

ELECTRICALLY HEATED SYSTEMS

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GENERAL INFORMATION

INTRODUCTION

Electrically heated outside rear view mirrors are an additional factory-installed option on models that are equipped with the factory-installed power mirror option. Refer to 8W-62 - Power Mirrors in Group 8W - Wiring Diagrams for complete circuit descriptions and diagrams.

HEATED MIRROR SYSTEM

The heated mirror system will only operate when the ignition switch is in the On position. When the heated mirror switch is in the On position, an electric heater grid located behind the glass of each of the outside rear view mirrors is energized. When energized, each of these grids produce heat to help clear the outside rear view mirrors of ice, snow, or fog.

The heated mirror system is controlled by a momentary switch that is integral to the heater and air conditioner control assembly, which is located between the instrument cluster and the radio near the center of the instrument cluster bezel on the instrument panel. An amber indicator lamp next to the switch button will light to indicate when the heated mirror system is turned on. The heater and air conditioner control assembly also contains the heated mirror system timer and logic circuitry, and an integral heated mirror relay.

The heated mirror system will be automatically turned off after a programmed time interval of about ten minutes. After the initial time interval has expired, if the heated mirror switch is depressed again during the same ignition cycle, the heated mirror system will automatically turn off after about five minutes.

The heated mirror system will automatically shut off if the ignition switch is turned to the Off position, or it can be turned off manually by depressing the heated mirror switch again. Following are general

descriptions of the major components in the heated mirror system. Refer to the owner's manual in the vehicle glove box for more information on the features, use and operation of the heated mirror system.

DESCRIPTION AND OPERATION

OUTSIDE MIRROR HEATING GRID

Vehicles equipped with the optional heated mirror system have an electric heating grid located behind the mirror glass of each outside rear view mirror. The heated mirrors are controlled by the heated mirror switch. Electrical current is directed to the heating grid inside the mirror only when the heated mirror switch is in the On position.

If the outside mirror heating grids are both inoperative, see Heated Mirror System in the Diagnosis and Testing section of this group. If only one of the outside mirror heating grids is inoperative, see Outside Mirror Heating Grid in the Diagnosis and Testing section of this group.

The heating grid behind each outside mirror glass cannot be repaired and, if faulty or damaged, the entire power mirror unit must be replaced. Refer to Power Mirror in the Removal and Installation section of Group 8T - Power Mirror Systems for the service procedures.

HEATED MIRROR CONTROL

The heated mirror switch, heated mirror indicator lamp, heated mirror electronic timer/control/logic circuitry and heated mirror relay are all integral to the heater and air conditioner control assembly, which is located between the instrument cluster and the radio near the center of the instrument cluster bezel on the instrument panel. The momentary-type switch provides a hard-wired battery signal to the electronic circuitry each time it is depressed. An amber heated mirror indicator lamp next to the heated mirror

DESCRIPTION AND OPERATION (Continued)

switch lights to indicate when the heated mirror system is turned On.

The heated mirror electronic timer/control/logic circuitry responds to the switch input by energizing or de-energizing the heated mirror relay. Energizing the heated mirror relay provides electrical current to the outside rear view mirror heating grids.

The heated mirror switch, heated mirror indicator lamp, heated mirror electronic timer/control/logic circuitry and heated mirror relay cannot be repaired. If damaged or faulty, the entire heater and air conditioner control assembly must be replaced. Refer to Heater-A/C Control in the Removal and Installation section of Group 24 - Heating and Air Conditioning for the service procedures.

DIAGNOSIS AND TESTING

HEATED MIRROR SYSTEM

WARNING: ON VEHICLES EQUIPPED WITH AIR-BAGS, REFER TO GROUP 8M - PASSIVE RESTRAINT SYSTEMS BEFORE ATTEMPTING ANY STEERING WHEEL, STEERING COLUMN, OR INSTRUMENT PANEL COMPONENT DIAGNOSIS OR SERVICE. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIR-BAG DEPLOYMENT AND POSSIBLE PERSONAL INJURY.

For circuit descriptions and diagrams, refer to 8W-62 Power Mirrors in Group 8W - Wiring Diagrams. The operation of the heated mirror system can be confirmed in one of the following manners:

1. Turn the ignition switch to the On position. While monitoring the instrument panel voltmeter, set the heated mirror switch in the On position. When the heated mirror switch is turned On, a distinct voltmeter needle deflection should be noted.

2. Turn the ignition switch to the On position. Set the heated mirror switch in the On position. The heated mirror operation can be checked by feeling the outside rear view mirror glass. A distinct difference in temperature between the unheated and heated mirror glass can be detected within three to four minutes of operation.

The above checks will confirm system operation. Illumination of the heated mirror indicator lamp means that there is electrical current available at the heated mirror relay, but does not confirm that the electrical current is reaching the outside mirror glass heating grids.

If the heated mirror system does not operate, the problem should be isolated in the following manner:

- (1) Confirm that the ignition switch is in the On position.

- (2) Check the fuses in the Power Distribution Center (PDC) and in the junction block. The fuses must be tight in their receptacles and all electrical connections must be secure.

When the above steps have been completed and the outside rear view mirror heating grid is still inoperative, one or more of the following is faulty:

- Heated mirror control
- Outside mirror heating grid
- Heated mirror wire harness circuits or connectors.

If setting the heated mirror switch to the On position produces a severe voltmeter deflection, check for a short circuit between the heated mirror control output and the outside rear view mirror heating grids.

HEATED MIRROR CONTROL

For circuit descriptions and diagrams, refer to 8W-62 Power Mirrors in Group 8W - Wiring Diagrams.

WARNING: ON VEHICLES EQUIPPED WITH AIR-BAGS, REFER TO GROUP 8M - PASSIVE RESTRAINT SYSTEMS BEFORE ATTEMPTING ANY STEERING WHEEL, STEERING COLUMN, OR INSTRUMENT PANEL COMPONENT DIAGNOSIS OR SERVICE. FAILURE TO TAKE THE PROPER PRECAUTIONS COULD RESULT IN ACCIDENTAL AIR-BAG DEPLOYMENT AND POSSIBLE PERSONAL INJURY.

- (1) Check the fuse in the junction block. If OK, go to Step 2. If not OK, repair the shorted circuit or component as required and replace the faulty fuse.

- (2) Turn the ignition switch to the On position. Check for battery voltage at the fuse in the junction block. If OK, go to Step 3. If not OK, repair the open circuit to the ignition switch as required.

- (3) Disconnect and isolate the battery negative cable. Remove the heater and air conditioner control from the instrument panel. Refer to Heater-A/C Control in the Removal and Installation section of Group 24 - Heating and Air Conditioning for the procedures. Unplug the 3-way heated mirror switch wire harness connector from the control. Check for continuity between the ground circuit cavity of the heated mirror switch wire harness connector and a good ground. There should be continuity. If OK, go to Step 4. If not OK, repair the open circuit to ground as required.

- (4) Connect the battery negative cable. Turn the ignition switch to the On position. Check for battery voltage at the fused ignition switch output (run) circuit cavity of the heated mirror switch wire harness connector. If OK, go to Step 5. If not OK, repair the open circuit to the fuse in the junction block as required.

DIAGNOSIS AND TESTING (Continued)

(5) Turn the ignition switch to the Off position. Disconnect and isolate the battery negative cable. Reconnect the 3-way heated mirror switch wire harness connector to the heater and air conditioner control. Connect the battery negative cable. Turn the ignition switch to the On position. Depress and release the heated mirror switch. The amber heated mirror indicator lamp next to the switch button should light. If OK, go to Step 6. If not OK, replace the faulty heater and air conditioner control assembly.

(6) Back probe the heated mirror switch output circuit cavity of the heated mirror switch wire harness connector and check for battery voltage. If OK, see Outside Mirror Heating Grid in the Diagnosis and Testing section of this group. If not OK, replace the faulty heater and air conditioner control assembly.

OUTSIDE MIRROR HEATING GRID

For circuit descriptions and diagrams, refer to 8W-62 - Power Mirrors in Group 8W - Wiring Diagrams.

(1) Disconnect and isolate the battery negative cable. Remove the front door trim panel on the side of the vehicle with the inoperative outside mirror heating grid. Refer to Group 23 - Body for the procedures. Unplug the wire harness connector at the mirror. Check for continuity between the ground circuit cavity in the body half of the power mirror wire harness connector and a good ground. If OK, go to Step 2. If not OK, repair the open circuit to ground as required.

(2) Connect the battery negative cable. Turn the ignition switch to the On position. Turn on the heated mirror system. Check for battery voltage at the heated mirror switch output circuit cavity in the body half of the power mirror wire harness connector. If OK, go to Step 3. If not OK, repair the open circuit to the heated mirror switch as required.

(3) Check for continuity between the ground circuit and the heated mirror switch output circuit cavities in the mirror half of the power mirror wire harness connector. There should be continuity. If not OK, replace the faulty power mirror. If OK, check the resistance through the electric heating grid. The correct resistance through the outside mirror heating grid should be from 10 to 16 ohms when measured at an ambient temperature of 21° C (70° F). If not OK, replace the faulty power mirror.

REMOVAL AND INSTALLATION**HEATED MIRROR SYSTEM**

Service procedures for the components used in the heated mirror system can be found in the Removal and Installation section of the proper group, as follows:

- Heated mirror control - refer to Heater-A/C Control in the Removal and Installation section of Group 24 - Heating and Air Conditioning Systems
- Outside mirror heating grid - refer to Power Mirror in the Removal and Installation section of Group 8T - Power Mirror Systems.

