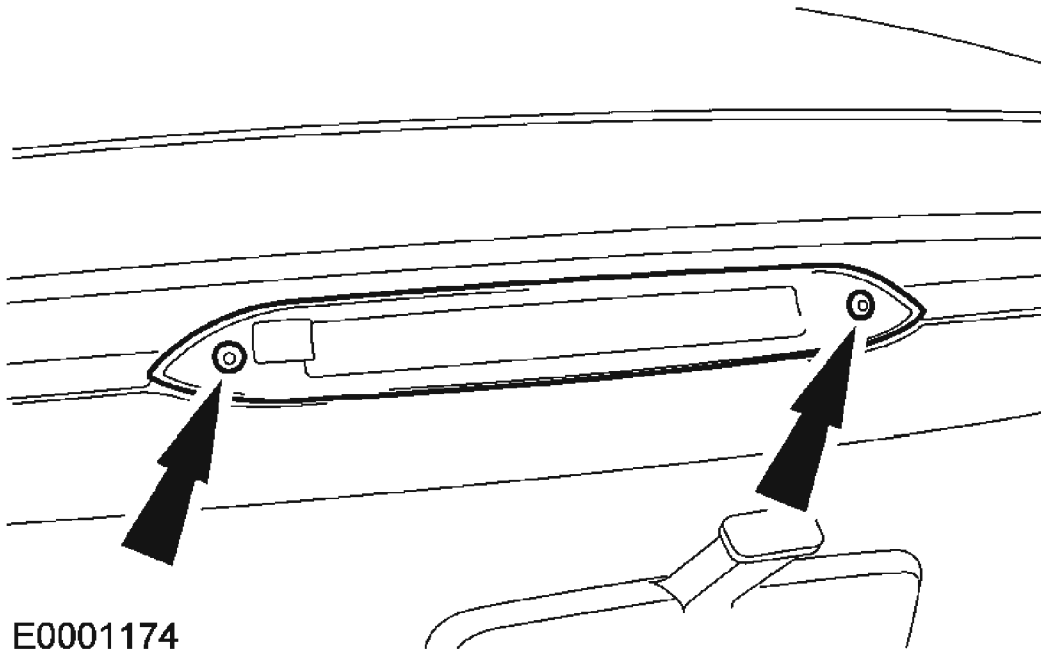
**Fig. 119: Installing Rear Window Wiper Motor**  
**Courtesy of FORD MOTOR CO.**

19. Connect the high mounted stoplamp electrical connector.



**Fig. 120: Connecting High Mounted Stoplamp Electrical Connector**  
Courtesy of FORD MOTOR CO.

20. Install the high mounted stoplamp.

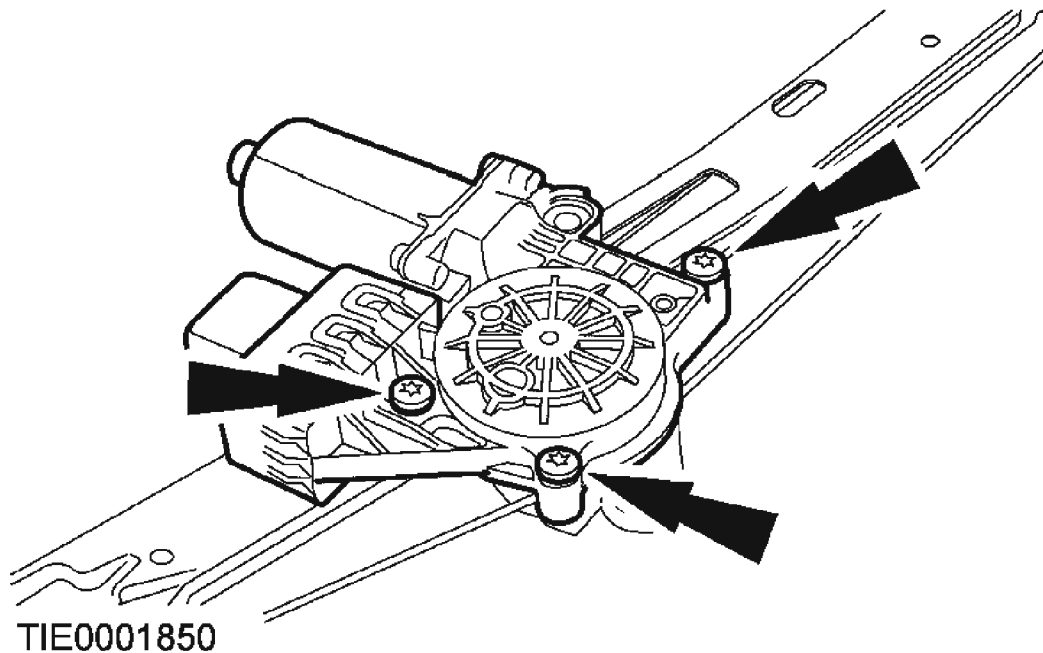


**Fig. 121: Installing High Mounted Stoplamp**  
Courtesy of FORD MOTOR CO.

#### DOOR WINDOW REGULATOR MOTOR

##### Removal and Installation

1. Remove the motor and regulator. For additional information, refer to **FRONT DOOR WINDOW REGULATOR AND MOTOR** or **REAR DOOR WINDOW REGULATOR AND MOTOR**.
2. Remove the screws and the motor.



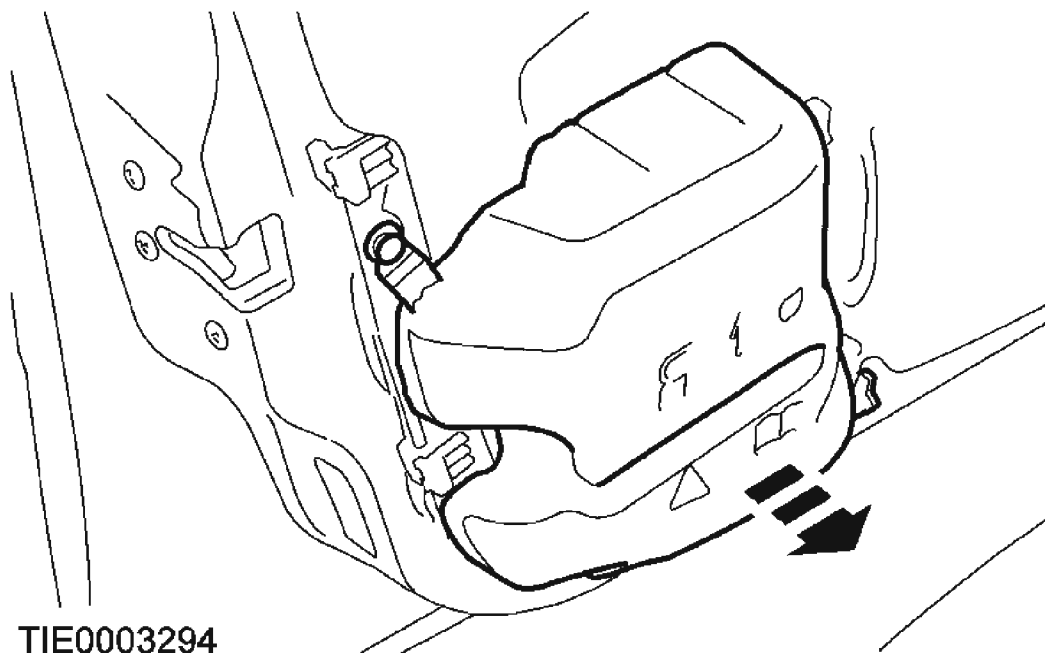
**Fig. 122: Removing Screws Of Motor**  
**Courtesy of FORD MOTOR CO.**

3. To install, reverse the removal procedure.

## **FRONT DOOR WINDOW REGULATOR**

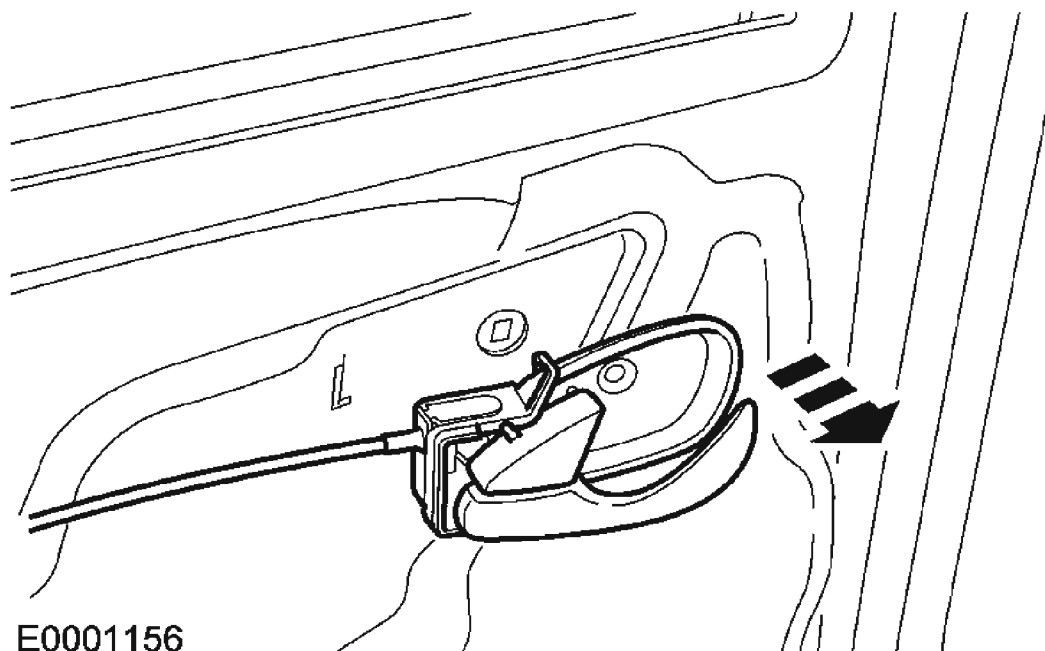
### **Removal and Installation**

1. Remove the front door speaker. For additional information, refer to **SPEAKERS**.
2. Remove the side impact bolster.



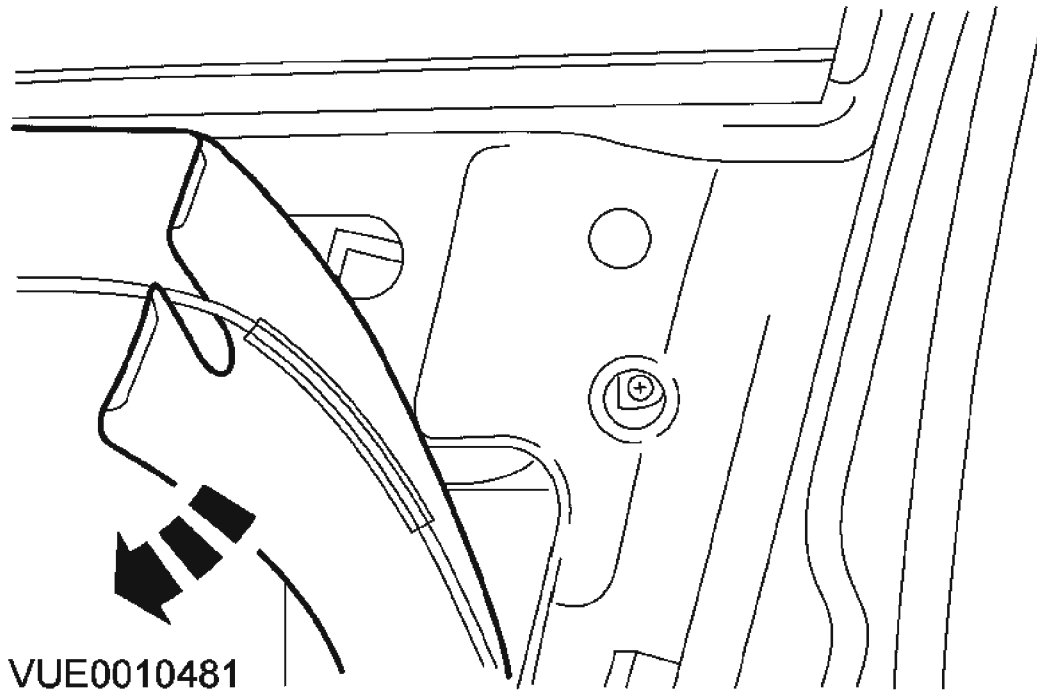
**Fig. 123: Removing Side Impact Bolster**  
Courtesy of FORD MOTOR CO.

3. Position the door latch release handle aside.



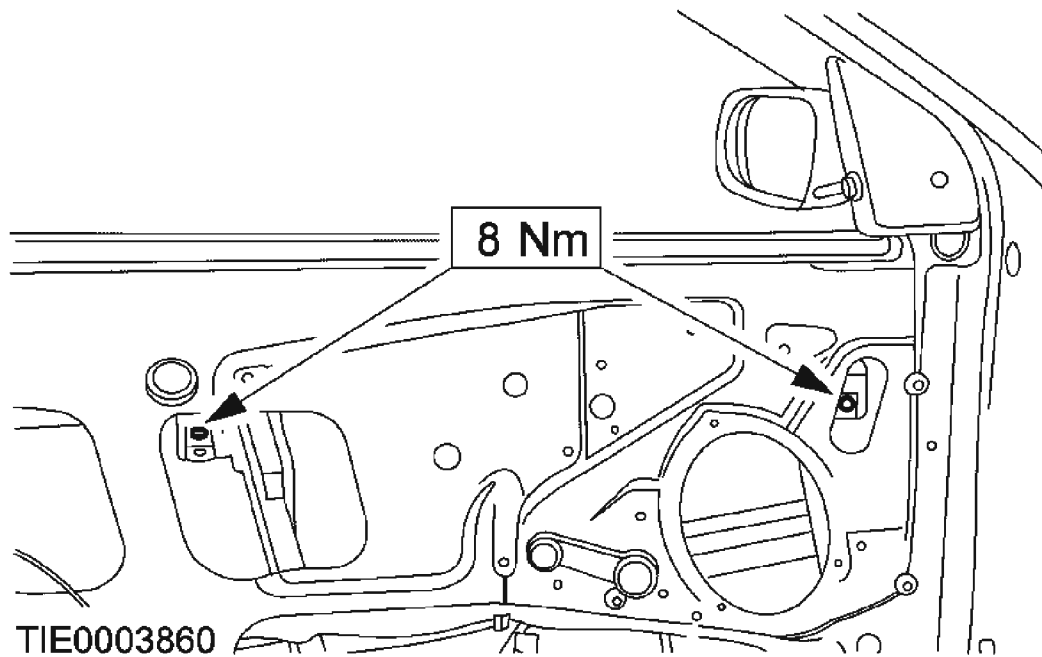
**Fig. 124: Positioning Door Latch Release Handle Aside**  
Courtesy of FORD MOTOR CO.

**CAUTION:** Do not touch the adhesive surface, as re-bonding will be impaired.



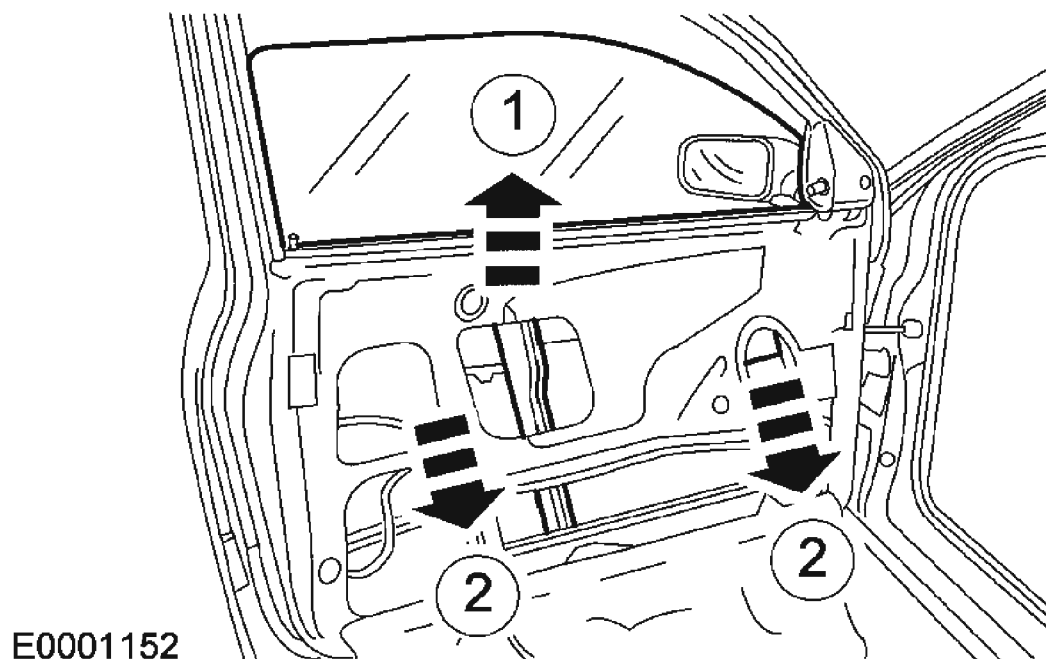
**Fig. 125: Removing Watershield**  
Courtesy of FORD MOTOR CO.

4. Remove the watershield.
5. Connect the window regulator.
6. Remove the door window glass clamp bolts.
  - Align the bolts with the access holes.



**Fig. 126: Removing Door Window Glass Clamp Bolts**  
**Courtesy of FORD MOTOR CO.**

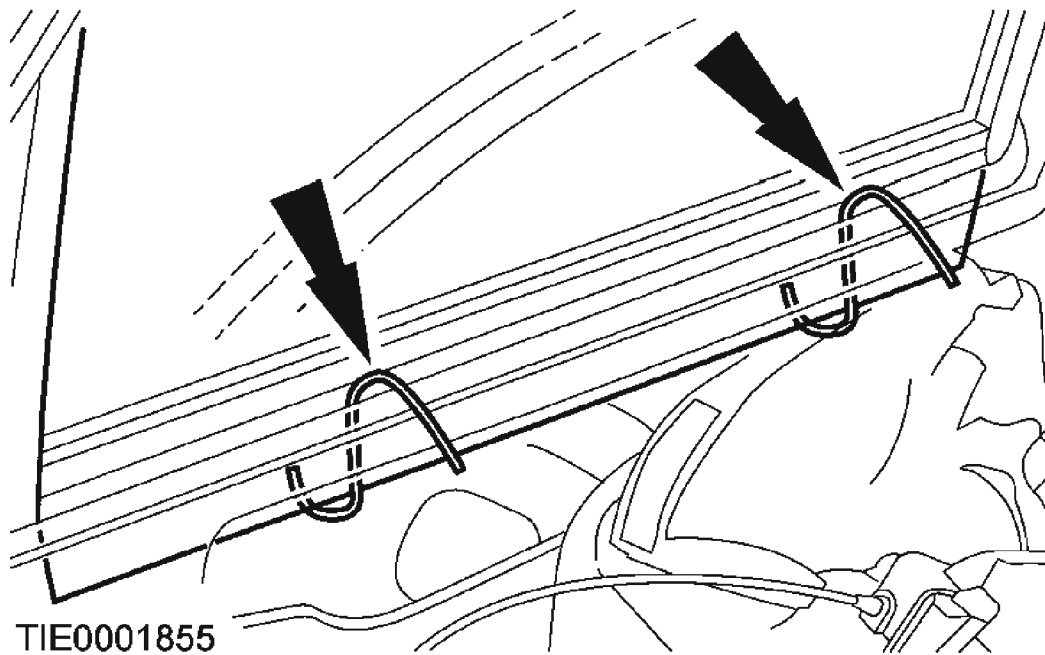
7. Remove the door glass from the regulator.
  1. Hold the window glass at the top of the opening.
  2. Lower the regulator.



E0001152

**Fig. 127: Removing Door Glass From Regulator**  
Courtesy of FORD MOTOR CO.

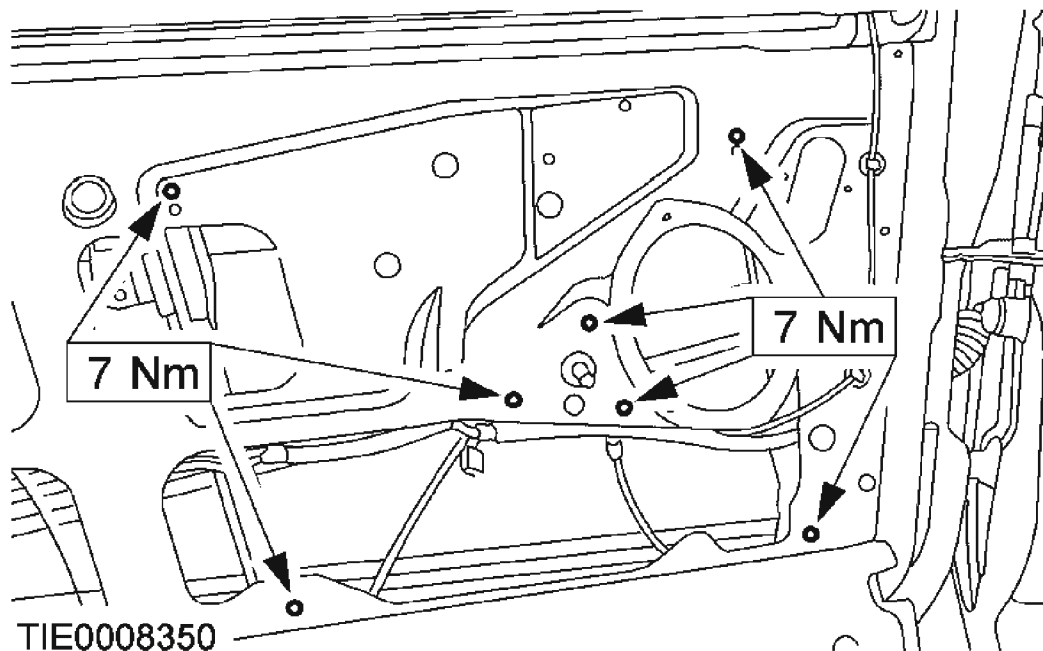
**CAUTION:** Make sure the window glass is adequately supported at the top of the opening.



**Fig. 128: Using Suitable Hooks, Raise And Securing Window Glass**  
**Courtesy of FORD MOTOR CO.**

8. Using suitable hooks, raise and secure the window glass.
9. Remove the regulator.
  - Remove the bolts.





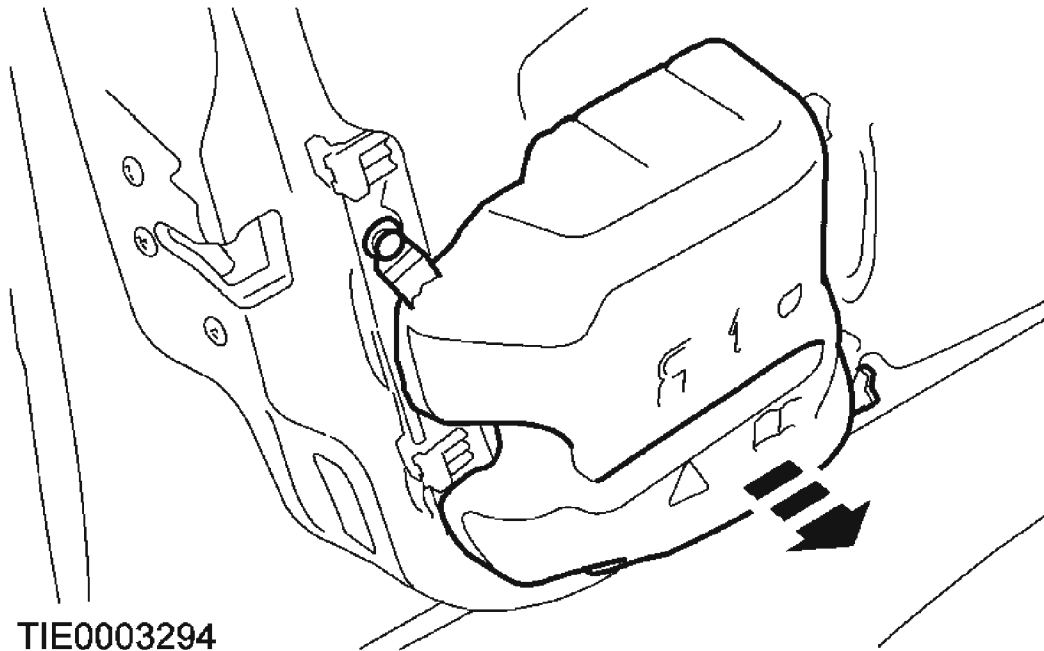
**Fig. 129: Removing Regulator**  
Courtesy of FORD MOTOR CO.

10. To install, reverse the removal procedure.

## FRONT DOOR WINDOW REGULATOR AND MOTOR

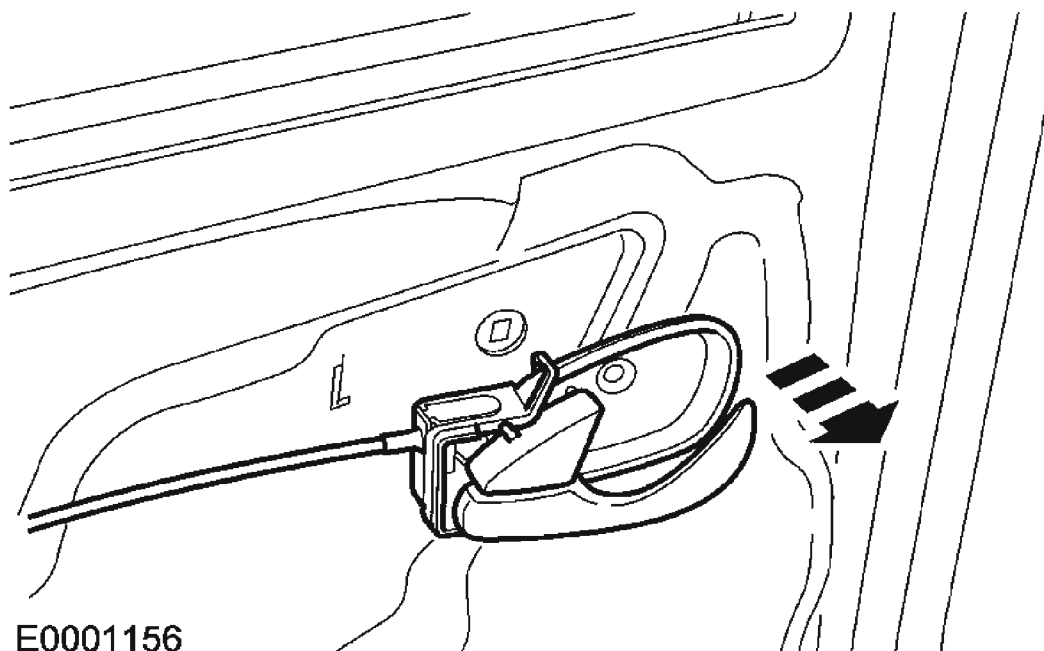
### Removal and Installation

1. Remove the front door speaker. For additional information, refer to **SPEAKERS**.
2. Remove the side impact bolster.



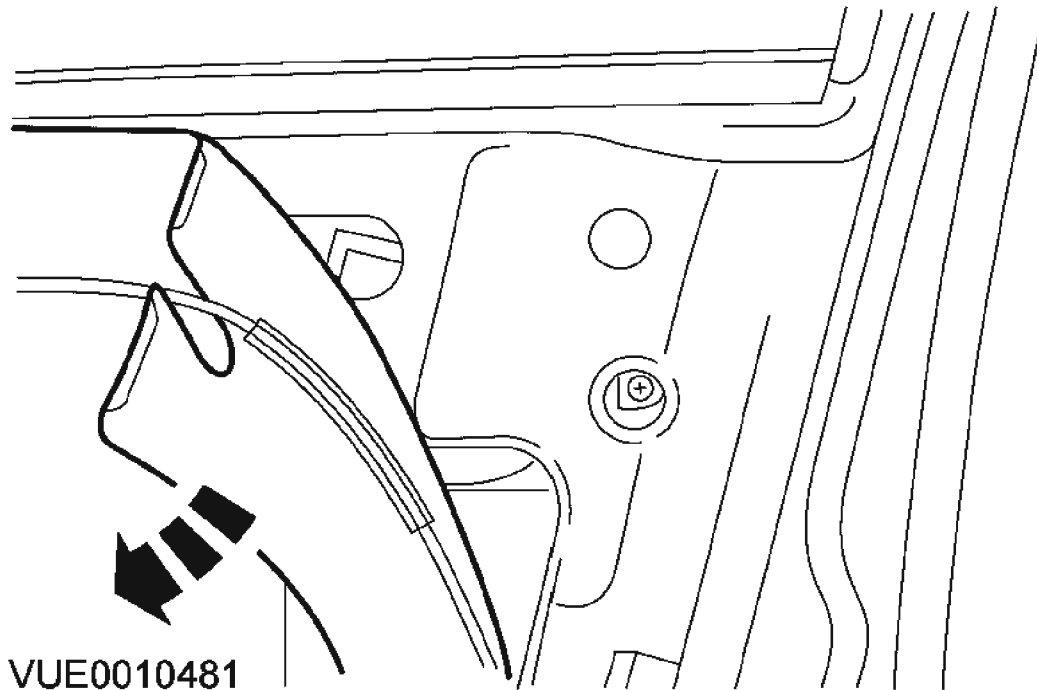
**Fig. 130: Removing Side Impact Bolster**  
Courtesy of FORD MOTOR CO.

3. Position the door latch release handle aside.



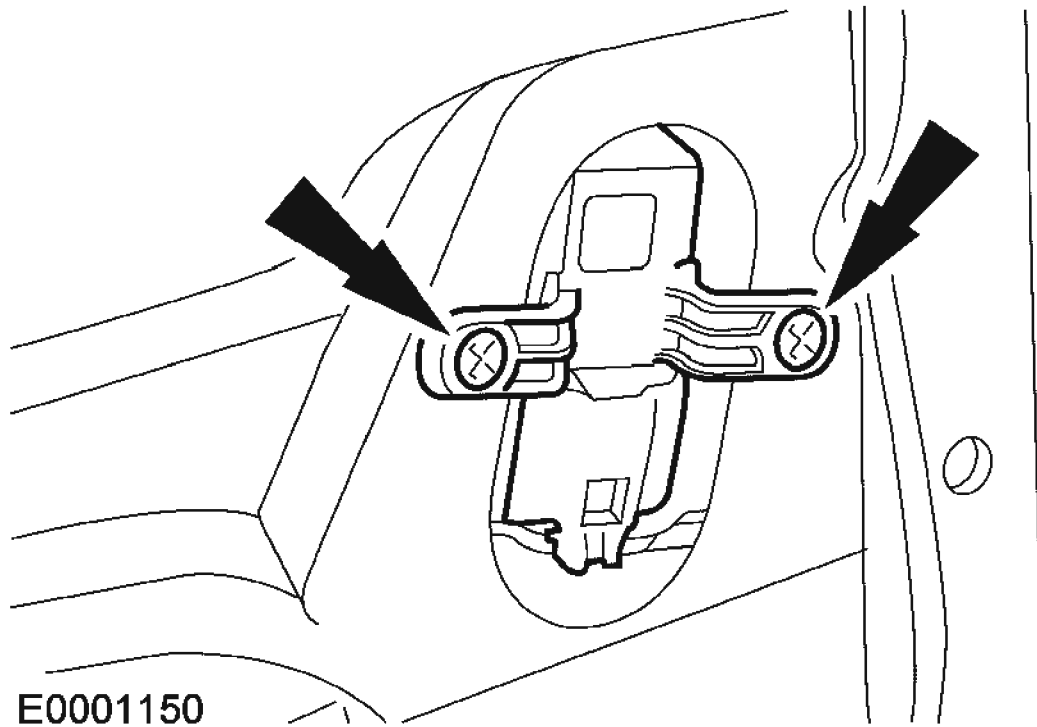
**Fig. 131: Positioning Door Latch Release Handle Aside**  
Courtesy of FORD MOTOR CO.

**CAUTION:** Do not touch the adhesive surface as re-bonding will be impaired.



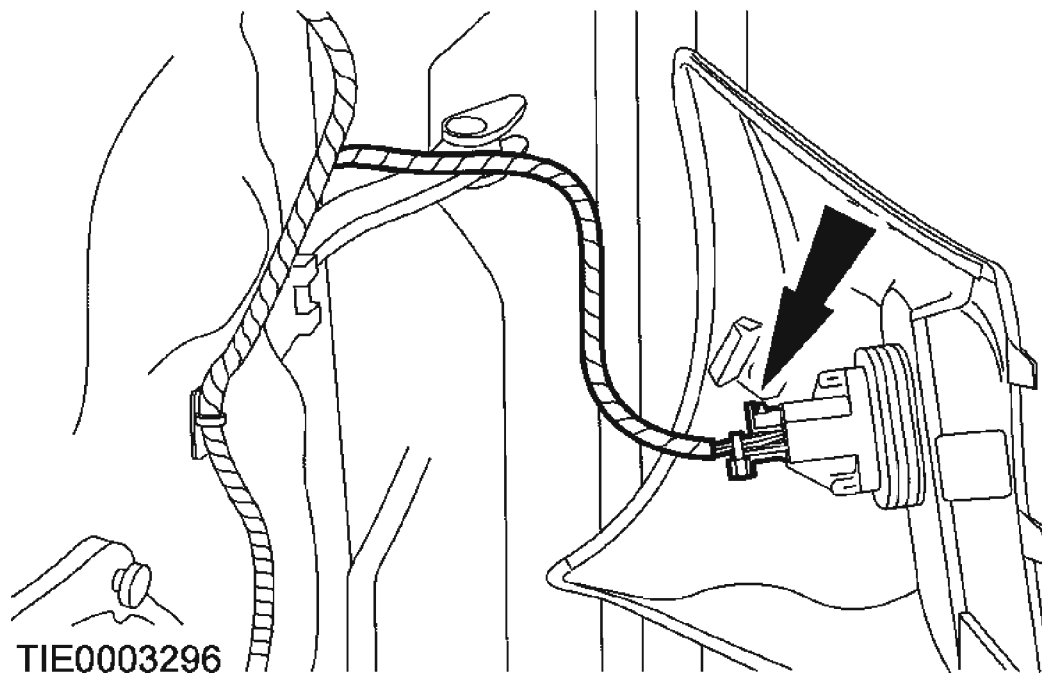
**Fig. 132: Removing Back Watershield**  
Courtesy of FORD MOTOR CO.

4. Remove the watershield.
5. Remove the screws and position the window one-touch down relay aside.



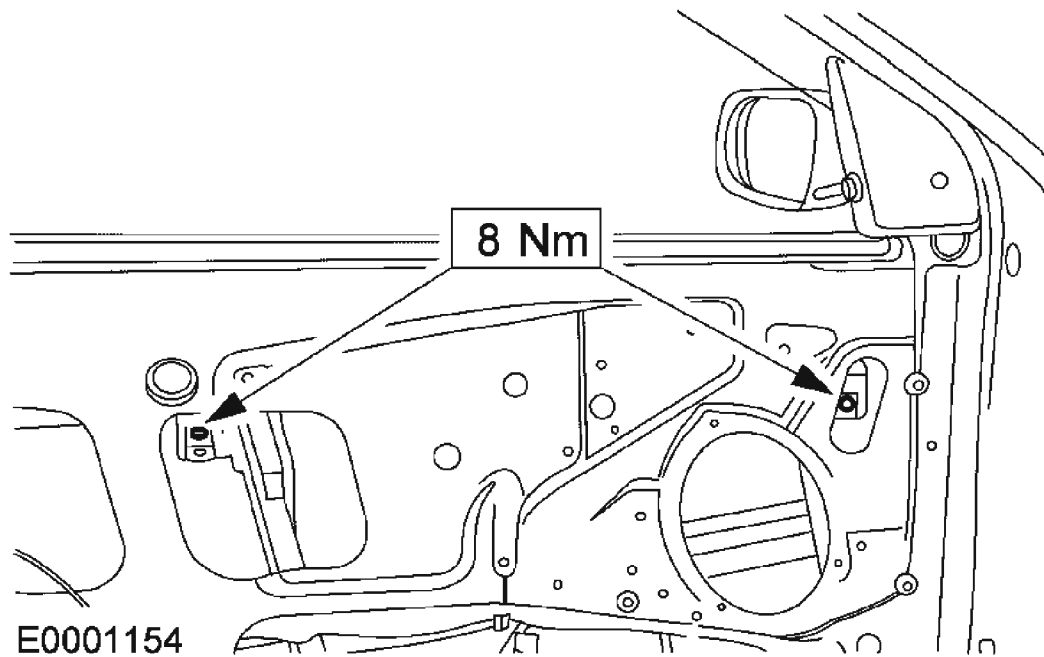
**Fig. 133: Identifying Window One-Touch Down Relay Screws**  
**Courtesy of FORD MOTOR CO.**

6. Connect the window control switch electrical connector.



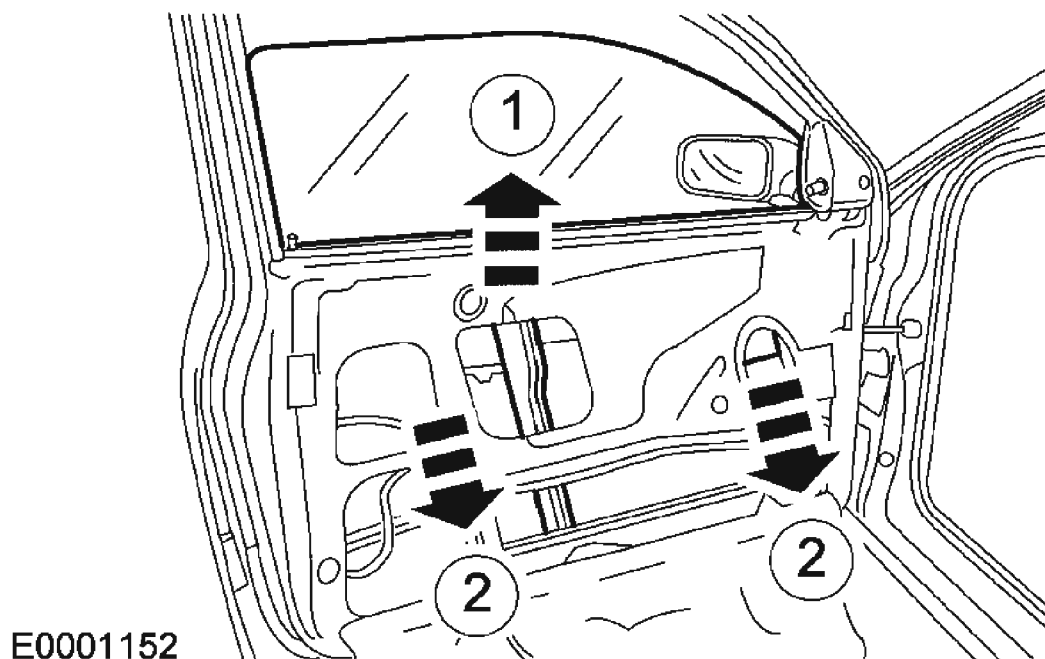
**Fig. 134: Connecting Window Control Switch Electrical Connector**  
Courtesy of FORD MOTOR CO.

7. Remove the front door window glass clamp bolts.
  - Align the bolts with the access holes.



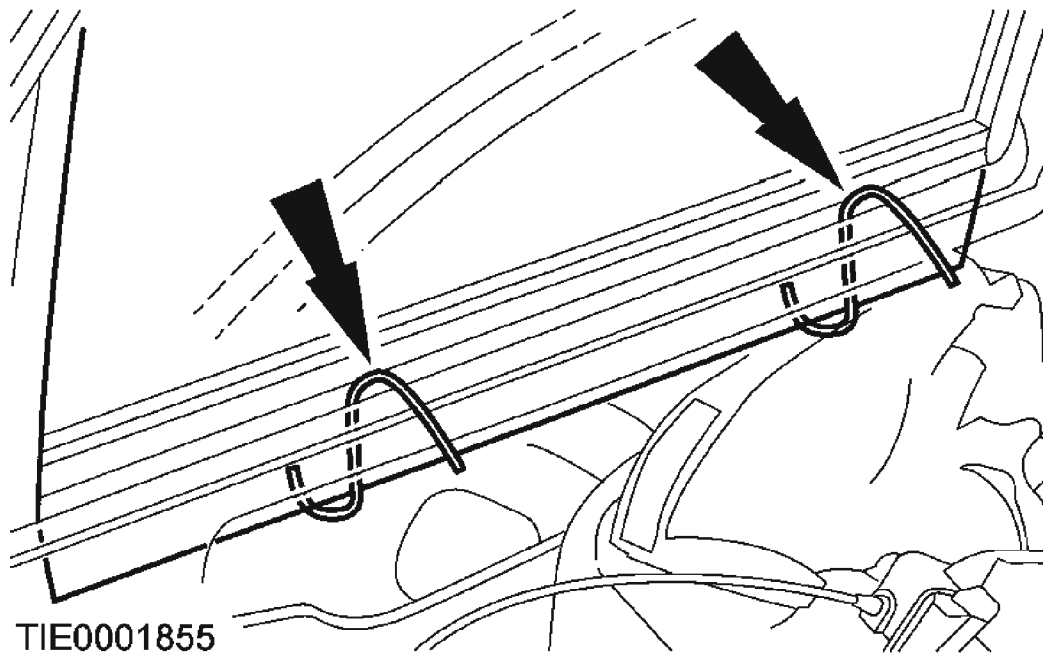
**Fig. 135: Removing Front Door Window Glass Clamp Bolts**  
**Courtesy of FORD MOTOR CO.**

8. Remove the front door window glass from the regulator.
  1. Hold the front door window glass at the top of the opening.
  2. Lower the regulator.



**Fig. 136: Removing Front Door Window Glass From Regulator**  
Courtesy of FORD MOTOR CO.

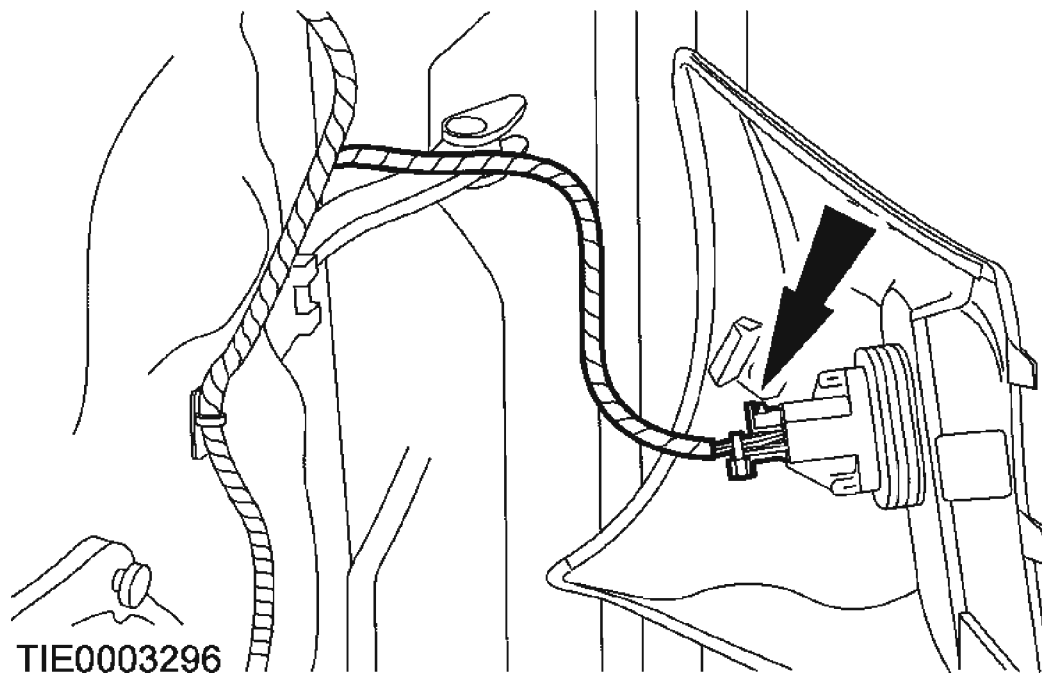
**CAUTION:** Make sure the front door window glass is adequately supported.



**Fig. 137: Securing Front Door Window Glass Using Suitable Hooks**  
**Courtesy of FORD MOTOR CO.**

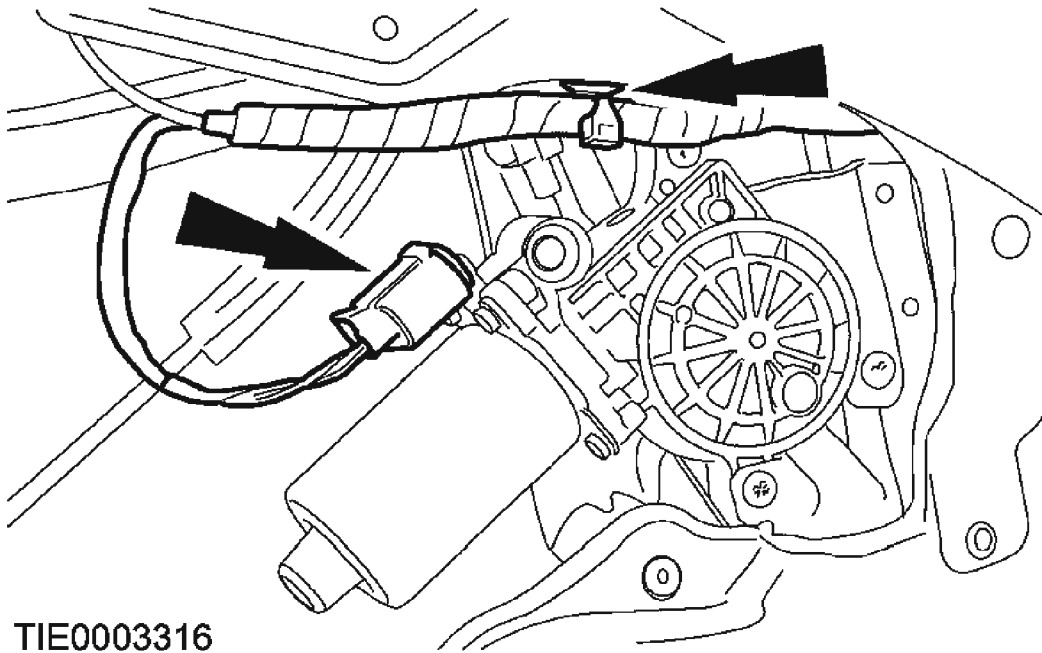
9. Using suitable hooks, secure the front door window glass.
10. Disconnect the window control switch electrical connector.





**Fig. 138: Disconnecting Window Control Switch Electrical Connector**  
Courtesy of FORD MOTOR CO.

11. Disconnect the front door window regulator motor electrical connector.
  - Unclip the wiring harness.

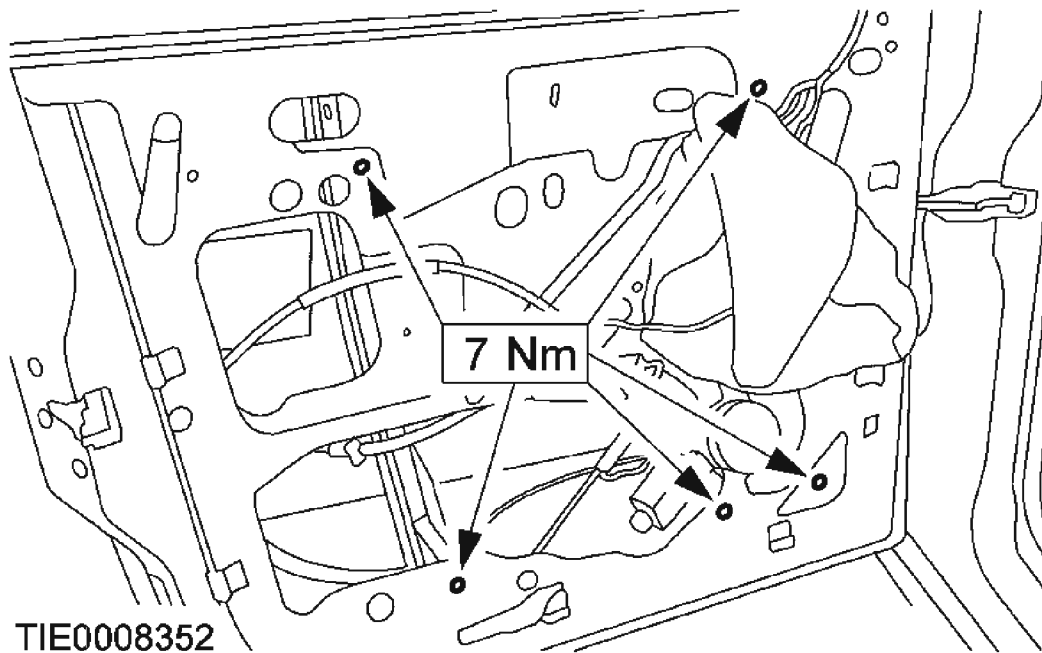


TIE0003316

**Fig. 139: Disconnecting Front Door Window Regulator Motor Electrical Connector**

**Courtesy of FORD MOTOR CO.**

12. Remove the bolts and the front door window regulator and motor.



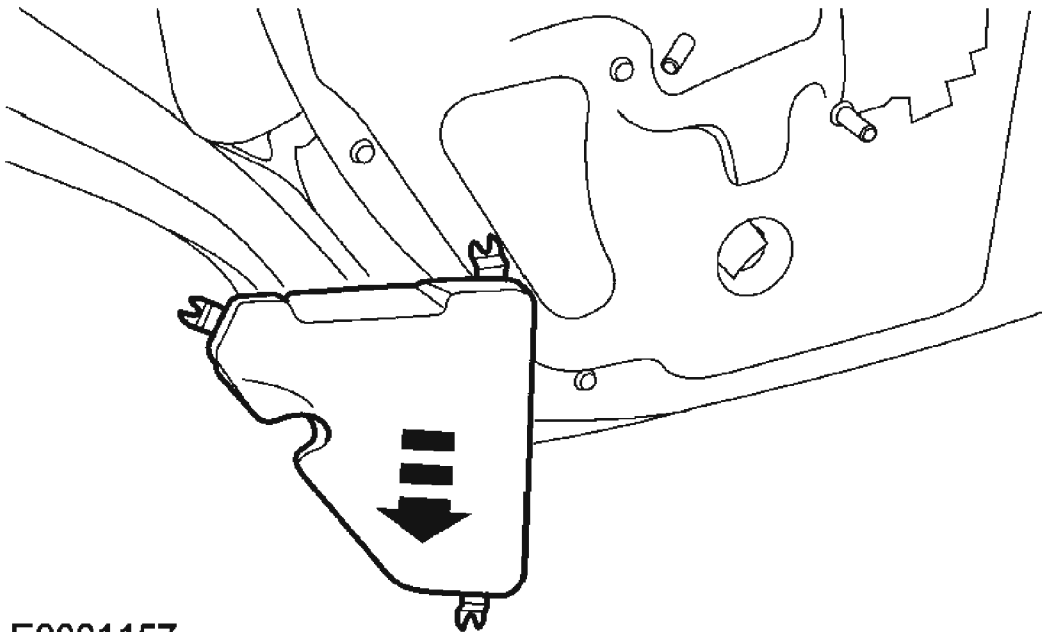
**Fig. 140: Removing Bolts And Front Door Window Regulator And Motor**  
Courtesy of FORD MOTOR CO.

13. To install, reverse the removal procedure.

## REAR DOOR WINDOW REGULATOR AND MOTOR

### Removal and Installation

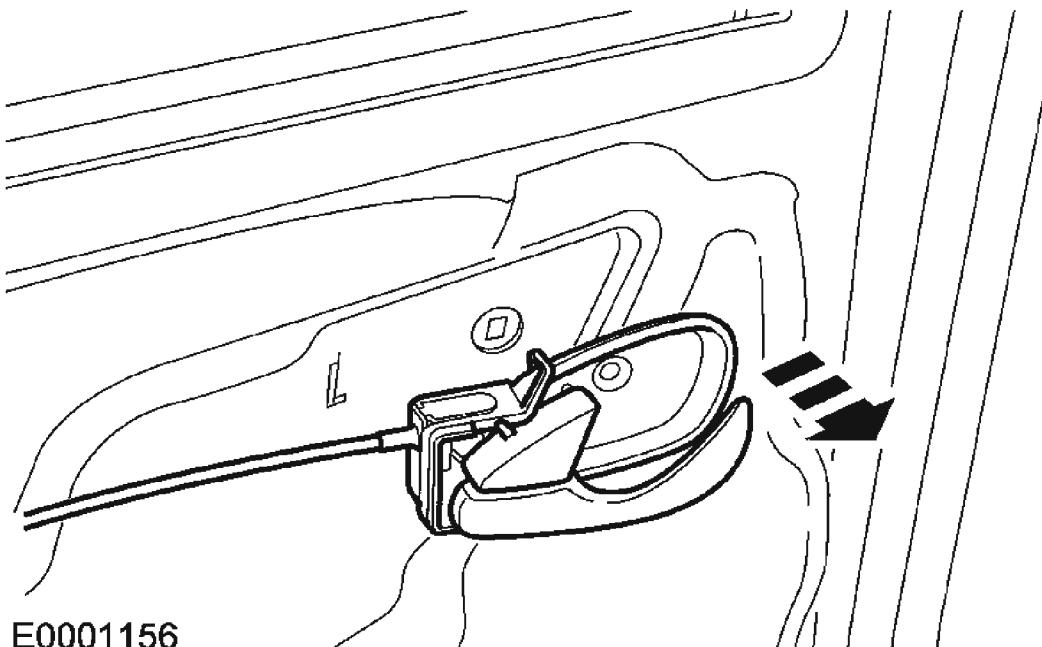
1. Remove the rear door speaker. For additional information, refer to **SPEAKERS**.
2. Remove the side impact bolster.



E0001157

**Fig. 141: Removing Side Impact Bolster**  
Courtesy of FORD MOTOR CO.

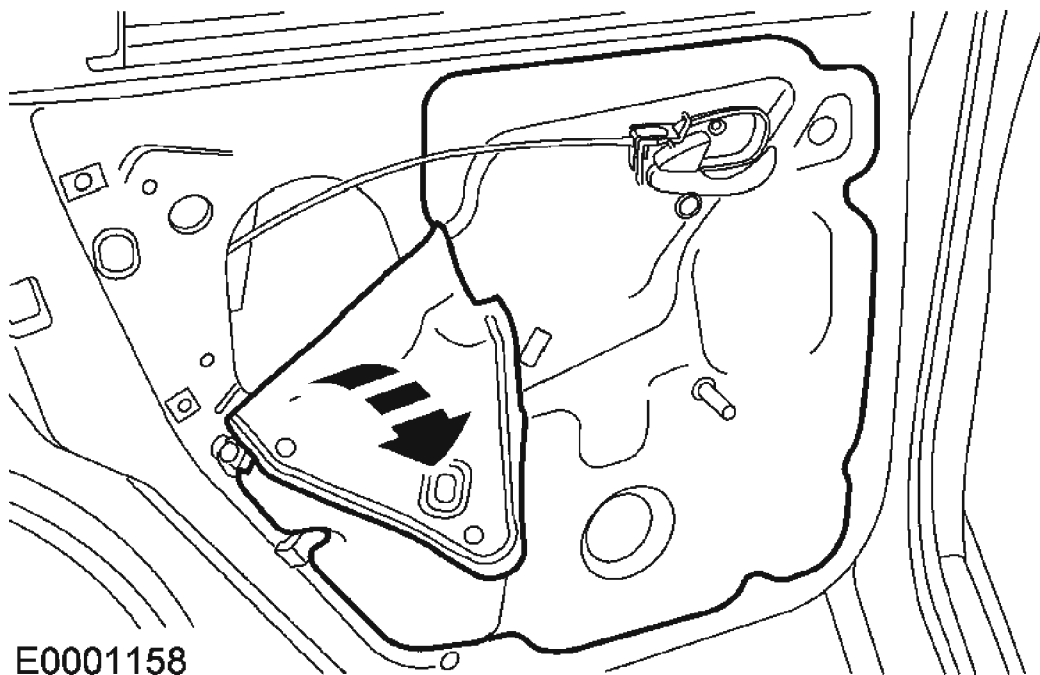
3. Position the door latch release handle aside.



E0001156

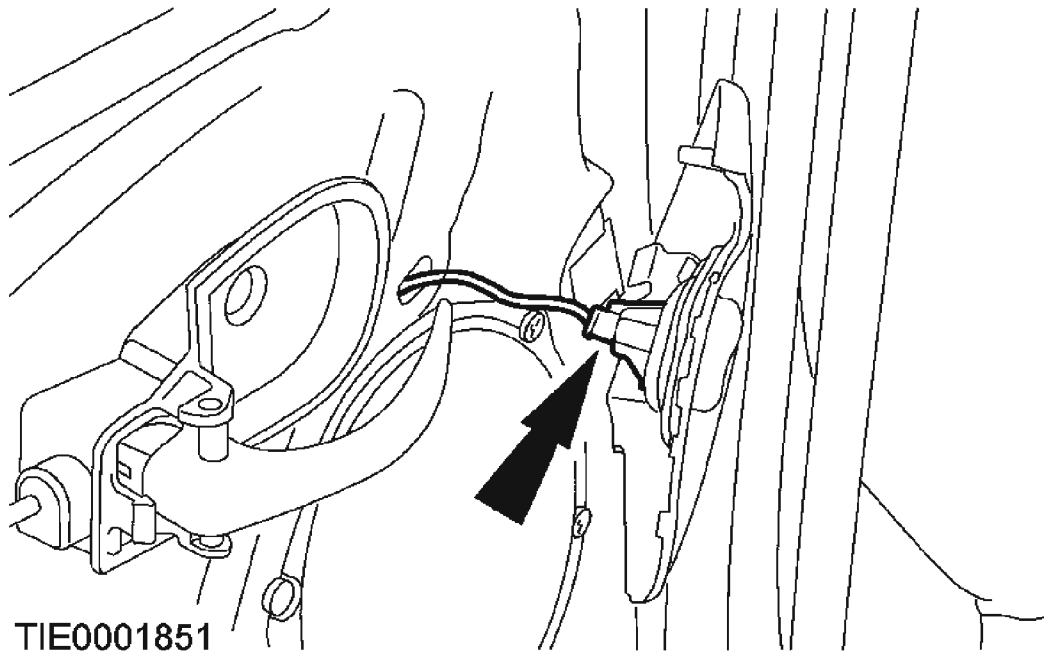
**Fig. 142: Positioning Door Latch Release Handle Aside**  
Courtesy of FORD MOTOR CO.

**CAUTION:** Do not touch the adhesive surface, as re-bonding will be impaired.



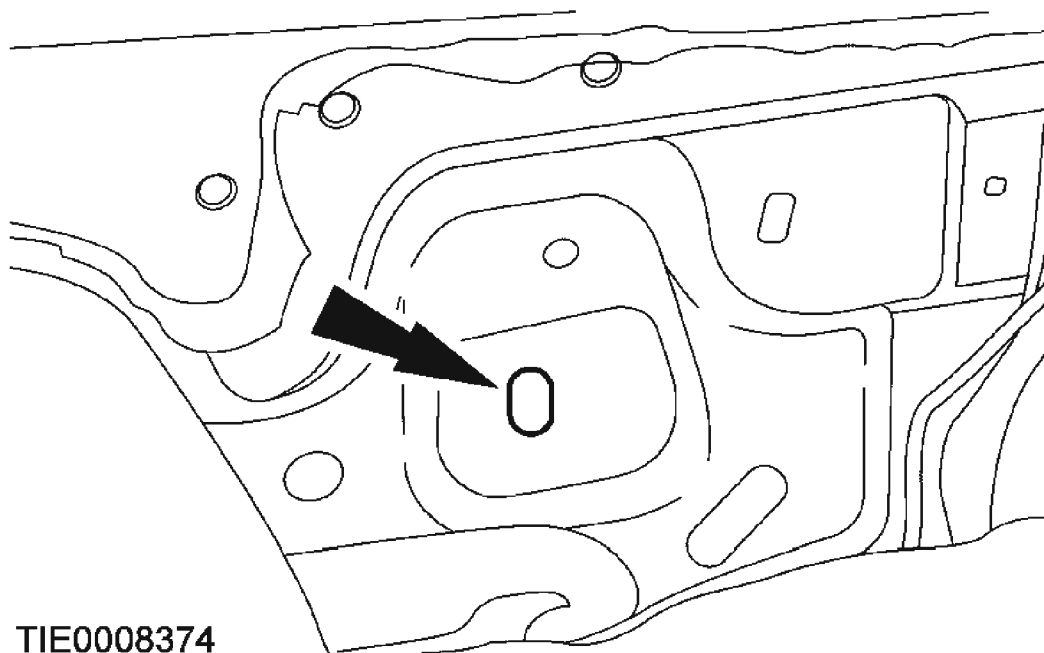
**Fig. 143: Removing Watershield**  
Courtesy of FORD MOTOR CO.

4. Remove the watershield.
5. Connect the window operating switch electrical connector.



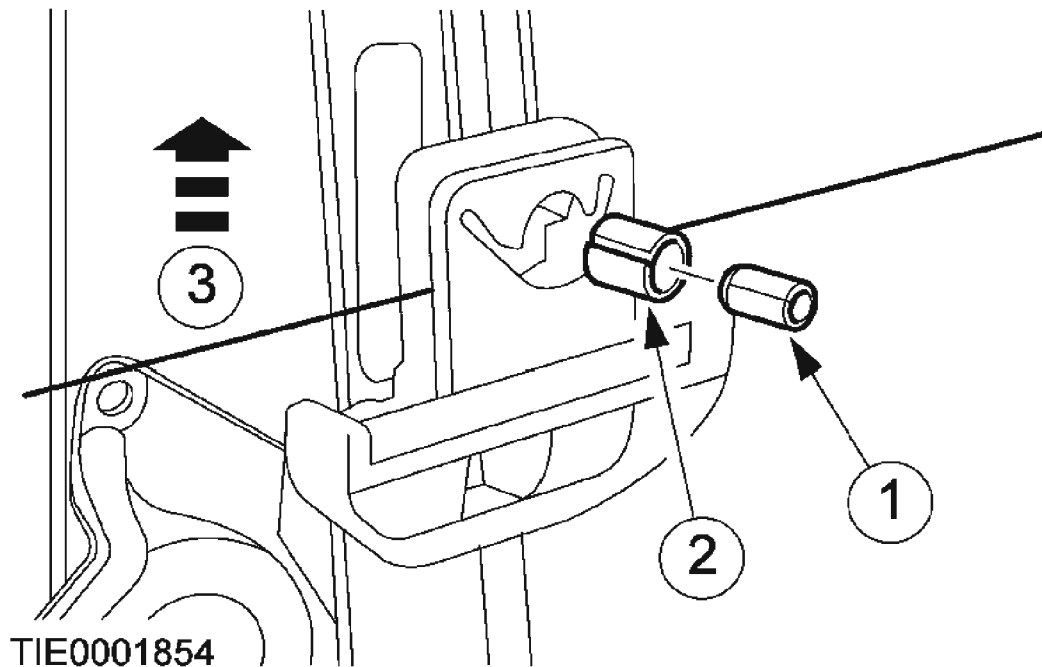
**Fig. 144: Connecting Window Operating Switch Electrical Connector**  
Courtesy of FORD MOTOR CO.

6. Align the regulator clamp with the access hole.



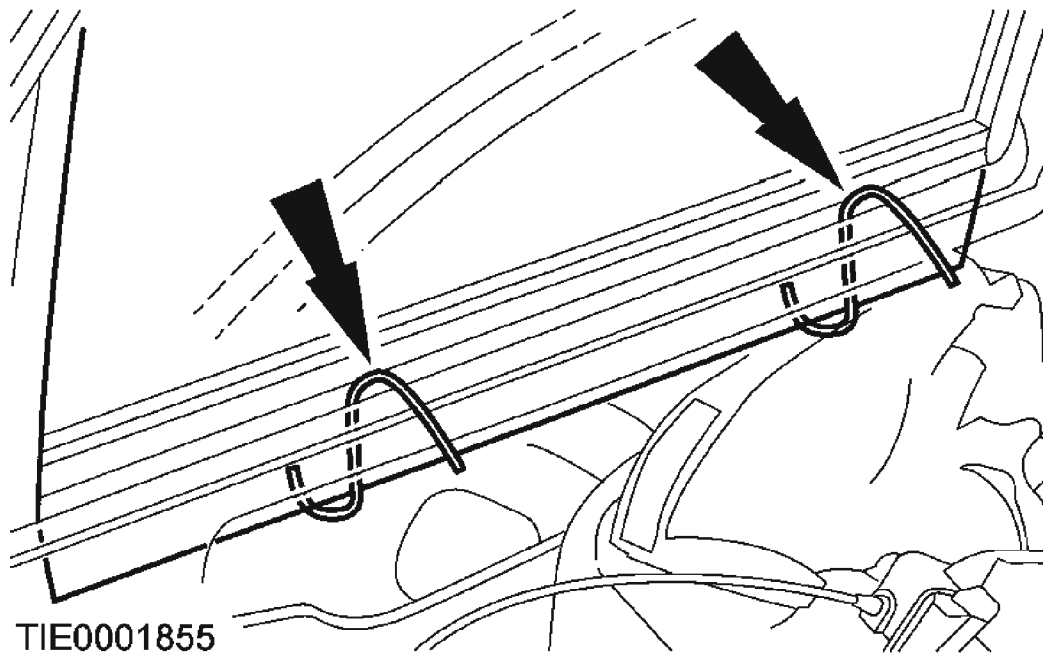
**Fig. 145: Aligning Regulator Clamp With Access Hole**  
Courtesy of FORD MOTOR CO.

7. Remove the window glass from the regulator clamp.
  1. Push out the pin.
  2. Push out the sleeve.
  3. Remove the window glass from the regulator clamp.



**Fig. 146: Removing Window Glass From Regulator Clamp**  
Courtesy of FORD MOTOR CO.

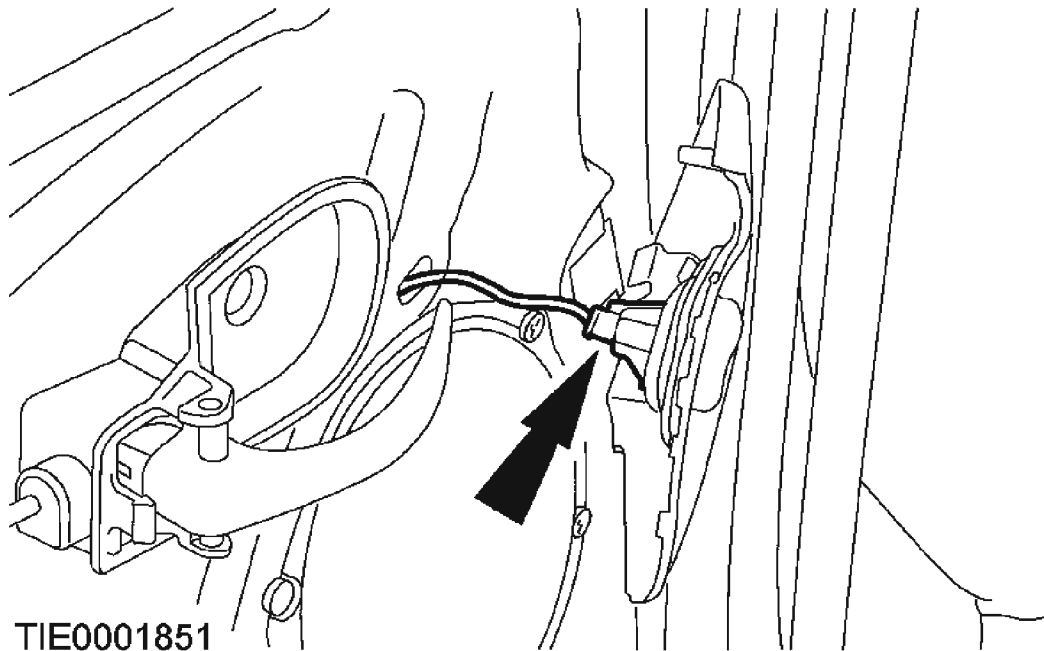
**CAUTION:** Make sure the window glass is adequately supported at the top of the opening.



**Fig. 147: Raising Window Glass Using Suitable Hooks**  
**Courtesy of FORD MOTOR CO.**

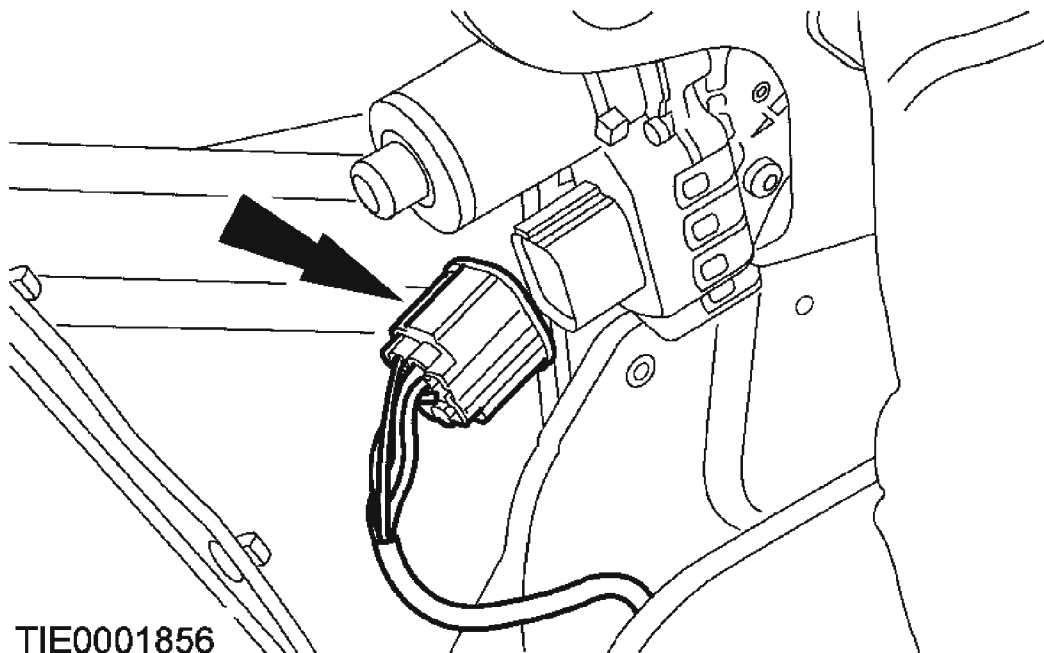
8. Using suitable hooks, raise and secure the window glass.
9. Disconnect the window operating switch electrical connector.





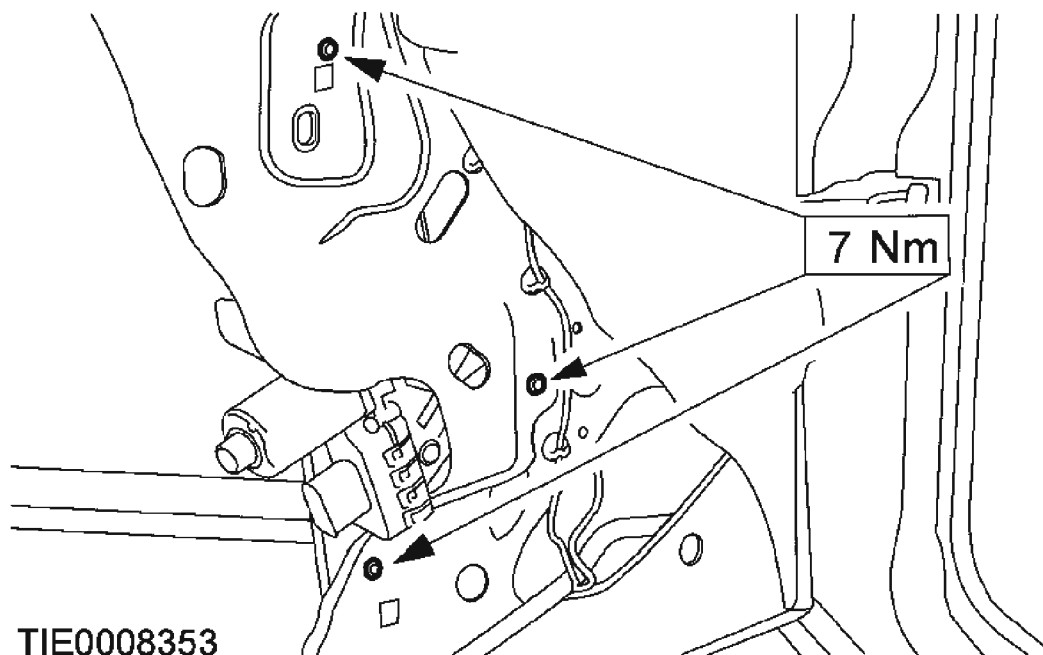
**Fig. 148: Disconnecting Window Operating Switch Electrical Connector**  
Courtesy of FORD MOTOR CO.

10. Disconnect the motor electrical connector.



**Fig. 149: Disconnecting Motor Electrical Connector**  
Courtesy of FORD MOTOR CO.

11. Remove the bolts and the motor and window regulator.



**Fig. 150: Removing Bolts, Motor And Window Regulator**  
Courtesy of FORD MOTOR CO.

12. To install reverse the removal procedure.

## WINDSHIELD GLASS

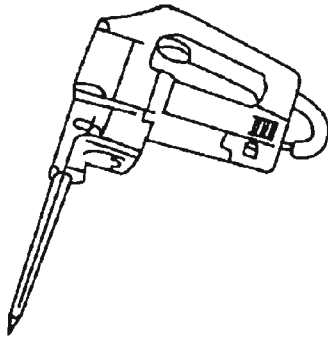
Special Tool(s)

## SPECIAL TOOL CHART

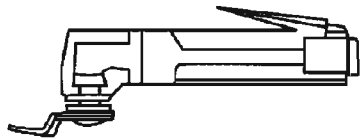
	Interior Auto Glass Cut-Out Knife Kit 164-R2450 or equivalent
--	--

## 2005 Ford Focus ZX5 S

2005 ACCESSORIES & BODY, CAB Glass, Frames And Mechanisms - Focus

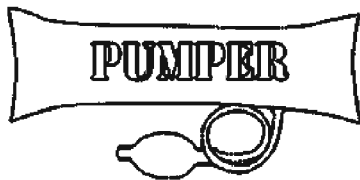


ST1320-A



ST1109-A

Pneumatic Knife with Offset Blade 107-R1511 or equivalent



ST2085-A

The Pumper 164-R2459 or equivalent

### Material

### MATERIAL SPECIFICATION CHART

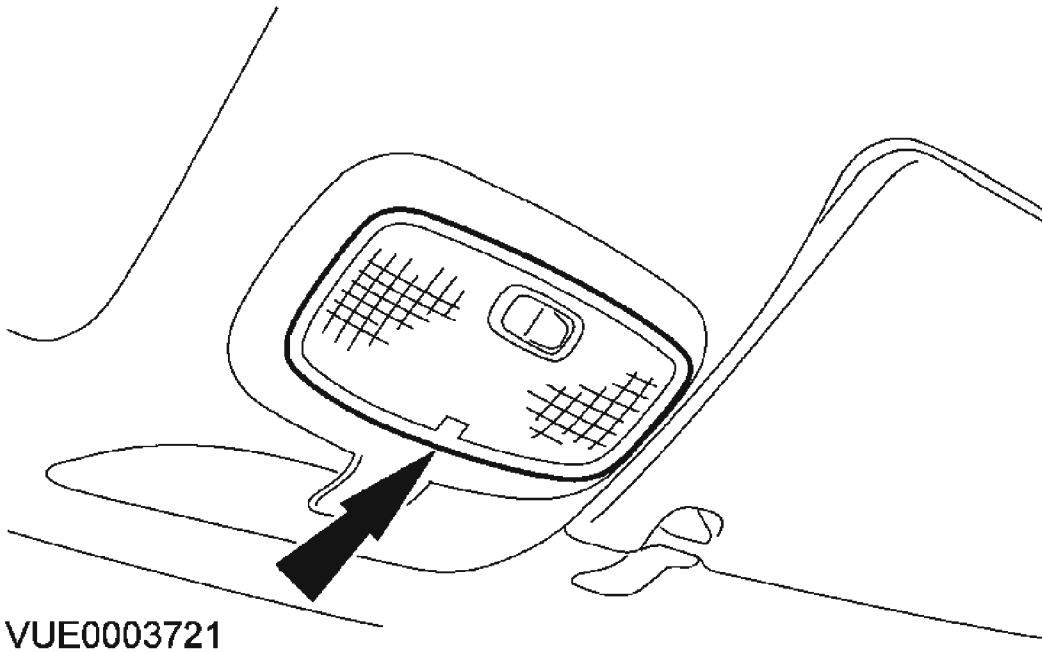
Item	Specification
Urethane Metal Primer Essex U-413	WSB-M2G234-C
Urethane Glass Prep Essex U-401	WSB-M5B280-C
Urethane Glass Primer Essex U-402	WSB-M2G314-B
Urethane Adhesive Essex 400-HV	WSB-M2G316-B

### Removal

**WARNING:** To prevent glass splinters from entering the eyes or cutting the hands, wear safety glasses and heavy gloves when cutting the glass from the vehicle. Failure

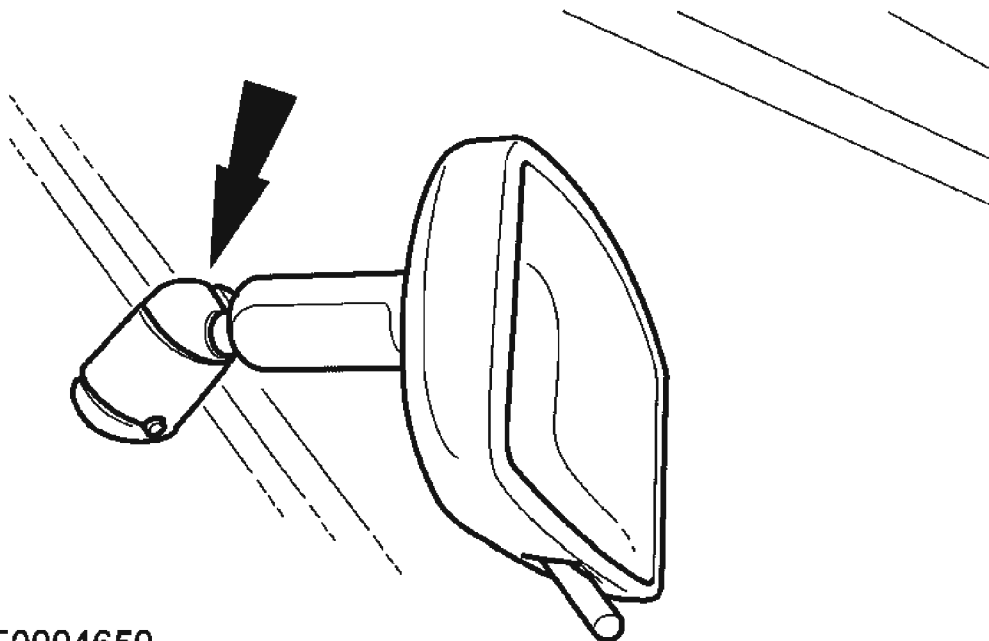
**to follow these instructions may result in personal injury.**

1. Remove the cowl panel grilles. For additional information, refer to **FRONT END BODY PANELS** .
2. Remove the A-pillar trim panels. For additional information, refer to **INTERIOR TRIM AND ORNAMENTATION** .
3. If equipped, remove the overhead console. For additional information, refer to **INSTRUMENT PANEL AND CONSOLE** .
4. If equipped, remove the interior lamp.
  - Disconnect the electrical connectors.



**Fig. 151: Removing Interior Lamp**  
**Courtesy of FORD MOTOR CO.**

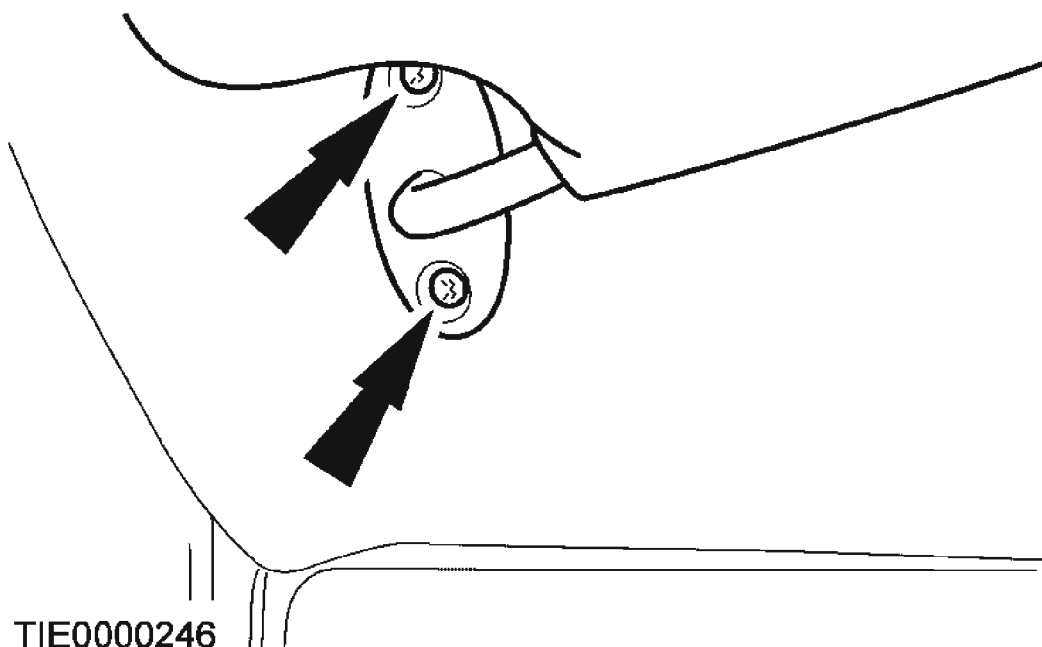
5. Remove the interior mirror.



TIE0004650

**Fig. 152: Removing Interior Mirror**  
Courtesy of FORD MOTOR CO.

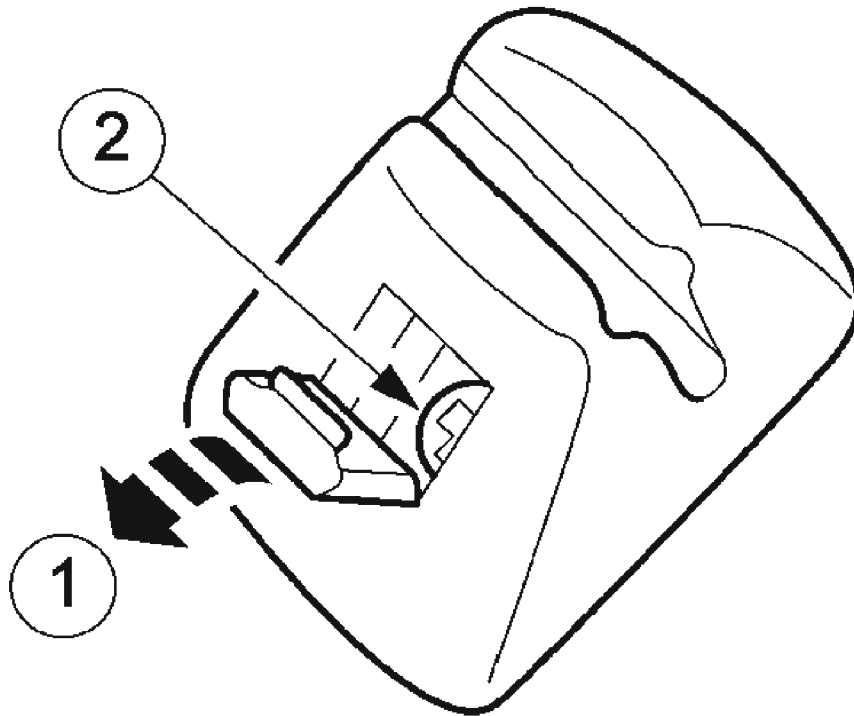
6. Remove the screws and the sun visors.



TIE0000246

**Fig. 153: Removing Screws And Sun Visors**  
**Courtesy of FORD MOTOR CO.**

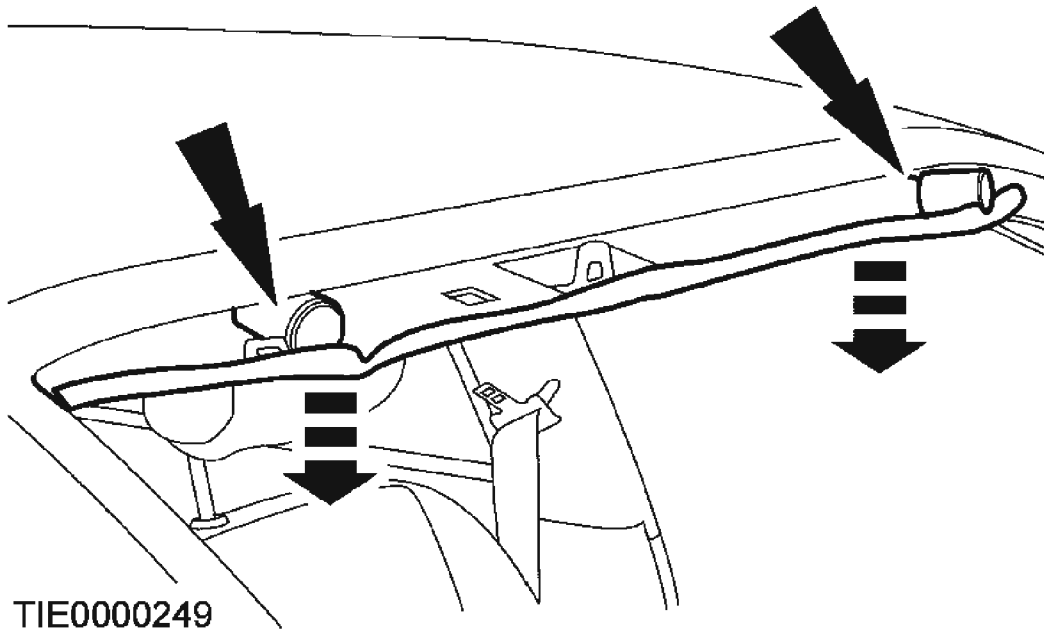
7. Remove the sun visor retaining clips.
  1. Open the covers.
  2. Remove the screws.



TIE0000247

**Fig. 154: Removing Sun Visor Retaining Clips**  
**Courtesy of FORD MOTOR CO.**

8. Partially lower the headliner and place 2 blocks of suitable material between the headliner and the roof opening to act as spacers.

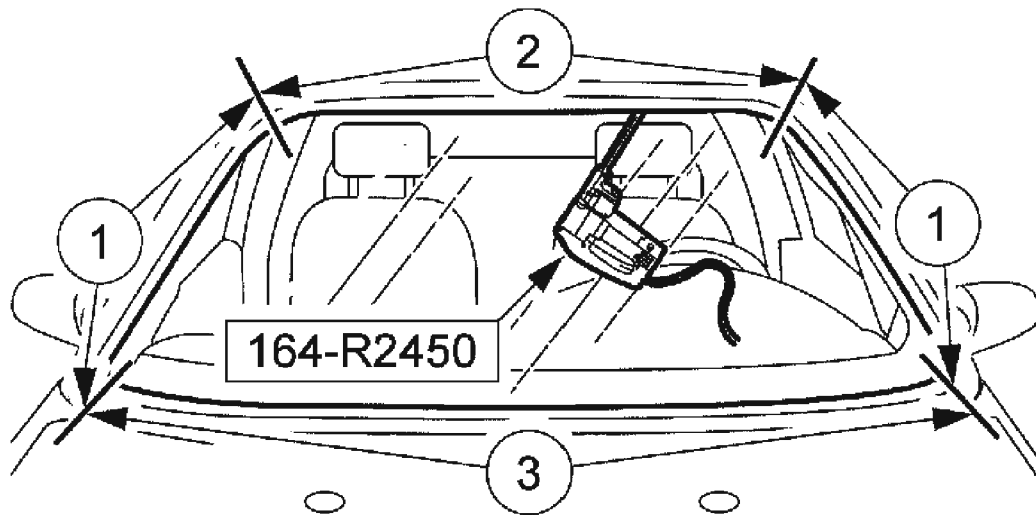


**Fig. 155: Lowering Headliner And Placing 2 Blocks Of Suitable Material Between Headliner And Roof Opening To Act As Spacers**  
Courtesy of FORD MOTOR CO.

**CAUTION:** Make sure the cutting blades are changed where the cutting depth changes to avoid damage to the body and trim panels.

**NOTE:** Some resistance may be encountered when cutting through the glass locating pegs in the lower corners of the glass.

**NOTE:** Lubricate the urethane adhesive with water to aid the special tool when cutting the urethane adhesive. Using the special tool, place the flat side of the knife against the rear glass.

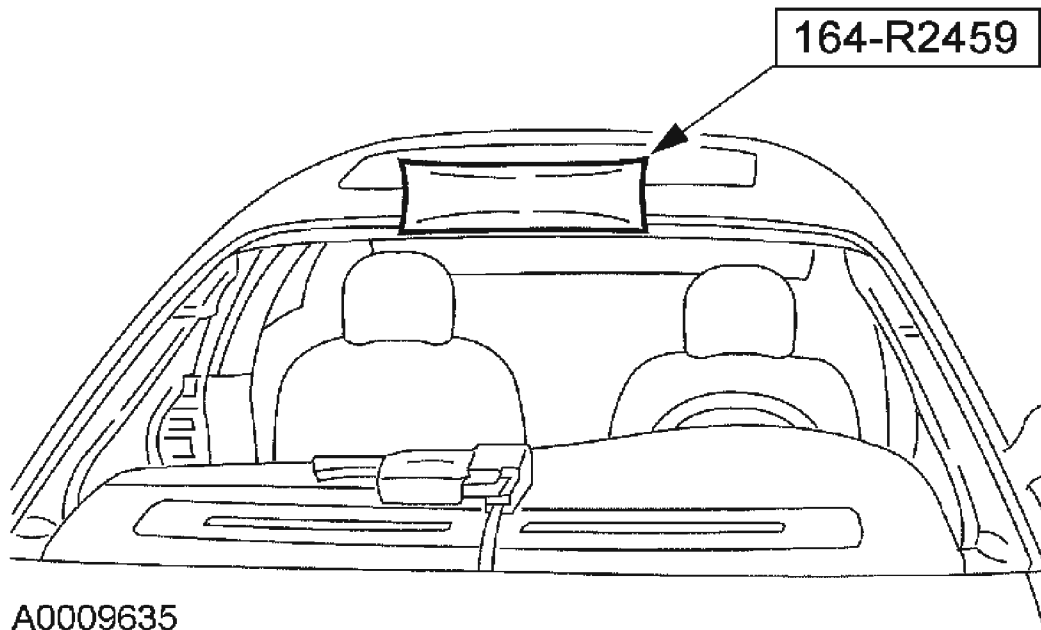


A0074773

**Fig. 156: Placing Flat Side Of Knife Against Rear Glass Using Special Tool**  
**Courtesy of FORD MOTOR CO.**

9. Start at the top center and work out and down the pillars to the lower corners to the given maximum depths:
  1. 23 mm
  2. 75 mm
  3. 160 mm
10. Install the special tool into the top of the windshield glass and inflate. Cut the urethane adhesive from corner to corner along the bottom of the windshield glass.





**Fig. 157: Installing Special Tool Into Top Of Windshield Glass And Inflate**  
Courtesy of FORD MOTOR CO.

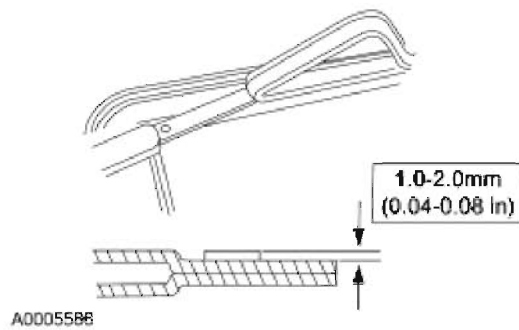
11. Remove the windshield glass and the windshield weatherstrip.
12. Using a soft brush or vacuum, remove any dirt or foreign material from the pinch weld.

#### Installation

**CAUTION:** When installing urethan-installed glass parts, the vehicle must not be driven until the urethane has cured. At temperatures above 21°C (70°F) and relative humidities above 50%, adequate cure time is typically 24 hours. (Refer to the Essex drive away chart for the cure times as the temperatures and humidity vary). Inadequate or incorrect curing can adversely affect the retention of the windshield.

1. Remove the remaining part of the glass locating pegs from the windshield glass flange.
2. Dry fit the windshield glass to the existing urethane adhesive bead on the body pinch weld. Align the windshield glass in the opening for a uniform fit.
3. Use a non-permanent pencil to make alignment marks on the windshield glass at the setting blocks and the body to aid in the installation alignment of the windshield glass.
4. Remove the windshield glass.

**NOTE:** Avoid scratching the pinch weld.

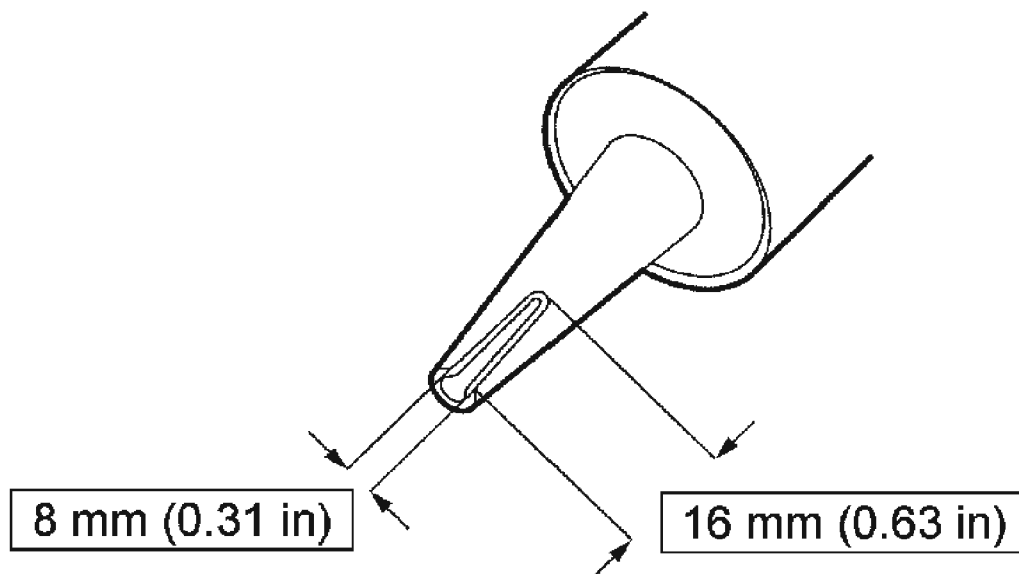


**Fig. 158: Trimming Pinch Weld Urethane Adhesive**  
**Courtesy of FORD MOTOR CO.**

5. Trim the remaining urethane adhesive on the pinch weld. The urethane adhesive must be smooth and free of cuts and contamination after trimming. Avoid touching the urethane surface after preparation.
6. Apply urethane metal primer to minor scratches or exposed metal on the pinch weld caused during removal. Do not apply primer to the existing urethane adhesive.
7. If installing the original windshield glass, remove the excess urethane adhesive.
8. Clean the inside of the windshield glass surface with a non-alcohol based glass cleaner.

**CAUTION: Wipe off the urethane glass prep immediately after each application because it flash dries.**

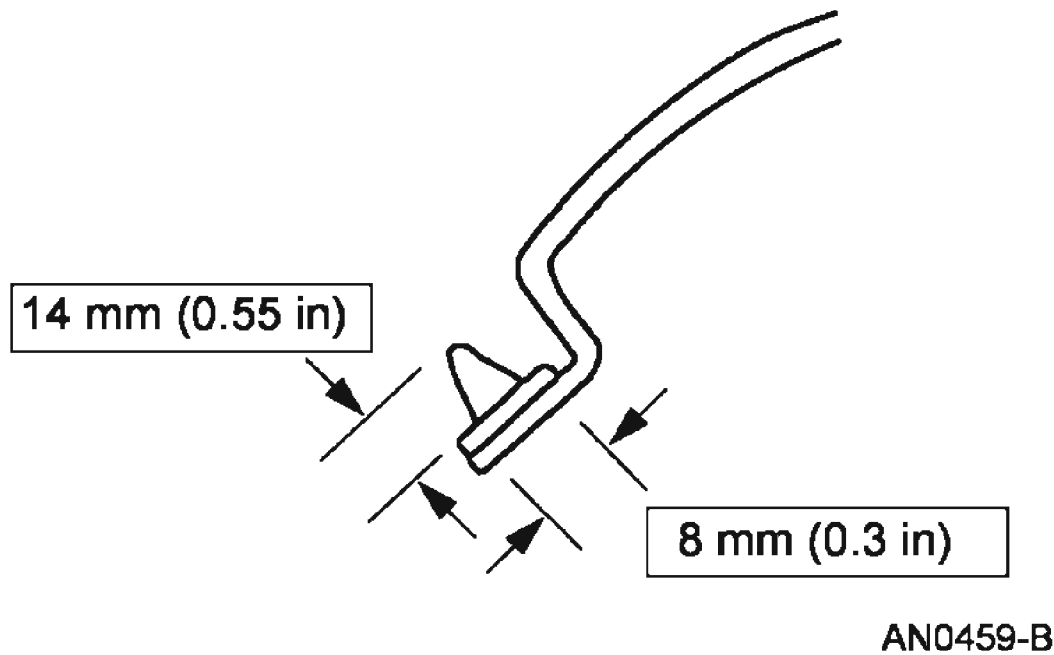
9. If installing a new windshield glass, apply urethane glass prep to the area to be urethaned.
10. If installing a new windshield glass, apply urethane glass primer to the same area in the previous step. Allow 5 to 7 minutes to dry.
11. Cut the urethane adhesive applicator tip to specification.



A0016835

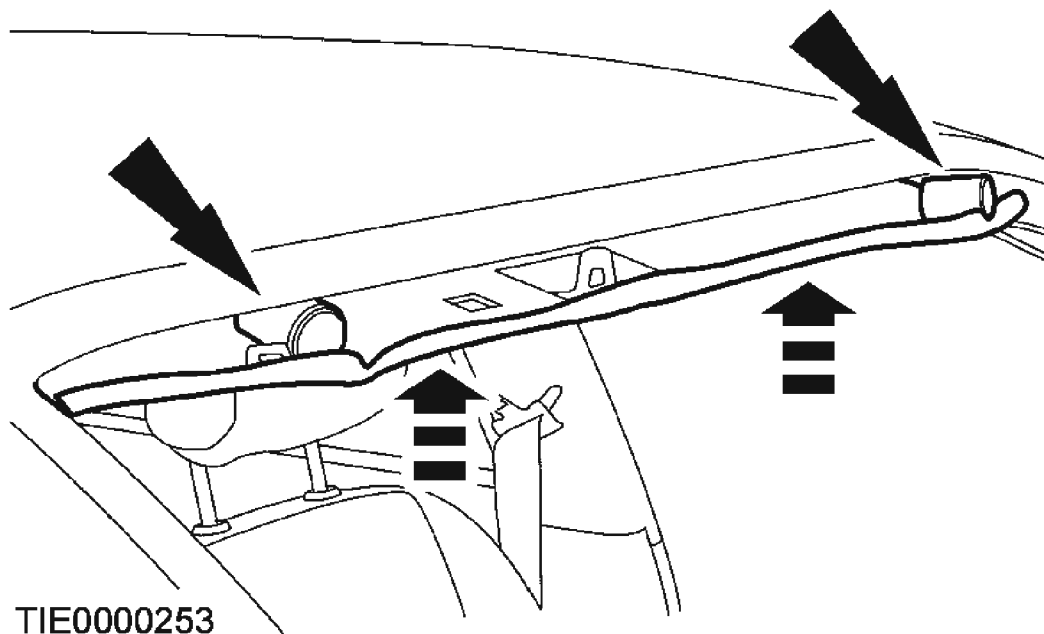
**Fig. 159: Cutting Urethane Adhesive Applicator Tip To Specification**  
**Courtesy of FORD MOTOR CO.**

12. Apply urethane adhesive on top of the existing trimmed urethane adhesive bead on the pinch weld. Make sure that all gaps in the urethane adhesive are smoothed into one continuous bead.



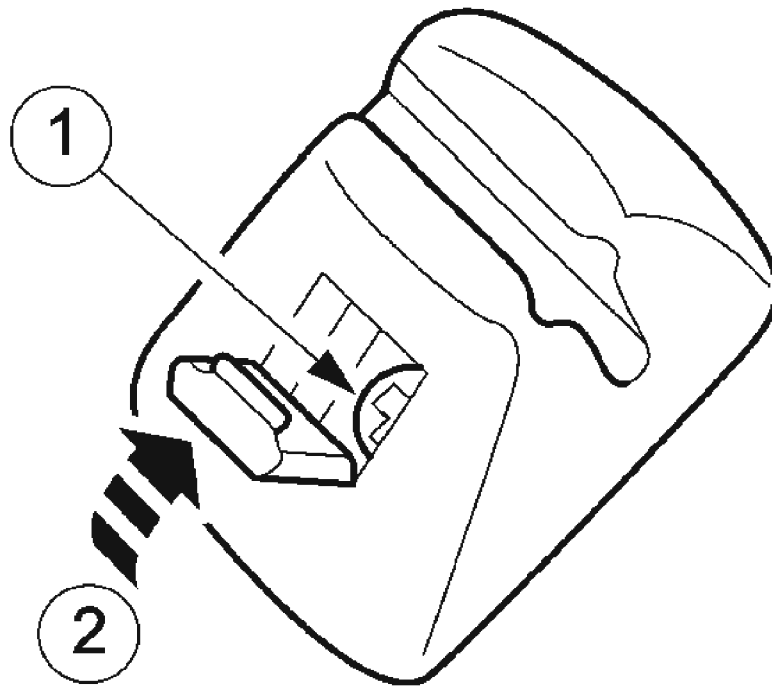
**Fig. 160: Applying Bead Of Urethane Adhesive To Pinch Weld**  
**Courtesy of FORD MOTOR CO.**

13. Install the windshield glass weatherstrip.
14. Install the windshield glass on the vehicle aligning it with the markings made previously.
15. Check the windshield glass installation for air or water leaks through the urethane adhesive seal.
16. Remove the spacers and attach the headliner to the roof panel.



**Fig. 161: Removing Spacers And Attaching Headliner To Roof Panel**  
**Courtesy of FORD MOTOR CO.**

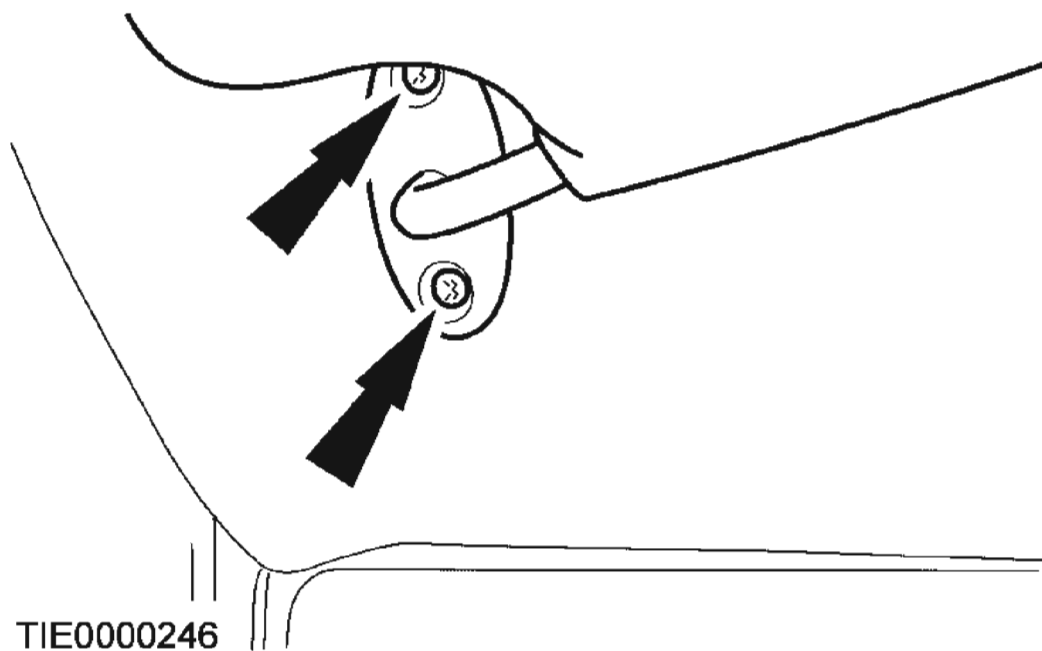
17. Install the sun visor retaining clips.
  1. Install the screws.
  2. Close the covers.



TIE0000248

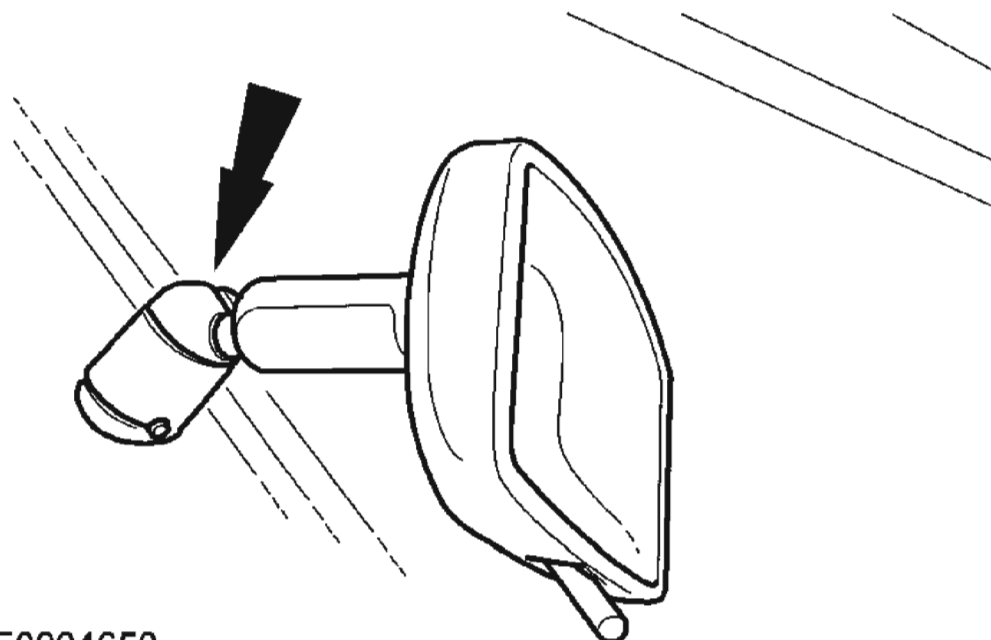
**Fig. 162: Installing Sun Visor Retaining Clips**  
**Courtesy of FORD MOTOR CO.**

18. Install the sun visors.



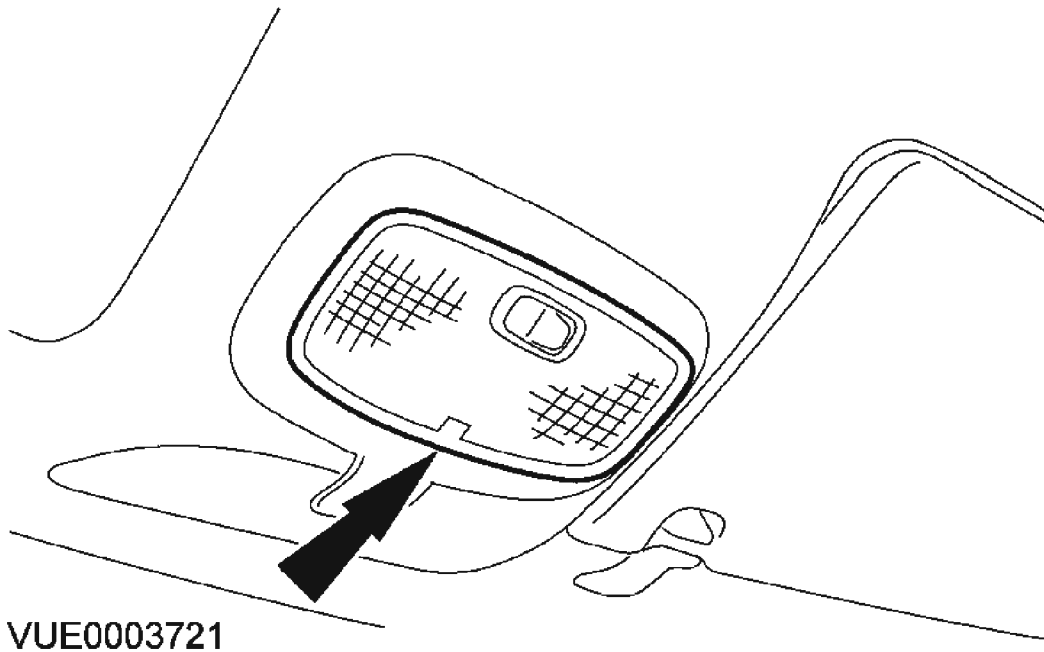
**Fig. 163: Installing Sun Visors Screws**  
**Courtesy of FORD MOTOR CO.**

19. Install the interior mirror.



**Fig. 164: Installing Interior Mirror**  
Courtesy of FORD MOTOR CO.

20. If equipped, install the interior lamp.
  - Connect the electrical connectors.



**Fig. 165: Identifying Interior Lamp**  
Courtesy of FORD MOTOR CO.

21. If equipped, install the overhead console. For additional information, refer to **INSTRUMENT PANEL AND CONSOLE** .
22. Install the A-pillar trim panels. For additional information, refer to **INTERIOR TRIM AND ORNAMENTATION** .
23. Install the cowl panel grilles. For additional information, refer to **FRONT END BODY PANELS** .

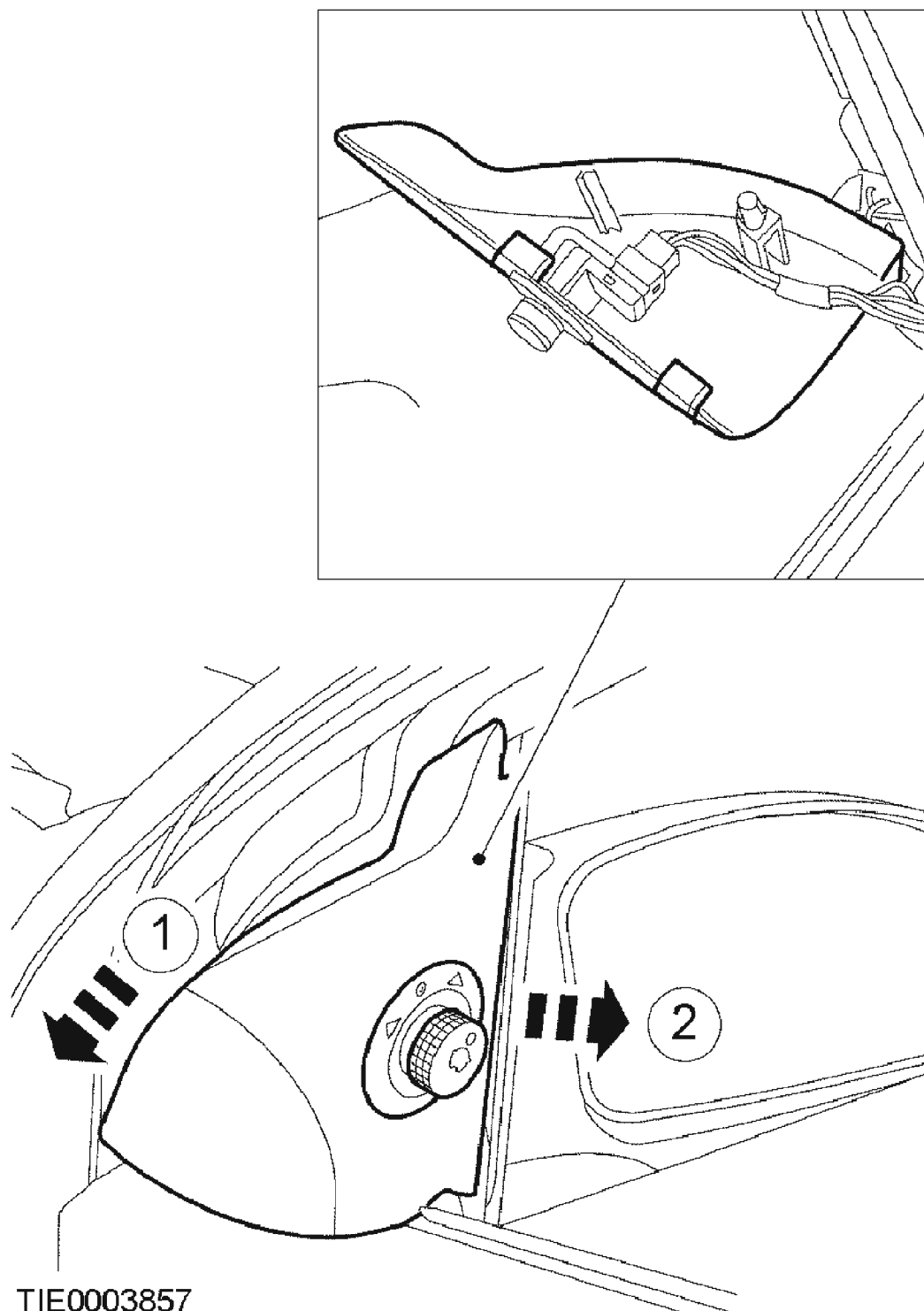
## FRONT DOOR GLASS TOP RUN

### Removal and Installation

1. Remove the front door window glass. For additional information, refer to **FRONT DOOR WINDOW GLASS**.
2. Remove the door mirror cover.
  1. Release the clip.

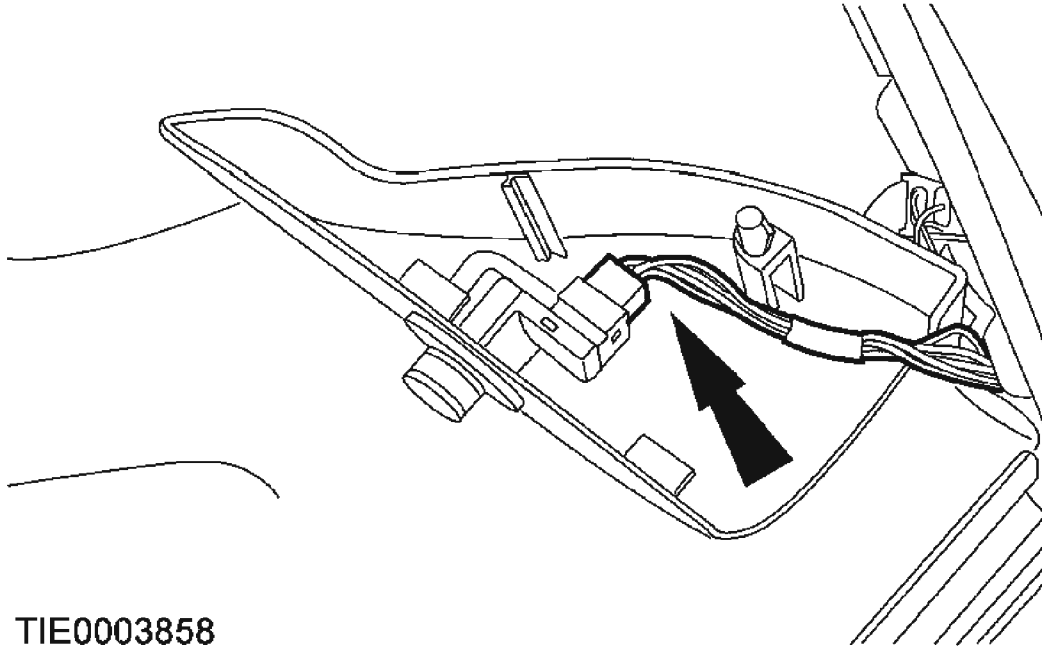


2. Remove the cover.



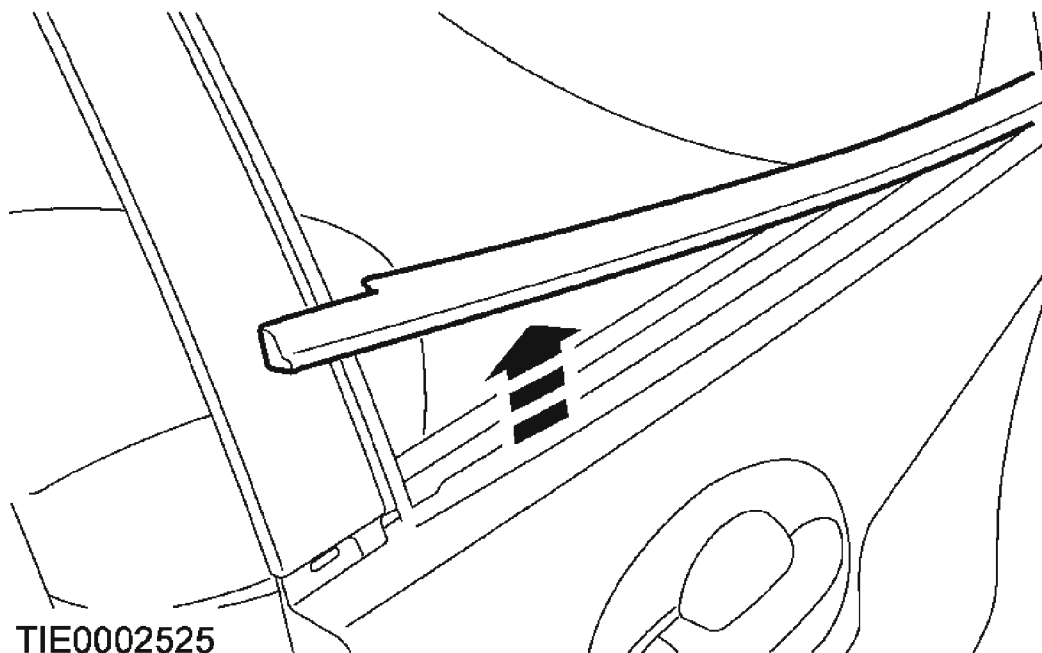
**Fig. 166: Removing Door Mirror Cover**  
Courtesy of FORD MOTOR CO.

3. Remove the cover.
  - Disconnect the electrical connector.



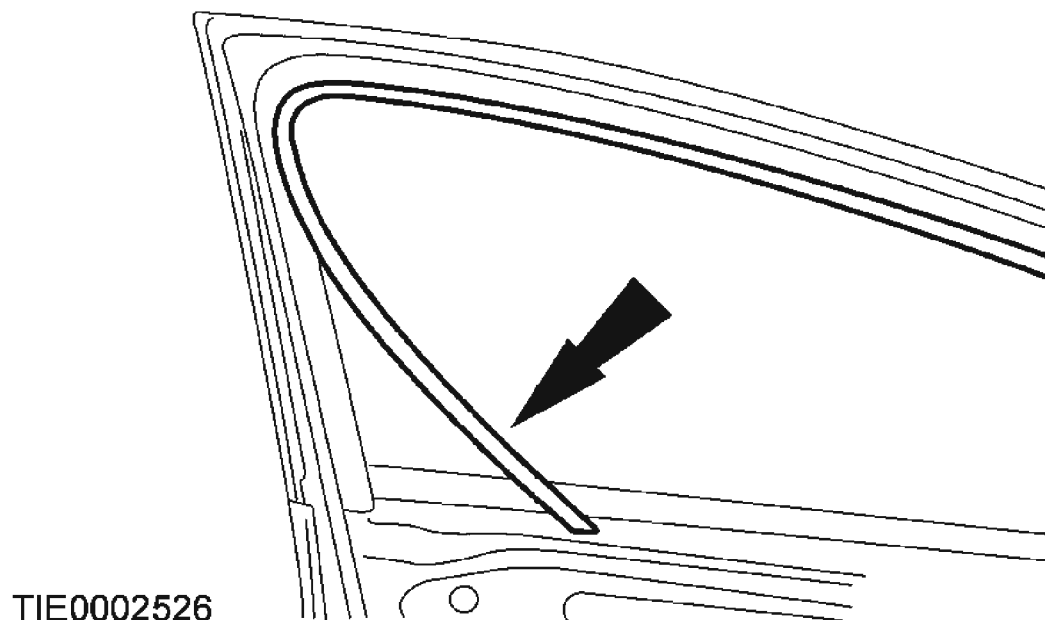
**Fig. 167: Removing Cover**  
**Courtesy of FORD MOTOR CO.**

4. Remove the exterior weatherstrip.



**Fig. 168: Removing Exterior Weatherstrip**  
Courtesy of FORD MOTOR CO.

5. Remove the door glass top run.



**Fig. 169: Removing Door Glass Top Run**  
**Courtesy of FORD MOTOR CO.**

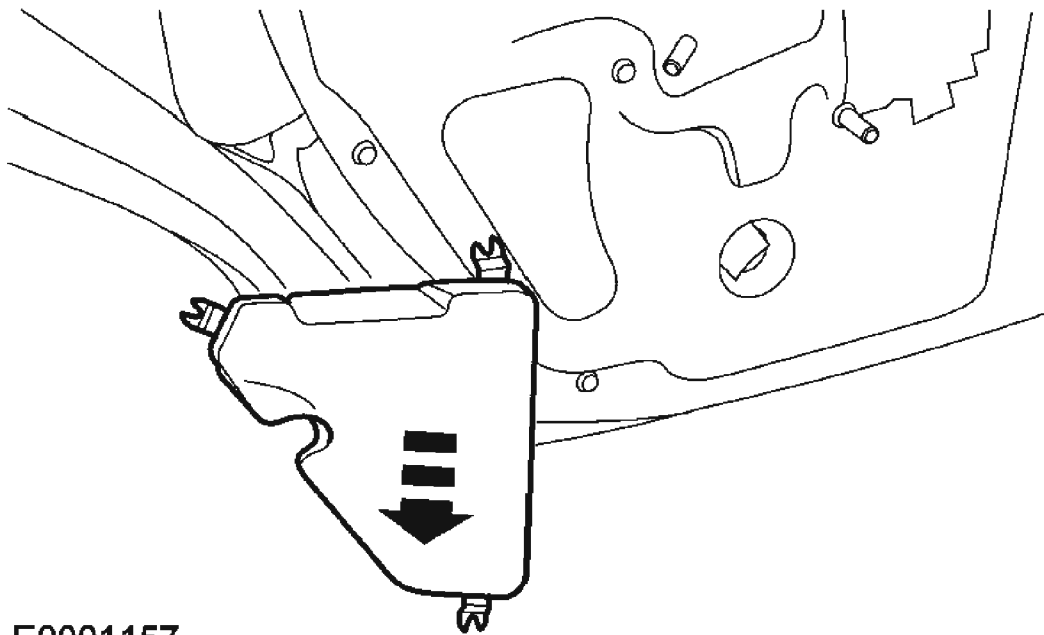
6. To install, reverse the removal procedure.

## **REAR DOOR GLASS TOP RUN**

### **Removal and Installation**

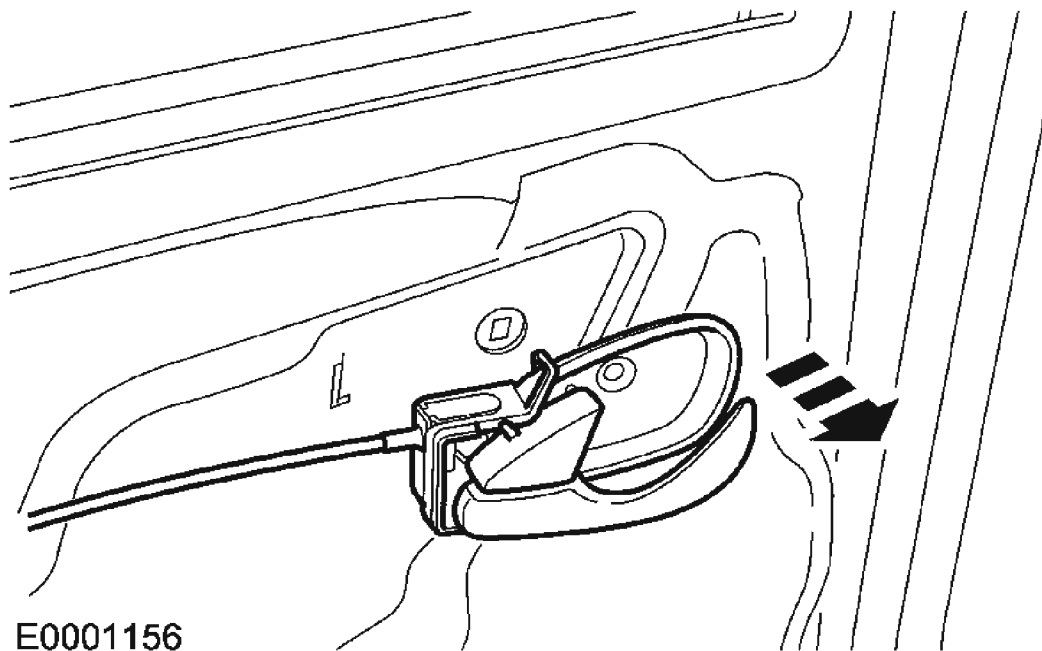
#### **All vehicles**

1. Remove the rear door speaker. For additional information, refer to **SPEAKERS** .
2. Remove the side impact bolster.



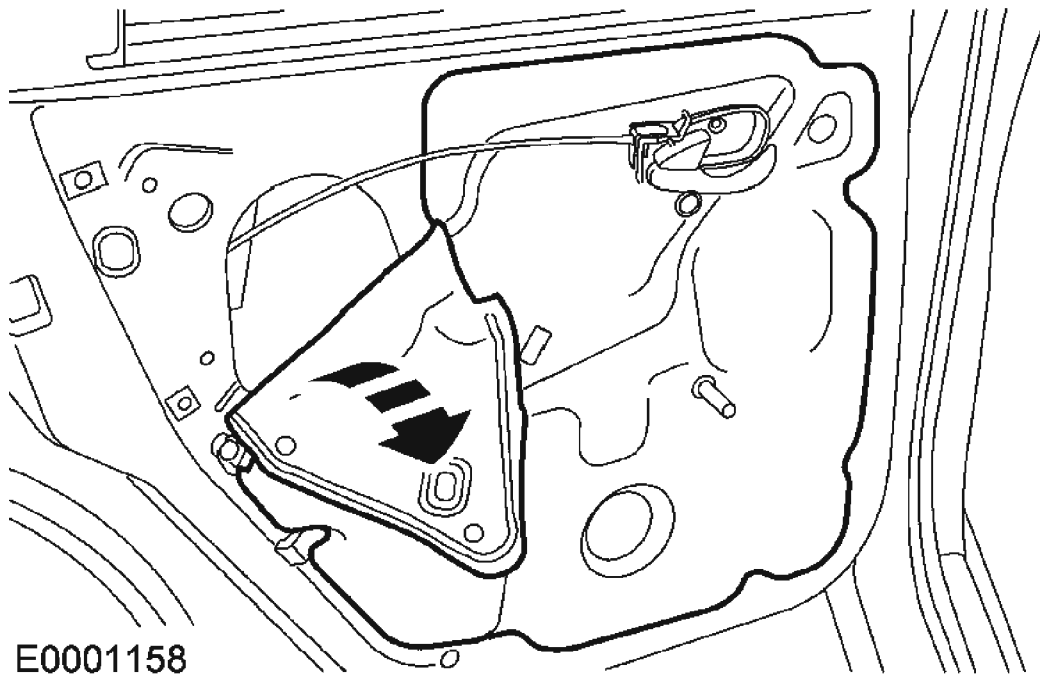
**Fig. 170: Removing Side Impact Bolster**  
**Courtesy of FORD MOTOR CO.**

3. Position the door latch release handle aside.



**Fig. 171: Positioning Door Latch Release Handle Aside**  
Courtesy of FORD MOTOR CO.

**CAUTION:** Do not touch the adhesive surface, as re-bonding will be impaired.



**Fig. 172: Removing Watershield**  
**Courtesy of FORD MOTOR CO.**

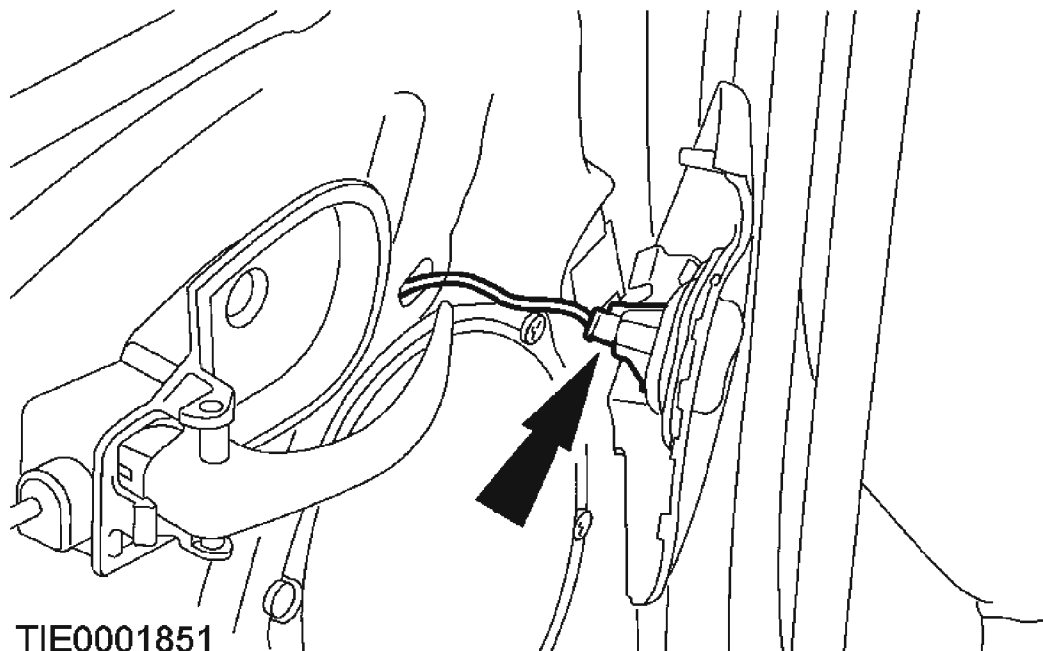
4. Remove the watershield.

**Vehicles with manual windows**

5. Install the window regulator handle.

**Vehicles with power windows**

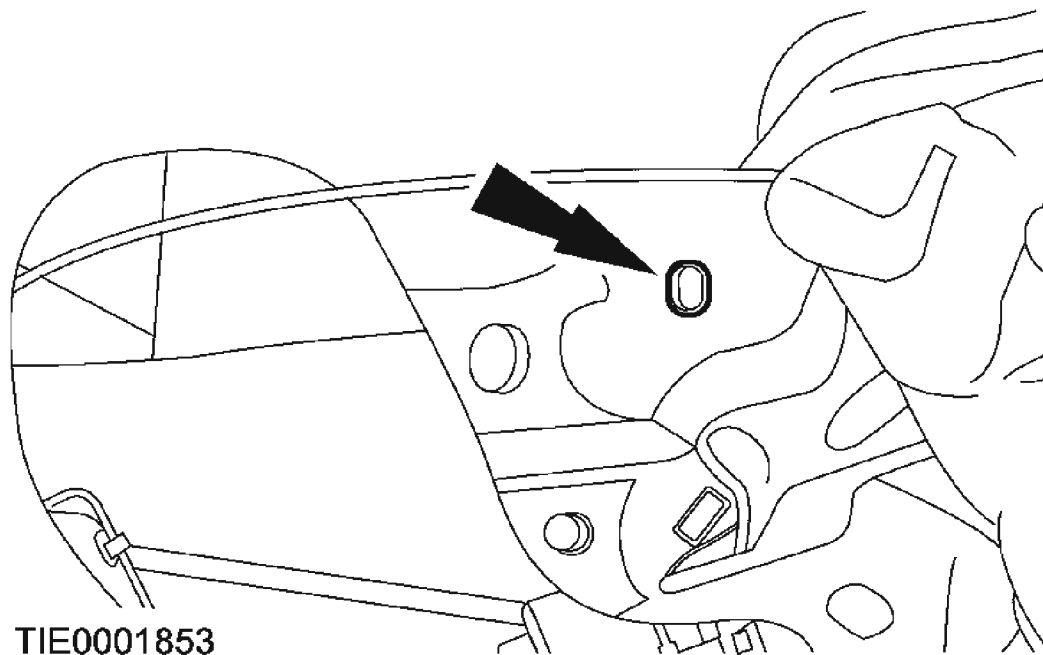
6. Connect the door glass operating switch electrical connector.



**Fig. 173: Connecting Door Glass Operating Switch Electrical Connector**  
Courtesy of FORD MOTOR CO.

**All vehicles**

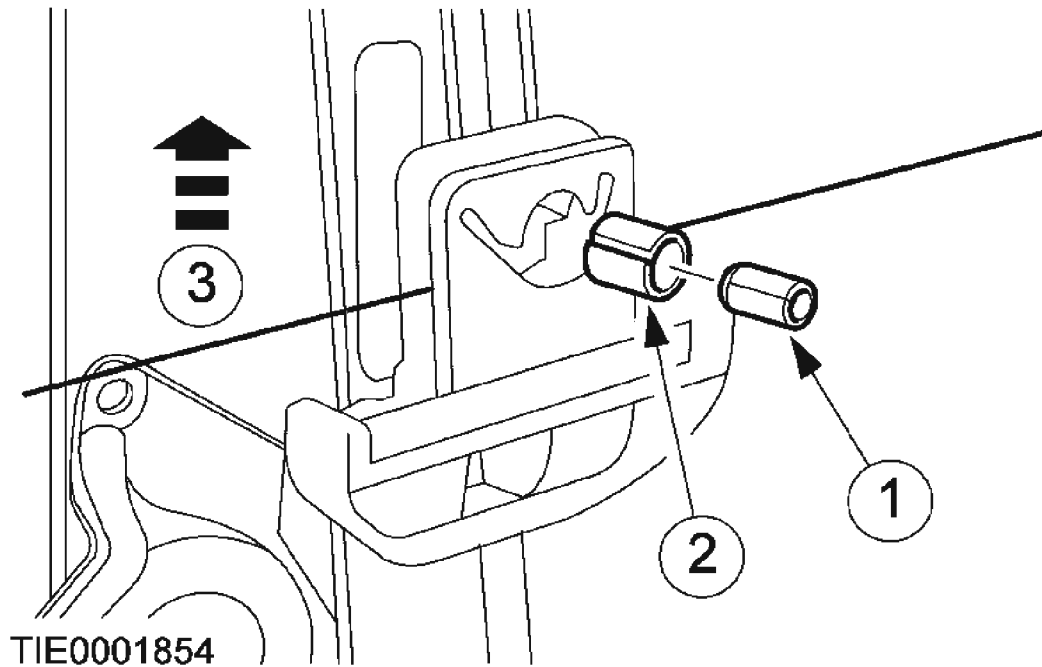
7. Align the regulator clamp with the access hole (power window shown, manual similar).



**Fig. 174: Aligning Regulator Clamp With Access Hole**  
Courtesy of FORD MOTOR CO.

**NOTE:**      Do not remove the glass from the door.





**Fig. 175: Removing Window Glass From Regulator**  
Courtesy of FORD MOTOR CO.

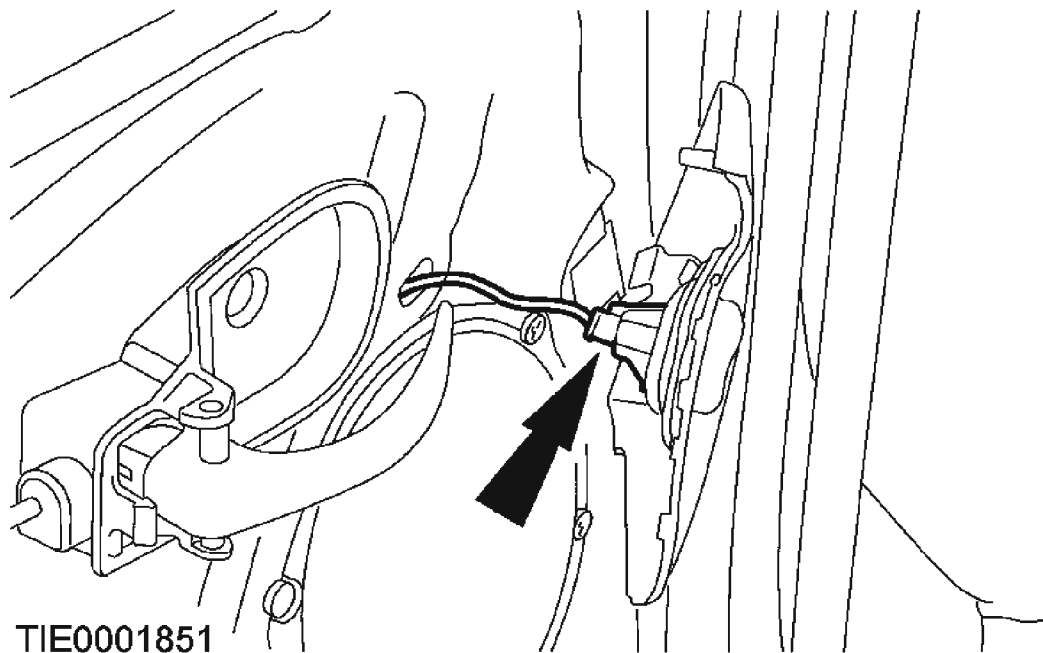
8. Remove the window glass from the regulator.
  1. Push out the pin.
  2. Push out the sleeve.
  3. Remove the glass from the regulator clamp.

**Vehicles with manual windows**

9. Remove the window regulator handle.

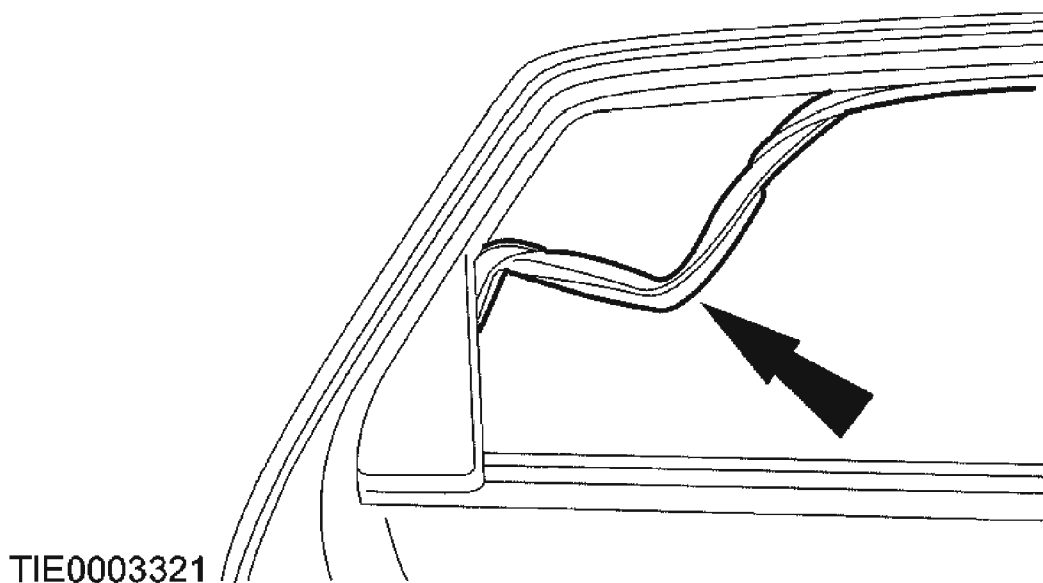
**Vehicles with power windows**

10. Disconnect the driver door glass operating switch electrical connector.



**Fig. 176: Disconnecting Driver Door Glass Operating Switch Electrical Connector**  
Courtesy of FORD MOTOR CO.

11. Remove the door glass top run.



**Fig. 177: Removing Door Glass Top Run**

**Courtesy of FORD MOTOR CO.**

12. To install, reverse the removal procedure.