

SECTION C

49000 HEATER—AIR CONDITIONER SYSTEM

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DIVISION I SPECIFICATIONS AND ADJUSTMENTS

13-71 SPECIFICATIONS

a. Tightening Specifications

Part	Location	Torque Lb. Ft.
Nut	Drive Plate Nut to Compressor Shaft	14-16
Nut	Compressor Rear Head to Shell	19-23
Cap	Schrader Service Valve	4-5

For compressor mounting bracket bolts see Figure 13-136

Metal Tube Outside Diameter	Thread and Fitting Size	Steel Tubing Torque Lb. Ft.	Aluminum or Copper Tubing Torque Lb. Ft.	Nominal Torque Wrench Span
1/4	7/16	10-15	5-7	5/8
3/8	5/8	30-35	11-13	3/4
1/2	3/4	30-35	11-13	7/8
5/8	7/8	30-35	18-21	1-1/16
3/4	1-1/16	30-35	23-28	1-1/4

If a connection is made with steel to aluminum or copper, use torques for aluminum. In other words, use the lower torque specification.

Use steel torques only when both ends of connection are steel.

Figure 13-126—Pipe and Hose Connection Torque Chart

b. Compressor Specifications

Type	Six Cylinder Axial
Make	Frigidaire
Displacement - (cu. in.)	12.6
Oil	Frigidaire 525 Viscosity
Oil Content (New)10-1/2 oz. Fluid
Air Gap Between Clutch Drive Plate and Pulley022" to .057"
Clutch Type	Magnetic
Belt Tension	110 lbs.

c. General Specifications

Type of Refrigerant	Freon 12, Ucon 12, Genetron 12, Isotron 12
Refrigerant Capacity (Fully Charged)425 lbs.
Type of Thermostat	180°
Capacity of Cooling System with Air Conditioner	18.2 Qts.

13-72 ADJUSTMENT OF TEMPERATURE CONTROL CABLE AND TEMPERATURE DOOR

2. Adjust nut to provide 1/8" to 3/16" lever spring-back from the full cold or left position.

No provisions are made for the adjustment of the defroster control wire.

a. Temperature Control Cable Adjustment

1. The temperature control wire adjusting nut may be reached from under the instrument panel in the area between the steering column and the parking brake bracket. See Figure 13-127.

b. Temperature Door Adjustment

The temperature door upper pivot plate has slotted holes that appear to be adjustment points, but no attempt should be made to adjust this plate in the field. It is a factory pre-set unit and should operate properly.

**DIVISION II
DESCRIPTION
AND OPERATION**

13-73 GENERAL DESCRIPTION OF SYSTEM

The 49000 Series heater-air conditioner system is of the series type with all incoming air flowing

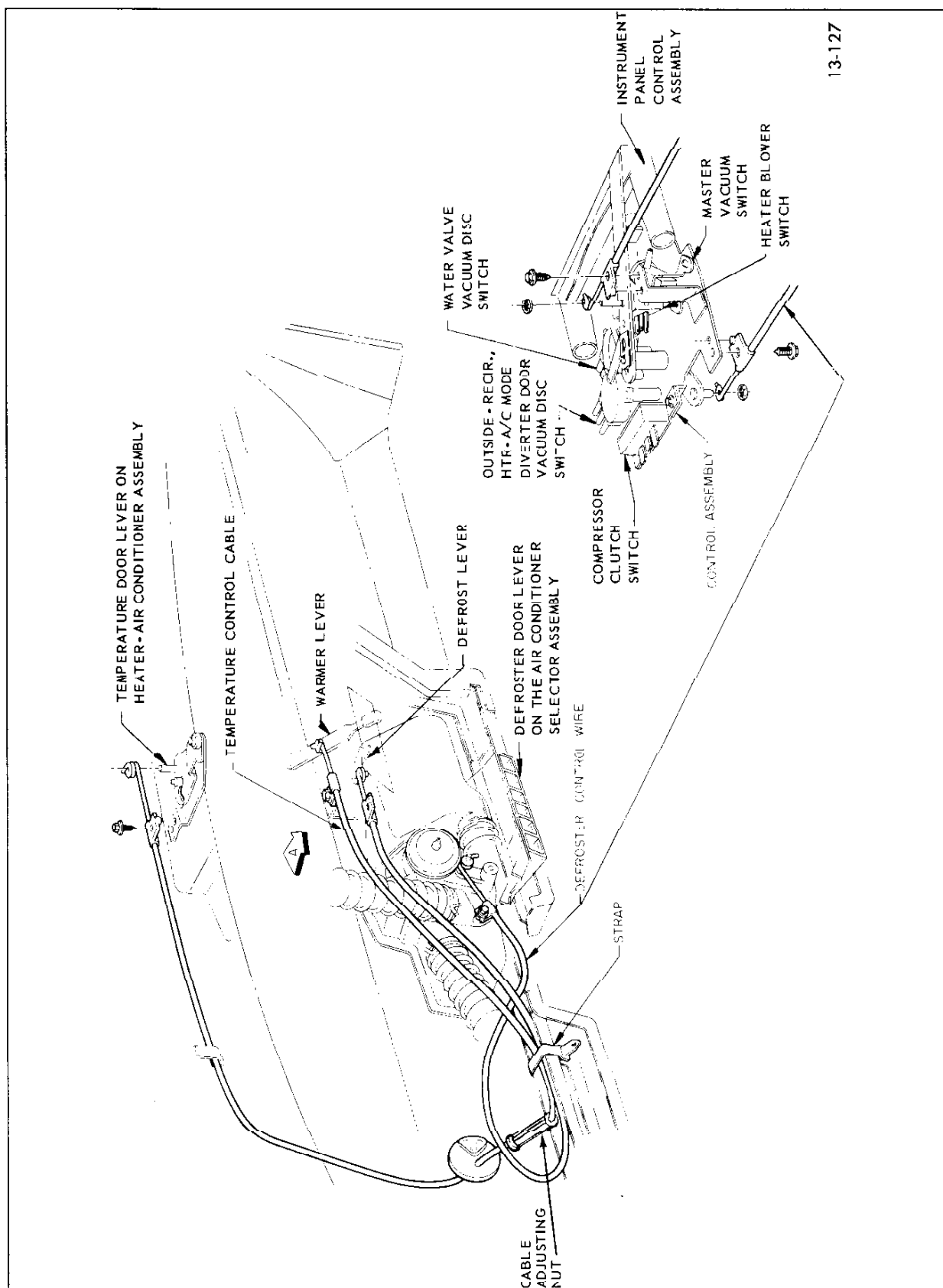


Figure 13-127—Control Cable Installation

from blower, through the evaporator core and then, depending on temperature door position, either through or around the heater core. This type of system allows full air conditioner operation (temperature door closed or "off") plus air conditioner temperature control (temperature door partially open; this position also provides dehumidification to de-fog the inside of the windows during relatively cool damp weather) plus heater only operation (selector lever in heater position).

Provisions are also made for operation of air conditioner unit on "Recirculate" when maximum cooling is needed. This position allows the outside-recirculated air to assume a partially open position to provide approximately 25% outside air and 75% recirculated air to the system. Any climate control selector position other than "RECIR" furnishes 100% outside air to the system. The removal of stale air, smoke, etc. from inside the car is accomplished by the use of an air pressure valve located at the rear of parcel shelf. This is a flapper-type of valve which allows air to exhaust at the rear anytime it is admitted through the vent, heater, or air conditioner systems and provides a continuous change of the air within the passenger compartment. When the climate control lever is in the VENT position, outside air is admitted to the system and discharged from the air conditioner outlets. The first blower switch position allows for ram air flow only, successive positions of the switch give low, medium and high blower speeds. This outside air may also be heated by moving the temperature lever from the OFF position.

13-74 DESCRIPTION OF AIR FLOW THRU SYSTEM

The following description of the route the air takes as it flows through the system under various

modes of operation is divided into three parts: (1) air flow during air conditioner operation, (2) heater and defroster operation, and (3) both air conditioner and heater operation.

a. Air Flow During Air Conditioner Operation

Figure 13-128 shows the door positions with switches and levers OFF or closed. During air conditioning RECIR, the controls are set as described in Figure 13-129 and the air doors are positioned as shown. Outside air enters the car through the air inlet grille and flows through the cowl plenum chamber, then down behind the right kick-pad. The outside air then flows past the Outside-Recirculated Air door which is only partially opened. See Figure 13-129. About 3/4 of the total air flow for the system is drawn from inside the car and also flows past the Outside-Recirculated Air door. The air then passes through the cold evaporator, flows past the diverter door (which is positioned to block most of air flow to the heater core) and through the heater core by-pass. The Heater-Air Conditioner door is pulled over to cause the air to be finally directed to the air conditioner plenum and outlets.

During air conditioning NORM mode of operation, the Outside-Recirculated Air door is drawn fully inboard to block off all recirculation of air from inside the passenger compartment and permit only outside air to enter the system. See Figure 13-130. The air flow from this point is identical to that during the RECIR operation. VENT position of the Climate Control does not change the method of air flow, but does release the compressor clutch to shut off the refrigerant system.

b. Air Flow During Heater Mode of Operation

During heater operation, the Climate Control lever is in HTR po-

sition. The Outside-Recirculated Air door remains fully open and only outside air flows through the system as shown in Figure 13-131. The air flows through the inactive evaporator core and is directed by the Diverter door (which is positioned to block most of the air flow from the heater core by-pass) through the heater core. Depending on the position of the Temperature door, the heated and unheated air mix and is finally directed by the Heater-Air Conditioner door to the Heater and/or defroster outlets.

c. Air Flow During Both Air Conditioner and Heater Operation

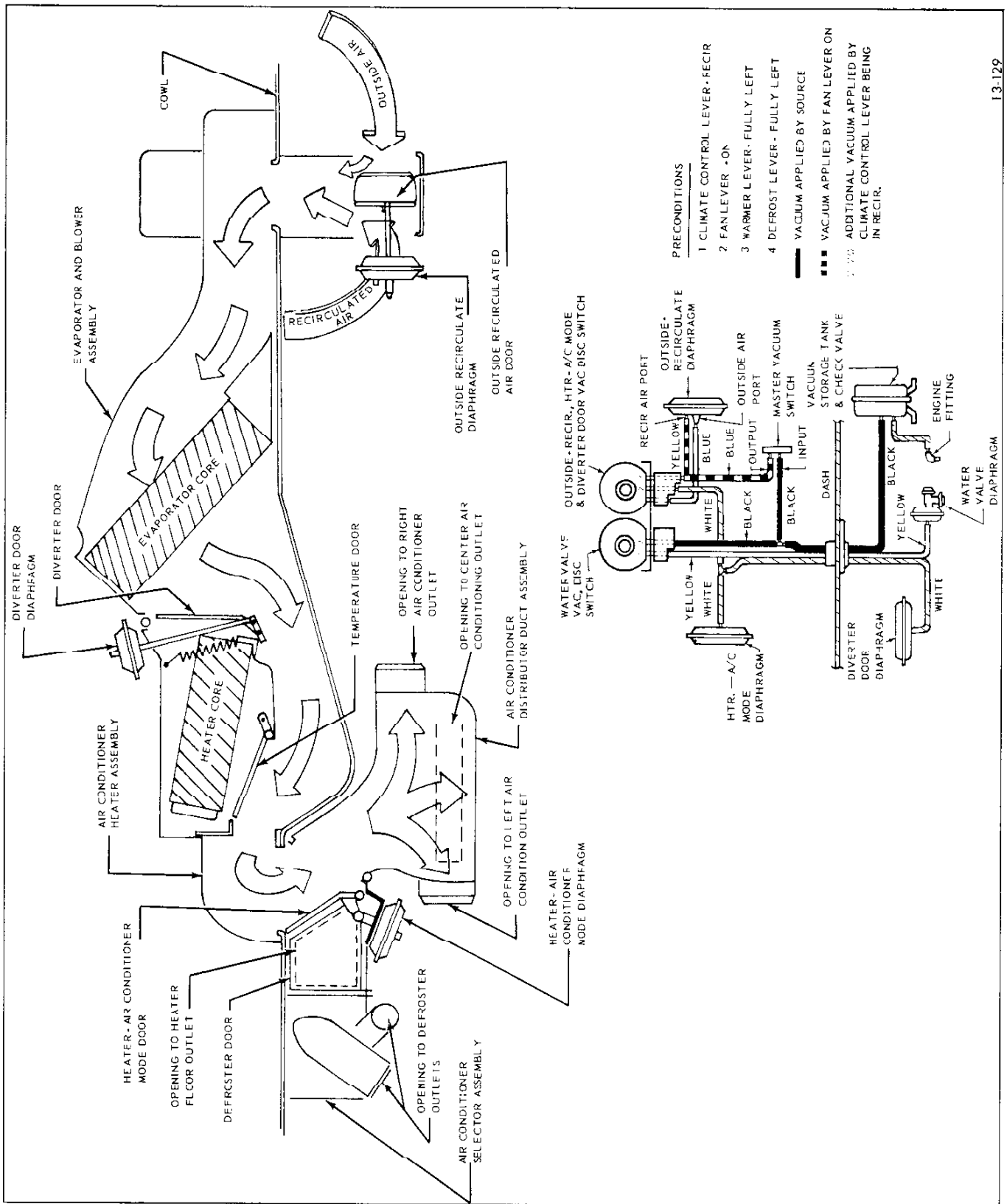
During simultaneous air conditioner and heater operation, the controls are set and the air flow is directed as described and shown in Figure 13-132. The air flow is similar to that for air conditioner only operation, with the exception that the Temperature door is opened as required to attain the desired degree of reheating.

13-75 OPERATION OF CONTROLS

All the controls for the regulation of the Heater-Air Conditioner system are located on the Instrument Panel Control Assembly. They operate the system as follows: (See Figure 13-133).

a. Fan Lever

This lever operates the Heater Blower electrical switch (see Figure 13-134) and the Master Vacuum switch. Three blower speeds (low, medium and high) are provided by movement of the lever. A fourth blower speed (low-low) is available when the Climate Control lever is in RECIR or NORM detents. Initial movement of the Fan Lever to



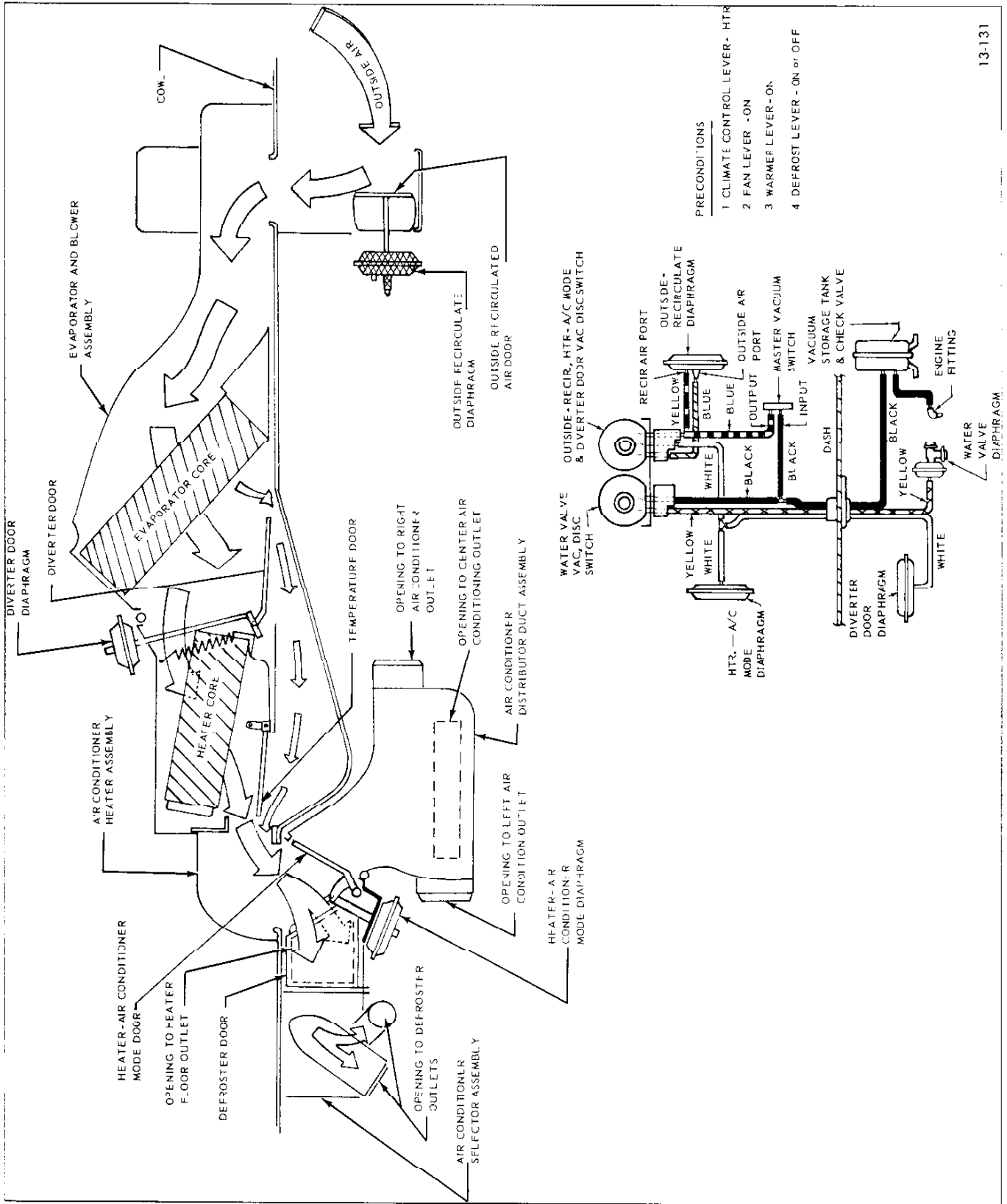


Fig. 13-13—Air Flow During HTR Operation

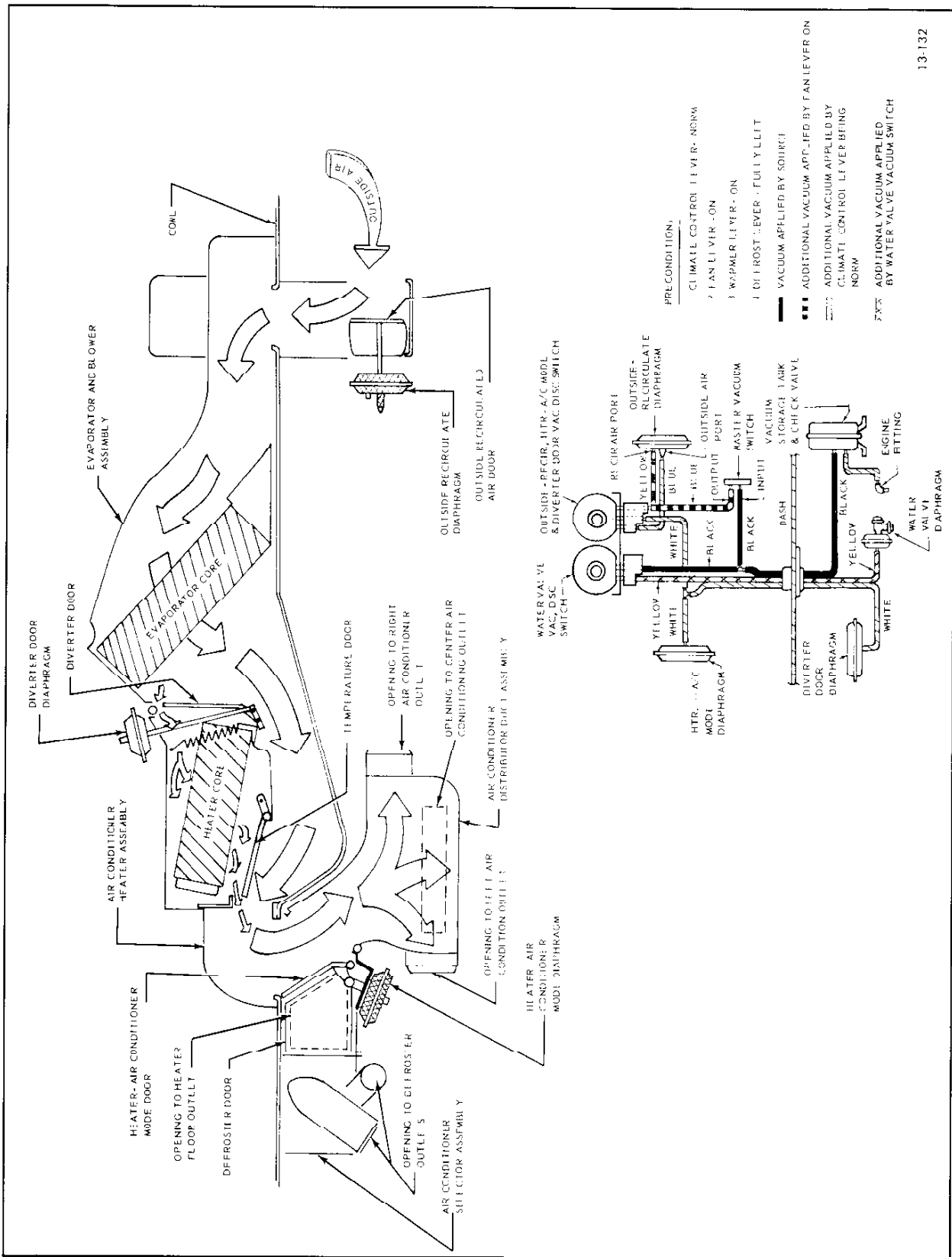


Figure 13-132—Air Flow During Both Air Conditioner and Heater Operation

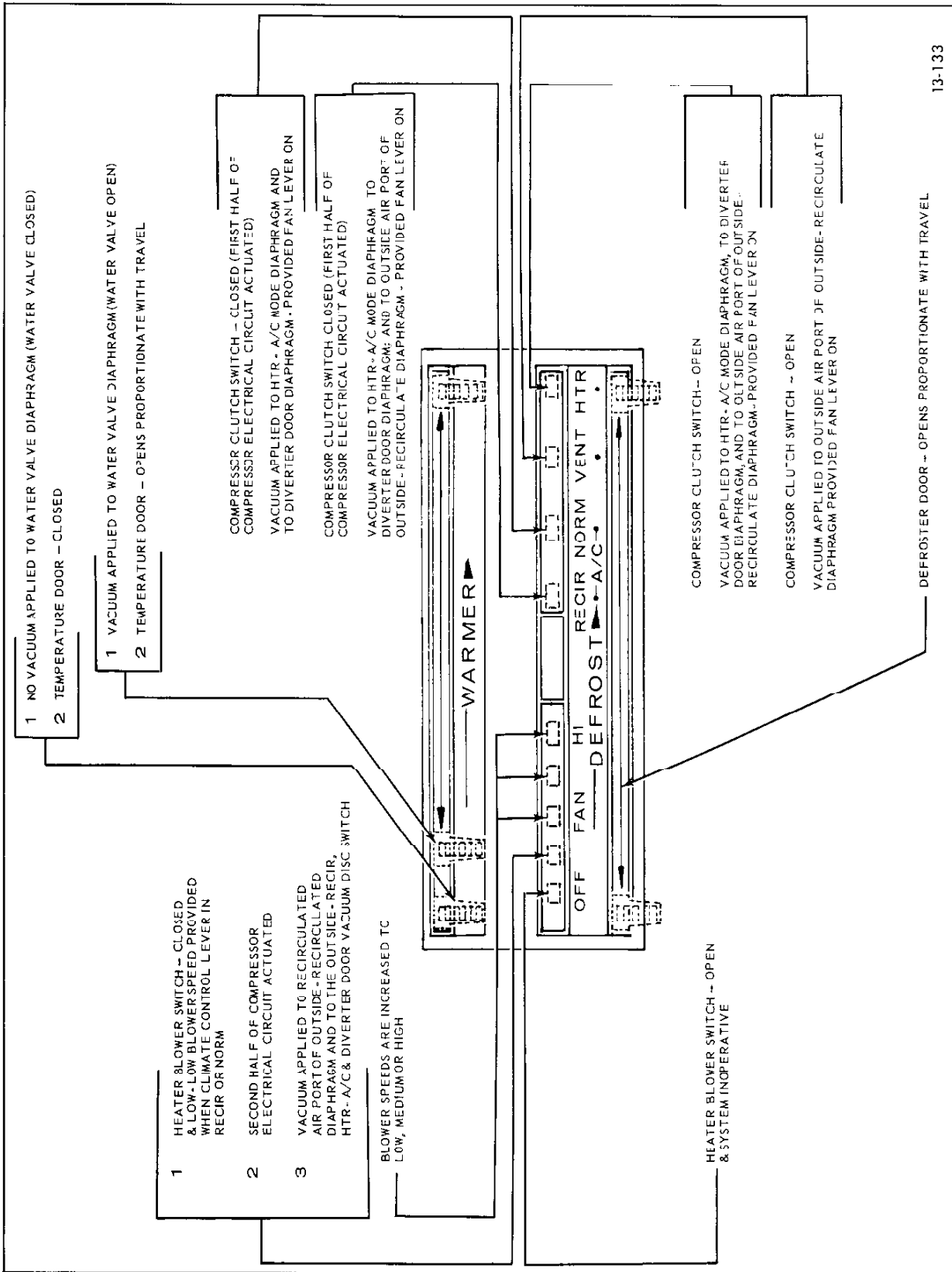


Figure 13-133—Heater - Air Conditioner Controls