

2009 ACCESSORIES AND EQUIPMENT**Heated Glass - Service Information - Journey****DESCRIPTION****DESCRIPTION**

CAUTION: Grid lines can be damaged or scraped off with sharp instruments. Care should be taken in cleaning glass or removing foreign materials, decals or stickers. Normal glass cleaning solvents or hot water used with rags or toweling is recommended.

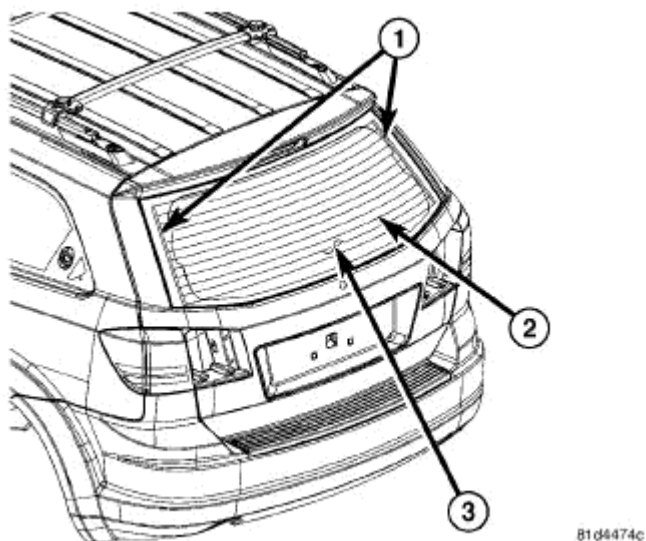


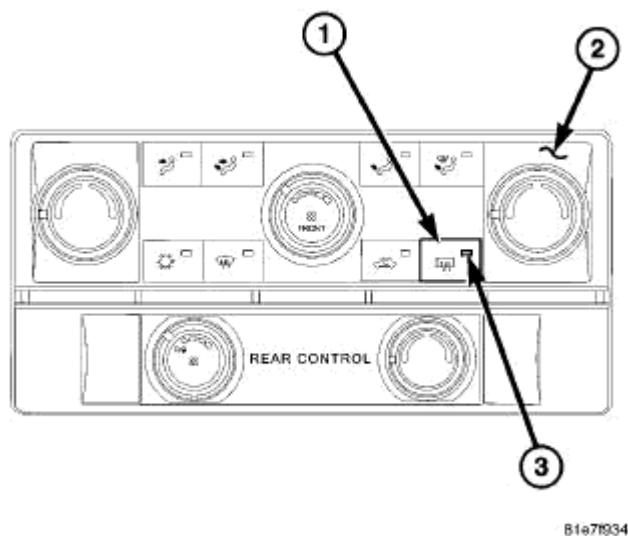
Fig. 1: EBL System

Courtesy of CHRYSLER LLC

The rear window defogger system, also known as electric backlight (EBL), consists of two vertical bus bars (1) and a series of grid lines (2) fired onto the inside surface of the rear window (3).

The EBL system is turned on or off by a push-button switch located in the A/C-heater control. Refer to **Heating and Air Conditioning/Controls/CONTROL, A/C and Heater - Description** .

OPERATION**OPERATION**

**Fig. 2: EBL Switch (MTC)**

Courtesy of CHRYSLER LLC

NOTE: Manual tri-zone temperature A/C-heater control shown in illustration. Other A/C-heater controls similar.

The electric backlight (EBL) system is controlled by a momentary push-button switch (1) located on the A/C-heater control (2) in center of the instrument panel. When the rear window defogger switch is pressed to ON with the ignition switch in RUN, the switch sends a request signal on the CAN-B Bus to the totally integrated power module (TIPM) to energize the internal EBL high side driver. When energized, the EBL high side driver provides battery current to the rear window defogger grid lines and the heated side view mirrors (when equipped). The grid lines heat the glass to help clear the rear window and side mirror surfaces of fog or frost.

An amber indicator (3) will illuminate to indicate when the EBL system is turned on.

NOTE: The EBL system turns off automatically after 10 minutes of initial operation. Each following activation cycle of the EBL system will last 5 minutes.

The EBL system will automatically turn off after an initial programmed time interval of about 10 minutes as long as the ignition switch is in RUN. After the initial time interval has expired, if the rear window defogger switch is pressed to ON again during the same ignition cycle, the EBL system will automatically turn off after about 5 minutes. The EBL system will also turn off if the ignition switch is turned to any position other than RUN or by manually pressing the rear window defogger switch a second time.

Repair of the rear window defogger grid lines, bus bars, terminals or pigtail wires can be accomplished using the Mopar® Rear Window Defogger Repair Kit (Part Number 04549275) or equivalent. See **Standard Procedure**.

The EBL control system is diagnosed using a scan tool. Refer to **DTC-Based Diagnostics/HVAC - Diagnosis and Testing**.

DIAGNOSIS AND TESTING

ELECTRIC BACKLIGHT (EBL) SYSTEM

NOTE: Illumination of the defogger switch indicator lamp does not necessarily mean that electrical current is reaching the rear window glass and/or the outside rear view mirror heating grids (when equipped).

NOTE: See appropriate wiring information for circuit descriptions and diagrams of the rear window defogger (EBL) and heated mirror systems.

Operation of the electrical backlight (EBL) system can be confirmed by the following:

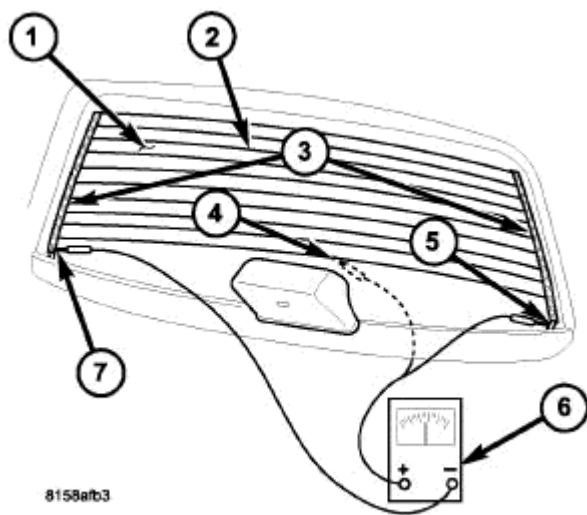


Fig. 3: Rear Window Glass Grid Test
Courtesy of CHRYSLER LLC

NOTE: Typical heated rear window glass shown in illustration.

1. Use a scan tool and check for diagnostic trouble codes (DTCs) related to the rear window defogger switch and the totally integrated power module (TIPM). If no DTCs are found, go to step 2. If any DTCs are found, repair as required, then proceed to step 2.
2. Turn the ignition switch to RUN. Set the rear window defogger switch to ON. Rear window defogger operation can be checked by feeling the rear window glass (1), or the heated outside rear view mirror glass when equipped with heated mirrors. A distinct difference in temperature between the grid lines (2) and the adjacent clear glass or the heated mirror glass should be detected within 3 to 4 minutes of operation.
3. If a temperature difference is not detected, use a 12-volt DC voltmeter (6) and contact the rear glass heating grid terminal A (5) with the positive lead, and terminal B (7) with the negative lead. The

voltmeter should read battery voltage. If the voltmeter does not read battery voltage, check the following:

- Confirm the ignition switch is in RUN.
 - Confirm the rear window defogger switch is ON.
 - Confirm the EBL feed wire is connected to the heating grid positive terminal and that there is continuity between the TIPM and the heating grid.
 - Confirm the EBL ground wire is connected to the heating grid negative terminal and that there is continuity to ground.
 - When diagnosing a heated mirror concern, check the heated mirror circuit fuse located in the TIPM. The fuse must be in the receptacle and all electrical connections must be secure.
4. If broken defogger grid lines or bus bars (3) are suspected, use a 12-volt DC voltmeter and contact terminal B with the negative lead and each rear glass heating grid line at its mid-point C (4) with the positive lead. The voltmeter should read approximately 6 volts at each grid line mid-point. If the voltmeter does not read approximately 6 volts, repair the open grid line(s) or bus bar(s). See **Standard Procedure** .
5. If EBL system operation has been verified but the rear window defogger indicator does not illuminate, replace the A/C-heater control. Refer to **Heating and Air Conditioning/Controls/CONTROL, A/C and Heater - Removal** .

GRID, DEFOGGER, REAR

STANDARD PROCEDURE

GRID LINE AND TERMINAL REPAIR

WARNING: Materials contained in the Repair Kit (Part Number 04549275) may cause skin or eye irritation. The kit contains epoxy resin and amine type hardener, which are harmful if swallowed. Avoid contact with the skin and eyes. For skin contact, wash the affected areas with soap and water. For contact with the eyes, flush with plenty of water. Do not take internally. If taken internally, induce vomiting and call a physician immediately. Use with adequate ventilation. Do not use near fire or flame. Contains flammable solvents. Keep out of the reach of children. Failure to follow these instructions may result in serious or fatal injury.

Repair of the rear glass heating grid lines, bus bars, terminals or pigtail wires can be accomplished using the Mopar® Rear Window Defogger Repair Kit (Part Number 04549275) or equivalent.

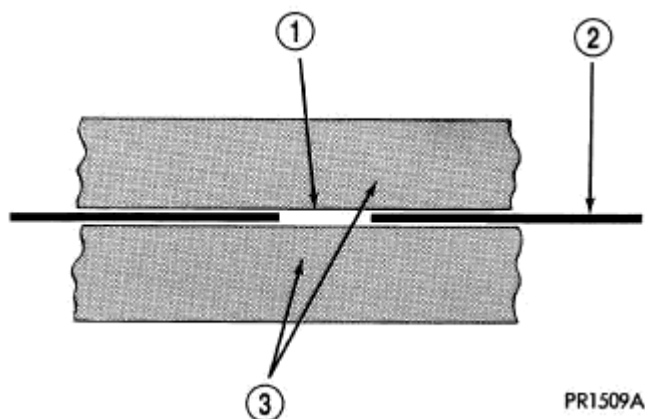


Fig. 4: Grid Line Repair - Typical
Courtesy of CHRYSLER LLC

1. Mask the repair area with masking tape (3) so that the conductive epoxy can be applied neatly. Extend the epoxy application onto the grid line (2) or the bus bar on each side of the break (1).
2. Follow the instructions in the repair kit for preparing the damaged area.
3. Remove the package separator clamp and mix the two conductive epoxy components thoroughly within the packaging. Fold the package in half and cut the center corner to dispense the epoxy.
4. Apply the epoxy through the slit in the masking tape or template. Overlap both ends of the break by at least 19 millimeters (0.75 inch).
5. For a terminal or pigtail wire replacement, mask the adjacent areas so the epoxy can be extended onto the adjacent grid line as well as the bus bar. Apply a thin layer of epoxy to the area where the terminal or pigtail wire was fastened and onto the adjacent grid line.
6. Apply a thin layer of conductive epoxy to the terminal or bare wire end of the pigtail and place it in the proper location on the bus bar. To prevent the terminal or pigtail wire from moving while the epoxy is curing, it must be wedged or clamped.
7. Carefully remove the masking tape or template.

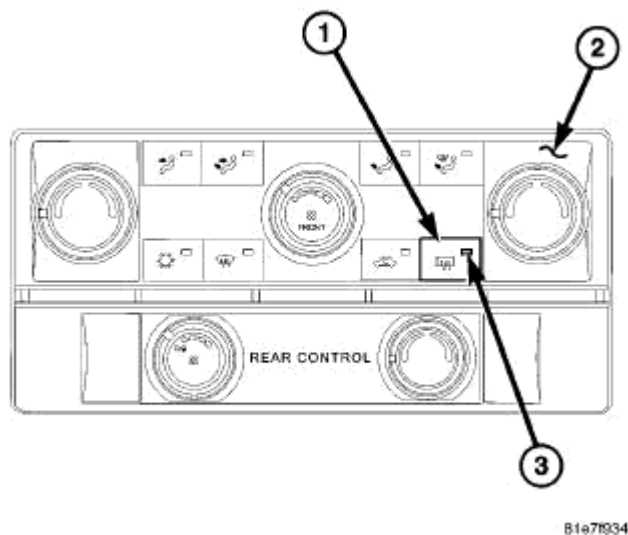
CAUTION: Do not allow the glass surface to exceed 204° C (400° F) when using a heat gun, or the glass may fracture.

8. Allow the epoxy to cure 24 hours at room temperature or carefully use a heat gun for 15 minutes. When using a heat gun, hold it approximately 25.4 centimeters (10 inches) from the repair and do not allow the glass surface to exceed 204° C (400° F).
9. After the conductive epoxy is properly cured, remove the wedge or clamp from the terminal or pigtail wire.
10. Connect the wire harness leads to the grid terminals or pigtail wires and verify EBL operation.

SWITCH, DEFOGGER, REAR

DESCRIPTION

DESCRIPTION

**Fig. 5: EBL Switch (MTC)**

Courtesy of CHRYSLER LLC

NOTE: Manual tri-zone temperature A/C-heater control shown in illustration. Other A/C-heater controls similar.

The momentary push-button switch (1) for the rear window defogger (EBL) system is located in the A/C-heater control (2) in the center of the instrument panel. An amber indicator (3) will illuminate to indicate when the EBL system is turned on.

OPERATION

OPERATION

An amber indicator will illuminate when the rear window defogger switch is activated. When activated, the switch sends a request signal to the totally integrated power module (TIPM) to energize the internal EBL high side driver to provide battery current to the rear window defogger grid lines and to the heated side view mirrors, when equipped.

NOTE: The EBL system turns off automatically after 10 minutes of initial operation. Each following activation cycle of the EBL system will last 5 minutes.

The EBL system will automatically turn off after an initial programmed time interval of about 10 minutes as long as the ignition switch is in RUN. After the initial time interval has expired, if the rear window defogger switch is pressed to ON again during the same ignition cycle, the EBL system will automatically turn off after about 5 minutes. The EBL system will also turn off if the ignition switch is turned to any position other than RUN or by manually pressing the rear window defogger switch a second time.

2009 Dodge Journey R/T

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The rear window defogger switch is diagnosed using a scan tool. Refer to **DTC-Based Diagnostics/HVAC - Diagnosis and Testing** .

The rear window defogger switch and indicator cannot be adjusted or repaired. The A/C-heater control must be replaced if the rear window defogger switch or indicator is inoperative or damaged. Refer to **Heating and Air Conditioning/Controls/CONTROL, A/C and Heater - Removal** .