

TAILGATE WINDOW DEFOGGER 3U

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GENERAL

The electrically-heated tailgate window grid consists of two vertical bus bars and horizontal rows of heating elements of silver-bearing, ceramic enamel compound that is fused to the inside surface of the tailgate glass. A control switch, pilot lamp, timer-relay and wire harness complete the circuit.

Braided wire, soldered to each bus bar at 2-1/2-inch intervals, serves as the electrical feed and ground for the grid. The grid feed wire is attached to the timer-relay, mounted inside the tailgate. The feed to the relay is supplied by a wire attached to the fuse panel power tailgate terminal (fig. 3U-1).

A separate control circuit, connected to the heater control switch, operates the relay and timer in the relay.

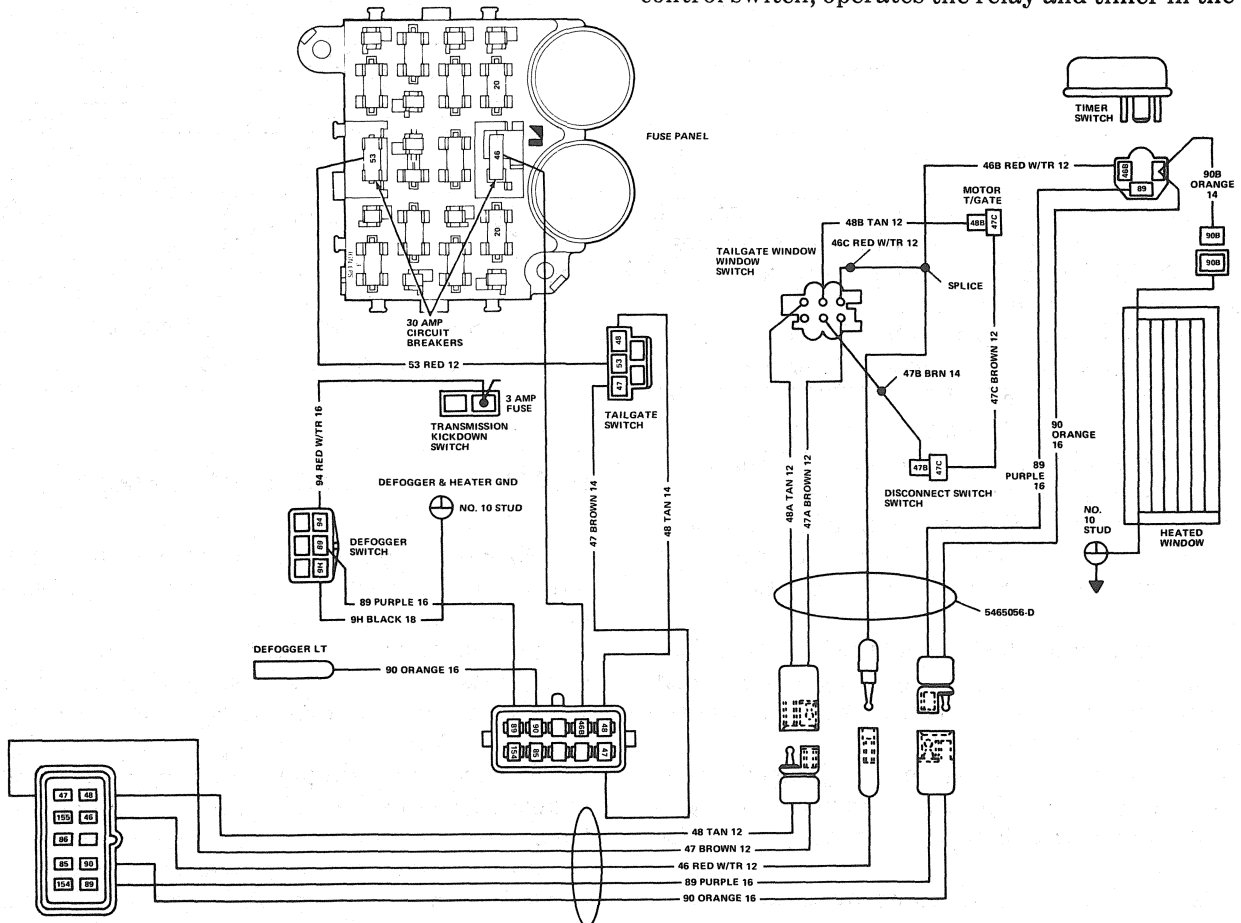


Fig. 3U-1 Heated Rear Window Wiring Diagram

3U-2 TAILGATE WINDOW DEFOGGER

With the control switch on the instrument panel activated and ignition switch On, the relay contacts close. The timer in the relay operates the defogger for 8 to 12 minutes, depending on the ambient temperature, or until the control switch or ignition switch is turned Off. The pilot lamp indicates system operation.

NOTE: *The defogger switch and the electric tailgate window switch are serviced as an assembly.*

TESTING

Switch Test

(1) Turn ignition switch On and press defogger switch.

(2) Disconnect optional equipment wiring harness at connector under dash. Connect a 12-volt test lamp from purple wire (89) to a good ground (fig. 3U-1). Test lamp should light.

(3) Shut off defogger switch and test lamp should not light.

(4) To test indicator light, disconnect orange wire from lamp. Connect jumper wire from accessory terminal of new fuse panel to orange wire. With ignition switch turned to Accessory position, the lamp should light.

Relay Test

NOTE: *Terminals on the relay are labeled X, L and P.*

(1) Attach negative lead of voltmeter to ground. Probe red w/tr wire (X-terminal) with voltmeter positive lead. Voltmeter should indicate battery voltage regardless of ignition switch position.

If no voltage is indicated, operate the tailgate window. (The tailgate window and rear window defogger are fed by the same wire.) If the window operated, the wire between the window switch and relay is open.

(2) Probe orange wire (L-terminal) with voltmeter positive lead. No voltage should be indicated.

(3) Turn ignition switch to On or Accessory position. Voltmeter should indicate voltage. If no voltage is indicated, relay is defective, or is not receiving voltage from purple wire (P-terminal).

If relay activates properly, it should remain energized 8 to 12 minutes before opening (ignition switch must remain On). If the time period is too short or excessively long, relay is defective.

(4) If relay did not energize, connect jumper wire to known good 12-volt source in tailgate and probe relay P-terminal. If relay clicks when probed, trace purple wire for open or short.

If relay does not click when probed by jumper, check relay ground and repair if necessary. If relay still fails to operate, it is defective.

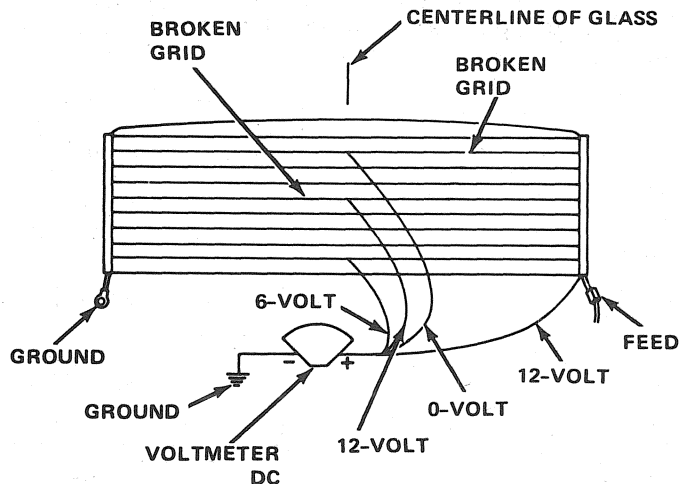
Grid Test

When a grid is inoperable due to an open circuit, the area of glass normally cleared by that grid will remain fogged or iced until adequately warmed by the adjacent grids. Use the following procedure to locate a broken grid.

(1) With engine running at idle, press tailgate window defogger switch. Defogger lamp should light, indicating defogger operation.

NOTE: *The feed wire is connected to the right side (passenger side) of the window and the ground connection is on the left side of the window.*

(2) Use 12vdc voltmeter and contact positive lead of voltmeter to right side (feed) vertical bus element on inside surface of glass. Contact negative lead to left side (ground) bus element (fig. 3U-2). Voltage drop indicated on meter should be 11 to 13 volts. Connect negative lead of voltmeter to good ground—meter reading should not change.



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Fig. 3U-2 Voltmeter Connections and Voltage Drop for Grid Continuity

(3) Keep negative lead connected to ground. Use positive lead and carefully contact each grid at approximate centerline of window.

(4) Voltage drop of one-half full amount, approximately six volts, indicates good grid or closed circuit.

(5) Full voltage drop of 12 volts at centerline indicates break in grid between positive lead and ground.

(6) No voltage drop (0 volts) at centerline indicates break in grid between centerline and voltage source or feed.

(7) The exact location of the break can then be pinpointed by moving the positive lead to the left or right along the grid until an abrupt change in the voltage reading is noticed.

Grid Repair

Once a broken or open grid is located, repairs can be accomplished using the grid repair kit in accordance with the following procedure.

(1) Using suitable marking pencil, mark location of broken or open grid on exterior surface of glass.

(2) Using fine steel wool, lightly rub area to be repaired (inside of tailgate window). Clean area with isopropyl alcohol (rubbing alcohol).

(3) Attach two strips of cellulose tape (inside of tailgate window) above and below break in grid as shown in figure 3U-3.

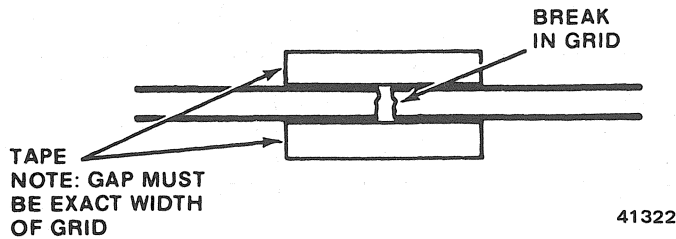


Fig. 3U-3 Tailgate Window Defogger Grid Repair

(4) Mix repair coating until uniform in consistency, with silver particles mixed throughout fluid. Apply coating to break in grid with small brush furnished in kit. Apply heavy coat of mixture, extending approximately 1/4 inch on either side of break.

(5) Start engine and press defogger switch. Run engine for one minute. Turn ignition switch off.

(6) Apply second heavy coat of mixture to break in grid, extending about 1/4 inch on either side of break.

(7) Start engine and press defogger switch. Run engine until defogger completes cycle (pilot light goes off). Turn ignition switch off.

(8) Remove cellulose tape from inside of tailgate window.

(9) Check repaired area for continuity. **Do not touch repaired area.**

CAUTION: Do not clean repaired area for 24 hours. Then clean inside of tailgate window with liquid window cleaner.

(10) Clean pencil markings from exterior surface of glass.

NOTE: If a more finished appearance is desired, repaired area may be stained with tincture of iodine.