

NOTE: The programmer must be connected electrically (under load) to the controller when testing the programmer for abnormal power levels.

Vacuum Solenoids

Both the OSA/RECIRC (L1) and DEF/AC (L2) vacuum solenoids are energized when the driver signals from the Controller [inputted at pins N (OSA/RECIRC) and P (DEF/AC)] are pulled below 1.25 volts.

When the input driver signal at pin T (AIR-BI LEVEL-HTR) is greater than 4 volts DC, Heater solenoid (L3) is enabled and AIR solenoid (L1) is not energized. Whereas, both solenoids (Heater-L4 and Air-L2) are "OFF" (not energized) when the input signal is 2.25V.

At input signals of less than 1.25 volts, Heater solenoid (L4) is OFF; while AIR solenoid (L1) is energized.

Temperature Door Actuator

Temperature valve linkage to the actuator consists of a plastic crank arm pressed over the DC motor's output shaft. A threaded-adjustable link rod is snapped into the retainer on the crank arm (Figure 1B1-2). The reversible DC motor, inside the programmer's plastic case, actuates its rotary shaft to drive the link rod for positioning the (temp) valve opening.

NOTE: To function properly the vacuum solenoids in the programmer must be mounted in the position as shown (Figure 1B1-2).

TEMPERATURE SENSORS

Automatic control of operator-selected (HVAC) in-car temperature levels depends in large part on two temperature sensors, an in-car sensor and an Outside Air (OSA) sensor. Both sensors are temperature sensitive resistors called "thermistors". Each sensor develops a low current signal which is directly proportional to actual (OSA and In-Car) temperature readings. This temperature information is used by the controller's MPU to derive command signals sent to the ECC system's programmer.

In-Car Sensor

The In-Car sensor is located in the bow asm-roof center.

Due to its design, a low current signal signifying actual in-car temperature is generated. This signal is fed back to the control head, which in turn will control the blower speed and temperature door to acquire the desired temperature. Refer to Section 8A, Electrical Schematics.

Outside Air (Ambient) Sensor

The OSA is mounted on the center bracket below the upper radiator support bracket near the bottom of the A/C Condenser in front of the radiator. Its electrical harness is routed along the lower support tie-bar to the OSA harness connector on the left front bulkhead (Figure 1B1-5).