

A/C-HEATER SYSTEM - AUTOMATIC

1998 Mitsubishi Galant

1998 AIR CONDITIONING & HEAT
Mitsubishi - A/C-Heater System - Automatic

Galant

* PLEASE READ THIS FIRST *

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 RESTRAINT SYSTEM article.

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.

A/C SYSTEM SPECIFICATIONS

A/C SYSTEM SPECIFICATIONS TABLE

Application	Specification
Compressor Type	Sanden MSC90C12 Scroll
Compressor Belt Deflection	
New	7/32-15/64" (5.5-6.0 mm)
Used	1/4-19/64" (6.5-7.5 mm)
Compressor Oil Capacity (1)	4.1 ozs.
Refrigerant (R-134a) Capacity	23.0-24.3 ozs.
System Operating Pressures (2)	
High Side	111-139 psi (7.8-9.8 kg/cm ²)
Low Side	6-20 psi (0.4-1.4 kg/cm ²)

(1) - Use SUN PAG 56 refrigerant oil.

(2) - With ambient temperature at about 77(0)F (25(0)C).

DESCRIPTION

The A/C system can be operated manually or automatically. Selecting the desired temperature and pressing the AUTO button puts system in automatic control. When the AUTO button is pressed, the indicator in the display window illuminates, and airflow source, airflow outlet, blower speed and compressor operation are automatically controlled to maintain temperature at the selected level. See Fig. 1.

The temperature setting is retained in memory even after ignition is turned off, unless battery has been disconnected. When heater is requested, air will be directed to windshield and side windows, and blower will operate in low speed. This prevents cold/unheated air from being directed to vehicle occupants until coolant temperature is sufficiently warm.

OPERATION

A/C CONTROLS

Economy (ECO) Position

The economy position can be obtained by depressing the snowflake button on control panel. With A/C in economy position, control panel display will show ECO, and compressor will only operate when necessary to maintain the temperature selected.

Humidity Position (Snowflake Symbol)

This position can be selected when humidity is high or outside air temperature is very hot. A/C compressor is operated to perform air cooling and dehumidifying.

Maximum Cooling (MAX COOL)

A/C compressor will operate continuously for maximum cooling.

OUTSIDE TEMPERATURE SELECTOR

Pressing outside temperature selector button displays outside air temperature. Illuminated display will show OUTSIDE when mode is selected. If outside air temperature reaches 32°F (0°C), an alarm will sound and outside air temperature will be displayed momentarily.

MODE SELECTOR CONTROL

Press Mode Selector button to scroll through different air flow selections to obtain desired direction.

Face Position

In this position, airflow is directed to upper area of passenger compartment.

Bi-Level Position

In this position, airflow is directed to leg and upper area of passenger compartment.

Foot Position

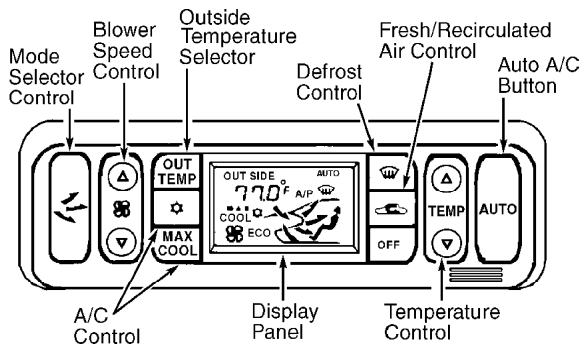
In this position, airflow is directed to leg area.

Foot/Defrost Position

In this position, airflow is directed to leg area, windshield and door windows.

Defrost Position

In this position, airflow is directed to windshield and door windows.



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Fig. 1: Identifying A/C ECU Control Panel Controls
Courtesy of Mitsubishi Motor Sales of America.

FRESH/RECIRCULATED AIR CONTROL

Fresh/recirculated air control can be set to inside or outside air position by pressing fresh/recirculated air control button. When outside air position is selected, outside air enters passenger compartment. Outside air position is used to minimize window fogging.

When inside air position is selected, inside air is recirculated in passenger compartment. When driving on dusty roads or if quick cooling or heating is desired, select inside air position to prevent outside air from entering passenger compartment.

TEMPERATURE CONTROL

Temperature control adjusts the desired passenger compartment temperature. Temperature selection range is 65°F (17°C) to 90°F (32°C).

BLOWER SPEED CONTROL

When ignition switch is turned to ON position, blower can be operated to regulate amount of air forced through passenger compartment. Blower speed is indicated by a fan illuminated on the display. With A/C in AUTO position, blower speed is controlled automatically.

DEFROST CONTROLS

Pressing defrost button changes settings to a preprogrammed set of adjustments for maximum defrost. By pressing defrost again, all previous settings return.

TROUBLE SHOOTING

COMPRESSOR DOES NOT OPERATE

Check components in order listed, and repair or replace as necessary: A/C fuse, refrigerant charge, magnetic clutch, compressor relay, dual-pressure switch, wiring harness and connectors, sensors, A/C ECU, and engine control module.

BLOWER MOTOR DOES NOT OPERATE

Check components in order listed, and repair or replace as necessary: A/C fuse, blower motor, blower motor relay, power transistor, wiring harness and connectors, and A/C ECU.

BLOWER MOTOR DOES NOT STOP

Check components in order listed, and repair or replace as necessary: blower motor relay, power transistor, wiring harness and connectors, and A/C ECU.

FRESH/RECIRCULATED AIR SELECTOR DAMPER DOES NOT OPERATE

Check components in order listed, and repair or replace as necessary: fresh/recirculated air damper motor, wiring harness and connectors, and A/C ECU.

INSUFFICIENT/NO HEATING

Check components in order listed, and repair or replace as necessary: check for stored trouble codes, A/C compressor clutch,

fresh/recirculated air damper motor/potentiometer, heater core, thermostat, wiring harness and connectors, and A/C ECU.

INSUFFICIENT/NO COOLING

Check components in order listed, and repair or replace as necessary: A/C fuse, check for stored trouble codes, refrigerant charge, A/C compressor relay, fresh/recirculated air damper motor/potentiometer, wiring harness and connectors, receiver-drier, expansion valve, sensors, A/C compressor clutch, A/C compressor, and A/C ECU.

MODE SELECTION DAMPER DOES NOT OPERATE

Check components in order listed, and repair or replace as necessary: check for stored trouble codes, air outlet changeover damper motor/potentiometer, wiring harness and connectors, and A/C ECU.

CONDENSER FAN DOES NOT OPERATE WHEN A/C IS ACTIVATED

Check components in order listed, and repair or replace as necessary: A/C fuse, condenser fan relay, condenser fan resistor, condenser fan motor, wiring harness and connectors, and A/C ECU.

SELF-DIAGNOSTICS

The self-diagnostic function detects abnormal conditions of A/C ECU, related sensors and wiring. Self-diagnostic function includes an automatic control back-up, which provides substitute values in case of system failure. Data link connector is located under left side of dash. See Fig. 2. Diagnostic Trouble Codes (DTCs) can be accessed by the use of an analog voltmeter.

ACCESSING DIAGNOSTIC TROUBLE CODES (DTCs)

1) Turn ignition off. Using an analog voltmeter and Test Connector Harness (MB991529), connect voltmeter positive lead to data link connector terminal No. 11 and negative lead to terminal No. 4 or 5 (ground). See Fig. 2.

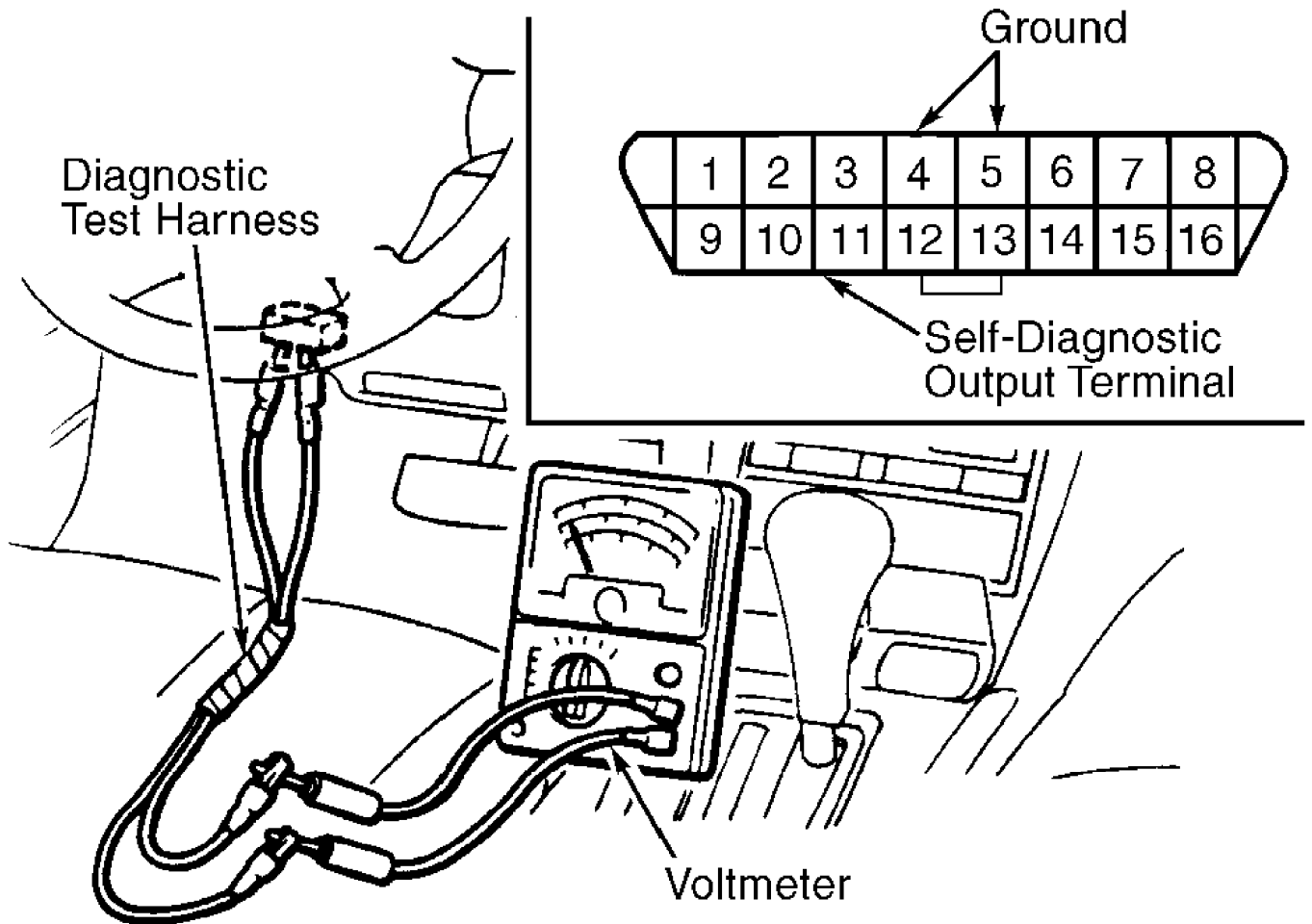
2) Turn ignition on. Signals will appear on voltmeter as long and short 12-volt pulses. Long pulses represent tens, short pulses represent ones. For example, 4 long pulses and one short pulse indicates DTC 41. A constant repetition of short 12-volt pulses indicates DTC 0, system is normal. If more than 2 abnormal conditions are present, DTCs are alternately displayed in numerical order until ignition switch is turned off. See DIAGNOSTIC TROUBLE CODE (DTC) IDENTIFICATION table.

DIAGNOSTIC TROUBLE CODE (DTC) IDENTIFICATION TABLE

DTC	(1) Malfunction
0	Normal
11	In-Car Temp. Sensor Open Circuit
12	In-Car Temp. Sensor Short Circuit
13	Outside Air Temp. Sensor Open Circuit
14	Outside Air Temp. Sensor Short Circuit
15	Water Temp. Sensor Open Circuit
16	Water Temp. Sensor Short Circuit
21	Fin Thermosensor Open Circuit
22	Fin Thermosensor Short Circuit

- 31 Air Mix Damper Potentiometer
Short Or Open Circuit
- 32 Air Outlet Changeover Damper Potentiometer
Short Or Open Circuit
- 41 Defective Air Mix Damper Motor
- 42 Defective Air Outlet Changeover Damper Motor

(1) - Perform appropriate DTC test under TESTING



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Fig. 2: Identifying Data Link Connector Terminals
Courtesy of Mitsubishi Motor Sales of America.

CLEARING DIAGNOSTIC TROUBLE CODES (DTCs)

To clear DTCs from memory, turn ignition off. Disconnect negative battery cable for at least 10 seconds. Reconnect negative battery cable and recheck codes. See ACCESSING DIAGNOSTIC TROUBLE CODES (DTCs).

TESTING

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NOTE: For test procedures not covered in this article, see procedures in A/C-HEATER SYSTEM - MANUAL article.

A/C SYSTEM PERFORMANCE

1) Park vehicle out of direct sunlight. Connect manifold gauge set. Start engine and allow it to idle at 1000 RPM. Set A/C controls to recirculate air, panel (vent) mode, full cold, and A/C button on.

2) Set blower/fan on high speed. Close doors and windows. Insert thermometer in center vent. Operate system for 20 minutes to allow system to stabilize. Measure temperature at center vent. Temperature must be 32-39°F (0-4°C), with high side and low side pressures within specification. See A/C SYSTEM SPECIFICATIONS table at beginning of article.

A/C ECU CIRCUIT TEST

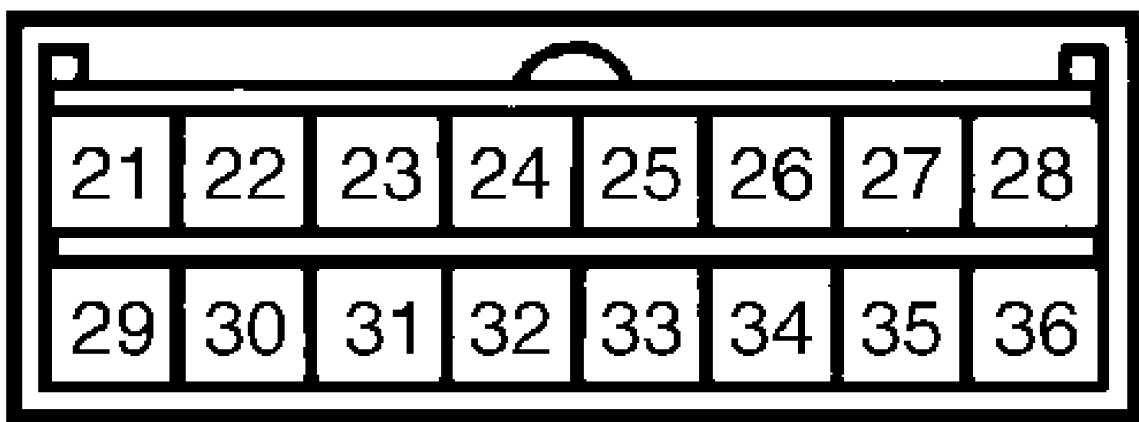
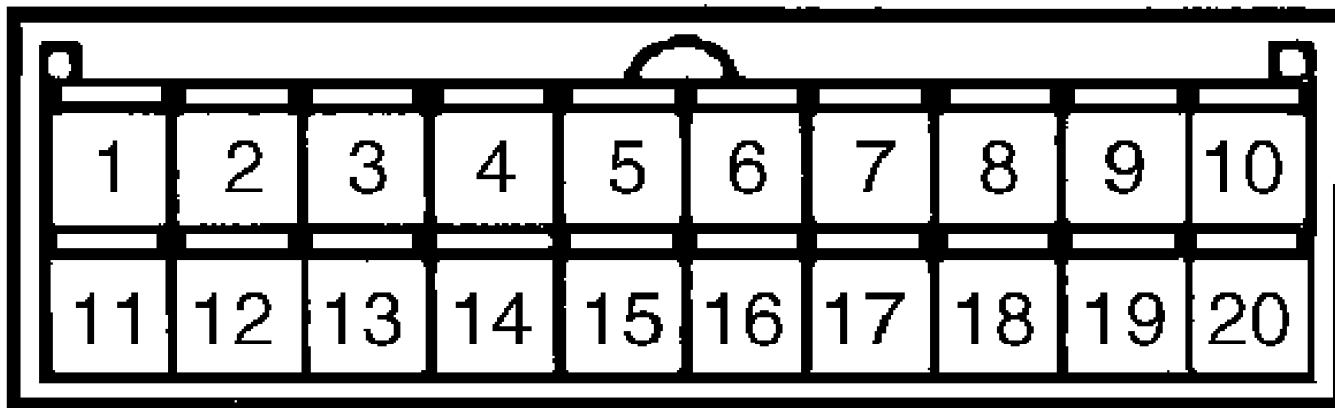
Check for voltage between ground and backprobing A/C ECU terminals. See Fig. 3. See A/C ECU TERMINAL TEST table. If voltages are not as specified, replace A/C ECU.

A/C ECU TERMINAL TEST TABLE

Terminal No. (Component/Circuit)	Test Condition	Volts
1 (Power Transistor Collector)	OFF	Battery Voltage
	Low	Approx. 7
	High	Zero
2 (Power Transistor Base)	OFF	Zero
	Low	Approx. 1.3
	High	Approx. 2.5
3 (A/C ECU Back-Up Power)	At All Times	Battery Voltage
4 (Water Temperature Sensor Input)	Sensor Temp. 77°F (25°C)	2.3-2.9
5 (Air Mix Damper Motor Potentiometer)	Maximum Cool Position	0.1-0.3
	Maximum Hot Position	4.7-5.0
6 (Air Outlet Changeover Potentiometer Input)	Mode Selector In Face Position	0.1-0.3
	Mode Selector In Defrost Position	4.8-5.2
7 (Outside Air Temperature Sensor Input)	Sensor Temp. 77°F (25°C)	2.3-2.9

8 (Fin Thermosensor Input)	Sensor Temp. 77°F (25°C)	2.3-2.9
9 (Photo Sensor -)	(1) In Sunlight	-0.1 To -0.2
	(2) In Darkness	Zero
10 (Sensor Power Supply)	At All Times	4.8-5.2
12 (Blower High Relay)	Blower Speed On High	1.5 Or Less
	Blower Speed Not On High	Battery Voltage
13 (Ground)	At All Times	Zero
16 (Ground)	At All Times	Zero
18 (Diagnostic Control Input)	Ignition switch ON	4-5
19 (Photo Sensor +)	At All Times	Zero
20 (Air Mix/Outlet Changeover Damper Potentiometer)	At All Times	Zero
21 (Air Outlet Changeover Motor)	Mode Selector In Face Position	(3) 10
	Mode Selector In Defrost Position	(3) 0.5
22 (Air Mix Damper Motor)	Maximum Cool Position	(3) 10
	Maximum Hot Position	(3) 0.5
23 (Fresh/Recirculated Air Selector Damper Motor)	Recirculation Position	(3) 0.5
	Fresh Air Position	(3) 10
24 (Air Outlet Changeover 0.5 Damper Motor)	Mode Selector In Face Position	(3)
	Mode Selector In Defrost Position	(3) 10
25 (Air Mix Damper Motor)	Maximum Cool Position	(3) 0.5
	Maximum Hot Position	(3) 10
26 (Fresh/Recirculated Air Selector Damper Motor)	Recirculation Position	(3) 10
	Fresh Air Position	(3) 0.5
27 (Ground)	At All Times	Zero
28 (A/C ECU Power Supply)	Ignition Switch ON	Battery Voltage
29 (Illumination Rheostat Ground)	At All Times	Zero
30 (Illumination Power Supply)	Lighting Switch On	Battery Voltage

34 (A/C ECU Power Supply)	Ignition Switch ON	Battery Voltage
35 (Ground)	At All Times	Zero
(1) - Brightness at 100,000 lux or more. (2) - Brightness at less than 0 lux. (3) - Output turns off 40 seconds after damper moves to selected air setting.		



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Fig. 3: Identifying A/C ECU Connector Terminals
Courtesy of Mitsubishi Motor Sales of America.

DTC 11 & 12: IN-CAR TEMPERATURE SENSOR OPEN OR SHORT CIRCUIT

In-car temperature sensor is located inside A/C ECU. If either code 11 or 12 is retrieved, A/C ECU is bad and should be replaced.

DTC 13: OUTSIDE AIR TEMPERATURE SENSOR OPEN CIRCUIT

1) Outside air temperature sensor is located behind radiator grille. Remove radiator grille. Disconnect and remove outside air temperature sensor. Measure resistance between sensor terminals and compare values with SENSOR RESISTANCE TEST table. If resistance values are within specified range, go to next step. If resistance values are not within specified range, replace sensor.

2) Turn ignition on. Measure voltage at wiring harness side of outside air temperature sensor connector between terminal No. 1 (Blue/White wire) and body ground. If voltage is 4.8–5.2 volts, go to next step. If voltage is not 4.8–5.2 volts, backprobe A/C ECU connector terminal No. 10 (Blue/White wire). If voltage is 4.8–5.2 volts, check and repair open in Blue/White wire between A/C ECU and outside air temperature sensor. If Blue/White wire is okay, check A/C ECU circuit. See A/C ECU CIRCUIT TEST.

3) Turn ignition off. Ensure continuity is present in Yellow wire between A/C ECU connector terminal No. 7 and outside air temperature sensor connector terminal No. 2. Also check if continuity is present in Blue/White wire between A/C ECU connector terminal No. 10 and outside air temperature sensor connector terminal No. 1. Repair wiring as necessary. See WIRING DIAGRAMS.

DTC 14: OUTSIDE AIR TEMPERATURE SENSOR SHORT CIRCUIT

Check for short circuit in Yellow wire between A/C ECU connector terminal No. 7 and outside air temperature sensor connector terminal No. 2. Also check for short circuit in Blue/White wire between A/C ECU connector terminal No. 10 and outside air temperature sensor connector terminal No. 1. Repair wiring as necessary. See WIRING DIAGRAMS.

DTC 15: WATER TEMPERATURE SENSOR OPEN CIRCUIT

1) Remove instrument panel lower cover assembly. See Fig. 8. Remove glove box, glove box striker and glove box cover. Remove side console cover assembly. Disconnect and remove water temperature sensor from heater unit. See Fig. 4. Measure resistance between sensor terminals and compare values with SENSOR RESISTANCE TEST table. If resistance values are within specified range, go to next step. If resistance values are not within specified range, replace sensor.

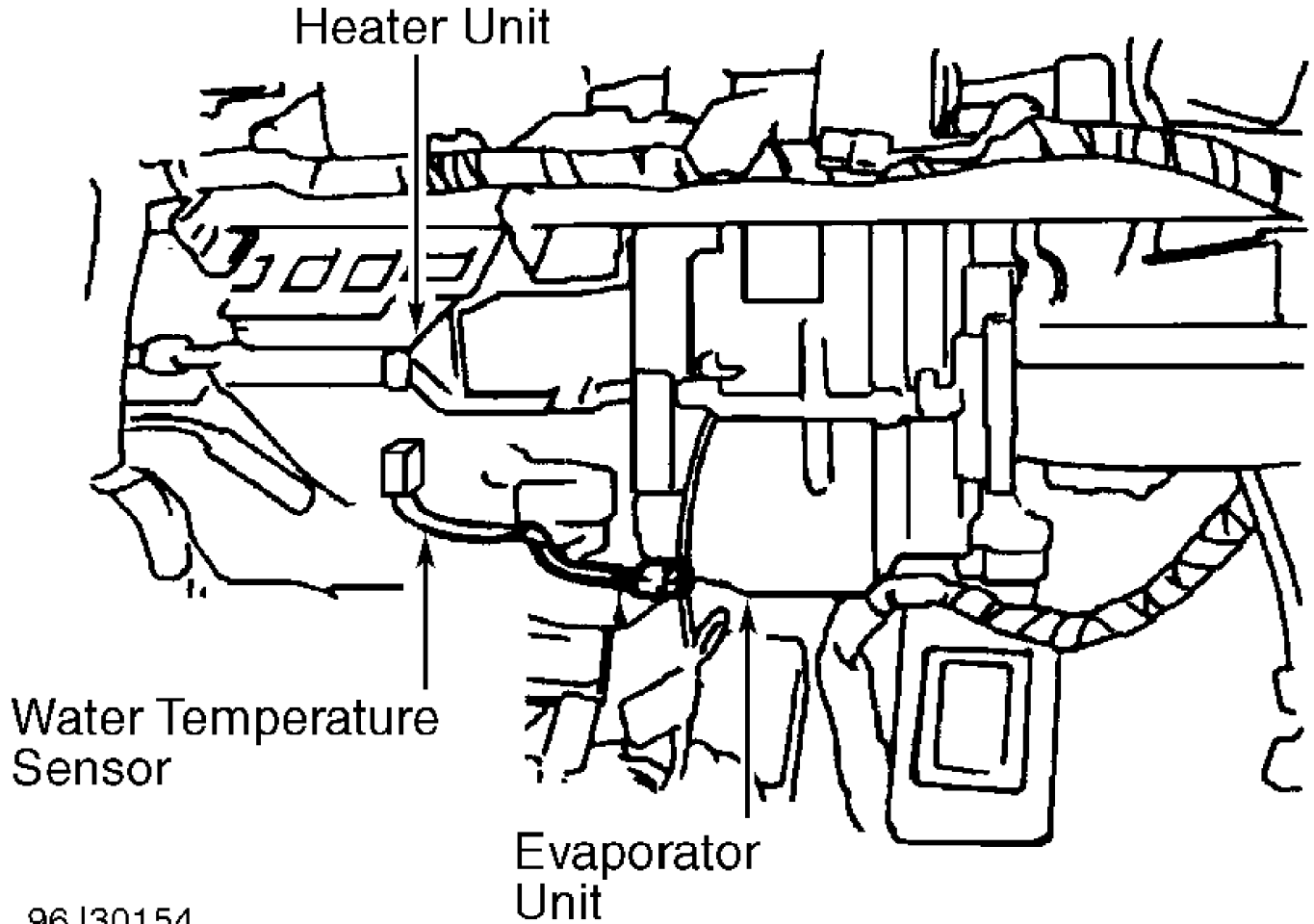
2) Turn ignition on. Measure voltage at wiring harness side of water temperature sensor connector between terminal No. 1 (Blue/White wire) and body ground. If voltage is 4.8–5.2 volts, go to next step. If voltage is not 4.8–5.2 volts, backprobe A/C ECU connector terminal No. 10 (Blue/White wire). If voltage is 4.8–5.2 volts, check and repair open in Blue/White wire between A/C ECU and water temperature sensor. If Blue/White wire is okay, check A/C ECU circuit. See A/C ECU CIRCUIT TEST.

3) Reconnect water temperature sensor. Measure voltage between body ground and A/C ECU connector terminal No. 4 (Green wire). Voltage should read 2.3–2.9 volts. If voltage is not within specified range, check and repair Green wire between water temperature sensor and A/C ECU. If Green wire is okay, check A/C ECU circuit. See A/C ECU CIRCUIT TEST.

DTC 16: WATER TEMPERATURE SENSOR SHORT CIRCUIT

Turn ignition on. Measure voltage between body ground and A/C ECU connector terminal No. 4 (Green wire). Voltage should read 2.3–2.9 volts. If voltage is not within specified range, check and repair Green wire between water temperature sensor and A/C ECU. If Green wire

is okay, check A/C ECU circuit. See A/C ECU CIRCUIT TEST.



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Fig. 4: Locating Water Temperature Sensor
Courtesy of Mitsubishi Motor Sales of America.

DTC 21: FIN THERMOSENSOR OPEN CIRCUIT

1) Remove instrument panel lower cover assembly. See Fig. 8. Remove glove box, glove box striker and glove box cover. Remove side console cover assembly. Remove corner panel and glove box frame. Locate and disconnect fin thermosensor connector. See Fig. 5. Measure resistance between sensor terminals and compare values with SENSOR RESISTANCE TEST table. If resistance values are within specified range, go to next step. If resistance values are not within specified range, replace sensor.

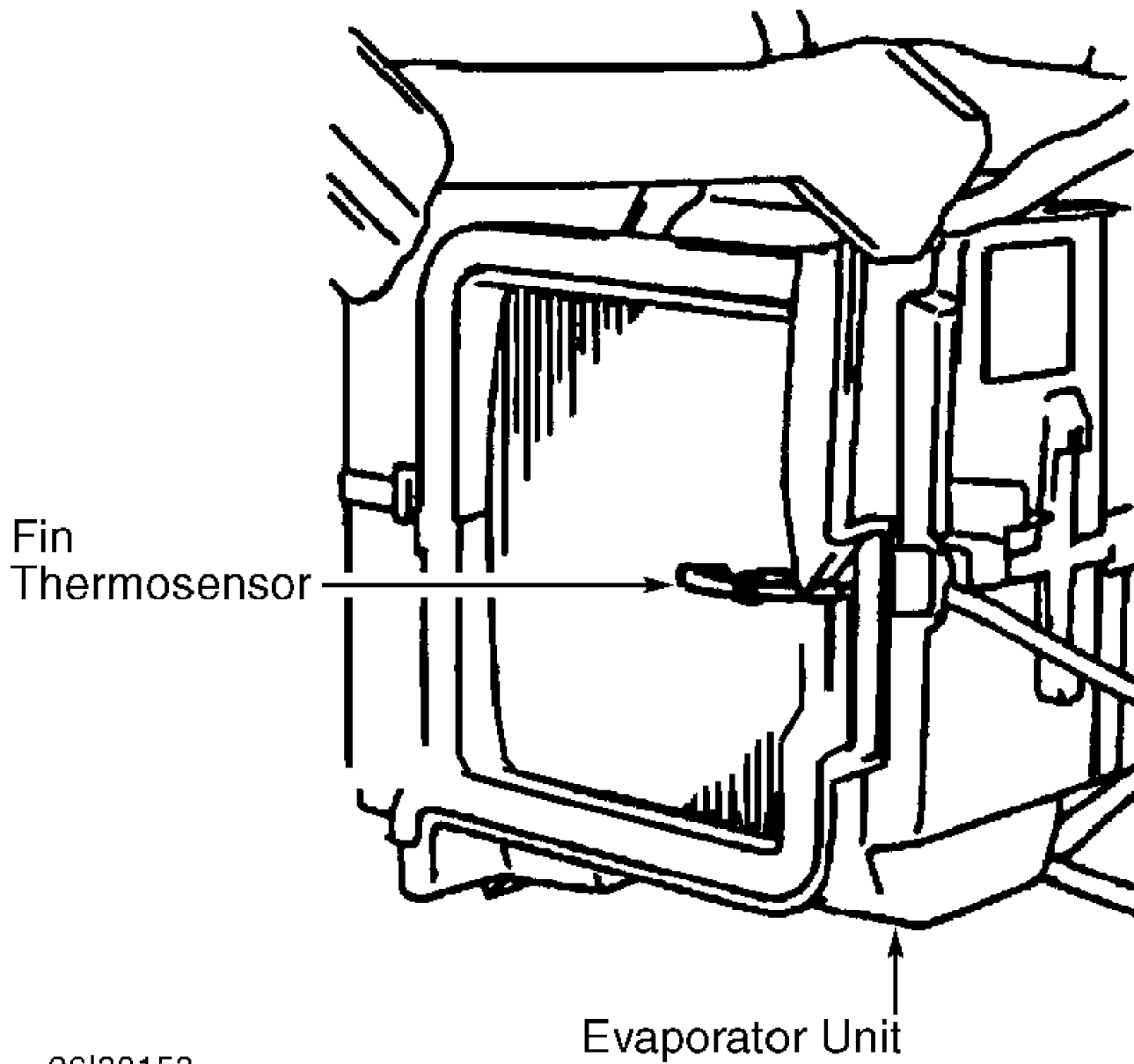
2) Turn ignition on. Measure voltage at wiring harness side of fin thermosensor connector between terminal No. 2 (Blue/White wire) and body ground. If voltage is 4.8-5.2 volts, go to next step. If voltage is not 4.8-5.2 volts, backprobe A/C ECU connector terminal No. 10 (Blue/White wire). If voltage is 4.8-5.2 volts, check and repair open in Blue/White wire between A/C ECU and fin thermosensor. If Blue/White wire is okay, check A/C ECU circuit. See A/C ECU CIRCUIT TEST.

3) Reconnect fin thermosensor. Measure voltage between body ground and A/C ECU connector terminal No. 8 (Yellow/Red wire). Voltage should read 2.3-2.9 volts. If voltage is not within specified range, check and repair Yellow/Red wire between fin thermosensor connector

terminal No. 1 and A/C ECU connector terminal No. 8. If Yellow/Red wire is okay, check A/C ECU circuit. See A/C ECU CIRCUIT TEST.

DTC 22: FIN THERMOSENSOR SHORT CIRCUIT

Measure voltage between body ground and A/C ECU connector terminal No. 8 (Yellow/Red wire). Voltage should read 2.3-2.9 volts. If voltage is not within specified range, check and repair Yellow/Red wire between fin thermosensor connector terminal No. 1 and A/C ECU connector terminal No. 8. If Yellow/Red wire is okay, check A/C ECU circuit. See A/C ECU CIRCUIT TEST.



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Fig. 5: Locating Fin Thermosensor
Courtesy of Mitsubishi Motor Sales of America.

Temperature °F (°C)	(1) Ohms
14 (-10)	19,000
32 (0)	12,000
50 (10)	8000
68 (20)	4500
86 (30)	3000
104 (40)	2500

(1) - Approximate values.

DTC 31: AIR MIX DAMPER MOTOR/ POTENTIOMETER OPEN OR SHORT CIRCUIT

1) Remove shift lever and center console panels. See Fig. 8. Remove radio and tape player. Remove glove box, glove box striker, glove box cover, and glove box frame. Remove side console cover assembly. Locate and disconnect air mix damper motor/potentiometer connector. See Fig. 6. Remove damper lever linkage and air mix damper motor/potentiometer.

2) Connect battery voltage to air mix damper motor/potentiometer terminals No. 1 and 3. If motor does not move or stops moving, replace air mix damper motor/potentiometer. Reverse polarity and ensure motor returns to full opposite position. If motor operates as specified, go to next step.

3) Ensure ignition is off. Measure resistance between air mix damper motor/potentiometer connector terminals No. 2 and 5. In maximum hot position, resistance should be 4800 ohms. In maximum cool position, resistance should be 200 ohms. If resistance is as specified, go to next step. If resistance is not as specified, replace air mix damper motor/potentiometer.

4) Turn ignition on. Measure voltage at wiring harness side of connector between terminal No. 6 (Blue/White wire) and body ground. If voltage is 4.8-5.2 volts, go to next step. If voltage is not 4.8-5.2 volts, backprobe A/C ECU connector terminal No. 10 (Blue/White wire). If voltage is 4.8-5.2 volts, check and repair Blue/White wire between A/C ECU and air mix damper motor/potentiometer. If voltage is not 4.8-5.2 volts, check A/C ECU circuit. See A/C ECU CIRCUIT.

5) Reconnect air mix damper motor/potentiometer connector. Adjust air mix selector to maximum hot position. Measure voltage between body ground and A/C ECU connector terminal No. 5 (Blue/Yellow wire). Voltage should read 4.7-5.0 volts. If voltage is not 4.7-5.0 volts, check and repair Blue/Yellow wire between air mix damper motor/potentiometer and A/C ECU. If Blue/Yellow wire is okay, check A/C ECU circuit. See A/C ECU CIRCUIT TEST.

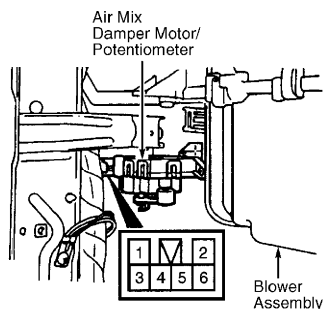


Fig. 6: Locating & Identifying Air Mix Damper Motor/Potentiometer
Courtesy of Mitsubishi Motor Sales of America.

DTC 32: AIR OUTLET CHANGEOVER DAMPER MOTOR/POTENTIOMETER

OPEN OR SHORT CIRCUIT

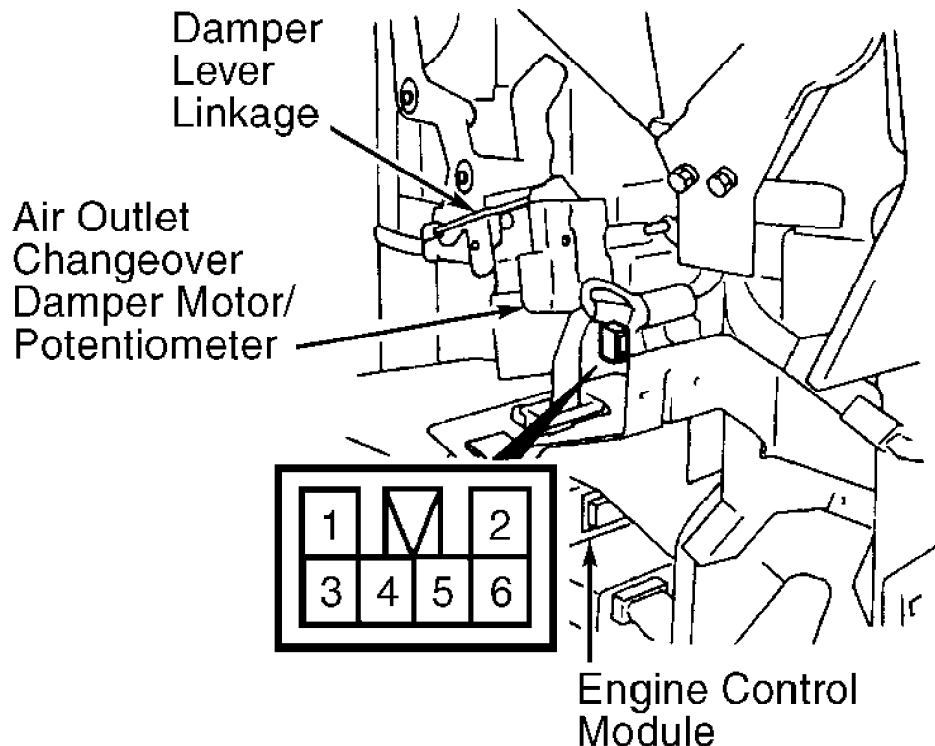
1) Remove hood lock release handle. See Fig. 8. Remove instrument panel lower cover assembly. Remove foot duct. Locate and disconnect mode selector connector. See Fig. 7. Remove damper lever linkage and air outlet changeover motor/potentiometer.

2) Connect battery voltage to air outlet changeover motor/potentiometer terminals No. 1 and 3. If motor does not move or stops moving, replace air outlet changeover motor/potentiometer. Reverse polarity and ensure motor returns to full opposite position. If motor operates as specified, go to next step.

3) Measure resistance between air mix damper motor/potentiometer connector terminals No. 2 and 5. In maximum hot position, resistance should be 4800 ohms. In maximum cool position, resistance should be 200 ohms. If resistance is as specified, go to next step. If resistance is not as specified, replace air mix damper motor/potentiometer.

4) Turn ignition on. Measure voltage at wiring harness side of connector between terminal No. 2 (Blue/White wire) and body ground. If voltage is 4.8-5.2 volts, go to next step. If voltage is not 4.8-5.2 volts, backprobe A/C ECU connector terminal No. 10 (Blue/White wire). If voltage is 4.8-5.2 volts, check and repair Blue/White wire between A/C ECU and air outlet changeover selector damper motor/potentiometer. If voltage is not 4.8-5.2 volts, check A/C ECU circuit. See A/C ECU CIRCUIT TEST.

5) Check connectors and wiring between air outlet changeover damper motor/potentiometer and A/C ECU. Repair connectors and wiring as necessary. See WIRING DIAGRAMS.



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Fig. 7: Locating & Identifying Air Outlet Changeover Damper Motor/Potentiometer

Courtesy of Mitsubishi Motor Sales of America.

DTC 41: DEFECTIVE AIR MIX DAMPER MOTOR

1) Check air mix damper motor. See DTC 31: AIR MIX DAMPER MOTOR/POTENTIOMETER OPEN OR SHORT CIRCUIT. Replace motor as necessary. If motor is okay, go to next step.

2) Set temperature to MAX COOL 62°F (17°C). Measure voltage (backprobe) between A/C ECU connector terminal No. 22 (Red/Green wire) and ground. Voltmeter should indicate 10 volts for 40 seconds, then zero volts after 40 seconds. Measure voltage (backprobe) between A/C ECU connector terminal No. 25 (Black/Green wire) and ground. Voltmeter should indicate .5 volts for 40 seconds, then zero volts after 40 seconds. Go to next step.

3) Set temperature to MAX HOT 90°F (32°C). Measure voltage (backprobe) between A/C ECU connector terminal No. 22 (Red/Green wire) and ground. Voltmeter should indicate .5 volts for 40 seconds, then zero volts after 40 seconds. Measure voltage (backprobe) between A/C ECU connector terminal No. 25 (Black/Green wire) and ground. Voltmeter should indicate 10 volts for 40 seconds, then zero volts after 40 seconds. Go to next step.

4) If voltages are to specification, check air mix damper motor connector for poor terminal contact. Repair connector as necessary. If connector terminal contact is okay, check wiring between air mix damper motor assembly and A/C ECU. Repair wiring as necessary. See WIRING DIAGRAMS.

DTC 42: DEFECTIVE AIR OUTLET CHANGEOVER DAMPER MOTOR

1) Check air outlet changeover damper motor. See DTC 32: AIR OUTLET CHANGEOVER DAMPER MOTOR/POTENTIOMETER OPEN OR SHORT CIRCUIT. Replace motor as necessary. If motor is okay, go to next step.

2) Set damper to face position. Measure voltage (backprobe) between A/C ECU connector terminal No. 21 (Red/Yellow wire) and ground. Voltmeter should indicate 10 volts for 40 seconds, then zero volts after 40 seconds. Measure voltage (backprobe) between A/C ECU connector terminal No. 24 (Green/Blue wire) and ground. Voltmeter should indicate .5 volts for 40 seconds, then zero volts after 40 seconds. Go to next step.

3) Set damper to defrost position. Measure voltage (backprobe) between A/C ECU connector terminal No. 21 (Red/Yellow wire) and ground. Voltmeter should indicate .5 volts for 40 seconds, then zero volts after 40 seconds. Measure voltage (backprobe) between A/C ECU connector terminal No. 24 (Green/Blue wire) and ground. Voltmeter should indicate 10 volts for 40 seconds, then zero volts after 40 seconds. Go to next step.

4) If voltages are to specification, check air outlet changeover damper motor connector for poor terminal contact. Repair connector as necessary. If connector terminal contact is okay, check wiring between air outlet changeover damper motor assembly and A/C ECU. Repair wiring as necessary. See WIRING DIAGRAMS.

PHOTO SENSOR

Photo sensor is located on top center of dash. Disconnect photo sensor connector. Connect battery voltage to photo sensor connector terminals. Measure voltage between photo sensor terminals with sensor covered and uncovered. Compare voltage readings. Voltage should be greater when sensor is not covered.

REMOVAL & INSTALLATION

*** PLEASE READ THIS FIRST ***

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 RESTRAINT SYSTEM article.

NOTE: For removal and installation procedures not covered in this article, see A/C-HEATER SYSTEM - MANUAL article.

AIR MIX DAMPER MOTOR/POTENTIOMETER ASSEMBLY

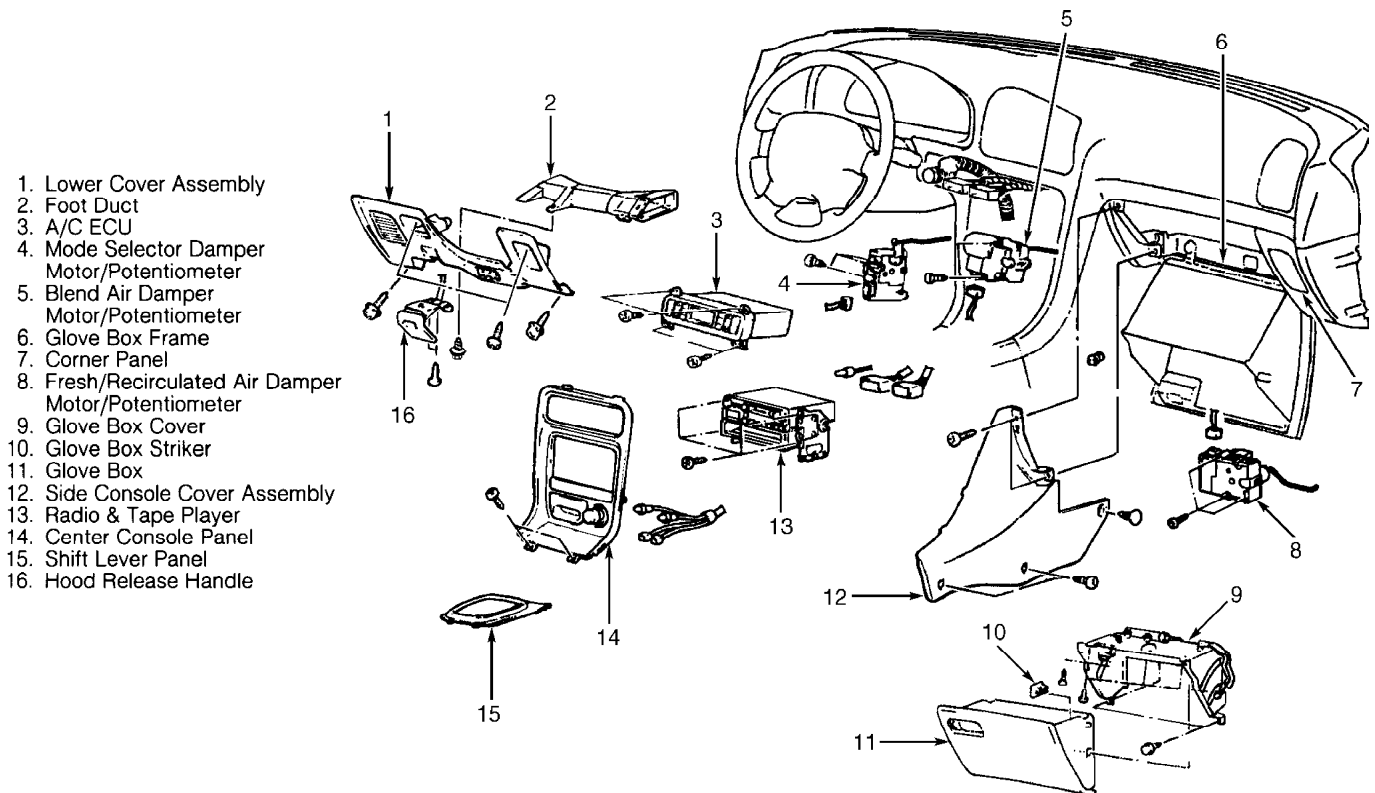
Removal & Installation

Remove shift lever and center console panels. See Fig. 8. Remove radio and tape player. Remove glove box, glove box striker, glove box cover, and glove box frame. Remove side console cover assembly. Locate and disconnect air mix damper motor/potentiometer connector. See Fig. 6. Remove damper lever linkage and air mix damper motor/potentiometer. To install, reverse removal procedure.

AIR OUTLET CHANGEOVER DAMPER MOTOR/POTENTIOMETER ASSEMBLY

Removal & Installation

Remove hood lock release handle. See Fig. 8. Remove instrument panel lower cover assembly. Remove foot duct. Locate and disconnect air outlet changeover connector. See Fig. 7. Remove damper lever linkage and air outlet changeover damper motor/potentiometer. To install, reverse removal procedure.



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Fig. 8: Exploded View Of Lower Instrument Panel Components
Courtesy of Mitsubishi Motor Sales of America.

WIRING DIAGRAMS

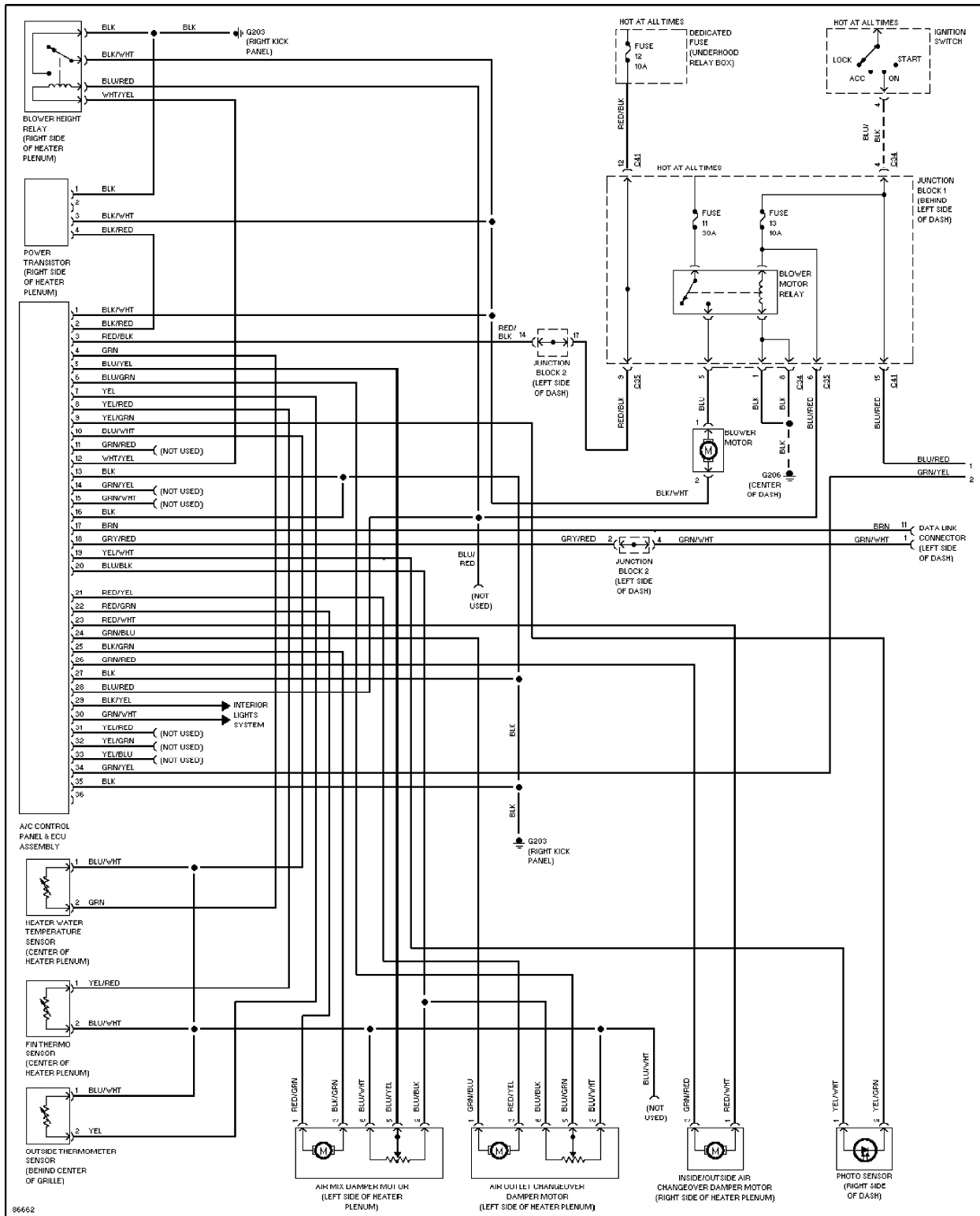


Fig. 9: Automatic A/C-Heater System Wiring Diagram (1 Of 2)

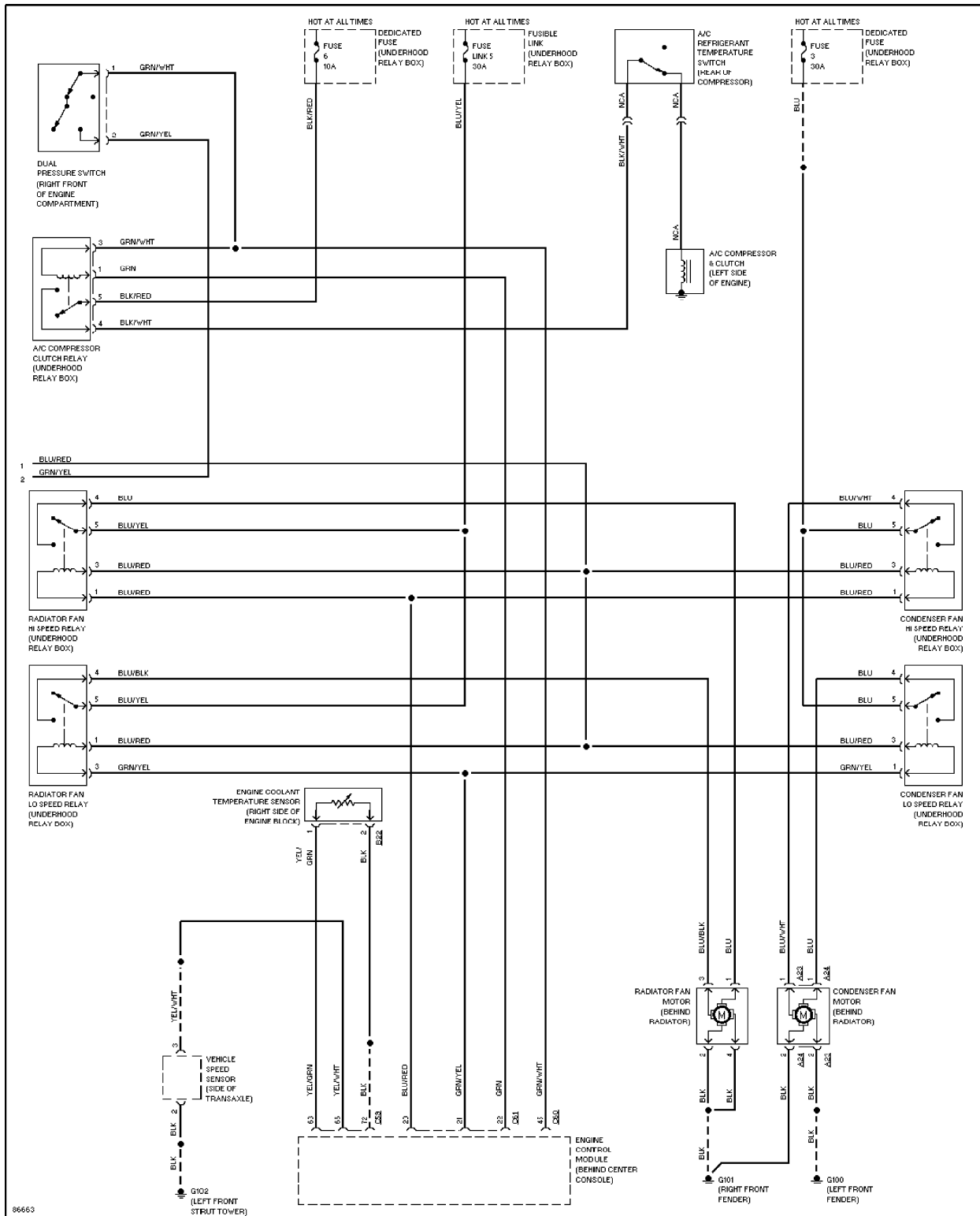


Fig. 10: Automatic A/C-Heater System Wiring Diagram (2 Of 2)