

# HEATER - AIR CONDITIONER SYSTEM

## ALL SERIES

**WARNING: IF EQUIPPED WITH AIR CUSHION RESTRAINT SYSTEM, DO NOT ATTEMPT ANY ADJUSTMENT, REPAIR OR REMOVAL OF ANY PORTION OF THE AIR CONDITIONING SYSTEM WHICH WOULD REQUIRE REMOVAL OR DISCONNECTING OF ANY COMPONENT OF THE AIR CUSHION RESTRAINT SYSTEM UNTIL THE DISCONNECTION PROCEDURE IS COMPLETED. THIS PROCEDURE MUST BE FOLLOWED TO PREVENT ACCIDENTAL DEPLOYMENT OF THE SYSTEM WHICH COULD RESULT IN PERSONAL INJURY AND/OR DAMAGE TO THE SYSTEM'S COMPONENTS.**

### A.C.R.S. DISCONNECTION PROCEDURE

1. Turn ignition switch to "LOCK" position. Disconnect the negative battery cable from the battery and tape end.

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<b>SPECIFICATIONS: (Not Applicable)</b>	

## DESCRIPTION AND OPERATION

### HEATER COMPONENTS - X SERIES

#### Evaporator Case

The evaporator case serves as a housing for the evaporator core and blower motor. Inlet air to the A/C system passes through the evaporator case, evaporator core and on to the heater system to be re-heated if desired.

The evaporator case is constructed of reinforced plastic for strength. Provision for drainage of condensation from the evaporator core fins is provided in the bottom of the case through a self-opening rubber nozzle (drain tube).

#### HEATER CORE AND CASE - X SERIES

The heater core consists of coolant tubes with air fins between the tubes. Because of the core design, coolant travels a relatively short distance, maintaining a nearly equal pressure at the inlet and outlet. This

controlled pressure maintains a higher coolant boiling point (cooling system pressure will not allow coolant to boil below approximately 250°F.)

Air passing between the core fins is warmed by hot coolant flowing through the coolant tubes. This warm air is then directed into the passenger compartment by the blower and ducts.

### CONTROL PANEL - X SERIES

The control panel is a slide-lever design and controls the A/C system by means of three levers and a fan switch. See Figure 9B-150.

### TEMPERATURE LEVER - X SERIES

The temperature lever (left hand lever when facing control panel) is the main system control lever. When this lever is in the OFF position, the entire A/C system is inoperative. Moving the lever down from the OFF position will automatically provide blower motor operation.

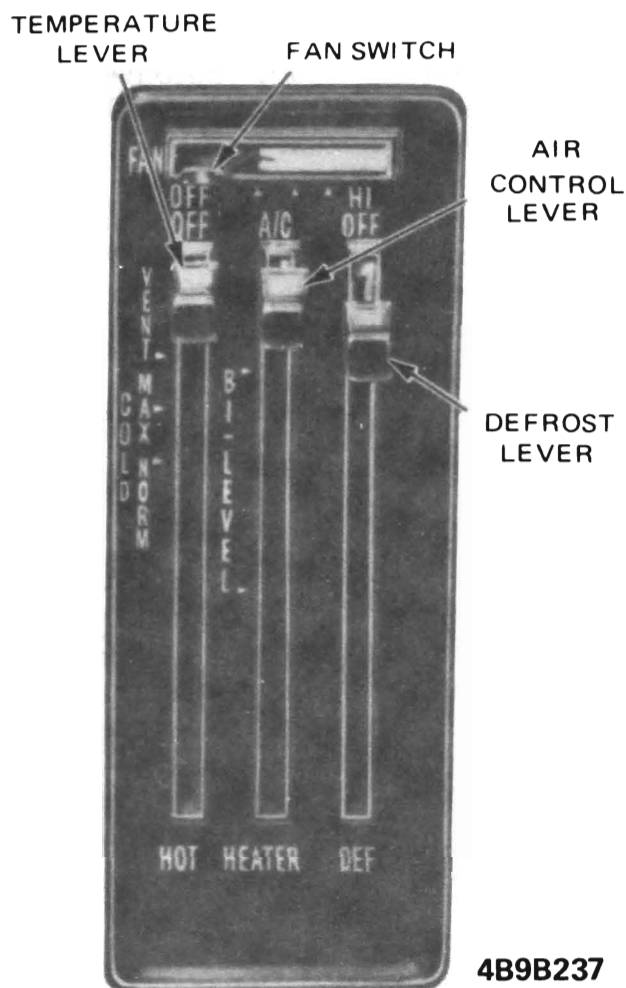


Figure 9B-150 A/C Control Panel

When the temperature lever is placed in **VENT**, outside air is distributed from the system outlets. This outside air is not conditioned since the compressor is not operational in the **VENT** position.

When the lever is moved to the **MAX. COLD** position, the compressor is allowed to operate. However, the compressor will not operate if the ambient temperature is below approximately 45°F. or if the air control lever is in the heater position. The **MAX. COLD** setting provides recirculation operation by opening the kick panel air door.

Moving the temperature lever to **NORM COLD** (normal air conditioning) causes the kick panel air door to close. This provides fresh outside air to the A/C system. The remainder of the system operates in the same manner as described under **MAX. COLD**.

The position of the temperature lever as it is moved from **NORM COLD** or **HOT** determines the temperature of the air output from the A/C system.

### AIR CONTROL LEVER - X SERIES

The center lever on the control panel determines the air distribution from the A/C system. In the **A/C** position all air flow is from the instrument panel air outlets. In **BI-LEVEL** the air distribution is divided

between the instrument panel outlets and the floor outlets with the temperature of the air from the floor outlets. When the lever is set to **HEATER**, all air is distributed from the floor outlets and/or the defroster outlets at the base of the windshield. In the **HEATER** position, the compressor is automatically shut down.

### DEFROST LEVER - X SERIES

The defroster lever is used to provide windshield defrosting or defogging. When the lever is in the **OFF** position, most of the air directed to the heater outlets is distributed to the floor with a slight amount of air distributed to the windshield. As the lever is moved toward **DEFROST**, the amount of air distributed to the windshield increases until the lever reaches **DEFROST**. When the lever is in **DEFROST**, all air from the heater outlet portion of the heater case is directed to the windshield. Since the defrost lever controls only that air which is directed toward the heater outlets, the air control lever should be placed in the **Heater** position for maximum defrosting of the windshield (in the **Heater** position of the air control lever, all air flow is directed toward the heater outlets).

### FAN SWITCH - X SERIES

The fan switch controls the speed of the fan (blower motor). When the temperature lever is in **OFF**, the blower motor does not operate. In any other mode of operation the blower motor is operational and blower speed is determined by the position of the fan switch. There are four fan speeds available.

### CONTROL OPERATION - X SERIES

For maximum heat the control panel temperature lever should be set to **HOT**, the air control lever to **HEATER**, the defrost lever to **OFF** and the fan switch to **HI**.

Maximum cooling is attained by setting the temperature lever at **MAX COLD**, the air control lever at **A/C**, and the fan switch at **HI**.

For removing frost or fog from the windshield, set all three levers to the full down position (**HOT**, **HEATER** and **DEFROST** positions) and set the fan switch at **HI**.

### AIR DISTRIBUTION - X SERIES

Air distribution in the air condition system is similar to that in the heater system when the controls are set to the **HEATER** mode or the **DEFROST** mode. In the air conditioning system, however, there are upper air outlets provided and cooled air can be ob-

tained. When the air conditioning (A/C) mode is selected, air flows exclusively from the upper outlets. When BI-LEVEL is selected, the air flow will be from both the upper outlets and the heater outlet.

### BASIC DESCRIPTION OF SYSTEM OPERATION - A-B-C-E SERIES

#### Off Position

The Climate Control System is completely "shut-off" when the ignition switch of the car is in the "OFF" position. However, when the ignition switch is turned on, the electrical circuit to the Climate Control system is completed and the "LO" blower will come on after the engine coolant reaches 140 degrees F.

#### A/C Position

The compressor will run at temperatures above 37 degrees F. Cooled conditioned air will flow out of all six outlets, and in "RECIRC", recirculated air at "HI" blower speed will occur automatically until a warmer temperature is selected. After passenger comfort is obtained, move the temperature lever to the right of the detent for normal air conditioning.

#### Vent Position (Temperature Lever in Cold)

The blower will come on in "LO" automatically after the engine water temperature reaches 140 degrees F, and outside air is distributed into the passenger compartment through the A/C and heater outlets. The blower will run in two (2) "MED" speeds or "HI", immediately, regardless of engine coolant temperature.

#### Heat Position (Temperature Lever in Mid Range)

The blower will come on in "LO" automatically after the engine coolant temperature reaches 140 degrees F., and air is distributed into the passenger compartment through the heater and through defroster ducts after 30 to 60 seconds. The blower will run in two (2) "MED" speeds or "HI", immediately, regardless of engine coolant temperature.

#### Bi Level Position (Temperature Lever in Mid Range)

The blower will come on in "LO" automatically after the engine water temperature reaches 140 degrees F., and the A/C compressor is running to provide dehumidified air flow from the A/C, heater, and defroster outlets. Air is bled through the defroster outlets after a 30 to 60 second delay. The blower will run in two (2) "MED" or "HI", immediately, regardless of engine coolant temperature.

#### Def Position (Temperature Lever in Max Hot)

The blower will come on in "LO" automatically after the engine water temperature reaches 140 degrees F., and the A/C compressor will run to dehumidify air if temperature is above 37 degrees F. A majority of air will flow out of the defroster outlets with some air flowing out the heater outlet. The blower will run in two (2) "MED" speeds or "HI", immediately, regardless of engine coolant temperature.

### ELECTRICAL SYSTEM OPERATION - A-B-C-E SERIES

#### Off Position

When the selector lever is in the "OFF" position, the system is locked in "LO" blower operation. When the fan switch is in the "LO" position, the ignition switch in the "RUN" position, and the engine thermostat is open, the blower motor will not run until engine coolant reaches approximately 140 degrees F. Then the thermal switch will close allowing current to flow to the blower motor.

#### A/C Position

With the ignition switch in "RUN", the selector lever in the "A/C" position, and the temperature lever at "RECIRC", the fan is in fixed "HI" blower regardless of fan switch position. In "RECIRC" position also, the recirculate door and water valve are actuated through a vacuum switch on the dash control. Moving the temperature lever from the "RECIRC" to the detent position (approximately 3/8 inch travel right) causes the recirculate override switch to open, and allows blower speed to be controlled from the fan switch. The detent position will open the hot water valve. Also, from this detent position to MAX "HOT" position, the temperature door is modulated to provide greater amounts of air to be diverted through the heater core.

The compressor will run above 37 degrees F. which is controlled by the opening (below 37 degrees F.) and closing (above 37 degrees F.) of the ambient switch.

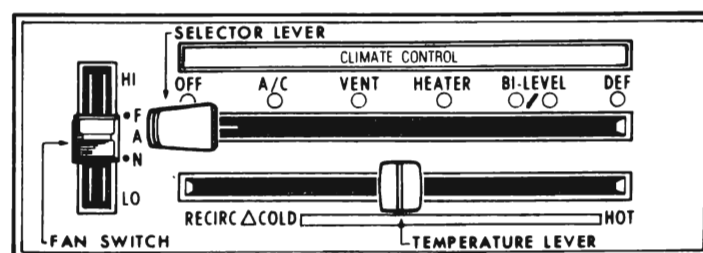


Figure 9B-151 Instrument Panel Control Assembly  
B-C-E Series

### Vent Position

With the ignition switch in "RUN" and the selector lever in the "VENT" position, the fan is controlled by the fan switch. Compressor is shut off.

The engine thermostic switch closes when the engine coolant temperature reaches 140 degrees F. allowing current to flow to the blower motor or "LO" fan speed. If fan switch is in "MED" or "HI", the blower will run regardless of engine coolant temperature, because the thermal switch is by-passed.

### Heat Position

With the ignition switch in "RUN" and the selector lever in the "HEAT" position, the fan speed is controlled by the fan switch.

The engine thermal switch closes when the engine coolant temperature reaches 140 degrees F. allowing current to flow to the blower motor or "LO" fan speed.

If the fan switch is in two (2) "MED" speeds or "HI", the blower will run, regardless of engine coolant temperature because the thermal switch is by-passed.

### Bi-Level Position

With the ignition switch in "RUN" and the selector lever in the "BI-LEVEL" position, the fan is locked in "LO" blower operation when the fan switch is in the "LO" position.

The compressor runs in this position above 37 degrees F. which is controlled by the opening (below 37 degrees F.) and closing (above 37 degrees F.) of the ambient switch, to provide dehumidified air regardless of temperature lever position.

The engine thermostic switch closes when the engine coolant temperature reaches 140 degrees F., and allows current to flow to the blower motor.

If the fan switch is in "MED" or "HI", the blower will run regardless of engine coolant temperature because the thermal switch is by-passed.

### Def Position

With the ignition switch in "RUN" and the selector lever in the "DEF" position, the fan is locked in "LO" blower operation when the fan switch is in the "LO" position.

The compressor runs in this position above 37 degrees F., which is controlled by the opening (below 37 degrees F.) and closing (above 37 degrees F.) of

the ambient switch, to provide dehumidified air regardless of temperature lever position.

The engine thermal switch closes when the engine coolant temperature reaches 140 degrees F., and allows current to flow to the blower motor.

If the fan switch is in "MED" or "HI", the blower will run regardless of engine coolant temperature because the thermal switch is by-passed.

## VACUUM SYSTEM OPERATION A-B-C-E SERIES

### Off Position (Temperature Lever in Recirc)

With the selector lever in the "OFF" position and the engine running, the system is turned on whenever the thermostic switch closes. Air flows from the heater outlets at "LO" blower speed. Vacuum is applied to the water valve holding the valve closed. See Figure 9B-174.

### A/C Position (Temperature Lever in Recirc)

With the selector lever in the "A/C" position and the temperature lever in the "RECIRC" position, vacuum is applied to the recirc door diaphragm closing the door to the outside air causing recirculation of most of the air while introducing some outside air into the passenger compartment. Vacuum is also applied to the upper and lower heater door diaphragms causing the doors to open, allowing air to flow from the A/C outlets. Vacuum is applied to the water valve holding the valve closed. See Figure 9B-175. After passenger comfort is obtained, move the temperature lever to the right of the detent for normal air conditioning. See Figure 9B-176.

### Vent Position (Temperature Lever in Cold)

Air is drawn in through the outside air door and is distributed from the A/C and heater outlets at whatever blower speed is selected. Vacuum is applied to the lower mode door diaphragm which causes it to open and directs a portion of the air to the A/C outlets. No vacuum is applied to the upper mode door directing the remaining air through the heater outlets. Vacuum is applied to the water valve holding the valve closed.

### Heat Position (Temperature Lever in Mid Range)

In this position, outside air is drawn in through the outside air door and then is divided by the air mix door. Part of the air passes through the heater core to be warmed while the rest of the air by-passes the core. The air is then mixed and distributed into the passenger compartment through the heater and defroster outlets.

Vacuum is applied to the defroster door diaphragm and is restricted to delay partial bleed to the windshield for 30-60 seconds. No vacuum is applied to the upper and lower mode door diaphragm so the majority of the air is directed through the heater outlets. No vacuum is applied to the water valve allowing the valve to open. See Figure 9B-178.

#### Bi-Level Position (Temperature Lever in Mid Range Position)

In this position outside air is drawn in through the outside air door and then is divided by the mix door. Part of the air passes through the heater core to be warmed while the rest of the air bypasses the core. The incoming air is dehumidified before it reaches the mix-door since the A/C compressor is running if the outside temperature is above 37 degrees F. The air is then mixed and distributed into the passenger compartment through the heater, A/C, and defroster outlets. Defroster bleed air is delayed 30 to 60 seconds. Vacuum is applied to the lower mode door diaphragm opening the door, allowing a portion of

the air to flow out of the A/C outlets while no vacuum is applied to the upper mode door diaphragm allowing air to flow from the heater outlets. Vacuum is applied to the defroster door diaphragm but is restricted not to allow the door to open only partially. No vacuum is applied to the water valve allowing the valve to open. See Figure 9B-180.

#### Def Position (Temperature Lever in Max Hot Position)

In this position outside air is drawn in through the outside air door and then is directed through the heater core. The incoming air is dehumidified before it reaches the heater core since the A/C compressor is running if the outside temperature is above 37 degrees F. Vacuum is applied to both defroster door diaphragm ports causing the door to fully open, directing the majority of the air to flow out of the defroster outlets. A small portion of air will come out of the heater outlets since no vacuum is applied to the upper and lower mode doors. No vacuum is applied to the water valve allowing the valve to open.

## DIAGNOSIS

### TROUBLE DIAGNOSIS - X SERIES

#### Insufficient Heating

Condition and Cause	Correction
Heater outlet temperature too low.	Check for proper engine thermostat. Check blower operation. Inspect Temp lever and cable for proper operation. Check heater hoses for function. Check coolant level in radiator.

### TROUBLE DIAGNOSIS GUIDE A-B-C-E SERIES

#### Blower Inoperative

##### *Possible Causes*

Disconnected, loose, or corroded blower ground wire.

Disconnected feed wire.

Malfunctioned blower.

Malfunctioned fuse.

Malfunctioned high blower relay

#### LO Blower Only

##### *Possible Cause*

Disconnected plug at control head to instrument harness.

Malfunctioned engine thermostwitch

#### No LO Blower in OFF

Malfunctioning wiring

##### *Possible Causes*

Disconnected engine thermostwitch

Open engine thermostwitch

Malfunctioning wiring.

#### Immediate LO Blower - Car Start-Up

##### *Possible Causes*

Malfunctioned engine thermostwitch.

Warm engine - normal operation.

### Temperature of Discharge Air Too Hot or Too Cool

#### *Possible Cause*

Misadjusted or disconnected temperature door cable.

### Insufficient Heat

#### Possible Causes

Misadjusted or disconnected temperature door cable.

Malfunctioned water valve.

Malfunctioned engine thermostat.

Low coolant.

### No Full A/C or Heater (Only Bi-Level)

#### *Possible Cause*

Vacuum lines switched at upper and lower mode door diaphragms.

### Partial Air Flow to Windshield in DEF and No Air Flow to Windshield in BI-LEVEL Position

#### *Possible Cause*

Vacuum lines to defroster (dual) diaphragm switched. Normal "BI-LEVEL" operation has a delay before door opens.

### No Air Flow to Windshield in Either BI-LEVEL or DEF Position

#### *Possible Causes*

Either vacuum line to defroster diaphragm disconnected.

Leaking dual diaphragm.

## MAINTENANCE AND ADJUSTMENTS

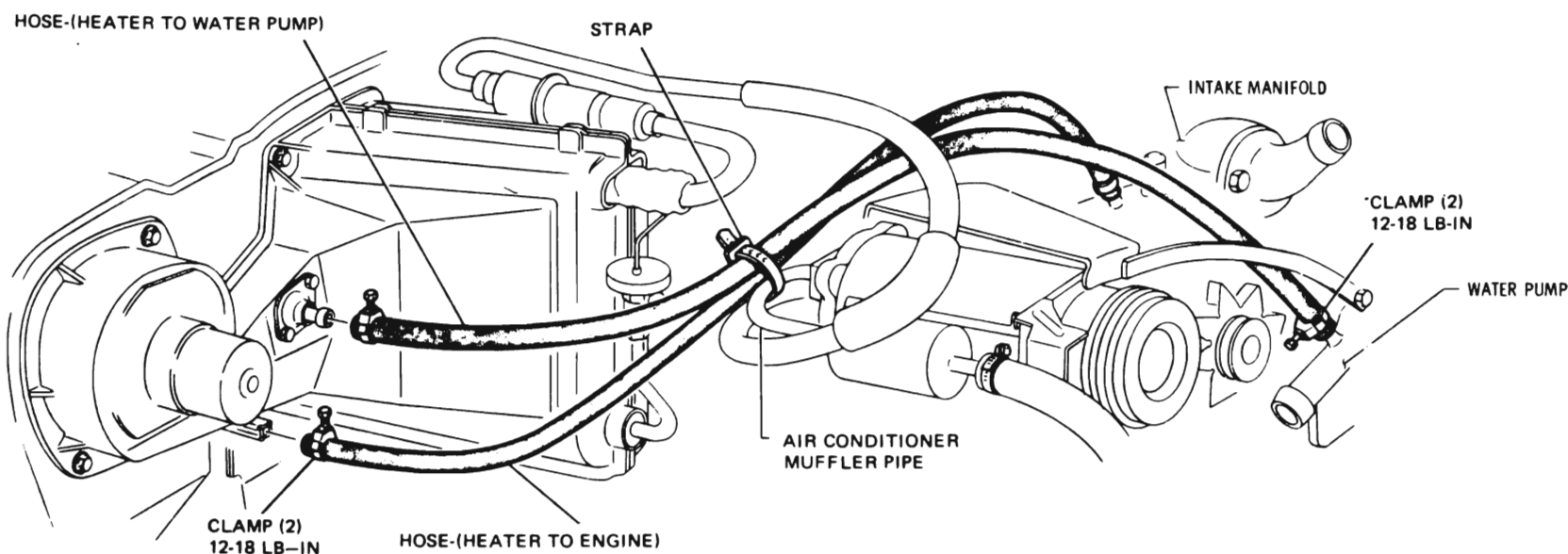
### ADJUSTMENT OF CONTROL WIRE ASSEMBLY - A-B-C-E SERIES

1. Assemble control wire to control assembly.
2. Secure temperature wire to temperature control valve.
3. Adjust control cable so that 1/16 to 1/8 inch springback is obtained in the "Hot" position.

## MAJOR REPAIR

### REMOVAL AND INSTALLATION OF BLOWER MOTOR AND/OR IMPELLER-X SERIES

To replace the A/C blower motor and/or impeller, follow the procedure for heater blower motor removal in heater system section of the manual. Disconnect blower motor cooling tube when removing motor.



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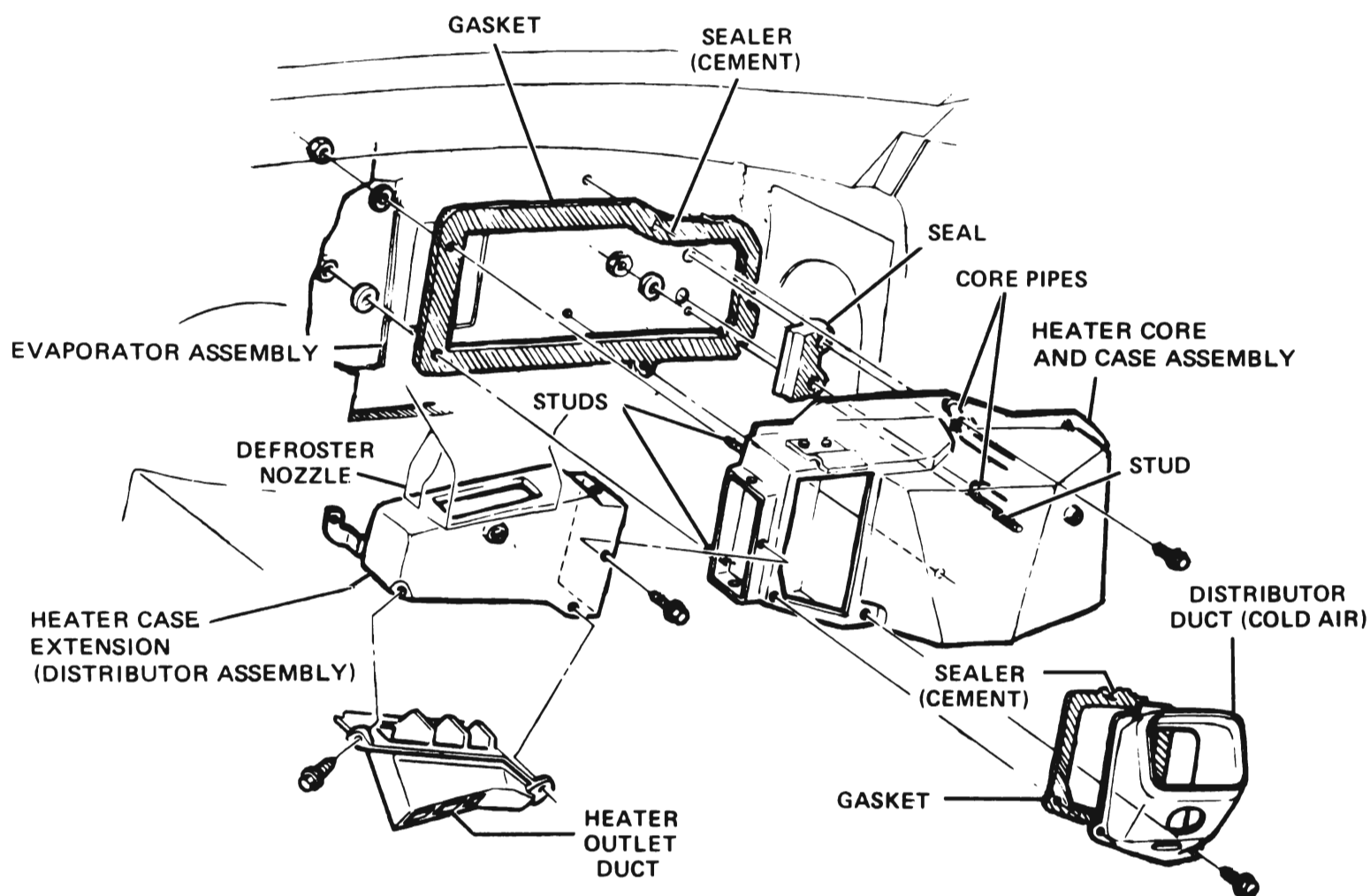
Figure 9B-152 Heater Hoses - Air Conditioning - X Series

### REMOVAL AND INSTALLATION OF HEATER CORE AND CASE ASSEMBLY-X SERIES

1. Disconnect battery.
2. Drain coolant.
3. Disconnect upper heater hose at core tube and remove accessible heater core and case assembly attaching nuts.
4. Remove right front fender skirt bolts and lower skirt to gain access to lower heater hose clamp.
5. Loosen hose clamp and disconnect lower heater hose from core tube. Remove lower right hand heater core and case assembly attaching nut.
6. Install plugs in heater core tubes to prevent spilling coolant.
7. Remove glove compartment and door.
8. Remove recirculation vacuum diaphragm at right hand kick panel.
9. Remove heater outlet (at bottom of heater case).
10. Remove cold air distributor duct from heater case.
11. Remove heater case extension screws and separate extension from heater case. See Figure 9B-153.
12. Disconnect heater cables and electrical connectors from heater case and remove heater core and case assembly.
13. Separate core from case. If replacing case, transfer parts to new case.
14. To replace, reverse removal procedures.

### REMOVAL AND INSTALLATION OF PLENUM AIR INLET DOOR DIAPHRAGM-X SERIES

1. Remove windshield wiper arms.
2. Remove cowl vent grille.
3. Remove plenum diaphragm assembly to plenum chamber attaching screws. See Figure 9B-154.



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Figure 9B-153 A/C Heater Core and Case - X Series



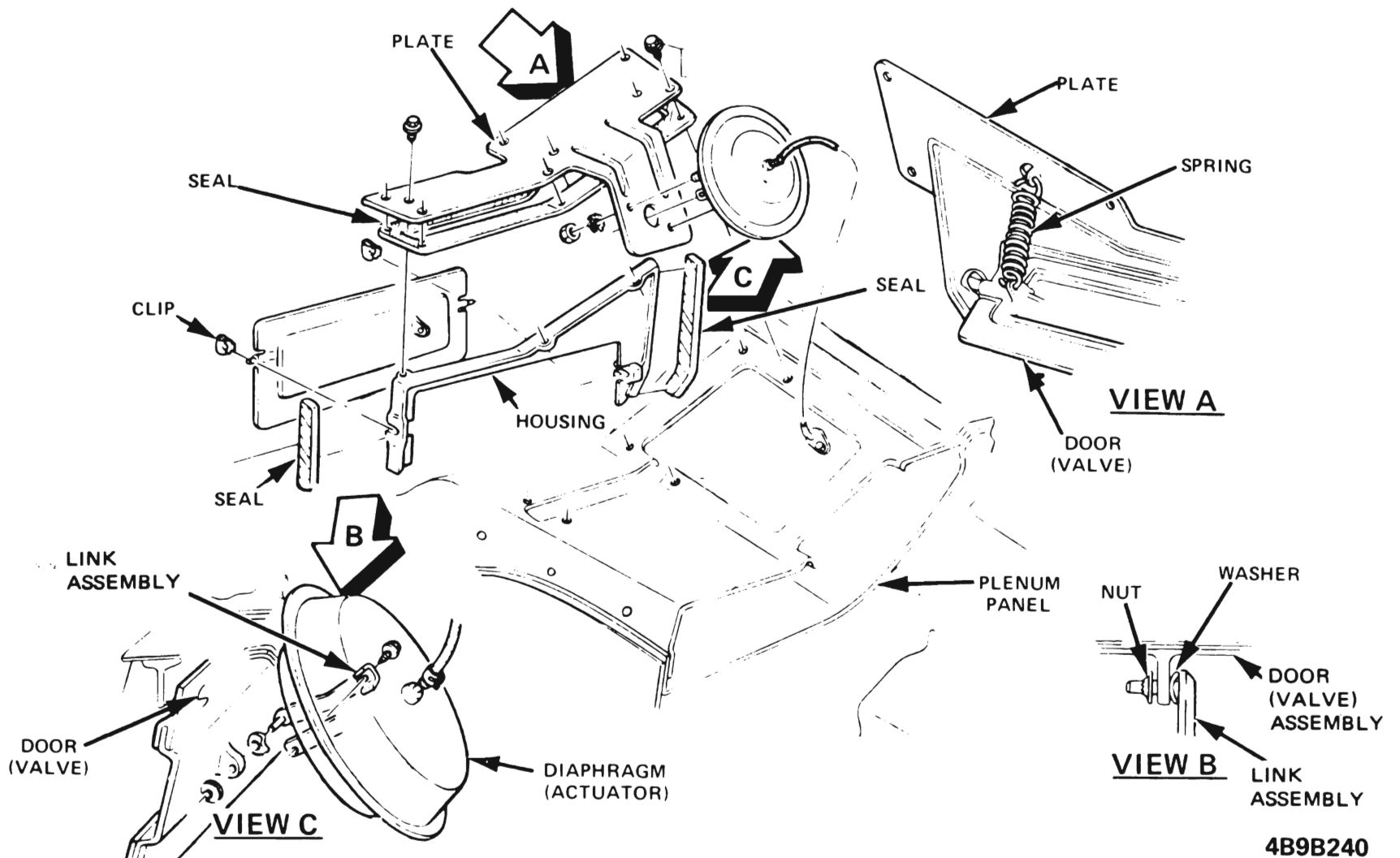


Figure 9B-154 Plenum Air Inlet Diaphragm - X Series

4. Disconnect vacuum hose at diaphragm.
5. Position door in closed position and lift assembly from car.
6. Remove diaphragm to bracket and link screws and remove diaphragm.
7. To replace, reverse removal procedures.

#### REMOVAL AND INSTALLATION OF DEFROSTER DIAPHRAGM - X SERIES

1. Remove heater outlet duct.
2. Remove two retaining screws and actuator link retaining screw.
3. Disconnect vacuum hose and remove diaphragm.
4. To replace, reverse removal procedure.

#### REMOVAL AND INSTALLATION OF CONTROL CABLES - X SERIES

To replace the A/C heater cables (air, defroster and temperature) refer to Figures 9B-155 and 9B-12 for

cable routing. Perform steps 1 through 3 of control panel procedure and disconnect cable from control assembly. To disconnect heater case end of the defroster cable it is necessary to remove the heater core and case assembly from the car. Repair cable or construct new cable.

#### REMOVAL AND INSTALLATION OF INSTRUMENT PANEL CONTROL-X SERIES

1. Disconnect battery.
2. Remove radio.
3. Remove control panel to instrument panel retaining screws and lower control panel (Figure 9B-12) slightly from instrument panel.
4. Disconnect electrical connections and heater cables from control panel and remove control panel.
5. To replace, reverse removal procedure.

#### REMOVAL AND INSTALLATION OF UNDERHOOD AMBIENT SWITCH - X SERIES

The underhood ambient switch is located in the

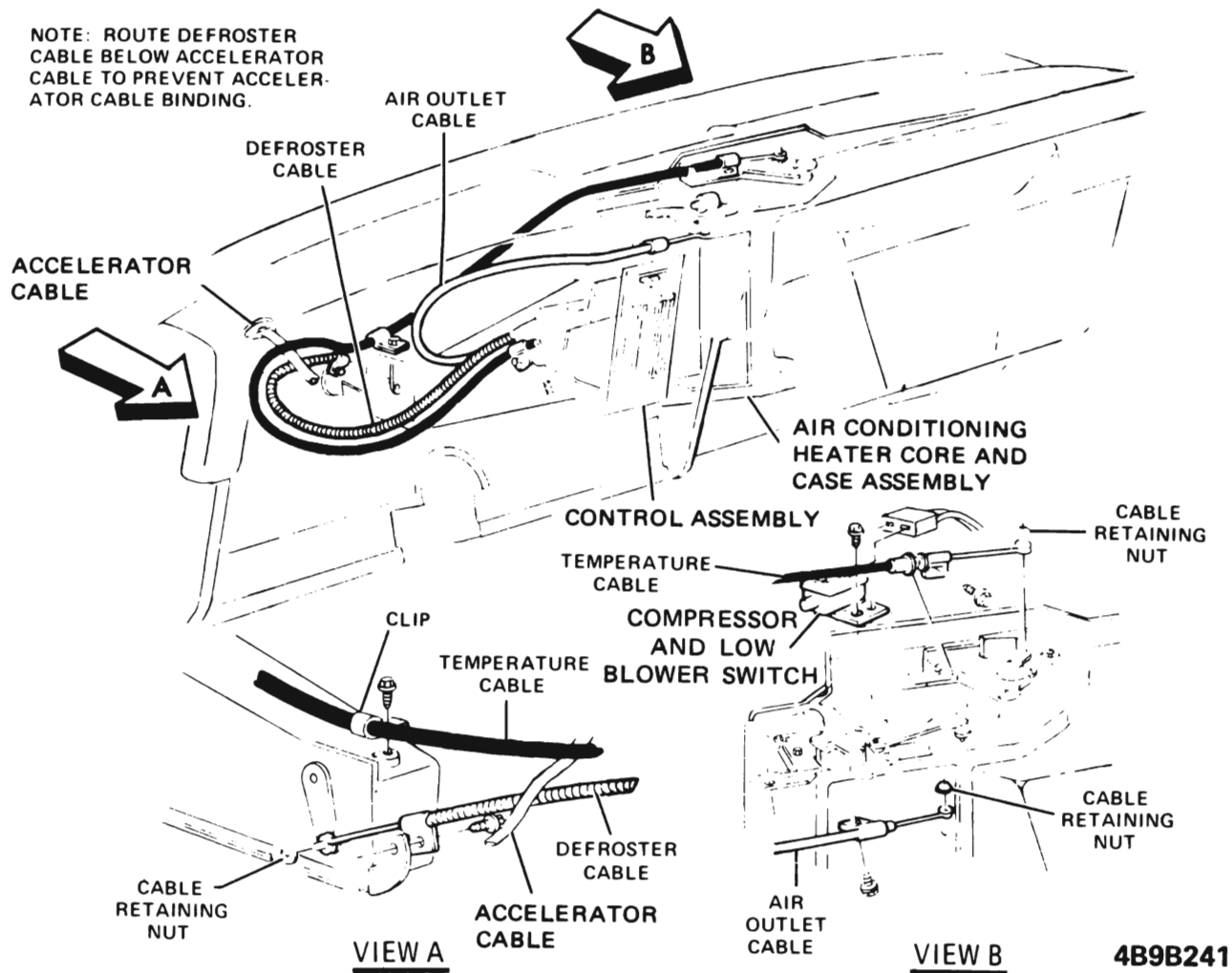


Figure 9B-155 A/C Control Cable Routing - X Series

evaporator case. The switch can be replaced by disconnecting the wire connector and removing two switch retaining screws.

#### REMOVAL AND INSTALLATION OF A/C AIR DISTRIBUTION DUCTS - X SERIES

Removal and replacement of air distribution components can be performed by referring to Figure 9B-16 for duct and outlet installation.

#### REMOVAL AND INSTALLATION OF AIR INLET DIAPHRAGM - X SERIES

1. Remove kick panel diaphragm cover. See Figure 9B-163.
2. Disconnect vacuum hose at diaphragm.
3. Remove two diaphragm to kick panel attaching screws.

4. Disconnect link and spring at recirc. air door and remove diaphragm and bracket as an assembly.

5. Separate diaphragm from bracket (3 screws).

6. To replace, reverse removal procedure.

#### REMOVAL AND INSTALLATION OF CONTROL ASSEMBLY - A SERIES

1. Remove instruments trim plate by pulling rearward and unsnapping from instrument panel.
2. Remove 4 heater control attaching screws. See Figure 9B-184.
3. Pull control out from the instrument panel and disconnect vacuum, electrical connectors and Bowden cable. See Figure 9B-185.
4. Install in reverse of removal adjusting control cable so that 1/16 to 1/8 inch springback is obtained in the "HOT" position.

### REMOVAL AND INSTALLATION OF BLOWER MOTOR - A SERIES

1. Disconnect blower motor wire.
2. Remove screws securing blower motor to air inlet assembly.
3. Install in reverse of removal.

### REMOVAL AND INSTALLATION OF HEATER ASSEMBLY OR HEATER CORE - A SERIES

1. Drain radiator and disconnect heater inlet and outlet water hoses at dash.
2. Disconnect temperature control cable from temperature door guide and vacuum hoses from actuator diaphragms.
3. Remove resistor assembly and reach through opening and remove 1 attaching nut to dash. Remove 1 attaching nut to dash directly over transmission and 2 attaching nuts to upper and lower inboard evaporator case half.
4. From inside the car remove 1 screw in lower righthand corner on passenger side.
5. Remove lower attaching outlet(s) and work assembly rearward until studs clear dash and remove heater assembly.
6. Install heater assembly reverse of removal procedures and seal along mating surfaces between dash and heater assembly.
7. Adjust control cable so that 1/16 to 1/8 inch springback is obtained in the hot position.

### REMOVAL AND INSTALLATION OF CONTROL ASSEMBLY - B-C-E SERIES WITH AIR CUSHION RESTRAINT SYSTEM

1. Turn ignition switch to "Lock" position. Disconnect the negative battery cable from the battery and tape end.
2. Remove both lower instrument panel cover trim plates by prying underneath and pulling out. See Figure 9B-156.
3. Disconnect emergency brake release cable and trip set control cable if equipped, and remove lower left instrument panel cover assembly by removing eight retaining screws. See Figure 9B-157.
4. Remove Headlight switch control shaft and es-cutcheon.

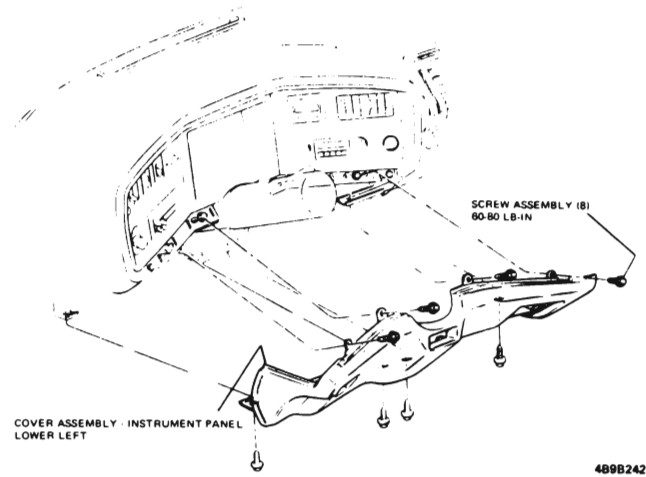


Figure 9B-156 Instrument Panel Lower Cover Trim Plates - B-C-E Series

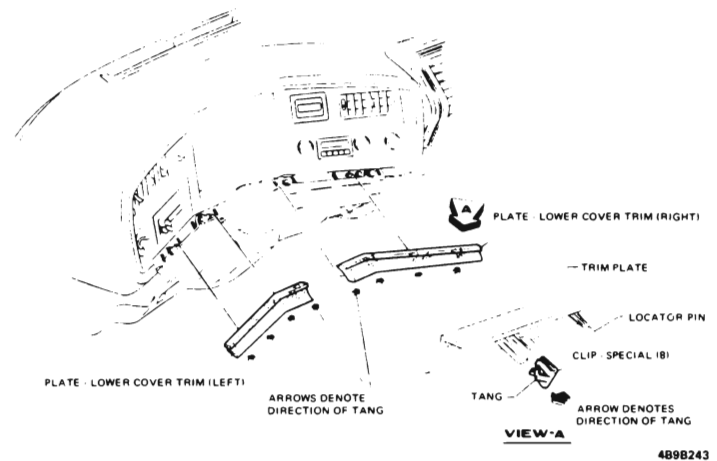


Figure 9B-157 Instrument Panel Lower Left Cover Assembly - B-C-E Series

5. Pull trim plate off carefully, making sure see-lites pull out of receptacles.
6. Remove screws from control face.
7. Remove one screw from under instrument panel housing that connects the control to forward support.
8. Disconnect vacuum, electrical connectors and boulder wires.
9. Remove control assembly.
10. Install control assembly in reverse of removal procedure.
11. Adjust control cable so that 1/16 to 1/8 inch springback is obtained in the hot position.

### REMOVAL AND INSTALLATION OF CONTROL ASSEMBLY - B-C-E SERIES LESS AIR CUSHION RESTRAINT SYSTEM

#### Removal

1. Disconnect battery.
2. Remove headlight switch.
3. Remove lower dash trim.
4. Remove 2 see-lights from trim plate.
5. Remove 4 screws from control face.
6. Remove 1 screw from under dash which connects heater control to instrument panel forward support.
7. Disconnect vacuum, electrical connectors, and Bowden wires.
8. Remove control assembly.

#### Installation

1. Install control assembly reverse of removal procedure.
2. Adjust control cable so that 1/16 to 1/8 inch springback is obtained in the "Hot" position.

### REMOVAL AND INSTALLATION OF BLOWER MOTOR - B-C-E SERIES

#### Removal

1. Disconnect blower motor wire. Remove screws securing blower motor to air inlet assembly.

#### Installation

Install blower motor assembly in reverse of removal procedures sealing along mating surfaces.

### REMOVAL AND INSTALLATION OF HEATER ASSEMBLY OR HEATER CORE - B-C-E SERIES

#### Removal

**WARNING: IF CAR IS EQUIPPED WITH AIR CUSHION RESTRAINT SYSTEM, REFER TO THE 1974 AIR CUSHION RESTRAINT SYSTEM SERVICE MANUAL FOR REMOVAL PROCEDURES FOR THE PASSENGER AIR CUSHION ASSEMBLY PRIOR TO SERVICING THE HEATER ASSEMBLY AND/OR HEATER CORE OTHERWISE PERSONAL INJURY MAY RESULT.**

1. Drain radiator and disconnect heater inlet and outlet hoses at dash.
2. Disconnect control wires from defroster door and vacuum hose diverter door actuator diaphragm and control cable from temperature door lever.
3. Remove 4 nuts securing heater assembly to dash.
4. Remove screw securing defroster outlet tab to heater assembly.
5. Work heater assembly rearward until studs clear dash and remove heater assembly.

#### Installation

1. Install heater assembly reverse of removal procedures and seal along mating surfaces between dash and heater assembly.
2. Adjust control cable so that 1/16 to 1/8 inch springback is obtained in the "Hot" position.

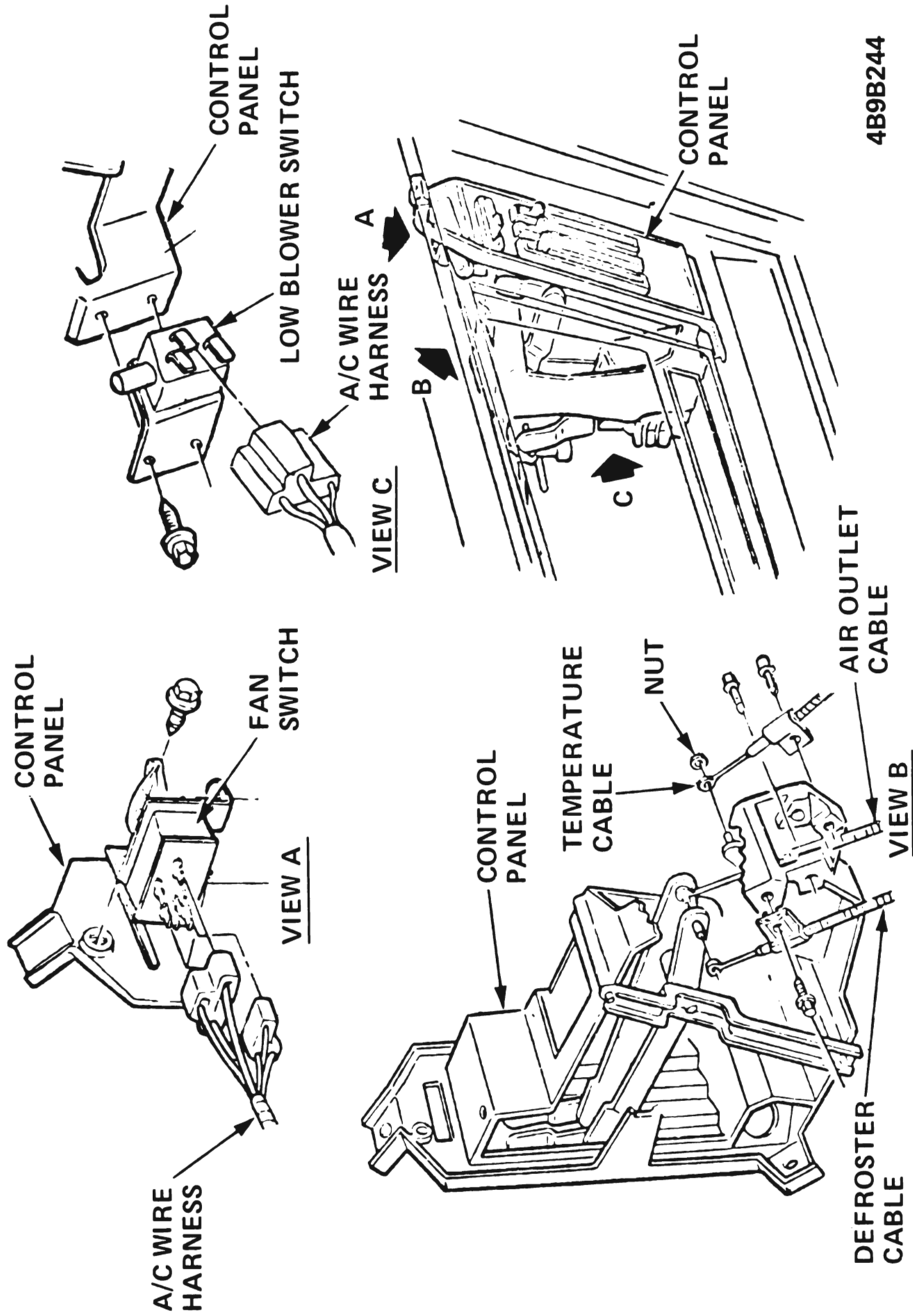


Figure 9B-158 A/C Control Power Installation - X Series

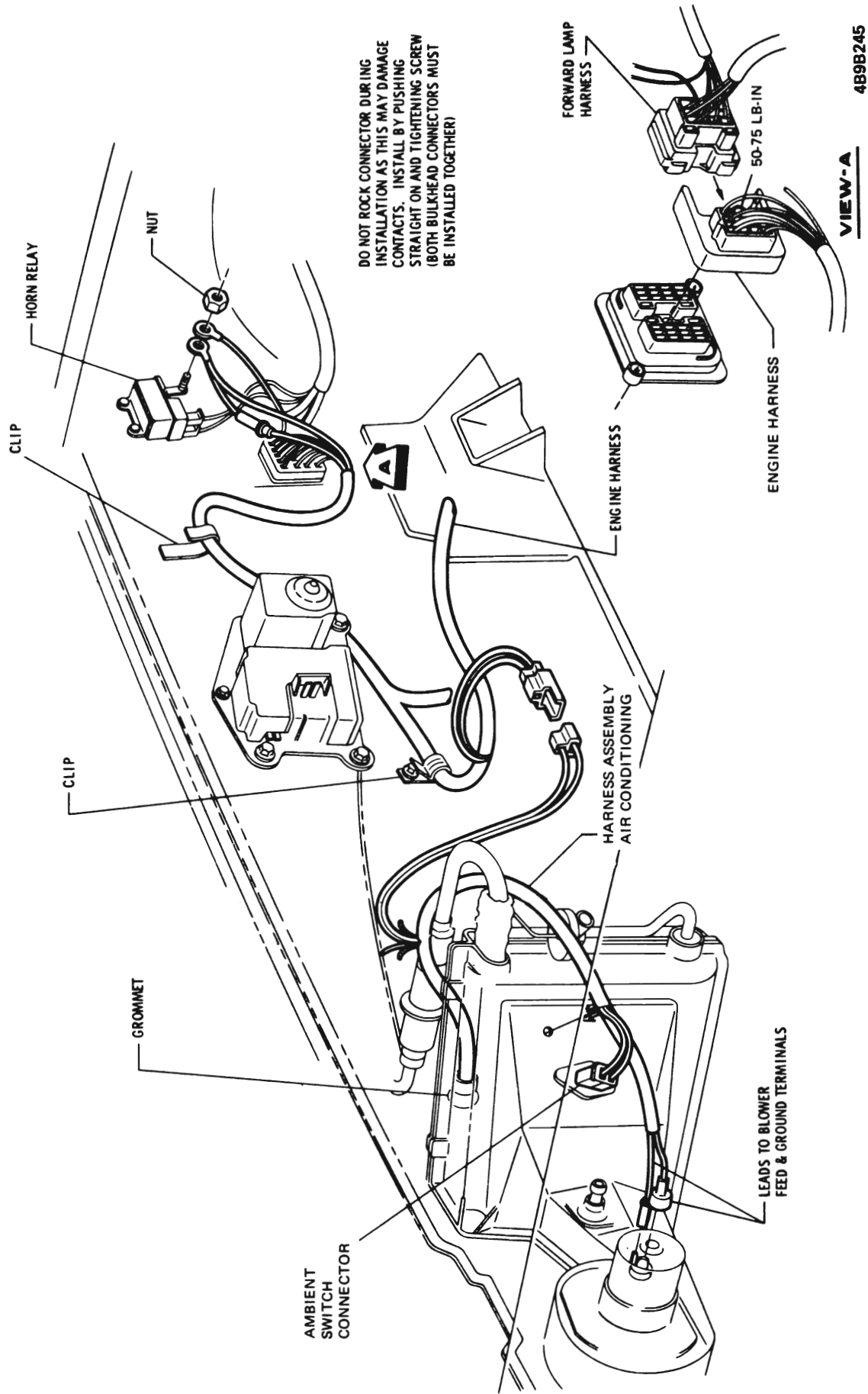


Figure 9B-160 A/C Wiring - Engine Compartment (Left Hand) - X Series

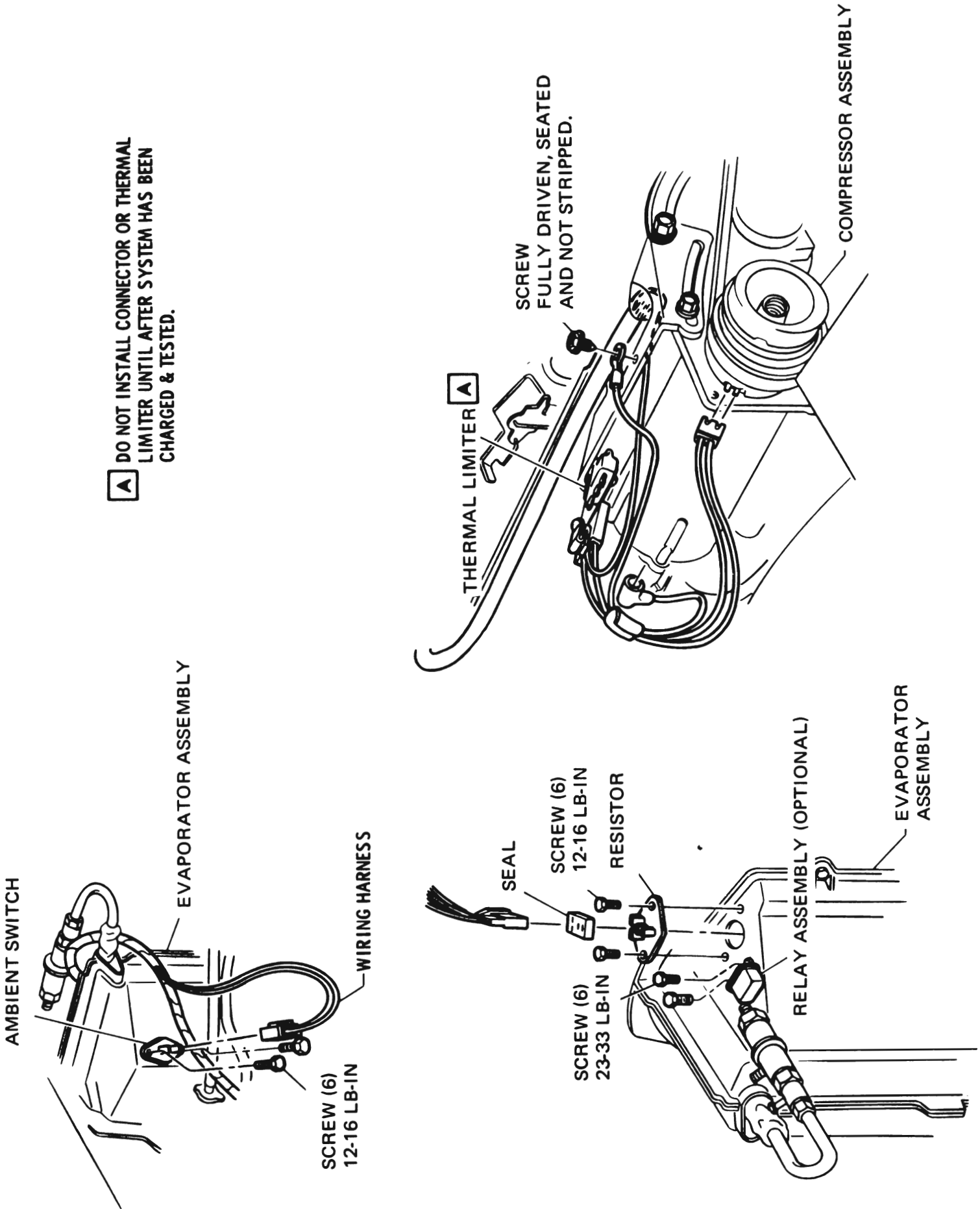
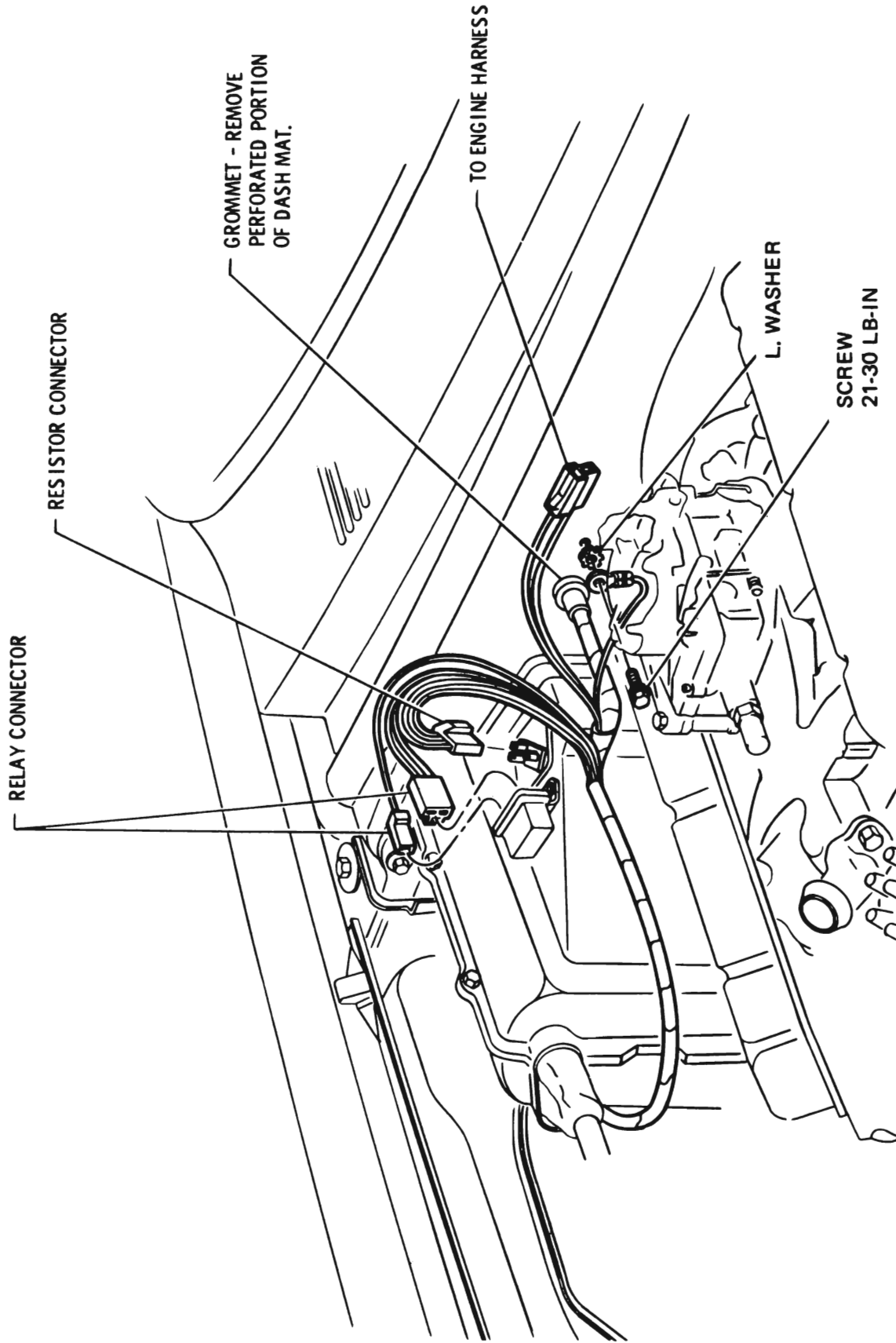


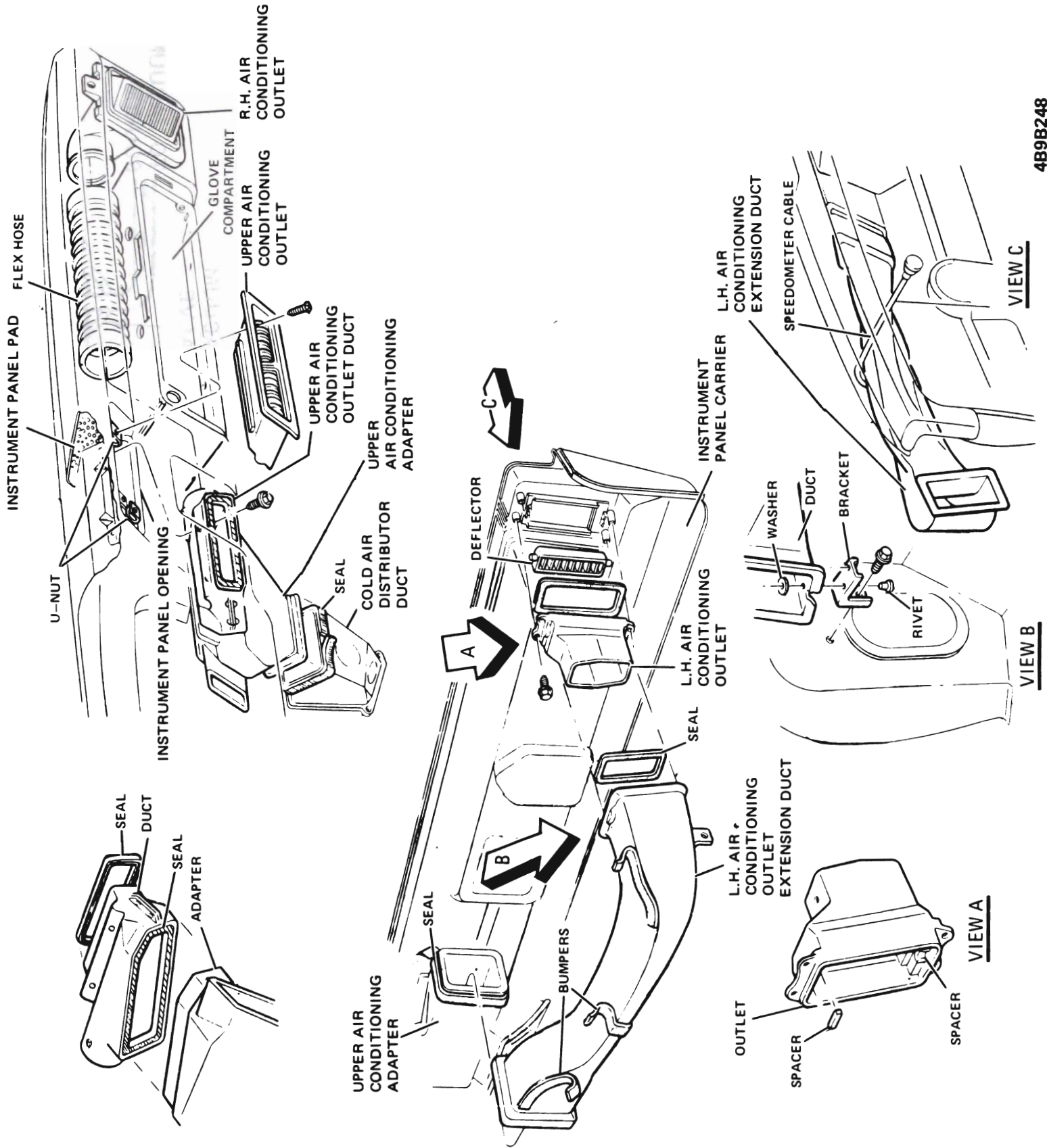
Figure 9B-161 A/C Relay, Switch and Limiter - X Series



4B9B247

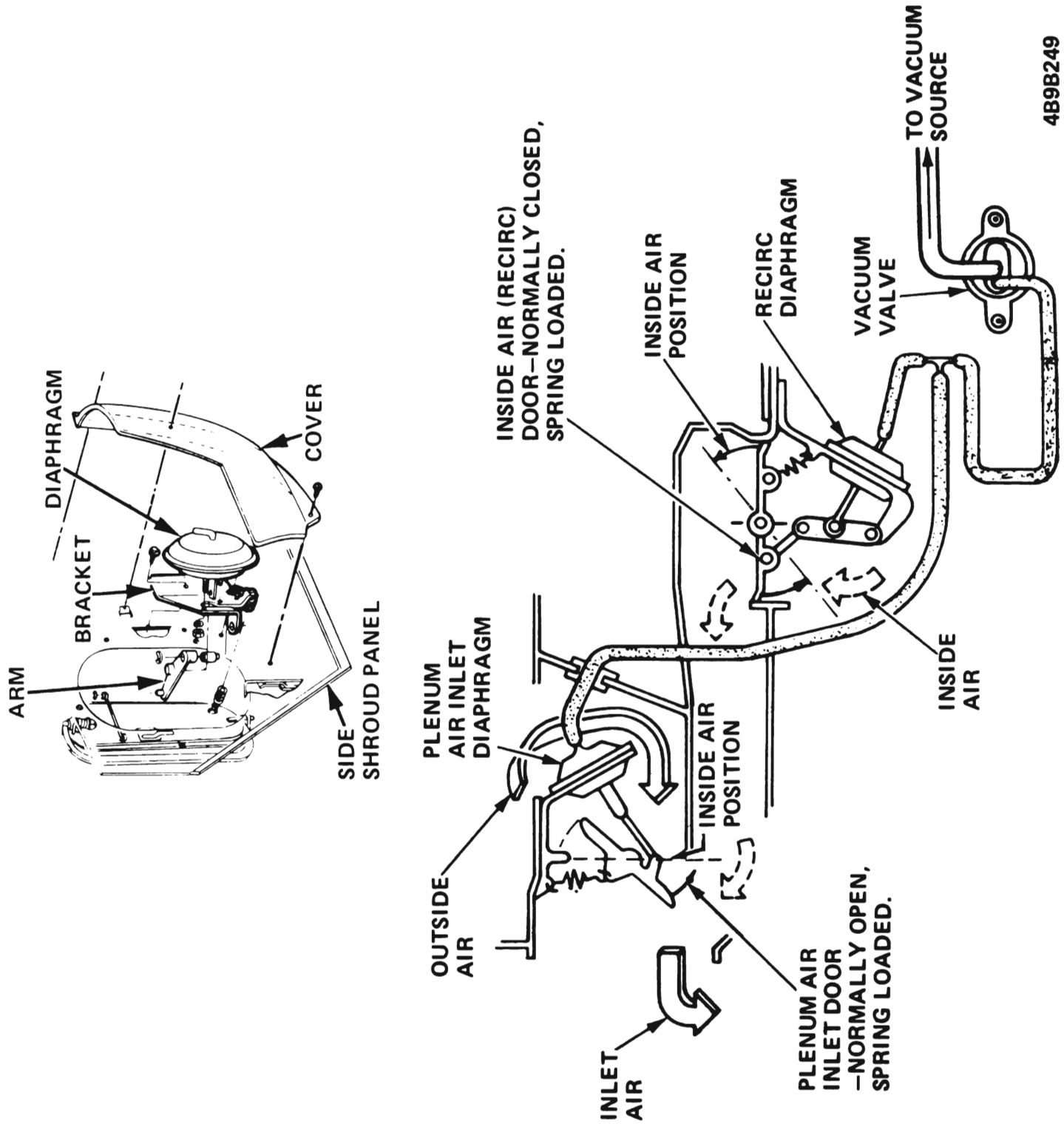
Figure 9B-162 A/C Wiring - Engine Compartment (Right Hand) - X Series





489B248

Figure 9B-163 A/C Air Distribution Ducts - X Series



4B9B249

Figure 9B-164 A/C Kick Panel (Recirc) Diaphragm and Vacuum Hoses - X Series

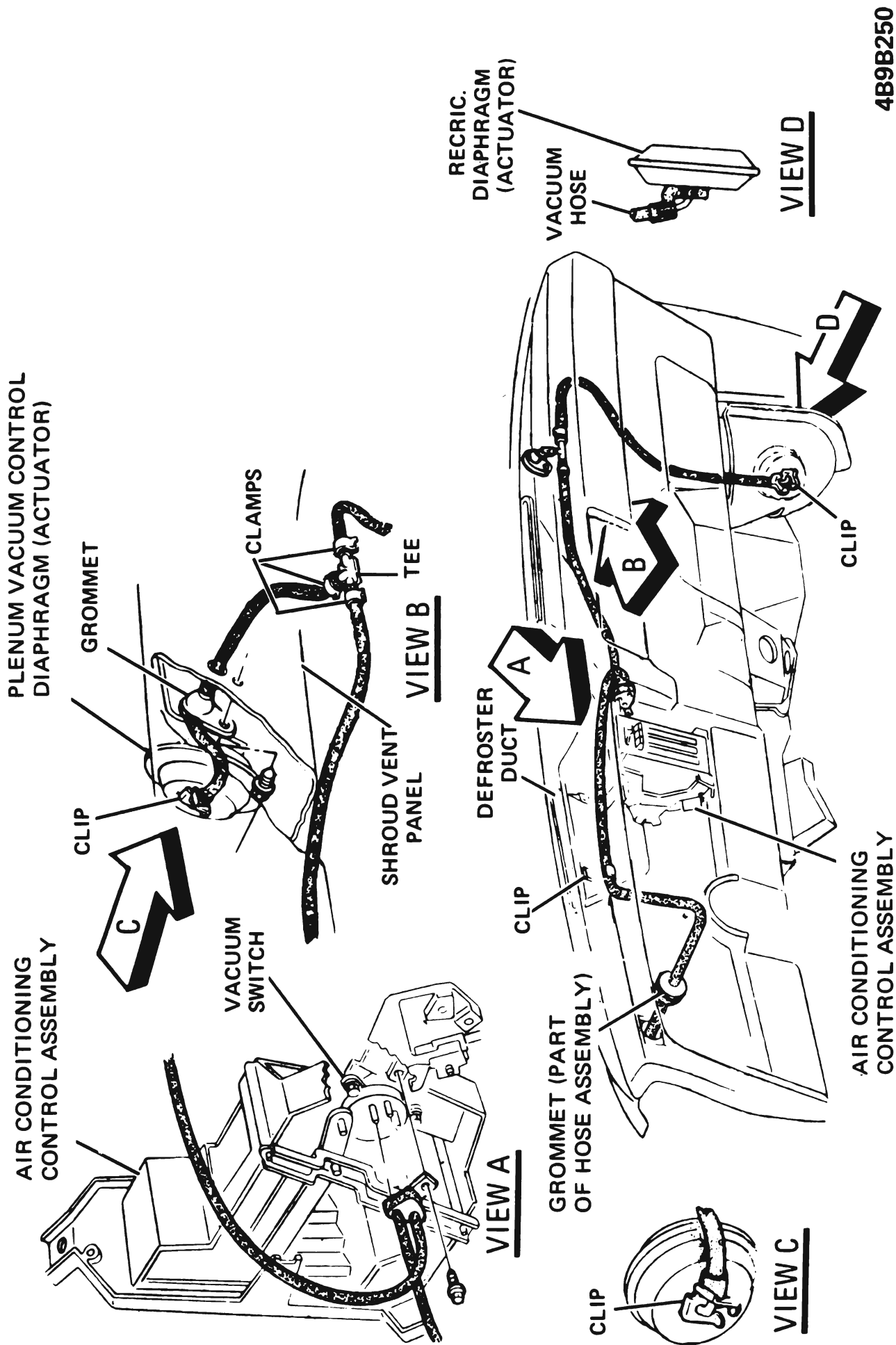


Figure 9B-165 A/C Vacuum Hose Routing - X Series

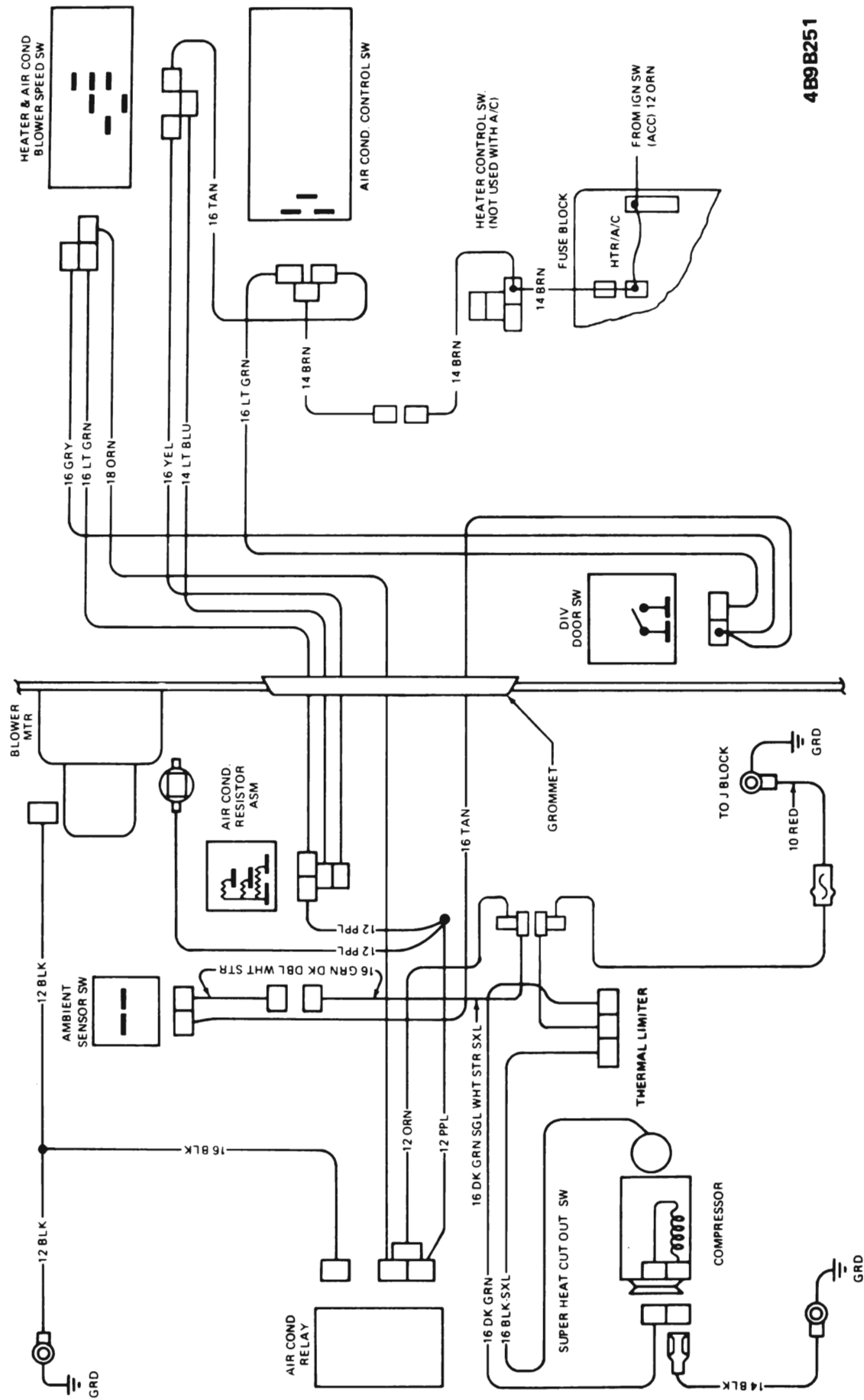


Figure 9B-166 A/C Wiring Circuit Diagram - X Series

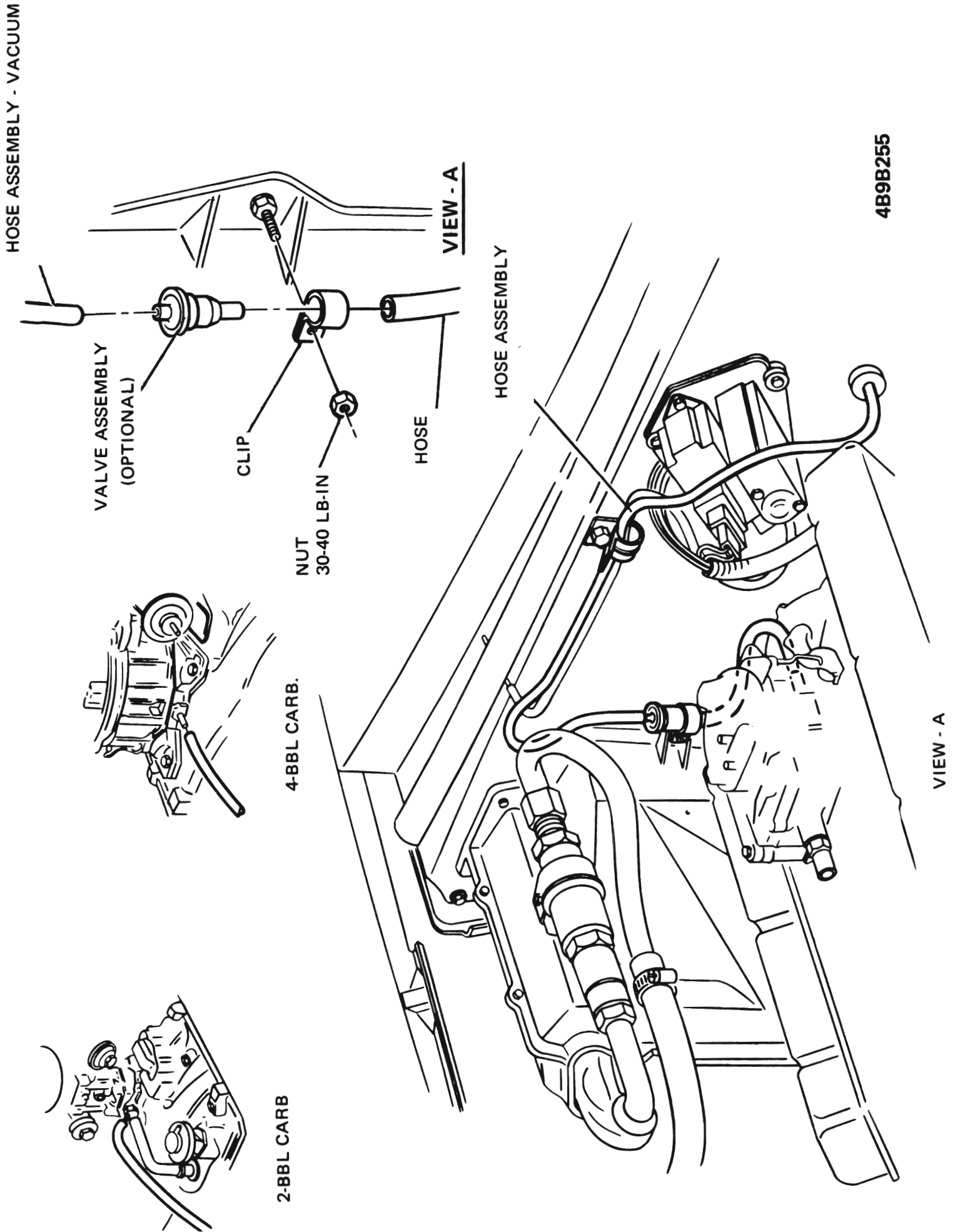


Figure 9B-167 Vacuum Hose - Front X Series

**A** DO NOT INSTALL CONNECTOR OR THERMAL LIMITER UNTIL AFTER SYSTEM HAS BEEN CHARGED & TESTED.

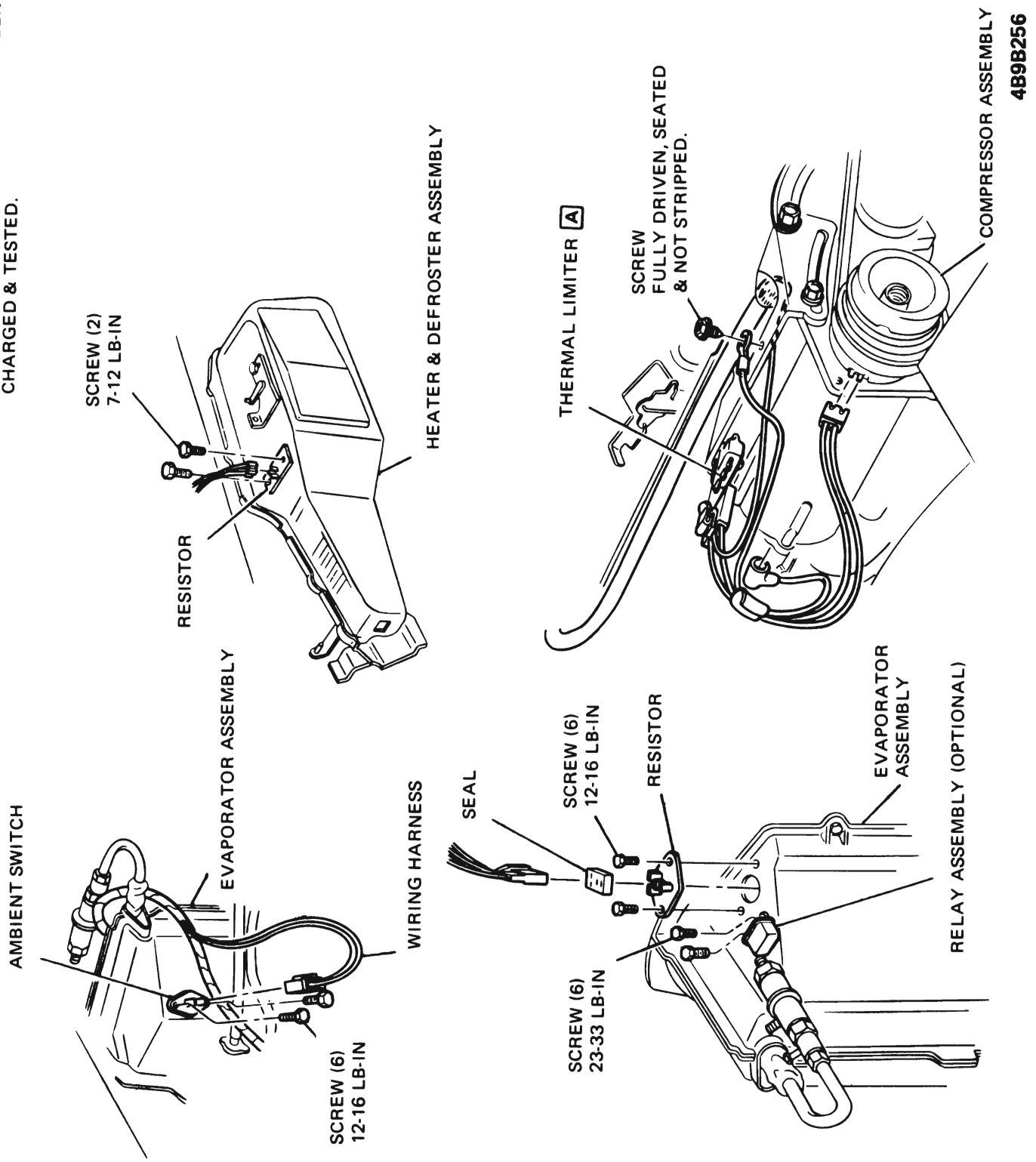


Figure 9B-168 Relays, Resistor and Switch - X Series

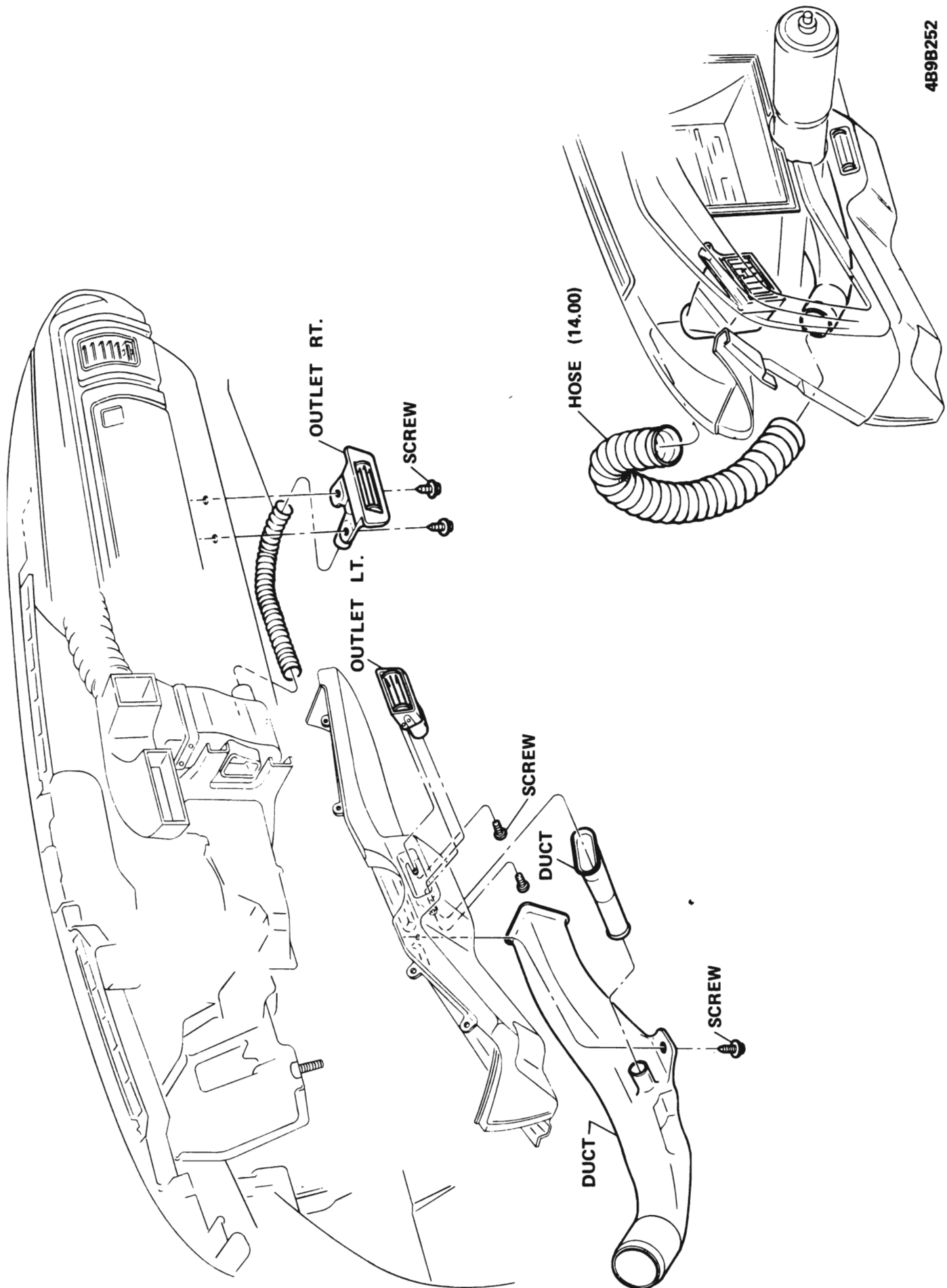
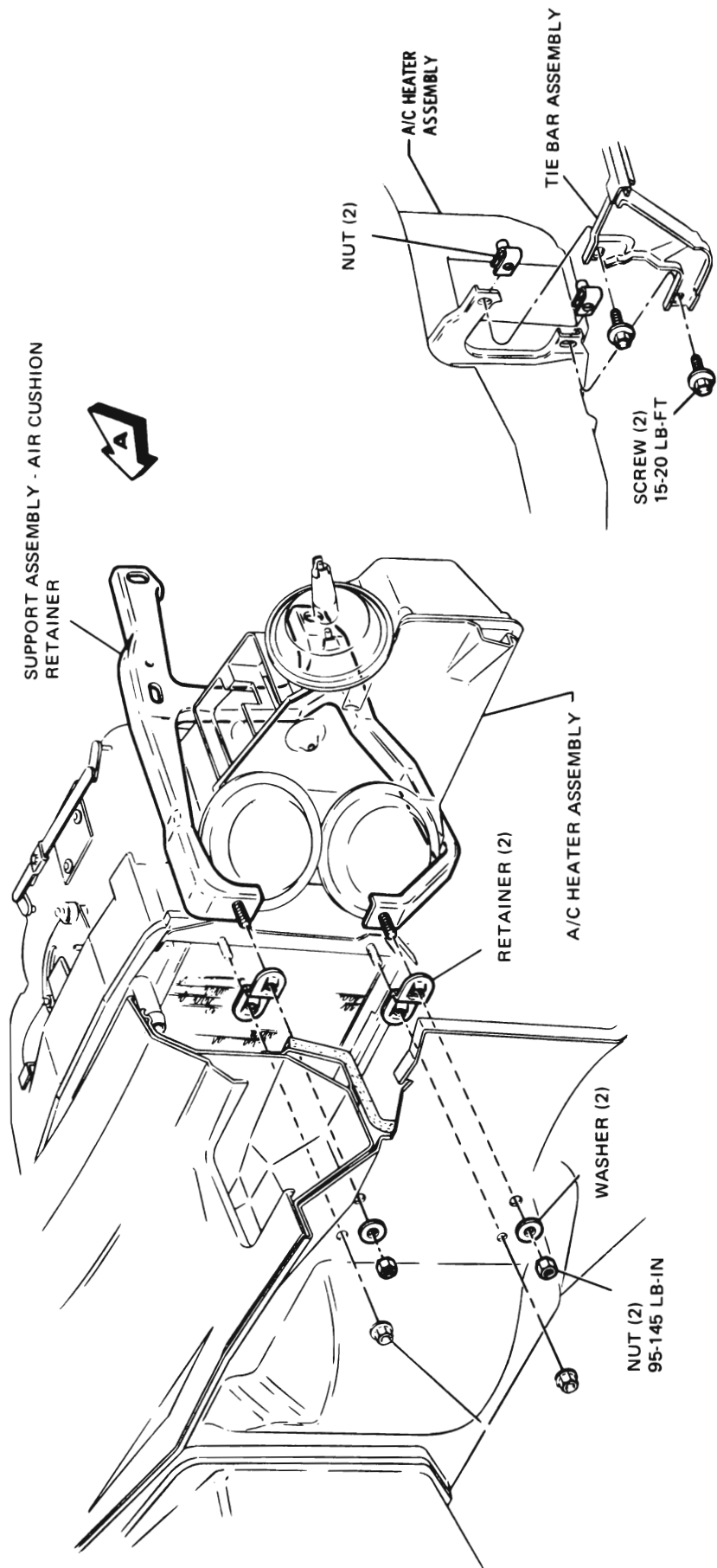


Figure 9B-170 A/C Intermediate Outlet Right and Left, and Left Distributor Duct - Air Cushion Restraint System - B-C-E Series



VIEW-A

4B9B253

Figure 9B-171 A/C Distribution Duct Assembly Upper and Lower - Air Cushion Restraint System - B-C-E Series



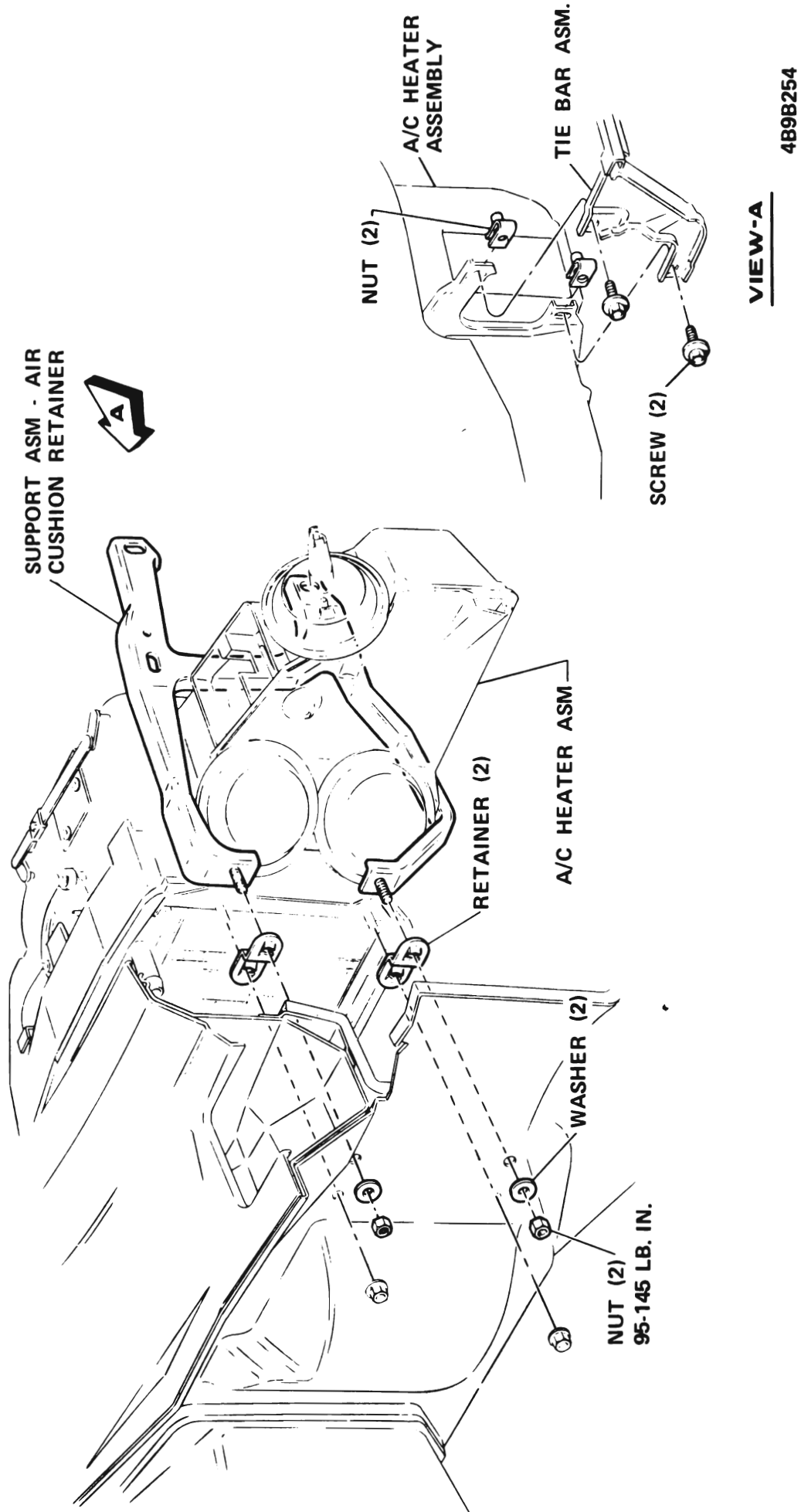
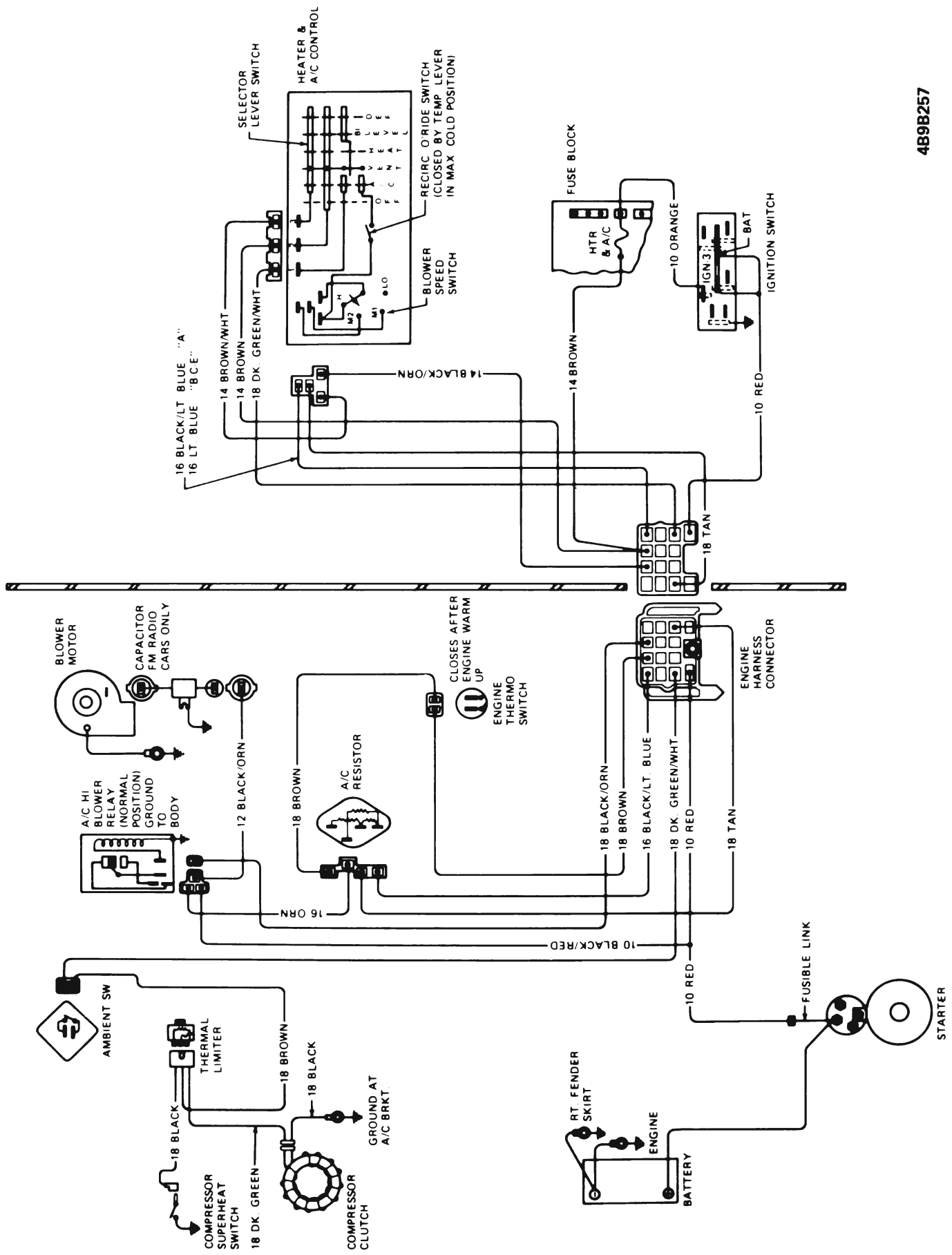
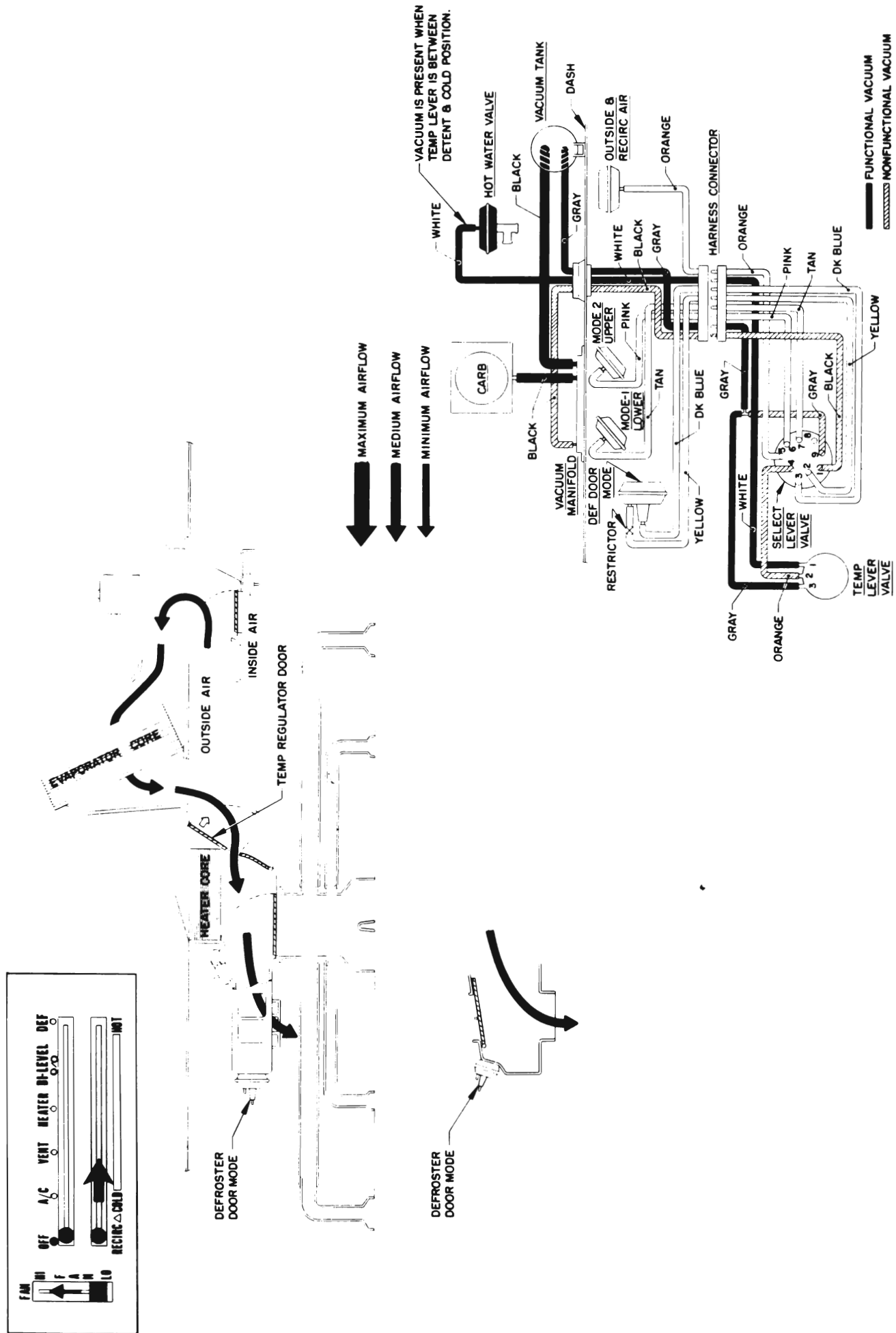


Figure 9B-172 Support Assembly - Air Cushion Restrainer - B-C-E Series



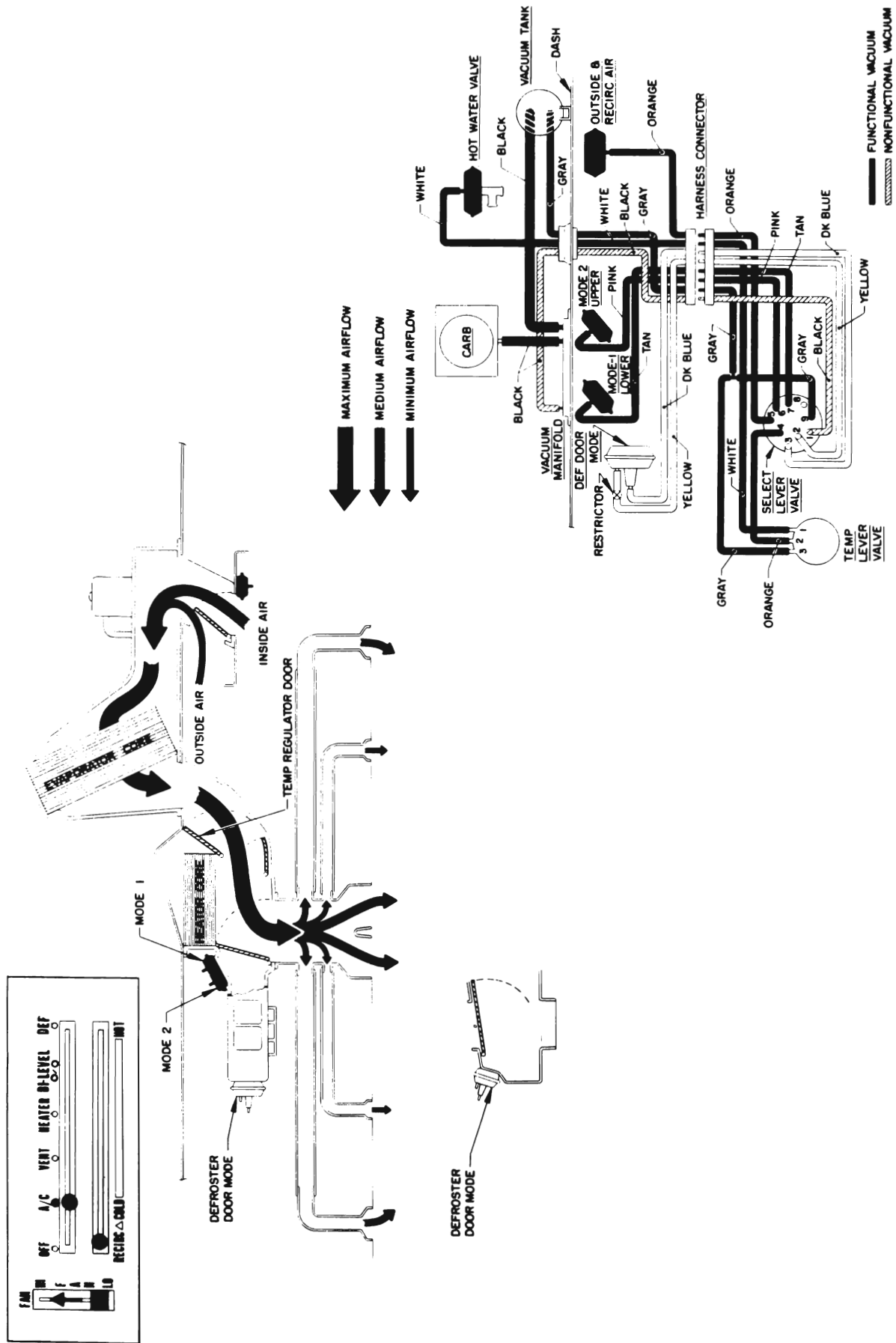
4B9B257

Figure 9B-173 Heater - Air Conditioner Wiring Diagram - A-B-C-E Series



9B-113

Figure 9B-174 Control Position, Vacuum Circuits, and Air Flow During OFF Mode - A-B-C-E Series



9B-114

Figure 9B-175 Control Position, Vacuum Circuits, and Air Flow During A/C Mode - Recirc - A-B-C-E Series

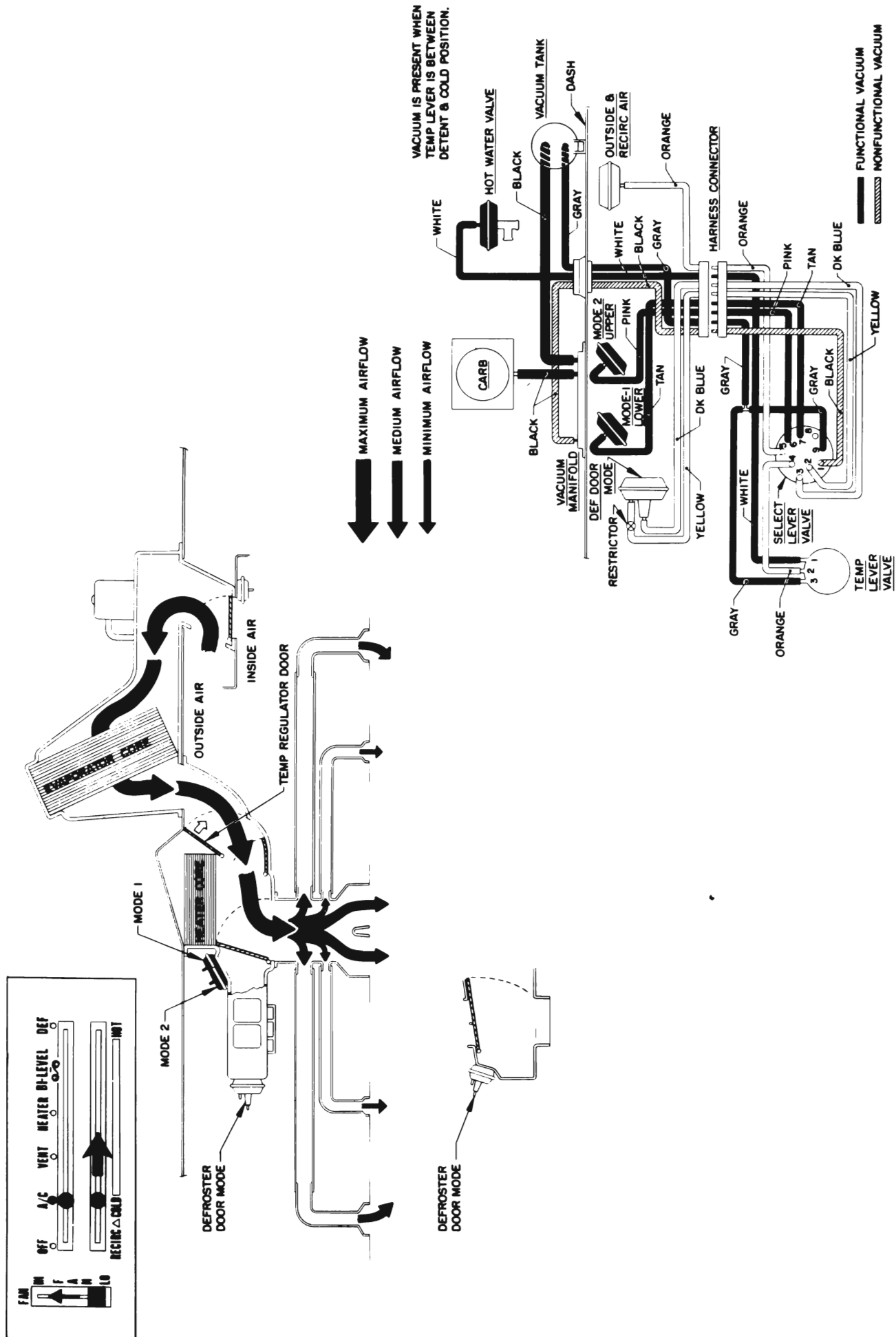
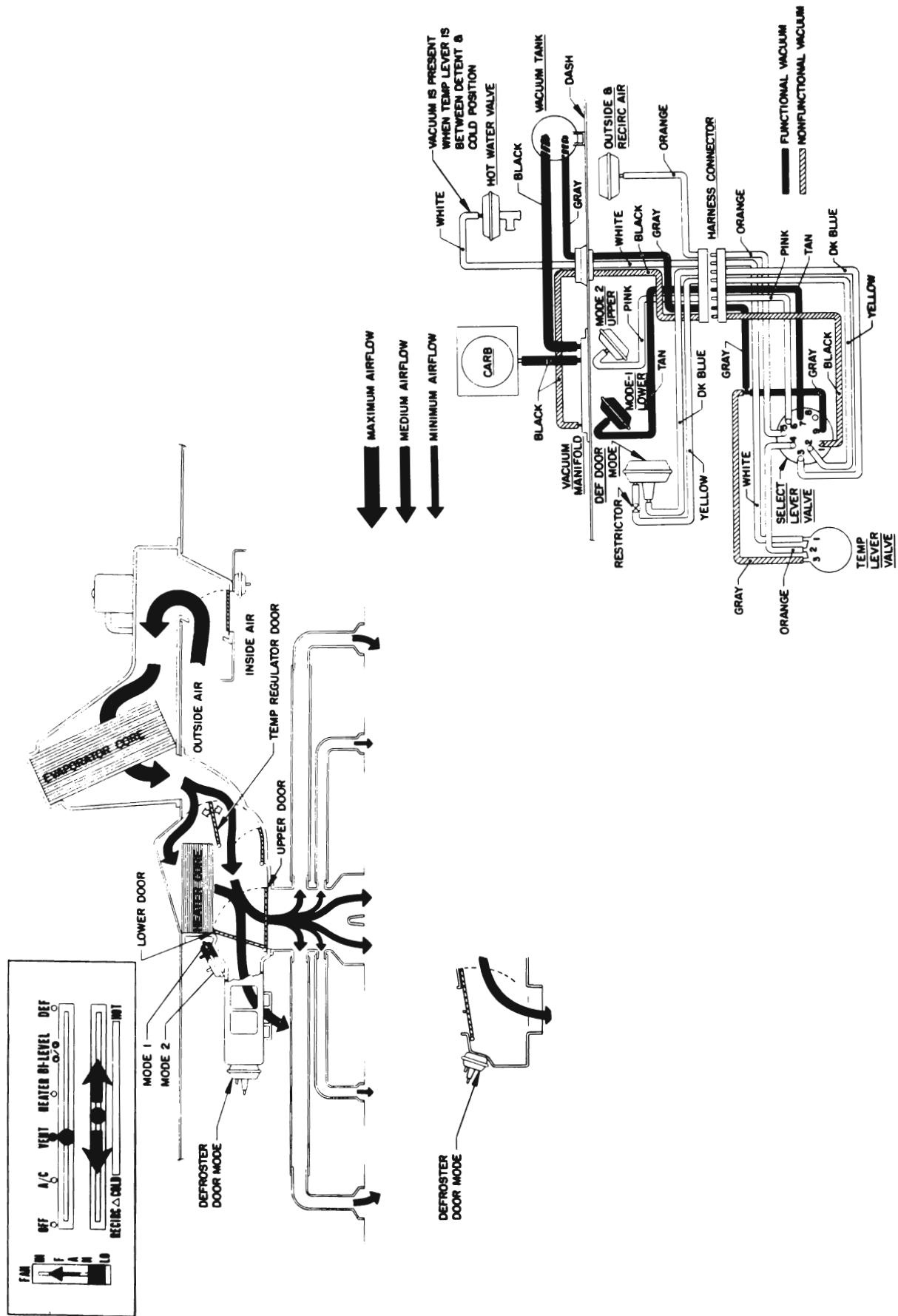
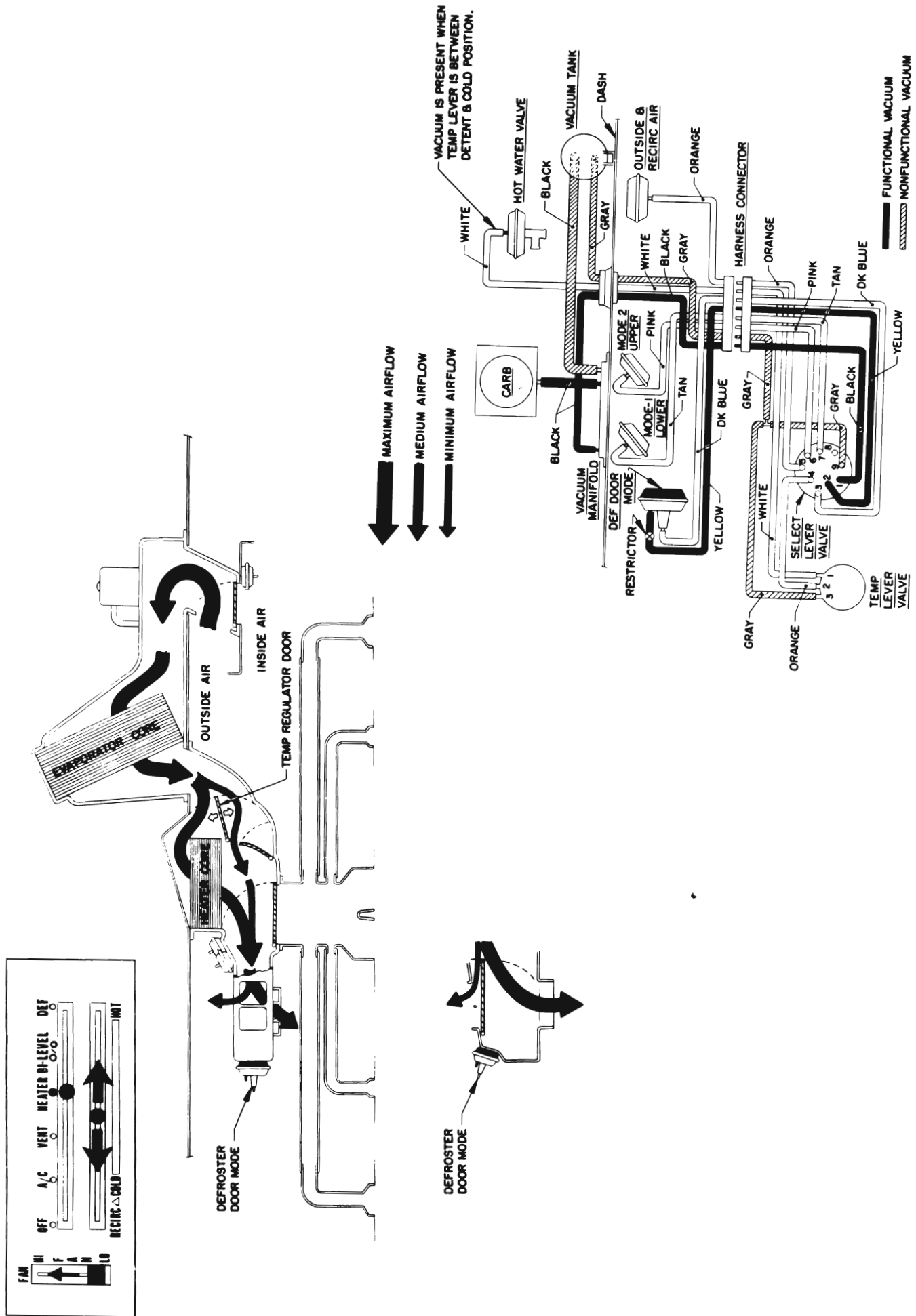


Figure 9B-176 Control Position, Vacuum Circuits, and Air Flow During A/C Mode - A-B-C-E Series



9B-116

Figure 9B-177 Control Position, Vacuum Circuits, and Air Flow During VENT Mode - A-B-C-E Series



9B-117

Figure 9B-178 Control Position, Vacuum Circuits, and Air Flow During HTR Mode - A-B-C-E Series

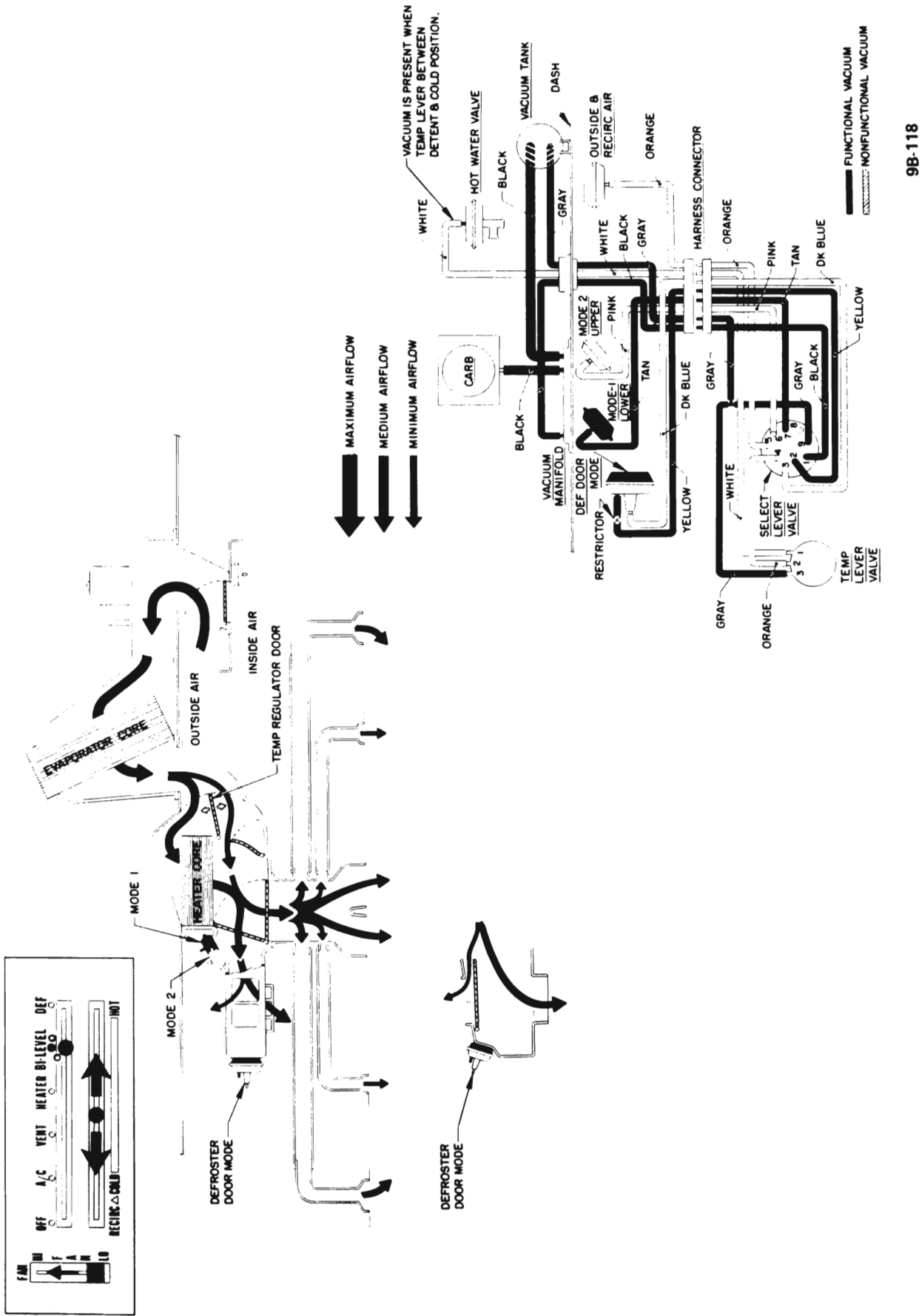
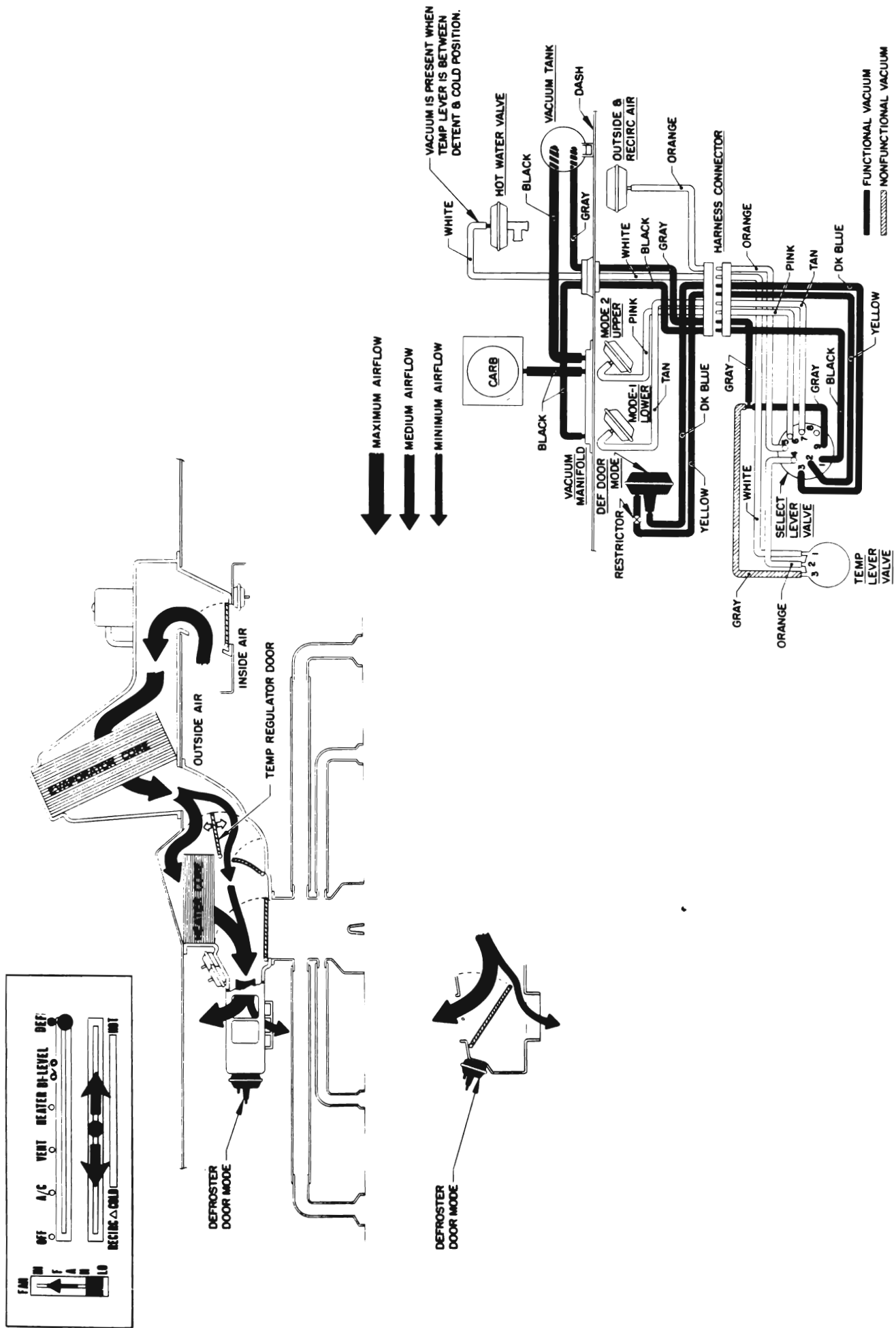


Figure 9B-180 Control Position, Vacuum Circuits, and Air Flow During BI-LEVEL Mode - A-B-C-E Series





9B-119

Figure 9B-181 Control Position, Vacuum Circuits, and Air Flow During DEF Mode - A-B-C-E Series

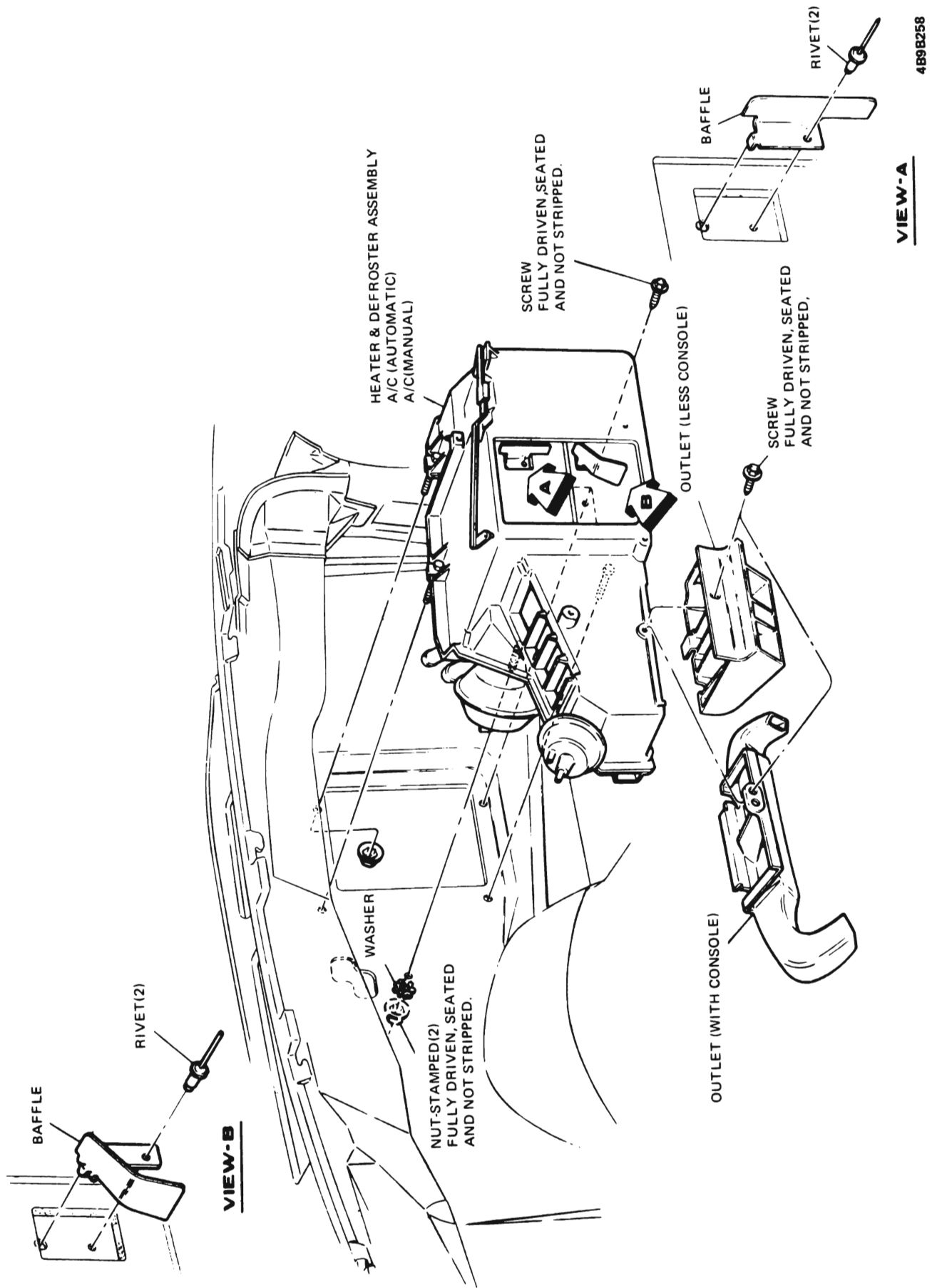
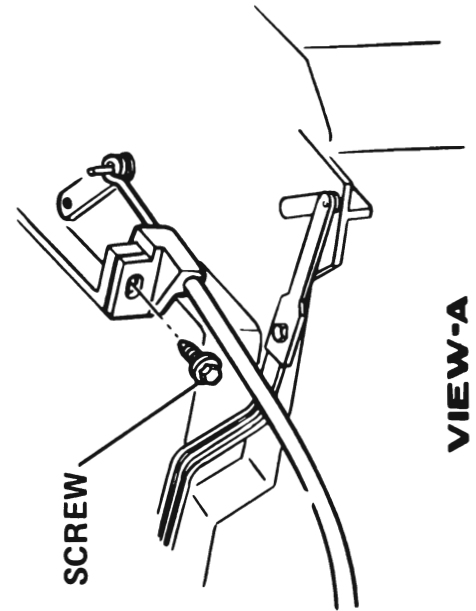
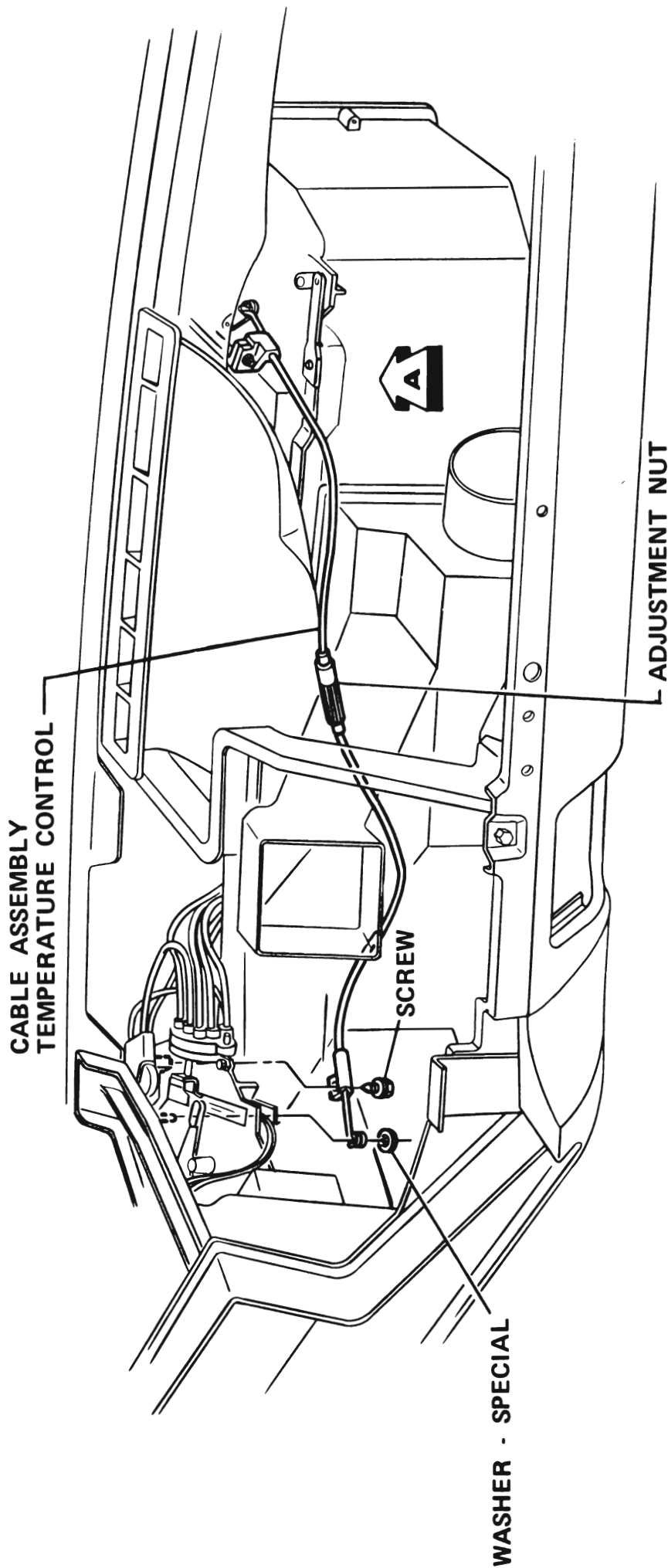


Figure 9B-182 A/C Heater-Defroster Assembly and Center Outlet - A Series

4B9B259



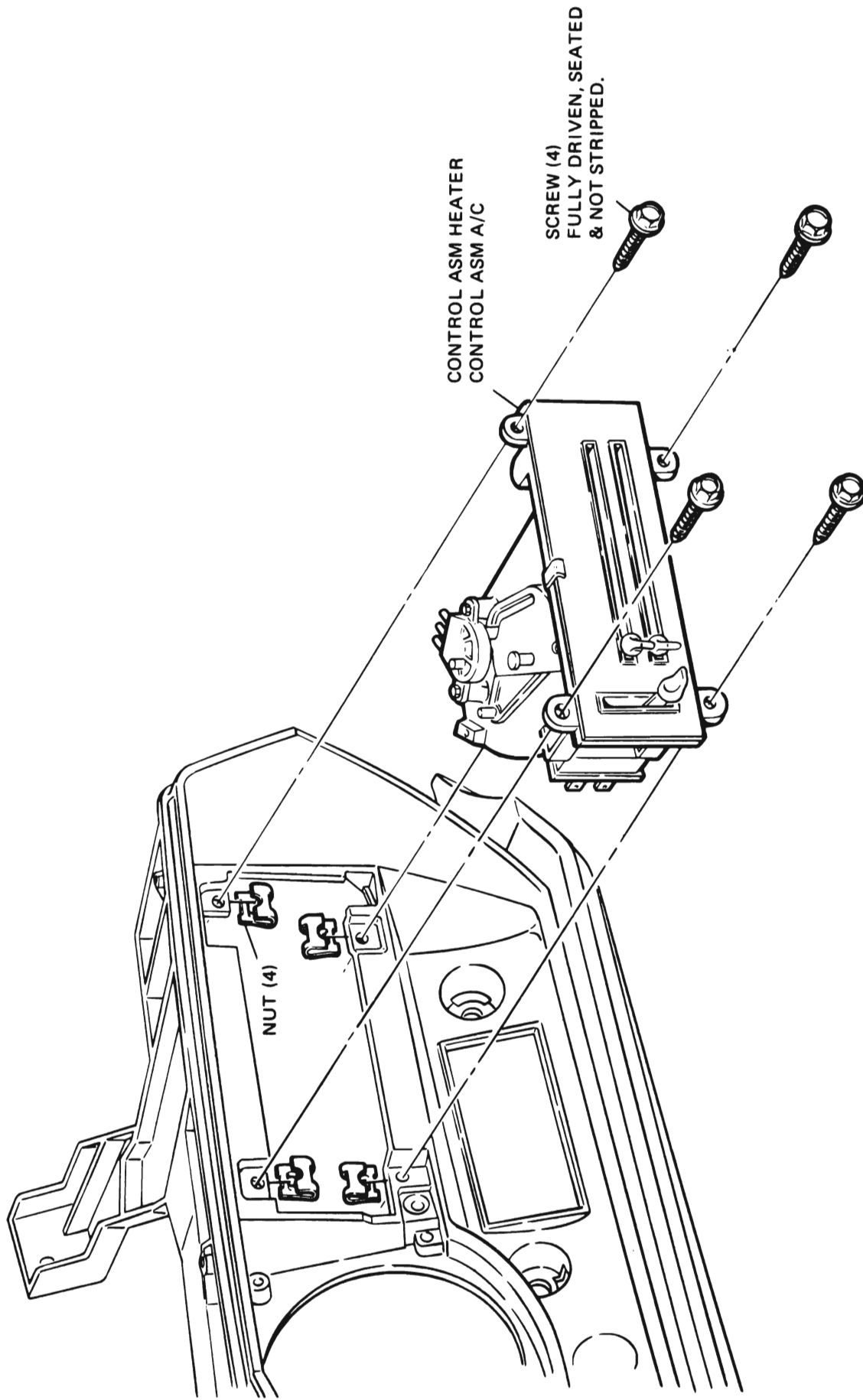
**CONTROL WIRE ASSEMBLE & ADJUSTMENT**

1 - SUB-ASSEMBLE CONTROL WIRE TO A/C HEATER CONTROL ASSEMBLY.

- A. SECURE TEMPERATURE WIRE TO TEMPERATURE CONTROL VALVE (RED)
- B. ADJUST CONTROL CABLE SO THAT 1/16" TO 1/8" SPRINGBACK IS OBTAINED IN THE HOT POSITION.

**CONTROLS MUST BE 100% INSPECTED FOR CORRECT OPERATION & FREE MOVEMENT**

Figure 9B-183 A/C Control Cable - A Series



9B-122

Figure 9B-184 Heater and A/C to Housing Control Assembly - A Series

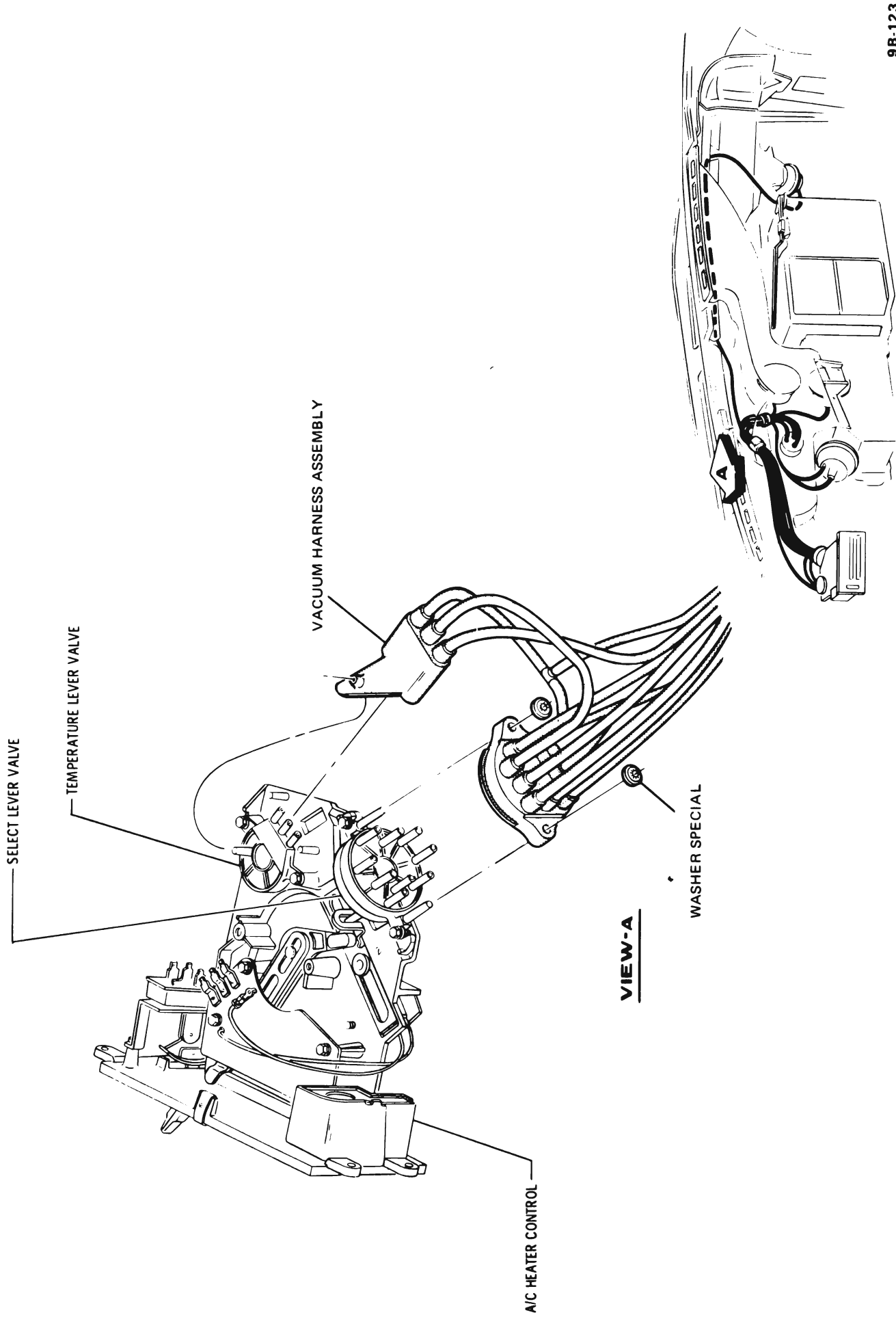


Figure 9B-185 A/C Control Vacuum Harness - A Series

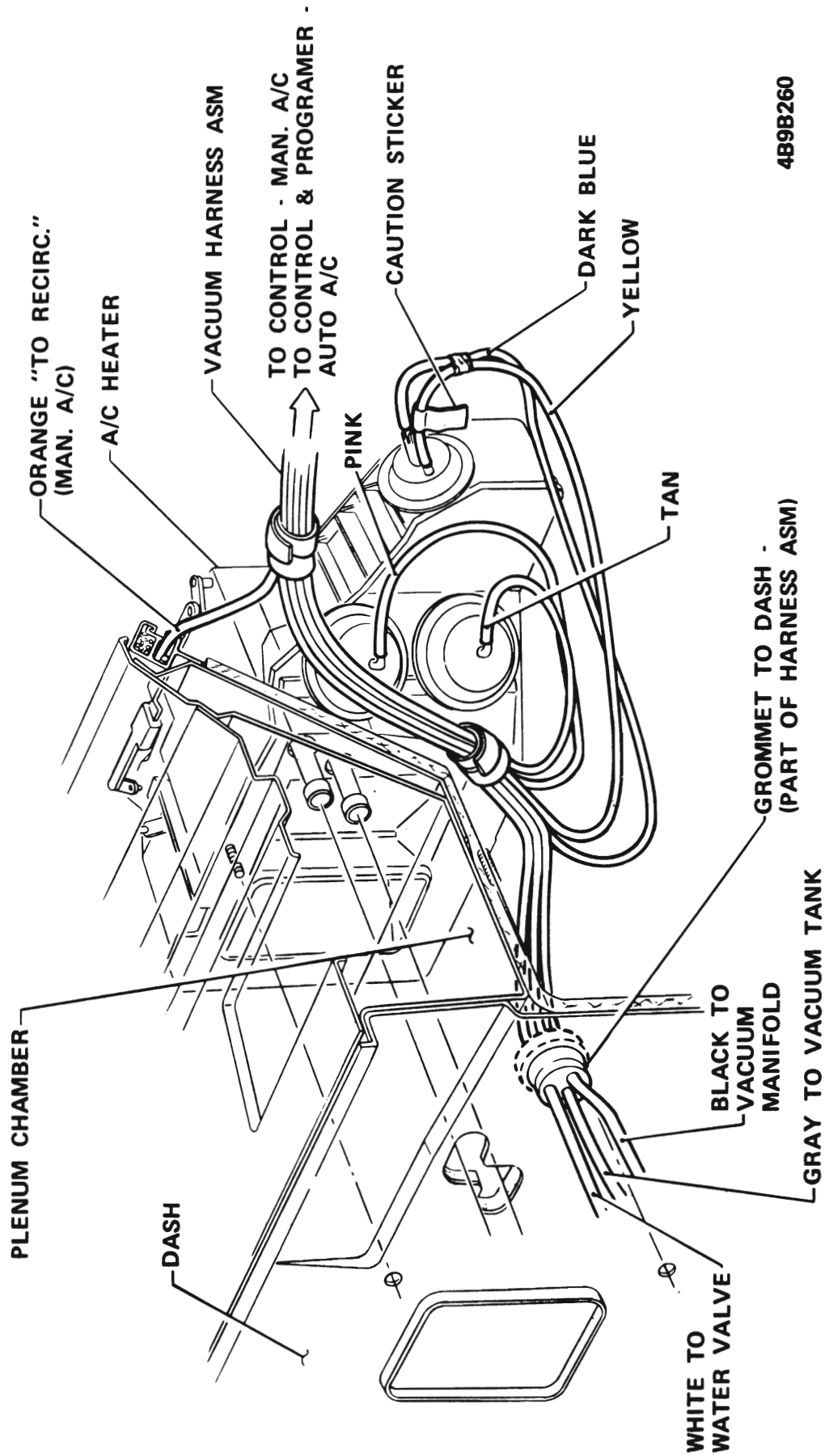
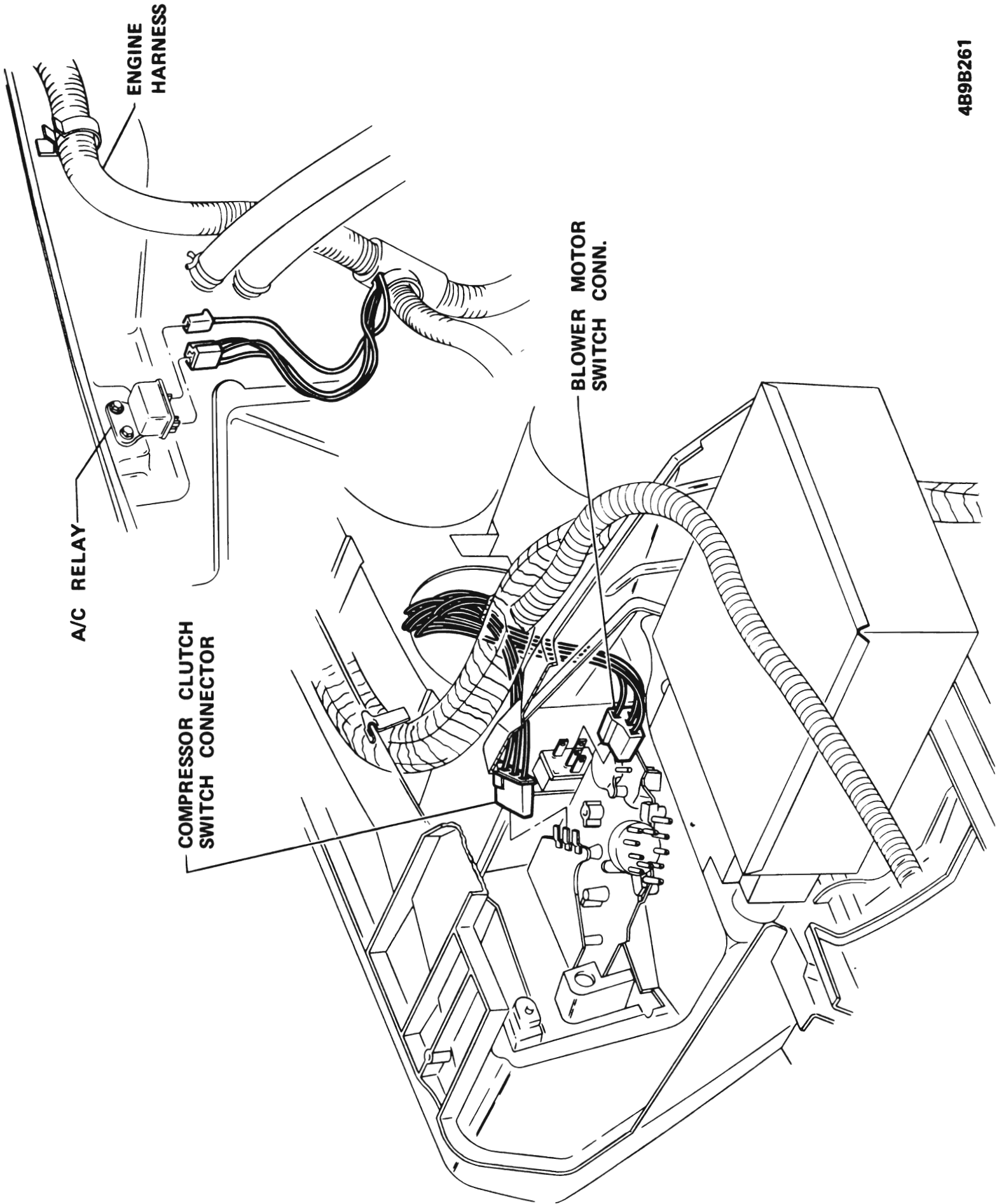
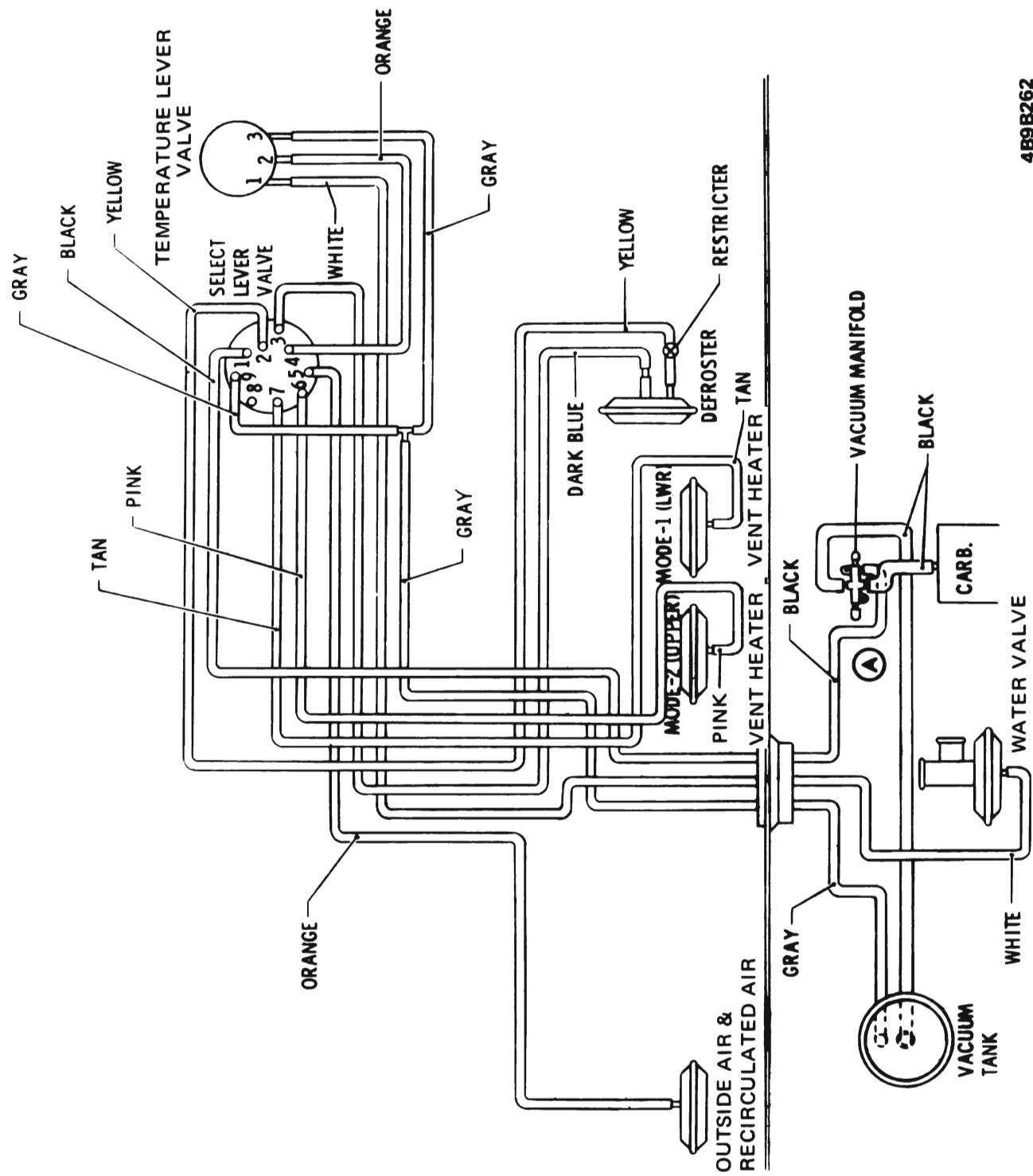


Figure 9B-186 A/C Vacuum Harness - Passenger Compartment to Heater - A Series



489B261

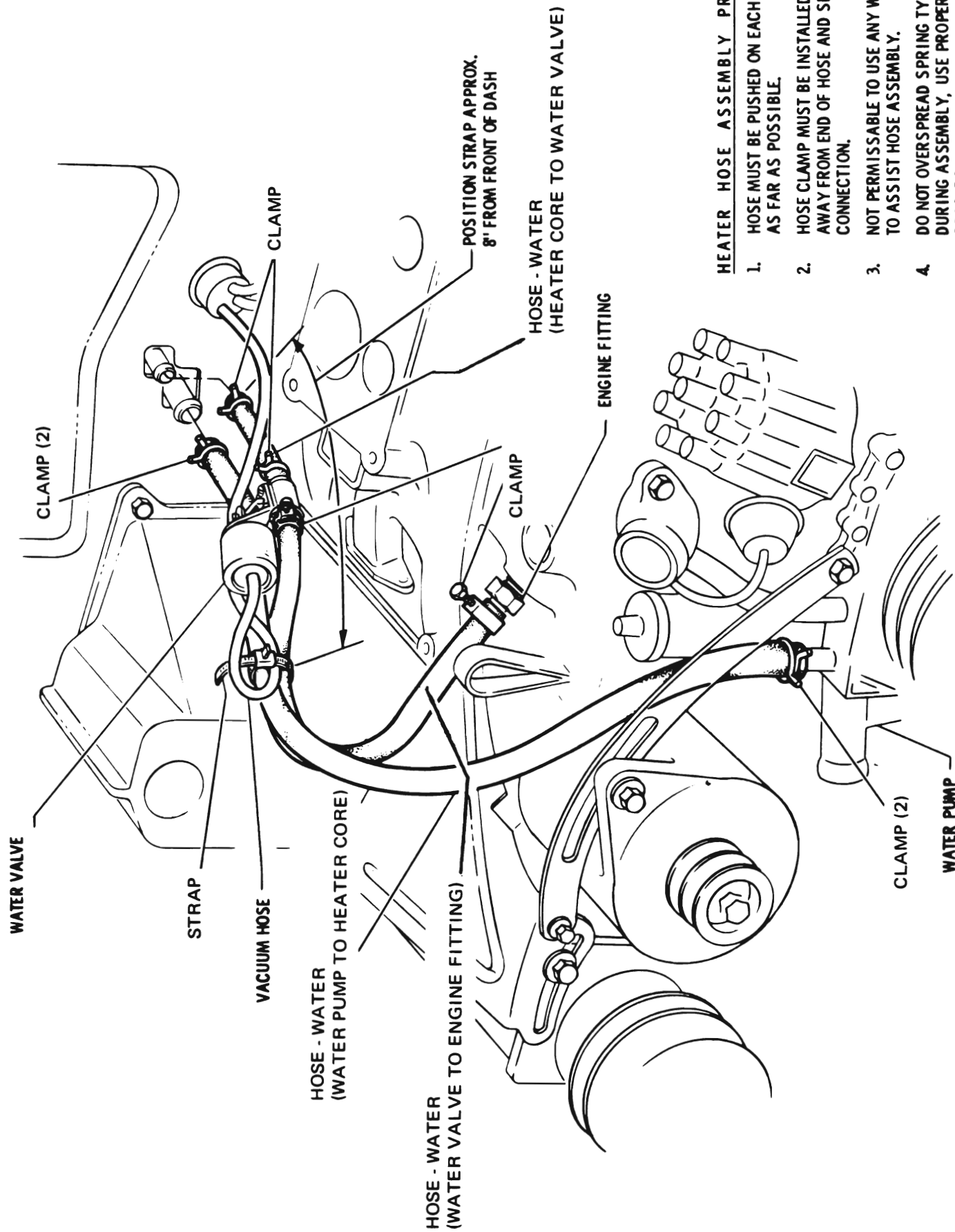
Figure 9B-187 A/C Controls and Relay Wiring - A Series



4B9B262

Figure 9B-188 A/C Vacuum Hose Schematic - A Series



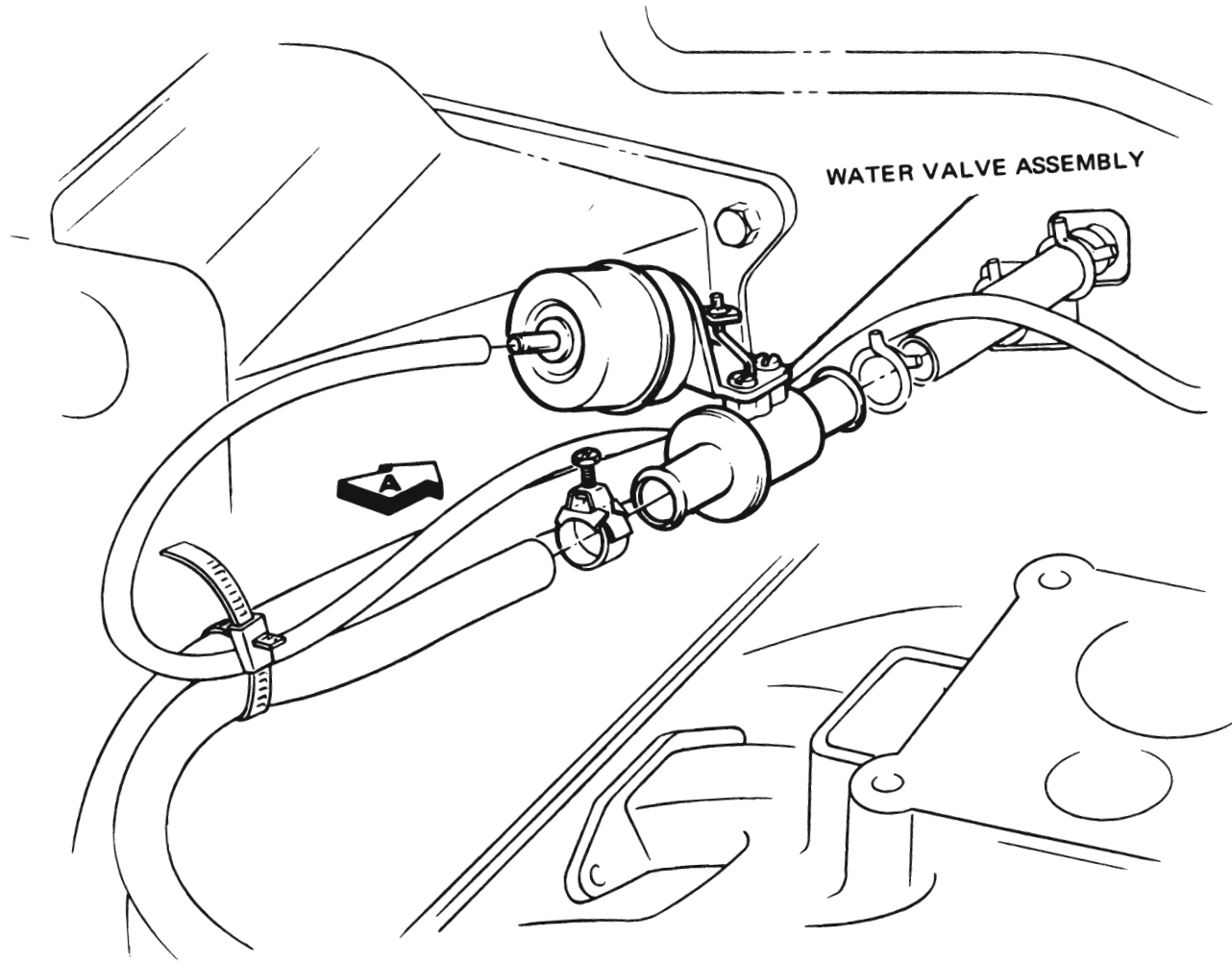


**HEATER HOSE ASSEMBLY PRECAUTIONS**

1. HOSE MUST BE PUSHED ON EACH CONNECTION AS FAR AS POSSIBLE.
2. HOSE CLAMP MUST BE INSTALLED STRAIGHT, AWAY FROM END OF HOSE AND SLIGHTLY BEHIND CONNECTION.
3. NOT PERMISSIBLE TO USE ANY WETTING AGENTS TO ASSIST HOSE ASSEMBLY.
4. DO NOT OVERSPREAD SPRING TYPE CLAMPS DURING ASSEMBLY, USE PROPER TOOL WITH SPACERS.

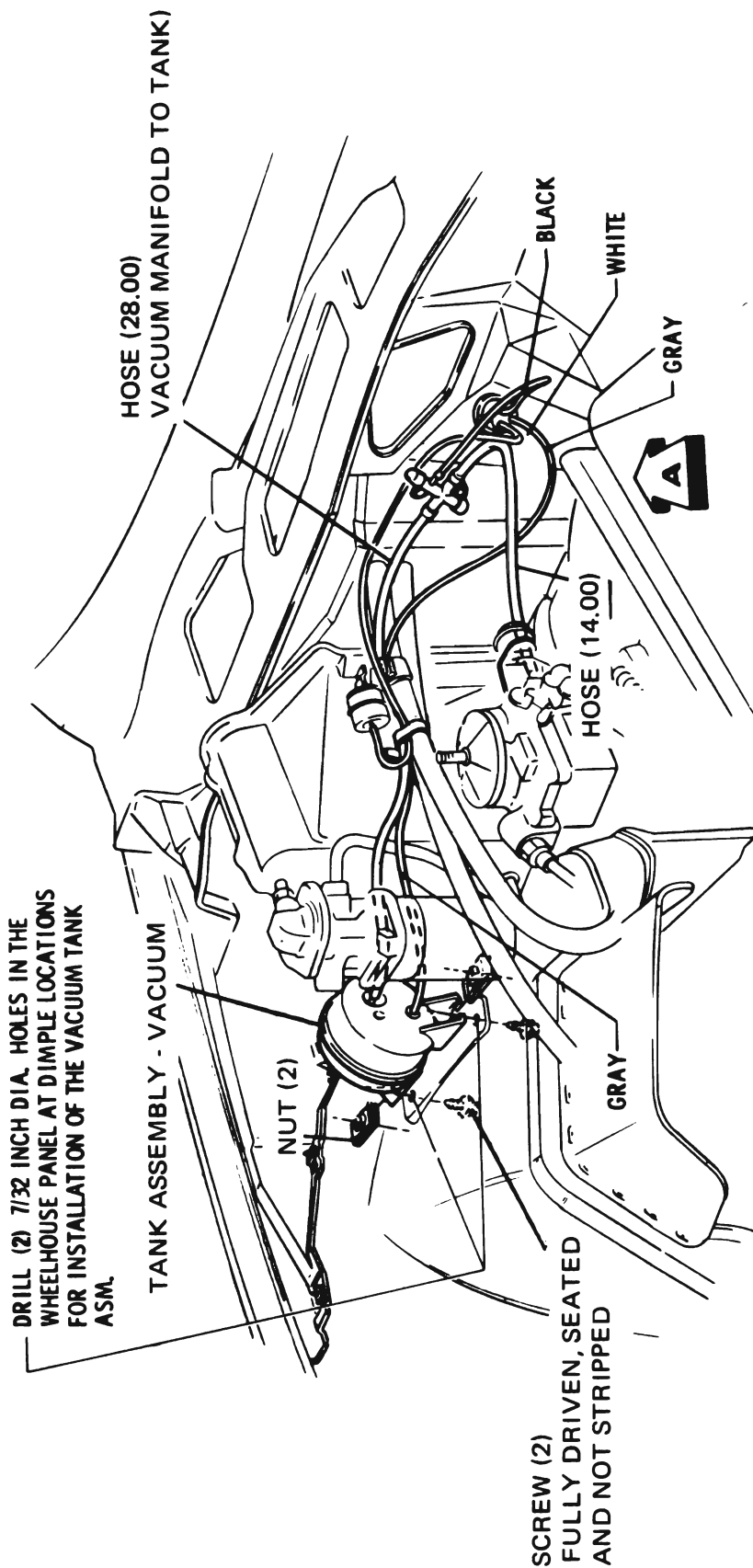
489B263

Figure 9B-190 Heater Hoses With A/C - A Series

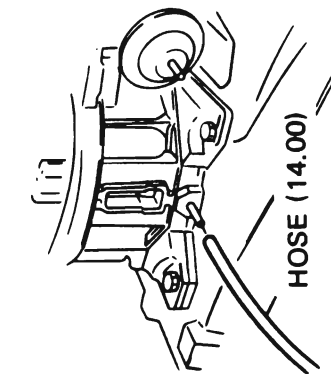
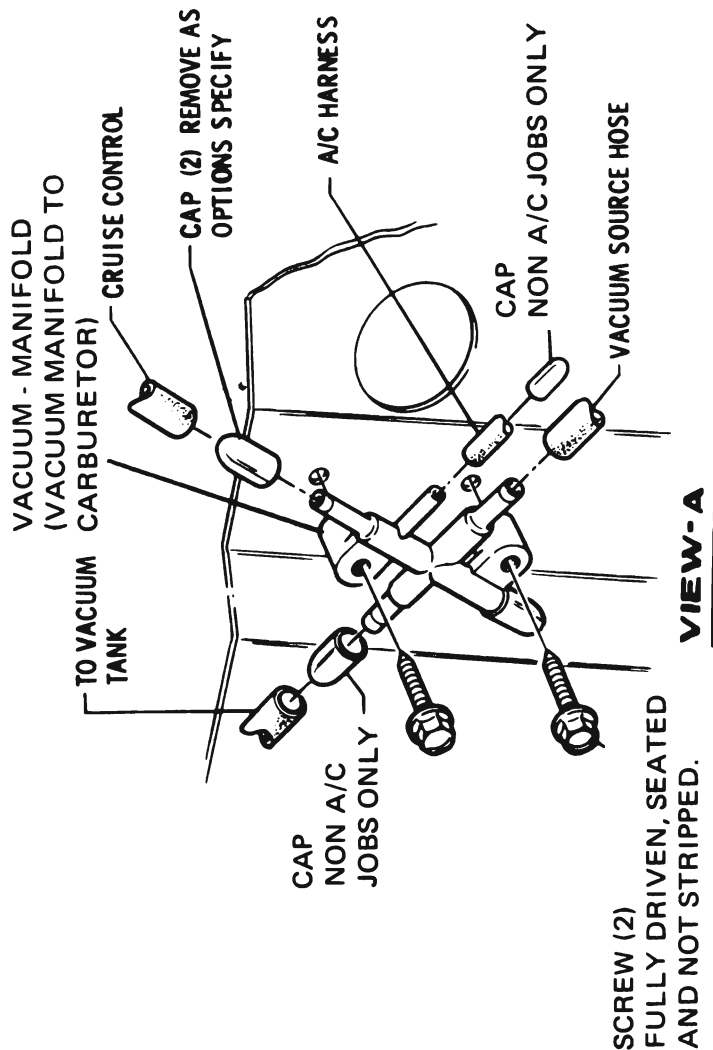


**VIEW-A**  
**4B9B264**

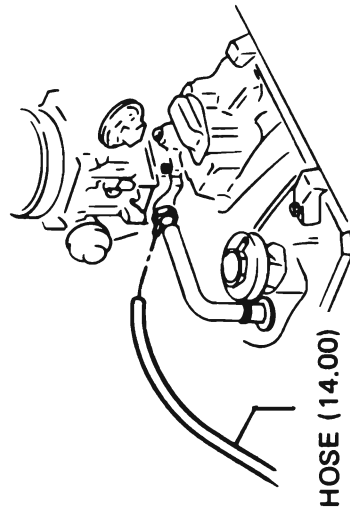
Figure 9B-191 A/C Water Valve - A Series



VACUUM MANIFOLD USED WITH HEATER JOBS ONLY WHEN CRUISE CONTROL IS SPECIFIED.

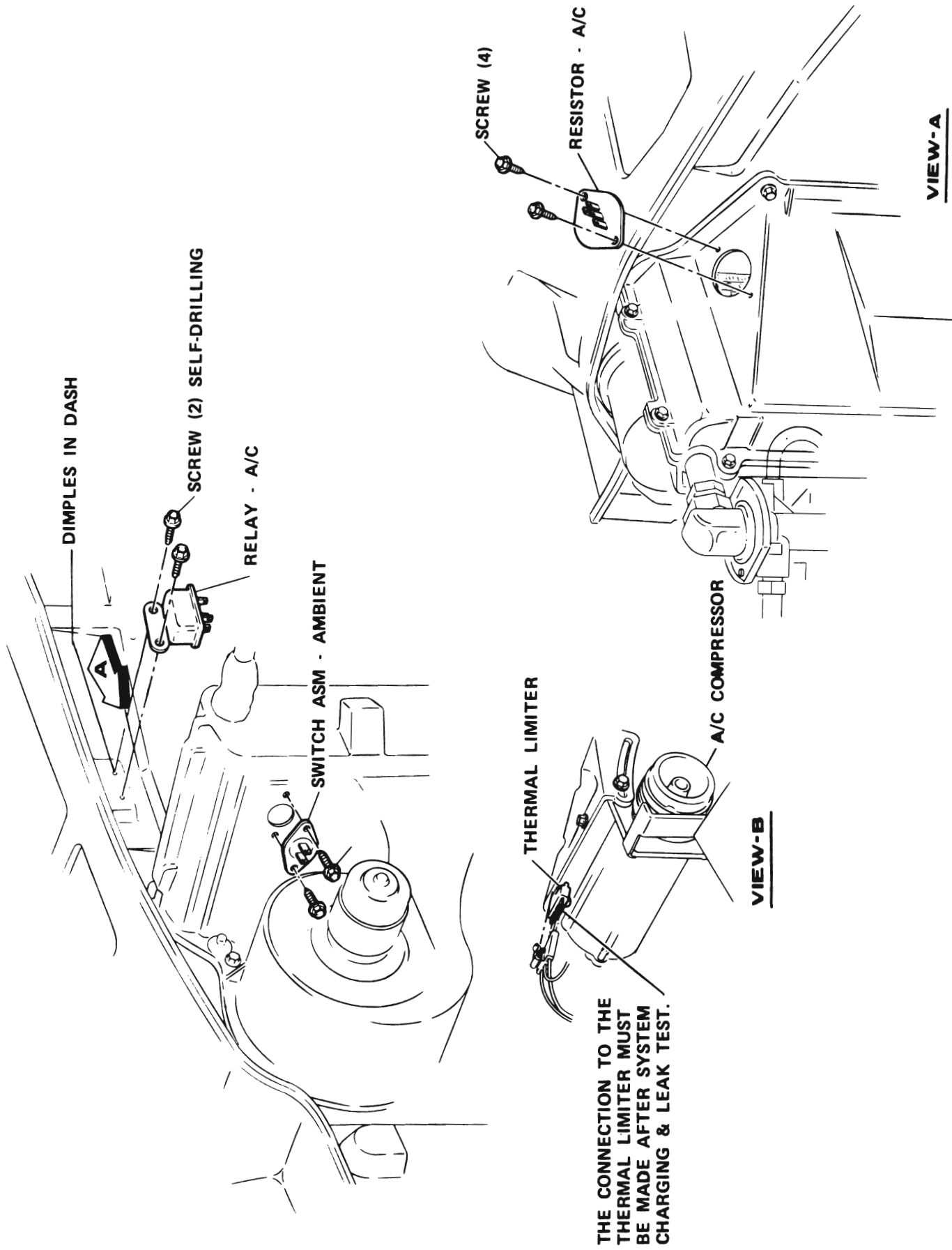


4-BBL CARB. 4B9B265



2-BBL CARB.

Figure 9B-192 A/C Vacuum Harness - Engine Compartment - A Series



489B266

Figure 9B-193 A/C Ambient Switch, Resistor, Relay and Thermal Limiter - A Series

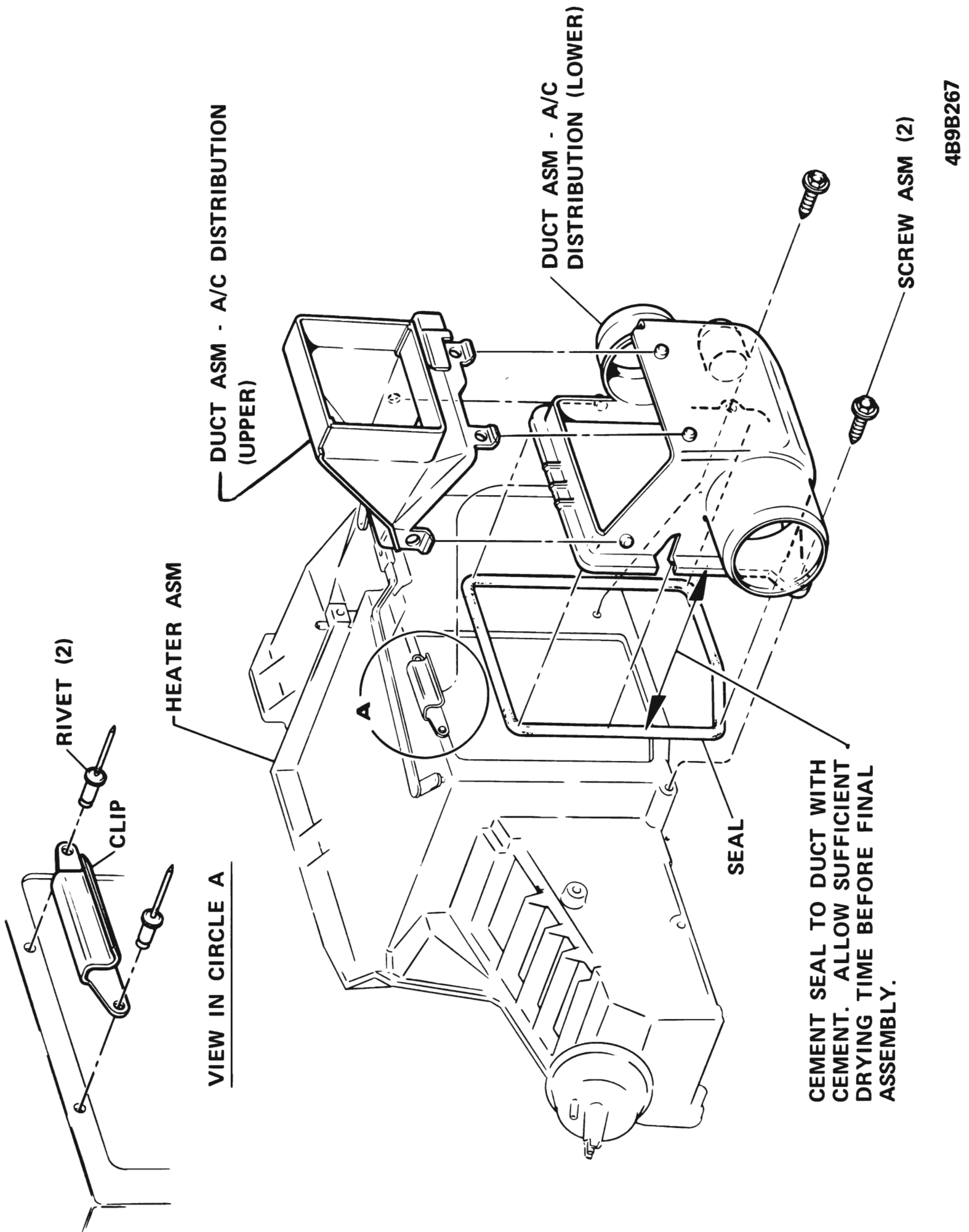


Figure 9B-194 A/C Distribution Duct (Upper and Lower) to Heater - A Series

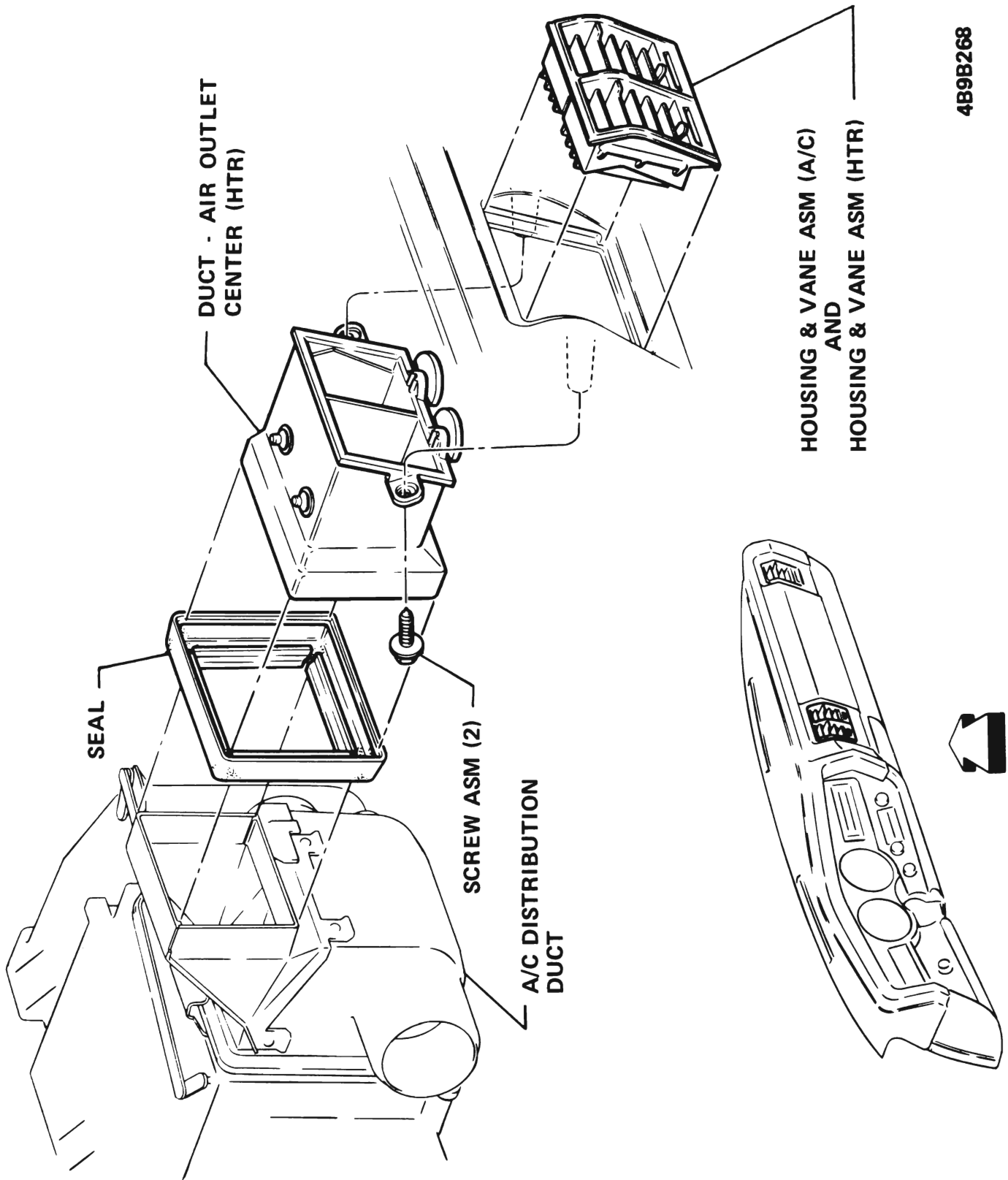
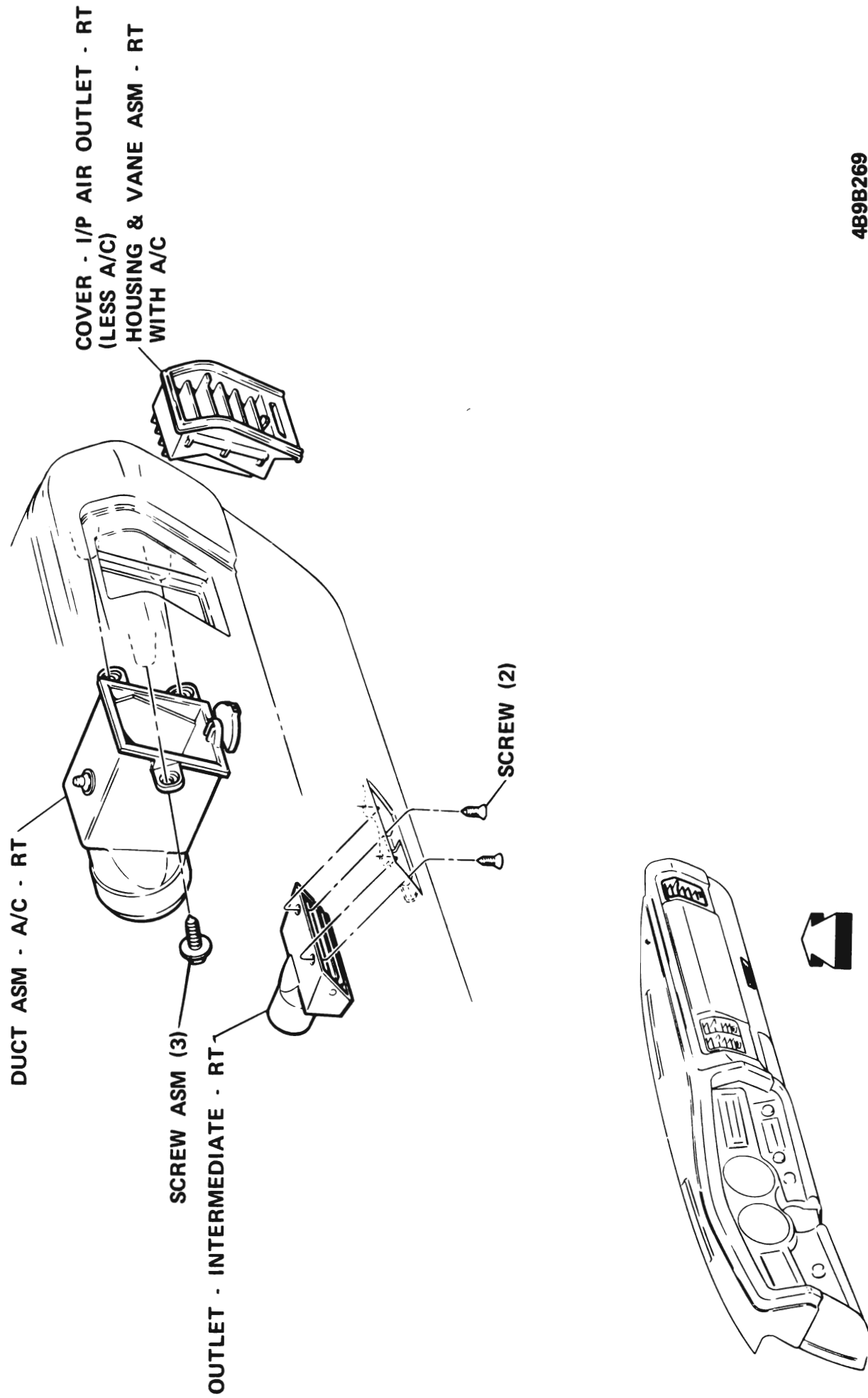


Figure 9B-195 Center Outlet - A Series



489B269

Figure 9B-196 A/C Outlet, Right and Intermediate Outlet - Right - A Series

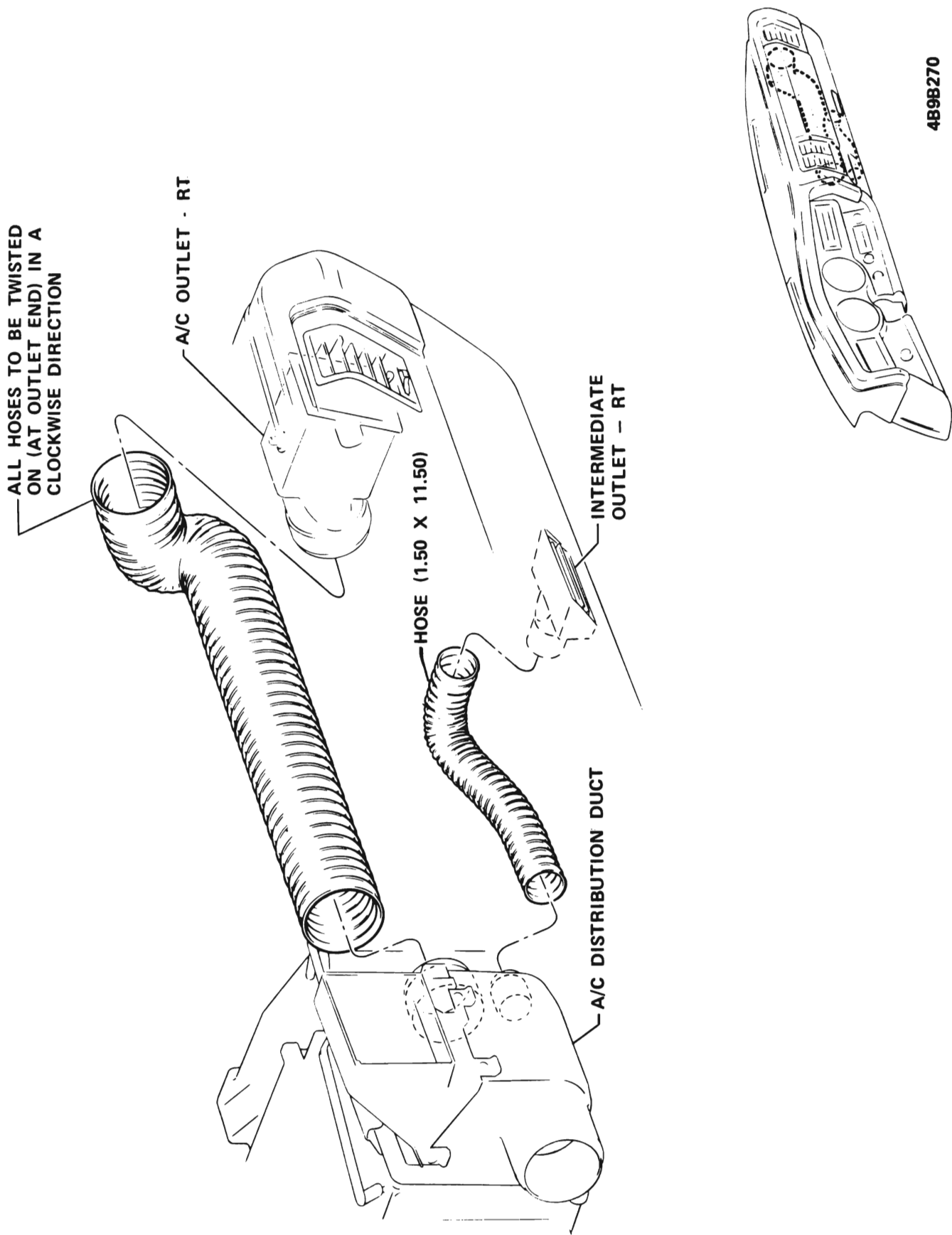


Figure 9B-197 Hose A/C Outlets - Right - A Series



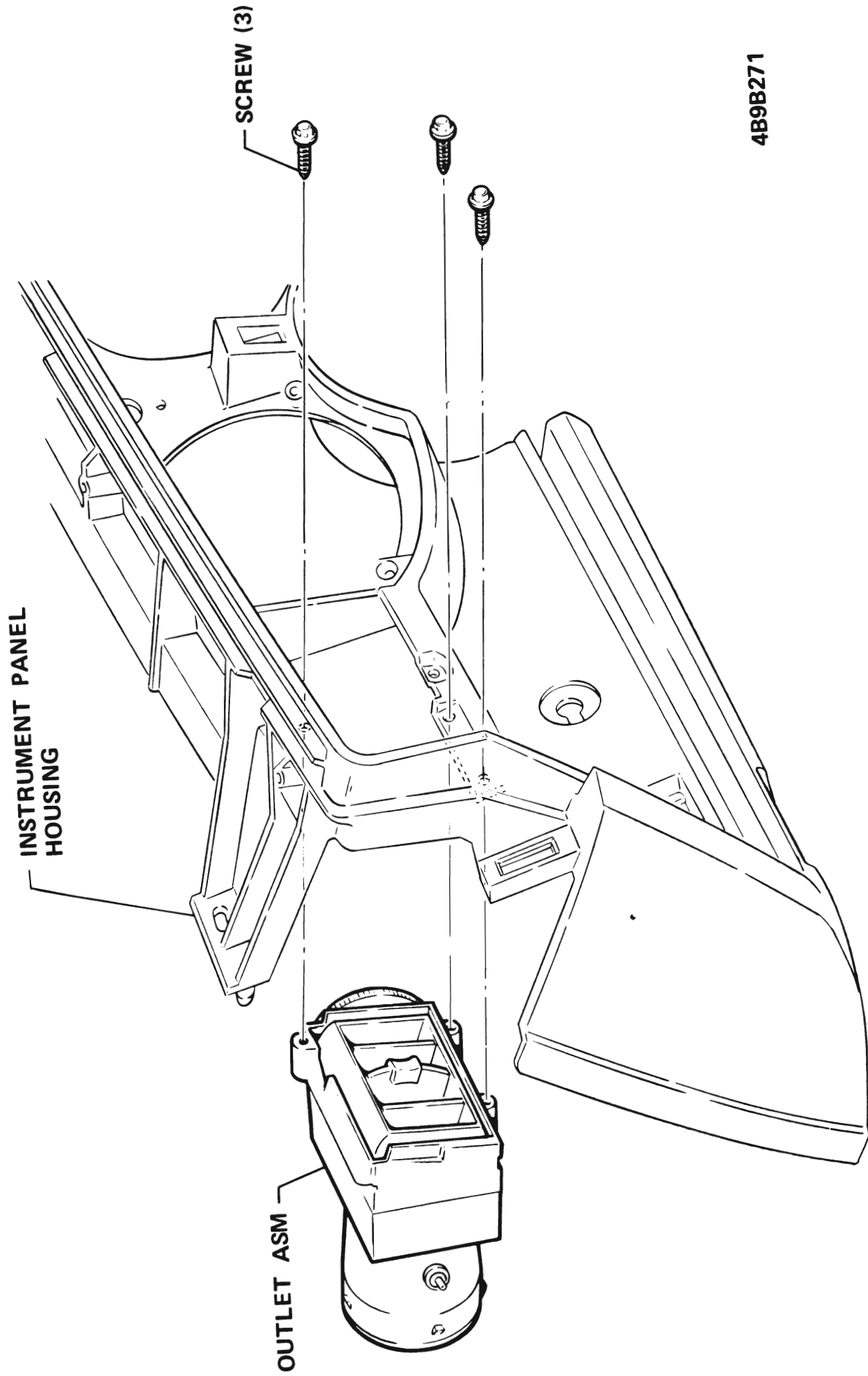


Figure 9B-198 A/C Outlet Left to Instrument Housing - A Series

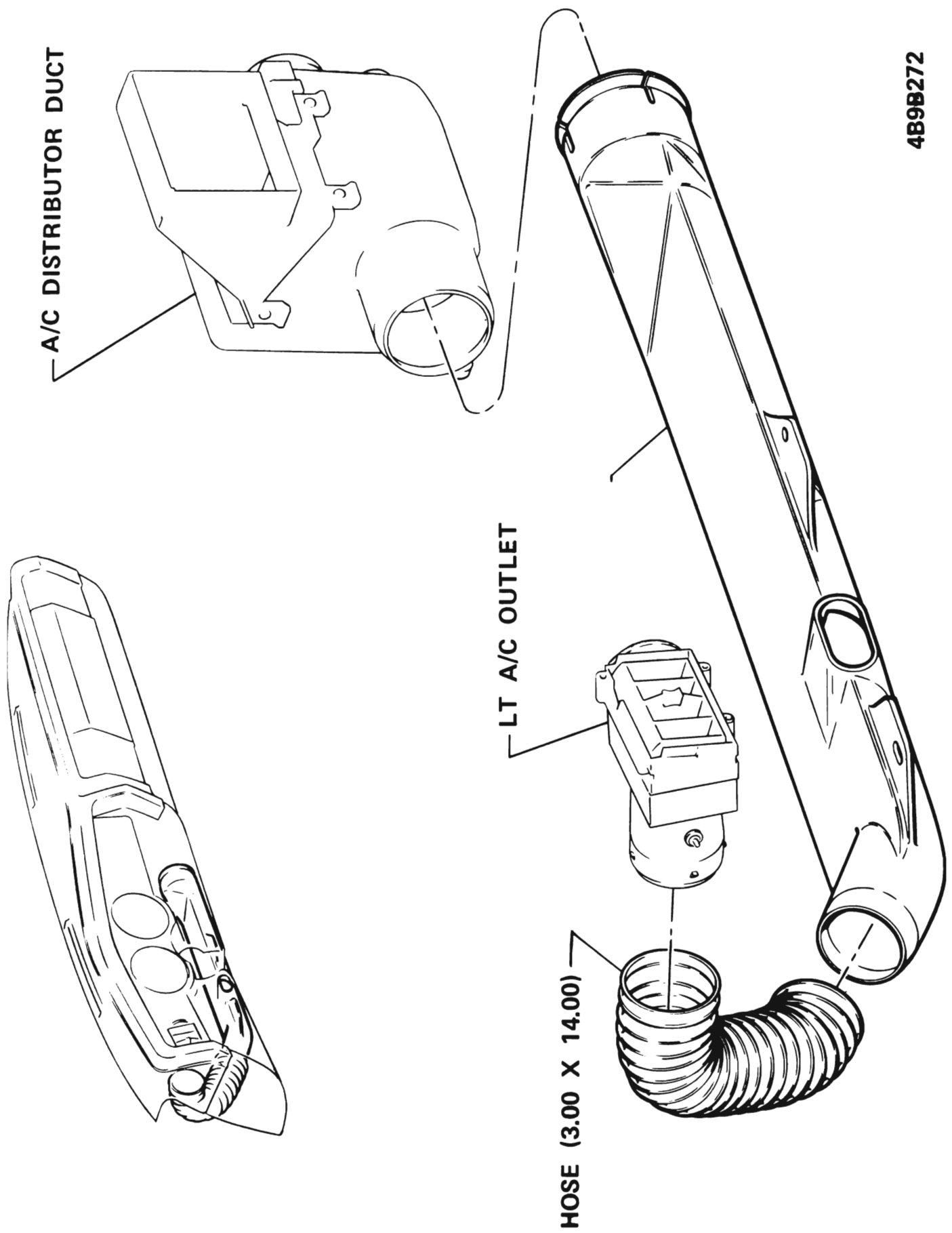
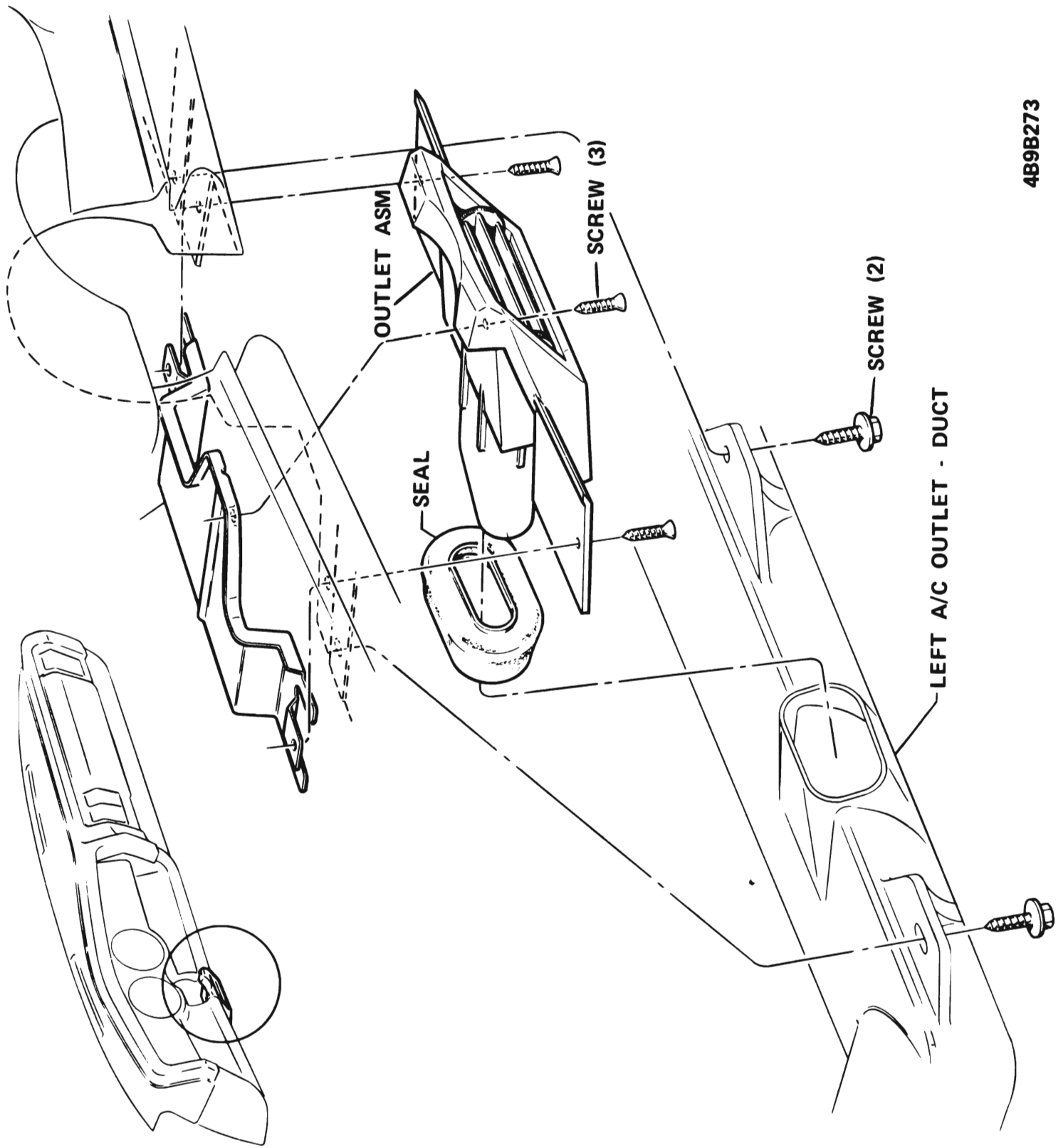
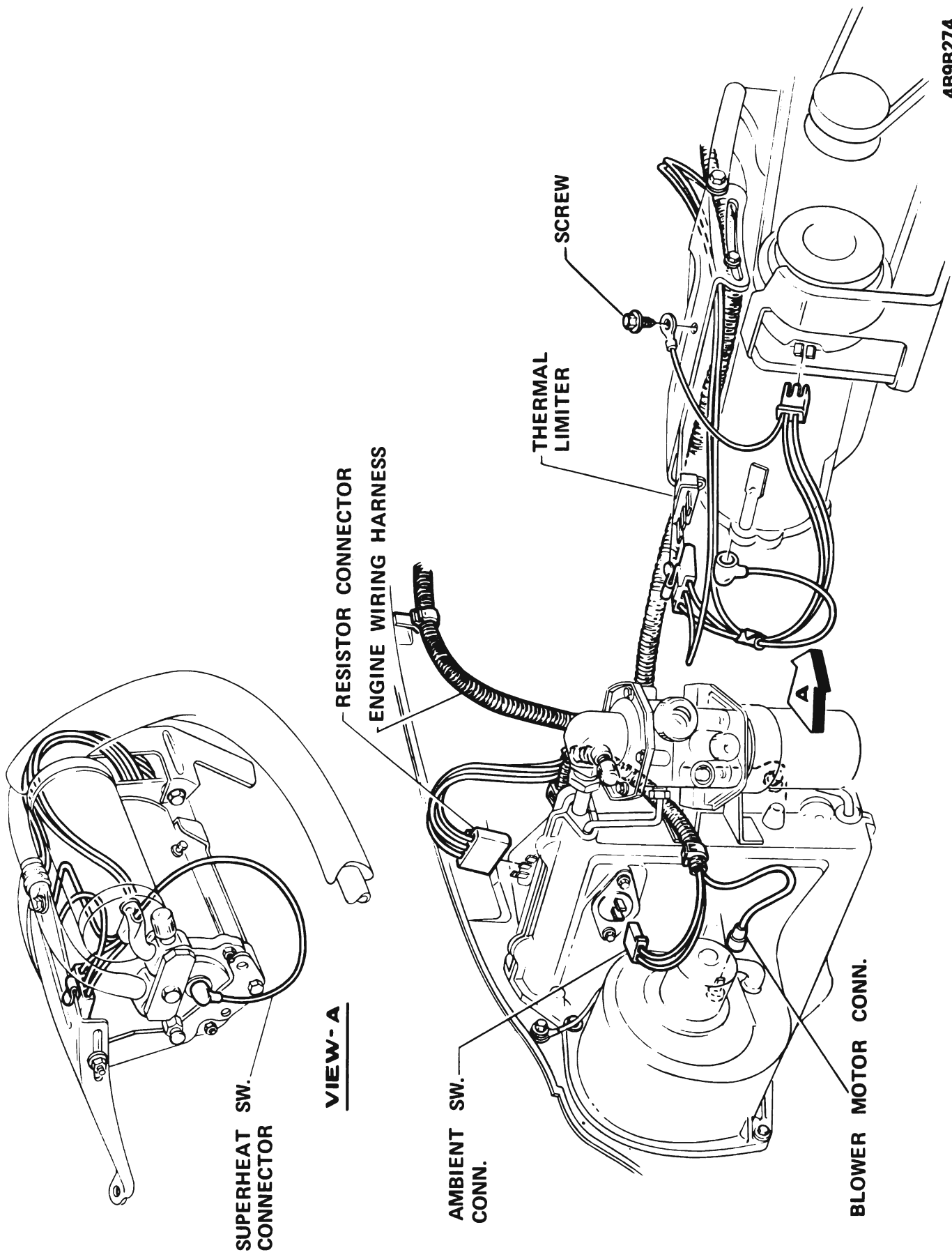


Figure 9B-200 A/C Intermediate Duct and Left Outlet Hose - A Series



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Figure 9B-201 A/C Outlet - Intermediate - Left - A Series



4B9B274

Figure 9B-202 Wiring - A/C Blower Motor and Compressor - A Series

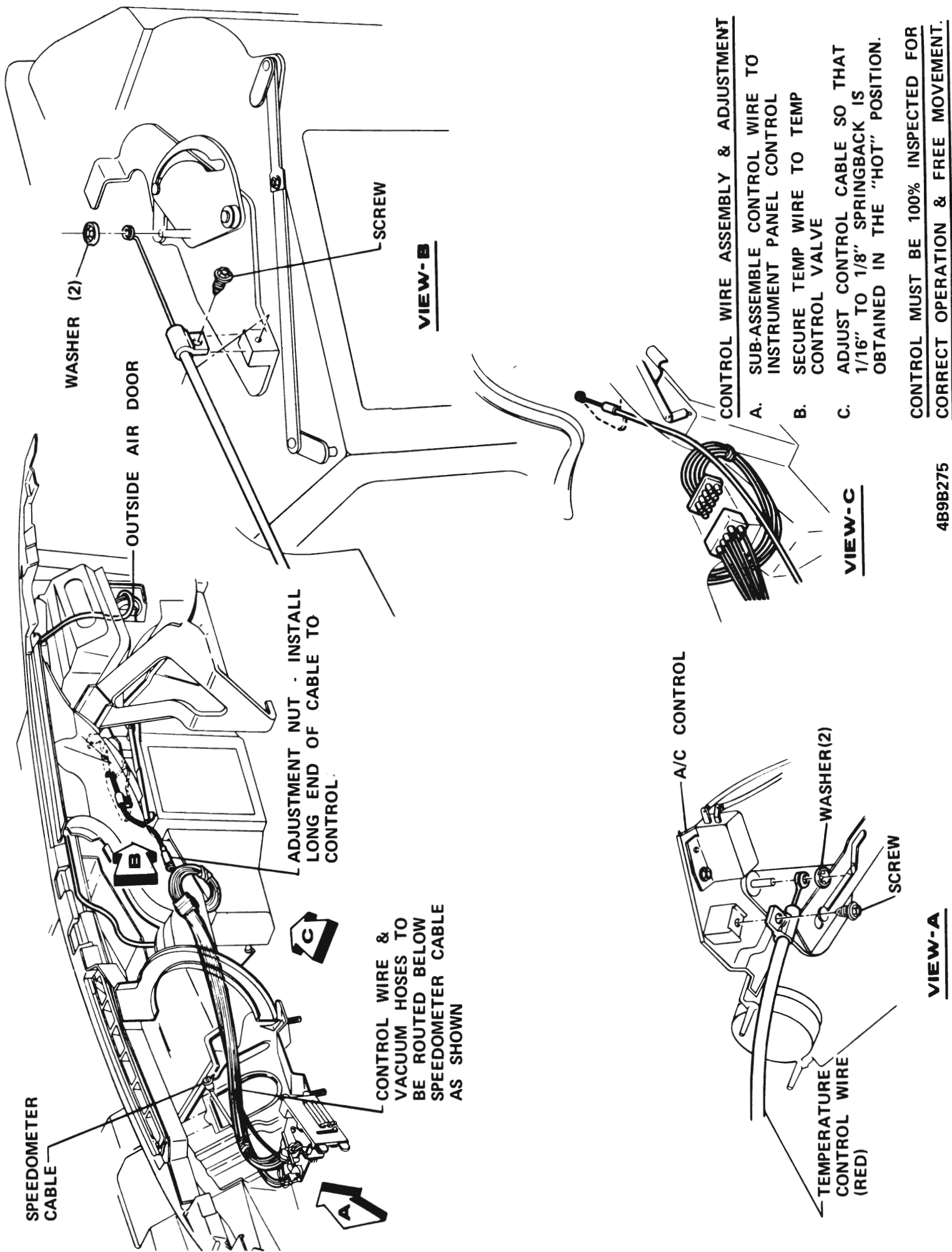


Figure 9B-203 A/C Control Cables and Vacuum Hose Routing - B-C-E Series

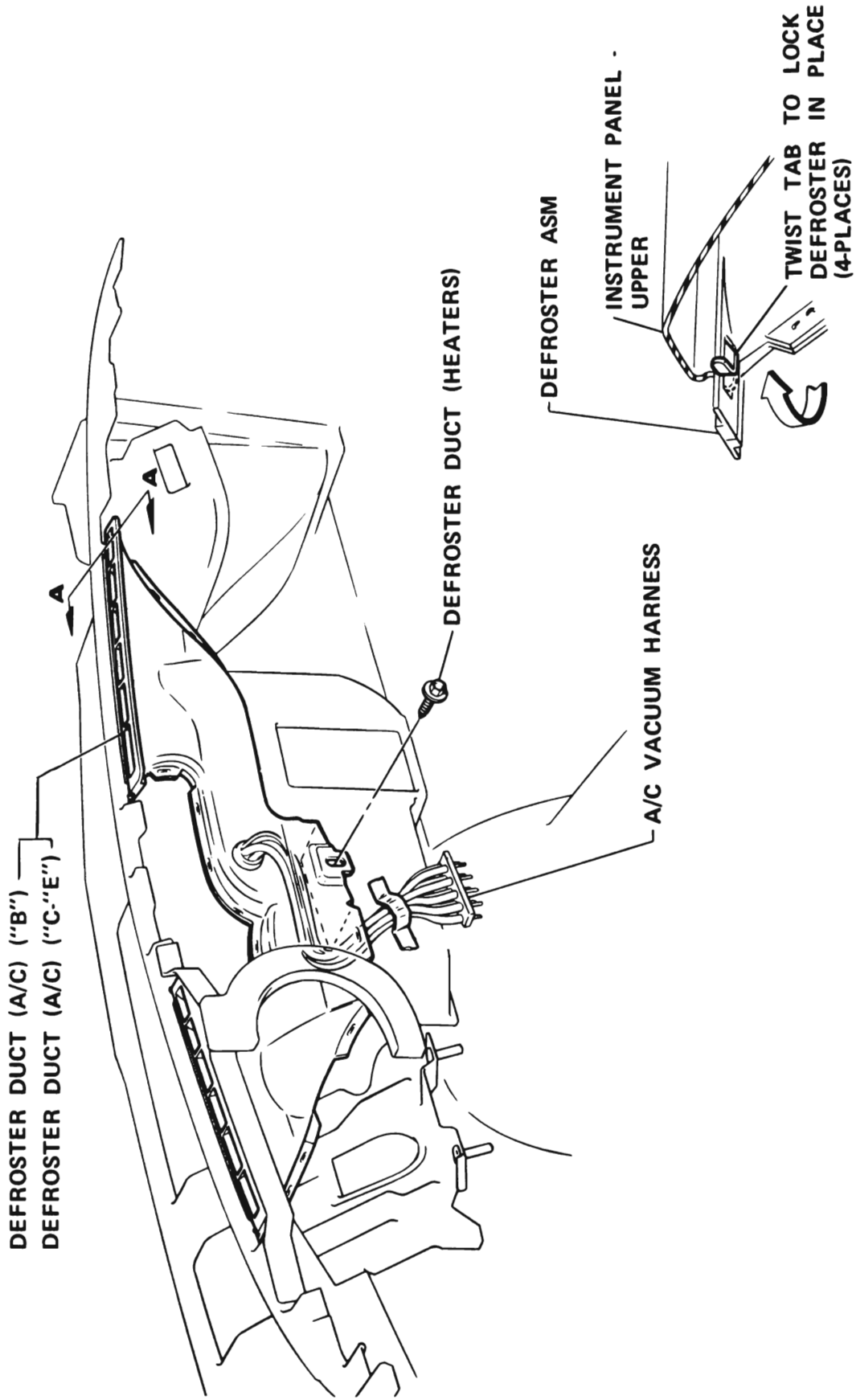
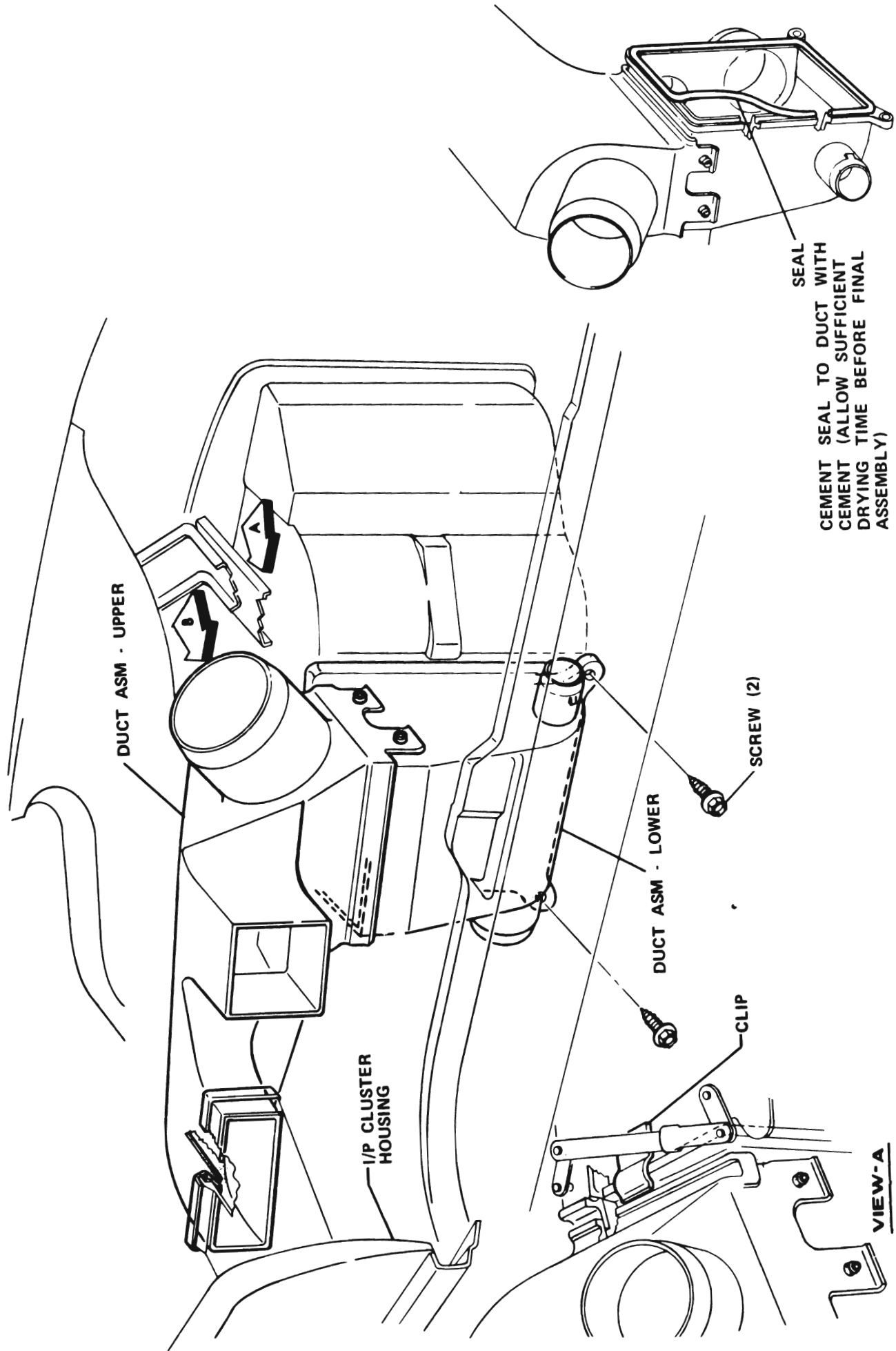
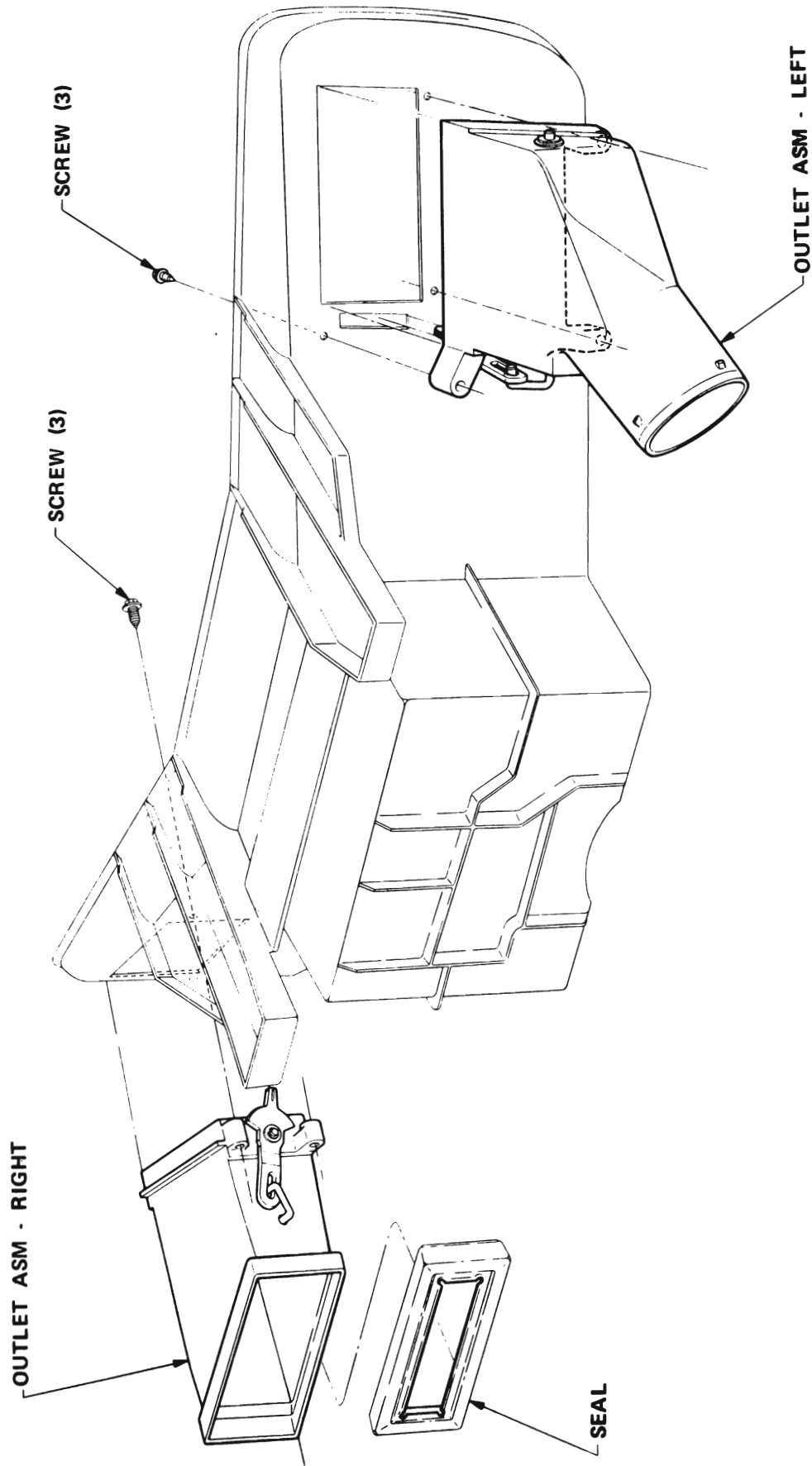


Figure 9B-204 Defroster Outlet A/C and Heater - B-C-E Series



**VIEW-B**  
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Figure 9B-205 A/C Distribution Duct Assembly - Upper and Lower - B-C-E Series



9B-134

Figure 9B-206 Outlets to Instrument Panel Cluster Housing - B-C-E Series



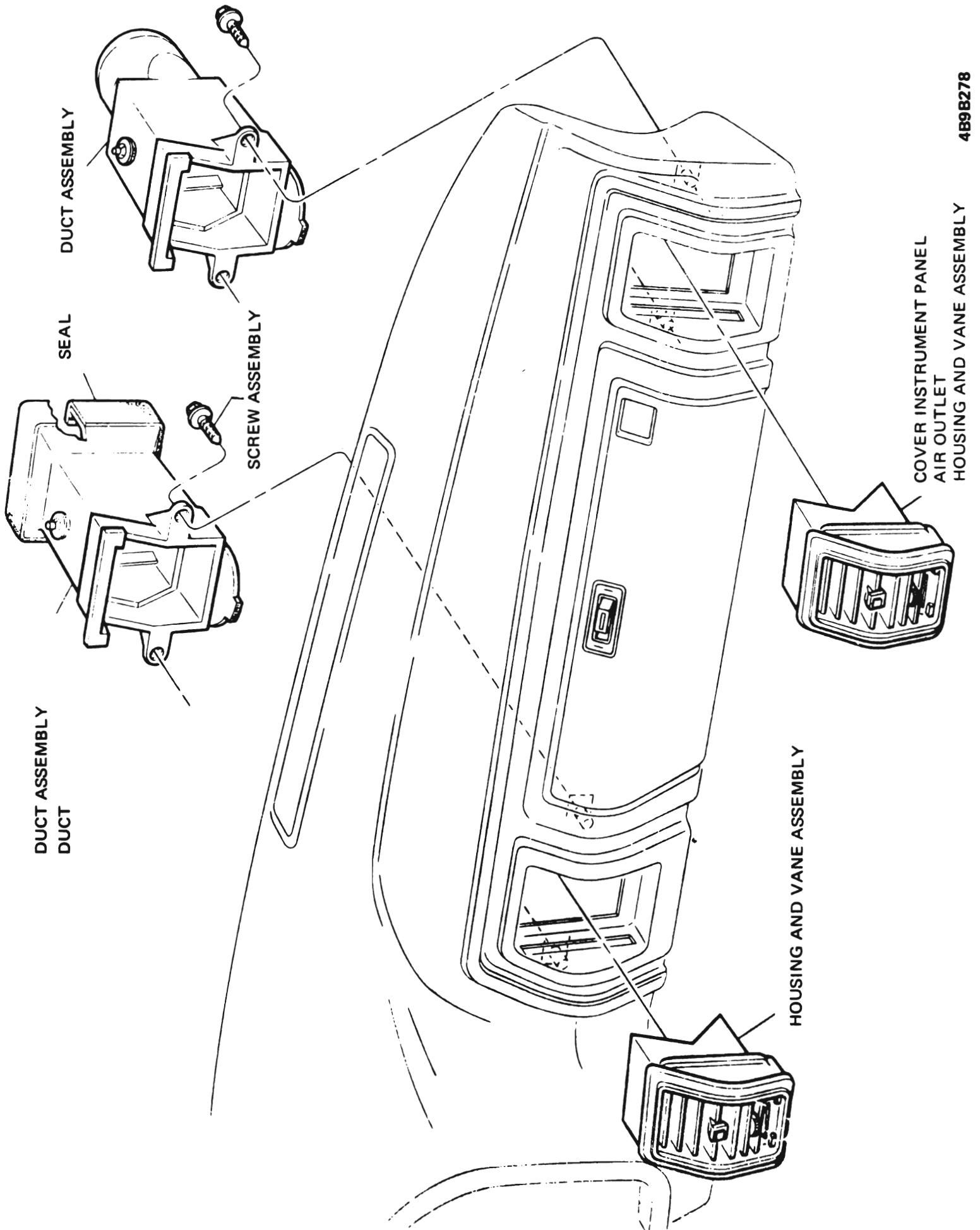


Figure 9B-207 A/C Outlets to Instrument Panel Cover - B-C-E Series

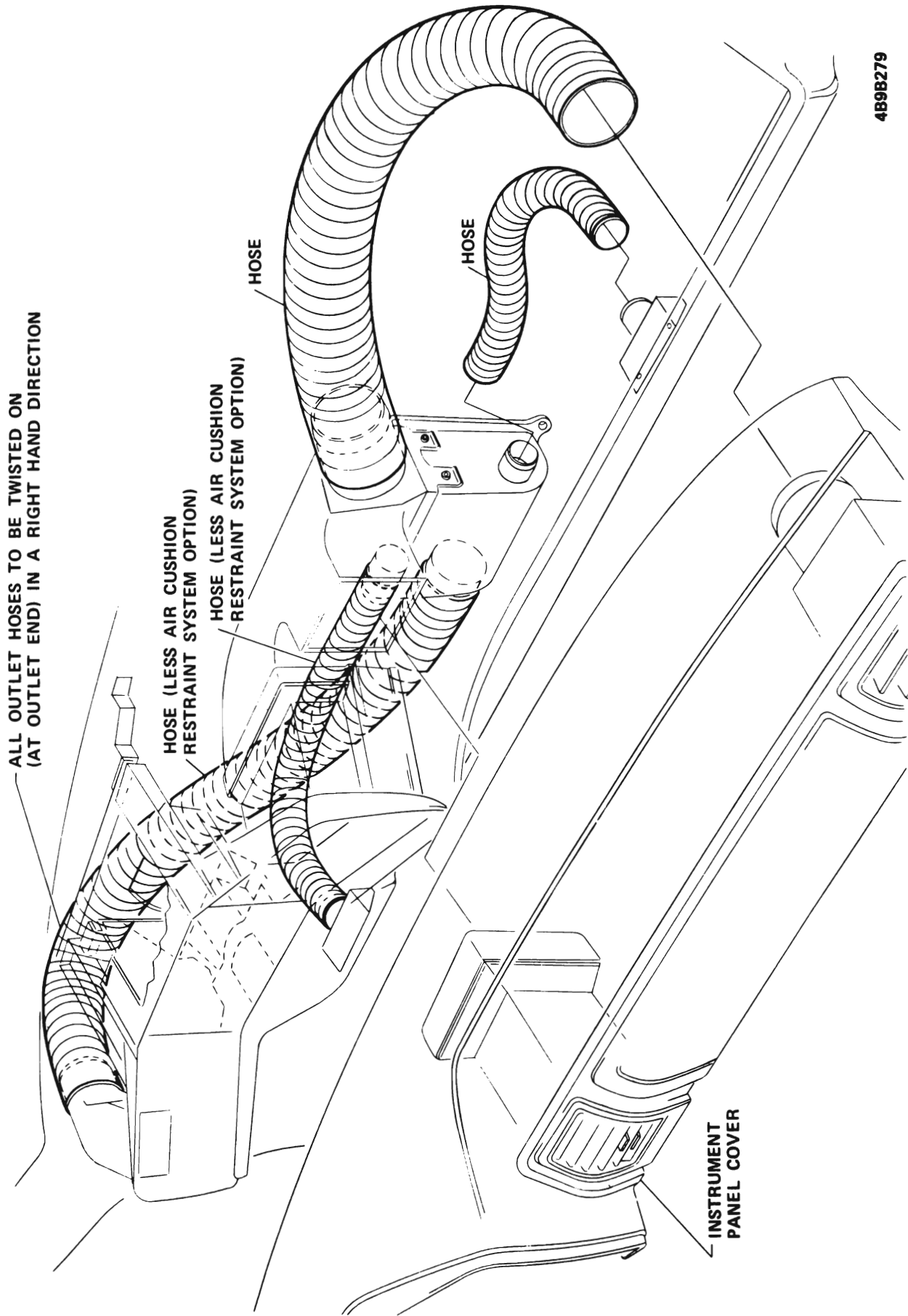
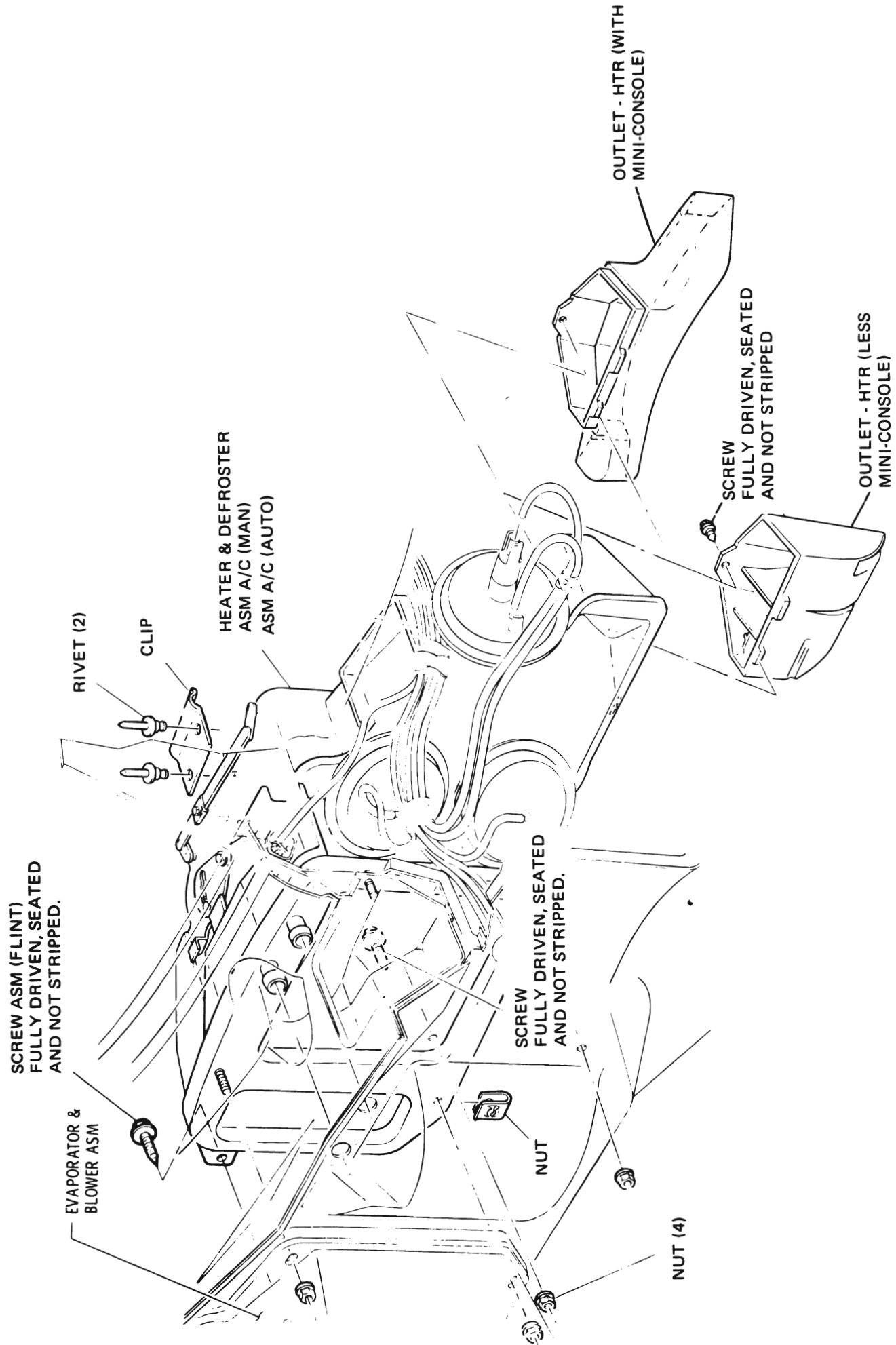
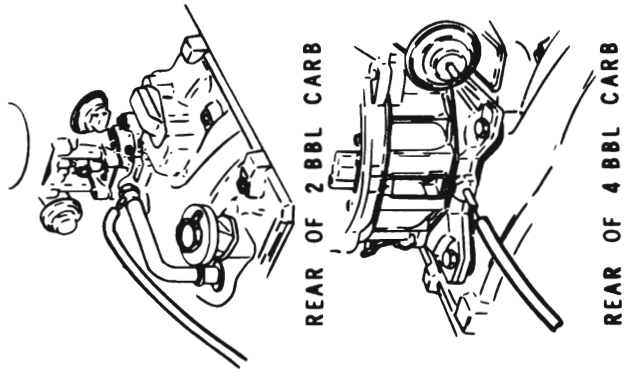
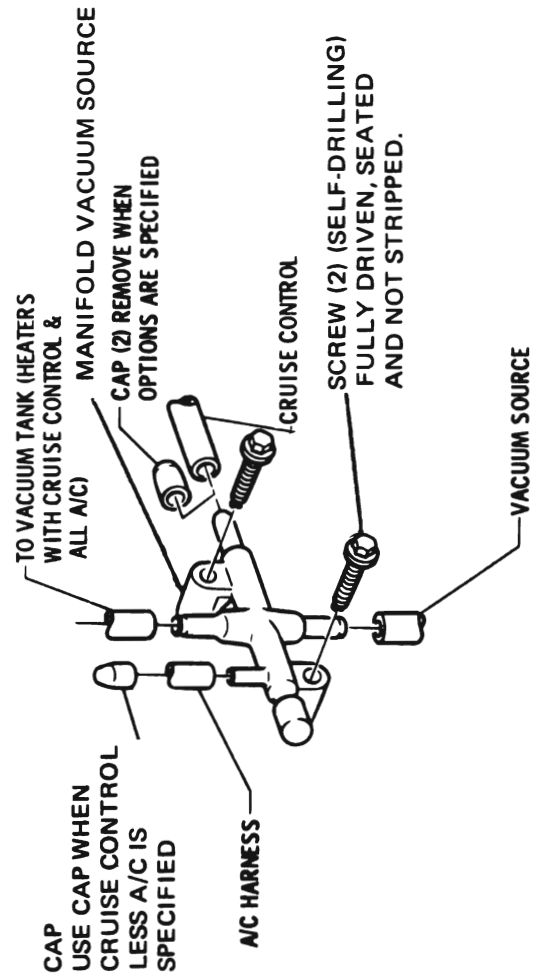
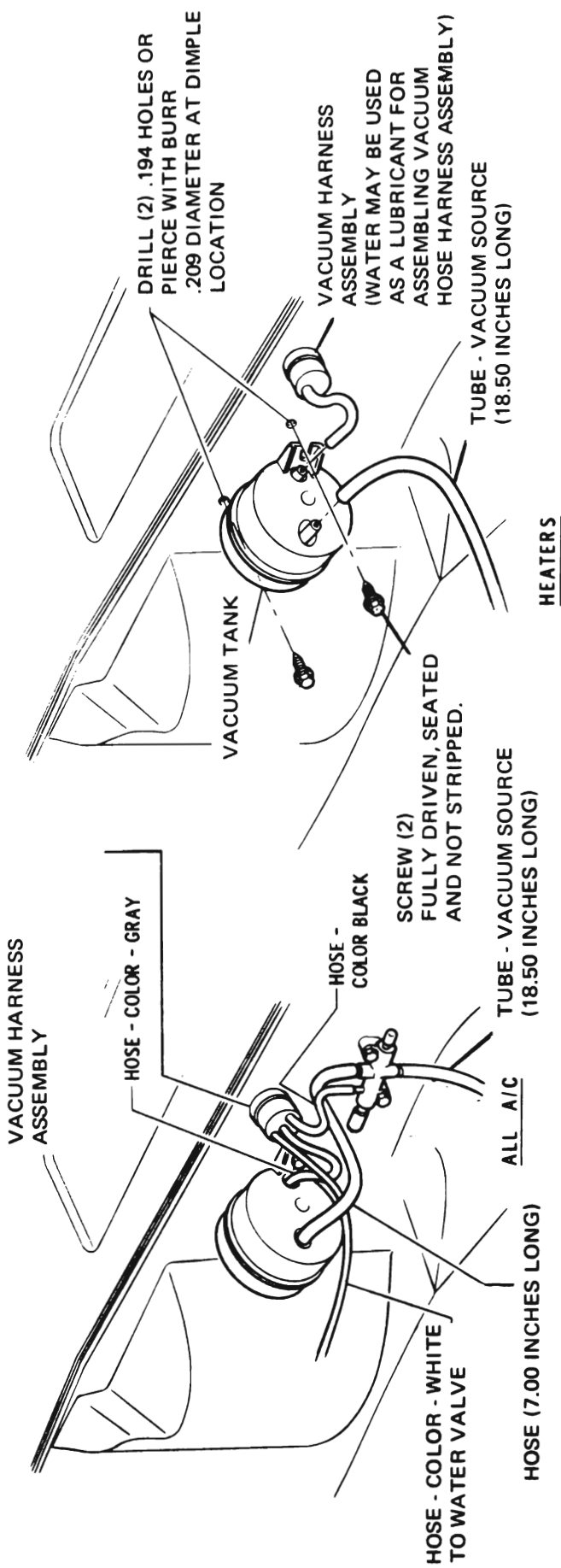


Figure 9B-208 A/C Outlet Hoses - B-C-E Series



9B-137

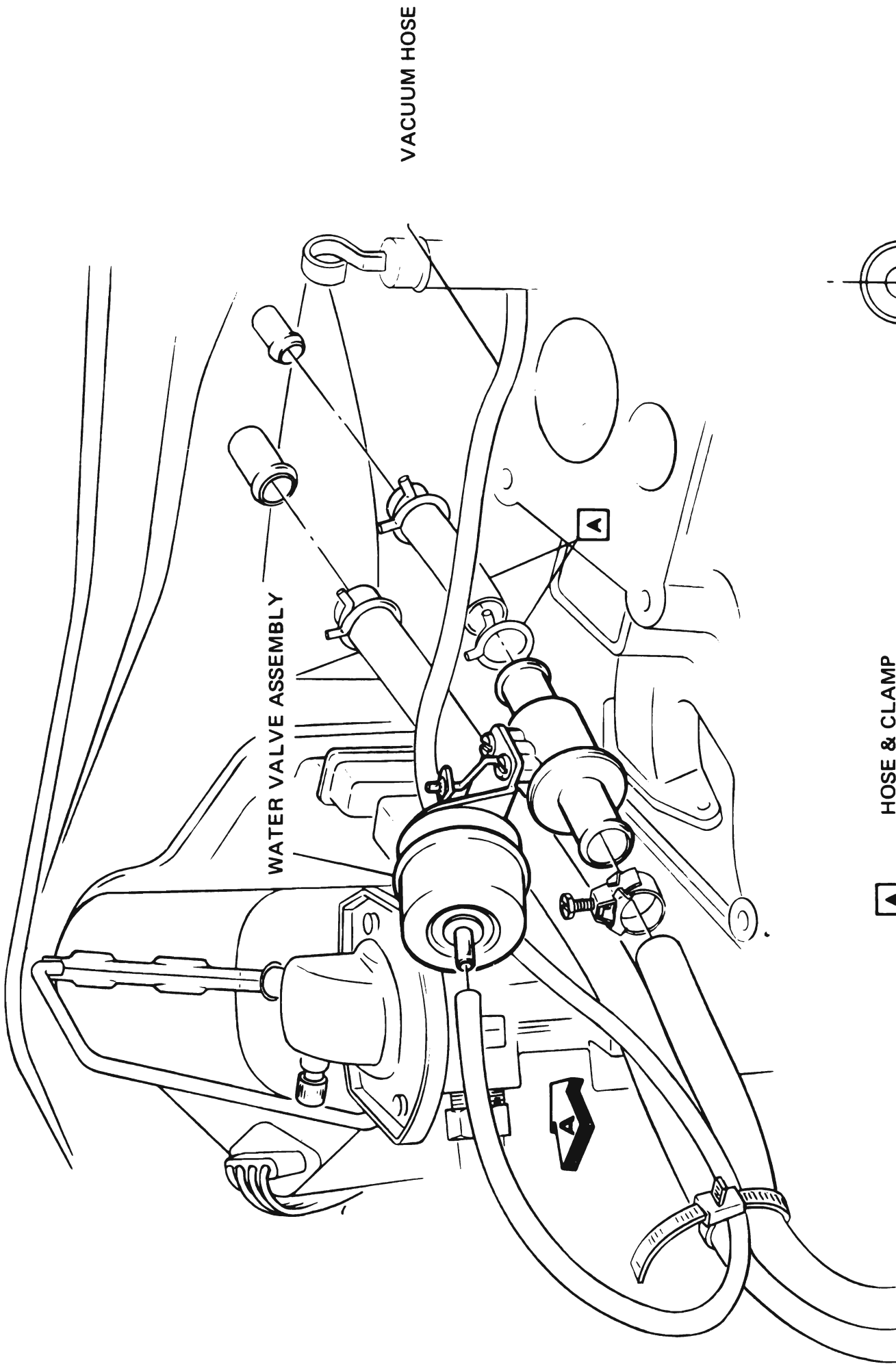
Figure 9B-210 A/C Heater and Defroster Assembly - B-C-E Series



HEATERS

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Figure 9B-211 A/C and Heater Vacuum Harness to Vacuum Tank and Manifold - B-C-E Series

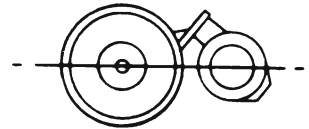


WATER VALVE ASSEMBLY

VACUUM HOSE

HOSE & CLAMP

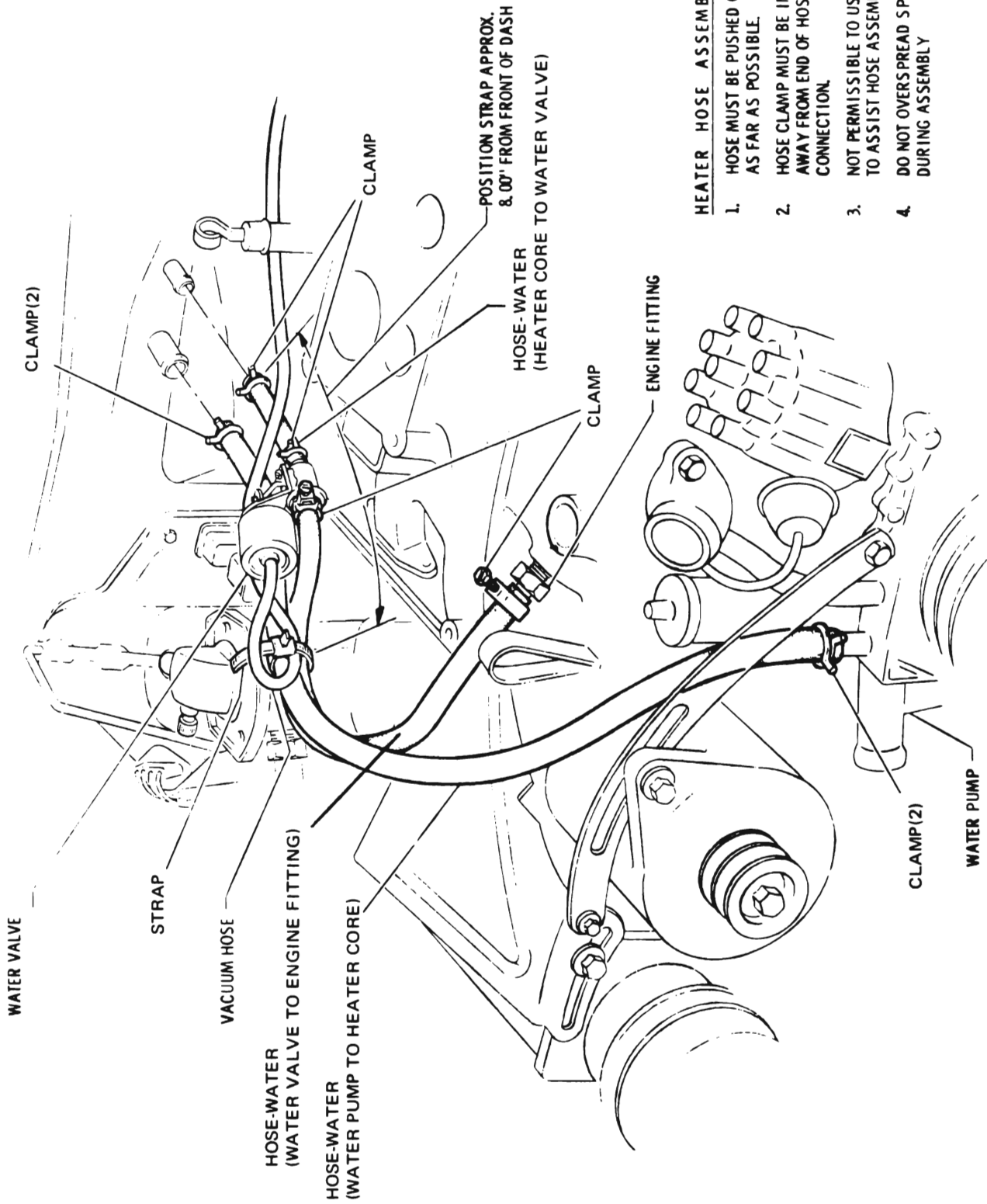
A



VIEW-A

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Figure 9B-212 A/C Water Valve - B-C-E Series



**HEATER HOSE ASSEMBLY PRECAUTIONS**

1. HOSE MUST BE PUSHED ON EACH CONNECTION AS FAR AS POSSIBLE.
2. HOSE CLAMP MUST BE INSTALLED STRAIGHT, AWAY FROM END OF HOSE AND SLIGHTLY BEHIND CONNECTION.
3. NOT PERMISSIBLE TO USE ANY WETTING AGENTS TO ASSIST HOSE ASSEMBLY.
4. DO NOT OVERSPREAD SPRING TYPE CLAMPS DURING ASSEMBLY

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Figure 9B-213 Heater Hoses with A/C - B-C-E Series

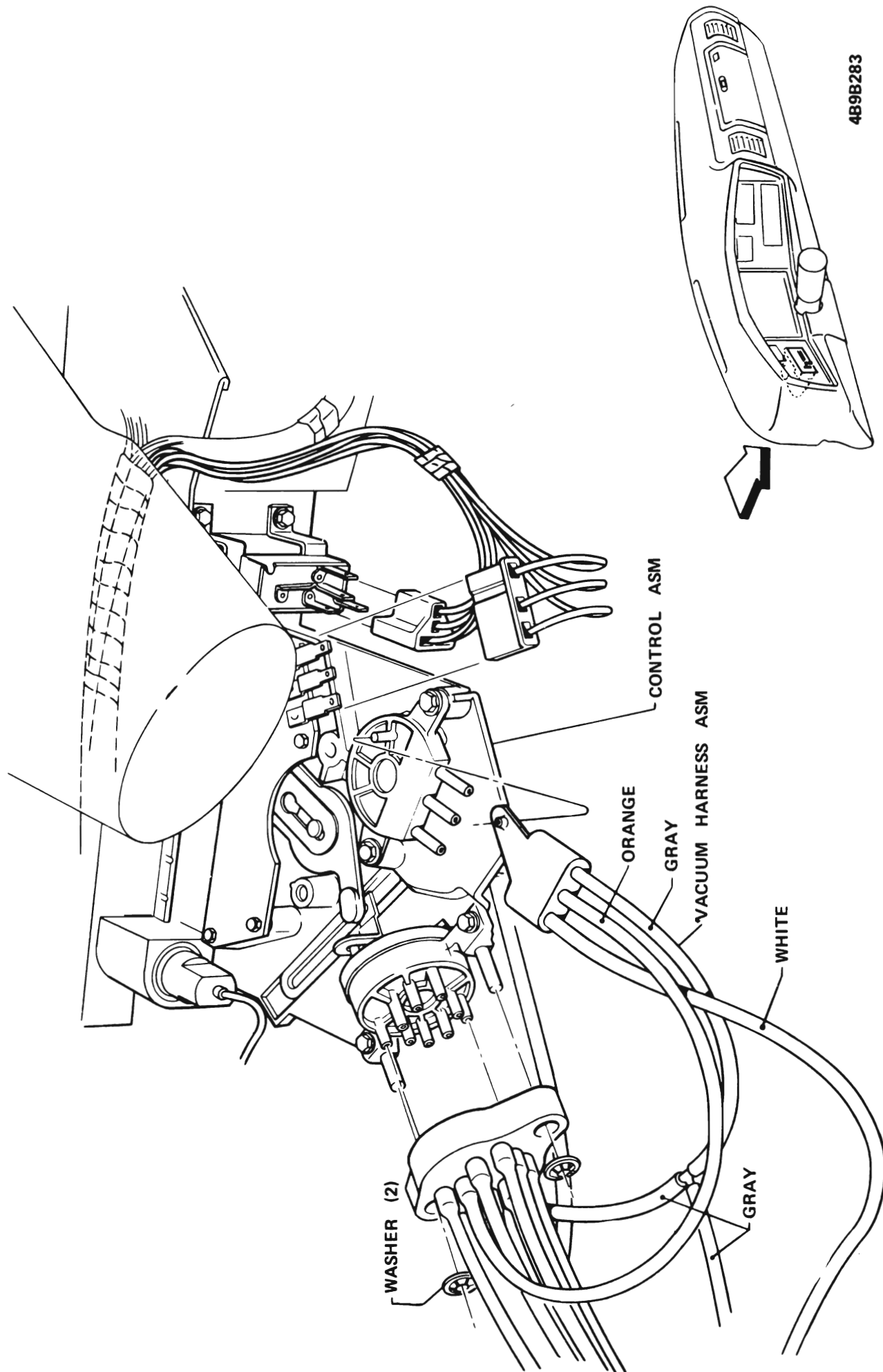


Figure 9B-214 Vacuum Hose Connections - B-C-E Series

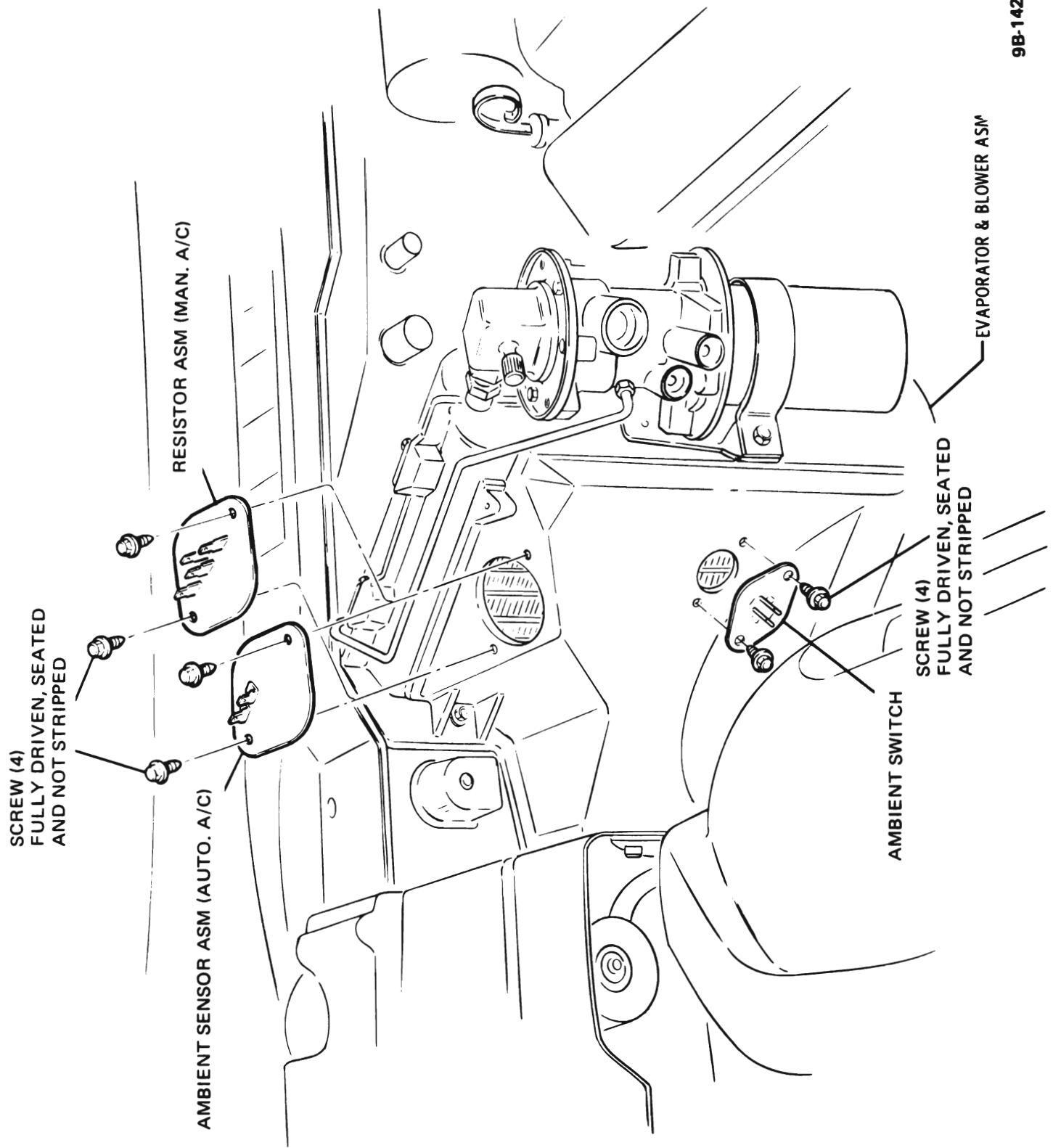
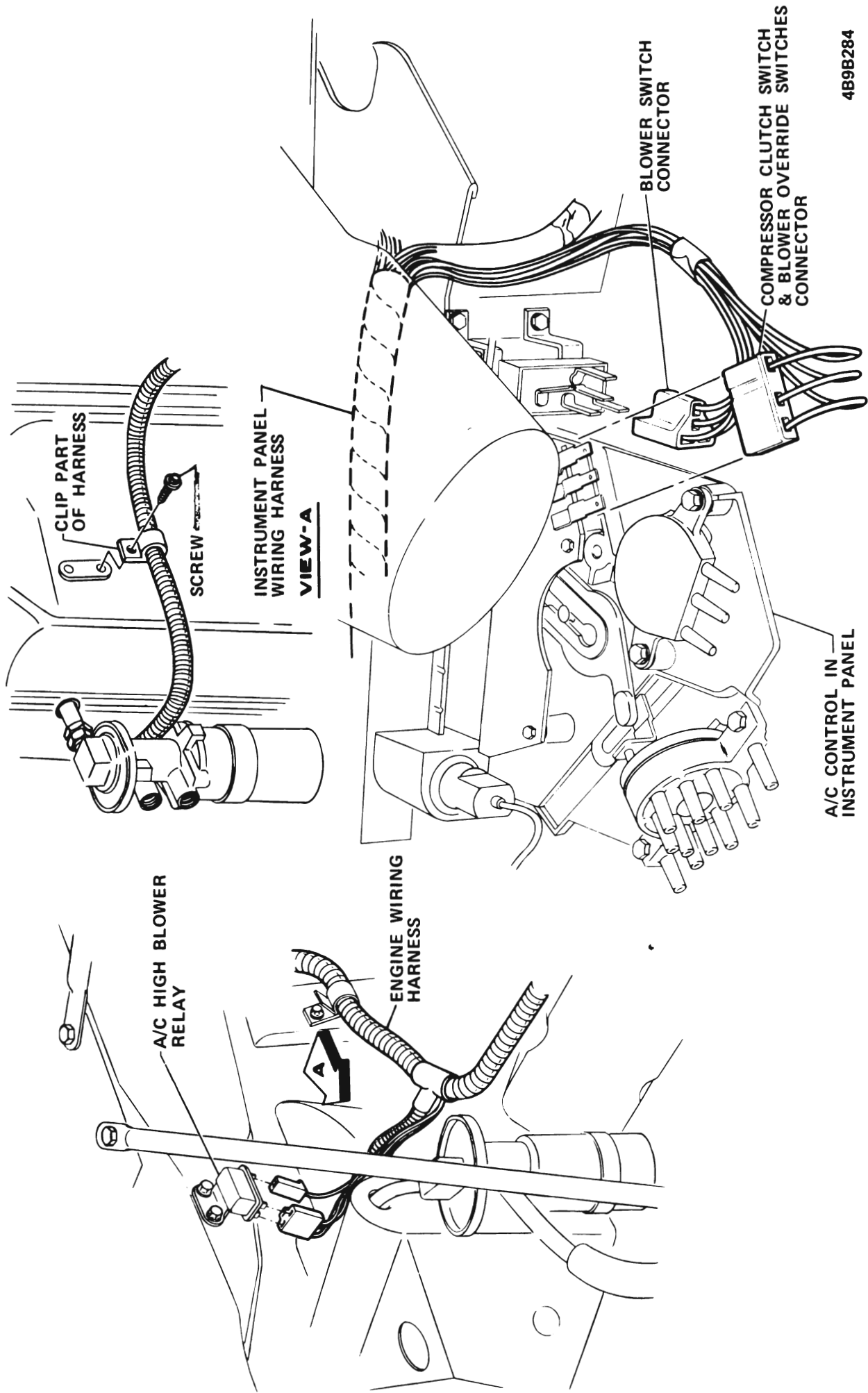


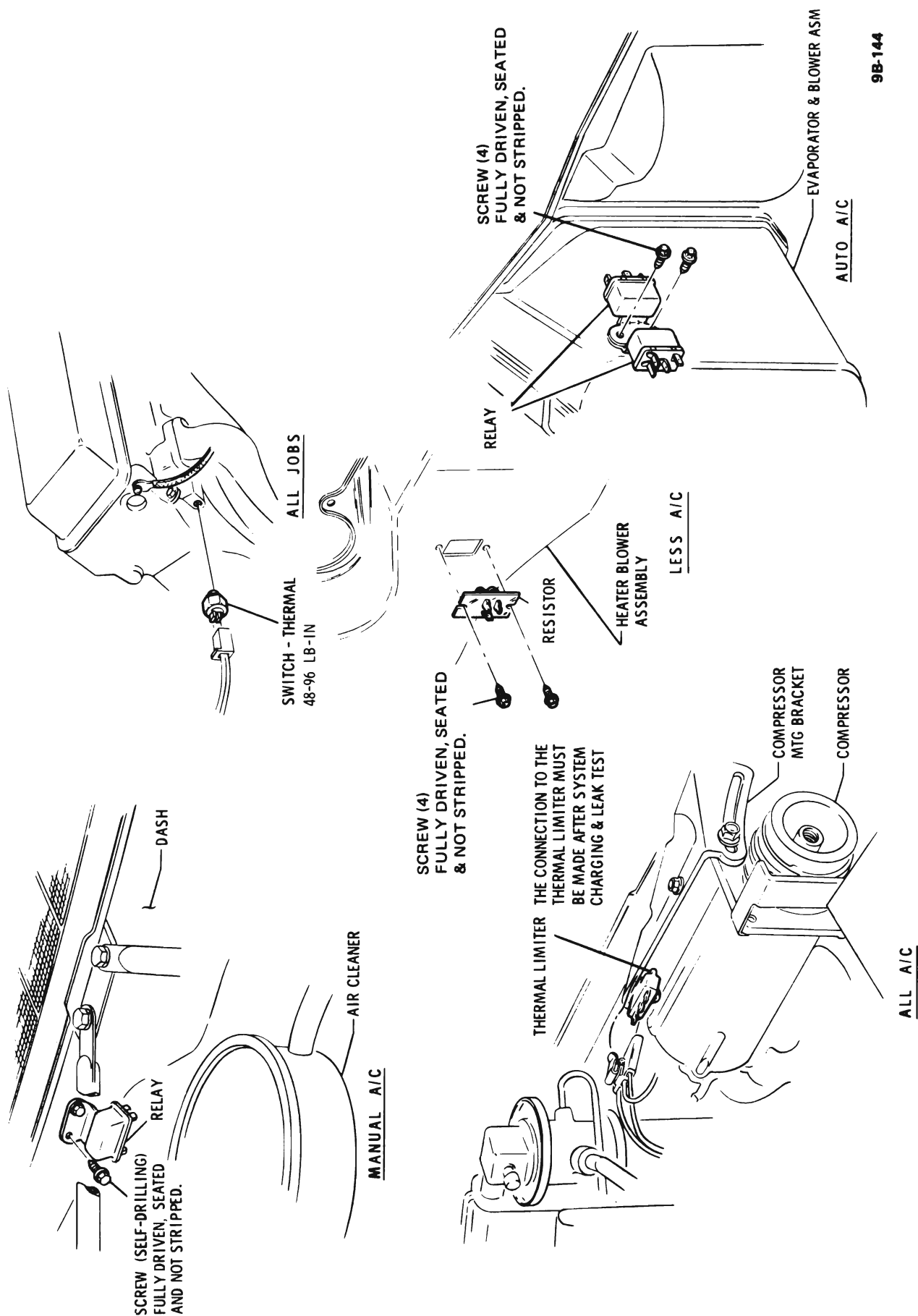
Figure 9B-215 A/C Ambient Sensor Switch and Resistor - B-C-E Series





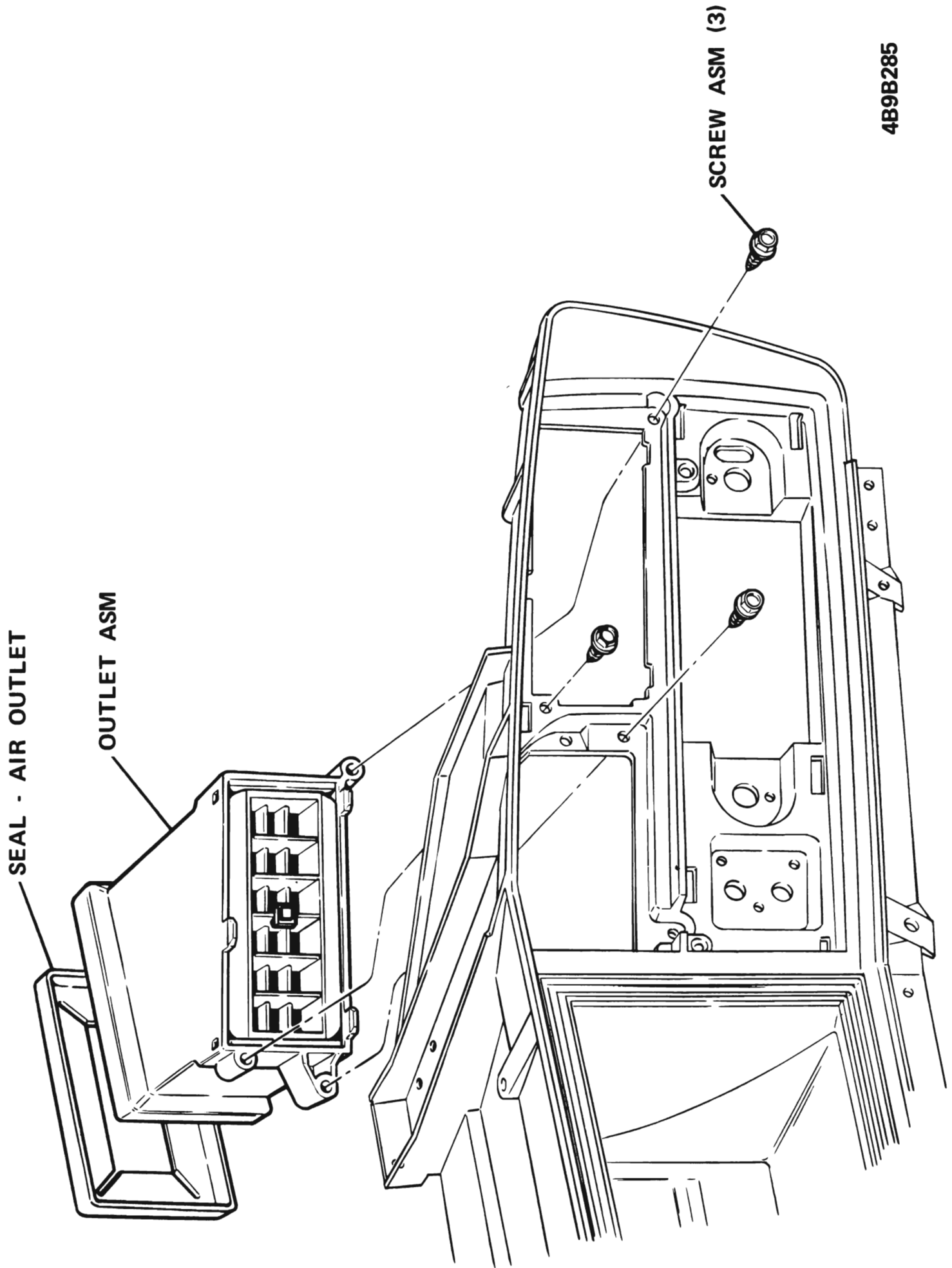
4898284

Figure 9B-216 A/C Wiring - Control and Relays - B-C-E Series



9B-144

Figure 9B-217 A/C Relays, Thermal Limiter, Switch and Heater Resistor - B-C-E Series



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Figure 9B-218 Instrument Panel Air Outlet - RT - B-C-E Series

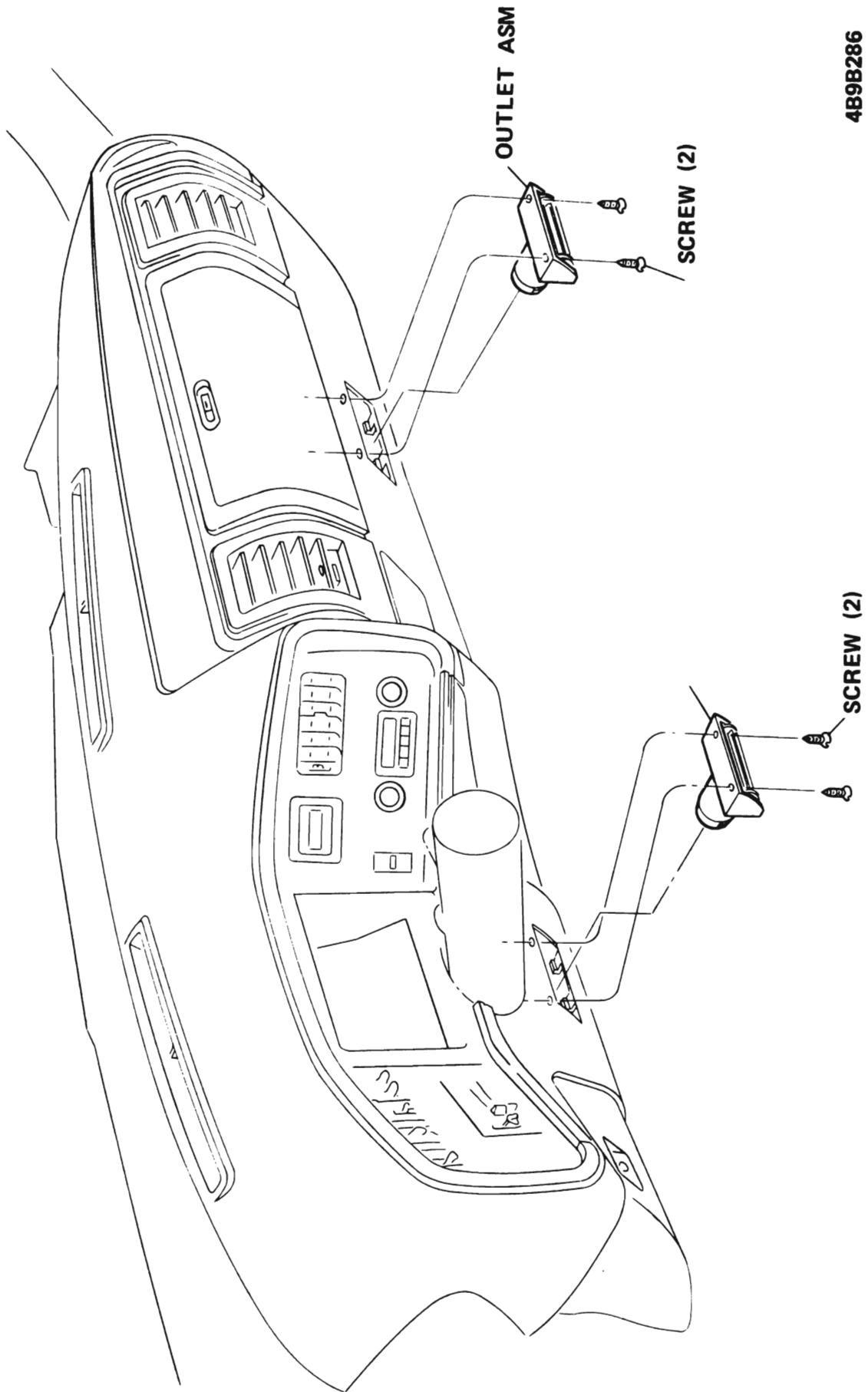
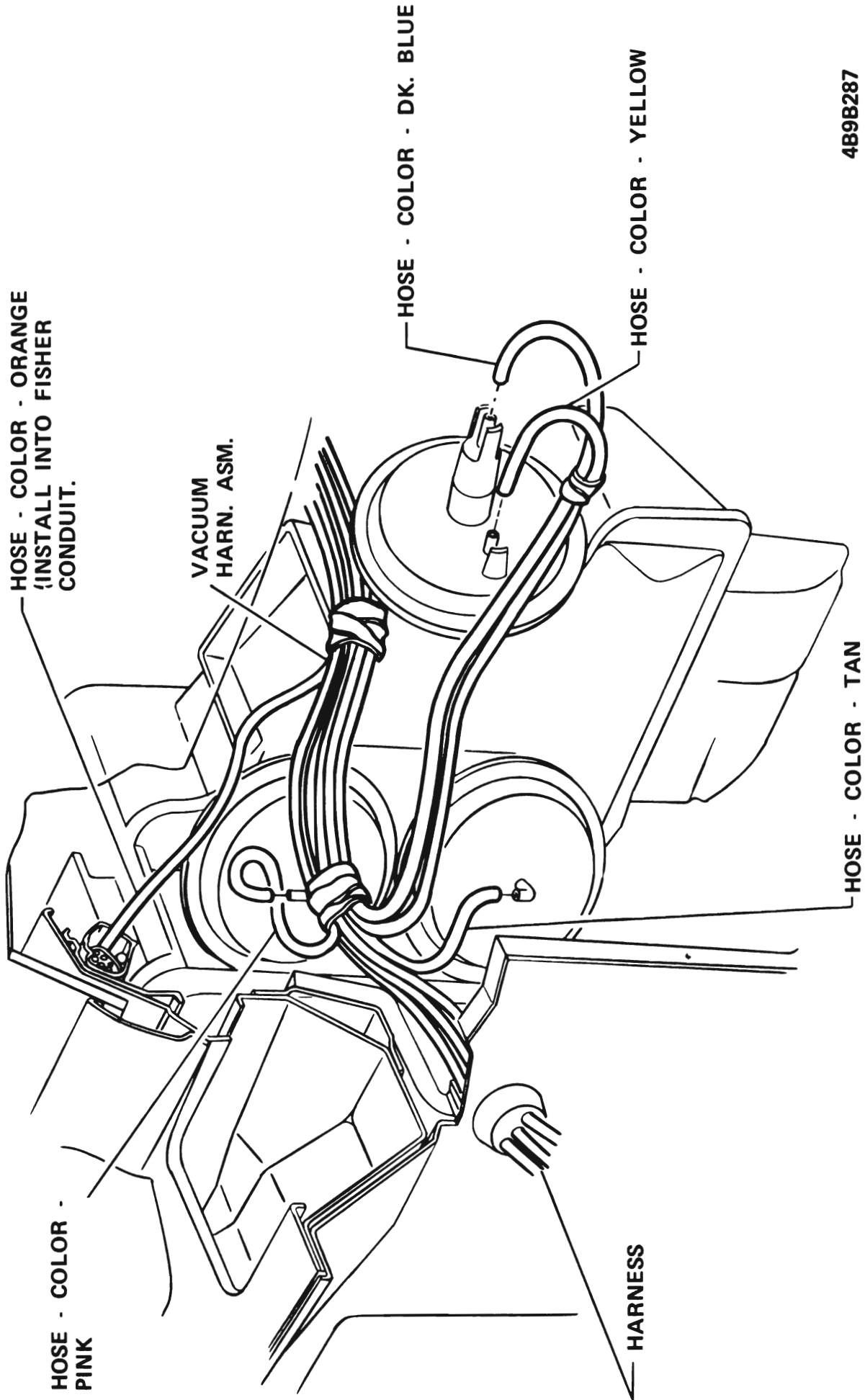
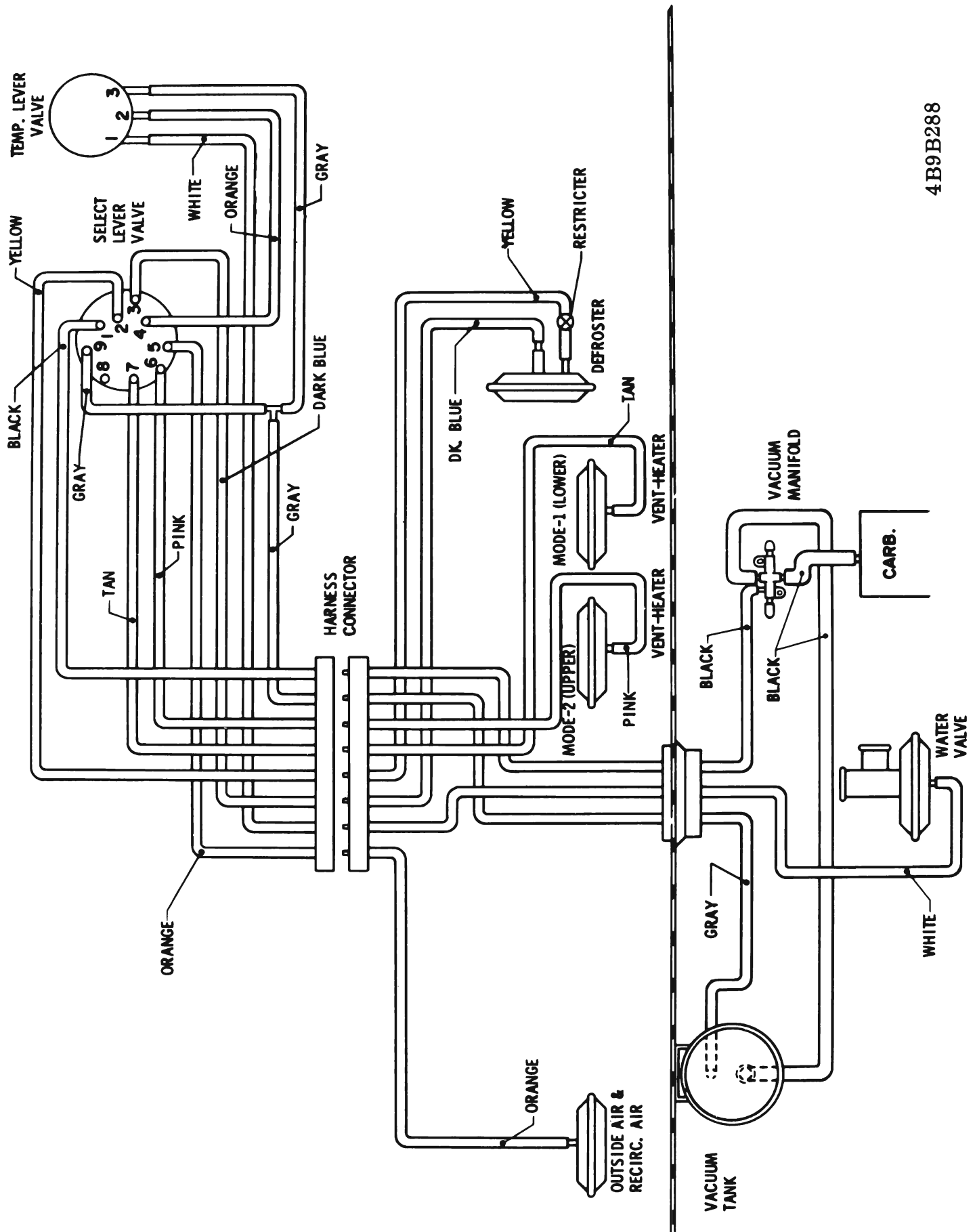


Figure 9B-220 A/C Intermediate Outlets - Right and Left - B-C-E Series



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Figure 9B-221 Vacuum Harness to Heater Case - B-C-E Series



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Figure 9B-222 A/C Vacuum Hose Schematic - B-C-E Series

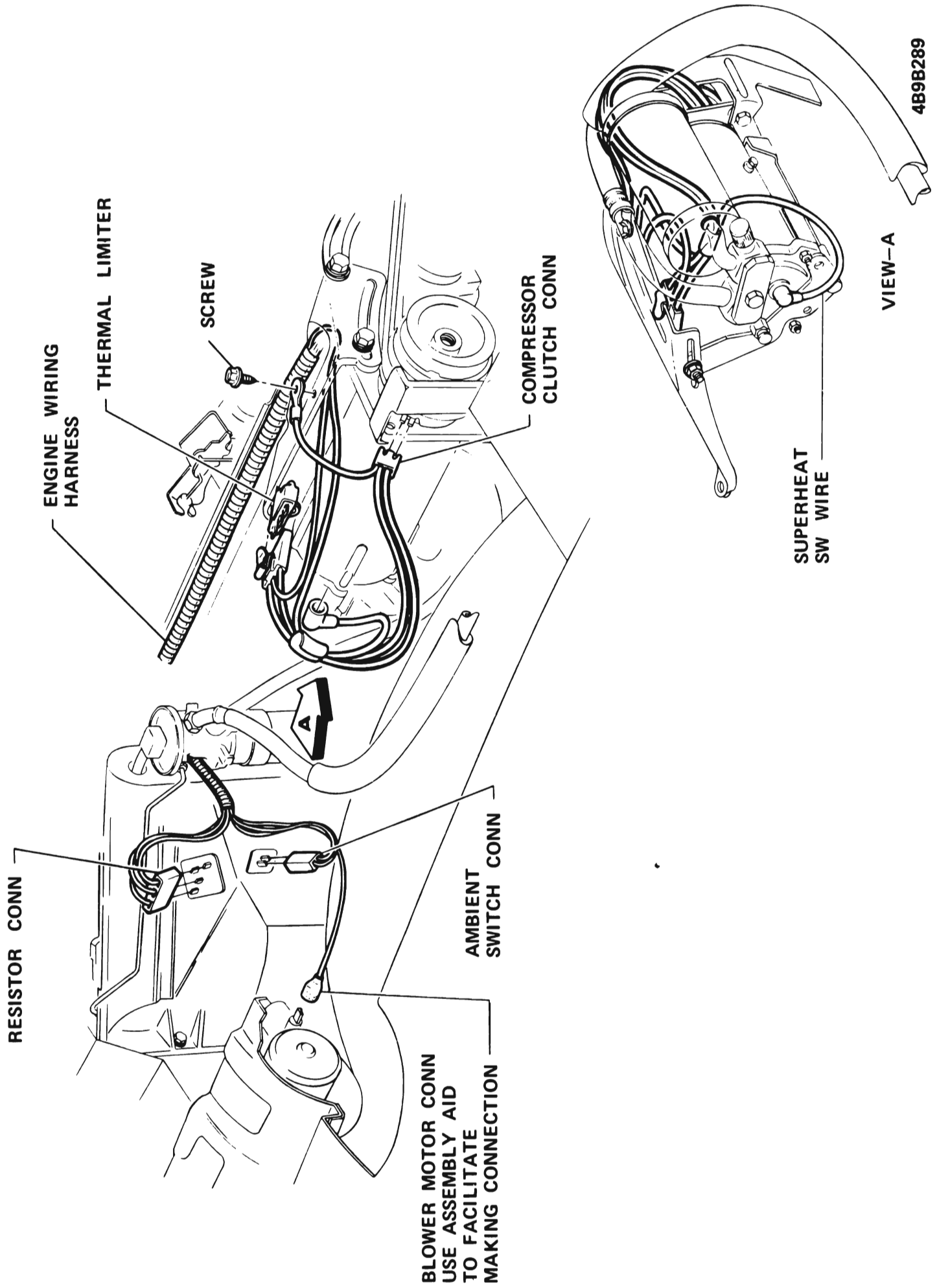


Figure 9B-223 Blower Motor and Compressor Wiring - B-C-E Series