HEATER SYSTEM

1998 Mitsubishi Montero

1998 AIR CONDITIONING & HEAT
Mitsubishi - Heater System

Montero

* 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.

DESCRIPTION

Heater assembly is located in passenger compartment. A heater control valve is used to regulate coolant flow and heat output. Heater assembly contains heater core, heater control valve, air ducts, blower motor and intake ducts. See Fig. 1. Heater systems are blend-air type.

OPERATION

Heater and fresh air operations are controlled by control knobs and/or levers, which regulate airflow source, temperature setting, airflow direction and blower speed.

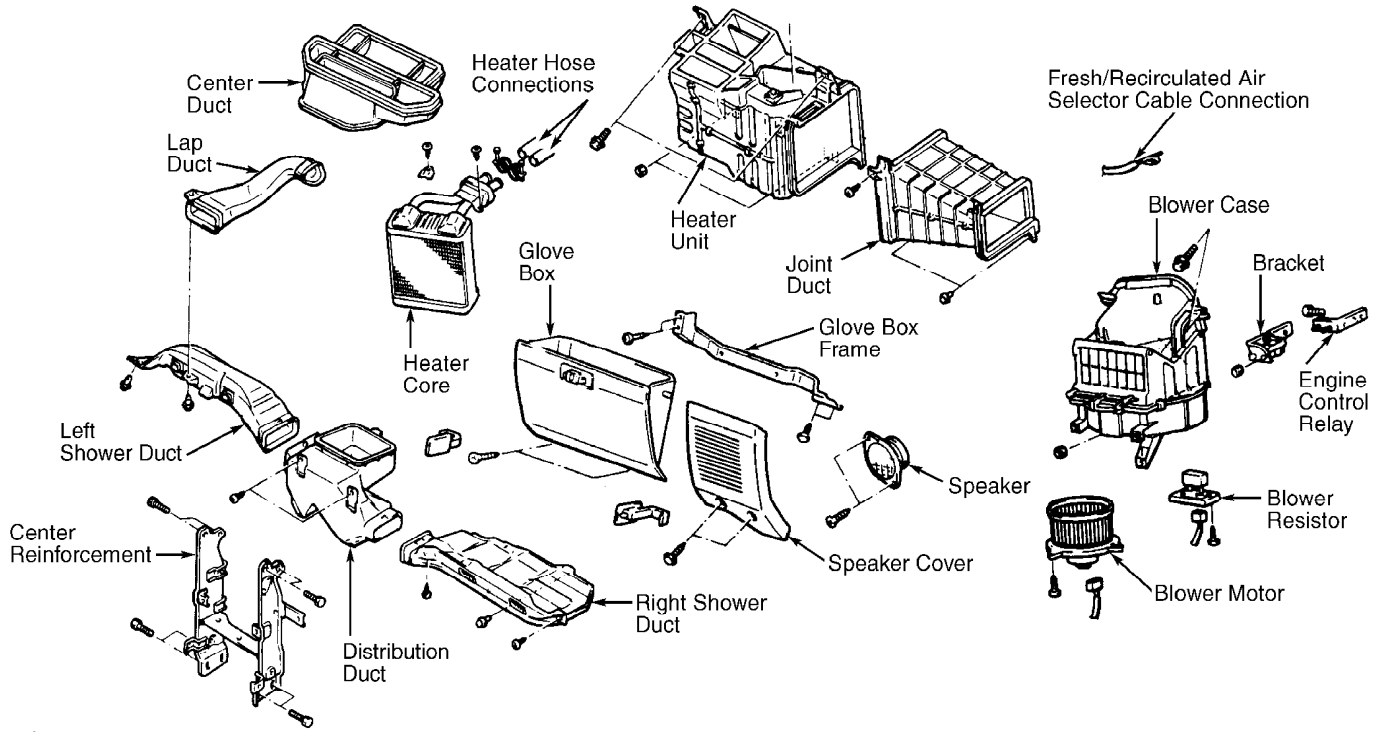

Fig. 1: Exploded View Of Front Heater System Components
Courtesy of Mitsubishi Motor Sales of America.

FRONT AIR SELECTOR LEVER

This lever is used to select source of airflow. With lever at fresh air setting, outside air is allowed to enter and/or pass through heater. With lever at recirculated air setting, air is recirculated inside passenger compartment.

FRONT BLOWER SWITCH

Front blower switch controls fan speeds to regulate amount of airflow. Fan speed increases as switch is turned/moved to far right.

COOL AIR BY-PASS KNOB

With heater in floor, defrost/floor or defrost mode, turning knob to far left allows cool air to enter passenger compartment through center vent.

FRONT MODE SELECTOR KNOB/LEVER

Depending on position selected, airflow can be directed to different areas of passenger compartment. Airflow selection capabilities include individual areas or a combination of windshield, upper body, knee and/or foot area.

TEMPERATURE CONTROL

Temperature control is adjusted by moving control lever or turning control knob to left or right. Temperature control cable opens and closes heater control valve, which determines heat output. Highest heat setting is attained when lever/knob at far right position. With temperature lever/knob at cool setting, ambient air is used for ventilating.

ADJUSTMENTS

FRONT FRESH/RECIRCULATED AIR SELECTOR CABLE

Place air selector lever at recirculated air setting. Press damper lever inward, in direction of arrow. See Fig. 2. Connect inner wire of fresh/recirculated air selector cable to damper lever. Secure outer wire of selector cable with clip.

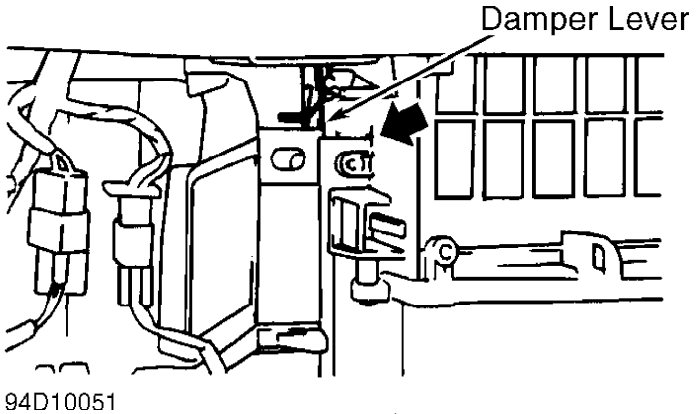

Fig. 2: Adjusting Front Fresh/Recirculated Air Selector Cable
Courtesy of Mitsubishi Motor Sales of America.

FRONT MODE SELECTOR CABLE

Place front mode selector knob at defrost setting. Press damper lever inward, in direction of arrow. See Fig. 3. Connect inner cable of mode selector cable to damper lever. Secure outer wire of selector cable with clip.

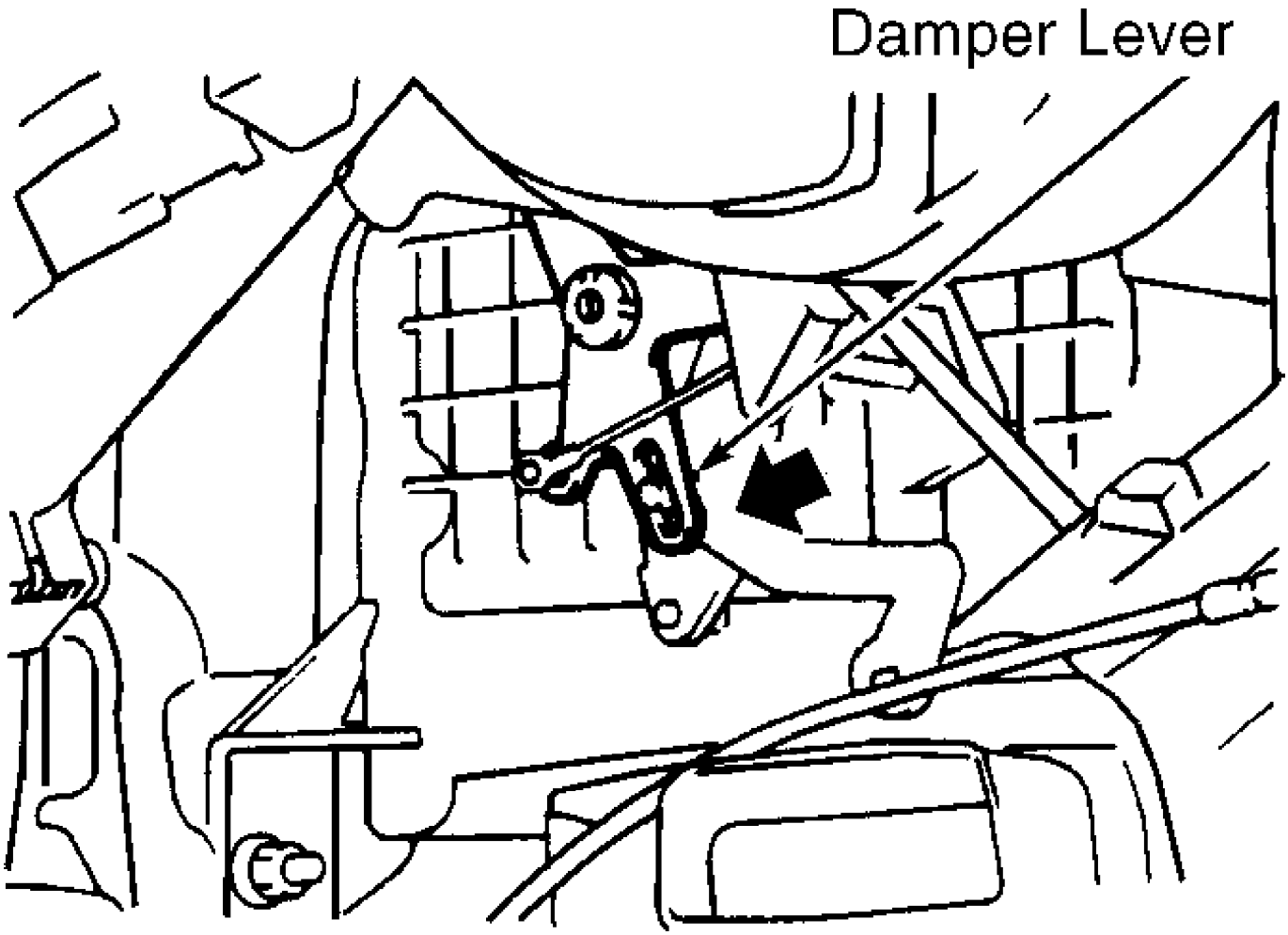

Fig. 3: Adjusting Front Mode Selector Cable
Courtesy of Mitsubishi Motor Sales of America.

FRONT TEMPERATURE CONTROL CABLE

Move front temperature control knob to extreme right (HOT) position. Press blend-air damper lever completely downward, in direction of arrow. See Fig. 4. Connect inner wire of temperature control cable to damper lever. Secure outer wire of control cable with clip.

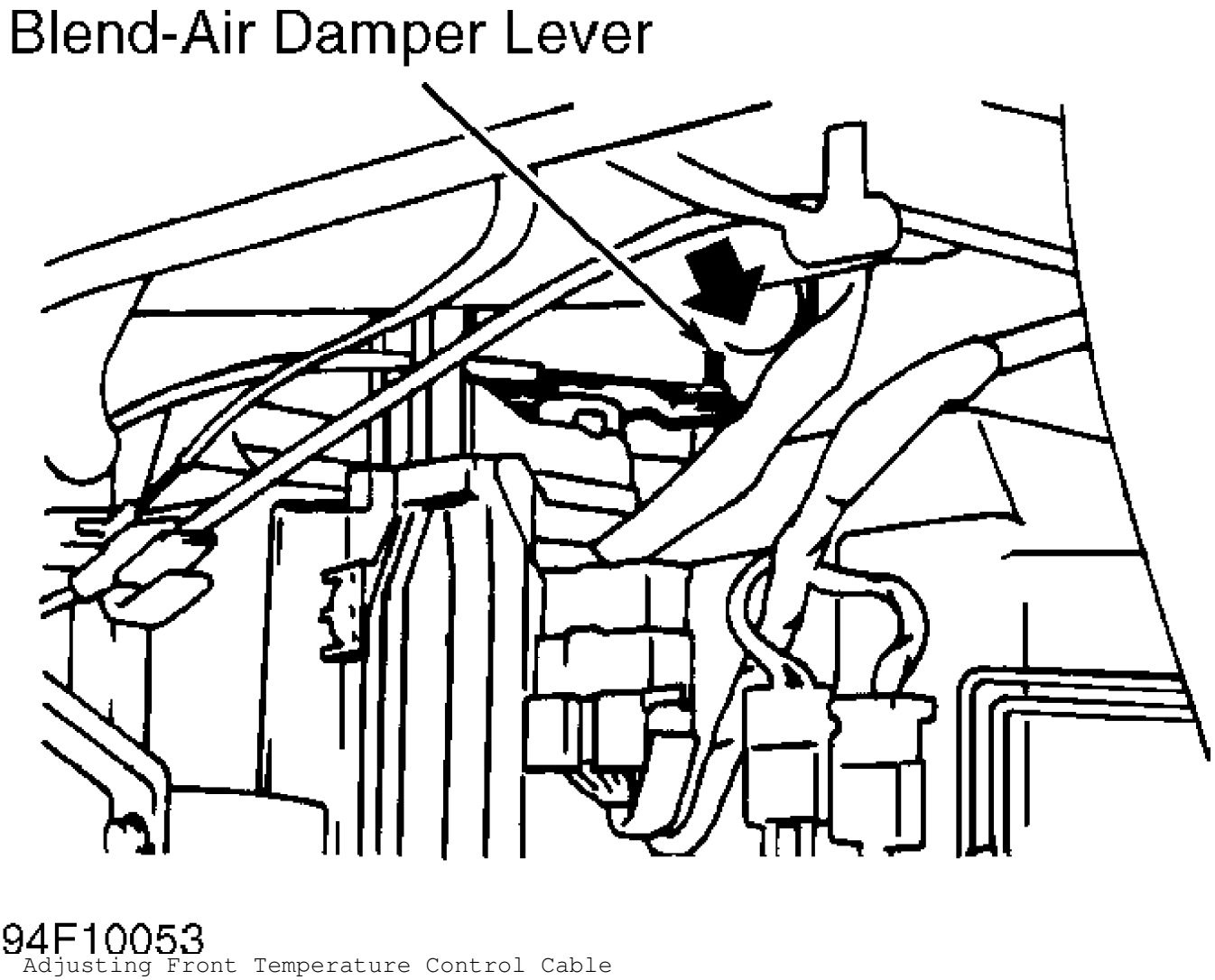

Fig. 4: Adjusting Front Temperature Control Cable
Courtesy of Mitsubishi Motor Sales of America.

FRONT VENTILATION CONTROL CABLE

Turn cool air by-pass lever/knob to far right/clockwise (closed position). See Fig. 5. Lever should slightly touch stopper. Connect ventilation control cable, and secure with clip.

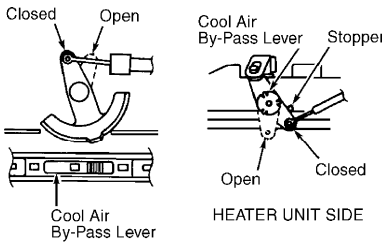

Fig. 5: Adjusting Front Ventilation Control Cable
Courtesy of Mitsubishi Motor Sales of America.

TROUBLE SHOOTING

BLOWER MOTOR

If blower motor will only run at high speed, check blower motor resistor. See BLOWER MOTOR RESISTOR under TESTING.

INSUFFICIENT HEAT

Obstructed floor outlets or heater hoses. Bound or improperly adjusted dampers. Improperly adjusted control cable. Plugged heater core.

NO VENTILATION

Improper damper adjustment. Incorrect mode selector cable installation. Improper duct connection, or duct damage.

TESTING

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BLOWER SWITCH

Disconnect switch, and check continuity between indicated terminals using ohmmeter. See BLOWER SWITCH CONTINUITY table. See Fig. 6.

BLOWER SWITCH CONTINUITY TABLE

Switch Position	Continuity Between Terminal No.
Low	1 & 8; 3 & 5
Medium-Low	1 & 8; 5 & 6
Medium-High	1 & 4; 1 & 8; 2 & 5
High	1 & 4; 1 & 8; 5 & 7

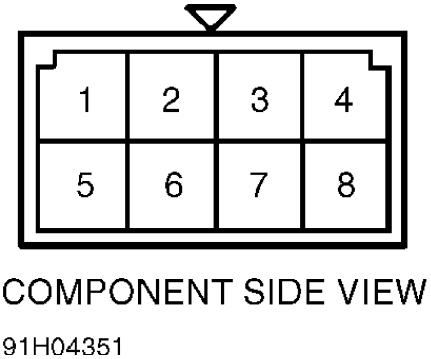


Fig. 6: Identifying Blower Switch Terminals
Courtesy of Mitsubishi Motor Sales of America.

BLOWER MOTOR

Disconnect blower motor connector. Connect battery directly to blower motor terminals. Ensure blower motor operates smoothly. Reverse polarity, and ensure blower motor operates smoothly in reverse direction. Replace blower motor if it does not function as specified.

BLOWER MOTOR RELAY

1) Remove blower motor relay from junction block, located under hood on driver's side fenderwell. Using ohmmeter, check continuity between terminals No. 1 and 3. See Fig. 7. Continuity should not be present.

2) Check continuity between terminals No. 2 and 4. Ensure continuity is present. Connect 12-volt battery to terminals No. 2 and 4. See Fig. 7. Ensure continuity exists between terminals No. 1 and 3 with voltage applied. If continuity is not as specified, replace relay.

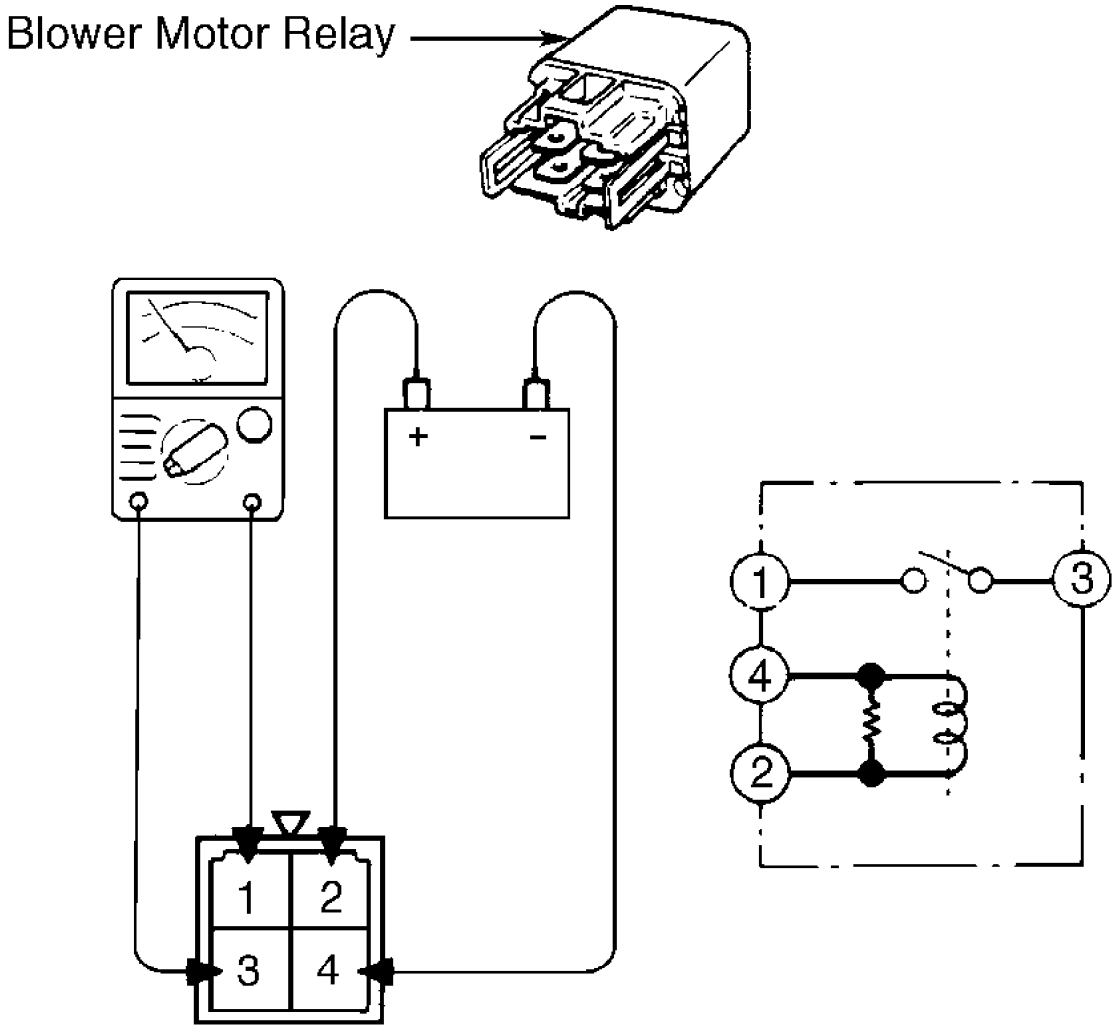


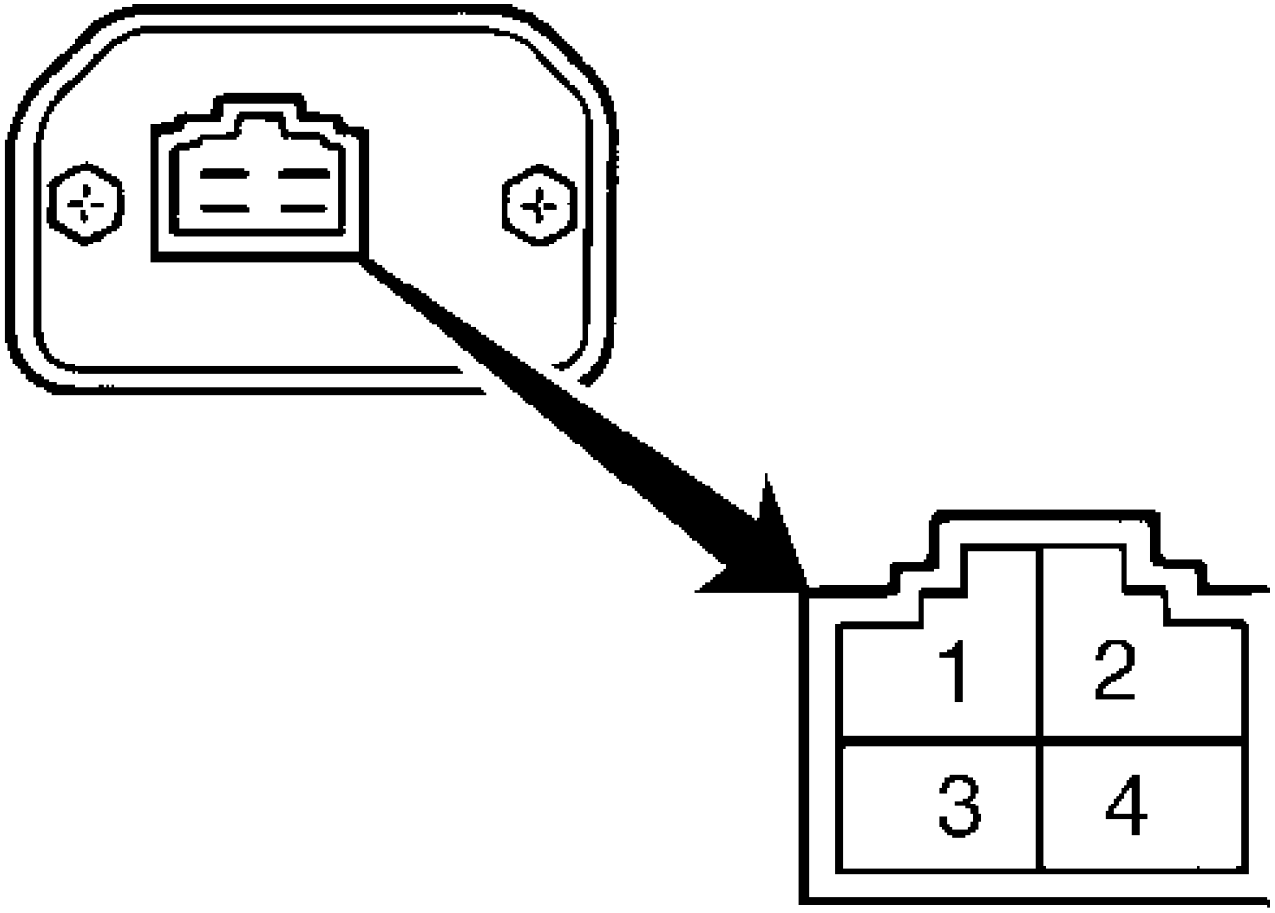
Fig. 7: Identifying Blower Relay Terminals
Courtesy of Mitsubishi Motor Sales of America.

BLOWER MOTOR RESISTOR

Disconnect harness connector from resistor, located in blower assembly. See Fig. 1. Using ohmmeter, check resistance between indicated terminals. See BLOWER MOTOR RESISTOR RESISTANCE table. See Fig. 8. If resistance is not as specified, replace resistor.

BLOWER MOTOR RESISTOR RESISTANCE TABLE

Application & Terminal No.	Ohms
2 & 3	0.31-0.35
2 & 1	0.88-1.02
2 & 4	1.82-2.10



COMPONENT SIDE VIEW

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Fig. 8: Identifying Blower Motor Resistor Terminals
Courtesy of Mitsubishi Motor Sales of America.

REMOVAL & INSTALLATION

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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 removing or installing floor console, DO NOT allow any impact or shock to Supplemental Restraint System Electronic Control Unit (SRS-ECU).

FRONT HEATER UNIT & HEATER CORE

Removal

1) Deactivate air bag system. See AIR BAG RESTRAINT SYSTEM article. Remove front and rear floor consoles. Remove hood release handle. Remove fuel door release handle. Remove knee protector and support brackets. Remove speaker covers.

NOTE: On A/T models, when removing front floor console, set A/T selector lever in "L" position.

2) Remove glove box door stop, glove box and glove box frame. Remove passenger-side air bag module. Remove heater control panel cover. Remove heater control panel and radio. Remove plug from instrument cluster cover. Remove instrument cluster cover and instrument cluster.

3) Remove steering column cover. Remove clock or plug. Remove side defroster covers. Remove side mirror control switch. Remove front speakers.

4) Remove rheostat, rear wiper/washer switch, and door lock switch. Disconnect ventilation control cable and harness connector. See Fig. 9. Remove instrument panel. See INSTRUMENT PANEL. Drain coolant and disconnect heater hoses from heater unit.

5) Remove shower ducts, lap duct, joint duct and center duct. See Fig. 1. Remove center reinforcement. Remove heater unit. Remove distribution duct. Remove heater core.

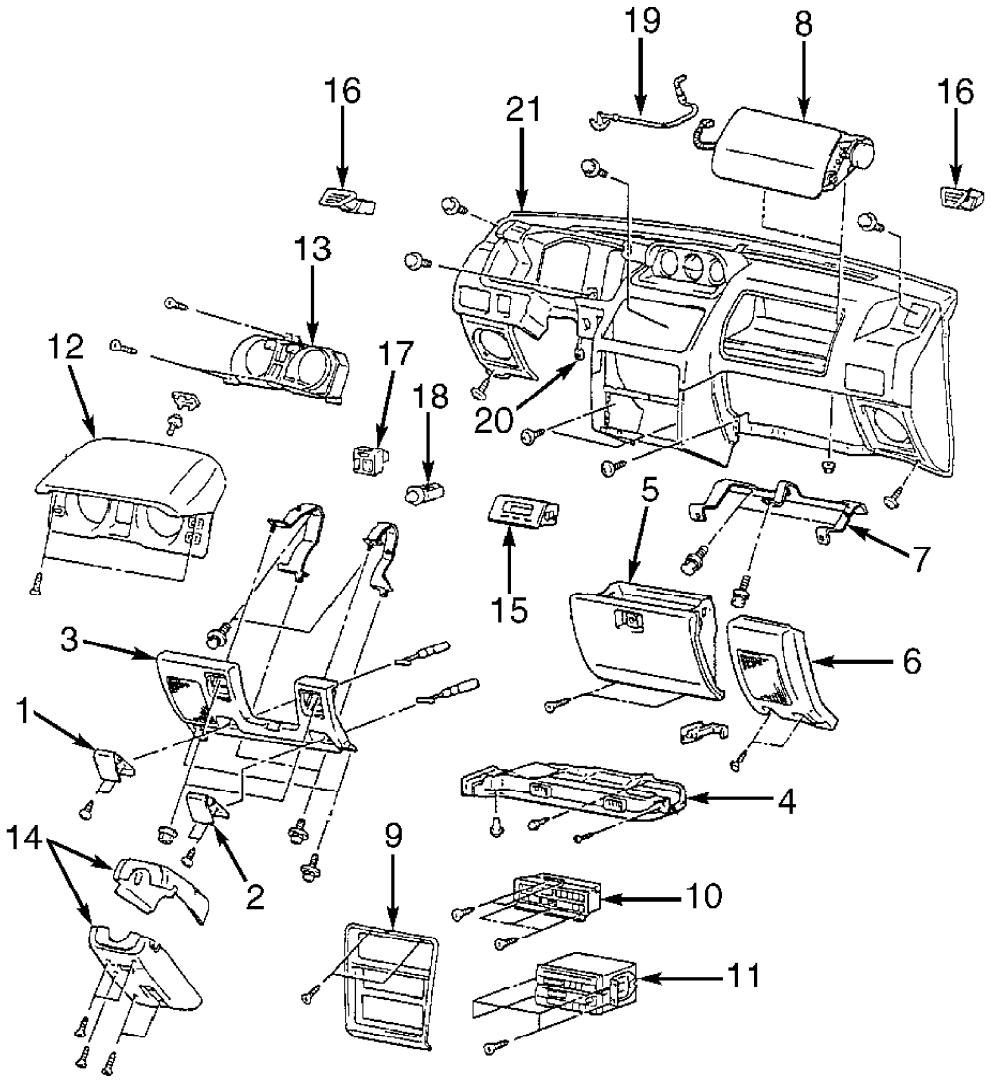
Installation

Install heater core, distribution duct, heater unit and center reinforcement. Install remaining ducts in reverse order of removal. Install instrument panel. Tighten steering column bolts to 16 ft. lbs. (22 N.m). Install and adjust ventilation control cable. See ADJUSTMENTS. To complete installation, reverse removal procedure. Add coolant and check for leaks.

INSTRUMENT PANEL

Removal & Installation

Remove instrument panel components and then instrument panel, in order listed on appropriate illustration. See Fig. 9. To install, reverse removal procedures.



1. Hood Lock Release Handle
2. Fuel Filler Door Release
3. Knee Protector
4. Bezel Assembly
5. Glove Box Assembly
6. Corner Cover
7. Bracket
8. Passenger's Side Air Bag
9. Center Bezel
10. Heater Control Assembly
11. Radio/Cassette Player
12. Instrument Cluster Cover
13. Instrument Cluster
14. Steering Column Covers
15. Clock
16. Side Defroster Vent
17. Door Mirror Controller
18. Rheostat
19. Ventilation Control Wire
20. Wiring Harness Connector
21. Instrument Panel

98J03102

Fig. 9: Removing Instrument Panel
Courtesy of Mazda Motors Corp.

Removal & Installation

1) Remove right side foot shower duct. Remove glove box door

stops. Disconnect fresh/recirculated air selector cable and temperature control cable. Remove knee protector. Remove lap duct and left shower duct. See Fig. 1. Disconnect mode selector cable.

2) Remove heater control panel cover and panel. Remove heater control panel bezel and knobs. Remove blower switch. Using a screwdriver, remove wire clips. Remove heater control cables from heater control panel. To install, reverse removal procedure. Adjust heater control cables. See ADJUSTMENTS.

BLOWER ASSEMBLY

Removal & Installation

Remove glove box, speaker cover and speaker or corner cover. See Fig. 1. Remove glove box frame. Disconnect right shower duct. Remove engine control relay and bracket. Disconnect fresh/recirculated air selector cable and joint duct. Remove blower assembly. To install, reverse removal procedure. Adjust air selector cable. See ADJUSTMENTS.

WIRING DIAGRAMS

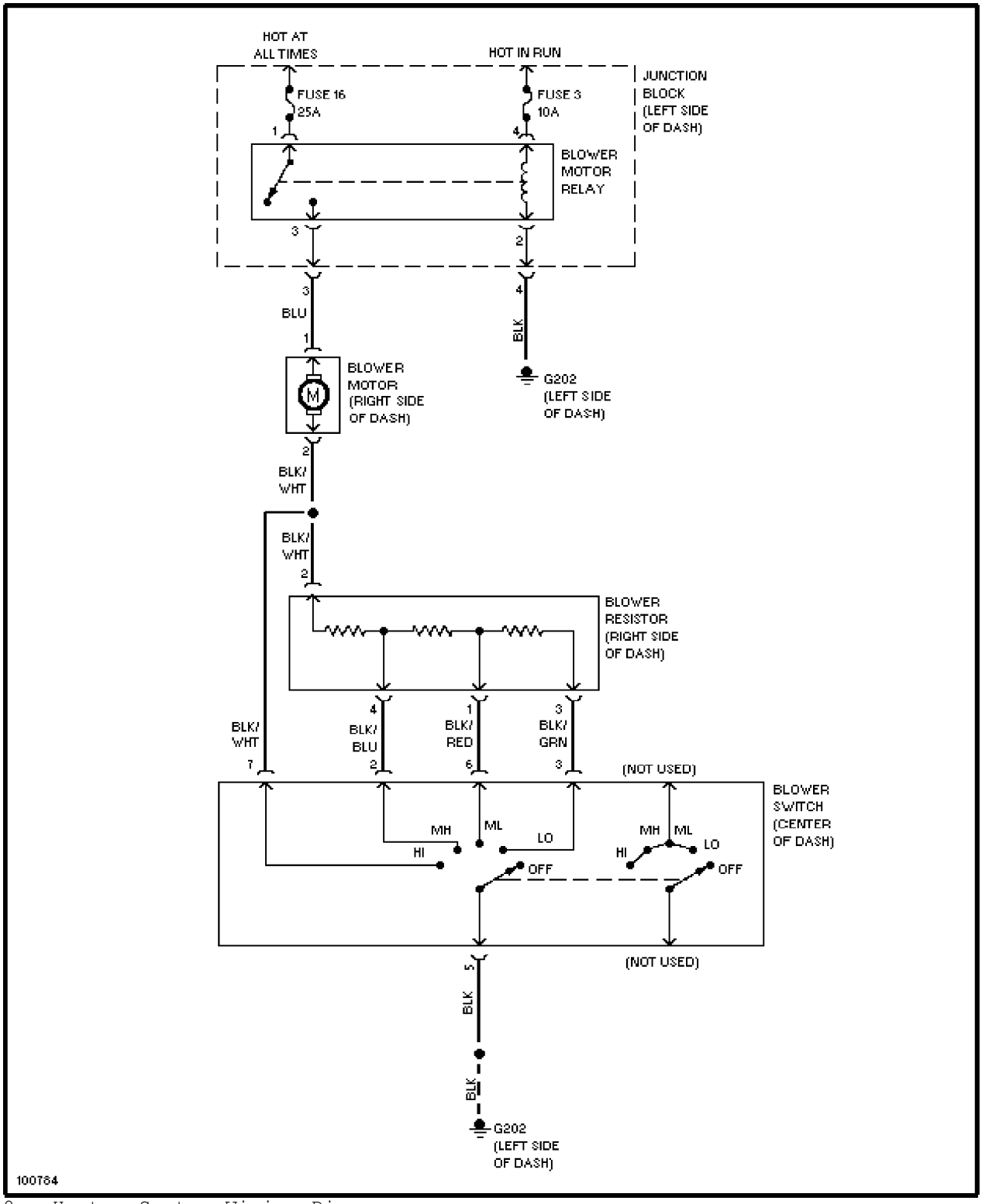


Fig. 10: Heater System Wiring Diagram