

2008 ACCESSORIES & BODY, CAB

Rear View Mirrors - Mustang

SPECIFICATIONS

TORQUE SPECIFICATIONS

Description	Nm	lb-in
Exterior mirror motor screws	7	62
Exterior mirror mounting nuts	9	80

DESCRIPTION AND OPERATION

REAR VIEW MIRRORS

Exterior Rear View Mirrors - The main components of the exterior rear view mirrors are the following:

- Manually adjusted exterior mirror glass
- Power adjusted exterior mirror glass (optional)
- Exterior mirror glass adjustment motors (optional - power exterior mirrors only)
- Exterior mirror plastic housing

Power Exterior Mirrors - Power mirrors allow the LH or RH exterior mirror glass to be positioned electronically. The position of the exterior mirror glass is controlled by the exterior mirror control switch, which is located on the LH front door trim panel. Adjusting the exterior mirror control switch to the LH or RH position determines which exterior mirror glass will be controlled.

Interior Rear View Mirror - The interior rear view mirror can be equipped with one of the following:

- Interior rear view mirror
- Interior auto-dimming rear view mirror (optional)

Interior Auto-Dimming Rear View Mirror - The interior auto-dimming rear view mirror feature automatically reduces the glare caused by headlamps reflecting in the interior rear view mirror. The interior auto-dimming rear view mirror adjusts the reflectance level of the interior rear view mirror glass to eliminate unwanted glare. The reflectance level of the mirror glass is variable and depends on the amount of rear glare in relation to ambient light conditions in front of the interior mirror. To provide increased visibility when backing up, the interior rear view mirror will automatically return to a high reflectance mode whenever the vehicle is in REVERSE.

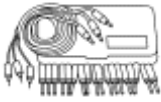
DIAGNOSTIC TESTS

REAR VIEW MIRRORS

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Special Tools

Illustration	Tool Name	Tool Number
 ST1138-A	Vehicle Communication Module (VCM) and Integrated Diagnostic System (IDS) software with appropriate hardware, or equivalent scan tool	
 ST1137-A	73III Automotive Meter	105-R0057 or equivalent

Principles of Operation

Exterior Rear View Mirrors

NOTE: The smart junction box (SJB) may also be identified as the generic electronic module (GEM).

The exterior mirror control switch controls the movement of the LH and RH exterior mirror motors and glass. Adjusting the exterior rear view mirror control switch to the LH or RH position determines which power mirror glass will be controlled. Power is supplied to the exterior mirror switch from the SJB.

Interior Auto-Dimming Rear View Mirror

The interior auto-dimming rear view mirror feature automatically reduces the glare caused by headlamps reflecting in the interior rear view mirror. Power is supplied to the interior auto-dimming mirror when the ignition is in the RUN position or the accessory delay is active. When the vehicle is in the REVERSE position, voltage is sent to the interior auto-dimming mirror from the SJB to disable the auto-dimming mirror feature.

The interior auto-dimming rear view mirror has 2 photoelectric sensors that detect forward and rearward light conditions. Based on these inputs, the automatic dimming feature adjusts the reflectance level of the interior rear view mirror glass to eliminate unwanted glare. The reflectance level of the mirror glass is variable and depends on the amount of rear glare in relation to ambient light conditions in front of the interior mirror.

When the forward sensor detects daytime conditions, the rearward sensor is inactive and the interior rear view mirror stays in a high reflectance mode. When the forward sensor detects nighttime conditions, the rearward sensor is active and detects glare from the headlights of vehicles approaching from the rear or other glare-producing light sources. To provide increased visibility when backing up, the interior rear view mirror will automatically return to a high reflectance mode whenever the vehicle is in REVERSE.

If the forward or rearward sensors are blocked, the interior auto-dimming rear view mirror might not work correctly.

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Inspection and Verification

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

VISUAL INSPECTION CHART

Mechanical	Electrical
• Exterior mirror • Exterior mirror cover • Interior rear view mirror	• Smart junction box (SJB) fuse(s): ○ 4 (5A) ○ 7 (10A) • SJB • Exterior mirror control switch • Exterior mirror motor • Exterior mirror • Interior auto-dimming rear view mirror • Loose or corroded connections • Wiring harness

3. If an obvious cause for an observed or reported concern is found, correct the cause (if possible) before proceeding to the next step.

NOTE: **Make sure to use the latest scan tool software release.**

4. If the cause is not visually evident, connect the scan tool to the data link connector (DLC).

NOTE: **The vehicle communication module (VCM) LED prove-out confirms power and ground from the DLC are provided to the VCM.**

5. If the scan tool does not communicate with the VCM:
 - check the VCM connection to the vehicle.
 - check the scan tool connection to the VCM.
 - refer to **MODULE COMMUNICATIONS NETWORK** article, No Power To The Scan Tool, to diagnose no communication with the scan tool.
6. If the scan tool does not communicate with the vehicle:
 - verify the ignition key is in the ON position.
 - verify the scan tool operation with a known good vehicle.
 - refer to **MODULE COMMUNICATIONS NETWORK** article to diagnose no response from the

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SJB.

7. Carry out the network test.

- If the scan tool responds with no communication from one or more modules, refer to **MODULE COMMUNICATIONS NETWORK** article.
- If the network test passes, retrieve and record the continuous memory DTCs.

8. Clear the continuous DTCs and carry out the self-test diagnostics for the SJB.

9. If the DTCs retrieved are related to the concern, go to the Smart Junction Box (SJB) DTC Chart. For all other DTCs, refer to **MULTIFUNCTION ELECTRONIC MODULES** article.

10. If no DTCs related to the concern are retrieved, go to **Symptom Chart - Rear View Mirrors** or Go to **Symptom Chart - Noise, Vibration and Harshness (NVH)**.

SMART JUNCTION BOX (SJB) DTC CHART

DTC	Description	Action
B2567	Reverse Mirror Output Circuit Failure	Go to <u>Pinpoint Test D.</u>
B2568	Reverse Mirror Output Circuit Short to Ground	Go to <u>Pinpoint Test D.</u>
All other DTCs	-	Refer to <u>MULTIFUNCTION ELECTRONIC MODULES</u> article.

Symptom Chart - Rear View Mirrors

Symptom Chart - Rear View Mirrors

Condition	Possible Sources	Action
• The mirrors are inoperative	• Fuse • Circuitry • Exterior mirror control switch	• Go to <u>Pinpoint Test A.</u>
• A single mirror is inoperative	• Circuitry • Exterior mirror control switch • Exterior mirror motor • Exterior mirror	• Go to <u>Pinpoint Test B.</u>
• A single mirror does not function with switch logic	• Circuitry • Exterior mirror control switch • Exterior mirror motor • Exterior mirror	• Go to <u>Pinpoint Test C.</u>
• The auto-dimming mirror does not operate correctly	• Obstructed rear-facing sensor • Stickers, window decals, tags • Non-OEM window tinting • Obstructed forward-facing	• If possible, REMOVE the obstruction. If the obstruction cannot be removed, go to <u>Pinpoint</u>

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	sensor • Stickers, window decals, tags • Non-OEM window tinting • Light source near or inside of vehicle • Vehicle inside garage or tunnel • Fuse • Interior auto-dimming mirror • Circuitry	Test D to test the interior auto-dimming mirror for correct function. • None. Any light source the rear-facing sensor is exposed to can be considered glare. • None. Ambient light conditions are similar to nighttime. • Go to Pinpoint Test D.
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Symptom Chart - Noise, Vibration and Harshness (NVH)

NOTE: Noise, vibration and harshness (NVH) symptoms should be identified using the diagnostic tools that are available. For a list of these tools, an explanation of their uses and a glossary of common terms, refer to **NOISE, VIBRATION AND HARSHNESS** article. Since it is possible any one of multiple systems may be the cause of a symptom, it may be necessary to use a process of elimination type of diagnostic approach to pinpoint the responsible system. If this is not the causal system for the symptom, refer back to **NOISE, VIBRATION AND HARSHNESS** article for the next likely system and continue diagnosis.

Symptom Chart - Noise, Vibration and Harshness (NVH)

Condition	Possible Sources	Action
• Mirror vibrates/loose	• Exterior mirror mounting nuts loose NOTE: Compare the LH and RH exterior mirror glass to verify that the exterior mirror glass is loose. • Mirror glass loose	• TIGHTEN nuts to 9 N.m (80 lb-in). • PRESS the center of the exterior mirror glass up, down, left and right to make sure that the exterior mirror glass is seated correctly. If the exterior mirror glass is still loose, REMOVE the exterior mirror glass and INSPECT the exterior mirror backing plate for damage. If the exterior mirror backing plate is damaged, INSTALL a new exterior mirror glass. REFER to Exterior Mirror

	Aftermarket air deflector/stone shields	<u>Glass.</u> If possible, REMOVE aftermarket air deflector/stone shield, then ROAD TEST the vehicle. If concern is no longer present, ADVISE customer that aftermarket components were causing undesired vibration.
Wind noise	- Foam gasket between the rear view mirror and door is missing or damaged - Exterior mirror is not correctly fitted to the door	- VERIFY gasket is present and in good condition. REPOSITION gasket or INSTALL a new foam gasket between rear view mirror and door frame if necessary. - VERIFY that there are no gaps between the exterior mirror and the door. If necessary, LOOSEN the exterior mirror nuts and REPOSITION the exterior mirror.

Pinpoint Tests

Pinpoint Test A: The Mirrors are Inoperative

Refer to appropriate SYSTEM WIRING DIAGRAM ARTICLE, Power Mirrors for schematic and connector information.

Normal Operation

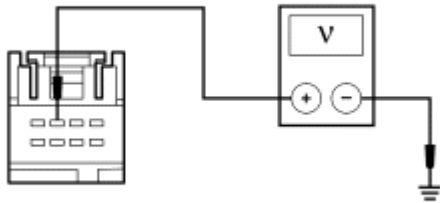
The exterior mirror control switch receives power from the smart junction box (SJB) through circuit 956 (OG/LG) and ground through circuit 1205 (BK). The exterior mirror control switch uses circuit 542 (YE) as the common circuit for both exterior mirror up/down and right/left movement.

This pinpoint test is intended to diagnose the following:

- Fuse
- Wiring, terminals or connectors
- Exterior mirror control switch

A1 CHECK CIRCUIT 956 (OG/LG) FOR VOLTAGE

- Key in OFF position.
- Disconnect: Exterior Mirror Control Switch C527
- Key in ON position.



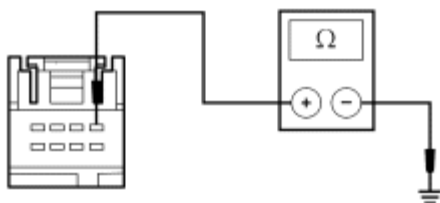
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Fig. 1: Measuring Voltage Between Exterior Mirror Control Switch C527-3 & Ground
Courtesy of FORD MOTOR CO.

- Measure the voltage between exterior mirror control switch C527-3, circuit 956 (OG/LG), harness side and ground.
- **Is the voltage greater than 10 volts?**
YES : Go to A2.
NO : VERIFY that SJB fuse 4 (5A) is OK. If OK, REPAIR the circuit. TEST the system for normal operation.

A2 CHECK CIRCUIT 1205 (BK) FOR AN OPEN

- Key in OFF position.



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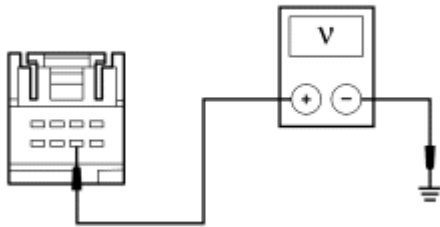
Fig. 2: Measuring Resistance Between Exterior Mirror Control Switch Connector C527-1 And Ground
Courtesy of FORD MOTOR CO.

- Measure the resistance between exterior mirror control switch C527-1, circuit 1205 (BK), harness side and ground.
- **Is the resistance less than 5 ohms?**
YES : Go to A3.

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

A3 CHECK CIRCUIT 542 (YE) FOR VOLTAGE

- Key in ON position.



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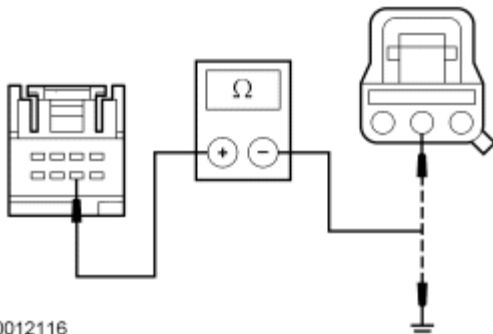
Fig. 3: Measuring Voltage Between Exterior Mirror Control Switch Connector C527-6 And Ground

Courtesy of FORD MOTOR CO.

- Measure the voltage between exterior mirror control switch C527-6, circuit 542 (YE), harness side and ground.
- **Is voltage present?**
YES : REPAIR the circuit. TEST the system for normal operation.
NO : Go to A4.

A4 CHECK CIRCUIT 542 (YE) FOR AN OPEN OR A SHORT TO GROUND

- Key in OFF position.
- Disconnect: LH Exterior Mirror C516



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Fig. 4: Checking Circuit 542 (YE) For An Open Or A Short To Ground

Courtesy of FORD MOTOR CO.

- Measure the resistance between exterior mirror control switch C527-6, circuit 542 (YE), harness side and ground; and between exterior mirror control switch C527-6, circuit 542 (YE), harness side and LH exterior mirror C516-2, circuit 542 (YE), harness side
- **Is the resistance greater than 10,000 ohms between the exterior mirror control switch connector and ground and less than 5 ohms between the exterior mirror control switch**

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connector and the exterior mirror connector?

YES : INSTALL a new exterior mirror control switch. REFER to **Exterior Mirror Control Switch**. TEST the system for normal operation.

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

Pinpoint Test B: A Single Mirror is Inoperative

Refer to appropriate SYSTEM WIRING DIAGRAM ARTICLE, Power Mirrors for schematic and connector information.

Normal Operation

The exterior mirror control switch uses circuit 542 (YE) as the common circuit for both exterior mirror up/down and right/left movement.

This pinpoint test is intended to diagnose the following:

- Wiring, terminals or connectors
- Exterior mirror control switch
- Exterior mirror motor
- Exterior mirror

PINPOINT TEST B: A SINGLE MIRROR IS INOPERATIVE

B1 CHECK THE LH EXTERIOR MIRROR

- Set the exterior mirror control switch to the LH mirror position.
- Use the exterior mirror control switch to operate the LH exterior mirror.
- **Does the LH exterior mirror operate?**

YES : Go to B2.

NO : Go to B4.

B2 CHECK THE EXTERIOR MIRROR CONTROL SWITCH

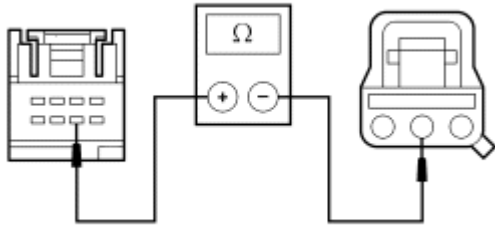
- Key in OFF position.
- Disconnect: Exterior Mirror Control Switch C527
- Carry out the Exterior Mirror Control Switch Component Test. Refer to COMPONENT TESTING.
- **Did the exterior mirror control switch pass the component test?**

YES : Go to B3.

NO : INSTALL a new exterior mirror control switch. REFER to **Exterior Mirror Control Switch**. TEST the system for normal operation.

B3 CHECK CIRCUIT 542 (YE) FOR AN OPEN

- Disconnect: RH Exterior Mirror C622



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Fig. 5: Checking Circuit 542 (YE) For An Open
Courtesy of FORD MOTOR CO.

- Measure the resistance between exterior mirror control switch C527-6, circuit 542 (YE), harness side and RH exterior mirror C622-2, circuit 542 (YE), harness side.

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

YES : CHECK the RH exterior mirror jumper harness between the vehicle harness and the exterior mirror motor for open circuits and damaged or pushed-out pins. If the jumper harness is not OK, REPAIR the jumper harness. If the jumper harness cannot be repaired, INSTALL a new exterior mirror. REFER to **Exterior Mirror**. If the jumper harness is OK, INSTALL a new exterior mirror motor. REFER to **Exterior Mirror Motor**. TEST the system for normal operation.

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

B4 CHECK THE EXTERIOR MIRROR CONTROL SWITCH

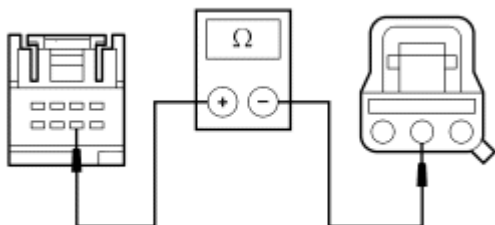
- Key in OFF position.
- Disconnect: Exterior Mirror Control Switch C527
- Carry out the Exterior Mirror Control Switch Component Test. Refer to COMPONENT TESTING.
- **Did the exterior mirror control switch pass the component test?**

YES : Go to B5.

NO : INSTALL a new exterior mirror control switch. REFER to **Exterior Mirror Control Switch**. TEST the system for normal operation.

B5 CHECK CIRCUIT 542 (YE) FOR AN OPEN

- Disconnect: LH Exterior Mirror C516



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Fig. 6: Checking Circuit 542 (YE) For An Open
Courtesy of FORD MOTOR CO.

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- Measure the resistance between exterior mirror control switch C527-6, circuit 542 (YE), harness side and LH exterior mirror C516-2, circuit 542 (YE), harness side.

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

YES : CHECK the LH exterior mirror jumper harness between the vehicle harness and the exterior mirror motor for open circuits and damaged or pushed-out pins. If the jumper harness is not OK, REPAIR the jumper harness. If the jumper harness cannot be repaired, INSTALL a new exterior mirror. REFER to **Exterior Mirror**. If the jumper harness is OK, INSTALL a new exterior mirror motor. REFER to **Exterior Mirror Motor**. TEST the system for normal operation.

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

Pinpoint Test C: A Single Mirror Does Not Function With Switch Logic

Refer to appropriate SYSTEM WIRING DIAGRAM ARTICLE, Power Mirrors for schematic and connector information.

Normal Operation

The exterior mirror control switch controls the LH exterior mirror movement by switching voltage and ground to circuits 541 (DB), 540 (RD) and 542 (YE). The exterior mirror switch controls the RH exterior mirror movement by switching voltage and ground to circuits 544 (VT), 543 (DG) and 542 (YE).

Mirror Movement

- When the LH/RH exterior mirror motor receives power through circuit 541 (DB)/544 (VT) and ground through circuit 542 (YE), the LH/RH exterior mirror will operate upward.
- When the LH/RH exterior mirror motor receives ground through circuit 541 (DB)/544 (VT) and power through circuit 542 (YE), the LH/RH exterior mirror will operate downward.
- When the LH/RH exterior mirror motor receives power through circuit 540 (RD)/543 (DG) and ground through circuit 542 (YE), the LH/RH exterior mirror will operate left.
- When the LH/RH exterior mirror motor receives ground through circuit 540 (RD)/543 (DG) and power through circuit 542 (YE), the LH/RH exterior mirror will operate right.

This pinpoint test is intended to diagnose the following:

- Wiring, terminals or connectors
- Exterior mirror control switch
- Exterior mirror motor
- Exterior mirror

PINPOINT TEST C: A SINGLE MIRROR DOES NOT FUNCTION WITH SWITCH LOGIC

C1 CHECK THE EXTERIOR MIRROR CONTROL CIRCUITS FOR A SHORT TO VOLTAGE

- Key in OFF position.
- Disconnect: Exterior Mirror Control Switch C527

- Key in ON position.

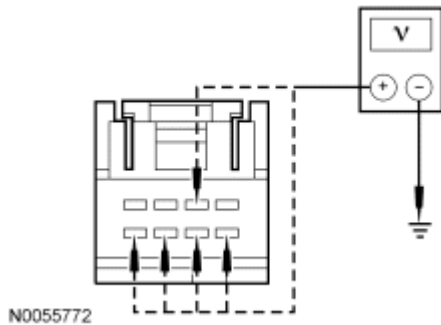


Fig. 7: Checking Exterior Mirror Control Circuits For A Short To Voltage
Courtesy of FORD MOTOR CO.

- Measure the voltage between ground and exterior mirror control switch:
 - C527-2, circuit 544 (VT) harness side.
 - C527-5, circuit 541 (DB) harness side.
 - C527-6, circuit 542 (YE) harness side.
 - C527-7, circuit 543 (DG) harness side.
 - C527-8, circuit 540 (RD) harness side.

• **Is voltage present?**

YES : REPAIR the circuit(s). TEST the system for normal operation.

NO : Go to C2.

C2 CHECK THE EXTERIOR MIRROR CONTROL CIRCUITS FOR A SHORT TO GROUND

- Key in OFF position.
- Disconnect: Exterior Mirror C516 (LH) or C622 (RH)

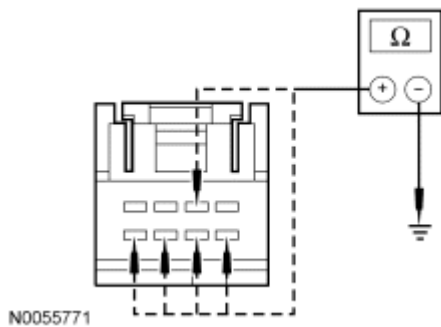


Fig. 8: Checking Exterior Mirror Control Circuits For A Short To Ground
Courtesy of FORD MOTOR CO.

- Measure the resistance between ground and exterior mirror control switch:
 - C527-2, circuit 544 (VT) harness side.

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- C527-5, circuit 541 (DB) harness side.
- C527-6, circuit 542 (YE) harness side.
- C527-7, circuit 543 (DG) harness side.
- C527-8, circuit 540 (RD) harness side.
- **Are the resistances greater than 10,000 ohms?**

YES : Go to C3.

NO : REPAIR the circuit(s). TEST the system for normal operation.

C3 CHECK THE EXTERIOR MIRROR CONTROL CIRCUITS FOR AN OPEN

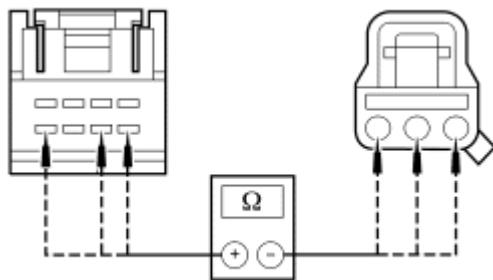


Fig. 9: Measuring Resistance Between Exterior Mirror Control Switch - LH Mirror Only
Courtesy of FORD MOTOR CO.

NOTE: LH mirror only.

- Measure the resistance between exterior mirror control switch:
 - C527-6, circuit 542 (YE) harness side and LH exterior mirror C516-2, circuit 542 (YE) harness side.
 - C527-8, circuit 540 (RD) harness side and LH exterior mirror C516-3, circuit 540 (RD) harness side.
 - C527-5, circuit 541 (DB) harness side and LH exterior mirror C516-1, circuit 541 (DB) harness side.

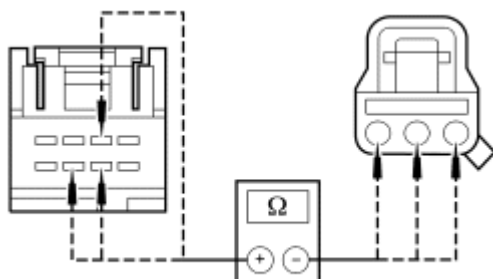


Fig. 10: Measuring Resistance Between Exterior Mirror Control Switch - RH Mirror Only
Courtesy of FORD MOTOR CO.

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NOTE: RH mirror only.

- Measure the resistance between exterior mirror control switch:
 - C527-6, circuit 542 (YE) harness side and RH exterior mirror C622-2, circuit 542 (YE) harness side.
 - C527-7, circuit 543 (DG) harness side and RH exterior mirror C622-3, circuit 543 (DG) harness side.
 - C527-2, circuit 544 (VT) harness side and RH exterior mirror C622-1, circuit 544 (VT) harness side.
- **Are the resistances less than 5 ohms?**

YES : CHECK the LH or RH exterior mirror jumper harness between the vehicle harness and the exterior mirror motor for open or shorted circuits and damaged or pushed-out pins. If the jumper harness is not OK, REPAIR the jumper harness. If the jumper harness cannot be repaired, INSTALL a new LH or RH exterior mirror. REFER to **Exterior Mirror**. If the jumper harness is OK, INSTALL a new LH or RH exterior mirror motor. REFER to [Exterior Mirror Motor](#). TEST the system for normal operation.

NO : REPAIR the circuit(s). TEST the system for normal operation.

Pinpoint Test D: The Auto-Dimming Mirror Does Not Operate Correctly

Refer to appropriate SYSTEM WIRING DIAGRAM ARTICLE, Power Mirrors for schematic and connector information.

Normal Operation

Under normal operation, the interior auto-dimming-mirror receives power from circuit 46 (VT) and ground from circuit 1205 (BK). When the vehicle is placed in REVERSE, the smart junction box (SJB) supplies voltage to circuit 2016 (WH/LG) and the interior auto-dimming mirror will turn the dimming feature off. There are 2 photoelectric sensors: one in the front of the interior rear view mirror and one mounted on the glass side of the mirror. If the sensors are blocked, the auto-dimming feature might not work correctly. Always verify both sensors are not physically blocked before attempting to diagnose auto-dimming mirror concerns.

- DTC B2567 Reverse Mirror Output Circuit Failure - Open or short to voltage on interior mirror reverse output circuit.
- DTC B2568 Reverse Mirror Output Circuit Short to Ground - Short to ground on interior mirror reverse output circuit.

This pinpoint test is intended to diagnose the following:

- Fuse
- SJB
- Wiring, terminals or connectors
- Interior auto-dimming mirror

PINPOINT TEST D: THE AUTO-DIMMING MIRROR DOES NOT OPERATE CORRECTLY

NOTE: If the transmission range (TR) sensor is malfunctioning and the backup lamps are on all the time or do not turn on, the auto-dimming interior mirror will not darken or return to normal view.

D1 RETRIEVE THE DTCs FROM THE SJB

- Use the recorded SJB DTCs from the continuous and on-demand self tests.
- **Are any DTCs retrieved?**

YES : If DTC B2567, go to D10.

If DTC B2568, go to D14.

NO : Go to D2.

D2 CHECK OPERATION OF THE BACKUP LAMPS

- Key in ON position.
- Move the selector lever through the entire range.
- **Do the backup lamps illuminate only in REVERSE?**

YES : Go to D3.

NO : REFER to EXTERIOR LIGHTING article to diagnose the backup lamps.

D3 VERIFY THE FORWARD AND REARWARD FACING SENSORS ARE NOT BLOCKED

- Visually verify the forward and rearward facing sensors are not blocked. Sources of blockage can include:
 - stickers, window decals or tags.
 - fold-down screens for TVs or DVD players.
 - non-OEM window tinting.
- **Were either of the sensors blocked?**

YES : If possible, REMOVE the blockage. TEST the system for normal operation. If it is not possible to remove the blockage, REVIEW the operation of the interior auto-dimming mirror with the customer.

NO : Go to D4.

D4 CHECK OPERATION OF THE INTERIOR AUTO-DIMMING MIRROR - DAYLIGHT CONDITIONS

- Key in ON position.

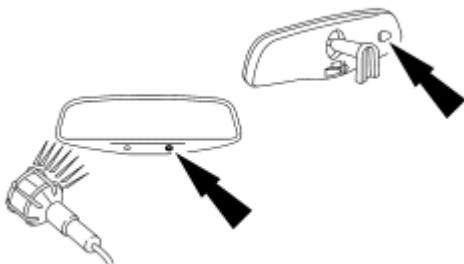
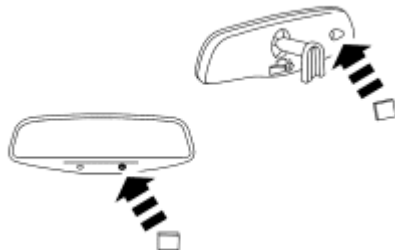


Fig. 11: Checking Operation Of Interior Auto-Dimming Mirror - Daylight Conditions
Courtesy of FORD MOTOR CO.

- Use a bright lamp to illuminate the forward facing sensor and the rearward facing sensor. The mirror should adjust to a high reflectance mode (mirror will be clear).
- **Does the mirror adjust to the high reflectance (clear) mode?**
YES : Go to D5.
NO : Go to D8.

D5 CHECK OPERATION OF THE INTERIOR AUTO-DIMMING MIRROR - NIGHTTIME CONDITIONS WITHOUT GLARE

- Key in ON position.



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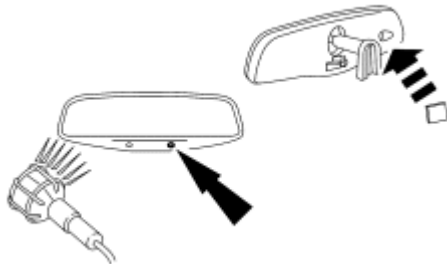
Fig. 12: Checking Operation Of Interior Auto-Dimming Mirror - Night Time Conditions Without Glare
Courtesy of FORD MOTOR CO.

NOTE: **Covering the sensor with a finger or hand is not adequate.**

- Simulate nighttime conditions without glare:
 - cover the forward sensor with black electrical tape or other dark material.
 - cover the rearward facing sensor. The mirror should adjust to the high reflectance mode.
- **Did the mirror adjust to the high reflectance (clear) mode?**
YES : Go to D6.
NO : Go to D8.

D6 CHECK OPERATION OF THE INTERIOR AUTO-DIMMING MIRROR - NIGHTTIME CONDITIONS WITH GLARE

- Key in ON position.



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Fig. 13: Checking Operation Of Interior Auto-Dimming Mirror - Night Time Conditions With Glare

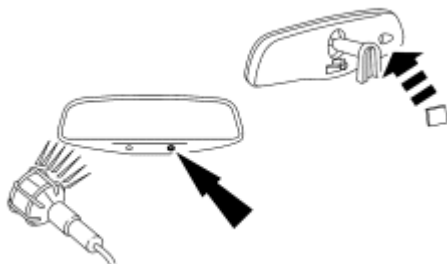
Courtesy of FORD MOTOR CO.

NOTE: **Covering the sensor with a finger or hand is not adequate.**

- Simulate nighttime conditions with glare:
 - cover the forward sensor with black electrical tape or other dark material.
 - illuminate the rearward facing sensor. The mirror should darken to a lower reflectance mode.
- **Did the mirror darken to a lower reflectance (darker) mode?**
YES : Go to D7.
NO : Go to D8.

D7 CHECK OPERATION OF THE INTERIOR AUTO-DIMMING MIRROR - NIGHTTIME CONDITIONS WITH THE VEHICLE IN REVERSE

- Key in ON position.



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Fig. 14: Checking Operation Of Interior Auto-Dimming Mirror - Night Time Conditions With Glare

Courtesy of FORD MOTOR CO.

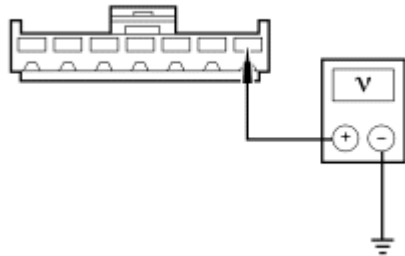
NOTE: **Covering the sensor with a finger or hand is not adequate.**

- Simulate nighttime conditions with glare:
 - cover the forward sensor with black electrical tape or other dark material.

- illuminate the rearward facing sensor.
- Select REVERSE.
- **Did the mirror adjust to a high reflectance (clear) mode?**
YES : The system is operating normally at this time. REVIEW operation of the interior auto-dimming mirror feature with the customer.
NO : Go to D8.

D8 CHECK CIRCUIT 46 (VT) FOR VOLTAGE

- Key in OFF position.
- Disconnect: Interior Auto-Dimming Mirror C911
- Key in ON position.



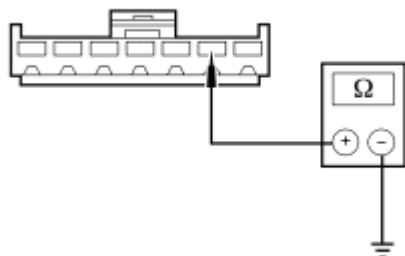
A0073174

Fig. 15: Checking Circuit 46 (VT) For Voltage
Courtesy of FORD MOTOR CO.

- Measure the voltage between interior auto-dimming mirror C911-1, circuit 46 (VT) harness side and ground.
- **Is the voltage greater than 10 volts?**
YES : Go to D9.
NO : VERIFY SJB fuse 7 (10A) is OK. If OK, REPAIR the circuit. TEST the system for normal operation.

D9 CHECK CIRCUIT 1205 (BK) FOR AN OPEN

- Key in OFF position.



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Fig. 16: Checking Circuit 1205 (BK) For An Open

Courtesy of FORD MOTOR CO.

- Measure the resistance between interior auto-dimming mirror C911-2, circuit 1205 (BK) harness side and ground.

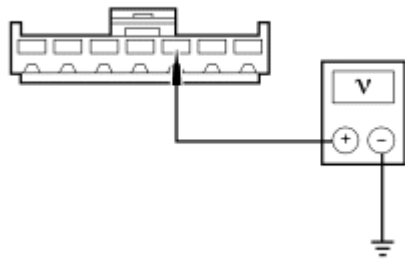
- **Is the resistance less than 5 ohms?**

YES : INSTALL a new interior auto-dimming mirror. REFER to **Auto-Dimming Interior Mirror**.
TEST the system for normal operation.

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

D10 CHECK CIRCUIT 2016 (WH/LG) FOR VOLTAGE

- Key in OFF position.
- Disconnect: Interior Auto-Dimming Mirror C911
- Key in ON position.



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Fig. 17: Checking Circuit 2016 (WH/LG) For Voltage
Courtesy of FORD MOTOR CO.

- Measure the voltage between interior auto-dimming mirror C911-3, circuit 2016 (WH/LG) harness side and ground.

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

YES : Go to D11.

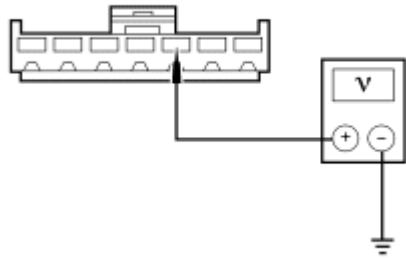
NO : Go to D12.

D11 CHECK CIRCUIT 2016 (WH/LG) FOR A SHORT TO VOLTAGE

- Key in OFF position.
- Disconnect: SJB C2280C
- Key in ON position.

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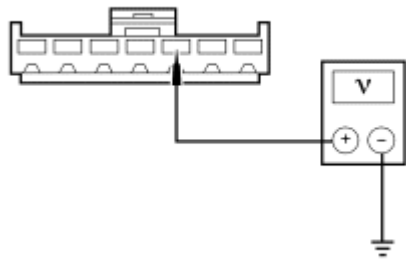
A0073178

Fig. 18: Checking Circuit 2016 (WH/LG) For A Short To Voltage
Courtesy of FORD MOTOR CO.

- Measure the voltage between interior auto-dimming mirror C911-3, circuit 2016 (WH/LG) harness side and ground.
- **Is the voltage greater than 10 volts?**
YES : REPAIR the circuit. CLEAR the DTCs. REPEAT the self-test.
NO : Go to D16.

D12 CHECK CIRCUIT 2016 (WH/LG) FOR VOLTAGE WITH VEHICLE IN REVERSE

- Key in ON position.
- Select REVERSE.



A0073178

Fig. 19: Checking Circuit 2016 (WH/LG) For Voltage With Vehicle In Reverse
Courtesy of FORD MOTOR CO.

- Measure the voltage between interior auto-dimming mirror C911-3, circuit 2016 (WH/LG) harness side and ground.
- **Is the voltage greater than 10 volts?**
YES : INSTALL a new interior auto-dimming mirror. REFER to **Auto-Dimming Interior Mirror**. CLEAR the DTCs. REPEAT the self-test.
NO : Go to D13.

D13 CHECK CIRCUIT 2016 (WH/LG) FOR AN OPEN

- Key in OFF position.
- Disconnect: SJB C2280C

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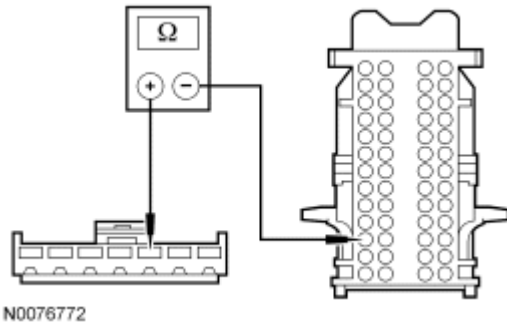


Fig. 20: Checking Circuit 2016 (WH/LG) For An Open
Courtesy of FORD MOTOR CO.

- Measure the resistance between auto-dimming interior mirror C911-3, circuit 2016 (WH/LG) harness side and SJB C2280C-3, circuit 2016 (WH/LG) harness side.
- **Is the resistance less than 5 ohms?**
YES : Go to D16.
NO : REPAIR the circuit. CLEAR the DTCs. REPEAT the self-test.

D14 CHECK THE REVERSE OUTPUT CIRCUIT FOR A SHORT TO GROUND

- Key in OFF position.
- Disconnect: Interior Auto-Dimming Mirror C911

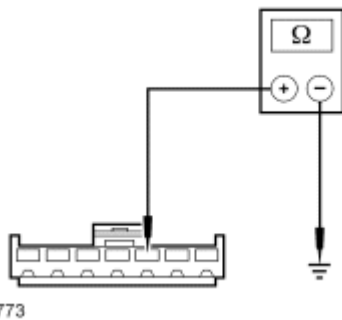


Fig. 21: Measuring Resistance Between Interior Auto-Dimming Mirror C911-3, Circuit 2016 (WH/LG) Harness Side & Ground
Courtesy of FORD MOTOR CO.

- Measure the resistance between interior auto-dimming mirror C911-3, circuit 2016 (WH/LG) harness side and ground.
- **Is the resistance greater than 10,000 ohms?**
YES : INSTALL a new interior auto-dimming mirror. REFER to Auto-Dimming Interior Mirror. CLEAR the DTCs. REPEAT the self-test.
NO : Go to D15.

D15 CHECK CIRCUIT 2016 (WH/LG) FOR A SHORT TO GROUND

- Key in OFF position.

- Disconnect: SJB C2280C

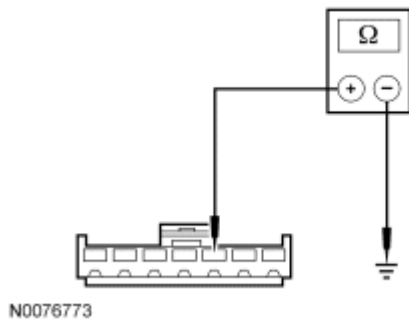


Fig. 22: Measuring Resistance Between Interior Auto-Dimming Mirror C911-3, Circuit 2016 (WH/LG) Harness Side & Ground
Courtesy of FORD MOTOR CO.

- Measure the resistance between interior auto-dimming mirror C911-3, circuit 2016 (WH/LG) harness side and ground.

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

YES : Go to D16.

NO : REPAIR the circuit. CLEAR the DTCs. REPEAT the self-test.

D16 CHECK THE SJB FOR CORRECT OPERATION

- Disconnect all SJB connectors.
- Check for:
 - corrosion.
 - pushed-out pins.
- Connect all SJB 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 SJB. REFER to MULTIFUNCTION ELECTRONIC MODULES article. CLEAR the DTCs. REPEAT the self-test.

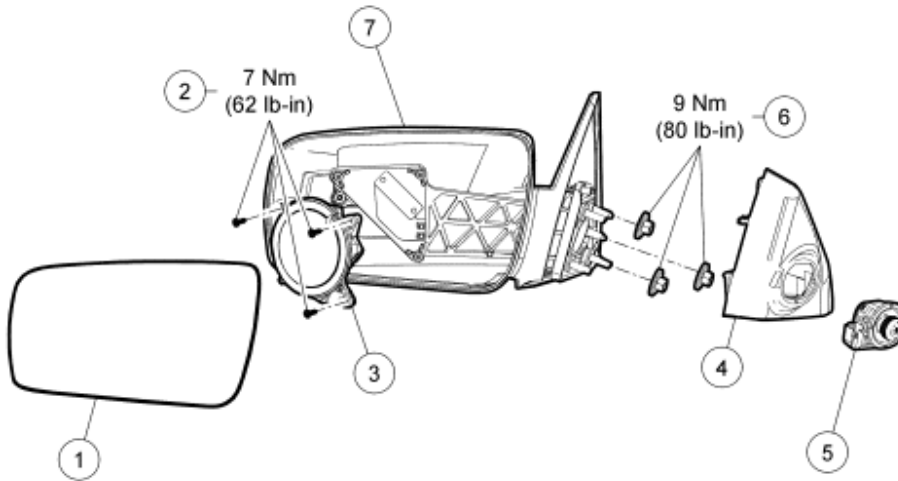
NO : The system is operating correctly at this time. Concern may have been caused by a loose or corroded connector. CLEAR the DTCs. REPEAT the self-test.

REMOVAL AND INSTALLATION

EXTERIOR MIRRORS - EXPLODED VIEW

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N0051463

Fig. 23: Exploded View Of Exterior Mirrors With Torque Specifications
Courtesy of FORD MOTOR CO.

Item	Part Number	Description
1	17K707	Exterior mirror glass
2	-	Exterior mirror motor screws (3 required)
3	17D696	Exterior mirror motor
4	17K709	Sail panel
5	17B676	Exterior mirror control switch
6	N621907	Exterior mirror mounting nuts (3 required)
7	17682 RH/ 17683 LH	Exterior mirror

1. For additional information, refer to the procedures.

EXTERIOR MIRROR

REMOVAL AND INSTALLATION

1. Remove the sail panel.
 - If equipped, disconnect the exterior mirror control switch electrical connector.
2. Remove the 3 nuts and the exterior mirror.
 - To install, tighten to 9 Nm (80 lb-in).
3. To install, reverse the removal procedure.

EXTERIOR MIRROR GLASS

REMOVAL

1. Position the inner edge of the exterior mirror glass to its maximum travel.

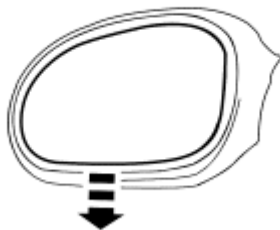


AN0887-A

Fig. 24: Positioning Inner Edge Of Exterior Mirror Glass To Its Maximum Travel
Courtesy of FORD MOTOR CO.

WARNING: Place a shop towel between the hands and the exterior mirror glass for protection in case of glass breakage during mirror service. Failure to follow this instruction may result in serious personal injury.

2. Grasp the outer edge of the exterior mirror glass and pull outward to remove the exterior mirror glass.



AN0888-A

Fig. 25: Grasping Outer Edge Of Exterior Mirror Glass & Pulling Outward Remove Exterior Mirror Glass
Courtesy of FORD MOTOR CO.

INSTALLATION

WARNING: Place a shop towel between the hands and the exterior mirror glass for protection in case of glass breakage during mirror service. Failure to follow this instruction may result in serious personal injury.

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NOTE: An audible click will be heard during installation.

1. Install the exterior mirror glass by pressing firmly in the center of the exterior glass until it snaps onto the exterior mirror motor.

EXTERIOR MIRROR MOTOR

REMOVAL AND INSTALLATION

1. Remove the exterior mirror glass. For additional information, refer to **Exterior Mirror Glass**.
2. Remove the 3 exterior mirror motor screws.
 - To install, tighten to 7 Nm (62 lb-in).
3. Disconnect the exterior mirror motor electrical connector.
4. Remove the exterior mirror motor.
5. To install, reverse the removal procedure.

EXTERIOR MIRROR CONTROL SWITCH

REMOVAL AND INSTALLATION

1. Remove the sail panel.
 - Disconnect the electrical connector.
2. Remove the exterior mirror control switch from the sail panel.
3. To install, reverse the removal procedure.

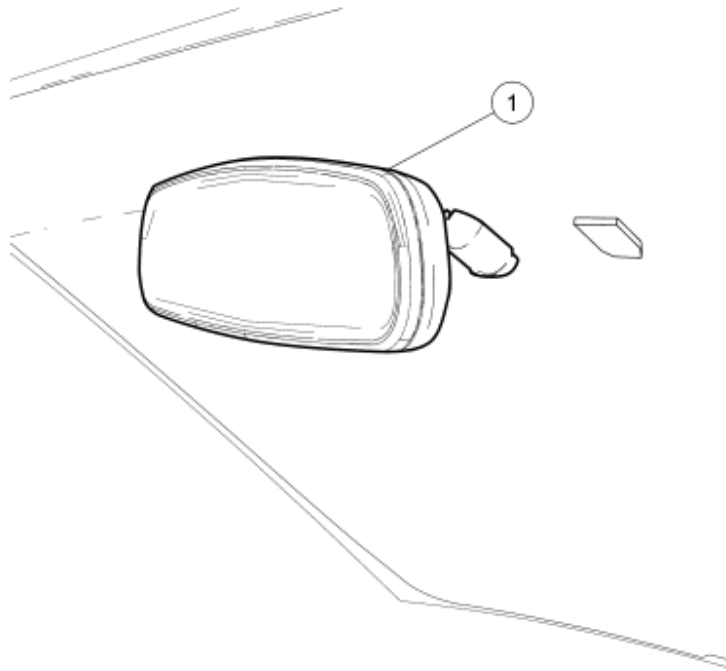
INTERIOR REAR VIEW MIRROR

Special Tools

Illustration	Tool Name	Tool Number
 ST1793-A	Installer, Rear View Mirror	501-025 (T94P-17700-AH)

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A0095065

Fig. 26: Exploded View Of Interior Rear View Mirror
Courtesy of FORD MOTOR CO.

Item	Part Number	Description
1	17700	Interior rear view mirror

REMOVAL

CAUTION: The interior rear view mirror is of the break-away design. Excessive force in any direction may cause damage to the mirror or the windshield.

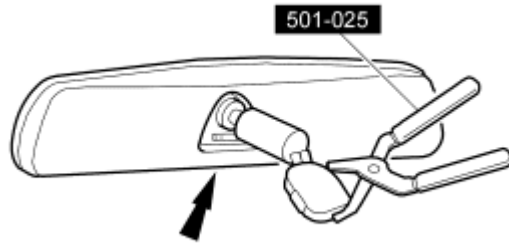
1. Position the interior rear view mirror in the full up position.
2. Insert a suitable tool between the bottom of the mirror mount and bracket. Push upward on the tool until the mirror mount is released from the bracket.

INSTALLATION

1. Place the interior rear view mirror on the windshield bracket.
2. Using the special tool, press the interior rear view mirror in place until fully seated.

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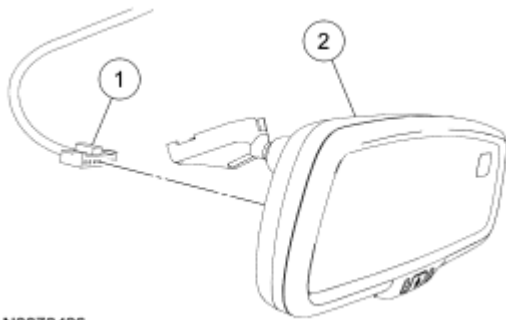
N0003347

Fig. 27: Locating Mirror Assembly
Courtesy of FORD MOTOR CO.

AUTO-DIMMING INTERIOR MIRROR

Special Tools

Illustration	Tool Name	Tool Number
 ST2834-A	Mirror Remover	501-D118



N0072426

Fig. 28: Exploded View Of Auto-Dimming Interior Mirror
Courtesy of FORD MOTOR CO.

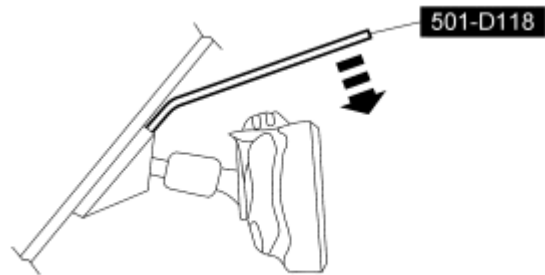
Item	Part Number	Description
1	-	Interior mirror electrical connector (part of 14A005)
2	17700	Interior mirror

REMOVAL

1. If equipped, remove the wire cover.
2. Disconnect the electrical connector.

NOTE: High level mirror shown, others similar.

3. Insert the special tool between the mirror mount and windshield bracket from the top.



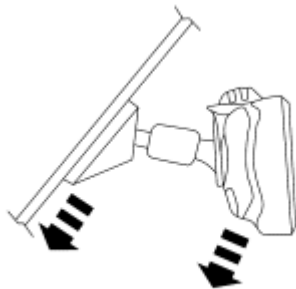
N0027517

Fig. 29: Inserting Special Tool Between Mirror Mount & Windshield Bracket
Courtesy of FORD MOTOR CO.

4. Release the mirror mount from the windshield bracket by pulling the tool and mirror down and away from the windshield.

INSTALLATION

1. Slide the mirror mount over the windshield bracket from the top and adjust the mirror to the up position.



N0027518

Fig. 30: Sliding Mirror Mount Over Windshield Bracket
Courtesy of FORD MOTOR CO.

2. Quickly press the mirror assembly downward along the windshield until a click is felt. The click indicates the base is engaged to the windshield bracket.
3. Connect the electrical connector and check the compass zone and calibration. For additional information, refer to **ELECTRONIC COMPASS** article.