

2001-02 AUTOMATIC A/C-HEATER SYSTEMS

MDX

SPECIFICATIONS

SPECIFICATIONS

| Application                                                             | Specification               |
|-------------------------------------------------------------------------|-----------------------------|
| Compressor Type                                                         | Swash Plate 10-Cyl. (DENSO) |
| Compressor Oil Capacity                                                 | (2) 5.3 ounces              |
| Refrigerant (R-134a) Capacity                                           | 24.7-26.5 ounces            |
| System Operating Pressures                                              | (3)                         |
| (1) Check underhood A/C specification or A/C compressor label.          |                             |
| (2) Use DENSO ND-OIL 8 (Part No. 38897-PR7-A01).                        |                             |
| (3) See <b>Fig. 15</b> under A/C SYSTEM PERFORMANCE under SYSTEM TESTS. |                             |

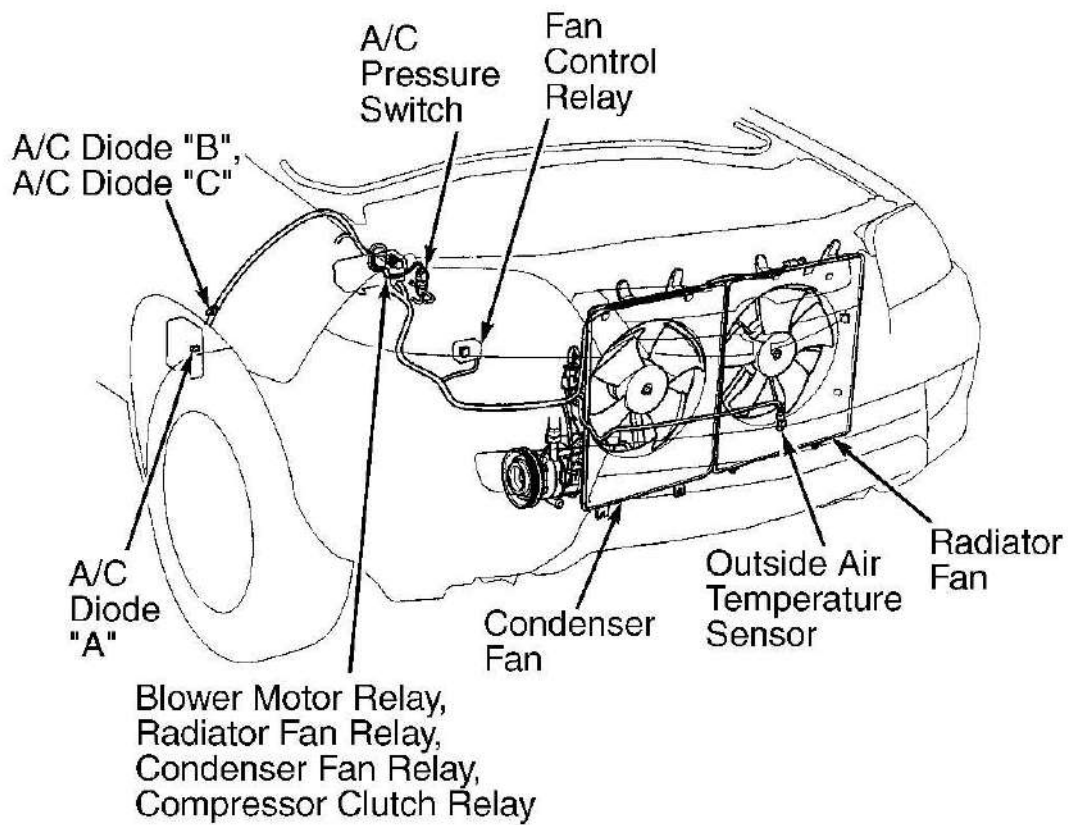
DESCRIPTION

**WARNING:** To avoid injury from accidental air bag deployment, read and carefully follow all SERVICE PRECAUTIONS and DISABLING & ACTIVATING AIR BAG SYSTEM procedures in AIR BAG SYSTEM SAFETY article in GENERAL SERVICING.

**CAUTION:** When battery is disconnected, radio will go into anti-theft protection mode. Obtain radio anti-theft protection code from owner prior to servicing vehicle.

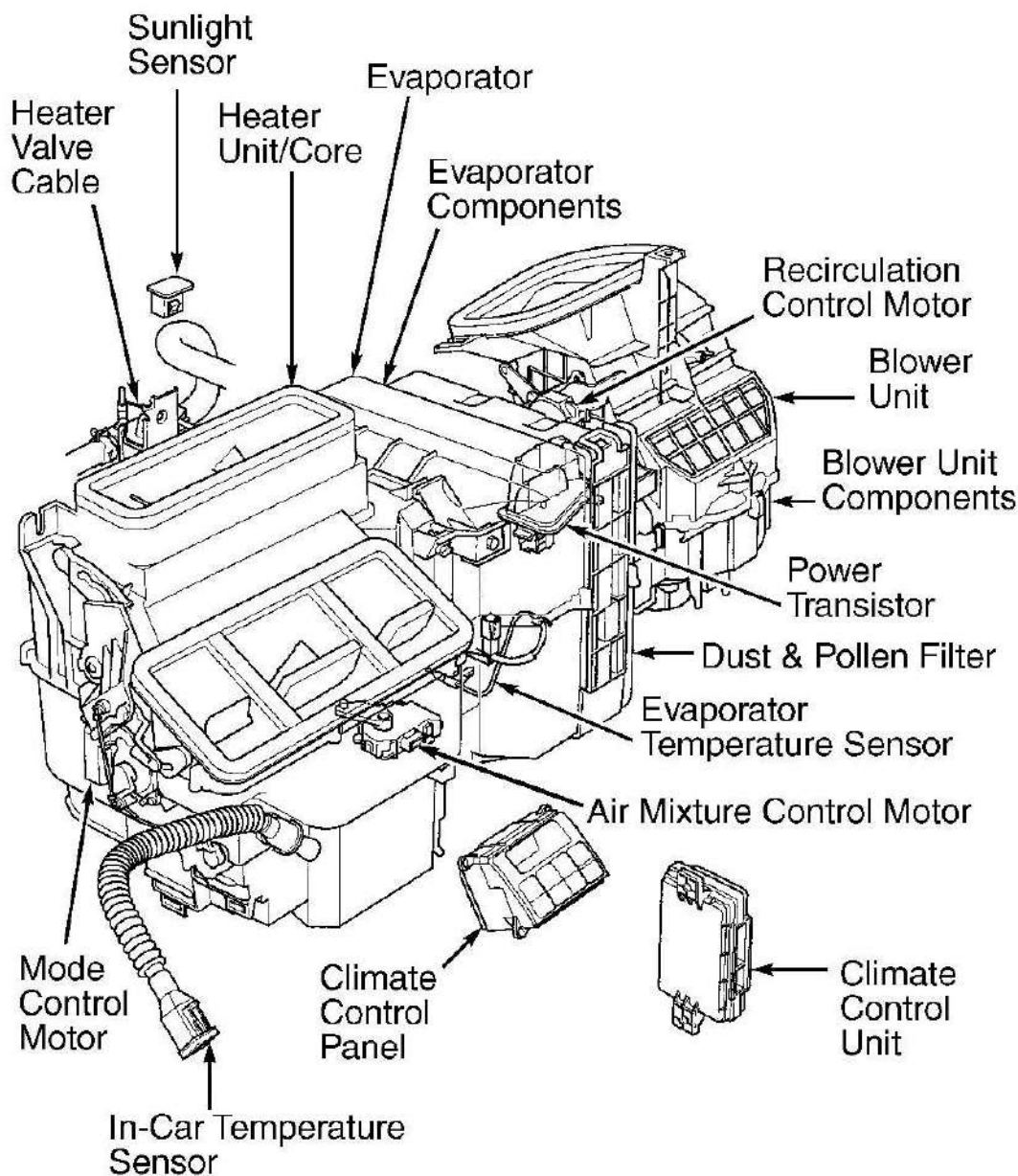
This is a cycling-clutch system with an expansion valve that controls refrigerant flow. The blower motor, evaporator, and heater core are located under dash.

Climate control system uses an outside air temperature sensor, evaporator temperature sensor, sunlight sensor and in-car temperature sensor to provide input to system for automatic operation. See **Fig. 1** and **Fig. 2** .



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**Fig. 1: Identifying Automatic A/C-Heater System Electrical Components**  
Courtesy of AMERICAN HONDA MOTOR CO., INC.



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**Fig. 2: Identifying Automatic A/C-Heater System Components**

Courtesy of AMERICAN HONDA MOTOR CO., INC.

## OPERATION

### A/C COMPRESSOR CLUTCH CIRCUIT

**A/C Compressor Clutch Relay**

This relay controls current flow to A/C compressor clutch coil. Powertrain Control Module (PCM) controls the relay's coil circuit.

**A/C Pressure Switch**

If high-side pressure decreases to 28 psi (2.0 kg/cm<sup>2</sup>) or less or increases to 455 psi (32.0 kg/cm<sup>2</sup>) or more, the A/C pressure switch opens. This causes PCM to prevent compressor operation in order to protect compressor. Middle portion of switch closes when refrigerant pressure is above 220 psi (15.5 kg/cm<sup>2</sup>).

**A/C Evaporator Temperature Sensor**

If evaporator core temperature drops too low, evaporator core temperature sensor signals PCM to disengage compressor to prevent evaporator core from freezing up.

**Powertrain Control Module (PCM)**

The PCM controls coil circuit of A/C compressor clutch relay. When PCM senses ground through A/C on input circuit, it grounds coil circuit of A/C compressor clutch relay.

**COOLING FAN CIRCUIT****Condenser Fan Relay**

When relay coil circuit is grounded, relay contacts close, allowing current to flow to condenser fan. Coil circuit can be grounded through radiator fan switch, A/C switch or PCM.

**Radiator Fan Relay**

When relay coil circuit is grounded, relay contacts close, allowing current to flow to radiator fan. Coil circuit can be grounded through engine radiator fan switch, radiator fan control module or PCM.

**Radiator Fan Switch**

If coolant temperature exceeds 199°F (93°C), switch contacts close, causing radiator and condenser fans to turn on.

**TROUBLE SHOOTING**

Before trouble shooting, enter self-diagnostics. See **ENTERING SELF-DIAGNOSTICS** under SELF-DIAGNOSTICS. If self-diagnostics does not reveal any DTCs, operate system (if possible) to verify customer complaint. Ensure system pressures are within proper operating range. Visually inspect for blown fuses, loose wires, poor terminal contact and poor ground connections. If no problem is found, diagnose by symptom. See **SYMPTOM TESTS**.

## SYMPTOM TESTS

### RECIRCULATION CONTROL DOOR DOES NOT SWITCH BETWEEN FRESH & RECIRCULATED AIR

1. Check fuse No. 3 (7.5-amp) in driver's underdash fuse/relay box. If fuse is blown, replace fuse and recheck system. Repair short to ground if necessary. If fuse is okay, go to next step.
2. Disconnect recirculation control motor 7-pin harness connector. Turn ignition on. Using DVOM, measure voltage between ground and recirculation control motor connector terminal No. 1 (Black/Yellow wire). See **Fig. 3** . If battery voltage exists, go to next step. If battery voltage does not exist, repair open circuit in Black/Yellow wire between fuse No. 3 (7.5-amp) and recirculation control motor. See **WIRING DIAGRAMS** .
3. Turn ignition off. Remove and test recirculation control motor. See **RECIRCULATION CONTROL MOTOR** under COMPONENT TESTS. If motor is faulty, go to step 7 . If recirculation control motor is okay, go to next step.
4. Disconnect climate control unit 26-pin harness connector "B". Individually check continuity between ground and control unit connector "B" terminals No. 23 (Green/Red wire) and No. 24 (Green/White wire). See **Fig. 4** . If continuity does not exist in either circuit, go to next step. If continuity exists in either circuit, repair short to ground in appropriate wire(s). See **WIRING DIAGRAMS** .
5. Turn ignition on. Individually check for voltage between ground and control unit connector "B" terminals No. 23 (Green/Red wire) and No. 24 (Green/White wire). If voltage is not present, go to next step. If voltage is present in either circuit, repair short to power in appropriate wire(s). Short also damages climate control unit. Replace climate control unit.
6. Turn ignition off. Check continuity of Green/Red wire between control unit harness connector "B" terminal No. 23 and recirculation control motor harness connector terminal No. 5. Check continuity of Green/White wire between control unit harness connector "B" terminal No. 24 and recirculation control motor harness connector terminal No. 7. See **Fig. 3** and **Fig. 4** . If continuity does not exist in either circuit, repair open in appropriate wire(s). If continuity exists in both circuits, check for loose wires or poor connections at climate control unit and recirculation control motor connectors. If wires and connections are okay, substitute a known-good climate control unit and retest. If system operates normally, replace original climate control unit.
7. Remove recirculation control motor. Check linkage and doors for binding and correct as needed. If linkage and doors are not binding, replace recirculation control motor.

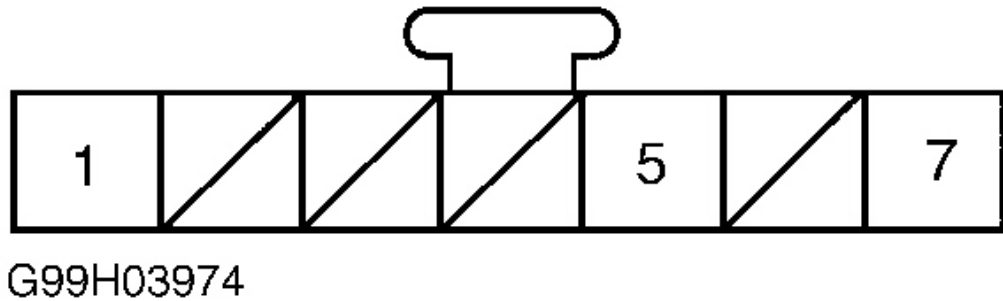


**Fig. 3: Identifying Recirculation Control Motor 7-Pin Connector & Terminals**  
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

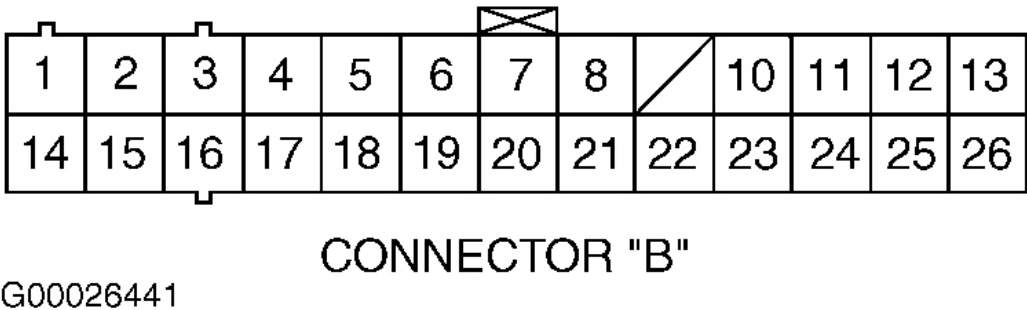
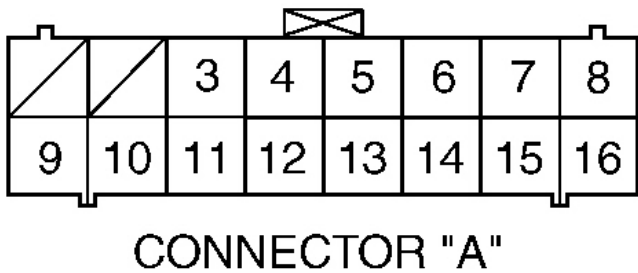


**Fig. 4: Identifying Climate Control Unit Harness Connectors & Terminals**  
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

**BLOWER MOTOR DOES NOT RUN IMMEDIATELY, EVEN WITH ENGINE WARM**

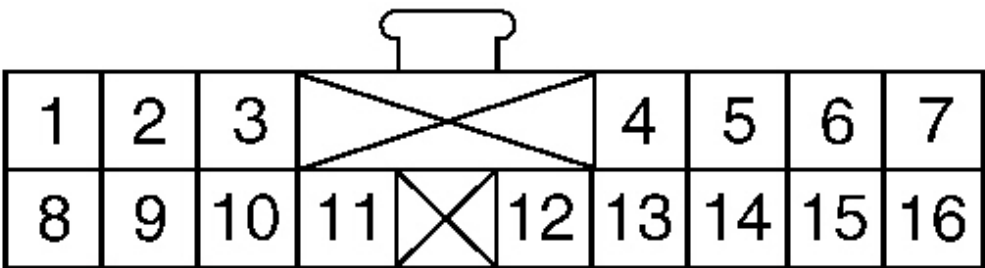
1. Check Malfunction Indicator Light (MIL). If MIL is on, see appropriate SELF-DIAGNOSTICS article in ENGINE PERFORMANCE. If MIL is off, go to next step.
2. Turn ignition off. Disconnect Engine Coolant Temperature (ECT) sensor 2-pin harness connector. Disconnect climate control unit 26-pin harness connector "B". Turn ignition on. Measure voltage between ground and climate control unit harness connector "B" terminal No. 22 (Red/White wire). See **Fig. 4** . If about 5 volts is not present, repair open in Red/White wire between climate control unit and ECT sensor. See **WIRING DIAGRAMS** . If about 5 volts is present, go to next step.
3. Check for loose wires or poor connections at climate control unit and ECT sensor. If wires and connections are okay, substitute a known-good climate control unit and retest. If system operates normally, replace original climate control unit.

### CLIMATE CONTROL PANEL DOES NOT DISPLAY

1. Check fuse No. 3 (7.5-amp) in driver's underdash fuse/relay box. If fuse is blown, replace fuse and recheck system. Repair short to ground if necessary. If fuse is good, go to next step.
2. Disconnect climate control panel 16-pin harness connector "A". Turn ignition on. Measure voltage between ground and climate control panel harness connector "A" terminal No. 7 (Black/Yellow wire). See **Fig. 5** . If battery voltage exists, go to next step. If battery voltage does not exist, repair open circuit in Black/Yellow wire between climate control panel and driver's underdash fuse/relay box. See **WIRING DIAGRAMS** .
3. Turn ignition off. Disconnect climate control unit 16-pin and 26-pin harness connectors. Check continuity of circuits between climate control panel harness connector and climate control unit connectors as specified. See **CLIMATE CONTROL PANEL CIRCUIT CONTINUITY** table. See **Fig. 4** and **Fig. 5** . If continuity exists for all circuits, go to next step. If continuity does not exist in any circuit, repair open in appropriate wire(s). See **WIRING DIAGRAMS** .
4. Check continuity between ground and climate control panel 16-pin harness connector terminals No. 5 (Yellow/Green wire), No. 6 (Yellow/Black wire) and No. 14 (Yellow/White wire). See **Fig. 5** . If continuity exists at any terminal, repair short circuit to ground in appropriate wire(s). See **WIRING DIAGRAMS** . If continuity does not exist at any terminals, check for loose wires or poor connections at climate control panel. If wires and connections are okay, substitute a known-good climate control panel and retest. If system operates normally, replace original climate control panel.

### CLIMATE CONTROL PANEL CIRCUIT CONTINUITY

| Control Unit Connector & Terminal No. | Wire Color   | Control Panel Terminal No. |
|---------------------------------------|--------------|----------------------------|
| Connector "A"                         |              |                            |
| 12                                    | Yellow/Green | 5                          |
| 14                                    | Yellow/Black | 6                          |
| 13                                    | Yellow/White | 14                         |
| Connector "B"                         |              |                            |
| 16                                    | Black/White  | 12                         |



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**Fig. 5: Identifying Climate Control Panel Harness Connector Terminals**  
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

**MANUAL SWITCH INOPERATIVE**

1. Disconnect navigation system display or multi-information display 5-pin harness connector. Disconnect climate control unit 16-pin harness connector "A". Check continuity of circuits between climate control unit and navigation display or multi-information display as specified. See **NAVIGATION OR MULTI-INFORMATION DISPLAY CIRCUIT IDENTIFICATION** table. See **Fig. 4** and **Fig. 6** . If continuity exists in all circuits, go to next step. If continuity does not exist at any terminal, repair open in appropriate wire.
2. Check for continuity between ground and climate control unit harness connector "A" terminals No. 8 (Red/Green wire), No. 15 (Green/Orange wire) and No. 16 (Yellow/Blue wire). If continuity exists at any terminal, repair short to ground in appropriate wire between climate control unit and navigation display unit. See **WIRING DIAGRAMS** . If continuity does not exist at all terminals, check for loose wires or poor connections at navigation or multi-information display unit and climate control unit connectors. If wires and connections are okay, substitute a known-good climate control unit and retest. If system operates normally, replace navigation or multi-information display unit.

**NAVIGATION OR MULTI-INFORMATION DISPLAY CIRCUIT IDENTIFICATION**

| Climate Control Unit<br>Connector "A" Terminal No. | Wire Color   | Navigation/Multi-Information Display<br>Unit Terminal No. |
|----------------------------------------------------|--------------|-----------------------------------------------------------|
| 8                                                  | Red/Green    | 4                                                         |
| 15                                                 | Green/Orange | 3                                                         |
| 16                                                 | Yellow/Blue  | 2                                                         |

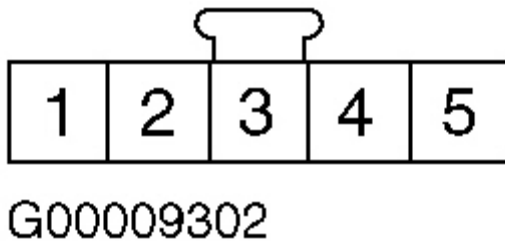


**Fig. 6: Identifying Navigation Or Multi-Information Display Unit Harness Connector Terminals**  
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

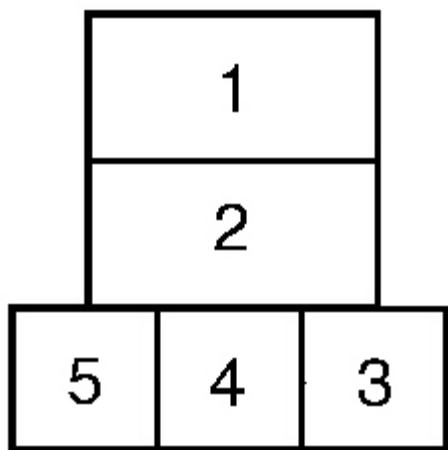
#### **BOTH A/C & HEATER DO NOT OPERATE**

1. Check fuse No. 3 (7.5-amp) in driver's underdash fuse/relay box. If fuse is blown, replace fuse and recheck system. Repair short to ground if necessary. See **WIRING DIAGRAMS** . If fuse is good, go to next step.
2. Disconnect climate control unit 26-pin harness connector "B". Turn ignition switch on. Measure voltage between ground and climate control unit 26-pin harness connector "B" terminal No. 13 (Black/Yellow wire). See **Fig. 4** . If battery voltage exists, go to next step. If battery voltage does not exist, repair open circuit in Black/Yellow wire between climate control unit 26-pin harness connector "B" terminal No. 13 and fuse No. 3 (7.5-amp) in driver's underdash fuse/relay box.
3. Check continuity of Black wire between ground and climate control unit 26-pin harness connector "B" terminal No. 15. If continuity does not exist, check for open circuit in Black wire. If wire is okay, check for poor ground G401. See **WIRING DIAGRAMS** . If continuity exists, check for loose wires or poor connections at climate control unit. If wires and connections are okay, substitute a known-good climate control unit and retest. If system operates normally, replace original climate control unit.

#### **BOTH FANS INOPERATIVE AT LOW SPEED WHEN REFRIGERANT PRESSURE IS BELOW 220 PSI (15.5 KG/CM<sup>2</sup>)**

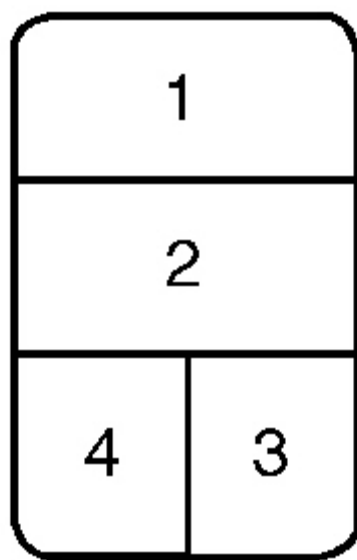
1. Check fuse No. 58 (30-amp) in underhood fuse/relay box. Check fuse No. 3 (7.5-amp) in driver's underdash fuse/relay box. If fuses are blown, replace fuses and recheck system. Repair short to ground if necessary. See **WIRING DIAGRAMS** . If fuses are good, go to next step.
2. Remove condenser fan relay from underhood fuse/relay box. See **Fig. 1** . Test condenser fan relay. See **RELAYS** under COMPONENT TESTS. If relay does not test as specified, replace condenser fan relay. If condenser fan relay is okay, go to next step.
3. Using DVOM, measure voltage between ground and condenser fan relay connector terminal No. 1. See **Fig. 8** . If battery voltage is present, go to next step. If battery voltage is not present, replace underhood fuse/relay box.

4. Using fused jumper wire, connect condenser fan relay connector terminals No. 1 and 2 together. If condenser fan runs, go to next step. If condenser fan does not run, go to step 8 .
5. Disconnect fused jumper wire. Turn ignition on. Using DVOM, measure voltage between ground and condenser fan relay connector terminal No. 3 (Yellow/White wire). See **Fig. 8** . If battery voltage is present, go to next step. If battery voltage is not present, go to step 14 .
6. Turn ignition off. Reinstall condenser fan relay. Remove A/C diode "A" from passenger's underdash fuse relay box. See **Fig. 1** . Using DVOM, check for continuity between A/C diode terminals. Reverse DVOM leads and recheck for continuity. Continuity should exist in only one direction. If continuity is not as specified, replace A/C diode.
7. Turn ignition on. Using DVOM, measure voltage between ground and A/C diode connector terminal No. 2 (Light Blue wire). If battery voltage is present, repair open circuit in Blue/Red wire between A/C diode and A/C pressure switch. See **WIRING DIAGRAMS** . If battery voltage is not present, repair open circuit in Light Blue wire between A/C diode and condenser fan relay.
8. Disconnect fused jumper wire. Reinstall condenser fan relay. Disconnect condenser fan 2-pin connector. Turn ignition, A/C and fan switches on. Using DVOM, measure voltage between ground and condenser fan 2-pin harness connector Blue/Yellow wire. If battery voltage is present, go to next step. If battery voltage is not present, repair open circuit in Blue/Yellow wire between condenser fan 2-pin harness connector and condenser fan relay. See **WIRING DIAGRAMS** .
9. Turn A/C, fan and ignition switches off. Reconnect condenser fan 2-pin harness connector. Using fused jumper wire, connect (backprobe) condenser fan 2-pin harness connector Blue/Red wire to ground. Turn ignition, A/C and fan switches on. If condenser fan runs, go to next step. If condenser fan does not run, replace condenser fan motor.
10. Turn A/C, fan and ignition switches off. Disconnect fused jumper wire. Remove fan control relay from multi-relay box. See **Fig. 1** . Test relay. See **RELAYS** under COMPONENT TESTS. If fan control relay does not test as specified, replace fan control relay. If fan control relay is okay, go to next step.
11. Turn ignition, A/C and fan switches on. Using DVOM, measure voltage between ground and fan control relay connector terminal No. 1. See **Fig. 7** . If battery voltage is present, go to next step. If battery voltage is not present, repair open circuit in Blue/Red wire between condenser fan and fan control relay.
12. Turn A/C, fan and ignition switches off. Disconnect radiator fan 2-pin connector. Using DVOM, check continuity of Blue/Black wire between radiator fan 2-pin connector and fan control relay connector terminal No. 4. See **Fig. 7** . If continuity exists, go to next step. If continuity does not exist, repair open circuit in Blue/Black wire between radiator fan 2-pin connector and fan control relay connector terminal No. 4. See **WIRING DIAGRAMS** .
13. Using DVOM, check continuity of Black wire between radiator fan 2-pin connector and ground. If continuity exists, replace radiator fan motor. If continuity does not exist, check for open circuit in Black wire. If wire is okay, check for poor ground G201. Repair as necessary.
14. Using DVOM, measure voltage between ground and radiator fan control module harness connector terminal No. 3 (Yellow/White wire). If battery voltage is present, repair open circuit in Yellow/White wire between radiator fan control module harness connector terminal No. 3 and condenser fan relay. See **WIRING DIAGRAMS** . If battery voltage is not present, check radiator fan control module inputs. See **FAN CONTROL MODULE/UNIT** under COMPONENT TESTS in **ELECTRIC COOLING FANS** article.



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**Fig. 7: Identifying Fan Control Relay Connector Terminals**  
Courtesy of AMERICAN HONDA MOTOR CO., INC.



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**Fig. 8: Identifying Condenser Fan & Compressor Clutch Relay Connector Terminals**

Courtesy of AMERICAN HONDA MOTOR CO., INC.

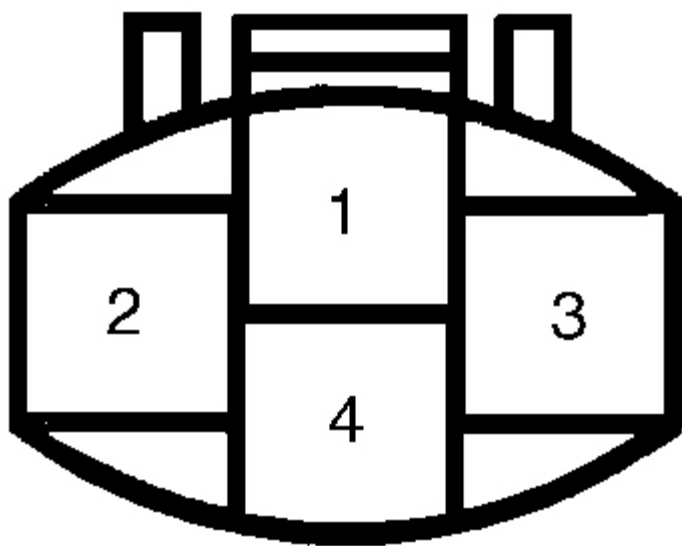
**CONDENSER FAN INOPERATIVE AT HIGH SPEED WITH A/C ON & COOLANT TEMPERATURE ABOVE 210°F (99°C) OR REFRIGERANT PRESSURE ABOVE 220 PSI (15.5 KG/CM<sup>2</sup>)**

1. Check fuse No. 3 (7.5-amp) in driver's underdash fuse/relay box. If fuse is blown, replace fuse and recheck system. Repair short to ground if necessary. See **WIRING DIAGRAMS** . If fuse is okay, go to next step.
2. Remove fan control relay from multi-relay box. See **Fig. 1** . Test relay. See **RELAYS** under COMPONENT TESTS. If fan control relay is defective, replace fan control relay. If fan control relay is okay, go to next step.
3. Turn ignition on. Using DVOM, measure voltage between ground and fan control relay connector terminal No. 5 (Black/Yellow wire). See **Fig. 7** . If battery voltage is present, go to next step. If battery voltage is not present, repair open circuit in Black/Yellow wire between fan control relay and fuse No. 3 (7.5-amp) in underdash fuse/relay box. See **WIRING DIAGRAMS** .
4. Turn ignition off. Using DVOM, check for continuity between ground and fan control relay connector terminal No. 2 (Black wire). See **Fig. 7** . If continuity exists, repair open circuit in Green wire between fan control relay connector terminal No. 3 and A/C diode "B". See **Fig. 1** . See **WIRING DIAGRAMS** .

If continuity does not exist, check for open circuit in Black wire between ground and fan control relay connector terminal No. 2 (Black wire). If circuit is okay, check for loose ground G201. Repair as necessary.

**BOTH FANS INOPERATIVE AT HIGH SPEED WITH A/C ON & REFRIGERANT PRESSURE ABOVE 220 PSI (15.5 KG/CM<sup>2</sup>)**

1. Remove A/C diode "B" from right side of dashboard. See **Fig. 1** . Using DVOM, check for continuity between diode terminals. Reverse DVOM leads. Recheck for continuity. Continuity should exist in only one direction between diode terminals. If continuity is as specified, go to next step. If continuity is not as specified, replace A/C diode "B".
2. Turn ignition on. Using DVOM, measure voltage between ground and A/C diode "B" harness connector Green wire. If battery voltage is present, go to next step. If battery voltage is not present, repair open circuit in Green wire between A/C diode "B" and radiator fan relay. See **WIRING DIAGRAMS** .
3. Turn ignition off. Reinstall A/C diode "B". Disconnect A/C pressure switch 4-pin harness connector. See **Fig. 1** . Turn ignition on. Using DVOM, measure voltage between ground and A/C pressure switch harness connector terminal No. 2 (Red/Black wire). See **Fig. 9** . If battery voltage is present, go to next step. If battery voltage is not present, repair open circuit in Red/Black wire between A/C diode "B" and A/C pressure switch.
4. Using DVOM, check for continuity between A/C pressure switch harness connector terminals No. 1 and 3 (both Blue/Red wires). If continuity exists, replace A/C pressure switch. If continuity does not exist, repair open circuit in Blue/Red wires between A/C pressure switch harness connector terminals No. 1 and 3.



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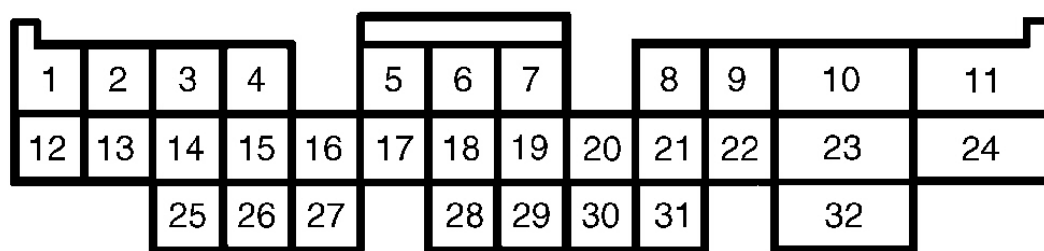
**Fig. 9: Identifying A/C Pressure Switch Terminals**  
Courtesy of AMERICAN HONDA MOTOR CO., INC.

#### COMPRESSOR CLUTCH DOES NOT ENGAGE

1. Check fuse No. 59 (7.5-amp) in underhood fuse/relay box and fuse No. 3 (7.5-amp) in driver's underdash fuse/relay box. If either fuse is blown, replace fuse and check for short in appropriate circuit. See **WIRING DIAGRAMS** . If both fuses are okay, go to next step.
2. Check cooling system for overheating condition or excessive coolant temperature. Repair cooling system as necessary and retest A/C system. If cooling system is operating normally, go to next step.
3. Remove compressor clutch relay from underhood fuse/relay box. See **Fig. 1** . Test relay. See **RELAYS** under COMPONENT TESTS. If compressor clutch relay is defective, replace relay. If compressor clutch relay is okay, go to next step.
4. Using DVOM, measure voltage between ground and compressor clutch relay connector terminal No. 1. See **Fig. 8** . If battery voltage is present, go to next step. If battery voltage is not present, replace underhood fuse/relay box.
5. Using a fused jumper wire, connect compressor clutch relay connector terminals No. 1 and 2 together. See **Fig. 8** . If compressor clutch can be heard clicking, go to next step. If compressor clutch cannot be heard clicking, go to step 9 .
6. Disconnect fused jumper wire. Turn ignition on. Using DVOM, measure voltage between ground and

compressor clutch relay connector terminal No. 4 (Black/Yellow wire). See **Fig. 8** . If battery voltage is present, go to next step. If battery voltage is not present, repair open circuit in Black/Yellow wire between compressor clutch relay connector terminal No. 4 and fuse No. 3 (7.5-amp) in driver's underdash fuse/relay box.

7. Turn ignition off. Reinstall compressor clutch relay. Turn A/C switch off. Turn ignition on. Measure voltage between ground and ECM 32-pin connector "A" (backprobe) terminal No. 17 (Red wire). See **Fig. 10** . If battery voltage is present, go to next step. If battery voltage is not present, repair open circuit in Red wire between ECM 32-pin connector "A" terminal No. 17 and compressor clutch relay connector terminal No. 3. See **WIRING DIAGRAMS** .
8. Measure voltage (backprobe) between ground and ECM 32-pin connector "A" terminal No. 27 (Blue/Red wire). See **Fig. 10** . If battery voltage is not present, repair open circuit in Blue/Red wire between ECM 32-pin connector "A" terminal No. 27 and A/C pressure switch. See **WIRING DIAGRAMS** . If battery voltage is present, check for loose or poor connections at ECM 32-pin connector "A". Repair as necessary. If connections are okay, substitute a known-good ECM and retest system. If compressor clutch now operates normally, replace original ECM.
9. Disconnect fused jumper wire. Disconnect compressor clutch harness connector. Using DVOM, check continuity of Red wire between compressor clutch harness connector and compressor clutch relay connector terminal No. 2. See **Fig. 8** . If continuity exists, inspect compressor clutch clearance, thermal protector and compressor clutch coil. See **COMPRESSOR CLUTCH** under COMPONENT TESTS. If continuity does not exist, repair open circuit in Red wire between compressor clutch harness connector and compressor clutch relay connector terminal No. 2.



WIRE SIDE OF FEMALE TERMINALS

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**Fig. 10: Identifying ECM 32-Pin Harness Connector "A" Terminals**  
Courtesy of AMERICAN HONDA MOTOR CO., INC.

#### A/C SYSTEM INOPERATIVE (BOTH FANS & COMPRESSOR)

1. Disconnect A/C pressure switch 4-pin harness connector. See **Fig. 1** . Turn ignition on. Measure voltage between ground and A/C pressure switch harness connector terminal No. 1 (Blue/Red wire). See **Fig. 9** . If battery voltage is present, go to next step. If battery voltage is not present, repair open circuit in Blue/Red wire between A/C pressure switch, ECM and A/C diode "A". See **WIRING DIAGRAMS** .
2. Turn ignition off. Check for continuity between A/C pressure switch terminals No. 1 (Blue/Red wire) and

No. 4 (Red/Orange wire). If continuity exists, go to next step. If continuity does not exist, check A/C system pressure. If pressure is within specifications, replace A/C pressure switch. If pressure is not within specifications, repair and charge A/C system.

3. Reconnect A/C pressure switch connector. Disconnect climate control unit 26-pin harness connector "B". Turn ignition switch on. Measure voltage between ground and climate control harness connector "B" terminal No. 4 (Red/Orange wire). See **Fig. 4** . If battery voltage is present, go to next step. If battery voltage is not present, repair open circuit in Red/Orange wire between A/C pressure switch and climate control unit. See **WIRING DIAGRAMS** .
4. Check for loose wires or poor connections at climate control unit and A/C pressure switch connectors. Repair as necessary. If wires and connections are okay, substitute a known-good climate control unit and retest. If system operates normally, replace original climate control unit.

## SELF-DIAGNOSTICS

### ENTERING SELF-DIAGNOSTICS

1. Turn ignition on. Press AUTO button and then OFF button. Hold both buttons down simultaneously for one minute.

**NOTE:** If any DTCs are stored, they will only display as long as both AUTO and OFF buttons are depressed.

2. If any problems are found, temperature indicator will light up segment corresponding to Diagnostic Trouble Code (DTC) errors "A" through "N". See **Fig. 11** . Temperature indicator will alternate every second between display "88" (all segments lit) and trouble code segment "A" through "N". If no problems are found, segments will not light up.
3. If any DTCs are found, proceed to appropriate DTC test to correct condition. See **DIAGNOSTIC TROUBLE CODE INDEX** table.

**NOTE:** If indicator segments "A", "C", "E", "G", "I" and "L" come on at the same time, there may be an open in the common ground wire of the sensors.

### DIAGNOSTIC TROUBLE CODE INDEX

| DTC      | Condition                             |
|----------|---------------------------------------|
| <b>A</b> | In-Car Temp. Sensor Circuit Open      |
| <b>B</b> | In-Car Temp Sensor Circuit Short      |
| <b>C</b> | Outside Temp. Sensor Circuit Open     |
| <b>D</b> | Outside Temp. Sensor Circuit Short    |
| <b>E</b> | Sunlight Sensor Circuit Open          |
| <b>F</b> | Sunlight Sensor Circuit Short         |
| <b>G</b> | Evaporator Temp. Sensor Circuit Open  |
| <b>H</b> | Evaporator Temp. Sensor Circuit Short |
| <b>I</b> | Air Mix Control Motor Circuit Open    |
|          |                                       |

|   |                                            |
|---|--------------------------------------------|
| J | Air Mix Control Motor Circuit Short        |
| K | Air Mix Control Linkage, Door Or Motor     |
| L | Mode Control Motor Circuit Open Or Shorted |
| M | Mode Control Linkage, Doors Or Motor       |
| N | Blower Motor Circuit                       |

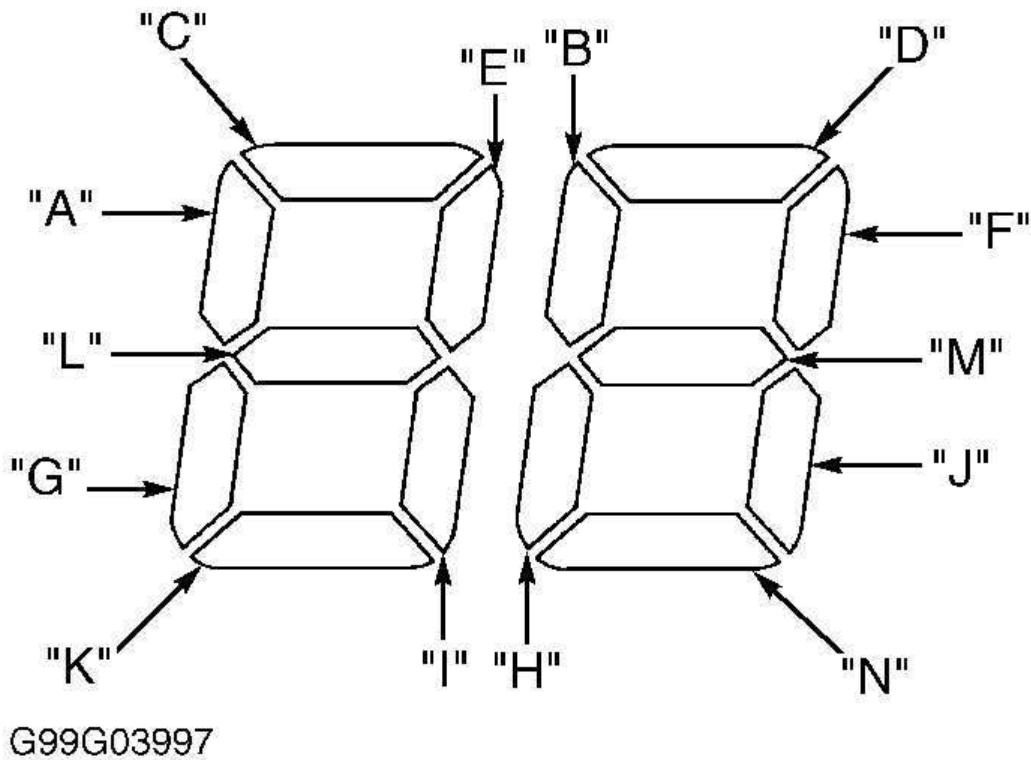


**Fig. 11: Temperature Indicator Segments Showing Diagnostic Trouble Codes**  
Courtesy of AMERICAN HONDA MOTOR CO., INC.

**EXITING SELF-DIAGNOSTICS**

Turning ignition off will cancel self-diagnostic function. After completing repair work, run self-diagnostics again to check for trouble codes.

**DIAGNOSTIC TESTS**

**DTC A: IN-CAR TEMPERATURE SENSOR CIRCUIT OPEN**

1. Remove and test in-car temperature sensor. See **IN-CAR TEMPERATURE SENSOR** under COMPONENT TESTS. If sensor is faulty, replace sensor. If sensor is okay, go to next step.
2. Disconnect climate control unit 26-pin harness connector "B". Check continuity of Yellow/Red wire between climate control unit harness connector "B" terminal No 17 and in-car temperature sensor harness connector terminal No. 2. See **Fig. 4** . If continuity exists, go to next step. If continuity does not exist, repair open in Yellow/Red wire. See **WIRING DIAGRAMS** .
3. Check continuity of Yellow/Green wire between climate control unit 26-pin harness connector "B" terminal No. 5 and in-car temperature sensor harness connector terminal No. 1. If no continuity exists, repair open in Yellow/Green wire. If continuity exists, check for loose wires or poor connections at climate control unit and in-car temperature sensor connectors. If wires and connections are okay, substitute a known-good climate control unit and retest. If system operates normally, replace original climate control unit.

#### DTC B: IN-CAR TEMPERATURE SENSOR CIRCUIT SHORT

1. Remove and test in-car temperature sensor. See **IN-CAR TEMPERATURE SENSOR** under COMPONENT TESTS. If sensor is faulty, replace sensor. If sensor is okay, go to next step.
2. Disconnect climate control unit 26-pin harness connector "B". Check for continuity between ground and climate control unit harness connector terminal No. 17 (Yellow/Red wire). See **Fig. 4** . If continuity exists, repair short to ground in Yellow/Red wire between climate control unit and in-car temperature sensor. See **WIRING DIAGRAMS** . If continuity does not exist, substitute a known-good climate control unit and retest. If system operates normally, replace original climate control unit.

#### DTC C: AIR TEMPERATURE SENSOR CIRCUIT OPEN

1. Remove and test outside air temperature sensor. See **OUTSIDE AIR TEMPERATURE SENSOR** under COMPONENT TESTS. If sensor is faulty, replace sensor. If sensor is okay, go to next step.
2. Disconnect climate control unit 26-pin harness connector "B". Check continuity of Brown/White wire between climate control unit harness connector "B" terminal No. 18 and outside air temperature sensor harness connector terminal No. 1. See **Fig. 4** . If continuity exists, go to next step. If continuity does not exist, repair open circuit in Brown/White wire. See **WIRING DIAGRAMS** .
3. Check continuity of Yellow/Green wire between climate control unit harness connector "B" terminal No. 1 and outside air temperature sensor harness connector terminal No. 2. If continuity does not exist, repair open circuit in Yellow/Green wire. If continuity exists, check for loose wires or poor connections at climate control unit and outside air temperature sensor connectors. If wires and connections are okay, substitute a known-good climate control unit and retest. If system operates normally, replace original climate control unit.

#### DTC D: OUTSIDE AIR TEMPERATURE SENSOR CIRCUIT SHORT

1. Remove and test outside air temperature sensor. See **OUTSIDE AIR TEMPERATURE SENSOR** under COMPONENT TESTS. If sensor is faulty, replace sensor. If sensor is okay, go to next step.
2. Disconnect climate control unit 26-pin harness connector "B". Check continuity between ground and climate control unit harness connector terminal No. 18 (Brown/White wire). See **Fig. 4** . If continuity exists, repair short to ground in Brown/White wire between climate control unit and outside air

temperature sensor. See **WIRING DIAGRAMS** . If continuity does not exist, substitute a known-good climate control unit and retest. If system operates normally, replace original climate control unit.

#### DTC E: SUNLIGHT SENSOR CIRCUIT OPEN

1. Disconnect sunlight sensor connector. Disconnect climate control unit 26-pin harness connector "B". Check continuity of White/Red wire between climate control unit harness connector terminal No. 19 and sunlight sensor harness connector terminal No. 1. See **Fig. 4** . If continuity exists, go to next step. If continuity does not exist, repair open circuit in White/Red wire between climate control unit and sunlight sensor. See **WIRING DIAGRAMS** .
2. Check continuity of Yellow/Green wire between climate control unit harness connector "B" terminal No. 1 and sunlight sensor harness connector terminal No. 2. If continuity exists, go to next step. If continuity does not exist, repair open circuit in Yellow/Green wire.
3. Reconnect sunlight sensor and climate control unit harness connectors. Test sunlight sensor. See **SUNLIGHT SENSOR** under COMPONENT TESTS. If sensor is faulty, replace sensor. If sensor is okay, check for loose wires or poor connections at climate control unit and sunlight sensor connectors. If wires and connections are okay, substitute a known-good climate control unit and retest. If system operates normally, replace original climate control unit.

#### DTC F: SUNLIGHT SENSOR CIRCUIT SHORT

1. Disconnect sunlight sensor harness connector. Disconnect climate control unit 26-pin harness connector "B". Check for continuity between ground and climate control unit harness connector "B" terminal No. 19 (White/Red wire). See **Fig. 4** . If continuity does not exist, go to next step. If continuity exists, repair short to ground in White/Red wire. See **WIRING DIAGRAMS** .
2. Test sunlight sensor. See **SUNLIGHT SENSOR** under COMPONENT TESTS. If sensor is faulty, replace sensor. If sensor is okay, substitute a known-good climate control unit and retest. If system operates normally, replace original climate control unit.

#### DTC G: EVAPORATOR TEMPERATURE CIRCUIT OPEN

1. Disconnect evaporator temperature sensor connector. Test sensor. See **EVAPORATOR TEMPERATURE SENSOR** under COMPONENT TESTS. If sensor is faulty, replace sensor. If sensor is okay, go to next step.
2. Disconnect climate control unit 26-pin harness connector "B". Check continuity of Brown wire between climate control unit harness connector "B" terminal No. 20 and evaporator temperature sensor harness connector terminal No. 2. See **Fig. 4** . If continuity exists, go to next step. If no continuity exists, repair open circuit in Brown wire. See **WIRING DIAGRAMS** .
3. Check continuity of Yellow/Green wire between climate control unit harness connector terminal No. 1 and evaporator temperature sensor harness connector terminal No. 1. See **Fig. 4** . If no continuity exists, repair open in Light Green wire. If continuity exists, check for loose wires or poor connections at climate control unit and evaporator temperature sensor connectors. If wires and connections are okay, substitute a known-good climate control unit and retest. If system operates normally, replace original climate control unit.

#### DTC H: EVAPORATOR TEMPERATURE SENSOR CIRCUIT SHORT

1. Disconnect evaporator temperature sensor 2-pin harness connector. Test sensor. See **EVAPORATOR TEMPERATURE SENSOR** under COMPONENT TESTS. If sensor is faulty, replace sensor. If sensor is okay, go to next step.
2. Disconnect climate control unit 26-pin harness connector "B". Check continuity between ground and climate control unit harness connector "B" terminal No. 20 (Brown wire). See **Fig. 4** . If continuity exists, repair short to ground in Brown wire between climate control unit and evaporator temperature sensor. See **WIRING DIAGRAMS** . If continuity does not exist, substitute a known-good climate control unit and retest. If system operates normally, replace original climate control unit.

### DTC I: AIR MIX CONTROL MOTOR CIRCUIT OPEN

1. Disconnect climate control unit 26-pin harness connector "B". Disconnect air mix control motor 7-pin harness connector. See **Fig. 2** . Individually check circuit continuity between climate control unit harness connector "B" and air mix control motor harness connector. See **AIR MIX CONTROL CIRCUIT CONTINUITY** table. See **Fig. 4** and **Fig. 12** . If continuity does not exist, repair open circuit in appropriate wire(s). See **WIRING DIAGRAMS** . If continuity exists, go to next step.
2. Check for loose wires or poor connections at climate control unit and air mix control motor connectors. If wires and connections are okay, substitute a known-good climate control unit and retest. If system operates normally, replace original climate control unit.

### AIR MIX CONTROL CIRCUIT CONTINUITY

| 26-Pin Terminal No. | Wire Color   | 7-Pin Terminal No. |
|---------------------|--------------|--------------------|
| 1                   | Yellow/Green | 5                  |
| 3                   | Gray         | 7                  |
| 21                  | Pink/Black   | 3                  |
| 25                  | Red/Yellow   | 2                  |
| 26                  | Red/White    | 1                  |

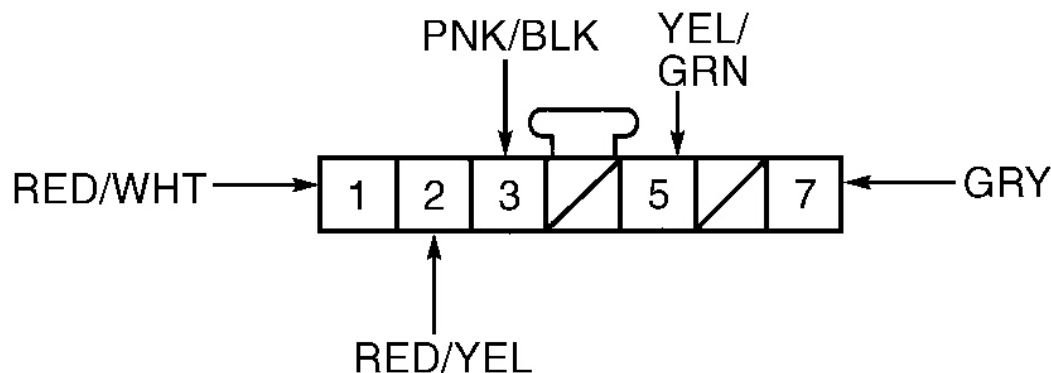


**Fig. 12: Identifying Air Mix Control Motor Harness Connector Terminals**

Courtesy of AMERICAN HONDA MOTOR CO., INC.

**DTC J: AIR MIX CONTROL MOTOR CIRCUIT SHORT**

1. Disconnect air mix control motor 7-pin harness connector. Disconnect climate control unit 26-pin harness connector "B". Individually check continuity between ground and climate control unit harness connector terminals No. 1 (Yellow/Green wire), No. 3 (Gray wire), No. 21 (Pink/Black wire), No. 25 (Red/Yellow wire) and No. 26 (Red/White wire). See **Fig. 4** . If continuity exists at any terminal, repair short to ground in appropriate wire(s). See **WIRING DIAGRAMS** . If continuity does not exist in all circuits, go to next step.
2. Turn ignition switch to RUN position. Check for voltage between ground and climate control unit harness connector "B" terminals No. 1 (Yellow/Green wire), No. 3 (Gray wire), No. 21 (Pink/Black wire), No. 25 (Red/Yellow wire) and No. 26 (Red/White wire). If voltage exists at any terminal, repair short to power in appropriate wire(s). Short also damages climate control unit. Replace climate control unit. If voltage does not exist at any terminal, substitute a known-good climate control unit and retest. If system operates normally, replace original climate control unit.

**DTC K: AIR MIX CONTROL LINKAGE, DOOR & MOTOR**

1. Test air mix control motor. See **AIR MIX CONTROL MOTOR** under COMPONENT TESTS. If motor is faulty, go to next step. If motor is okay, substitute a known-good climate control unit and retest. If system operates normally, replace original climate control unit.
2. Remove air mix control motor. Check door and control linkage for smooth movement. If movement is okay, replace air mix control motor. If movement is not smooth, repair linkage and/or door.

**CODE L: MODE CONTROL MOTOR OPEN/SHORT CIRCUIT**

1. Disconnect mode control motor 7-pin harness connector. See **Fig. 2** . Disconnect climate control unit 26-pin connector "B". Using DVOM, individually check continuity between ground and climate control unit 26-pin harness connector "B" terminals No. 1 (Yellow/Green wire), No. 5 (Green/Black wire), No. 6 (Green/Yellow wire), No. 7 (Light Green/Black wire), No. 8 (Blue/Green wire), No. 10 (Blue/White wire) and No. 11 (Blue/Black wire). If continuity exists, repair short in suspect wire. See **WIRING DIAGRAMS** . If continuity does not exist, go to next step.
2. Turn ignition on. Using DVOM, individually check for voltage between ground and climate control unit 26-pin harness connector "B" terminals No. 1 (Yellow/Green wire), No. 5 (Green/Black wire), No. 6 (Green/Yellow wire), No. 7 (Light Green/Black wire), No. 8 (Blue/Green wire), No. 10 (Blue/White wire) and No. 11 (Blue/Black wire). See **WIRING DIAGRAMS** . If voltage exists, repair short to power in suspect wire(s). Short to power will damage climate control unit. Repair short before replacing climate control unit. If voltage does not exist, go to next step.
3. Turn ignition off. Use a DVOM to check continuity between climate control unit 26-pin connector and mode control motor 7-pin harness connector terminals. See **MODE CONTROL MOTOR CIRCUIT CONTINUITY** table. If continuity does not exist, repair open in suspect wire. If continuity exists, check for loose wires and or poor connections at mode control motor and climate control unit. Repair any problems found. If wiring and connectors are okay, substitute a known-good climate control unit and recheck. If system operates properly, replace climate control unit. See **CLIMATE CONTROL UNIT**

## 2002 Acura MDX

### 2001-02 AUTOMATIC A/C-HEATER SYSTEMS MDX

under REMOVAL & INSTALLATION.

#### MODE CONTROL MOTOR CIRCUIT CONTINUITY

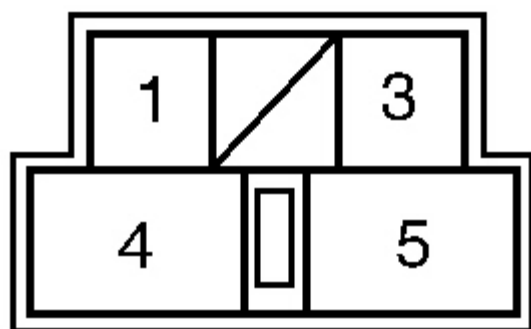
| Climate Control Unit 26-Pin Connector Terminal | Wire Color        | Mode Control Motor Connector Terminal No. |
|------------------------------------------------|-------------------|-------------------------------------------|
| 1                                              | Yellow/Green      | 7                                         |
| 5                                              | Green/Black       | 6                                         |
| 6                                              | Green/Yellow      | 5                                         |
| 7                                              | Light Green/Black | 4                                         |
| 8                                              | Blue/Green        | 3                                         |
| 10                                             | Blue/White        | 2                                         |
| 11                                             | Blue/Black        | 1                                         |

#### CODE M: MODE CONTROL MOTOR MECHANICAL FAILURE

1. Test mode control motor. See **Fig. 2** . See **MODE CONTROL MOTOR** under COMPONENT TESTS. If mode control motor tests okay, substitute a known-good climate control unit and recheck. If system operates properly, replace climate control unit.
2. If mode control motor does not test okay, remove mode control motor. Check mode door for binding, missing linkage or broken parts. If mode door works smoothly, replace mode control motor. If mode door does not move smoothly, repair mode door mechanism as necessary.

#### DTC N: BLOWER MOTOR CIRCUIT PROBLEM

1. Check fuse No. 56 (40-amp) in underhood fuse/relay box. Check fuse No. 3 (7.5-amp) in driver's underdash fuse/relay box. If either fuse is blown, replace fuse and recheck system. Repair short to ground if necessary. See **WIRING DIAGRAMS** . If both fuses are good, go to next step.
2. Using fused jumper wire, connect (backprobe) blower motor connector Blue/Red wire to ground. Turn ignition on. If blower motor runs, go to next step. If blower motor does not run, go to step 8 .
3. Turn ignition off. Disconnect power transistor 5-pin harness connector. See **Fig. 2** . Check continuity of Black wire between ground and power transistor harness connector terminal No. 5. See **Fig. 13** . If continuity exists, go to next step. If continuity does not exist, check for open circuit in Black wire. See **WIRING DIAGRAMS** . If wire is okay, check for poor ground G401.



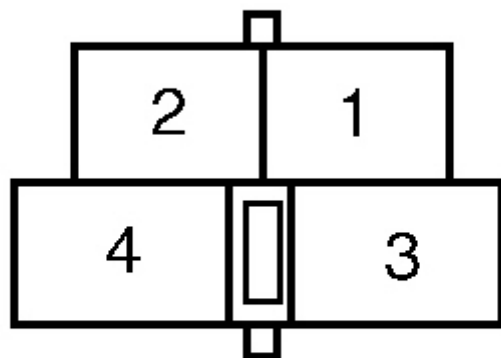
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**Fig. 13: Identifying Power Transistor 5-Pin Connector Terminals**  
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

4. Using fused jumper wire, connect power transistor harness connector terminals No. 4 (Blue/Red wire) and No. 5 (Black wire) together. Turn ignition on. If blower motor runs at high speed, go to next step. If blower motor does not run at high speed, repair open circuit in Blue/Red wire between power transistor and blower motor.
5. Turn ignition off. Disconnect jumper wire. Disconnect climate control unit 26-pin harness connector "B". Using DVOM, check for continuity between ground and both climate control unit 26-pin harness connector "B" terminals No. 12 (Orange/Black wire) and No. 14 (Blue/Red wire) See **Fig. 4** . If continuity exists on either circuit, repair short to ground in appropriate wire. See **WIRING DIAGRAMS** . If continuity does not exist, go to next step.
6. Using DVOM, check continuity of Orange/Black wire between climate control unit 26-pin harness connector "B" terminal No. 12 and power transistor harness connector terminal No. 3. See **Fig. 13** . Check continuity of Blue/Red wire between climate control unit 26-pin harness connector "B" terminal No. 14 and power transistor harness connector terminal No. 1. If continuity exists on both circuits, go to next step. If continuity does not exist on either circuit, repair open circuit in appropriate wire.
7. Reconnect climate control unit connector. Test power transistor. See **POWER TRANSISTOR** under COMPONENT TESTS. If power transistor is faulty, replace transistor. If power transistor is okay, check for loose wires or poor connections at climate control unit and power transistor harness connectors. If wires and connections are okay, substitute a known-good climate control unit and retest. If system operates normally, replace original climate control unit.
8. Disconnect jumper wire. Disconnect blower motor 2-pin harness connector. Measure voltage between ground and blower motor harness connector terminal No. 1 (Yellow/Black wire). If battery voltage exists, replace blower motor. If battery voltage does not exist, go to next step.
9. Turn ignition off. Remove and test blower motor relay. See **Fig. 1** . See **RELAYS** under COMPONENT

TESTS. If blower motor relay is faulty, replace blower motor relay. If blower motor relay is okay, go to next step.

10. Using DVOM, measure voltage between ground and blower motor relay connector terminal No. 4. See **Fig. 14** . If battery voltage exists, go to next step. If battery voltage does not exist, replace underhood fuse/relay box.



G00009304

**Fig. 14: Identifying Blower Motor Relay 4-Pin Connector Terminals**  
Courtesy of AMERICAN HONDA MOTOR CO., INC.

11. Turn ignition on. Using DVOM, measure voltage between ground and blower motor relay connector terminal No. 1 (Black/Yellow wire). See **Fig. 14** . If battery voltage exists, go to next step. If battery voltage does not exist, repair open circuit in Black/Yellow wire between blower motor relay and fuse No. 3 (7.5-amp) in driver's underdash fuse/relay box. See **WIRING DIAGRAMS** .
12. Turn ignition off. Using DVOM, check continuity of Black wire between ground and blower motor relay connector terminal No 2. If continuity exists, repair open circuit in Yellow/Black wire between blower motor relay and blower motor. If continuity does not exist, check for open circuit in Black wire. If wire is okay, check for poor ground G201.

## SYSTEM TESTS

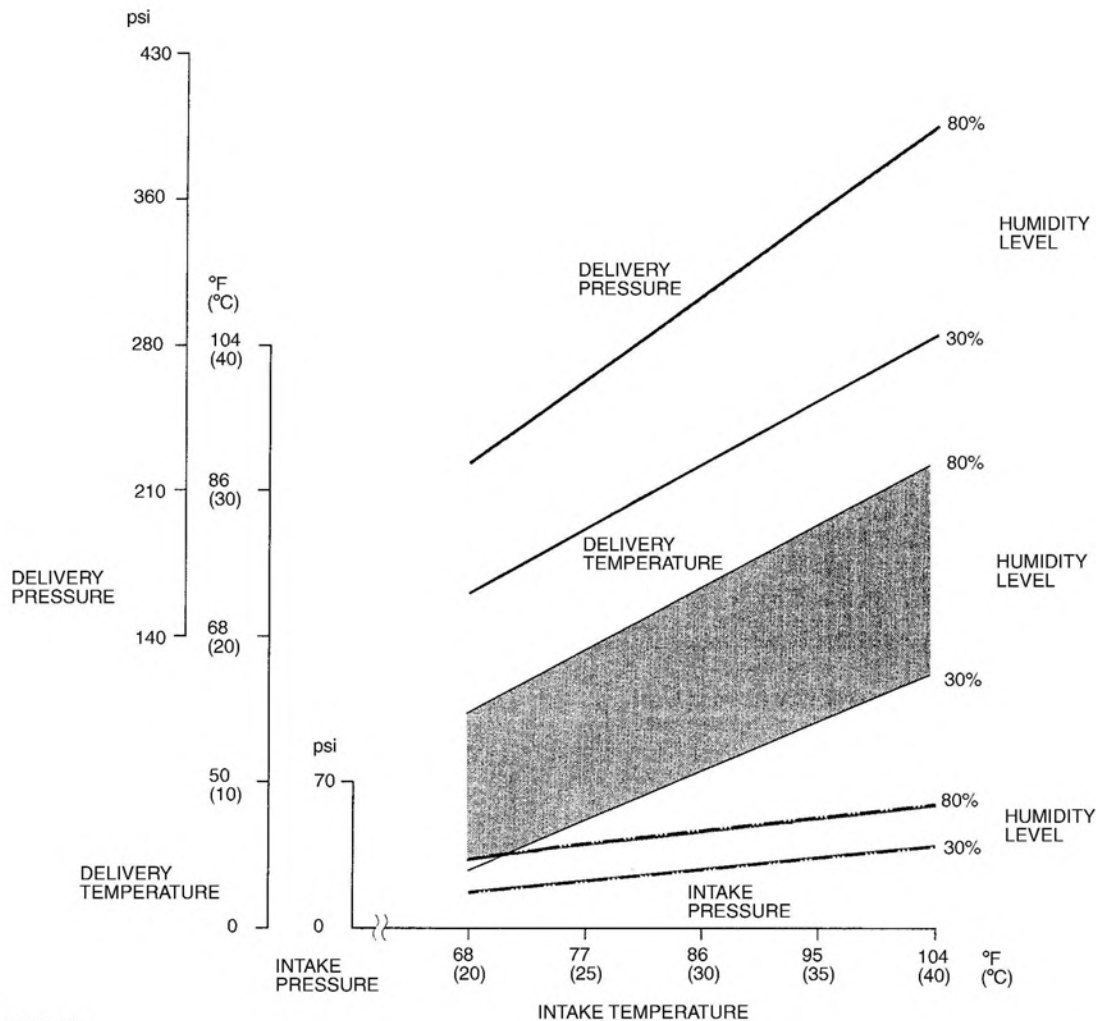
### A/C SYSTEM PERFORMANCE

1. Park vehicle out of direct sunlight. Open engine hood and front doors. Connect manifold pressure gauge set to high and low-side pressure ports of system. Determine relative humidity and ambient air temperature.

## 2002 Acura MDX

### 2001-02 AUTOMATIC A/C-HEATER SYSTEMS MDX

2. Set temperature control to maximum cool, mode control to vent, and recirculation control switch to recirculated air position. Insert thermometer in center vent outlet. Turn blower switch to highest position. Start and run engine at 1500 RPM. Ensure no one is inside vehicle.
3. After running A/C for 10 minutes, check thermometer reading in center vent outlet and high and low-side system pressures to determine if A/C system is operating within range. See **Fig. 15**.



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**Fig. 15: A/C System Performance Test Chart**

Courtesy of AMERICAN HONDA MOTOR CO., INC.

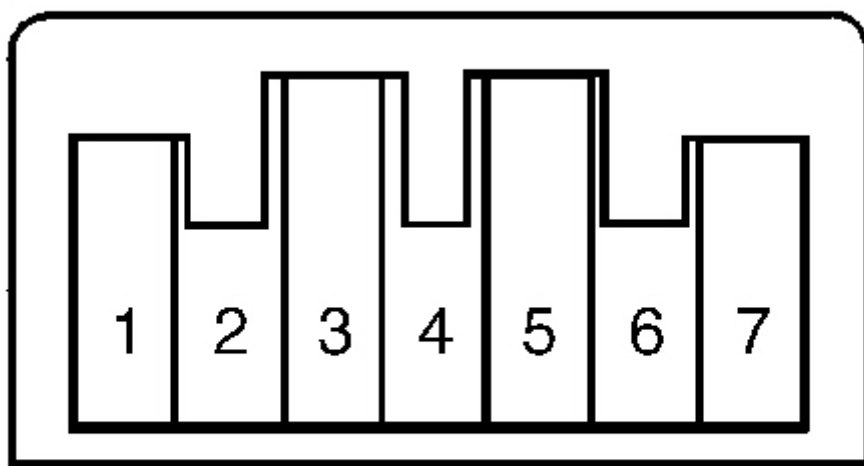
## COMPONENT TESTS

### AIR MIX CONTROL MOTOR

1. Disconnect air mix control motor 7-pin harness connector. Connect battery power to control motor terminal No. 1 and ground terminal No. 2. See **Fig. 16**. Air mix control motor should run and stop at

maximum cooling. Reverse connections. Motor should run and stop at maximum heat. If motor does not run as specified, remove motor and check linkage and doors for binding. If doors and linkage are binding, correct as needed. If doors and linkage are not binding, replace air mix control motor.

2. Measure resistance between air mix control motor terminals No. 5 and 7. Resistance should be 4200-7800 ohms. Measure resistance between terminals No. 3 and 5. Resistance should be 580-1090 ohms at maximum cooling and 3520-6550 ohms at maximum heating. If resistances are not as specified, replace air mix control motor.



G96C30413

**Fig. 16: Identifying Air Mix, Mode Control & Recirculation Control Motor Terminals**  
Courtesy of AMERICAN HONDA MOTOR CO., INC.

## COMPRESSOR CLUTCH

### Compressor Clutch Clearance

1. Check plated parts of compressor armature plate for signs of discoloration, peeling or other damage. Check for excessive rotor pulley bearing play or drag by rotating pulley by hand. There should be no drag or bearing noise. If any signs of excessive wear or damage are found, replace compressor clutch set.
2. Using dial indicator, measure clearance between rotor pulley and armature plate. Clearance should be between 0.014-0.026" (0.35-0.65 mm). If clearance is not as specified, remove armature plate and add or remove shims to adjust clearance to specification.

### Clutch Coil Resistance

## 2002 Acura MDX

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Using DVOM, measure resistance of compressor clutch coil. Clutch coil resistance should be 3.4-3.8 ohms at 68°F (20°C). If resistance is not as specified, replace compressor clutch coil.

#### EVAPORATOR TEMPERATURE SENSOR

Remove evaporator temperature sensor. Dip sensor into ice water. Measure resistance between sensor terminals. Pour hot water on sensor and monitor change in resistance. Resistance should be 1800 ohms at 50°F (10°C), 1200 ohms at 68°F (20°C), and 800 ohms at 86°F (30°C). If resistances are not as specified, replace evaporator temperature sensor.

#### IN-CAR TEMPERATURE SENSOR

Disconnect sensor. Measure resistance across sensor terminals while heating and cooling sensor with heat gun. If resistance is not correct, replace sensor. See **TEMPERATURE SENSOR RESISTANCE** table.

#### TEMPERATURE SENSOR RESISTANCE

| Temperature - °F (°C) | Resistance (Ohms) |
|-----------------------|-------------------|
| 14 (-10)              | 11,500            |
| 32 (0)                | 6500              |
| 50 (10)               | 4000              |
| 68 (20)               | 2500              |
| 86 (30)               | 1500              |
| 104 (40)              | 1000              |

#### MODE CONTROL MOTOR

**CAUTION: To prevent damage to mode control motor, DO NOT leave test leads connected once motor has stopped.**

1. Disconnect mode control motor 7-pin harness connector. Connect battery positive lead to terminal No. 2 and ground terminal No. 1. See **Fig. 16** . Mode control motor should run smoothly and stop at vent position. If motor does not run smoothly and stop at vent position, reverse leads. Mode control motor should run smoothly and stop at defrost position. If motor operates as specified, go to next step. If motor does not operate as specified, check for binding door or door linkage. If door and linkage are okay, replace motor.
2. Using DVOM with one milliamp or less output at 20 k/ohm range, check for continuity between terminal No. 7 and terminals No. 2, 3, 4, 5 and 6 individually in order while repeating step 1 . Continuity should exist at each terminal for a moment as motor is operated. If continuity between terminals is as specified, mode control motor is okay. If continuity is not as specified, replace motor.

#### OUTSIDE AIR TEMPERATURE SENSOR

Disconnect sensor. Dip sensor in ice water and measure resistance across sensor terminals. Place sensor in hot water and measure resistance across sensor terminals. If resistance is not correct, replace sensor. See

**TEMPERATURE SENSOR RESISTANCE** table.

## POWER TRANSISTOR

1. Disconnect power transistor 5-pin harness connector. See **Fig. 2** . Using DVOM, measure resistance between power transistor terminals No. 1 and 4. See **Fig. 13** . Resistance should be 1.4-1.5 ohms. If resistance is as specified, go to next step. If resistance is not as specified, replace power transistor.
2. Isolate terminal No. 3 (Orange/Black wire) from harness connector. Reconnect power transistor connector. Using fused jumper wire, apply battery voltage to power transistor terminal No. 3. Turn ignition switch on. If blower motor does not run, replace power transistor. If blower motor runs, power transistor is okay.

## RECIRCULATION CONTROL MOTOR

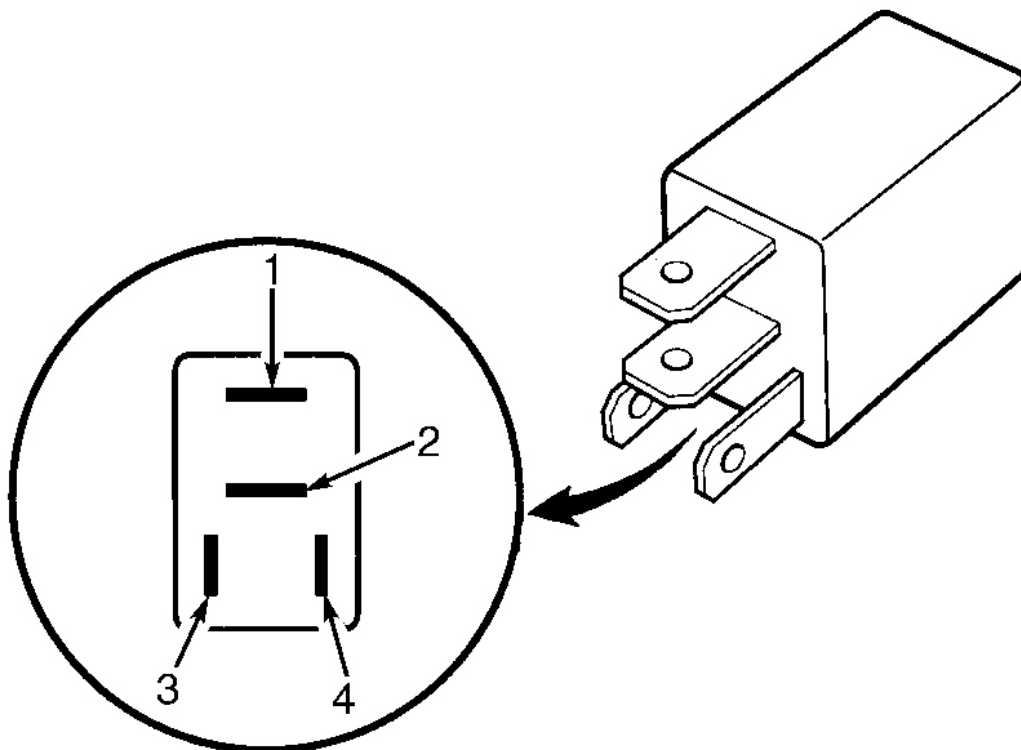
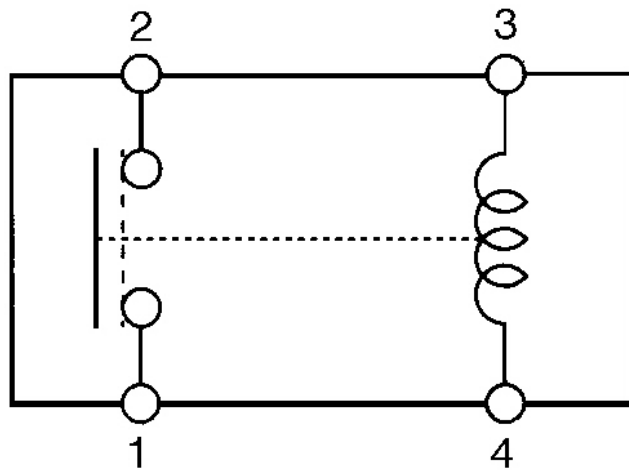
**CAUTION: DO NOT run motor for more than a few seconds. DO NOT reverse jumper leads. When recirculation control motor reaches fresh or recirculated air position and stops running, remove battery power immediately.**

Disconnect recirculation mode control motor 7-pin connector. Using fused jumper wires, connect battery power to control motor terminal No. 1 (Black/Yellow wire). Ground terminal No. 5 (Green/Red wire) and terminal No. 7 (Green/White wire). See **Fig. 16** . Motor should run smoothly. If motor does not run, check for binding linkage and doors and correct as needed. If doors and linkage move smoothly, replace motor.

## RELAYS

### Normally Open Type "A" (Compressor Clutch, Condenser Fan & Radiator Fan Relays)

Remove relay. Continuity should exist between terminals No. 1 and 2 when terminals No. 3 and 4 are connected to power and ground. Continuity should not exist at terminals No. 1 and 2 when power and ground are disconnected. See **Fig. 17** . If continuity is not as specified, replace relay.



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**Fig. 17: Identifying Normally Open Type "A" Relay Terminals**  
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

Normally Open Type "B" (Blower Motor Relays)

Remove relay. Continuity should exist between terminals No. 1 and 3 when terminals No. 2 and 4 are connected to power and ground. Continuity should not exist at terminals No. 1 and 3 when power and ground are disconnected. See **Fig. 18** . If continuity is not as specified, replace relay.

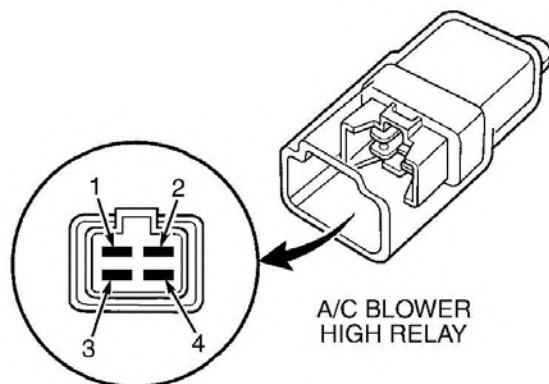
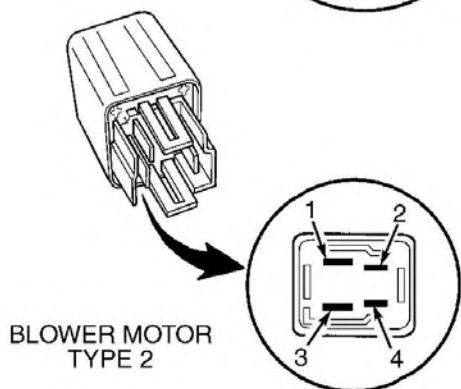
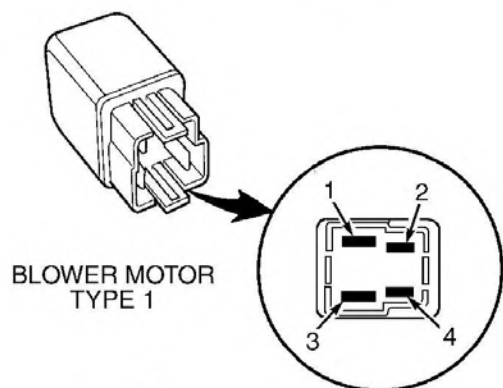
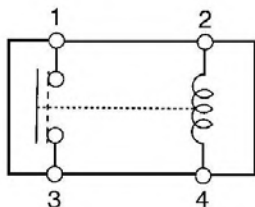
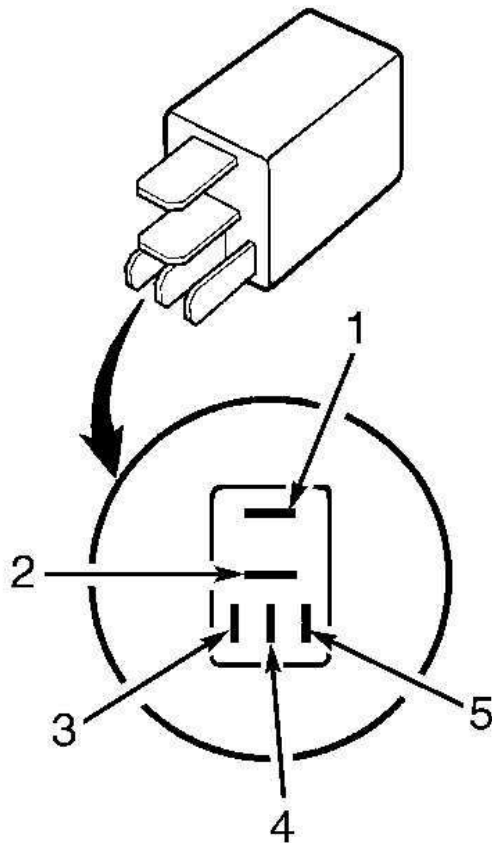
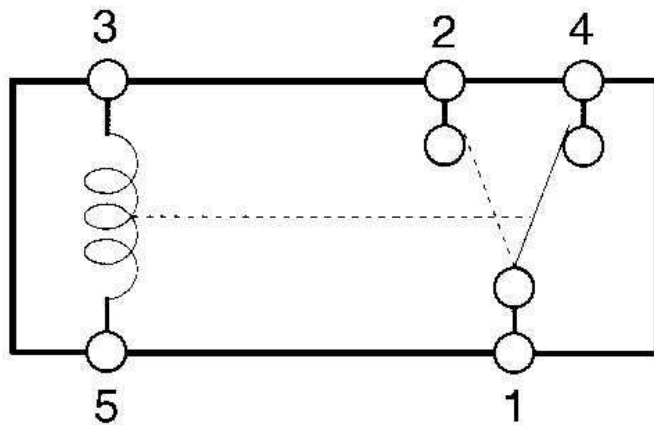


**Fig. 18: Identifying Normally Open Type "B" Relay Terminals**  
Courtesy of AMERICAN HONDA MOTOR CO., INC.

**Five-Terminal Type "B" (Radiator Fan Control Relay)**

Remove relay. Continuity should exist between terminals No. 1 and 2 when terminals No. 3 and 5 are connected to power and ground. Continuity should not exist at terminals No. 1 and 4 when power is disconnected. See **Fig. 19** . If continuity is not as specified, replace relay.



G99H03988

**Fig. 19: Identifying Five-Terminal Type "B" Relay Terminals**  
 Courtesy of AMERICAN HONDA MOTOR CO., INC.

Turn ignition switch to RUN position. Measure voltage by backprobing sensor harness connector with positive lead at sensor White/Red wire and negative lead at sensor Yellow/Green wire. See **Fig. 20** . Voltage should be 3.6-3.7 volts in shade, or 3.3-3.5 volts with sensor in direct sunlight. Replace sensor if voltage is not correct.

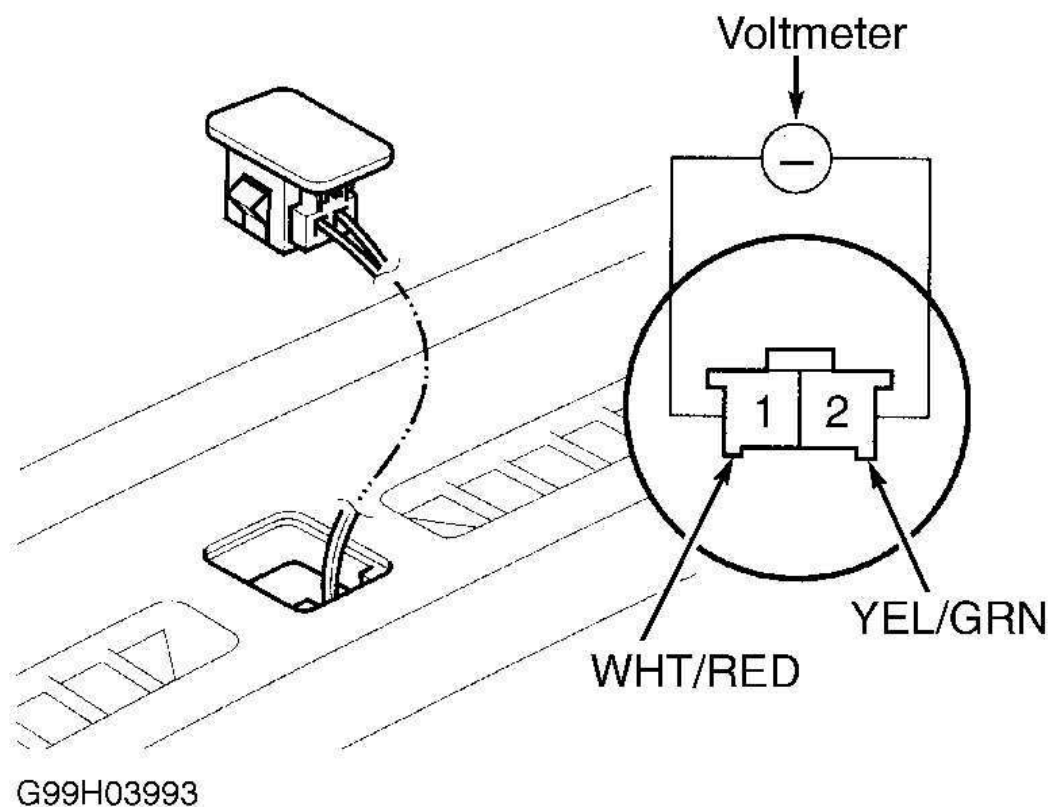


**Fig. 20: Testing Sunlight Sensor (Typical)**

Courtesy of AMERICAN HONDA MOTOR CO., INC.

## REMOVAL & INSTALLATION

**WARNING:** To avoid injury from accidental air bag deployment, read and carefully follow all **SERVICE PRECAUTIONS** and **DISABLING & ACTIVATING AIR BAG SYSTEM** procedures in **AIR BAG SYSTEM SAFETY** article in **GENERAL SERVICING**.

**NOTE:** Before disconnecting negative battery cable, obtain anti-theft code for radio and navigation system from customer. Write down radio station presets in order to reprogram radio after repairs are completed.

## A/C COMPRESSOR

### Removal & Installation

1. If possible, run engine at idle with A/C turned on for a few minutes. Turn ignition switch off. Discharge A/C system, using approved recovery/recycling equipment. Disconnect negative battery cable.
2. Remove alternator. Disconnect compressor clutch harness connector from compressor and fan shroud. Disconnect condenser fan harness connector. Remove wire harness clips from fan shroud. Remove cruise control actuator cable from clamp.
3. Loosen lower fan shroud mounting bolts. Remove upper fan shroud mounting bolts and remove fan shroud. Remove bolts from suction and discharge lines. Disconnect lines from compressor and plug them off to prevent moisture from getting into system. Unbolt 4 A/C compressor bolts and remove A/C compressor.
4. To install, reverse removal procedure. If replacing A/C compressor, measure and install correct amount of compressor oil. To do so, drain refrigerant oil from old A/C compressor and measure volume. Subtract measured amount from 7 ounces. Resulting amount is how much oil should be drained from suction fitting of new compressor before installing it. If no oil drained out of old A/C compressor, DO NOT drain more than 1.67 ounces from new compressor. Lubricate "O" ring with refrigerant oil.

## A/C FILTER

### Removal & Installation

Remove glove box. Cut off plastic cross brace along perforation lines on each side and discard. Unbolt and remove glove box frame. Remove A/C filter lid from evaporator. Remove A/C filter. To install, reverse removal procedure.

## CLIMATE CONTROL UNIT

### Removal & Installation

Remove center console. Locate climate control unit at right front of center console area. See **Fig. 2** . Remove 2 retaining screws. Disconnect electrical connectors and remove climate control unit. To install, reverse removal procedure. Verify proper operation. Perform self-diagnosis function to verify no problems exist. See **ENTERING SELF-DIAGNOSTICS** under SELF-DIAGNOSTICS.

## CONDENSER

### Removal & Installation

1. Discharge A/C system, using approved refrigerant recovery/recycling equipment. Remove front bulkhead cover and hood latch. Remove clips and retaining bolts from radiator upper mount brackets. Remove bolt and nut securing condenser and discharge lines to condenser. Disconnect and plug lines immediately to prevent moisture or contamination from entering system.
2. Carefully lift condenser up and out of vehicle. To install, reverse removal procedure. If condenser is being replaced, add 1.67 ounces of refrigerant oil to condenser before installing it. Recharge A/C system.

## RECEIVER-DRIER

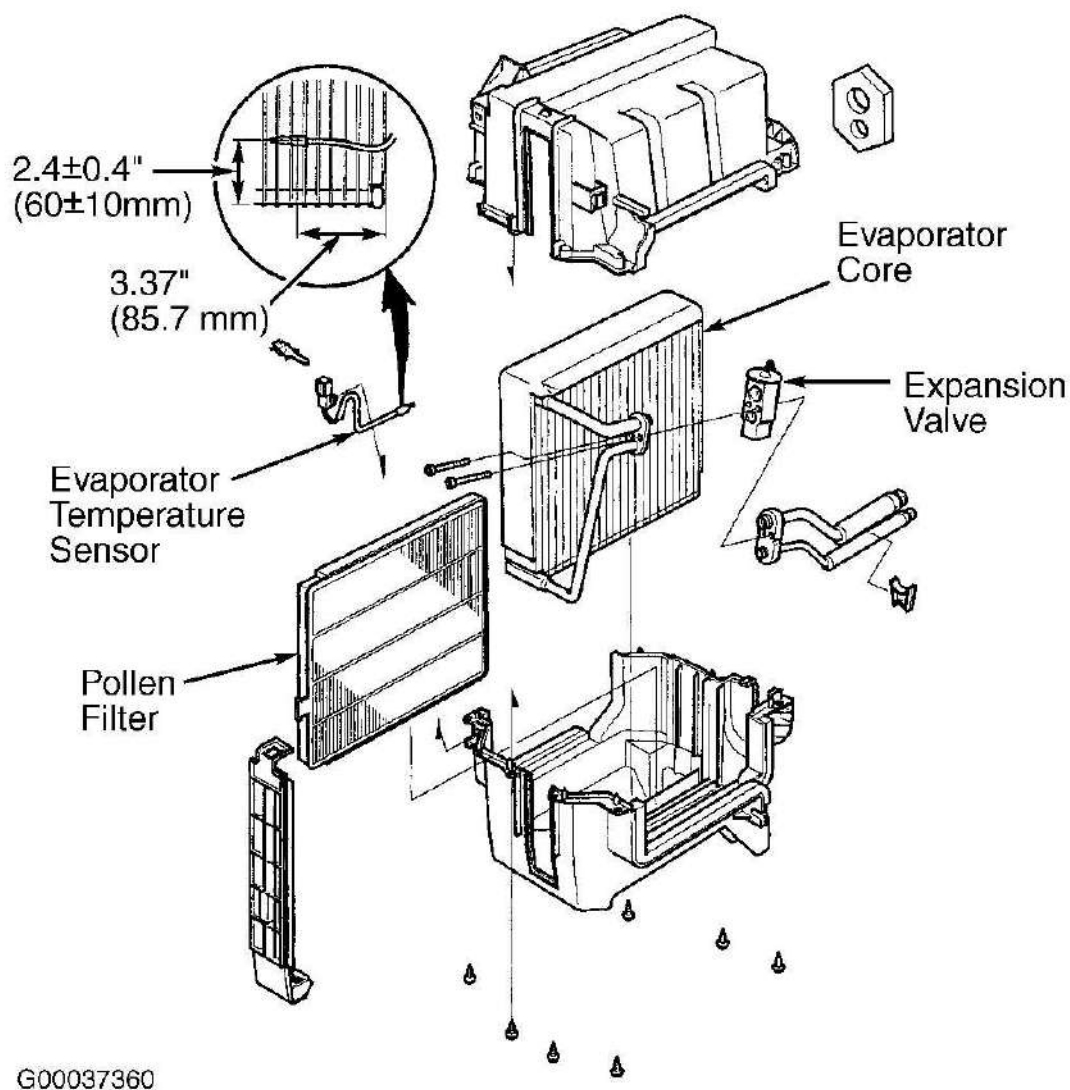
### Removal & Installation

Remove condenser from vehicle. See **CONDENSER** . Remove cap from bottom left side of condenser. Remove "O" rings, filter and dessicant. To install, reverse removal procedure. Lubricate "O" rings with a thin coat of refrigerant oil before installing.

## EVAPORATOR

### Removal & Installation

1. Discharge A/C system, using approved refrigerant recovery/recycling equipment. Disconnect refrigerant lines from evaporator. Plug lines immediately to prevent moisture or contamination from entering system. Remove one evaporator mounting nut from firewall.
2. Remove glove box. Cut off plastic glove box brace along perforated lines. Remove glove box frame. Disconnect evaporator temperature sensor connector. Disconnect drain hose. Remove retaining screws, mounting nuts and bolts. Remove evaporator.
3. To disassemble evaporator case, see **Fig. 21** . When reinstalling evaporator temperature sensor, ensure that sensor mounting position is as specified. To install evaporator, reverse removal procedure. If replacing evaporator, add 1.33 ounces of refrigerant oil.

**Fig. 21: Identifying Evaporator Components**

Courtesy of AMERICAN HONDA MOTOR CO., INC.

**IN-CAR TEMPERATURE SENSOR****Removal & Installation**

Using taped flat-blade screwdriver, carefully pry off driver's dashboard side cover. Remove one lower cover retaining screw from left side of dashboard. Carefully pry driver's lower dash cover off. Disconnect electrical connectors. Remove 2 in-car temperature sensor retaining screws and disconnect air hose. To install, reverse removal procedure.

**OUTSIDE TEMPERATURE SENSOR**

Removal & Installation

Locate outside temperature sensor behind front bumper. Disconnect electrical connector. Squeeze retaining tabs together to release sensor from body. To install, reverse removal procedure.

SUNLIGHT SENSOR

Removal & Installation

Carefully pry up sunlight sensor from center of dashboard. Disconnect electrical connector. Remove sensor. To install, reverse removal procedure.

TORQUE SPECIFICATIONS

TORQUE SPECIFICATIONS

| Application                                   | Ft. Lbs. (N.m)  |
|-----------------------------------------------|-----------------|
| A/C Compressor Mounting Bolts                 | 16 (22)         |
| A/C Compressor Bracket-To-Engine Bolts        | 33 (44)         |
| Dashboard Bolts                               | 16 (22)         |
| Steering Hanger Beam Bolts (Left Side)        | 16 (22)         |
| Lower Steering Column Bolts                   | 16 (22)         |
| Upper Steering Column Bolts                   | 12 (16)         |
|                                               | INCH Lbs. (N.m) |
| Compressor Refrigerant Hoses                  | 88 (10)         |
| Condenser Refrigerant Lines                   | 88 (10)         |
| Condenser Bolts/Nuts                          | 88 (10)         |
| Evaporator Case Bolts                         | 88 (10)         |
| Heater Case Bolts                             | 88 (10)         |
| Heater Unit Firewall Nut                      | 115 (13)        |
| Passenger's Side Air Bag Nuts                 | 88 (10)         |
| Rear Heater-A/C Unit Bolts                    | 88 (10)         |
| Rear A/C Refrigerant Lines-To-Evaporator Nuts | 88 (10)         |
| Shifter Assembly Bolts                        | 88 (10)         |
| Steering Hanger Beam Bolts (Right Side)       | 88 (10)         |

WIRING DIAGRAMS

For wiring diagrams for 2001 models, see AIR CONDITIONING in SYSTEM WIRING DIAGRAMS in ELECTRICAL.

For wiring diagrams for 2002 models, see AIR CONDITIONING in SYSTEM WIRING DIAGRAMS in ELECTRICAL.