

HEATER SYSTEM**ALL SERIES****CONTENTS**

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DESCRIPTION AND OPERATION

DESCRIPTION OF SYSTEM - X SERIES

Apollo's heater and defroster system provides rapid warm-up and even distribution of warm air to all parts of the car. Air entering the system is taken through an opening at the rear of the hood, providing air with a minimum of dust, foreign material and undesirable fumes. This air passes through the plenum chamber into the heater blower motor and air inlet duct. The use of outside air provides constant and rapidly changing air inside the car, eliminating a smoke filled interior to keep occupants comfortable.

The driver has fingertip control of the temperature of warmed air entering the car. When heated air is desired, the blower forces air taken from the blower and air inlet duct across the heater core and through an air distribution system to air outlets inside the passenger compartment. See Figure 9A-1.

The design of the heater and defroster system, its doors and controls permits a method of obtaining two different levels of forced air flow for heating.

Heater systems are composed of the same basic components although they may differ slightly in design and capacity. Hot water is supplied to the heater core by the engine water pump through a heater hose. Air flow in the system is initiated in the plenum chamber where outside air is picked up by the blower motor and directed through the air inlet duct to the heater case. There, depending on the control panel setting, air is directed either through or around the heater core to the outlets. Here again, depending on control panel settings, air is directed primarily out the heater outlet to the front floor area or up through the defroster duct to the windshield area.

The doors which control air flow in the system are moved mechanically by Bowden cables. Three doors

are utilized. A temperature door, an air door and a defroster door.

Should the system fail to satisfy, proper operation should be reviewed with the owner. This will determine whether the system is defective or being operated incorrectly.

AIR DISTRIBUTION

Heated air enters the interior of the car and is distributed by a center outlet under the heater duct which dispenses air over the front floor area and to the rear passenger compartment.

Air is directed to the windshield through a duct running upward from the heater case.

OPERATION OF CONTROLS - X SERIES

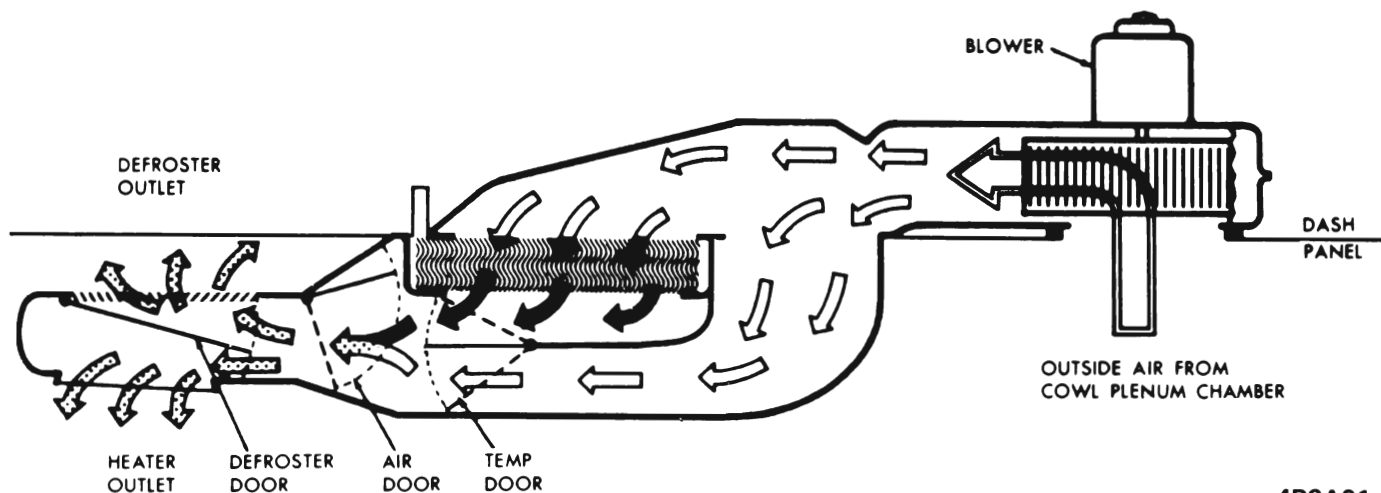
The heater control is of the vertical slide lever design. Three levers transmit motion via Bowden cables to the air, defrost and temperature doors.

AIR FAN LEVER

The air-fan lever has two functions; blower speed control and air inlet control. Moving the lever half way from OFF toward ON opens the air inlet door to allow outside air to enter the heater system. Further movement of the AIR-FAN lever actuates the blower motor at low speed. Medium and high blower speeds are achieved by further movement of the lever when more volume of air flow is desired.

DEFROST LEVER

The defrost lever controls the position of the defroster door in the heater case. In the OFF position almost all air flow is directed to the floor from the heater outlet at the bottom of the heater case (a small amount of air is distributed from the defroster outlets



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Figure 9A-1 Typical Heater Air Flow X-Series

toward the windshield). In the DEFROST position the air distribution is reversed from that in the OFF position. Moving the lever to any desired point between OFF and DEFROST will divide air flow between the floor and windshield accordingly.

TEMPERATURE LEVER

The temperature lever regulates output temperature of the heater by varying the position of the temperature door. With the temperature lever in full HOT, all output air from the heater system is air which has

passed through the heater core. Moving the temperature lever will introduce more air which has by-passed the heater core until the temperature lever reaches full COLD and all output air flow is air which has by-passed the core. This air flow should be very close to outside air temperature.

VENTILATION

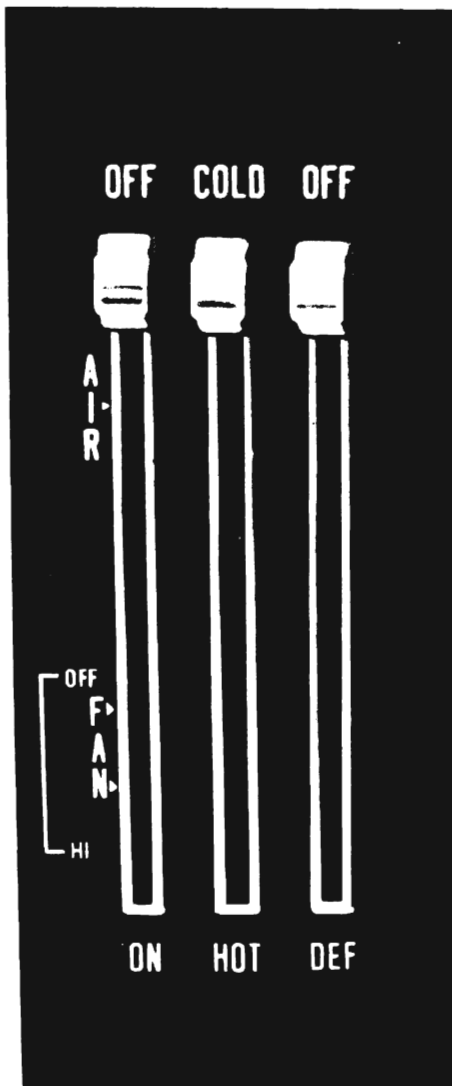
Two lower fresh air vents, one located in each kick pad, are controlled by separate knobs located on

each kick pad. Positioning the vent knobs between **FULL FORWARD** and **FULL OUT** provides ventilation by allowing regulated amounts of outside air to enter the car through the vent. Operating the vent knob (pulling out or pushing in on knob) drives a cable which in turn positions a door inside the vent to regulate air intake.

DESCRIPTION OF SYSTEM - A-B-C-E SERIES

The A-B-C-E Series heater system is an air mix type system in which outside air is heated and then mixed in varying amounts with cooler outside air to attain the desired air temperature. The system consists basically of three parts: (1) the blower and air inlet assembly, (2) the heater assembly and (3) the heater control assembly. The operation of the system is as follows:

1. **Blower and Air inlet Assembly** - The blower and air inlet assembly draws outside air through the outside air inlet grille located forward of the windshield reveal molding and channels the air into the heater assembly.



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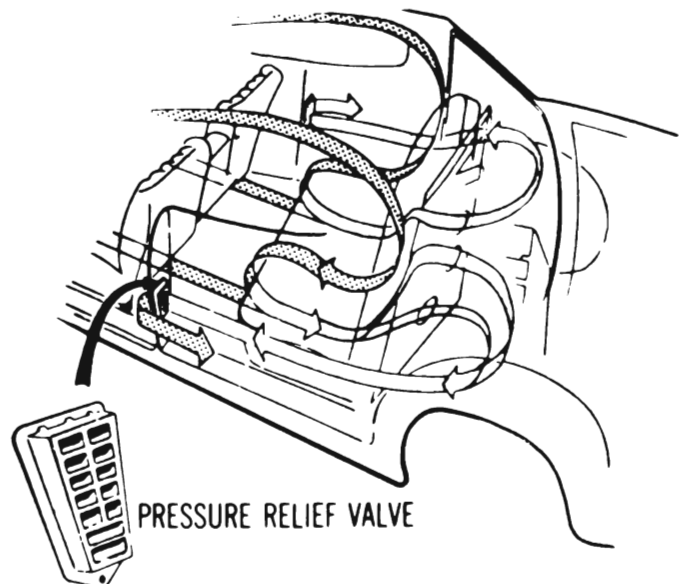
Figure 9A-2 Heater Control Panel

The operation of the blower motor is controlled by a FAN switch on the heater control. The motor is connected in series with the three position FAN switch and also the blower resistor assembly. See Figure 9A- 9. A 25 amp fuse, located in the fuse block, is in series between the blower motor and the battery.

To insure adequate ventilation of the passenger compartment, the heater blower fan is on continuously, after engine coolant temperature reaches approximately 140 degrees F, and when the FAN switch is in the LO position. The fan will blow air from the purge opening under the passenger side of dash at whatever fan speed is selected, as long as the selector lever is in the OFF position. When the selector lever is in the HEAT position and the blower switch is in the LO position, the blower fan will not come on before the engine coolant temperature reaches approximately 140 degrees F. However, if the blower switch is in the MEDIUM or HI position, the blower fan will run immediately, regardless of engine coolant temperature.

Engine coolant temperature is sensed by a thermostat, which is installed in the right (passenger side) cylinder head. When the coolant temperature reaches approximately 140 degrees F, the switch closes and allows current to flow to the blower motor.

2. **Heater Assembly** - The heater assembly houses the heater core and the doors necessary to control mixing and channeling of the air. Air entering the heater assembly divides into two channels: (1) through the heater core and (2) through a by-pass around the heater core. The ratio of the mixture of heated to unheated air is controlled by the temperature door. A purge inlet door initiates the air flow



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Figure 9A-3 Ventilation Air Flow

through the heater assembly. A defroster door controls the amount of air directed through the defroster outlets. The defroster door may be positioned to direct nearly all air to the defroster outlet or nearly all air to the floor outlet and may be varied to provide intermediate proportions as desired.

The heater core, located in the heater assembly, has water flowing through it at all times. The water flow begins at the front of the intake manifold and flows to the lower (inlet) port of the heater core, thru the heater core, out the upper (outlet) port of the heater core and to the suction port of the water pump. See Figure 9A-31.

The heater assembly has fixed vane outlets to distribute air evenly throughout the passenger compartment.

3. Heater Control Assembly - The heater control assembly (see Figure 9A-4) consists of three controls, namely the TEMPERATURE lever, SELECTOR lever and FAN switch.

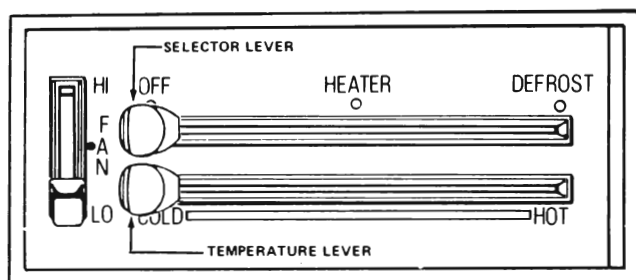


Figure 9A-4 Instrument Panel Control Assembly

OPERATION OF CONTROLS A-B-C-E SERIES

The TEMPERATURE lever is connected by a con-

trol wire to the temperature door on the heater assembly, and regulates the ratio of mixture between heated and unheated air, hence the temperature of the air. When the TEMPERATURE lever is positioned fully to the left, the temperature door is fully closed and prevents air flow through the heater core. When the TEMPERATURE lever is positioned midway in its range of travel, the temperature door is moved in proportion to allow more outside air to flow through the heater core and hence be warmed. When the TEMPERATURE lever is positioned fully to the right, the temperature door is fully open and directs all outside air through the heater core.

The SELECTOR lever of the heater control assembly regulates the positioning of two doors: the diverter air door and the defroster door. The SELECTOR lever has three positions: OFF, HTR and DEFROST. Positioning of the SELECTOR lever to the "OFF" position closes the diverter door and the defroster door. When the door is closed, all air is blocked from passing through the heater assembly and is emitted from the diverter opening under dash on the right side of car. When the SELECTOR lever is moved to the HTR position the air door is fully opened. Air is permitted to pass through the heater assembly and is directed to the floor of the car. Moving of the SELECTOR lever to DEFROST position, opens the defroster door and directs the air to the defroster outlets.

The FAN switch operates a three position switch. A two resistor blower resistor assembly is connected in series between the blower motor and the switch, and serves to reduce the speed of the motor. When the FAN switch is positioned fully downward, the blower motor is in LO. Movement of the switch upward provides LO, MEDIUM and HI blower speeds.

HEATER-DEFROSTER TROUBLE DIAGNOSIS - X SERIES

Cause	Correction
Slow warming in car.	Incorrect operation of controls. Advise owner of proper operation of heater controls and cowl vents. Low coolant level. Check control cable and blower operation.
Objectionable engine or exhaust fumes in car.	Check for proper seal between engine compartment and plenum. Check for proper sealing between air inlet duct assembly and dash. Locate and seal any other air leaks.

Cause	Correction
Cold drafts on floor.	Check operation and adjustment of vent cables. Advise owner of proper operation of heater system. Advise owner to use blower to force air to rear seat area. Check to be sure front floor mat is under floor mat retainer at dash.
Insufficient heat to rear seat.	Obstruction on floor, possibly wrinkled or torn deadener between front seat and floor.
Low engine coolant level - drop in heater air temperature at all blower speeds.	Advise owner to use "Hi" blower speed. Check radiator and cooling system for leaks, correct and fill to proper level. Run engine to clear any air lock. Then cap radiator.
Failure of engine cooling system to warm up. Check coolant level	Check engine thermostat and radiator cap, replace if required.
Kinked heater hoses.	Remove kink or replace hose.
Foreign material obstructing water flow through heater core.	Remove foreign material if possible, otherwise, replace core; can usually be heard as squishing noise at core.
Temperature door improperly adjusted.	Adjust cable.
Air doors do not operate.	Check installation and/or adjustment of air control cable.

INADEQUATE REMOVAL OF FOG OR ICE

Cause	Correction
Defroster door does not open fully.	Check cable operation.
Air door does not open.	Check installation and/or adjustment of air or air-defrost cable.
Temperature door does not open.	Check and adjust temperature control cable if necessary.
Obstructions in defroster outlets at windshield.	Remove obstruction. Look for and repair loose instrument panel pad cover at defroster outlets.
Dinged defroster outlets.	Reshape outlet flange with pliers. The outlet should have a uniform opening.

Cause	Correction
Inoperative blower motor.	Check heater fuse and wiring. Replace motor if necessary.
Inoperative blower motor switch.	Check connectors, switch and wiring. Replace switch if necessary.

TOO WARM IN CAR

Cause	Correction
Temperature door improperly adjusted.	Adjust temperature control cable.
Incorrect operation of controls.	Advise owner of proper operation of heater system.

BLOWER INOPERATIVE

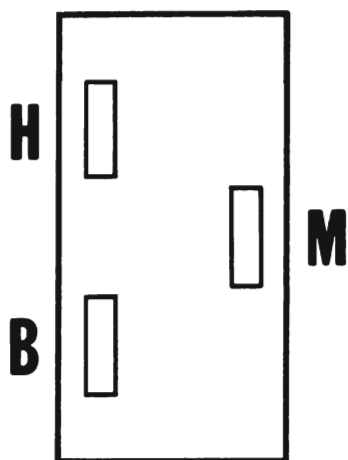
Cause	Correction
Blown fuse.	Replace fuse.
Inoperative motor.	Replace motor.
Open circuit.	Repair circuit between ignition switch, blower switch and blower motor.
Inoperative blower motor switch.	Replace defective switch.
Shorted or open blower resistor.	Replace resistor.

MISCELLANEOUS

Cause	Correction
Blown fuses caused by short in electrical system.	Locate and repair short.
Front floor mat wet under heater caused by improperly sealed windshield or leaking heater core.	Reseal windshield, or lead-in from antenna. Repair or replace heater core. Check for proper seal to dash and for leak at hose connection on heater core. Hose leaking into the heater case is often misdiagnosed as a leaking core.
Heater "Gurgle"	Check engine coolant level in radiator. Check for obstruction in core and/or hoses.

DIAGNOSIS**HEATER-DEFROSTER TROUBLE DIAGNOSIS -
A-B-C-E SERIES**

Condition	Possible Cause and Correction																
Blower motor inoperative	<ol style="list-style-type: none"> 1. Look for burned, broken, or incorrect fuse. 2. Look for loose connectors or broken wires. 3. Visually inspect the resistor assembly. Look for broken or melted coils. Test with ohmmeter or test lite for continuity between connections. 4. Test for malfunctioned blower switch with an ohmmeter or test lite for continuity. <table border="1" data-bbox="904 699 1486 937"> <thead> <tr> <th>Terminal</th> <th>Lo</th> <th>M</th> <th>HI</th> </tr> </thead> <tbody> <tr> <td>B</td> <td>No Conn.</td> <td>Conn. To M</td> <td>Conn. To H</td> </tr> <tr> <td>M</td> <td>No Conn.</td> <td>Conn. To B</td> <td>Conn.</td> </tr> <tr> <td>H</td> <td>No Conn.</td> <td>No Conn.</td> <td>Conn. To B</td> </tr> </tbody> </table> 5. Test for a malfunction engine thermo-switch with an ohmmeter or test lite. Switch will show no continuity "cold" and continuity when switch reaches approximately 140 degrees F. or when closes. 	Terminal	Lo	M	HI	B	No Conn.	Conn. To M	Conn. To H	M	No Conn.	Conn. To B	Conn.	H	No Conn.	No Conn.	Conn. To B
Terminal	Lo	M	HI														
B	No Conn.	Conn. To M	Conn. To H														
M	No Conn.	Conn. To B	Conn.														
H	No Conn.	No Conn.	Conn. To B														
Insufficient heating	<ol style="list-style-type: none"> 1. Test for correct adjustment of temperature door by listening for the door to hit stop in heater at the hot end of travel of temperature lever on dash. Should have 1/16 to 1/8 inch spring back of temp lever in HOT position. 2. Feel for air leaks around the sealing edges of components. 3. Test engine thermostat for opening too soon, stuck open, or held open by foreign material. 4. Visually inspect radiator coolant level and add if necessary. 5. Visually inspect the flow control valve on the 455 Cu. In. engines, for a possible dislodged diaphragm. The valve is located in the heater core to heater hose on the intake manifold. The 350 Cu. In. engines are not equipped with a flow control valve. 6. Feel for air leaks through dash, around doors, windows, around purge openings, etc. 																
Inadequate defrosting	<ol style="list-style-type: none"> 1. Visually inspect for proper connection of Bowden cable to defroster and heater. 2. Feel for air leaks around the sealed components. 3. Visually inspect the coolant level in radiator. Add coolant if necessary. 4. Inspect for position of defroster ducts and instrument panel openings. Defroster ducts have locating alignment slots on top to ensure duct opening to instrument panel opening. 																



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MAINTENANCE AND ADJUSTMENTS

HEATER CABLE ADJUSTMENT - X SERIES

The heater cables do not have adjustable turnbuckles. Cable adjustment is in the positioning of the cable attaching bracket at the heater case. Refer to Figures 9A-5 and 9A-6 for cable routing and attachment.

1. Connect cable at heater control.
2. Set control lever to the closed (full up) position.
3. Move corresponding heater case door to the OFF (full closed) position.
4. Attach cable wire to heater case door lever and tighten cable attaching bracket screws.
5. Check for proper cable operation.

ADJUSTMENT OF TEMPERATURE SELECTOR LEVER AND TEMPERATURE DOOR A-B-C-E SERIES

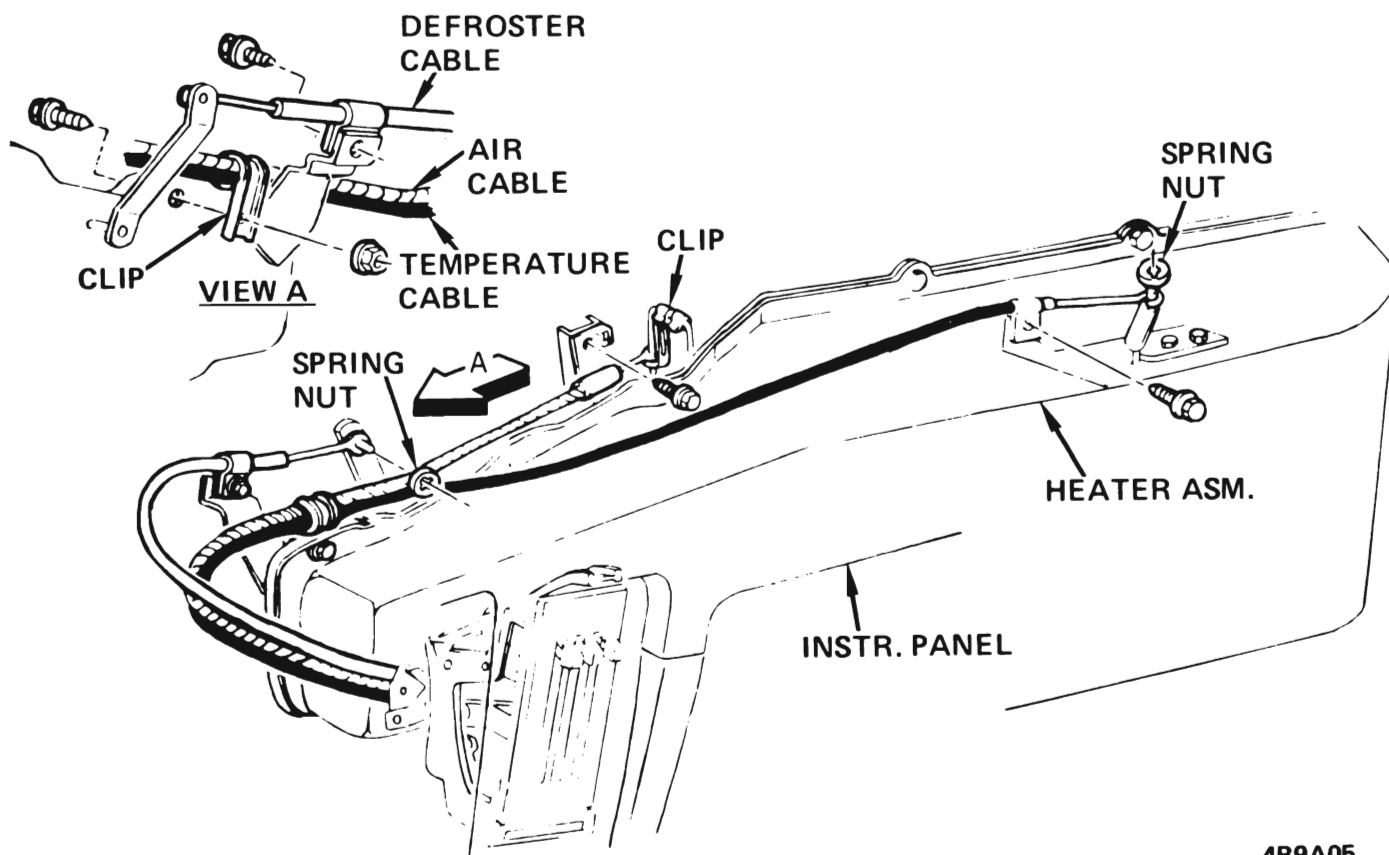
The temp control cable should be adjusted so that

1/16 to 1/8 inch springback is obtained at hot end of lever travel. To adjust, move the temperature lever to the "HOT" position and rotate the control cable adjuster nut until 1/16 to 1/8 inch springback is obtained at hot end of lever travel.

MAJOR REPAIR

REMOVAL AND INSTALLATION OF HEATER CONTROL ASSEMBLY - A SERIES

1. Remove instruments trim plate by pulling rearward and unsnapping from instrument panel. See Figure 9A-7.
2. Remove 4 heater control attaching screws. See Figure 9A-8.
3. Pull control out from instrument panel and disconnect electrical wiring and 2 Bowden cables. See Figure 9A-10.
4. Turn heater control over and disconnect 1 control cable and ground wire. See Figure 9A-11.



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Figure 9A-5 Heater Cable Routing

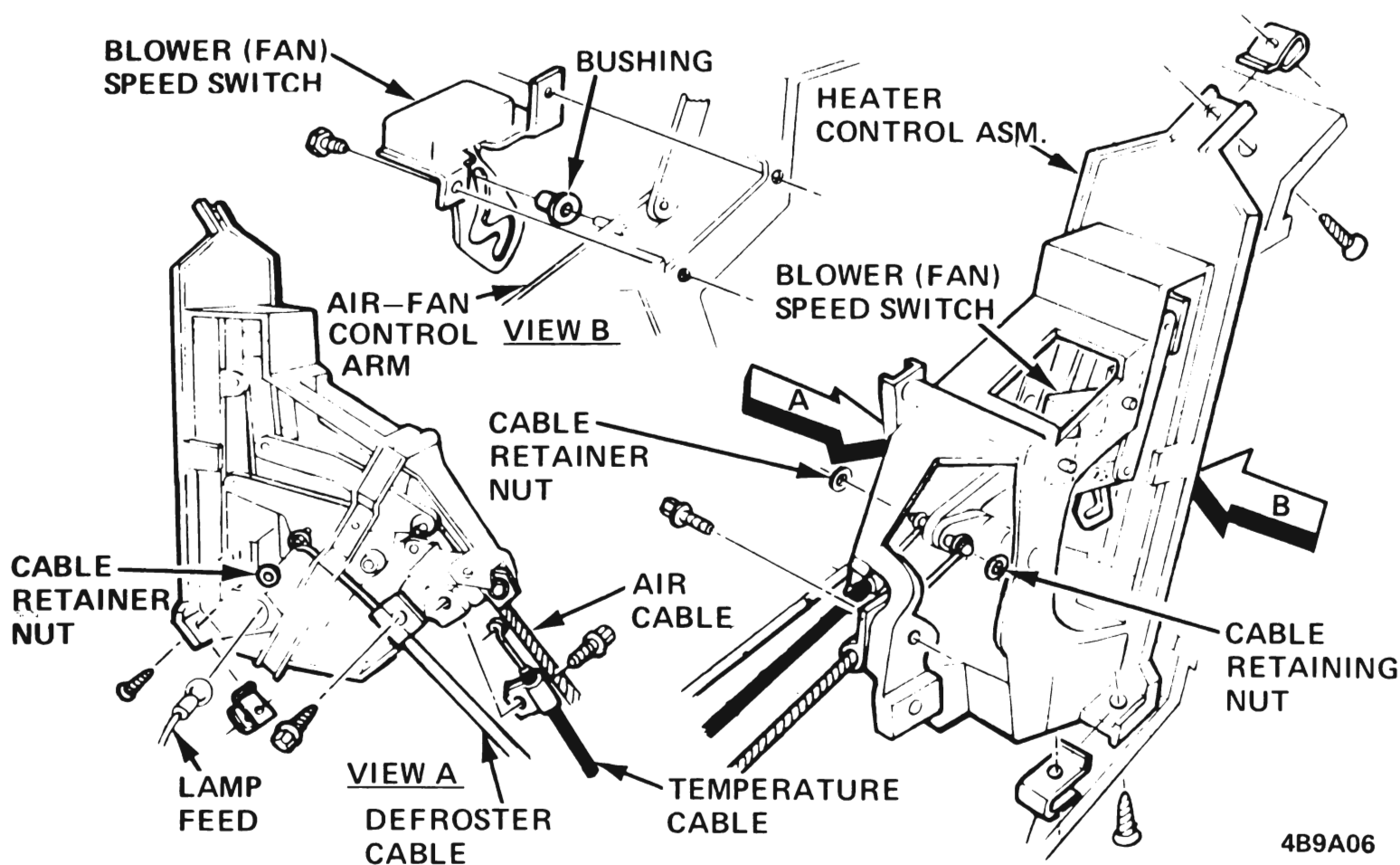


Figure 9A-6 Heater Control-Cables and Fan Switch

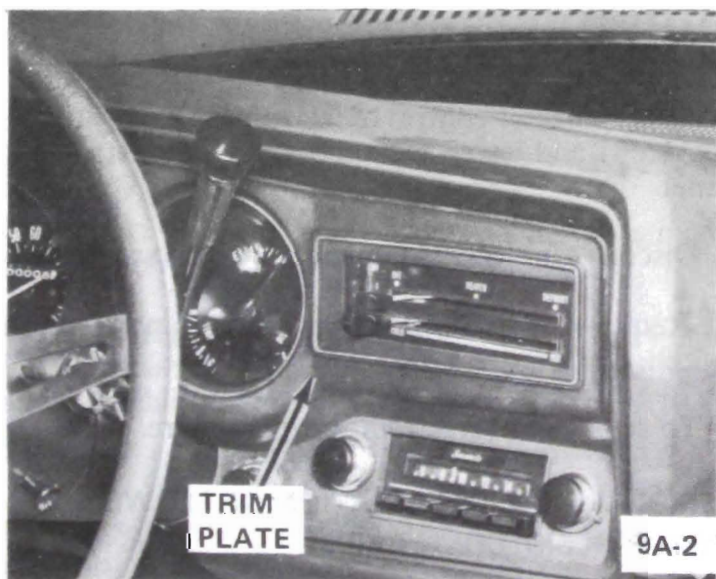


Figure 9A-7 Trim Plate Location

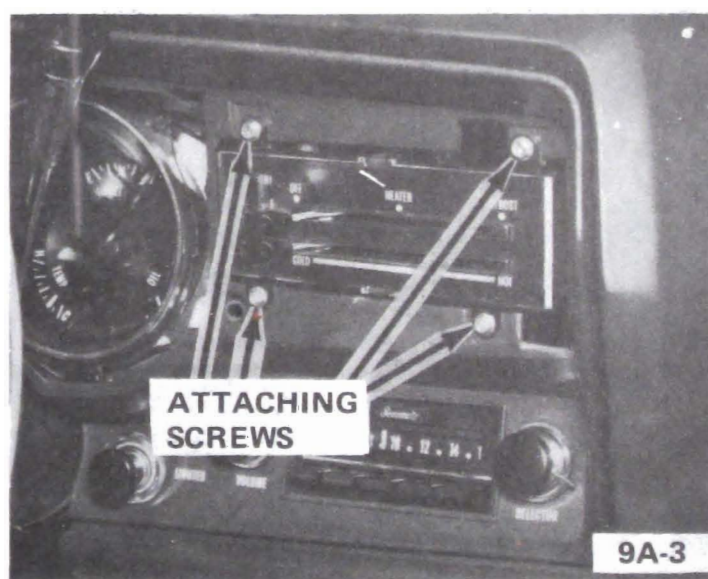


Figure 9A-8 Heater Control Attaching Screws

5. Install in reverse of removal procedures making sure cables are attached on the correct levers. See Figure 9A-28 for color reference of the cables.

REMOVAL AND INSTALLATION OF HEATER CABLES (ALL) - X SERIES

1. Remove radio.

2. If replacing defrost cable, remove ash tray and bracket for access to cable attachment at control.

3. Remove retaining screw and nut and disconnect cable at heater case.

4. If replacing temperature cable, remove screw and clip used to route cable along heater case.

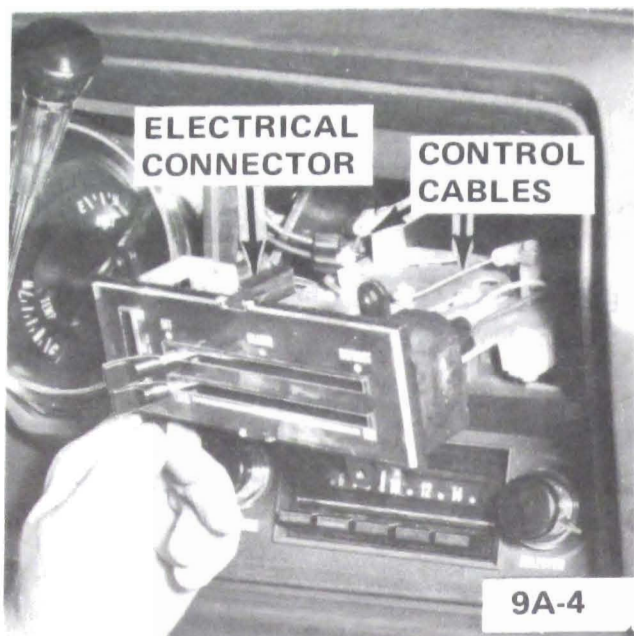


Figure 9A-10 Location of Control Cables

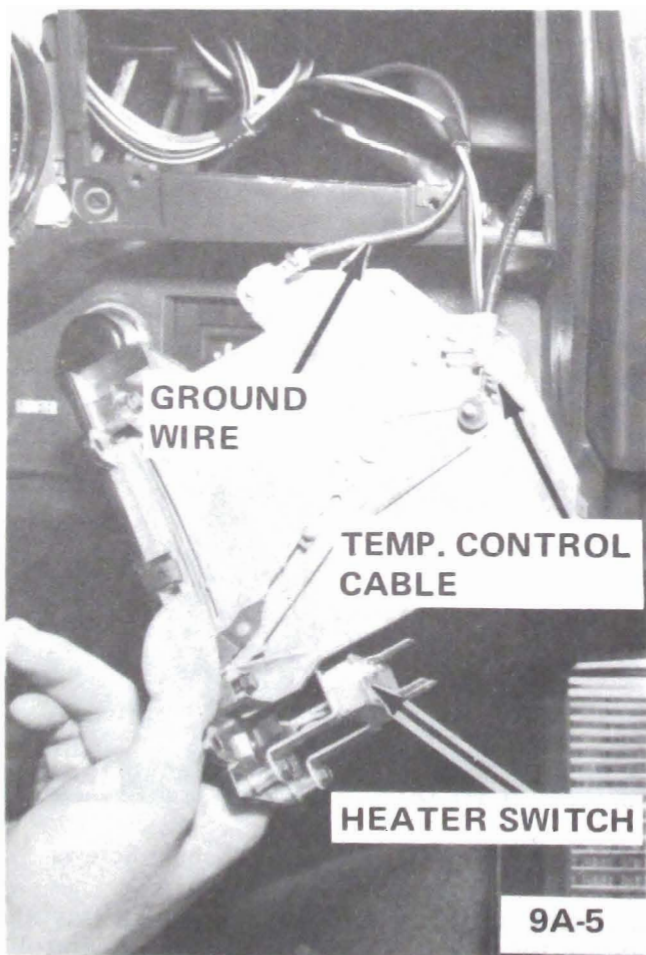


Figure 9A-11 Location of Temperature Control Cable and Ground Wire

5. Remove retaining screw and nut and disconnect cable at control and remove cable. See Figure 9A-5.

6. Repair cable or construct new cable of equal length using parts from Bowden Cable Repair Kit. Use cable housing from original cable if possible. In most instances, only the wire portion of the cable will require replacement.

7. To replace cable, reverse removal procedure. Check adjustment when connecting cable at heater case.

REMOVAL AND INSTALLATION OF HEATER CONTROL PANEL - X SERIES

1. Disconnect battery.
2. Remove radio.
3. Remove (3) heater control to instrument panel attaching screws and lower heater control assembly from instrument panel.
4. Disconnect heater control cables from control panel.
5. Disconnect electrical connectors and remove control panel. See Figure 9A-5.

6. To replace, reverse removal procedure.

REMOVAL AND INSTALLATION OF FAN SWITCH - X SERIES

1. Disconnect battery.
2. Remove radio.
3. Remove heater control to instrument panel attaching screws and lower heater control from instrument panel.
4. Disconnect electrical connector from switch.
5. Remove switch retaining screws and remove switch. See Figure 9A-5.

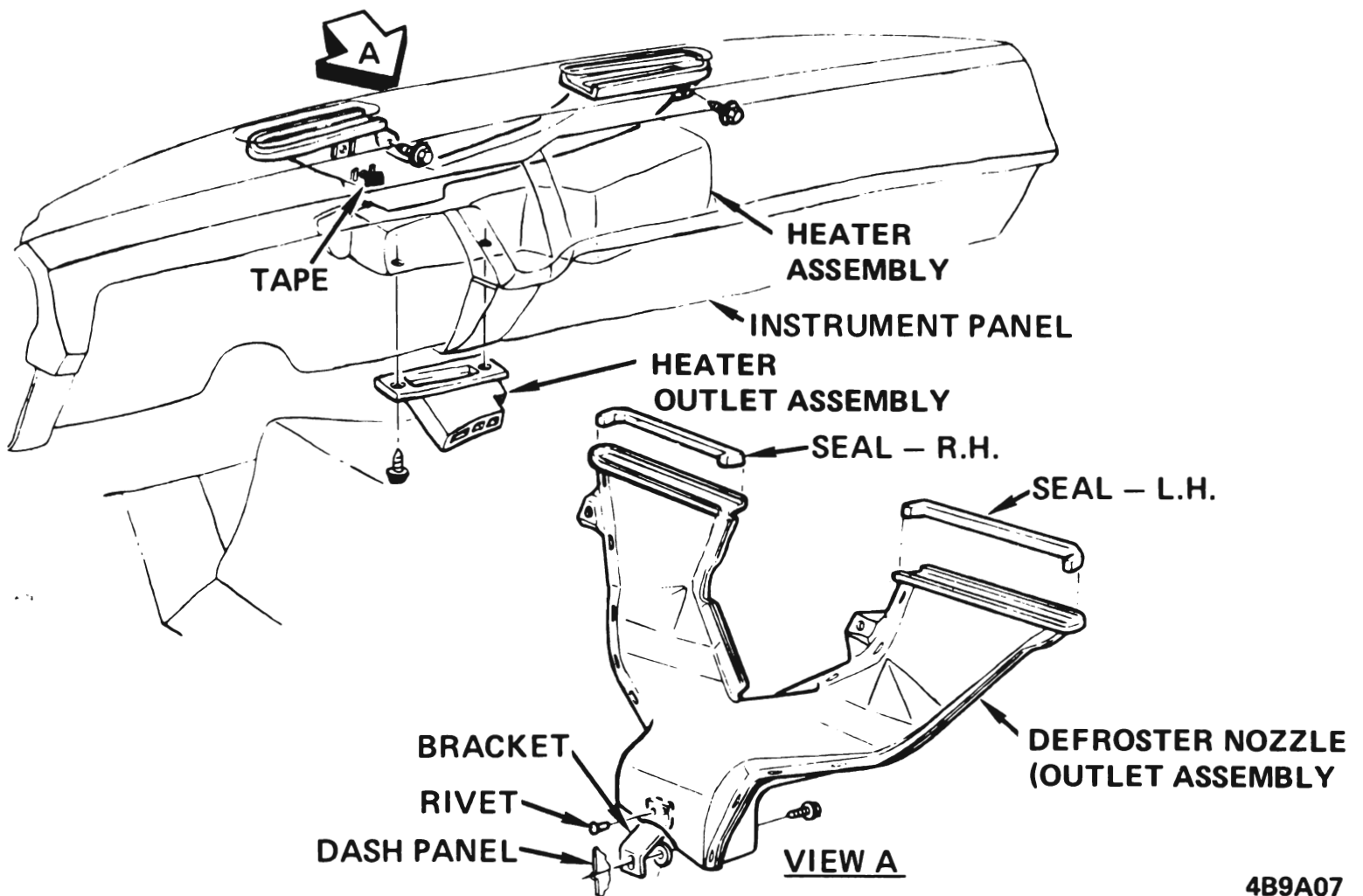
6. To replace, reverse removal procedure.

REMOVAL AND INSTALLATION OF BLOWER MOTOR RESISTOR - X SERIES

1. Remove glove compartment and door.
2. Remove 2 screws securing resistor assembly on top of heater case.
3. To replace, reverse removal procedure.

REMOVAL AND INSTALLATION OF DEFROSTER NOZZLE - X SERIES

1. Remove heater core and case assembly.



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Figure 9A-12 Heater and Defroster Duct Installation

2. Remove 2 upper defroster nozzle attaching screws.
3. Remove lower attaching screw and washer and remove defroster nozzle. See Figure 9A-12.
4. To replace, reverse removal procedures and follow heater core replacement in "Heater Core Removal and Installation."

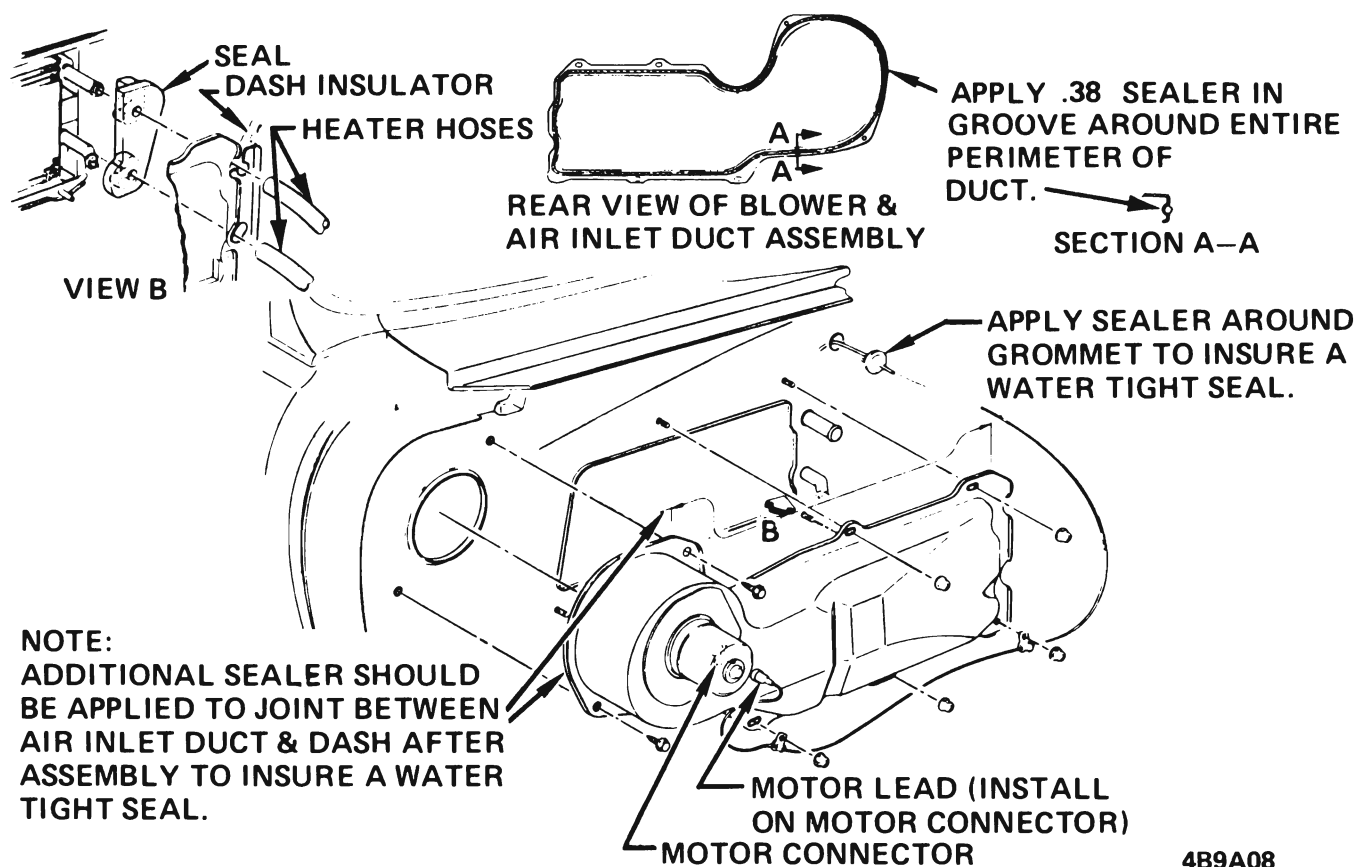
REMOVAL AND INSTALLATION OF BLOWER MOTOR AND/OR IMPELLER - X SERIES

1. Disconnect Battery.
2. Raise car on hoist.
3. Remove all fender skirt attaching bolts except those attaching skirt to radiator support.
4. Pull out and down on skirt and place wooden block between skirt and fender to allow clearance for blower motor removal.

5. Disconnect blower motor electrical connections.
6. Remove attaching screws and remove blower motor.
7. Remove blower impeller retaining nut and separate motor from impeller.
8. To replace, reverse removal procedure.

REMOVAL AND INSTALLATION OF BLOWER AND AIR INLET DUCT - X SERIES

1. Remove blower motor assembly.
2. Through opening between fender and skirt, remove air inlet duct attaching screws and nuts.
3. Remove air inlet duct and clean excess sealer from dash sealing surface.
4. To replace, reverse removal procedure. Reseal air inlet duct when replacing. See Figure 9A-13.



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Figure 9A-13 Blower Motor and Air Inlet Duct

REMOVAL AND INSTALLATION OF HEATER CORE - X SERIES

1. Disconnect battery.
2. Drain radiator.
3. Disconnect heater hoses at core connections and plug core tubes to prevent spilling coolant when removing core and case assembly.
4. Remove retaining nuts from core case studs on engine side of dash.
5. Remove glove compartment and door.
6. From inside vehicle, drill out lower right hand heater case stud with 1/4 inch drill.
7. Pull core and case assembly from dash. See Figure 9A-14.

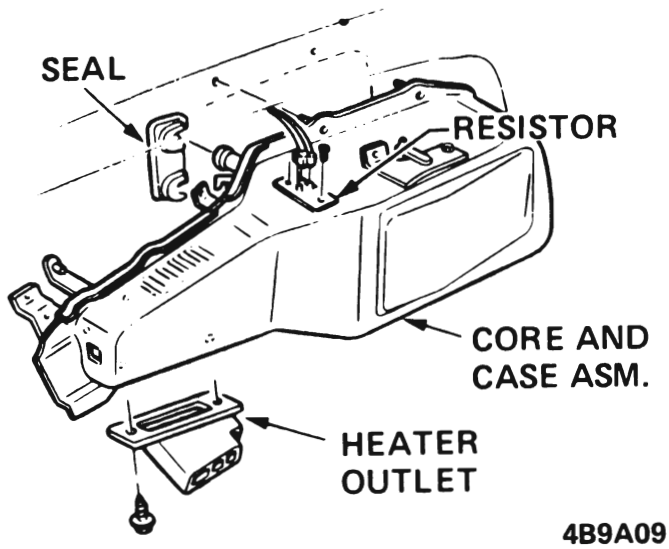


Figure 9A-14 Heater Core and Case

8. Disconnect heater cables and blower motor resistor connector from heater case and remove core and case assembly from car.

9. Remove core tube seal and core retaining strips and remove core.

10. Install replacement core. Be sure core to case sealer is intact before installing core. Use new sealer if necessary.

11. Install core retaining strips and core tube seal.

12. Replace drilled out heater case stud with new screw and stamped (pull) nut.

13. Inside car, insert heater case studs through holes in cowl and air inlet duct. Install case to dash mounting nuts. It may be necessary to first insert coolant tubes through the dash followed by the studs.

14. Connect heater cables and blower resistor connector. Check cable operation and adjust if necessary.

15. Connect heater hoses, being careful to install them in their proper locations.

16. Refill radiator and connect battery.

REMOVAL AND INSTALLATION OF HEATER CASE - X SERIES

1. Perform steps 1 through 9 of heater core removal and installation procedure.

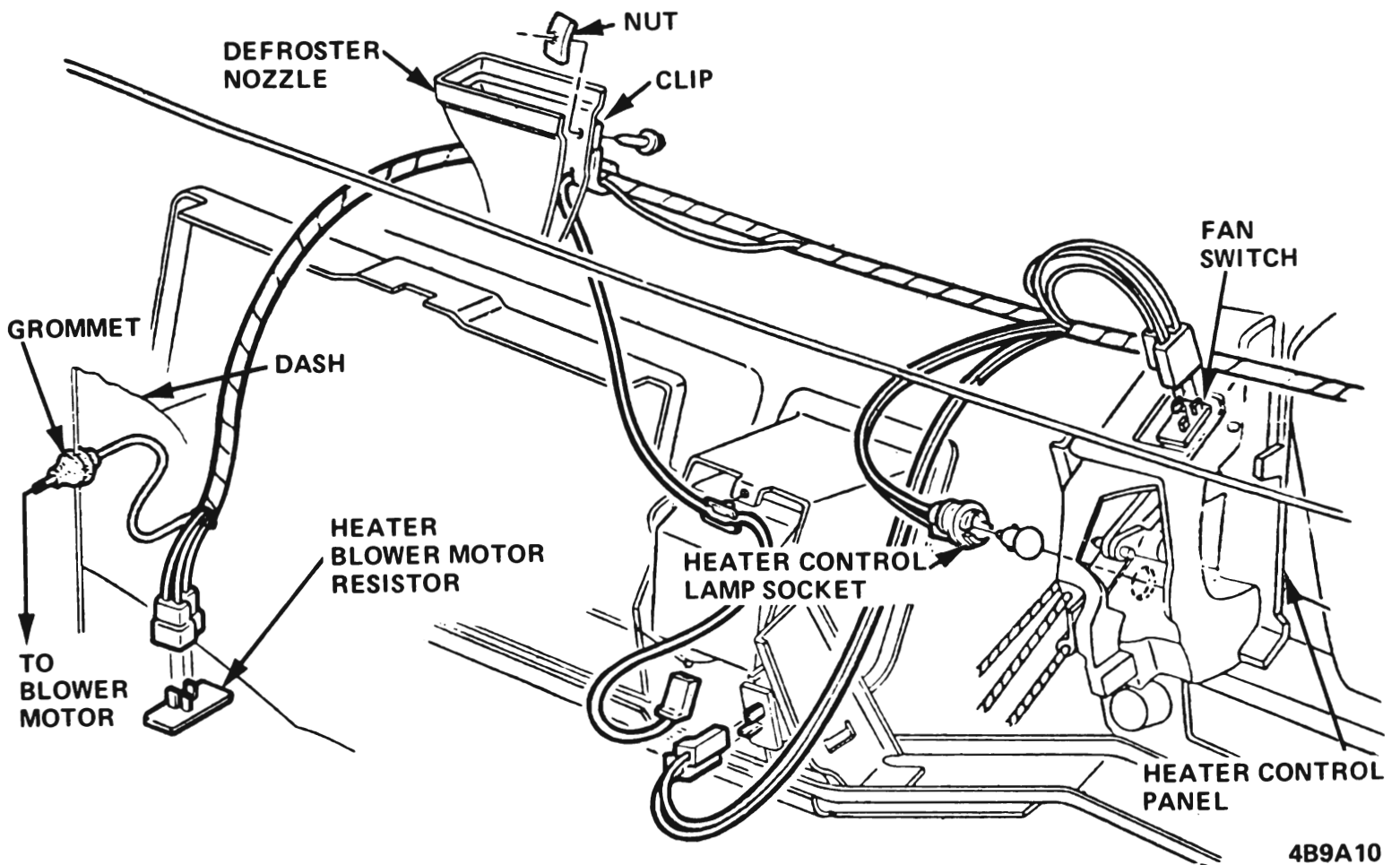


Figure 9A-15 Heater Wiring

2. Transfer cable brackets, heater outlet and blower motor resistor to new heater case.
3. Install heater core. Be sure core to case sealer is intact before installing core. Use new sealer if necessary.
4. Perform steps 11 through 16 of heater core removal and installation procedure.

REMOVAL AND INSTALLATION OF LOWER VENT DOOR - X SERIES

1. Remove parking brake ratchet assembly if working on left side.
2. Remove forward door sill plate screw.
3. Remove 5 kick pad screws.
4. Disconnect cable and remove ventilator door from kick pad.
5. To replace, reverse removal procedure.

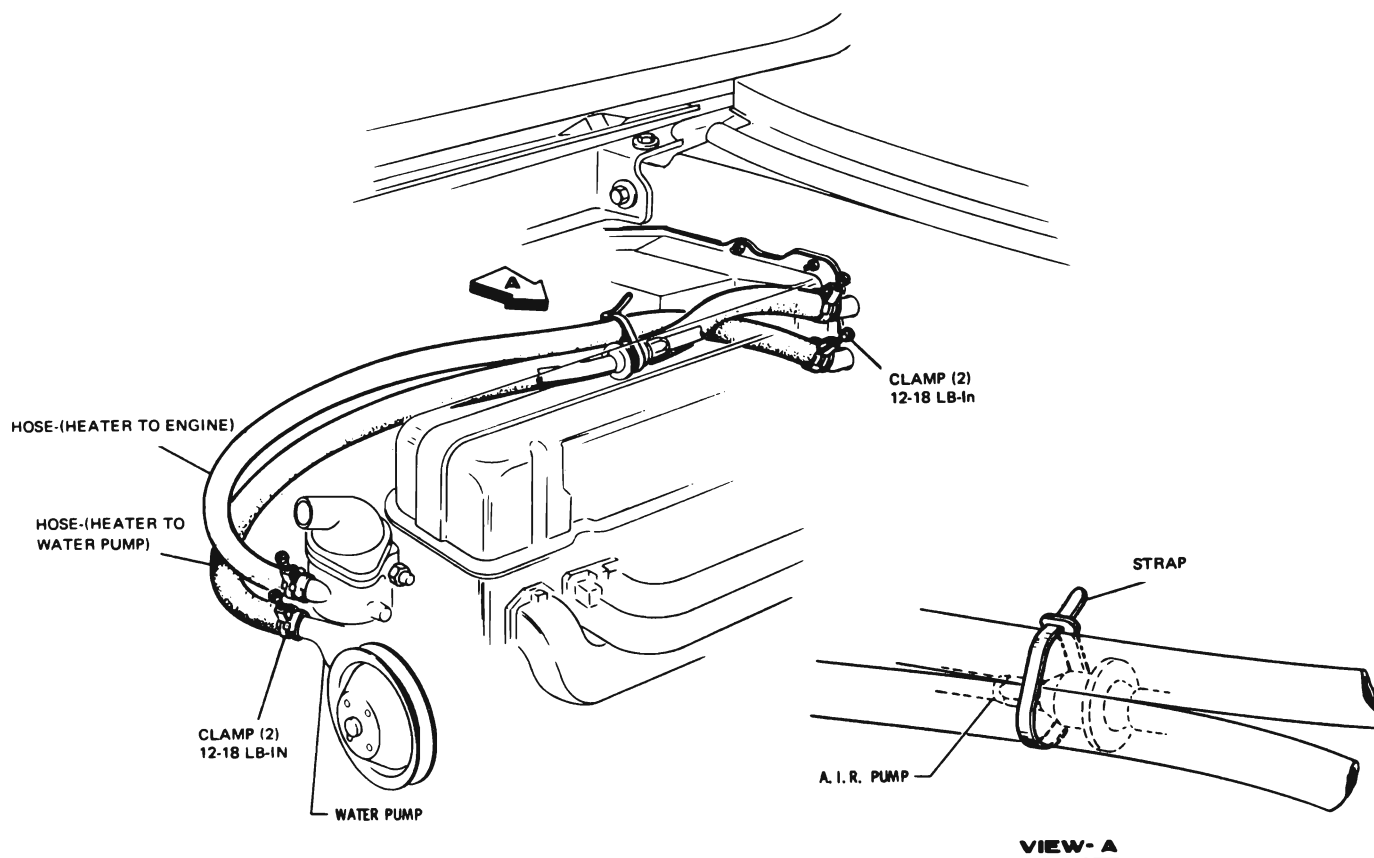
REMOVAL AND INSTALLATION OF LOWER VENT CABLE - X SERIES

1. Perform steps 1 through 4 of removal and installation of vent door procedure.
2. Disconnect cable from door and remove cable.
3. To replace, reverse removal procedure.

REMOVAL AND INSTALLATION OF HEATER CONTROL ASSEMBLY B-C-E SERIES

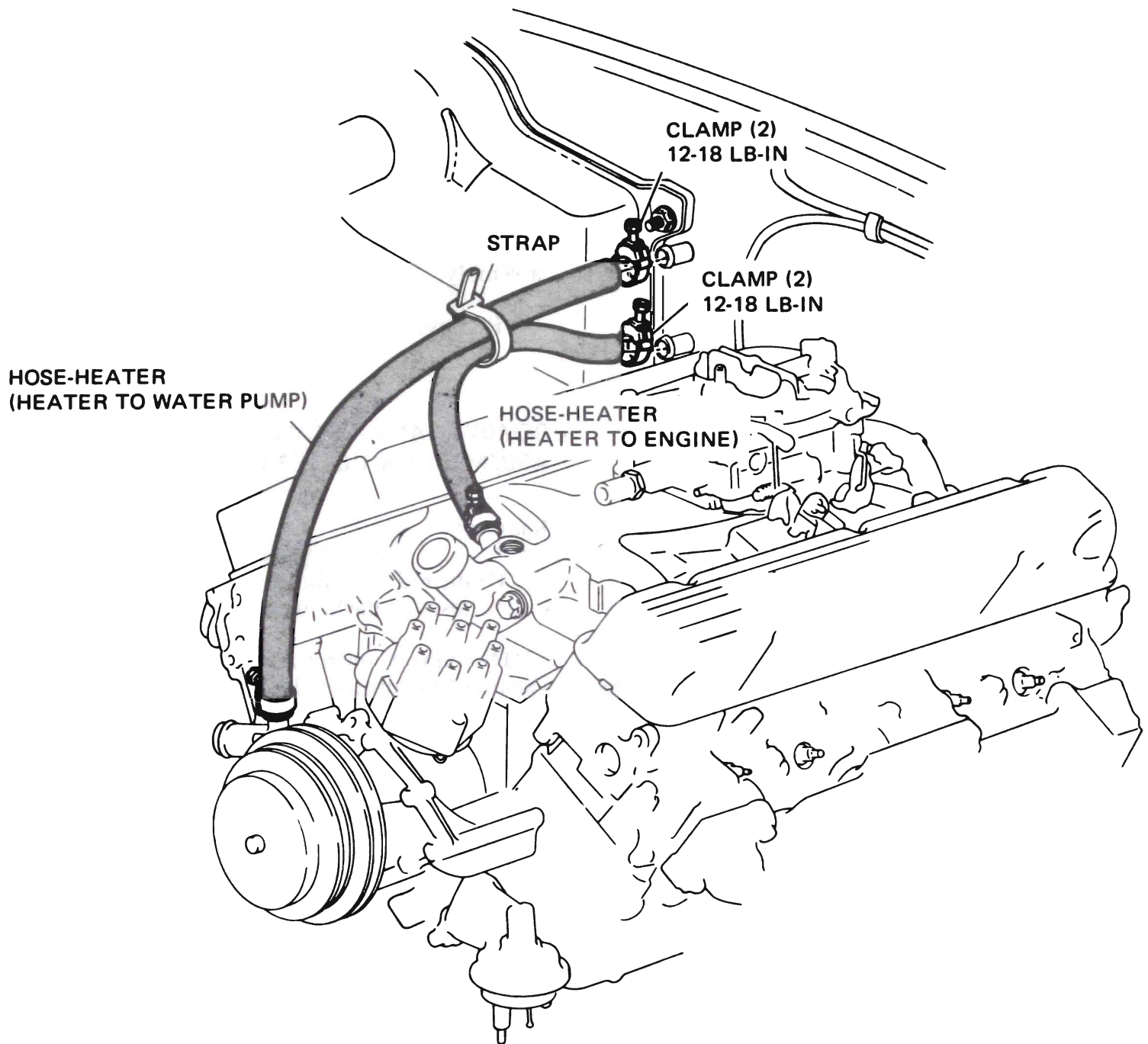
Removal

1. Disconnect battery.
2. Remove head light switch.
3. Remove dash trim.
4. Remove 2 see-lights from trim plate.
5. Remove 4 screws from control face.



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Figure 9A-16 Heater Hoses - 6 Cylinder Engine



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Figure 9A-17 Heater Hoses - V-8 Engine

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.

2. Connect bowden wires, electrical connectors, and vacuum connectors.

3. Install heater control to instrument panel forward support, securing with 1 screw..

4. Install 4 screws into control face.

5. Install 2 see-lights into trim plate.

6. Install lower dash trim.

7. Install headlight switch.

8. Adjust temperature control lever as necessary.

9. Connect battery.

REMOVAL AND INSTALLATION OF BLOWER MOTOR OR BLOWER MOTOR AND AIR INLET ASSEMBLY - A SERIES

1. (Blower motor only) Disconnect blower motor wire. Remove screws securing blower motor to air inlet assembly.
2. (Blower motor and air inlet assembly) Disconnect blower motor wire. Remove 2 nuts and 3 screws securing blower motor and air inlet assembly to dash.
3. Install in reverse of removal sealing along mating surface, between dash and air inlet assembly.

REMOVAL AND INSTALLATION OF BLOWER MOTOR OR BLOWER MOTOR AND AIR INLET ASSEMBLY - B-C-E SERIES

Removal

1. Support hood and loosen hood hinge from extension and plate assembly E series only.
 2. Remove extension and plate assembly E series only.
 3. (Blower Motor Only) Disconnect blower motor wire. Remove screws securing blower motor to air inlet assembly.
- (Blower Motor and Air Inlet Assembly) Disconnect blower motor wire and electrical connector from blower motor resistor. Remove nuts and screws securing blower and air inlet assembly to dash.

Installation

1. (Blower Motor and Air Inlet Assembly) Install 4 nuts and 2 screws, securing blower and air inlet assembly to dash. Connect blower motor wire and resistor connector.
 2. Connect electrical connector to blower motor resistor.
- (Blower Motor Only) Install screws, securing blower motor to air inlet assembly. Connect Blower wire.
3. Install extension and plate assembly E series only.
 4. Install extension and plate assembly and tighten hood hinge E series only.
 5. Seal along mating surfaces between dash and air inlet assembly.

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

1. Drain radiator and disconnect heater inlet and outlet hoses at dash. See Figure 9A-31.
2. Disconnect control cables from door levers. See Figure 9A-28.
3. Remove screw securing defroster outlet to heater assembly.
4. Remove 4 nuts securing heater assembly to dash.

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

Removal

1. Drain radiator and disconnect heater inlet and outlet hoses at dash. See Figure 9A-31.
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 into dash.
2. Install heater assembly to dash, securing with 4 nuts.
3. Install defroster outlet tab to heater assembly, securing with a screw.
4. Install control cable to temperature door lever.
5. Install control wires from defroster door and vacuum hose diverter door actuator diaphragm.
6. Connect inlet and outlet hoses at dash and refill radiator. See Figure 9A-31.
7. Seal along mating surfaces between dash and heater assembly.
8. Adjust temperature control cable as necessary.

SPECIFICATIONS

Recommended Coolant	Ethylene-Glycol Base
Thermostat Opening Temperature	190
Cooling System Capacity With Heater (Quarts)	
350 A Series	17.6
350 B Series	17.3
455 All Series	21.6
L-6 X Series	14.0
350 X Series	17.0
Blower Motor Type	12 VDC
Blower Motor Fan	Squirrel Cage

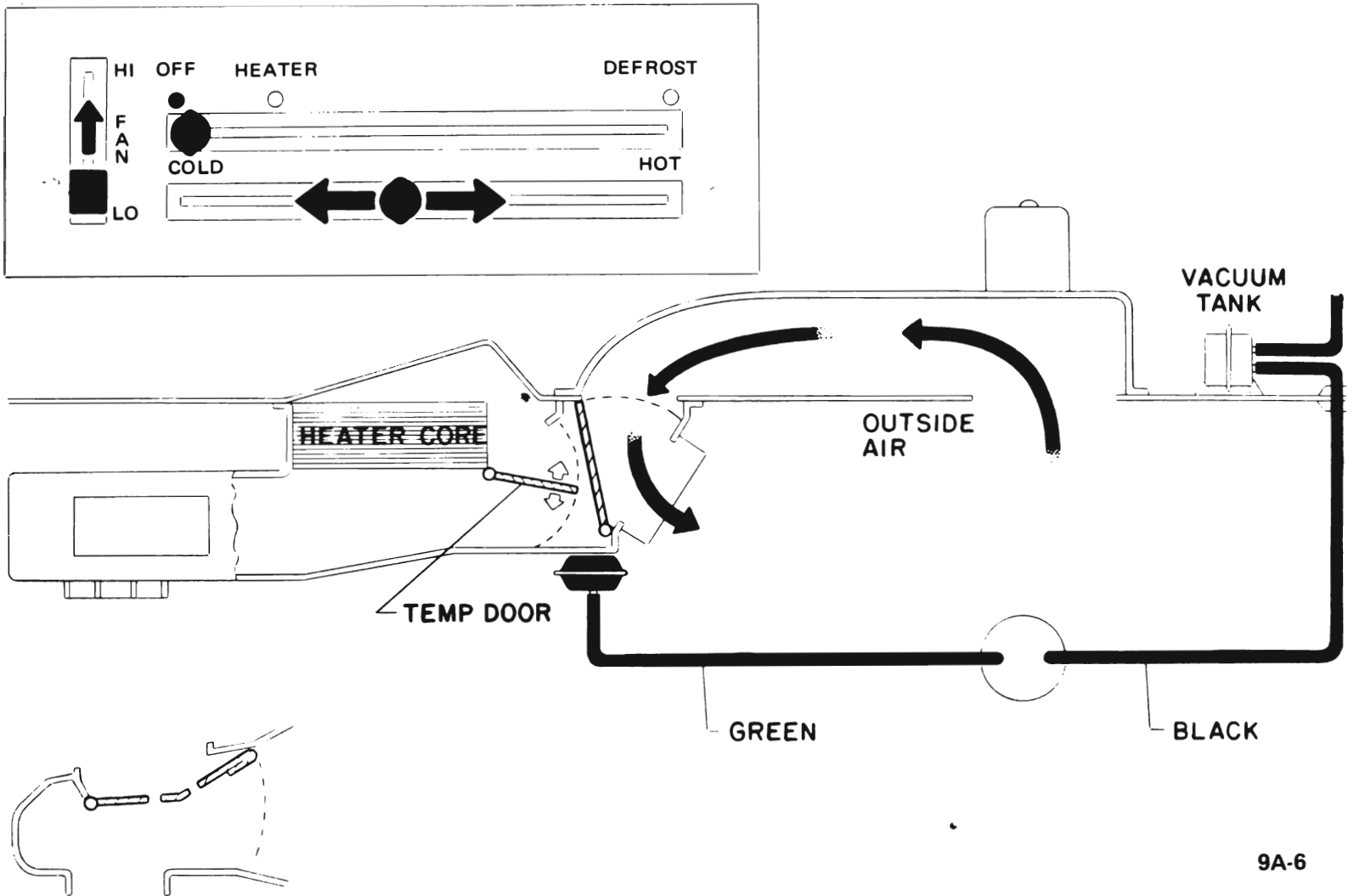


Figure 9A-24 Heater System Air Flow - Off - B-C-E Series

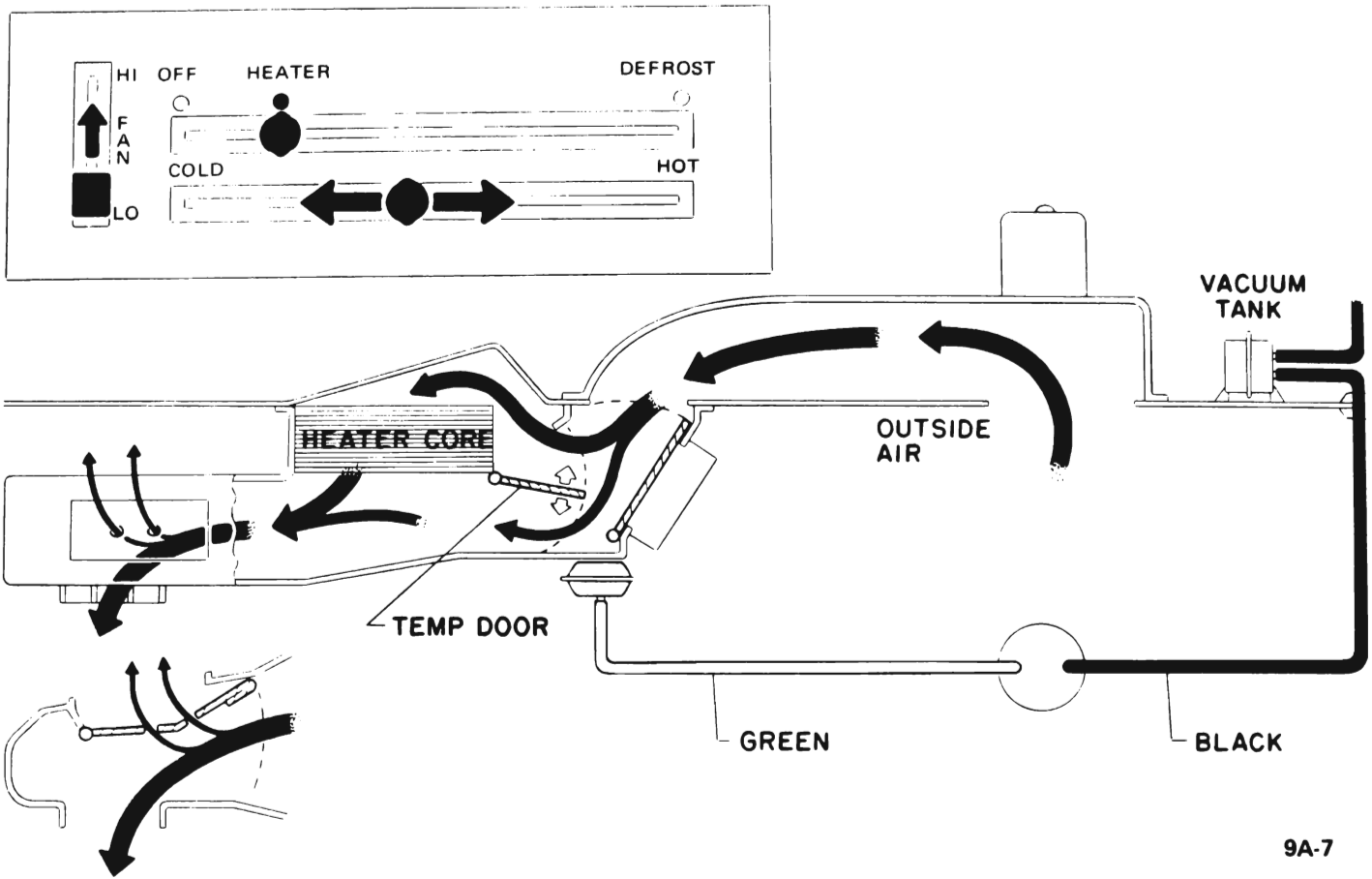


Figure 9A-25 Heater System Air Flow - Heat - B-C-E Series

9A-7

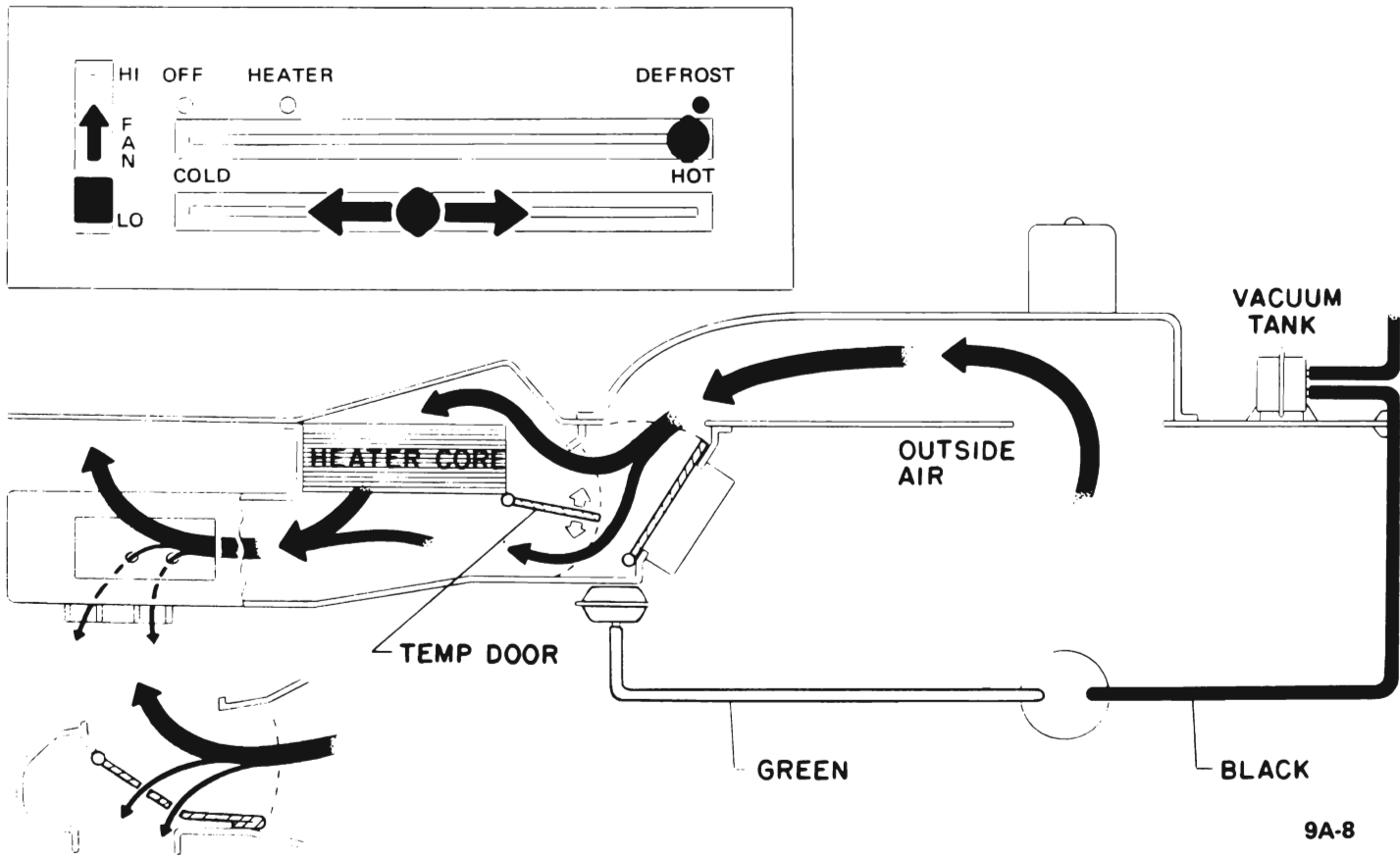
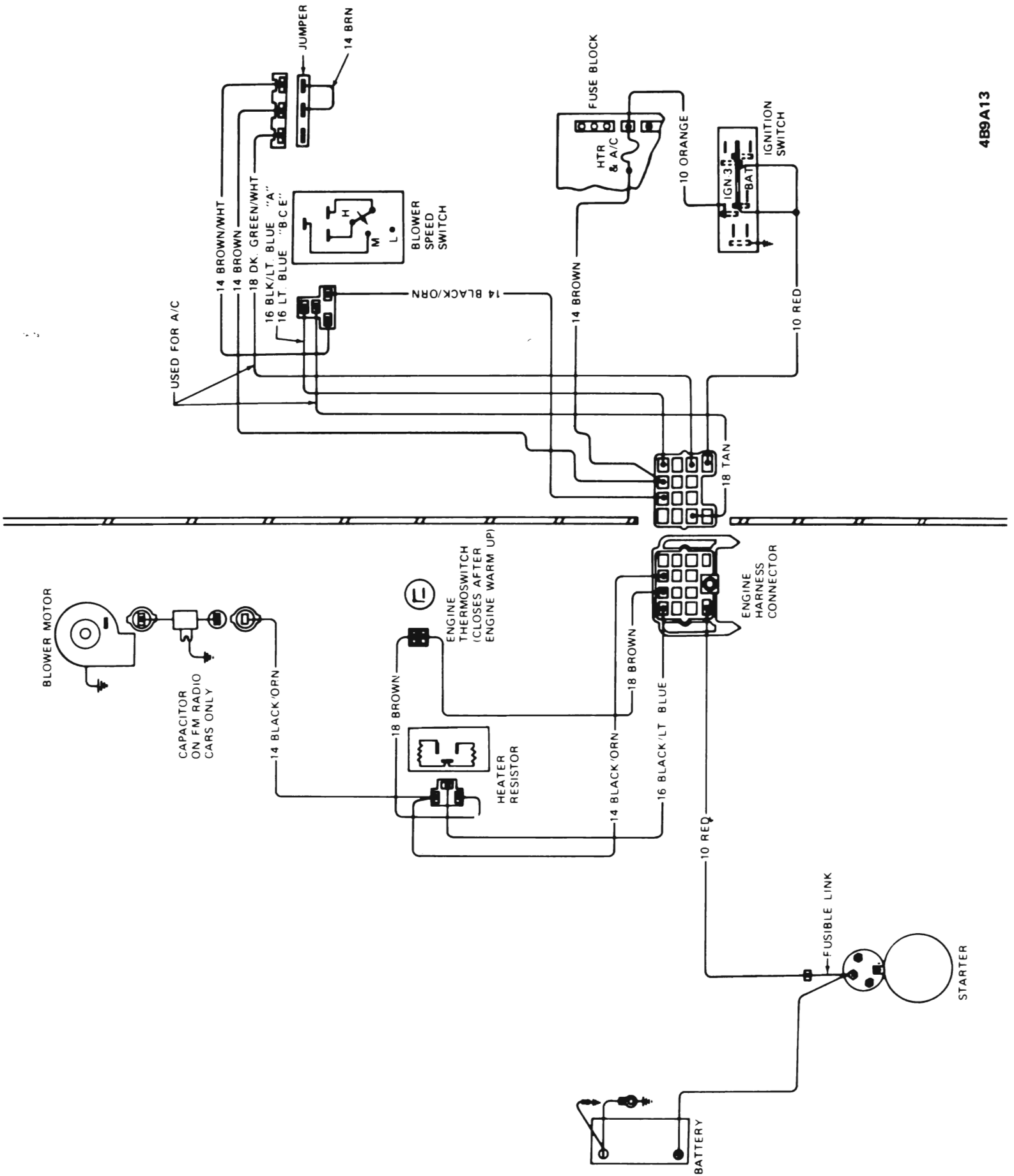


Figure 9A-26 Heater System Air Flow - Defrost - B-C-E Series

9A-8



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Figure 9A-27 Heater - Wiring Circuit Diagram - A-B-C-E Series

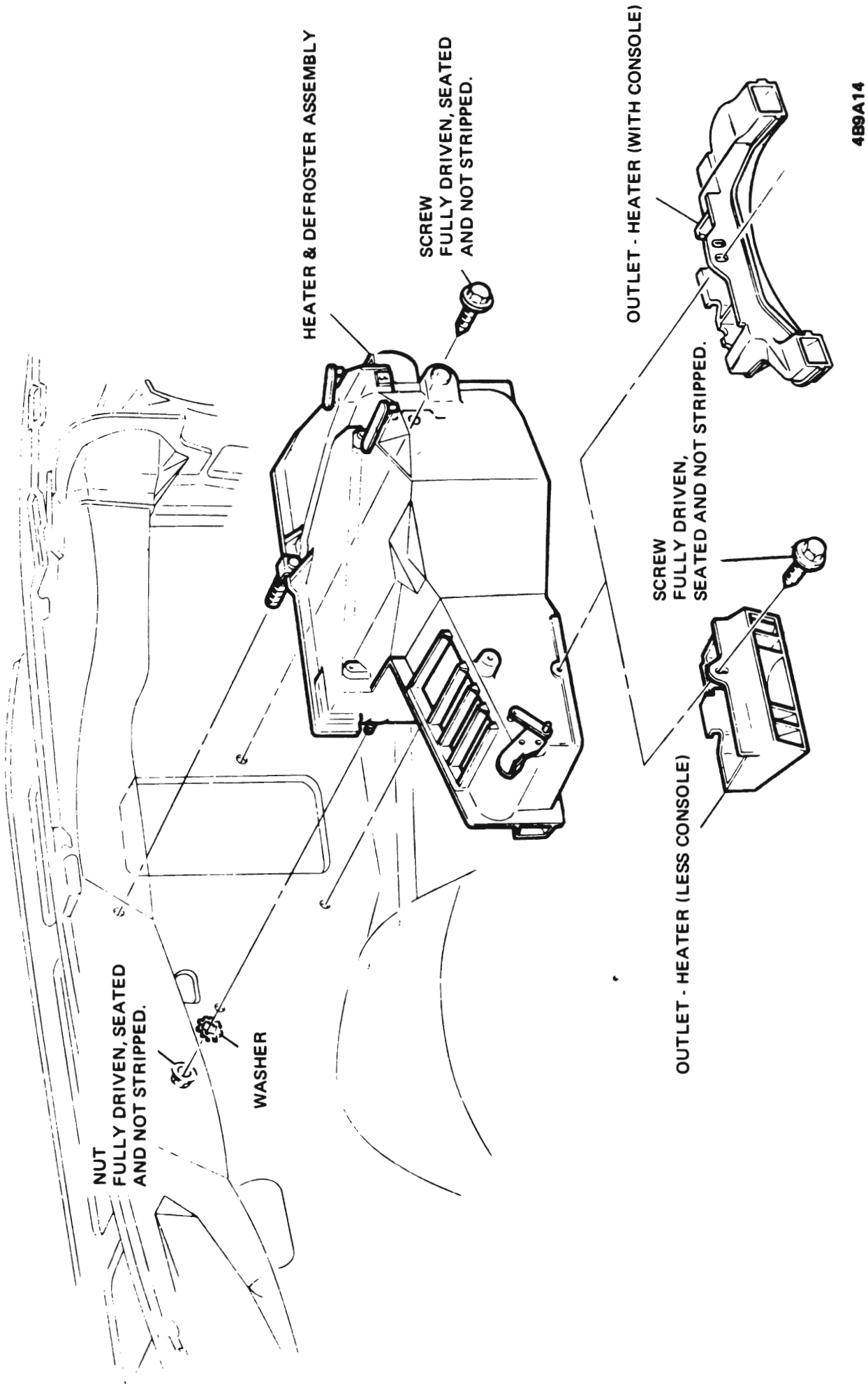


Figure 9A-30 Heater and Defroster Assembly - Center Outlet - A Series

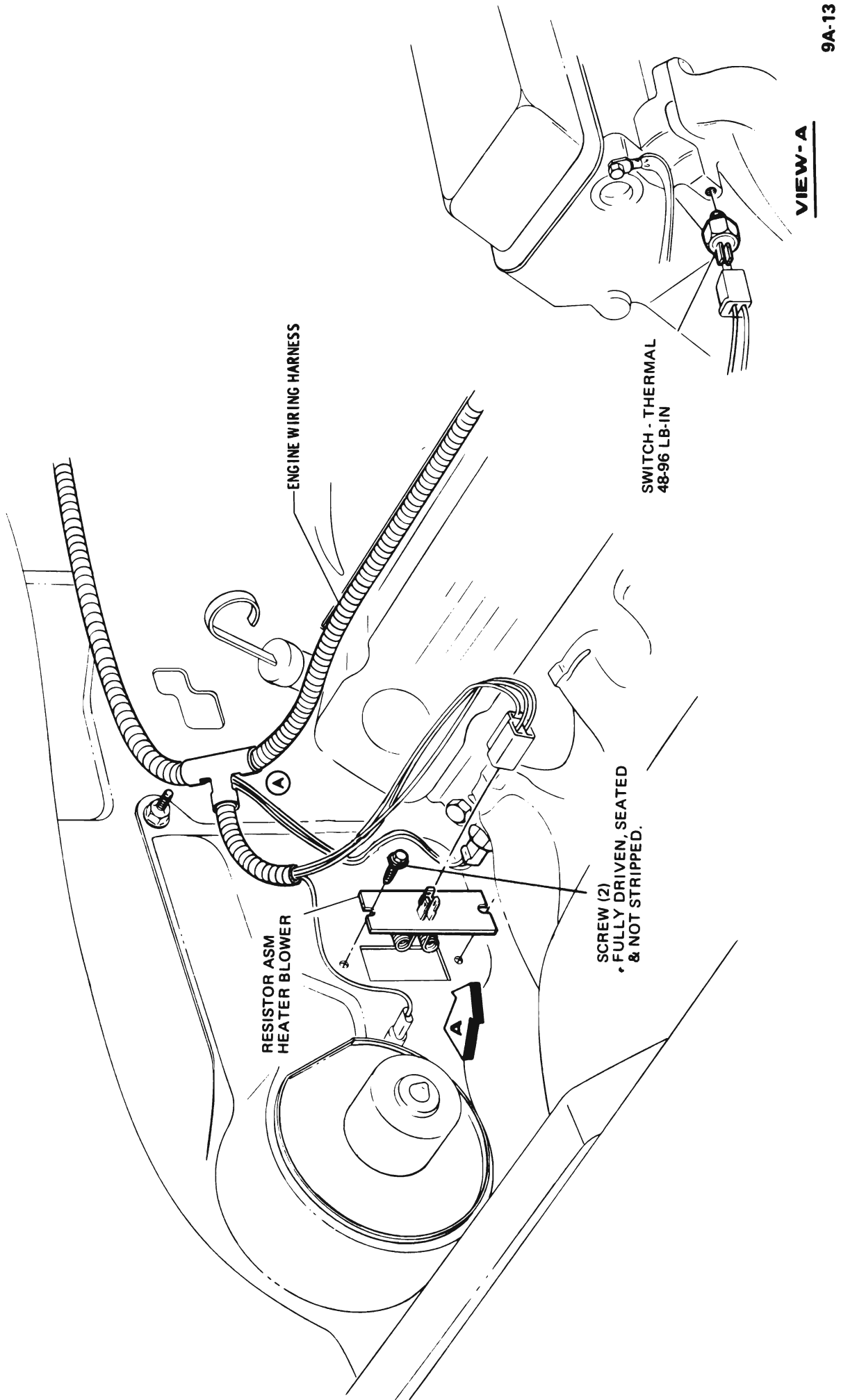
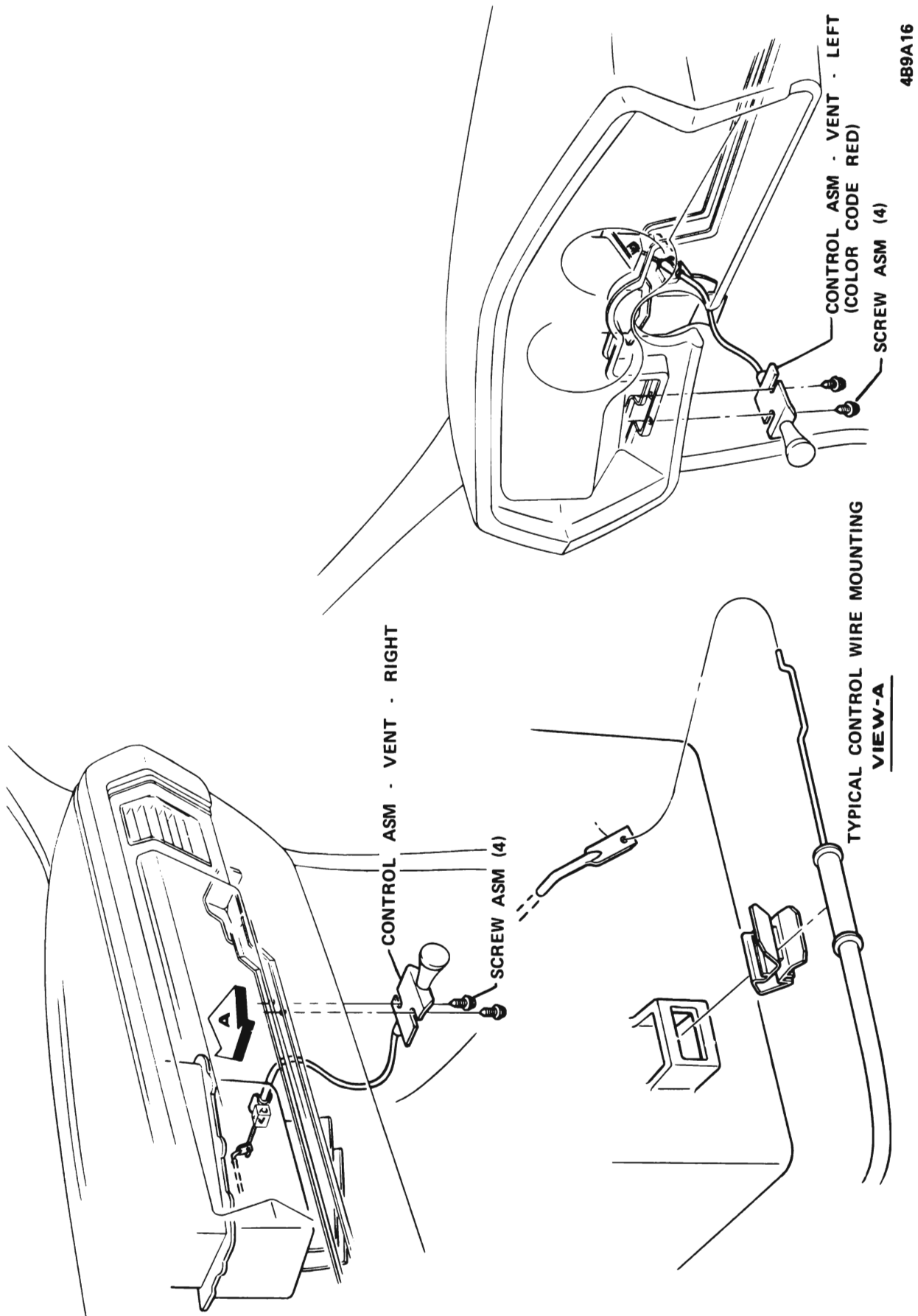


Figure 9A-32 Blower Resistor and Thermal Switch - Heater - A Series



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Figure 9A-33 Side Vent Controls - A Series

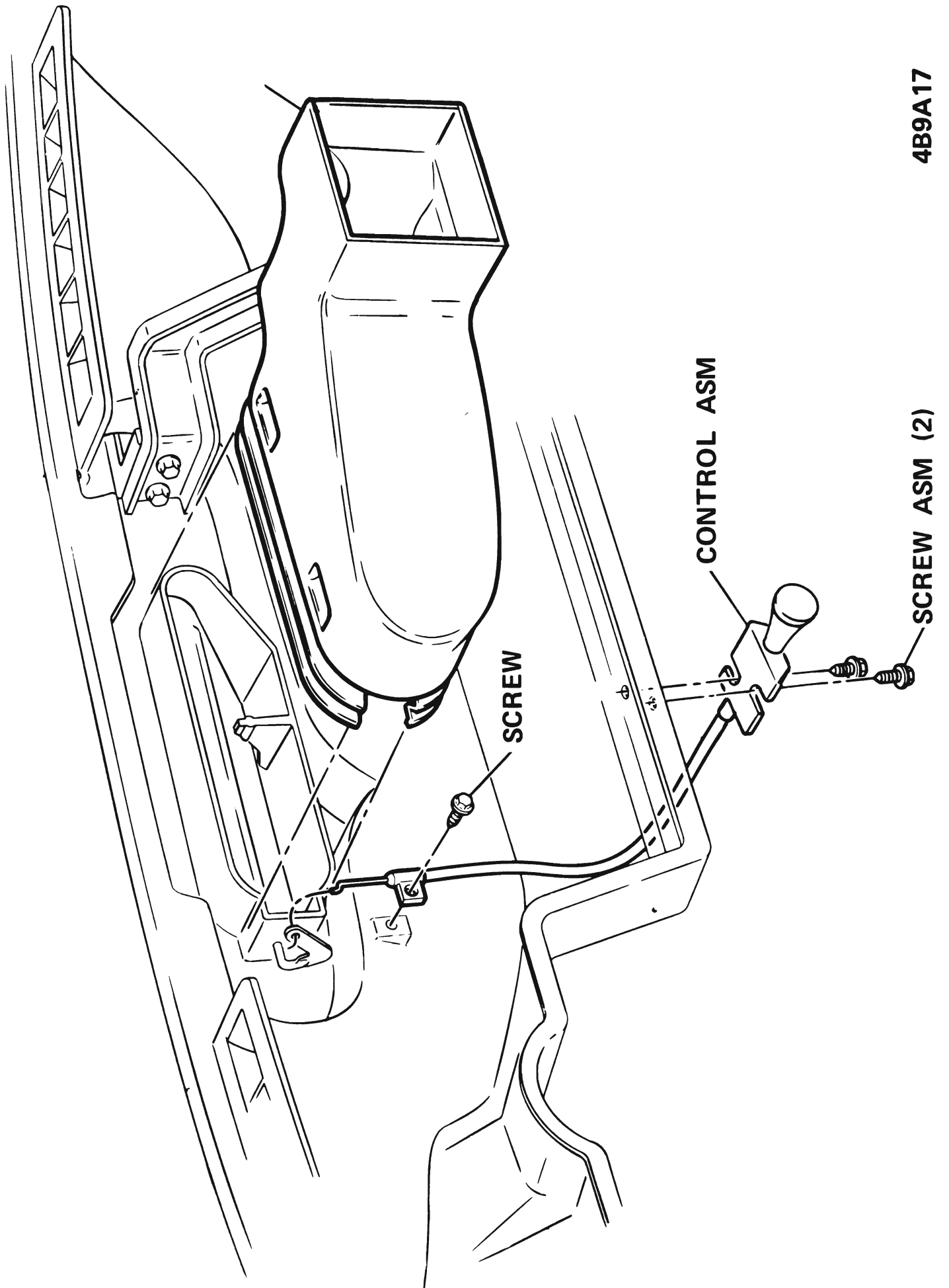
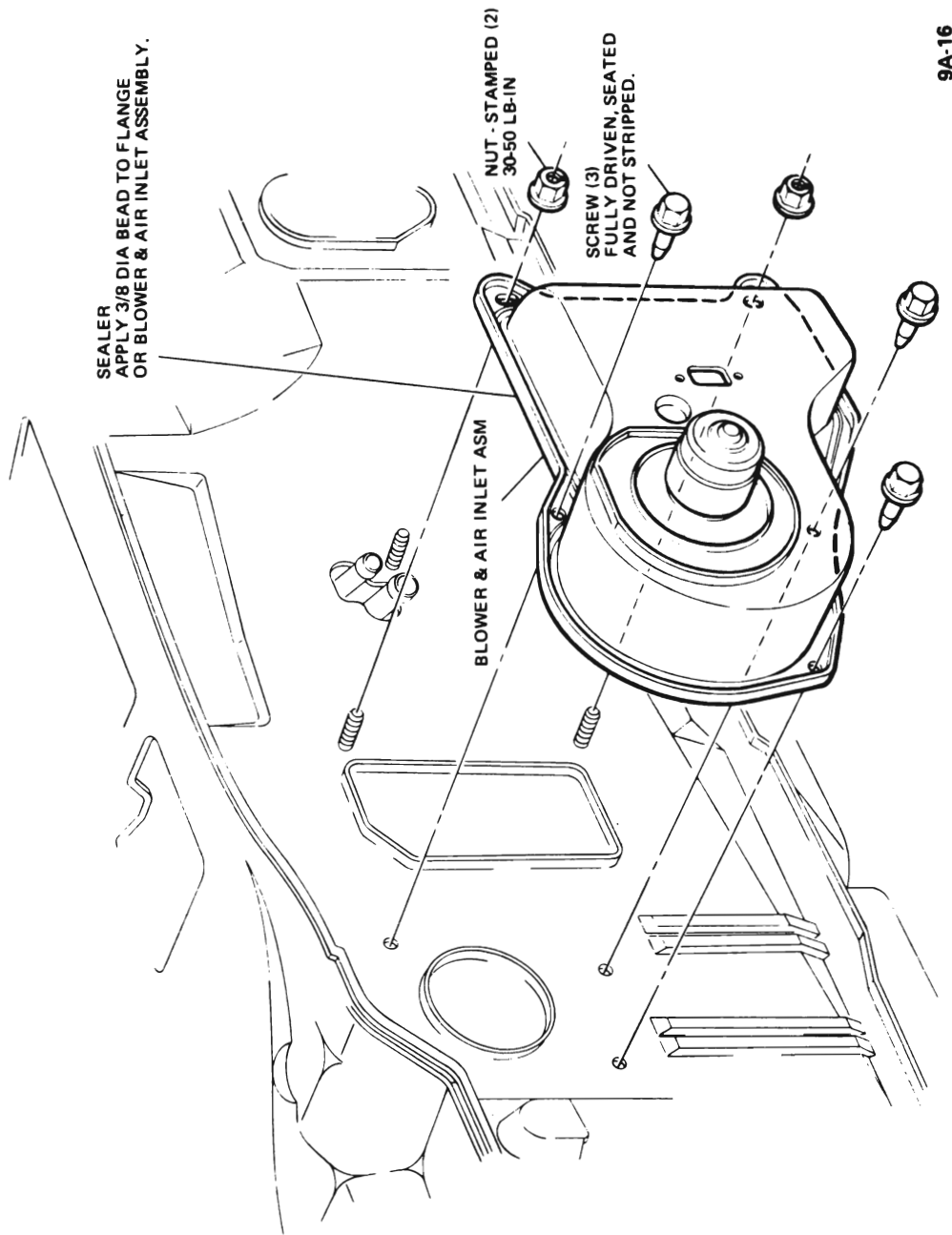


Figure 9A-34 Center Vent Control And Air Duct Assembly - A Series



9A-16

ALL UNIT SEALS TO DASH, DUCTS, ETC. MUST BE CHECKED FOR AIR LEAKS AFTER ASSEMBLY USING HIGH BLOWER. AIR LEAKS MUST BE SEALED.

Figure 9A-35 Blower and Air Inlet Assembly - A Series

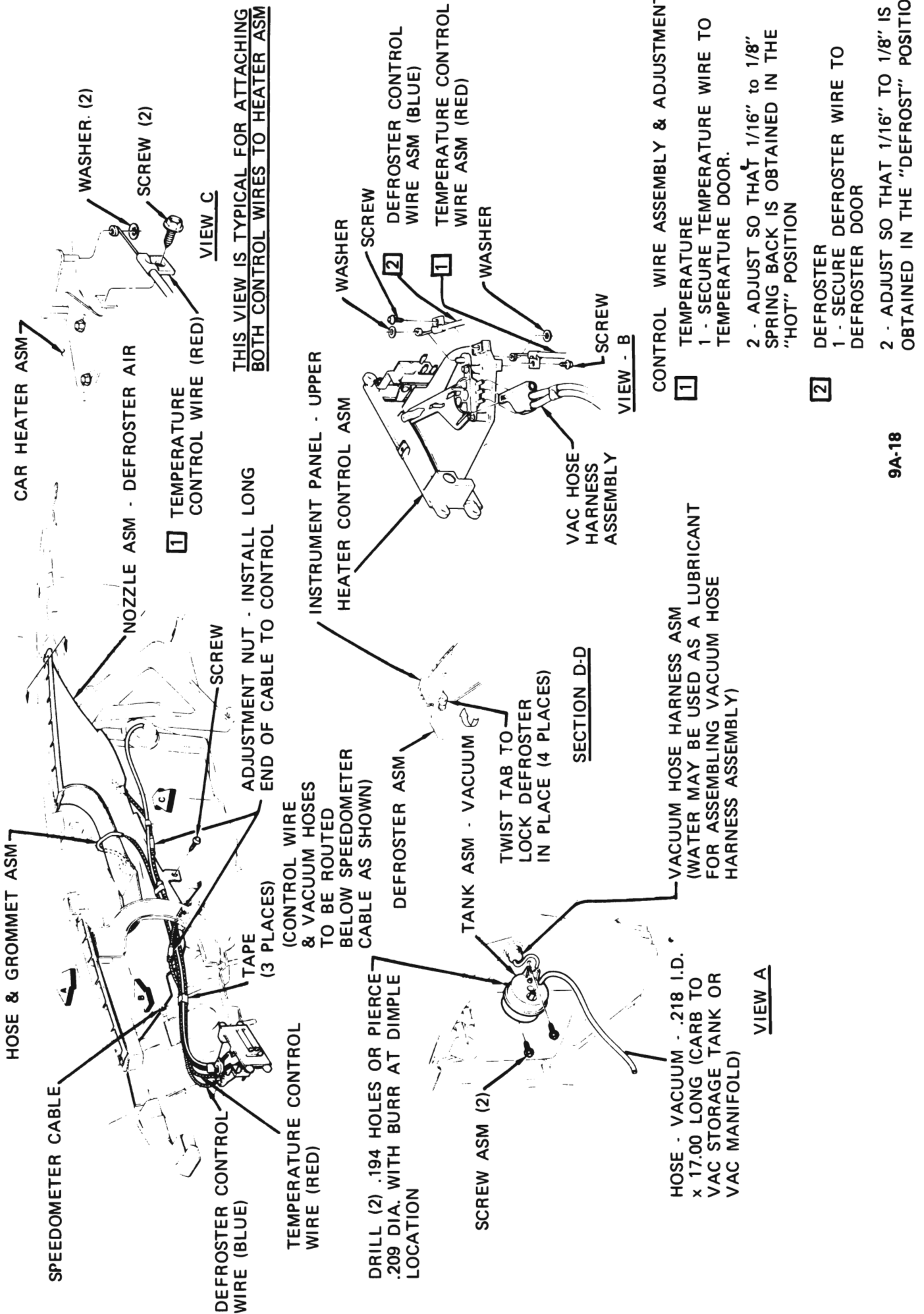


Figure 9A-36 Heater and Defroster Vacuum Harness and Control Wires - B-C-E Series

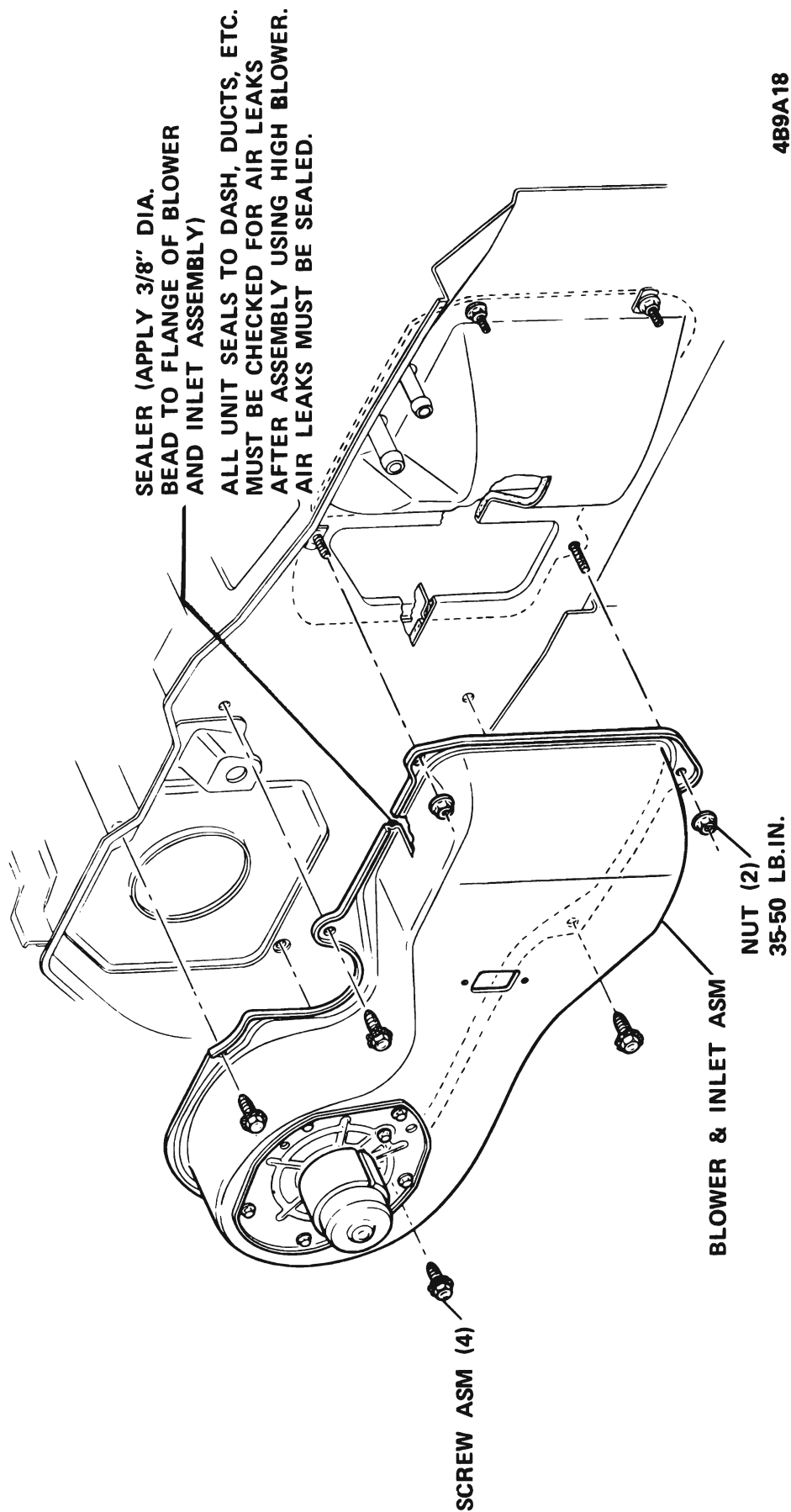
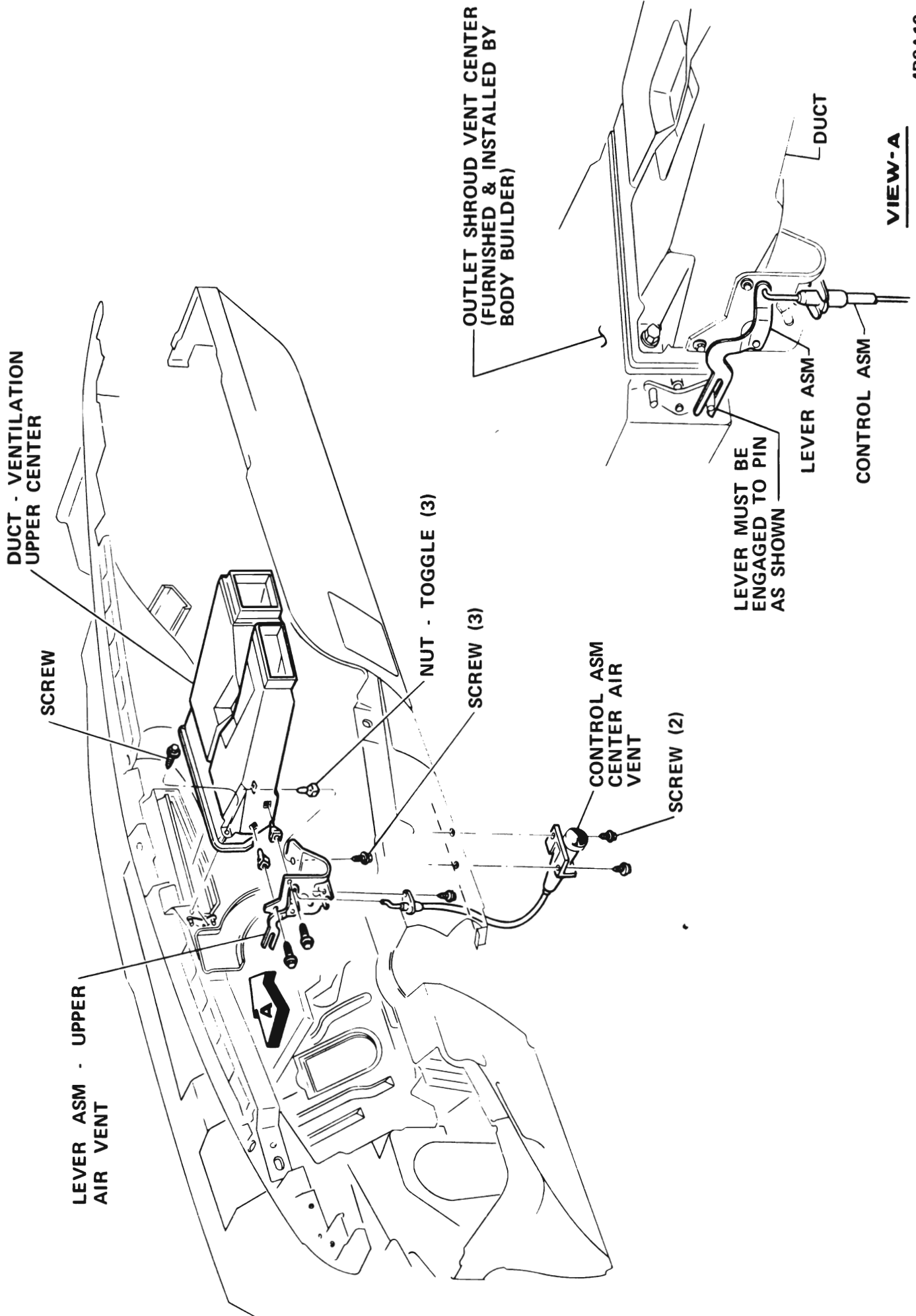
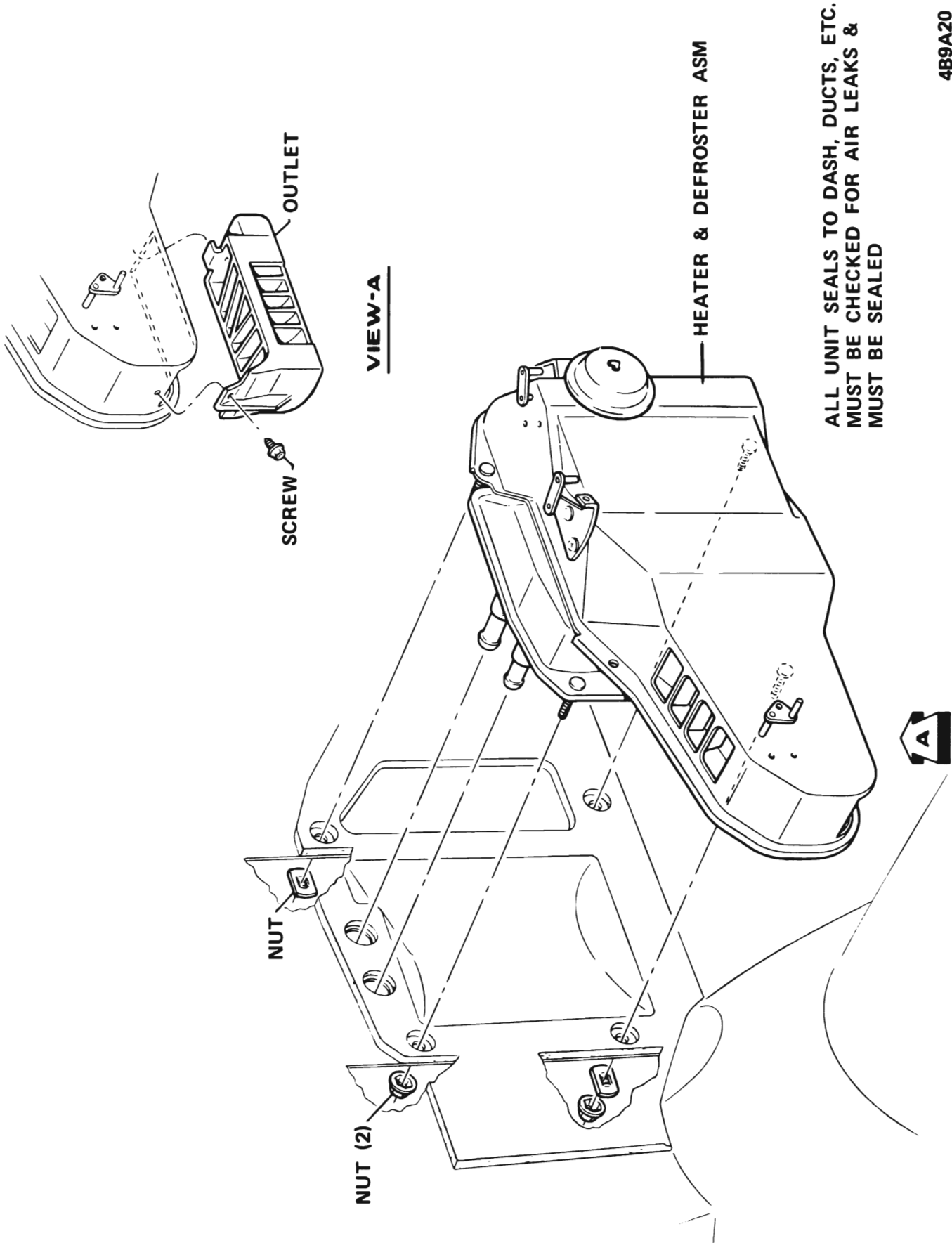


Figure 9A-37 Blower and Inlet Assembly - B-C-E Series



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Figure 9A-38 Instrument Panel - Center Duct Assembly - B-C-E Series



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Figure 9A-40 Heater and Defroster Assembly - Center Outlet - B-C-E Series

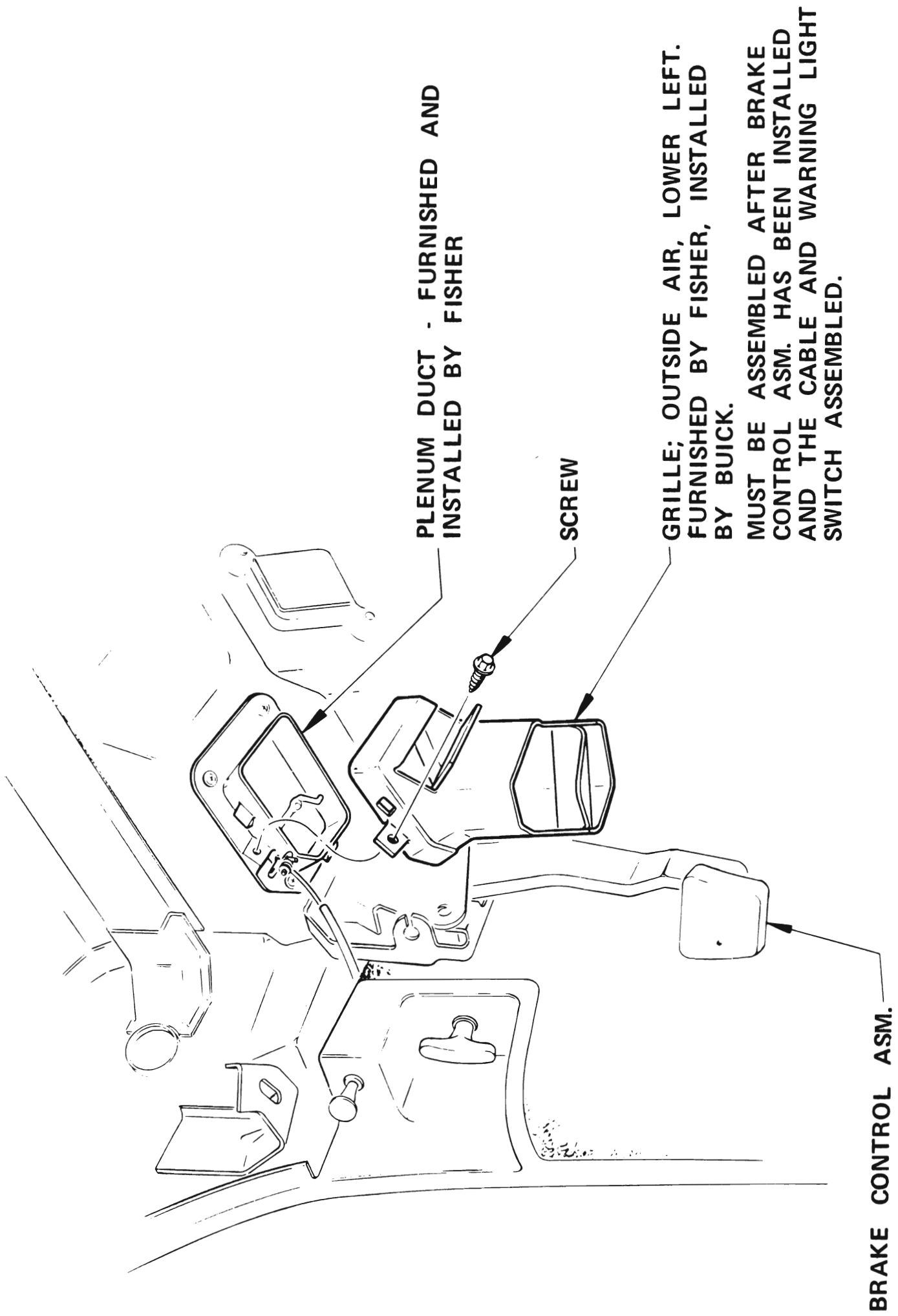
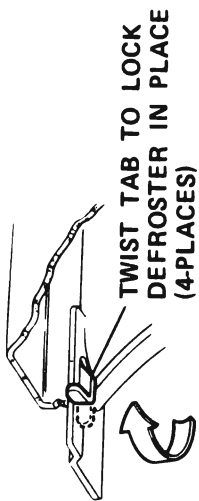
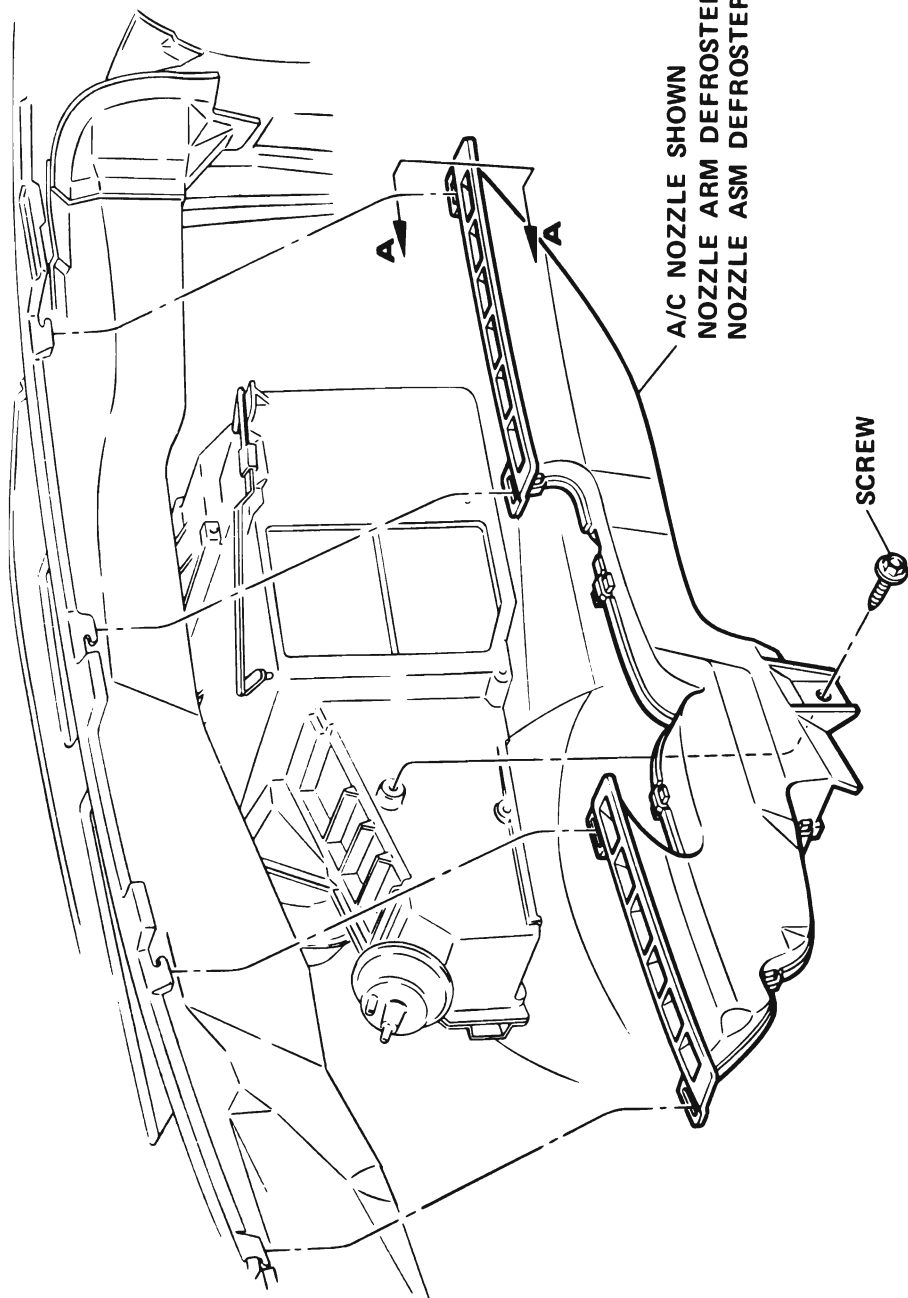


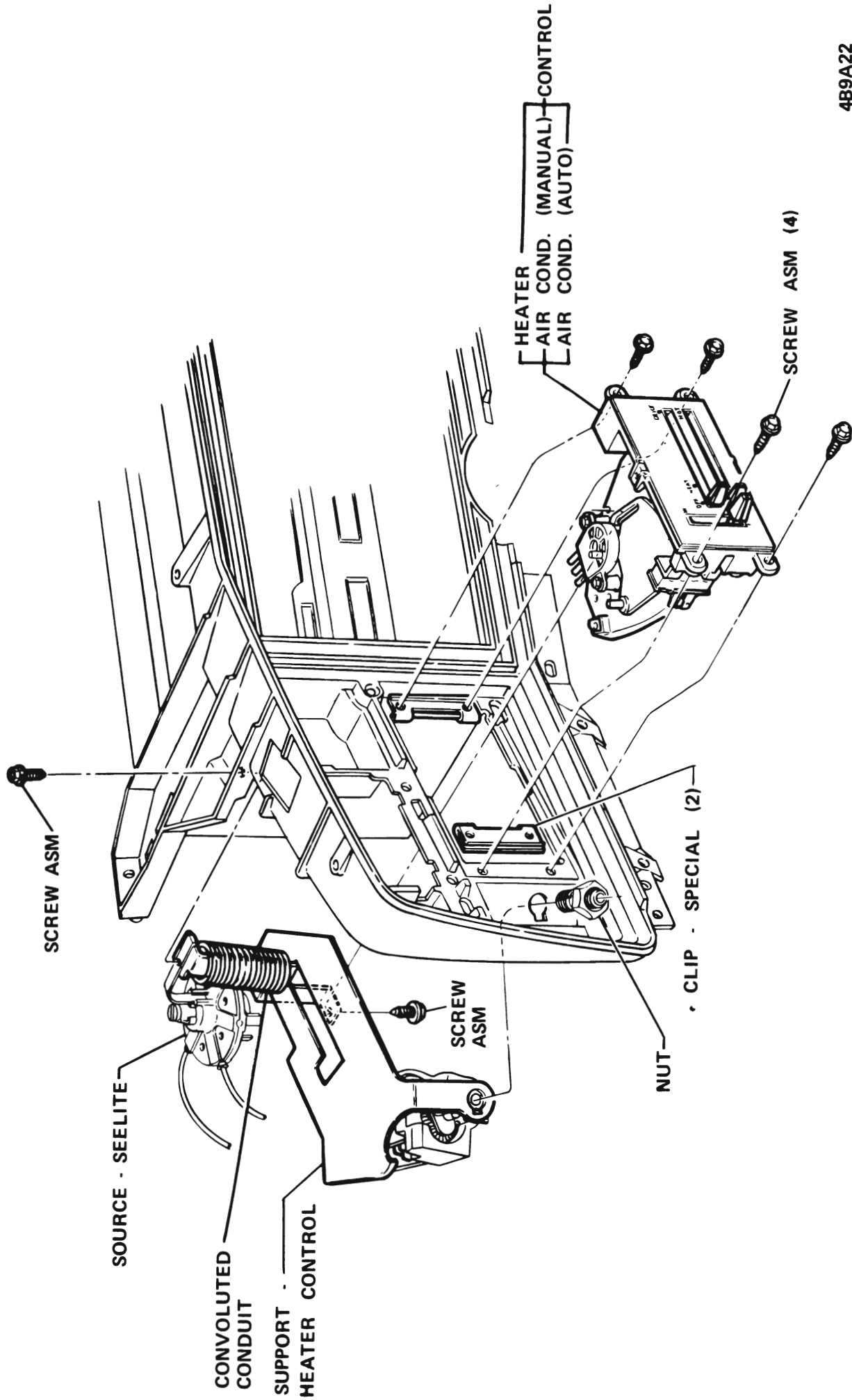
Figure 9A-41 Instrument Panel - Grille - Outside Air - Lower Left - B-C-E Series



SECTIONAL
VIEW A-A

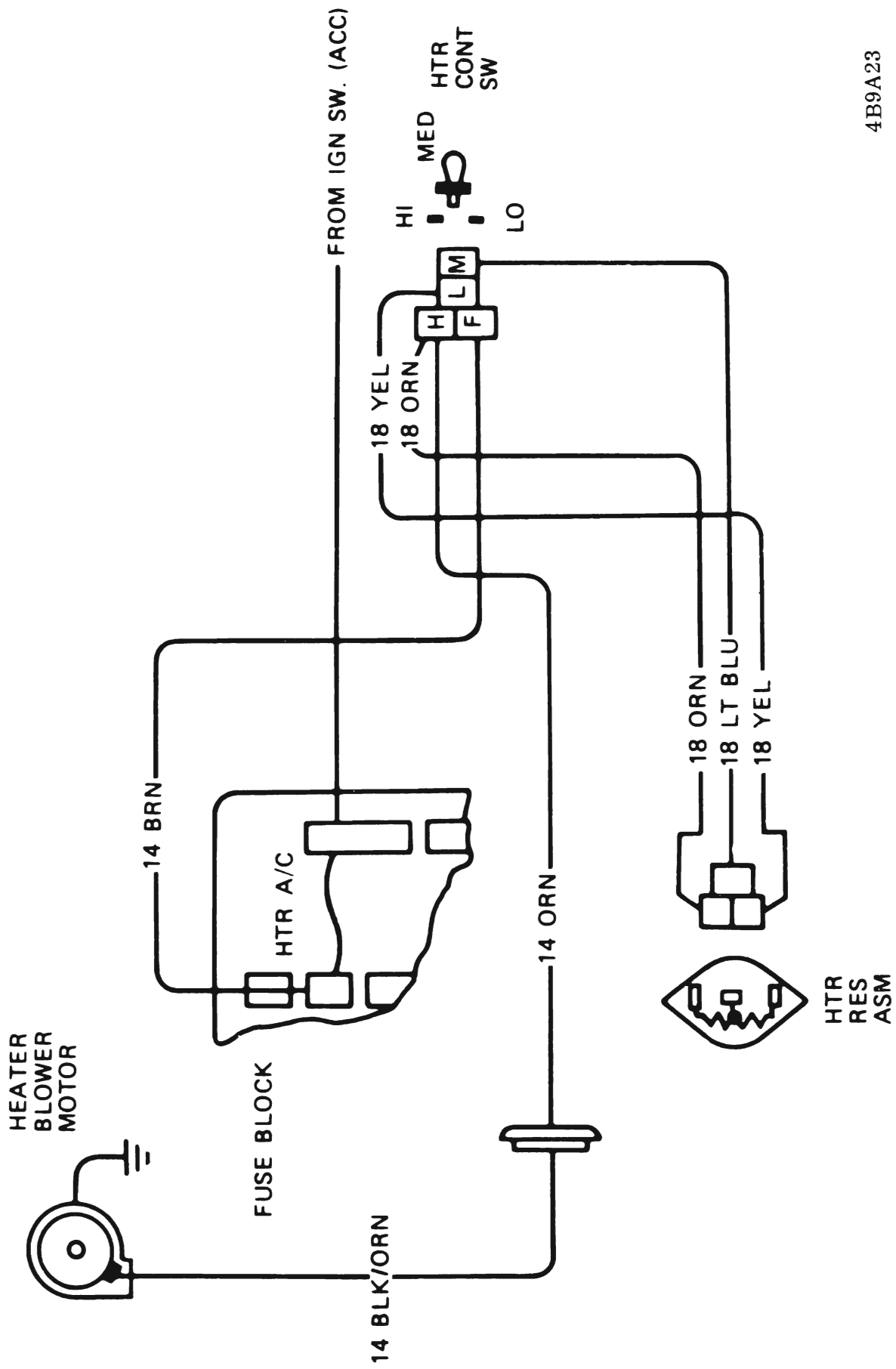
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Figure 9A-42 Outlet - Defroster Nozzle - A Series



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Figure 9A-43 Control Assembly and Support - B-C-E Series



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Figure 9A-44 Heater - Wiring Circuit Diagram - X Series