

2005 Toyota RAV4
2005 ACCESSORIES & EQUIPMENT Defogger System - RAV4

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LOCATION

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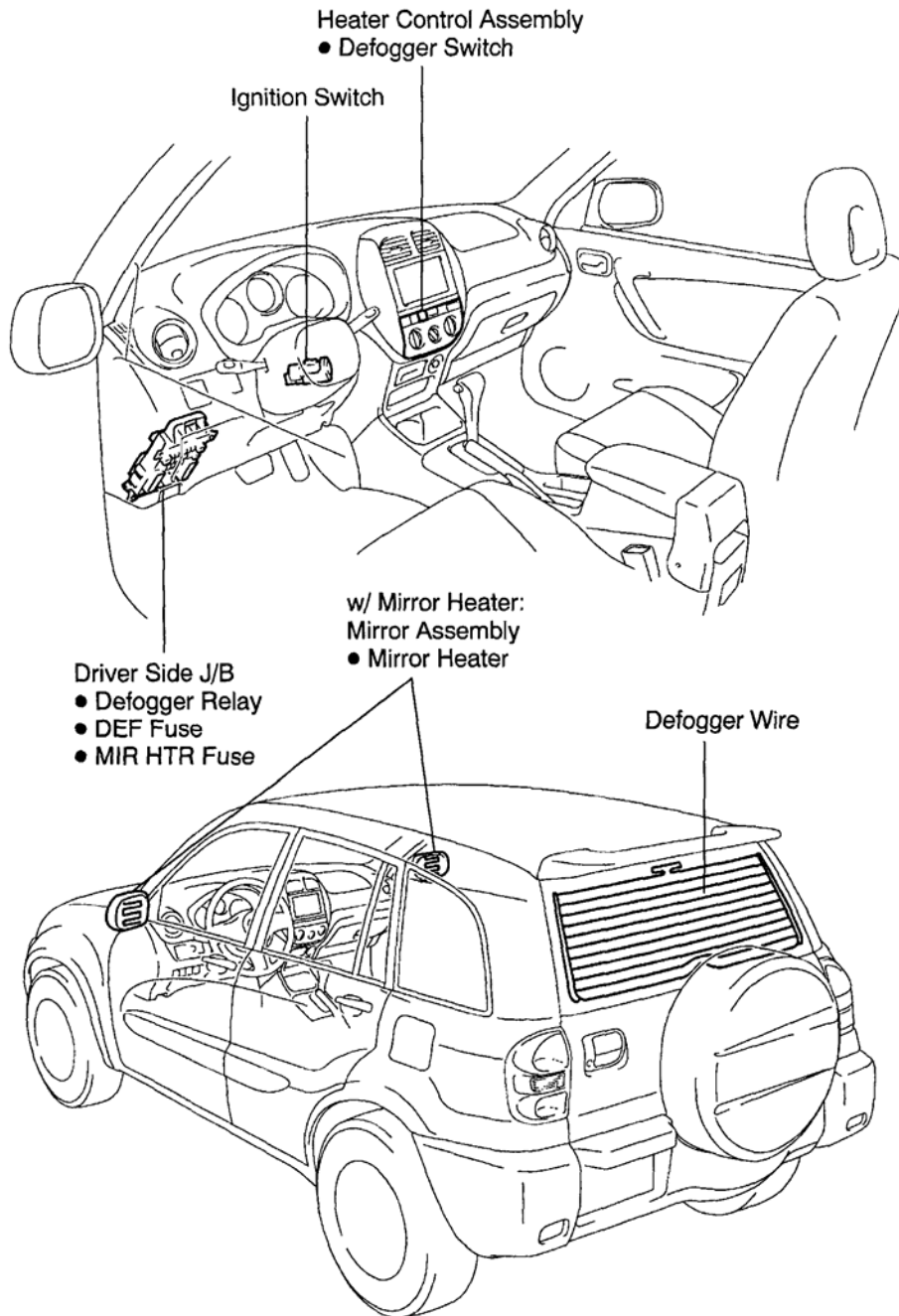


Fig. 1: Identifying Defogger System Component Locations
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

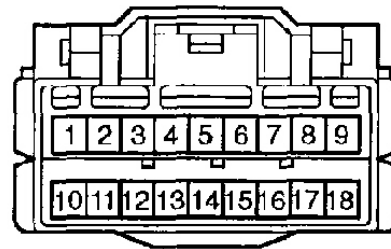
INSPECTION

1. CHECK DEFOGGER SWITCH CIRCUIT

Disconnect the connector from the heater control assembly, and check the connector on the wire harness side.

Wire Harness Side

Heater Control Assembly



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Fig. 2: Identifying Heater Control Assembly Connector Terminals

Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

Tester Connection	Condition	Specified Condition
1 - Body ground	Ignition switch OFF → ON	Below 1 V → 10 - 14 V
4 - Body ground	Light control switch OFF → TAIL	Below 1 V → 10 - 14 V
6 - Body ground	Constant	Continuity
7 - Body ground	Ignition switch OFF → ON	Below 1 V → 10 - 14 V
9 - Body ground	Constant	Continuity

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Fig. 3: Heater Control Assembly Connector Terminal Reference Chart

Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

If the circuit is as specified, replace the heater control assembly.

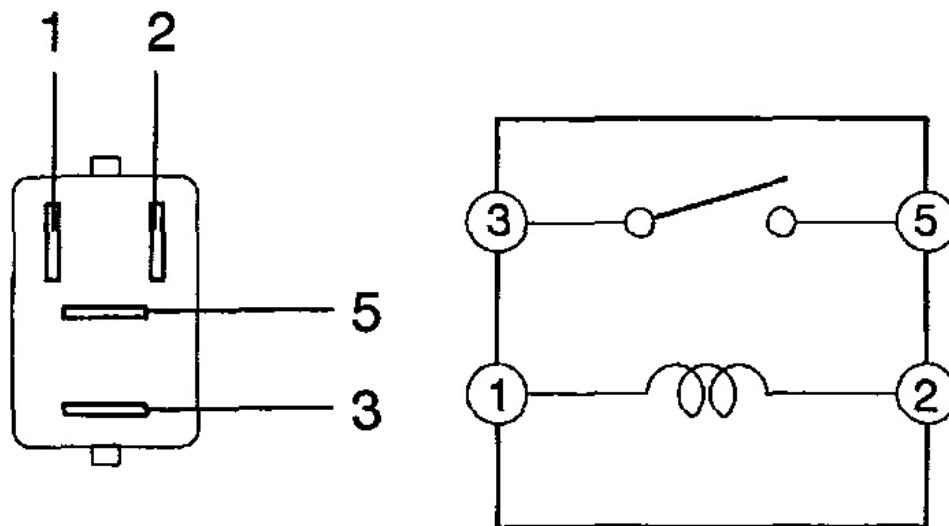
2. INSPECT REAR DEFOGGER RELAY CONTINUITY

TESTER CONNECTION SPECIFIED CONDITION

Tester Connection	Specified Condition
3 - 5	No continuity

3 - 5 Continuity (When battery voltage is applied to terminals 1 and 2)

If the continuity is not as specified, replace the relay.



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Fig. 4: Inspecting Rear Defogger Relay Continuity
 Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

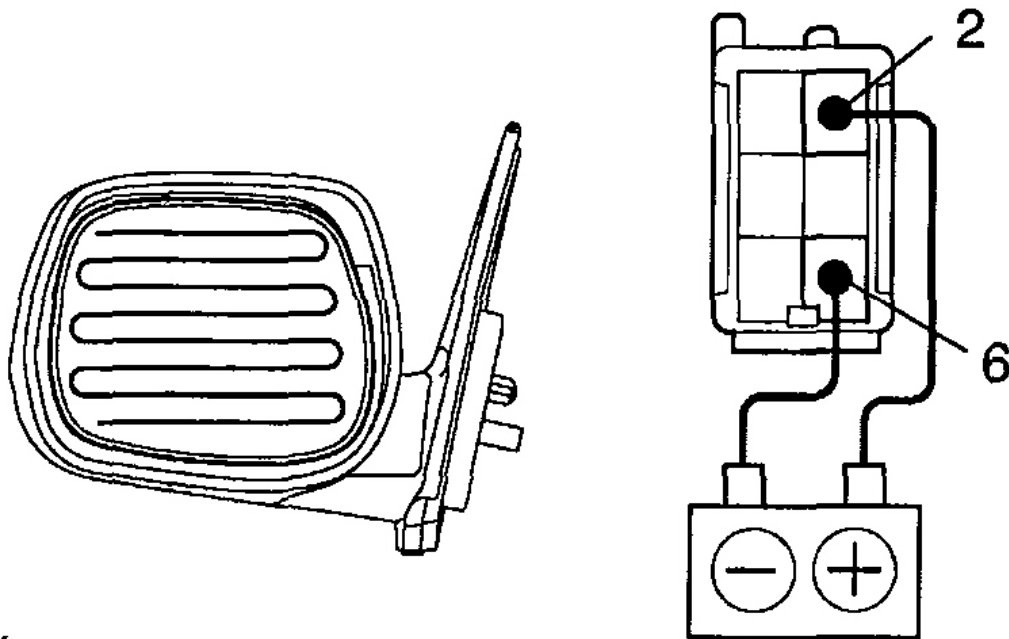
3. **w/ Mirror heater: INSPECT MIRROR HEATER OPERATION**

- Connect the positive (+) lead from the battery to terminal 2 and the negative (-) lead to terminal 6.
- Check if the mirror becomes warm.

HINT:

It will take a short time for the mirror to become warm.

If the mirror does not become warm, replace the mirror assembly.



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Fig. 5: Connecting Positive (+) Lead From Battery To Terminal 2 And Negative (-) Lead To Terminal 6

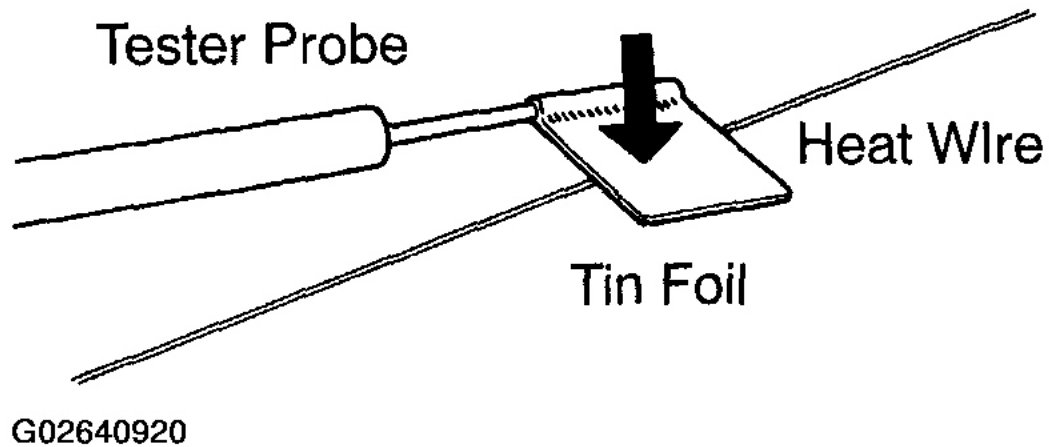
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

4. INSPECT DEFOGGER WIRE

NOTE:

- When cleaning the glass, use a soft, dry cloth and wipe the glass in the direction of the wire. Take care not to damage the wires.
- Do not use detergents or glass cleaners with abrasive ingredients.
- When measuring voltage, wind a piece of tin foil around the top of the negative probe and press the foil against the wire with your finger, as shown.

- a. Turn the ignition switch ON.
- b. Push the defogger switch ON.

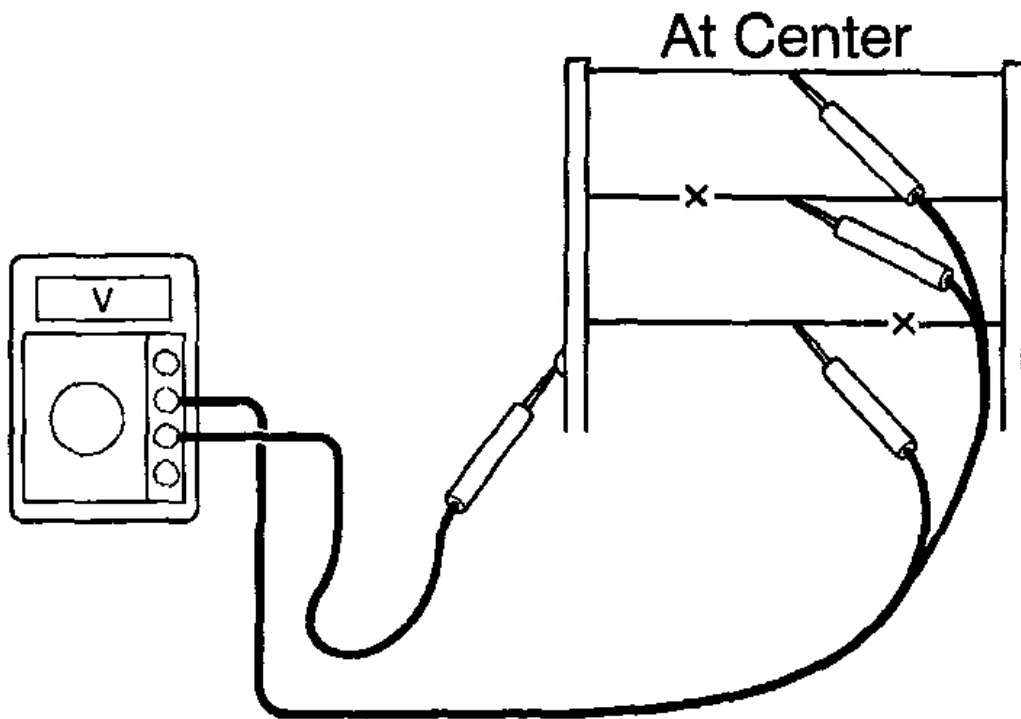
**Fig. 6: Identifying Tester Probe**

Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- c. Inspect the voltage at the center of each heat wire, as shown.

VOLTAGE SPECIFICATIONS

Voltage	Criteria
Approx. 5 V	Okay (No break in wire)
Approx. 10 V or 0 V	Broken wire



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Fig. 7: Inspecting Voltage At Center Of Each Heat Wire
 Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

HINT:

If there is approximately 10 V, the wire is broken between the center of the wire and the positive (+) end. If there is no voltage, the wire is broken between the center of the wire and ground.

- d. Place the voltmeter positive (+) lead against the defogger positive (+) terminal.
- e. Place the voltmeter negative (-) lead with the foil strip against the heat wire at the positive (+) terminal end and slide it toward the negative (-) terminal end.

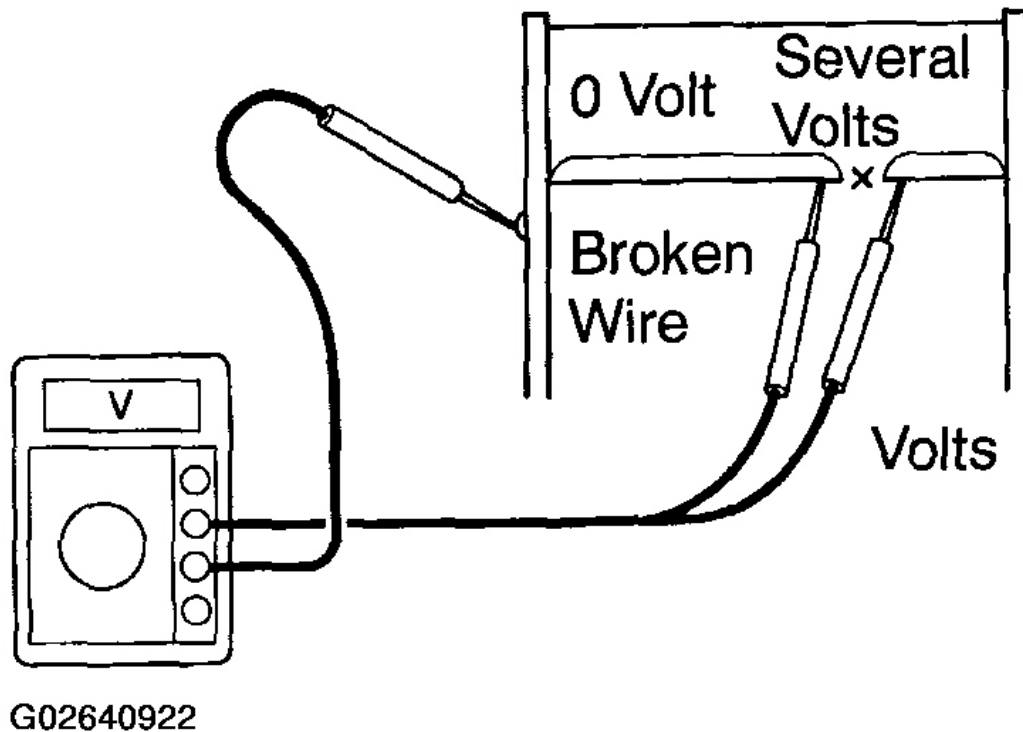


Fig. 8: Identifying Broken Wire Between Center Of Wire And Ground
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- f. The point where the voltmeter deflects from zero to several V is the place where the heat wire is broken.

HINT:

If the heat wire is not broken, the voltmeter indicates 0 V at the positive (+) end of the heat wire but gradually increases to about 12 V as the meter probe is moved to the other end.

5. IF NECESSARY, REPAIR DEFOGGER WIRE

- a. Clean the broken wire tips with grease, wax and silicone remover.
- b. Place the masking tape along both sides of the wire to be repaired.

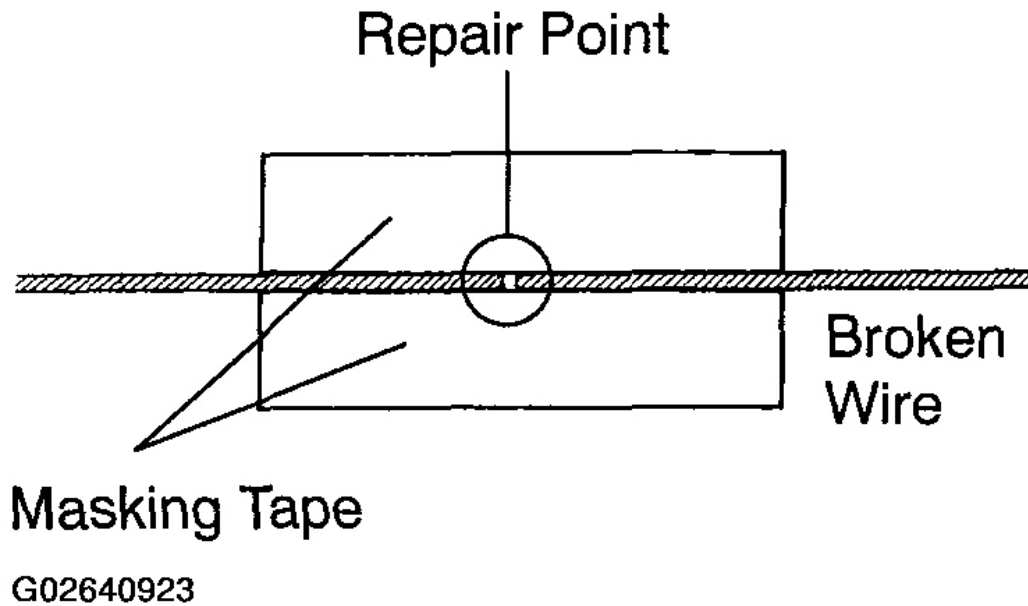
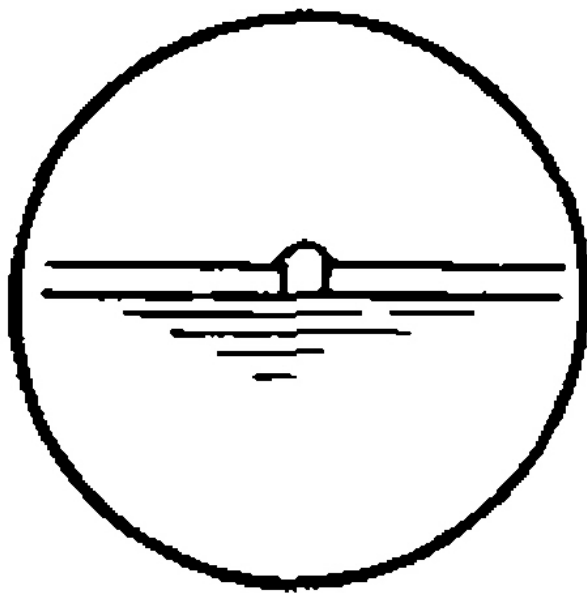
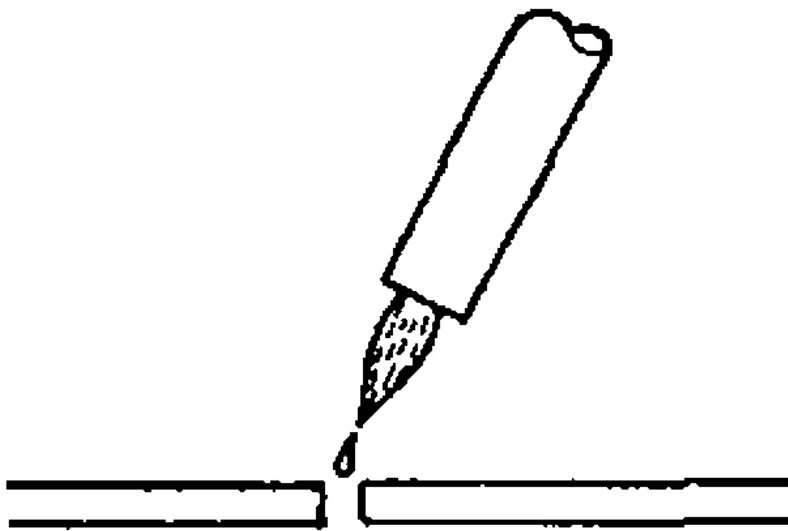


Fig. 9: Placing Masking Tape Along Both Sides Of Wire
Courtesy of TOYOTA MOTOR SALES, U.S.A., INC.

- c. Thoroughly mix the repair agent (Dupont paste No. 4817 or equivalent).
- d. Using a fine top brush, apply a small amount to the wire.
- e. After a few minutes, remove the masking tape.
- f. Do not use the defogger wire for at least 24 hours.

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Fig. 10: Using Fine Tip Brush To Repair Broken Wire
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