## Control Components

The Electronic Manual Temperature Control (EMTC) system control components are used to select:

- air inlet source (outside or recirculated).
- blower motor speed.
- discharge air temperature (temperature blend).
- discharge air location (defrost, panel, floor).
- A/C compressor operation.

### Climate Control System Inputs

#### HVAC Module

The HVAC module integrates the temperature control, airflow mode selection, A/C request button, recirculated air request button and rear defog switch into a single unit.

The temperature control switch setting determines air temperature. Movement of the temperature display from COOL (blue) to WARM (red) causes a corresponding movement of the temperature blend door and determines the air discharge temperature that the air distribution system will maintain. The temperature control switch is an integral part of the HVAC module and cannot be installed separately.

The A/C request button determines A/C compressor operation, except when the function selector is in the OFF, MAX or DEFROST mode. The A/C request button is an integral part of the HVAC module and cannot be installed separately.

The recirculated air request button can select recirculated air in any mode except DEFROST, and fresh air in any mode except MAX A/C or OFF.

The rear defog button signals activation of the heated backlight. The rear defog button is an integral part of the HVAC module and cannot be installed separately.

The HVAC module is not equipped with self-test capabilities.

#### Blower Motor Switch

The blower motor switch controls blower motor speed (by adding or bypassing resistors in the blower motor resistor) in all modes except OFF. The blower motor switch is mounted to the HVAC module and can be installed separately.

### Climate Control System Outputs

#### Blower Motor Resistor

The blower motor resistor adjusts the blower motor speed based on the blower motor switch setting. The blower motor resistor contains 3 resistor coils in series. The end of each resistor coil is wired to a setting in the blower motor switch. Voltage is available at the blower motor at all times when the ignition is in the RUN position and the function selector is not OFF. The ground side of the circuit then continues to the blower motor resistor. The blower motor switch will allow a path to ground with the addition of 1, 2 or 3 coils in the blower motor resistor to the circuit. When the blower motor switch is in the HI position, the blower motor resistor is bypassed.

#### Mode Door Actuators

The 3 airflow mode door actuators move the airflow mode doors on command from the HVAC module.

The panel/floor door and defrost door mode door actuators each contain a reversible electric motor and a potentiometer. The HVAC module applies a 5-volt signal to one end of the potentiometer and ground to the other. The potentiometer wiper is connected to the actuator output shaft and moves with the output shaft. The voltage available at the wiper indicates the position of the airflow mode door. The actuator wiper voltage is sent to the HVAC module which drives the actuator motor in whichever direction is necessary to make the actuator wiper voltage agree with the expected HVAC module wiper voltage value.

The air inlet mode door actuator is a reversible electric motor which moves the air inlet door between the outside and recirculated air inlets on command from the HVAC module. When RECIRC is requested, the air inlet mode door actuator moves to the RECIRC position, allowing only recirculated air inlet. When FRESH air inlet is requested, the air inlet mode door actuator moves to the FRESH air inlet position, allowing only outside air inlet.

**Temperature Blend Door Actuator**

The temperature blend door actuator moves the temperature blend door on command from the HVAC module.

The temperature blend door actuator contains a reversible electric motor and a potentiometer. The HVAC module applies a 5-volt signal to one end of the potentiometer and ground to the other. The potentiometer wiper is connected to the actuator output shaft and moves with the output shaft. The voltage available at the wiper indicates the position of the temperature blend door. The actuator wiper voltage is sent to the HVAC module which drives the actuator motor in whichever direction is necessary to make the actuator wiper voltage agree with the expected HVAC module wiper voltage value.

The temperature blend door actuator is located on the heater core and evaporator core housing.