

HEATER SYSTEM

1998 Mitsubishi Galant

1998 AIR CONDITIONING & HEAT
Mitsubishi - Heater System

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.

DESCRIPTION

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

OPERATION

Air selector control regulates airflow source (fresh or recirculated). Temperature control opens and closes blend air damper, which determines heat output. Mode selector lever directs airflow to appropriate outlet based on selection.

FRESH/RECIRCULATED AIR SELECTOR CONTROL

A fresh/recirculated air control switch and damper motor are used for fresh or recirculated air selection. See Fig. 2. With control switch at fresh air setting, outside air is allowed to enter and pass through heater core.

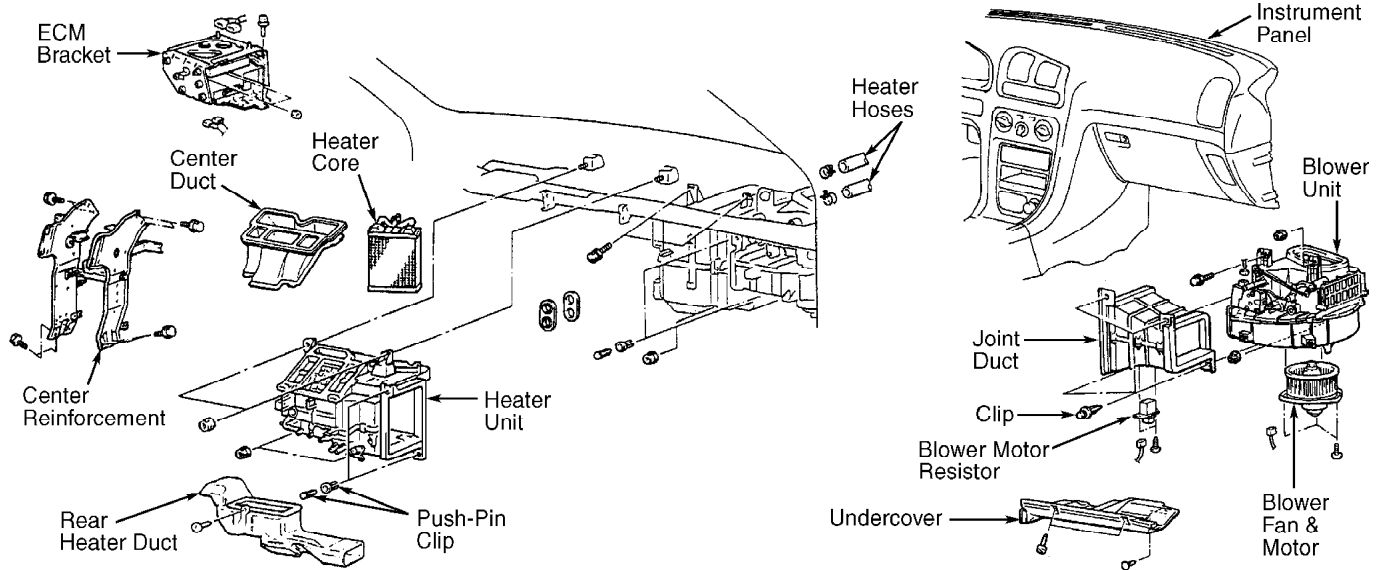
With control switch at recirculated air setting, air is recirculated inside passenger compartment. Vehicle uses a fresh/recirculated air control switch and damper motor for fresh or recirculated air selection. Recirculation position is used to achieve maximum heating.

BLOWER SWITCH

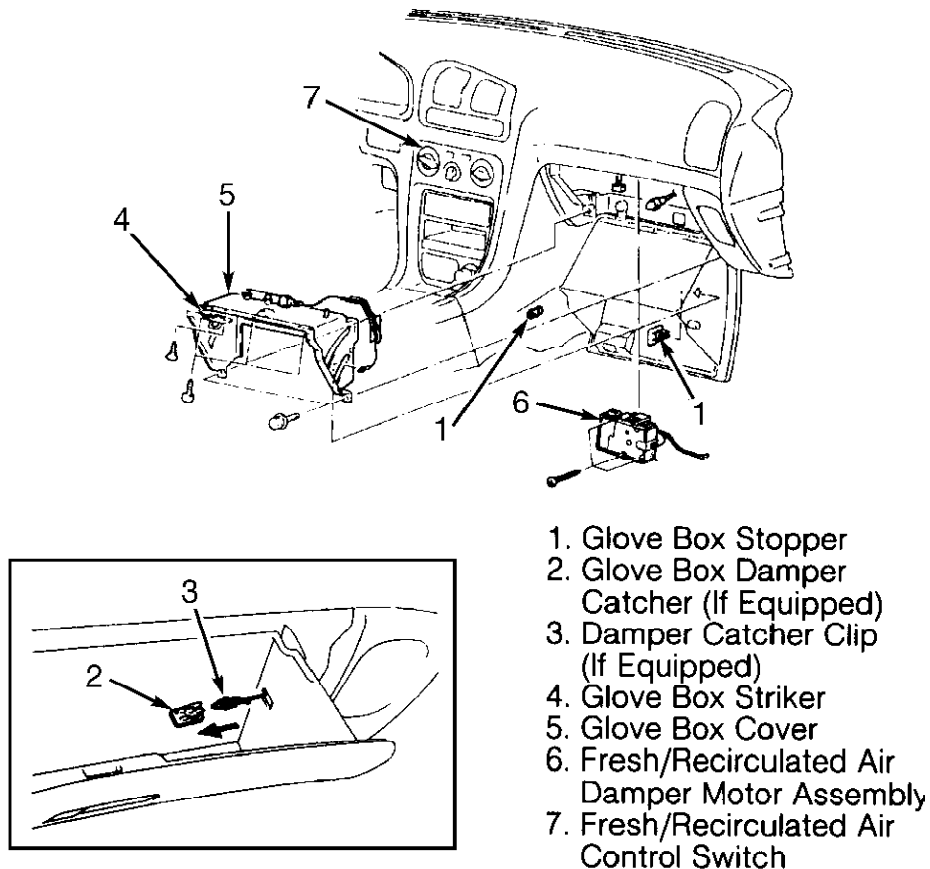
Blower switch controls 4 fan speeds to regulate amount of airflow. Fan speed increases as switch is turned clockwise. When blower switch is turned off, all functions stop.

MODE SELECTOR KNOB

Depending on position selected, air can be directed to both front and rear of passenger compartment. Airflow selection capabilities include individual areas or a combination of windshield (defrost), upper body, knee and/or foot area. Rear passenger air distribution is limited to foot area only.



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



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 Fig. 2: Fresh/Recirculated Air Control Switch & Damper Motor Assembly
 Courtesy of Mitsubishi Motor Sales of America.

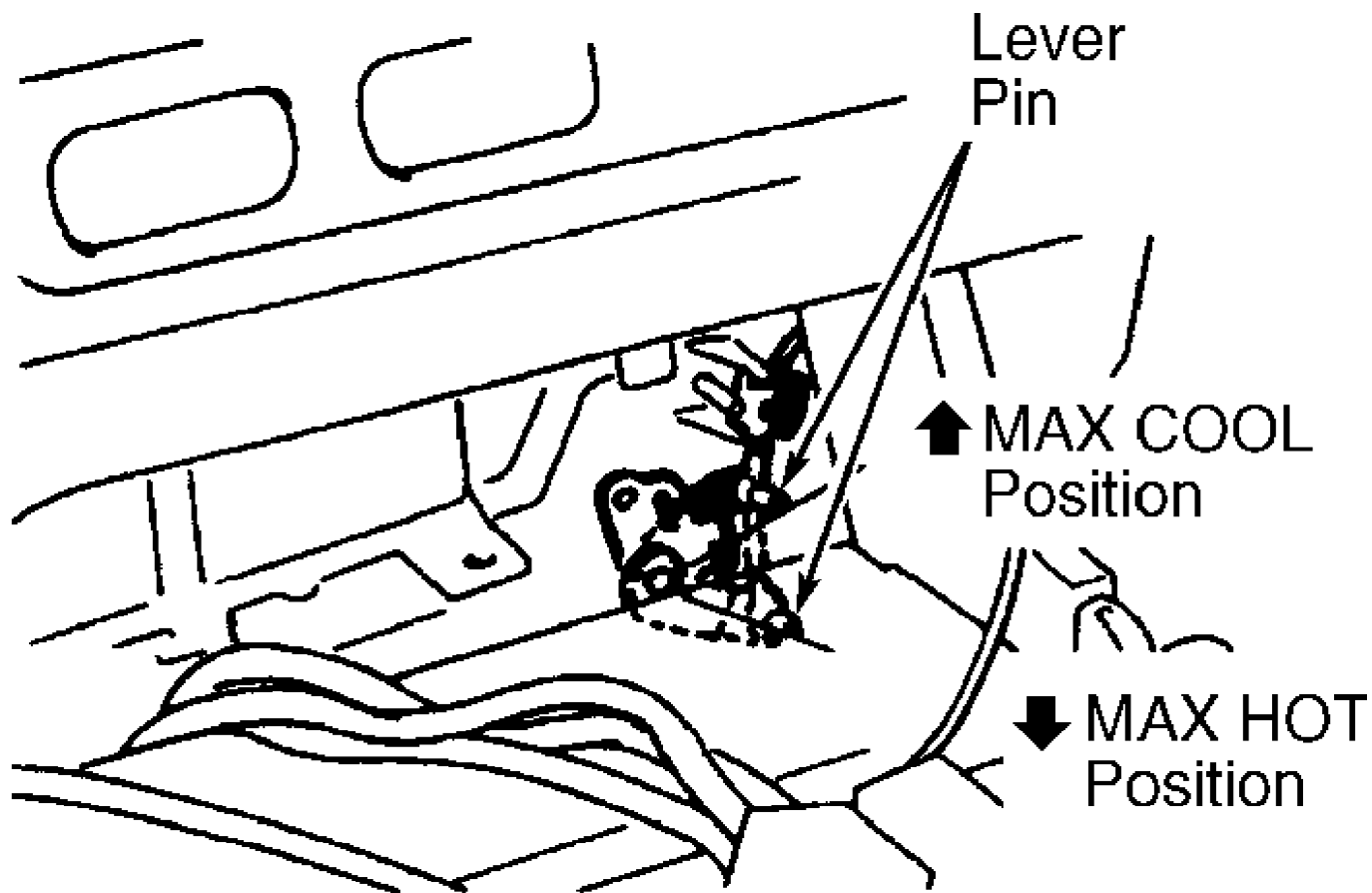
TEMPERATURE CONTROL KNOB

Temperature level is selected by turning control knob clockwise or counterclockwise. Highest heat setting is attained when control knob is turned fully clockwise. When temperature control knob is fully counterclockwise, ambient outside air temperature is available through vents.

ADJUSTMENTS

TEMPERATURE CONTROL CABLE

Turn temperature control knob counterclockwise to maximum cold setting. Place temperature control lever on bottom of heater unit to maximum cold setting. Install inner cable to lever pin. See Fig. 3. Push outer cable away from lever so there is no slack. Secure outer wire with clip.

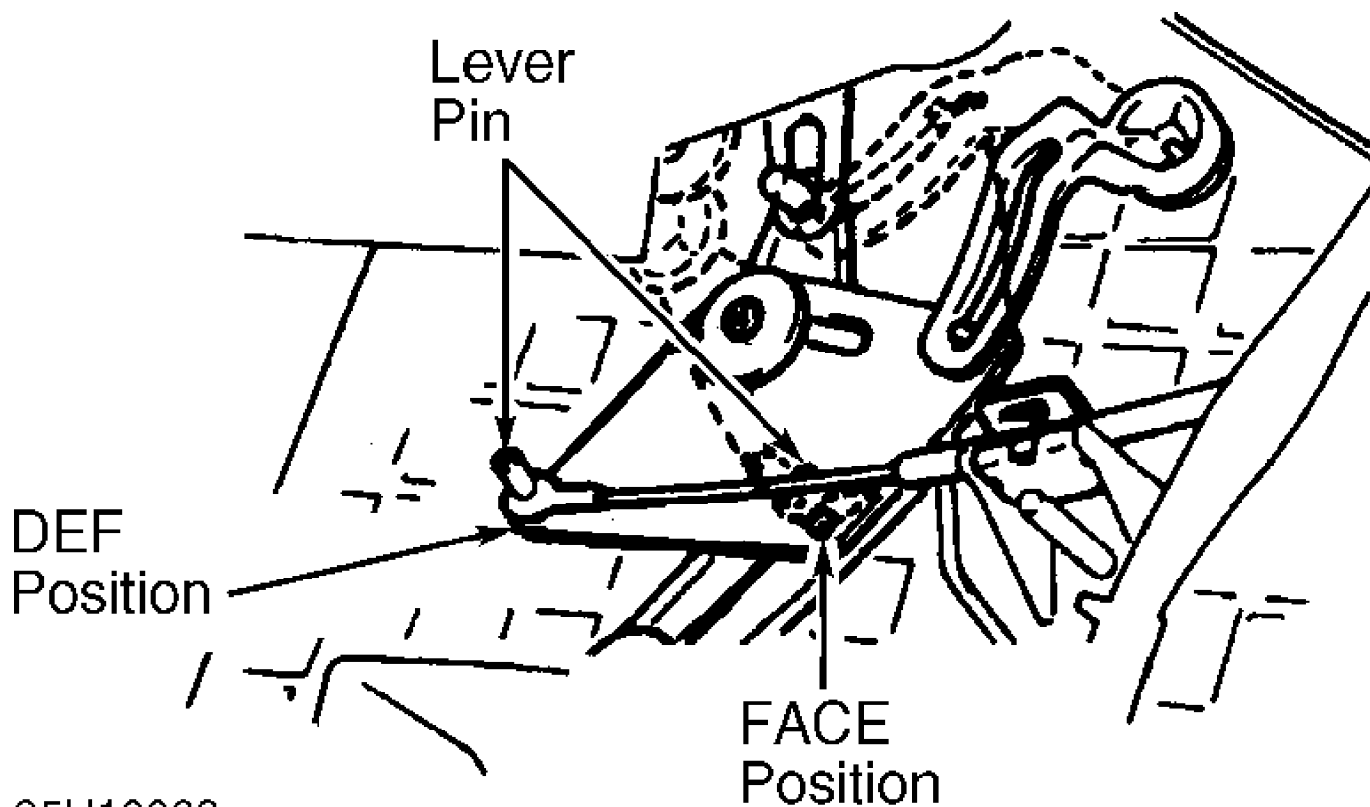


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Fig. 3: Adjusting Temperature Control Cable
Courtesy of Mitsubishi Motor Sales of America.

MODE SELECTOR CABLE

Place mode selector knob at defrost setting. Place damper lever to defrost position. See Fig. 4. Connect inner cable to damper lever pin. Push outer cable away from lever so there is no slack. Secure outer wire with clip.



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Fig. 4: Adjusting Mode Selector Cable
 Courtesy of Mitsubishi Motor Sales of America.

TROUBLE SHOOTING

BLOWER INOPERATIVE

Check for blown fuse, blower motor improperly grounded, defective blower motor switch, defective blower motor, faulty blower motor resistor, or faulty blower motor relay.

INSUFFICIENT HEAT

Check for obstructed heater outlets, bound or improperly adjusted blend-air dampers, faulty thermostat, obstructed heater hoses, improperly adjusted temperature control cable, or plugged heater core.

NO VENTILATION

Check for improper adjustment of mode selector dampers, incorrect installation of mode selector control cable, faulty duct connections, or crushed, bent or clogged ducts.

TESTING

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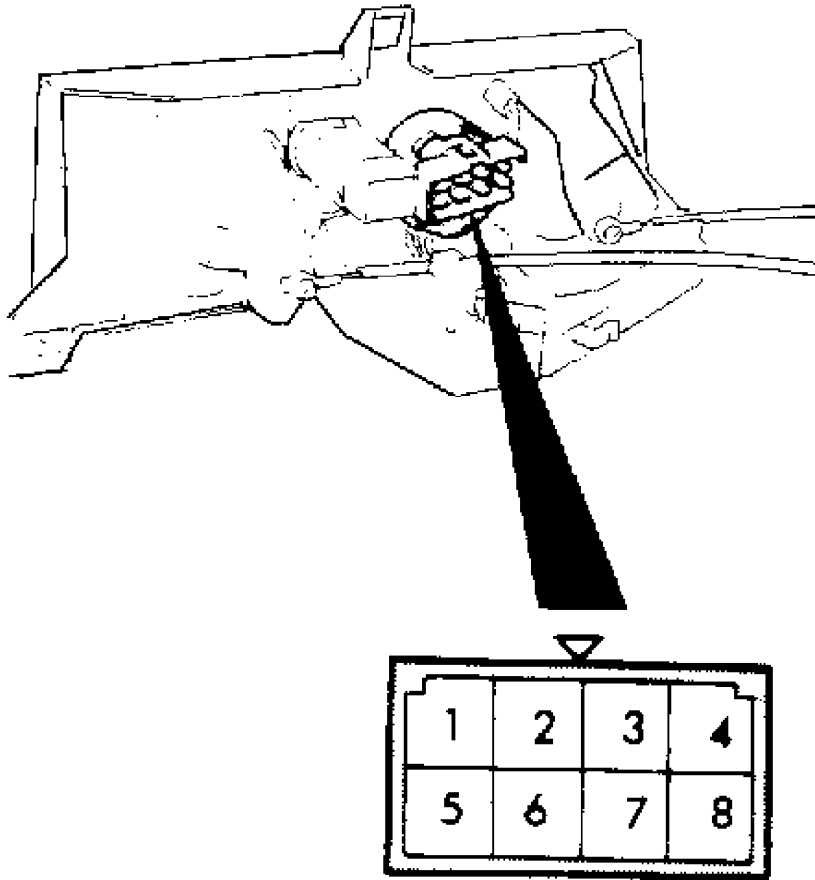
ACTIVATING AIR BAG SYSTEM procedures in AIR BAG RESTRAINT SYSTEM article.

BLOWER MOTOR SWITCH

Disconnect blower motor switch connector. Operate switch, check continuity between indicated terminals using ohmmeter. See BLOWER MOTOR SWITCH CONTINUITY table. See Fig. 5.

BLOWER MOTOR SWITCH CONTINUITY TABLE

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



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Fig. 5: Identifying Blower Motor Switch Connector Terminals
Courtesy of Mitsubishi Motor Sales of America.

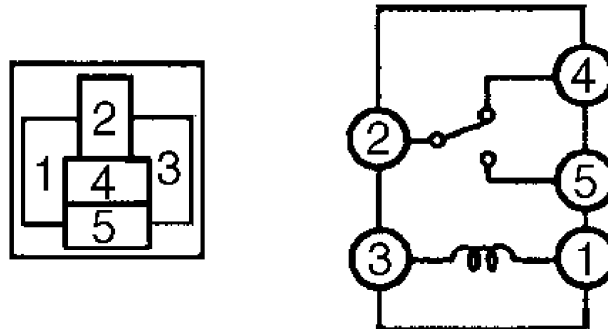
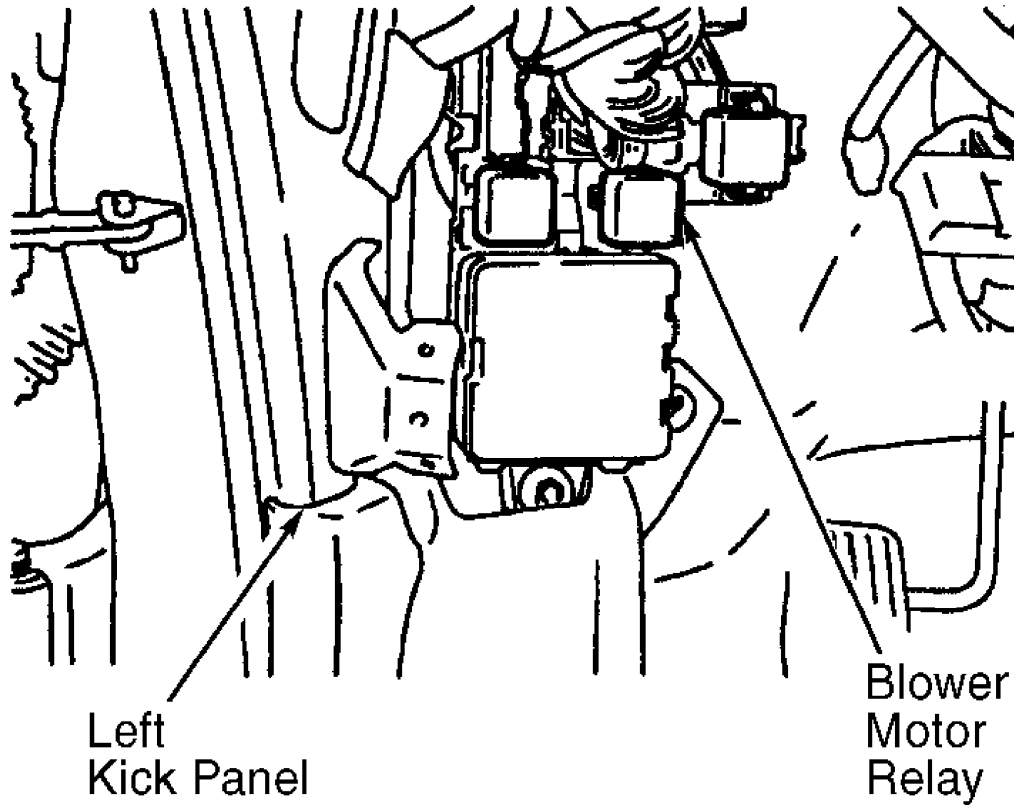
BLOWER MOTOR

Disconnect blower motor connector. Connect battery directly to blower motor terminals. Ensure blower motor operates smoothly and quietly. Replace blower motor if it does not function as specified.

BLOWER MOTOR RELAY

1) Remove blower motor relay from fuse/relay block. Using ohmmeter, check continuity between relay terminals No. 2 and 5. See Fig. 6. Continuity should not be present.

2) Check continuity between relay terminals No. 1 and 3. Continuity should be present. Connect battery voltage to relay terminals No. 1 and 3. See Fig. 6. Check continuity between relay terminals No. 2 and 5. Continuity should be present. If continuity is not as specified, replace blower motor relay.



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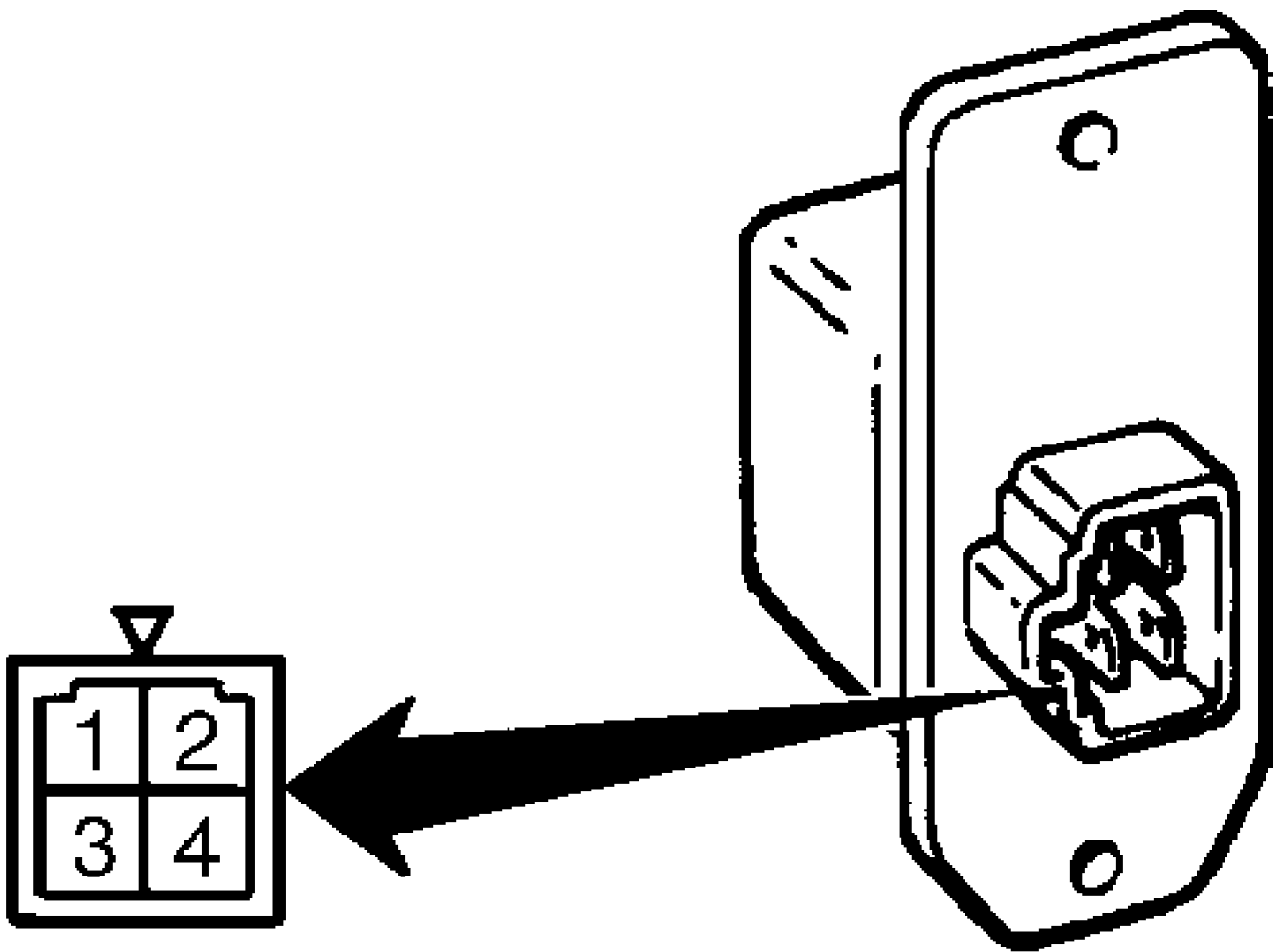
Fig. 6: Identifying Blower Relay Terminals
Courtesy of Mitsubishi Motor Sales of America.

BLOWER MOTOR RESISTOR

Disconnect resistor harness connector. See Fig. 7. Using ohmmeter, check resistance between indicated terminals. See BLOWER MOTOR RESISTOR RESISTANCE table. If resistance is not as specified, replace resistor.

BLOWER MOTOR RESISTOR RESISTANCE TABLE

Terminal No.	Ohms
2 & 3	2.30
3 & 4	1.10
1 & 3	0.40



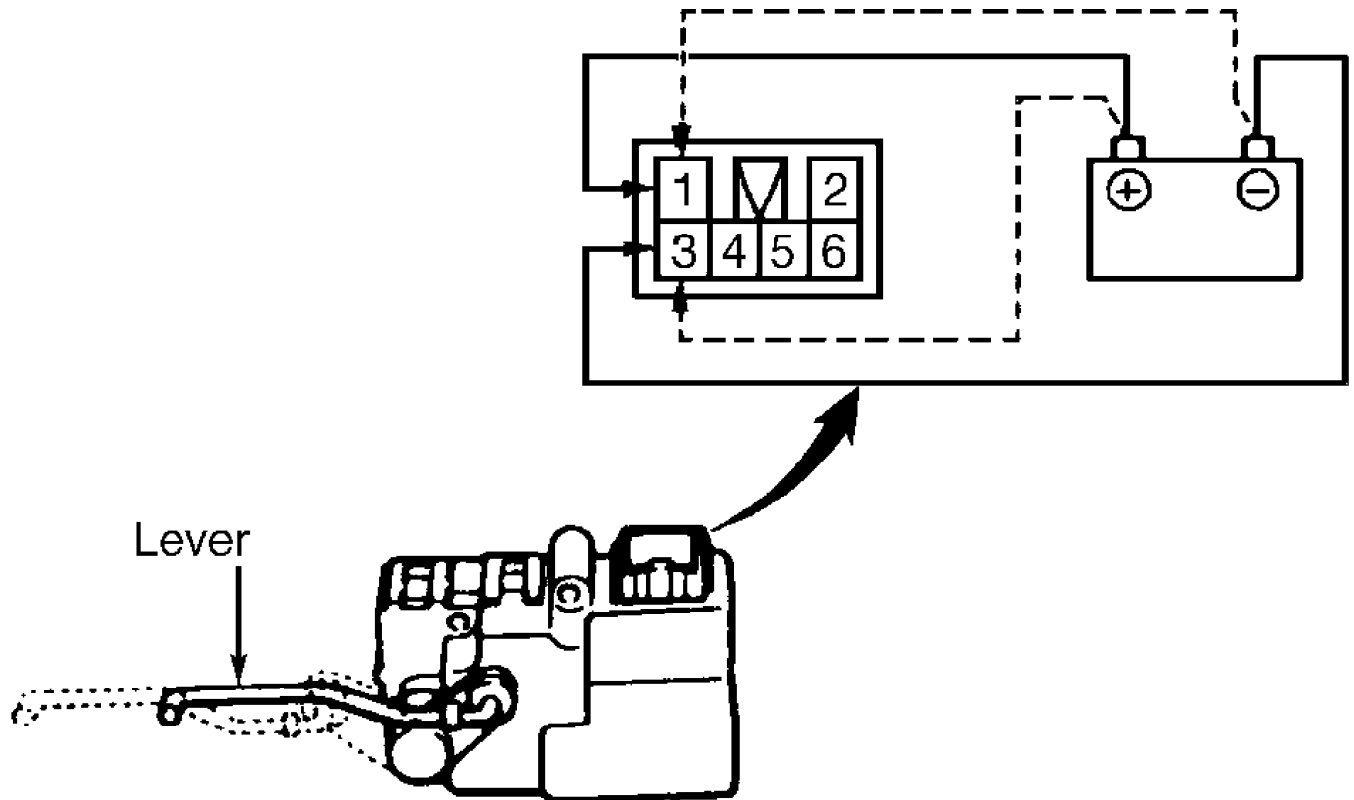
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Fig. 7: Locating Blower Resistor & Identifying Terminals
 Courtesy of Mitsubishi Motor Sales of America.

FRESH/RECIRCULATED AIR DAMPER MOTOR

Remove fresh/recirculated air damper motor located behind glove box. See Fig. 1. Check that fresh/recirculated air damper motor

moves in both directions when battery voltage is applied between terminals No. 1 and 3. See Fig. 8. When damper motor reaches fresh air or recirculated air position, remove battery voltage and reverse polarity. If damper motor does not move in both directions, replace fresh/recirculated air damper motor.



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Fig. 8: Testing Fresh/Recirculated Air Damper Motor
Courtesy of Mitsubishi Motor Sales of America.

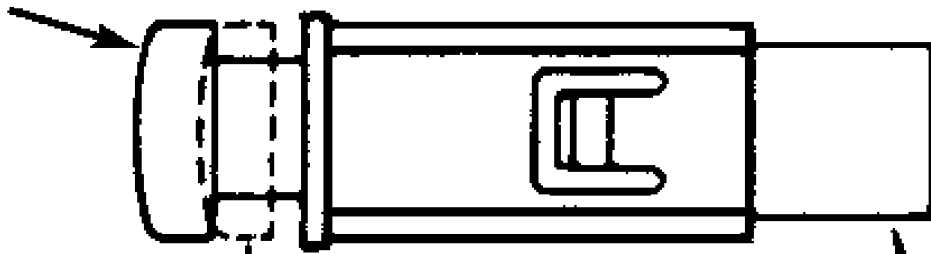
FRESH/RECIRCULATED AIR CONTROL SWITCH

Locate fresh/recirculated air control switch above blower motor switch. Remove switch and check continuity between specified terminals. See FRESH/RECIRCULATED AIR CONTROL SWITCH CONTINUITY table. See Fig. 9. If continuity is not as specified, replace switch.

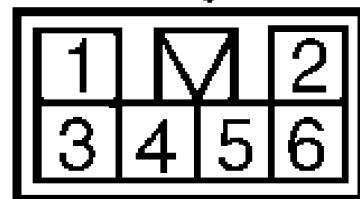
FRESH/RECIRCULATED AIR CONTROL SWITCH CONTINUITY TABLE

Switch Position	Terminal No.
Recirculated Air	2 & 6; 4 & 5
Fresh Air	2 & 5; 4 & 6

Recirculated Air
Position



Fresh Air
Position



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Fig. 9: Fresh/Recirculated Air Control Switch Testing
Courtesy of Mitsubishi Motor Sales of America.

REMOVAL & INSTALLATION

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HEATER UNIT & HEATER CORE

Removal

1) Disable air bag system. See AIR BAG RESTRAINT SYSTEM article. Drain coolant, and remove heater hoses. Remove shift knob (M/T). Remove shift lever panel and console box. Remove center console bezel. Remove console.

2) Remove steering column cover and instrument cluster bezel. Remove instrument cluster. Remove instrument panel switch and hood lock release handle. Remove foot duct and instrument cluster undercover. Remove lap cooler duct, left side cover, and right side undercover.

3) Remove glove box stopper. Remove glove box catcher and glove box damper (if equipped). See Fig. 1. Remove glove box, glove box striker, glove box cover, and corner panel. Remove upper and lower right side covers. Remove radio/tape player, box and cup holder.

4) Remove heater control cables from heater unit. Remove heater control panel mounting screws and boss at top of heater control

panel. Pull heater control panel forward and remove it. Remove right side air outlet. Disconnect cool air by-pass lever damper cable connection at heater unit.

5) Remove passenger-side air bag module. Remove steering column mounting bracket bolts and lower steering column. Disconnect instrument cluster harness connector. Remove instrument panel bolts. Disconnect electrical connections. Remove instrument panel.

6) Remove center ventilation duct. Remove center reinforcement. Remove foot distribution air duct. Remove Engine Control Module (ECM) bracket. Remove heater unit mounting nuts and push-pin clip. Remove heater unit. Remove heater core cover plate. Remove heater core from heater unit.

Installation

Carefully insert heater core into heater unit to prevent damaging core fin or pad. Install heater core cover plate. Install heater unit. To complete installation, reverse removal procedure. Fill and bleed cooling system.

HEATER CONTROL PANEL

Removal

Remove shift knob (M/T). Remove shift lever boot and center console panel. Remove hood release and instrument panel undercover. Remove foot duct and lap cooler ducts. See Fig. 1. Remove heater control panel.

Installation

To install, reverse removal procedure. Adjust cables as necessary. See ADJUSTMENTS.

BLOWER MOTOR

Removal & Installation

Remove glove box undercover. See Fig. 1. Remove blower motor and fan assembly. To install, reverse removal procedure.

TORQUE SPECIFICATIONS

TORQUE SPECIFICATIONS TABLE

Application	Ft. Lbs. (N.m)
Steering Wheel Nut	30 (41)
	INCH Lbs. (N.m)
Driver-Side Air Bag Module	80 (9)
Passenger-Side Air Bag Module	48 (5.4)

WIRING DIAGRAMS

