

DESCRIPTION AND OPERATION > CLIMATE CONTROL SYSTEM - VEHICLES WITH: ELECTRONIC MANUAL TEMPERATURE CONTROL (EMTC) - SYSTEM OPERATION AND COMPONENT DESCRIPTION > A/C REQUEST

When an A/C request is received by the PCM, the PCM engages the A/C clutch relay when all of the following conditions are met:

- The PCM does not detect excessively high or low refrigerant pressure from the A/C pressure transducer.
- The PCM does not detect an ambient air temperature below approximately 32.0 °F (°C).
- The PCM does not detect temperatures from the Mass Airflow/Intake Air Temperature sensor that does not correlate with other temperature sensor readings at ignition ON. (Most Mass Airflow (MAF) sensors have an integrated Intake Air Temperature (IAT) sensor).
- The PCM does not receive a message from the FCIM detecting an evaporator temperature below approximately 33.8 °F (1 °C).

The PCM monitors multiple temperature sensors correlation (AAT, CHT, ECT IAT, MAF...). The PCM runs this logic after an engine off and a calibrated soak period, typically 6 to 8 hours. This soak period allows the Ambient Air Temperature (AAT) sensor and the other temperature sensors to stabilize and not differ by greater than a calibrated value, typically 18 °C (32.4 °F). If a sensor input is found to be reporting a temperature imbalance the PCM does not allow the A/C clutch to engage. For more information on PCM sensors, Refer to ENGINE CONTROLS - INTRODUCTION (EXCEPT DIESEL & HYBRID) .

The PCM monitors the discharge pressure measured by the A/C pressure transducer. The PCM interrupts A/C compressor operation in the event the A/C pressure transducer indicates high system discharge pressures. It is also used to sense low charge conditions. If the pressure is below a predetermined value for a given ambient temperature, the PCM does not allow the A/C clutch to engage.

The FCIM may adjust the air inlet door depending on the humidity measured by the in-vehicle temperature and humidity sensor.

The sunload sensor supplies information to the FCIM indicating the intensity of the sun on the vehicle. The FCIM adjusts the system based on the intensity.

DESCRIPTION AND OPERATION > CLIMATE CONTROL SYSTEM - VEHICLES WITH: ELECTRONIC MANUAL TEMPERATURE CONTROL (EMTC) - SYSTEM OPERATION AND COMPONENT DESCRIPTION > HEATING AND VENTILATION

The heating and ventilation system:

- controls the temperature of the air inside the vehicle.
- reduces the relative humidity of the air inside the vehicle (during A/C compressor operation).
- delivers heated or cooled air to maintain the vehicle interior temperature and comfort level.

The heating and ventilation system uses a reheat method to provide conditioned air to the passenger compartment. Temperature blending is controlled by the temperature door, which regulates the amount of air that flows through and around the heater core, where it is then mixed and distributed. All airflow from