HVAC

Heating and Ventilation

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Description and Operation

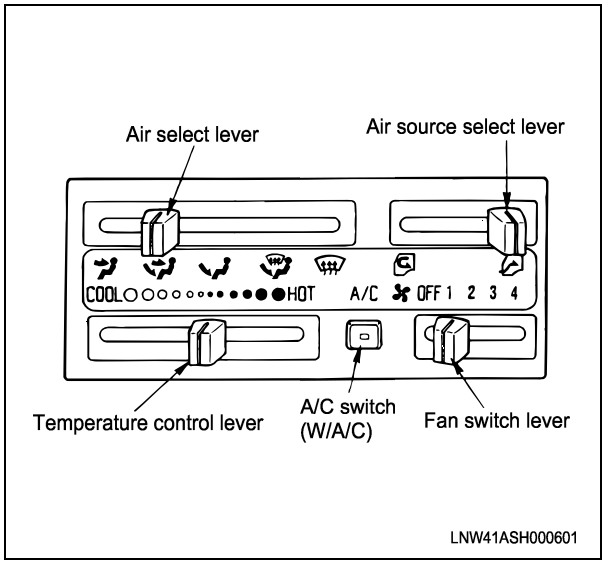
Heater System Description

Notice:
When fasteners are removed, always reinstall them at the same location from which they were removed. If a fastener needs to be replaced, use the correct part number fastener for that a application. If the correct part number fastener is not available, a fastener of equal size and strength (or stronger) may be used. Fasteners that are not reused, and those requiring thread locking compound will be called out. The correct torque value must used when installing fasteners that require it. If the above conditions are not followed, parts or system damage could result.

When the engine is warming up, the warmed engine coolant is sent out into the heater core. The heater system supplies warm air into the passenger compartment to warm it up.
Outside air is circulated through the heater core of the heater unit and then back into the passenger compartment. By controlling the mixture of outside air and heater core air, the most comfortable passenger compartment temperature can be selected and maintained.
The temperature of warm air sent to the passenger compartment is controlled by the temperature control lever. This lever acts to open and close the air mix door, thus controlling the amount of air passed through the heater core.
The air select lever, with its different modes, also allows you to select and maintain the most comfortable passenger compartment temperature.
The air source select lever is used to select either “Fresh” for the introduction of the outside air, or “Circ” for the circulation of the inside air. When the lever is set to “Fresh”, the outside air is always taken into the passenger compartment.
When setting the lever to “Circ” position, the circulation of air is restricted only to the inside air with no introduction of the outside air and the air in the passenger compartment gets warm quickly. However, the lever is normally set to “Fresh” to prevent the windshield from fogging.

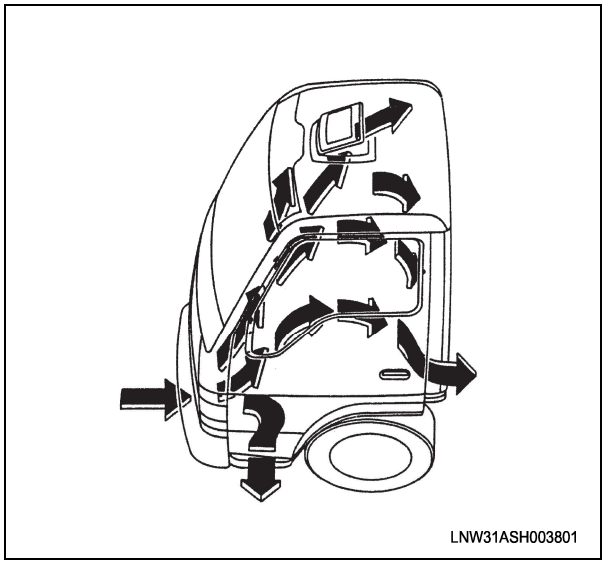
Control Lever Assembly Description

The vehicle has cable-control-type to control by cable the mode and temperature of the heater unit and the mode door for the air source of the blower assembly. The fan control is used to control the amount of air sent out at four levels from “Low” to “High”, by a resistor.



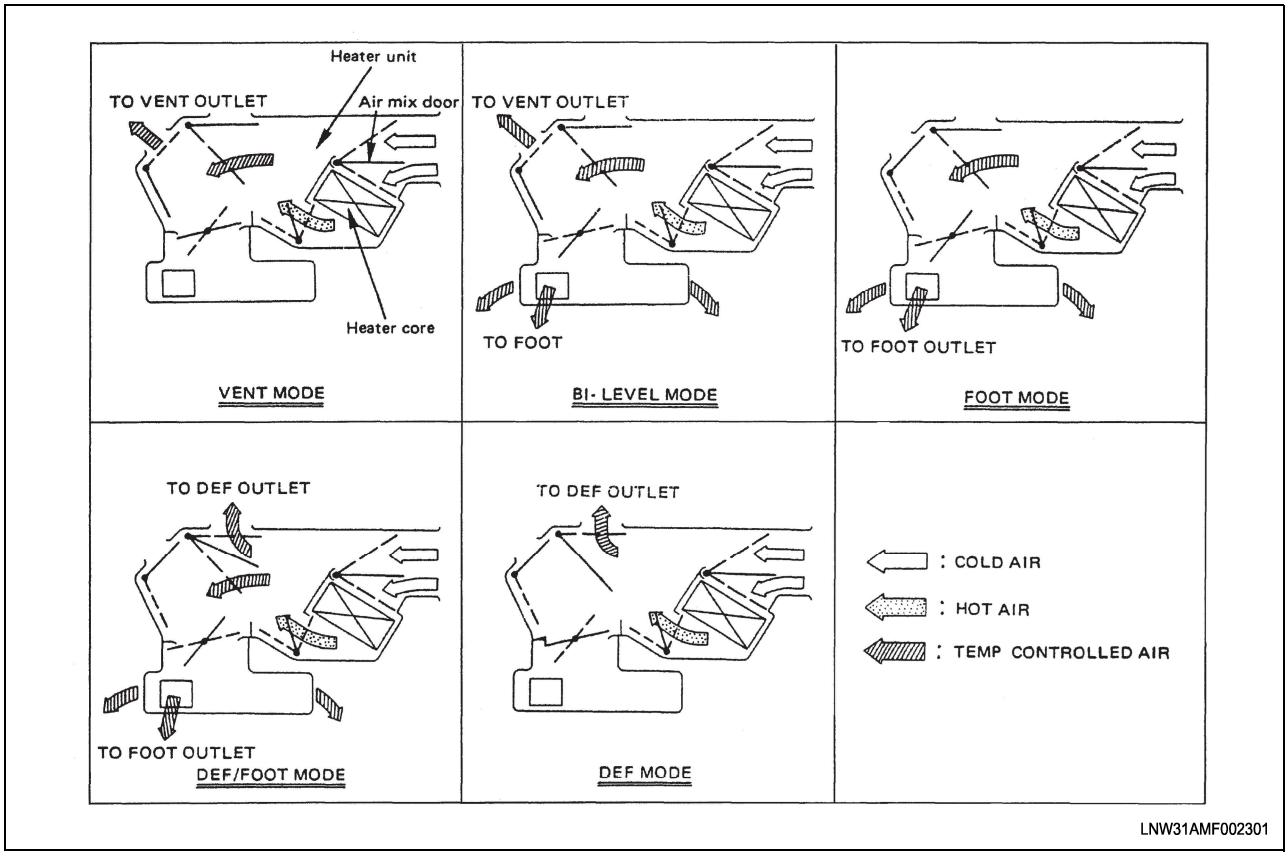
Ventilation System Description

Set “Air Source Select Lever” to “Fresh” position and turn on the blower fan. Heating can be done in this lever position, sending in fresh air from outside.
The blower fan also serves to deliver fresh outside air to the vehicle interior to assure adequate ventilation.



Air Select lever Description

The air selector lever allows you to direct heated air into the passenger compartment through different outlets.



- **Vent**
  In this position, air is discharged from the upper air outlet. Air quantity is controlled by the fan control knob.
- **Bi - Level**
  In this position, air flow is divided between the upper air outlets and the foot air outlets, with warmer air delivered to the floor outlets than the air delivered to the upper air outlets.
- **Foot**
  In this position, air flow is delivered to the foot only.
- **Def / Foot**
  In this position, air flow is divided to the foot air outlet, while sending approx. 30% of total amount of air to the windshield.
- **Defrost**
  In this position, most of the air is delivered to the windshield and a small amount is delivered to the side windows.

Air Source Select Lever Description

The intake of outside air and the circulation of inside air are controlled by sliding this lever left or right. Moving the air source select lever to the “Circ” position provides the quickest temperature change by closing off outside air. In this position, outside air is not delivered to the passenger compartment.

Fan Switch Description

This lever controls the blower motor speed to regulate the amount of air delivered to the defrost, foot, and ventilation ducts:

- Low
- Medium Low
- Medium High
- High

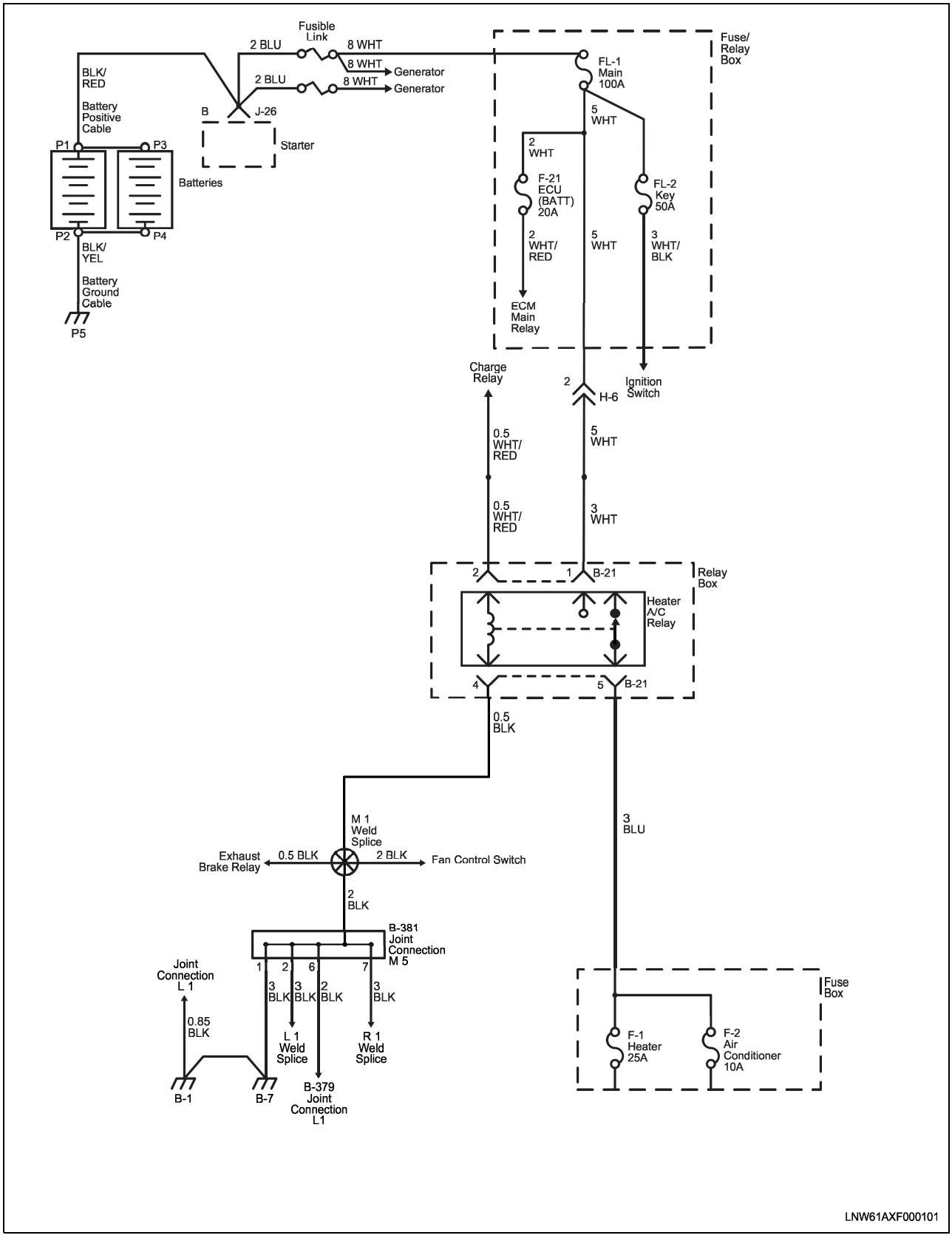
Temperature Control Lever Description

When the temperature control lever is in the “COLD” position, the air mix door closes to block the flow of air through heater core.
When the temperature control lever is in the “HOT” position, the air mix door opens to allow air to pass through the heater core and heat the passenger compartment.
Placing the lever in an intermediate position will cause a lesser or greater amount of air to reach the heater core. In this mode the passenger compartment temperature can be regulated.

Schematic and Routing Diagrams

Fan Switch Schematic Diagrams

Current flows to the blower motor through the Heater and A/C relay B-21 to activate the rotation of the blower motor by turning ON the fan control lever.
Blower motor speed is controlled in stages by the blower resistor, by operating the switch from Low to High.


Fusible Link
2 BLU
8 WHT
8 WHT
Generator
2 BLU
8 WHT
Generator
BLK/ RED
Battery Positive Cable
B
J-26
Starter
P1
P3
Batteries
P2
P4
BLK/ YEL
Battery Ground Cable
P5
Fuse/ Relay Box
FL-1 Main 100A
5 WHT
2 WHT
F-21 ECU (BATT) 20A
FL-2 Key 50A
2 WHT/ RED
5 WHT
3 WHT/ BLK
ECM Main Relay
Charge Relay
2
H-6
Ignition Switch
0.5 WHT/ RED
5 WHT
0.5 WHT/ RED
3 WHT
2
1
B-21
Relay Box
Heater A/C Relay
4
5
B-21
0.5 BLK
3 BLU
M 1 Weld Splice
Exhaust Brake Relay
0.5 BLK
2 BLK
Fan Control Switch
2 BLK
B-381 Joint Connection M 5
1
2
6
7
Joint Connection L 1
3 BLK
3 BLK
2 BLK
3 BLK
0.85 BLK
L 1 Weld Splice
R 1 Weld Splice
B-1
B-7
B-379 Joint Connection L1
Fuse Box
F-1 Heater 25A
F-2 Air Conditioner 10A
LNW61AXF000101